
United States Department of the Interior, Bureau of Land Management

Follow this and additional works at: https://digitalcommons.usu.edu/wyoming_finalimpact

Part of the Environmental Sciences Commons

Recommended Citation
https://digitalcommons.usu.edu/wyoming_finalimpact/22

This Report is brought to you for free and open access by the Wyoming at DigitalCommons@USU. It has been accepted for inclusion in Final Environmental Impact Statements (WY) by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.
FINAL
Environmental Impact Statement for the
Newcastle Resource Management Plan
Comments, including names and street addresses of respondents, will be available for public review at the above address during regular business hours (7:45 a.m. to 4:30 p.m.), Monday through Friday, except holidays, and may be published as part of the EIS. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by the law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple-use and sustained yield, a combination of uses that take into account the long-term needs of future generations for renewable and nonrenewable resources. These resources include recreation, timber, minerals, water, wildlife, wetlands, and natural scenic, scientific and cultural values.

BLM WY PL-99/019+1610

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Wyoming State Office
P.O. Box 1828
Cheyenne, Wyoming 82003-1828

June 9, 1999

In Reply Refer To: 1793 (910)

Dear Reader:

Enclosed is the Final Environmental Impact Statement (EIS) and Proposed Resource Management Plan (RMP) for Public Lands Administered by the Bureau of Land Management (BLM), Newcastle Field Office. This document presents the Proposed RMP for managing the public lands and resources in the Newcastle area. The proposed RMP is a refinement of the preferred alternative presented in the draft EIS published in March 1998.

Chapter 5 of this final EIS includes BLM's responses to public comments on the draft EIS. One of the best ways to see how the EIS has changed is to read these responses.

All parts of the Proposed RMP may be protested by parties who participated in the planning process and who have an interest which is or may be adversely affected by the approval of the resource management plan (43 CFR 1610.5-2). Protests may only involve issues raised during the planning process and only by the person or persons who raised those issues. Protests should be sent to:

Director, Bureau of Land Management,
Attention: Ms. Brenda Williams, Protests Coordinator
WO-210/LS-1075
Department of the Interior
Washington, DC 20240

Protests must be postmarked within 30 days after the Environmental Protection Agency publishes the filing notice for this final EIS in the Federal Register. The protests should include the following information:

The name, mailing address, telephone number, and interest of the person filing the protest.

A statement of the issue(s) being protested.

A statement of the part(s) of the plan being protested.

A copy of all documents addressing the issue(s) that were submitted during the planning process by the protesting party, or an indication of the date the issue or issues were discussed for the record.

A concise statement explaining why the proposed management plan is believed to be wrong.
To facilitate protests, parties are also encouraged to submit a statement describing the interest which is or may be adversely affected by the approval of the resource management plan.

At the end of the 30-day protest period, the Proposed RMP, excluding any portion under protest, will become final. Approval will be withheld on any portion of the plan under protest until final action on the protest has been completed. Any significant change made as a result of a protest will be made available for public review and comment before it is approved.

I want to personally thank those who have participated in the planning process for this resource management plan. I hope your involvement will continue as we move forward to implement and monitor the plan and manage the public lands and resources in the Newcastle planning area.

Sincerely,

[Signature]
Alan R. Pierson
State Director

Attachment
INTRODUCTION

This final environmental impact statement (EIS) describes the Proposed Newcastle Resource Management plan (RMP) and its environmental consequences. This proposed plan is for the future management of public lands in the Wyoming portion of the Bureau of Land Management (BLM) Newcastle Field office administrative area. The planning area comprises approximately 291,168 acres of BLM-administered public land surface and 1,407,698 acres of BLM-administered federal mineral estate. (BLM-administered public land surface is referred to as "public land" in this document.)

The draft EIS for the Newcastle RMP, published in March 1998, and the public comments submitted on that document, provided the basis for developing this final EIS and the Proposed Newcastle RMP.

The page sized maps contained in this final EIS show the general management direction associated with the Proposed Newcastle RMP and in some cases the location of important resources. (It must be remembered that the proposed RMP decisions would apply only to the approximately 291,168 acres of BLM-administered public land surface and 1,407,698 acres of BLM-administered federal mineral estate cited above.) More detailed maps are on file in the Newcastle Field Office. The information on these maps is dynamic and subject to change as new information and data are acquired.

PUBLIC INVOLVEMENT SINCE MARCH 1998

After the draft EIS for the Newcastle RMP was published in March 1998, the BLM held three open houses. Later, BLM sponsored a guided bus tour of the Lance Creek Fossil Area. Other informal meetings were held with members of the ranching and mineral industries, with representatives of local governments, and with other interest groups and agencies.

A summary of comments generated from these meetings during the public comment period is on file in the Newcastle Field Office.

A total of 23 comment letters, 3 hearing testimonies, and 307 petition signatures were received on the draft EIS. These and the comments taken at meetings and open houses were used in making corrections and needed changes to the Preferred Alternative (of the draft EIS) in developing the proposed Newcastle RMP. These comments and BLM's responses are included in Chapter 5 of this document.

DEVELOPMENT OF THE PROPOSED RMP

The proposed Newcastle RMP was developed by making adjustments to the Preferred Alternative presented in the 1998 draft EIS. In addition, the planning team has revised some of the analysis in that draft EIS based on public comments and has included updated information. The most notable changes are summarized below. A complete description of the proposed Newcastle RMP is in Table 2-1 in Chapter 2.

The following are changes to the draft EIS: none are changes to the proposed management actions described in chapter 2.

In Chapter 1, three planning criteria have been added: biological diversity, leaseable minerals potential, and wild and scenic rivers. None of these criteria caused any changes in the Proposed RMP.

The "Socioeconomics" section has been updated and revised using current figures.

Appendix N, "Fire Management Implementation Plan for the BLM-Administered Public Lands in the State of Wyoming," has been added as a result of a new planning policy that calls for Bureauwide consistency in fire management and budgeting.

Map 3-18, "Elk Hunt Areas," and Map 3-24, "Elk and Antelope Herd Unit Boundaries" have been updated to reflect current hunt area boundaries.

Map 3-19, "Threatened or Endangered Species Habitat," in the draft has not been included in this document. It was eliminated because the information was found not to be complete.

Updated information pertaining to big game population objectives is reflected on Table 3-22.

Appendix H, "A Detailed Discussion of Oil and Gas Activities and Processes in the Newcastle Resource Area" and appendix I, "Reasonably Foreseeable Development Scenarios for Oil and Gas," have been updated with current information.

The Newcastle RMP will be kept current through minor maintenance or through amendments and revisions, as the demands on public lands and resources change, as the land and resource conditions change, or as new information is acquired.

This page left blank intentionally.

SUMMARY
TABLE OF CONTENTS

SUMMARY ................................................................................................. i
INTRODUCTION .......................................................................................... i
PUBLIC INVOLVEMENT SINCE MARCH 1998 ........................................ i
DEVELOPMENT OF THE PROPOSED RMP ........................................... i

ABBREVIATIONS ....................................................................................... ix

CHAPTER 1-PURPOSE OF AND NEED FOR THE ACTION ...................................... 1
INTRODUCTION ......................................................................................... 1
PURPOSE AND NEED ............................................................................... 2
DESCRIPTION OF THE PLANNING AREA ............................................ 2
PLANNING ISSUES AND PLANNING CRITERIA ................................... 5
Planning Issues Identified ........................................................................ 5
Issue A: Retention or Disposal of Public Lands ....................................... 5
Issue B: Surface Disturbance ................................................................... 5
Issue C: Special Management Area Designations .................................. 7
Issue D: Control of Prairie Dogs on BLM-administered Public Lands .... 7
Planning Criteria ..................................................................................... 7
Criteria for Use of Mitigation Guidelines .............................................. 7
Criteria for Coal Screening Process ..................................................... 8
Criteria for Healthy Rangelands ............................................................ 8
Criteria for Special Situations ............................................................... 9

CHAPTER 2-DESCRIPTION OF THE ALTERNATIVES, INCLUDING THE PROPOSED RESOURCE MANAGEMENT PLAN ................................................................. 11
INTRODUCTION ...................................................................................... 11
OTHER MANAGEMENT OPTIONS CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS ..................................................................................... 11
Livestock Grazing Options ...................................................................... 11
Elimination of Timber Harvesting ......................................................... 12
Elimination of Mineral Leasing and Mineral Material Sales .................. 12
Elimination of Restrictive or Protective Stipulations from Development and
Surface-disturbing Activities .................................................................. 12
Elimination of Oil and Gas Leasing in Areas With High Hydrogen Sulfide Potential ................................................................. 12
Restriction of Development or Activity in Areas Containing High Amounts of Selenium ................................................................. 12

ALTERNATIVES ANALYZED IN DETAIL .................................................. 13

CHAPTER 3-THE AFFECTED ENVIRONMENT ..................................................... 59
INTRODUCTION ...................................................................................... 59
AIR QUALITY ......................................................................................... 59
BIODIVERSITY ECOSYSTEM MANAGEMENT ........................................ 60
CLIMATE ............................................................................................... 61
CULTURAL RESOURCES ....................................................................... 63
Description and Summary ..................................................................... 63
Prehistoric and Protohistoric Periods ................................................... 63
Native American Values ........................................................................ 64
HISTORIC PERIOD ................................................................................. 65
Exploration and Fur Trade ...................................................................... 65
TRAILS AND TRANSPORTATION .......................................................... 65
Mining and Industry ............................................................................... 65
Ranching and Homesteading ............................................................... 66

FOREST RESOURCES ........................................................................... 66

GEOL OGY AND MINERAL RESOURCES .................................................. 67
Geology ................................................................................................. 67
Leasable Minerals ................................................................................. 68
Coal ........................................................................................................ 68
Oil and Gas ............................................................................................ 68

CONTENTS
Locatable Minerals ................................................................................ 72
Bentonite ............................................................................................... 72
Gypsum .................................................................................................. 72
Uranium ................................................................................................ 75
Metalllic Minerals ................................................................................ 75
Saltable Minerals ................................................................................... 75
Geothermal Steam ................................................................................ 77
Geologic Hazards .................................................................................. 77
Hydrogen Sulfide .................................................................................. 77
Landslides ............................................................................................. 78
Paleontology Resources ........................................................................ 78
Summary of Paleontological Work in the Lance Creek Area ............... 78
HAZARDOUS MATERIALS ..................................................................... 79
LANDS AND REALTY .............................................................................. 79
Landownership ....................................................................................... 79
Land Disposals ....................................................................................... 79
Land Use authorizations ....................................................................... 80
Outside Influence .................................................................................. 80
Classifications and Withdrawals ......................................................... 80
LIVESTOCK GRAZING .............................................................................. 80
RECREATION RESOURCES ................................................................. 80
ORV Use and Designations ................................................................... 87
SOCIOECONOMICS ............................................................................... 88
Characteristics ....................................................................................... 88
Healthcare .............................................................................................. 88
Population ............................................................................................. 88
Economic Growth and Activity ........................................................... 89
Labor Force and Employment ............................................................. 89
Personal Income ................................................................................... 100
Property Values and Local Taxes ....................................................... 101
Major Economic Bases Within the Planning Area ............................. 102
Agriculture ............................................................................................ 102
Minerals ............................................................................................... 102
Forestry ............................................................................................... 103
Recreation ........................................................................................... 103
Environmental Justice ......................................................................... 104
SOIL RESOURCES ................................................................................ 104
Soils of the Mountains and Mountain Valleys ................................. 107
Soils of the Eastern Wyoming Plains ................................................ 107
VEGETATION RESOURCES ................................................................. 107
Grassland Type .................................................................................... 107
Big Sagebrush Shrubland ..................................................................... 108
Juniper Woodland ................................................................................. 108
Ponderosa Pine Forest ......................................................................... 108
Poisonous and Noxious Plants ............................................................ 109
Weed Control ......................................................................................... 109
Rangeland ............................................................................................. 110
Herbaceous Rangeland ........................................................................ 110
Shrub and Brush Rangeland ............................................................... 110
Mixed Rangeland .................................................................................. 110
Forestland ............................................................................................ 110
Deciduous Forestland .......................................................................... 110
Conifer Forestland ................................................................................ 110
Wetland ................................................................................................. 110
Nonforested Wetland .......................................................................... 110
Rare Plants ........................................................................................... 110
CONTENTS

FIGURES

FIGURE 1 · STEPS IN THE RESOURCE MANAGEMENT PLANNING PROCESS ........................................ 6
FIGURE 3 · SULFATE AND NITRATE DEPOSITION .......................................................................... 60
FIGURE 3 · ANNUAL PRECIPITATION AND TEMPERATURE ............................................................. 62
FIGURE 3 · SURFACE AND MINERAL OWNERSHIP ...................................................................... 69
FIGURE 3 · OIL AND GAS LEASE SALE RESULTS, ACRES OFFERED AND LEASED ...................... 70
FIGURE 3 · OIL AND GAS LEASE SALE RESULTS, MONEY FROM BONUS BIDS ......................... 71
FIGURE 3 · STRATIGRAPHIC CHART .............................................................................................. 73
FIGURE 3 · TOTAL AGRICULTURE CASH RECEIPTS, CROCK COUNTY ........................................... 96
FIGURE 3 · TOTAL AGRICULTURE CASH RECEIPTS, NOBRARA COUNTY ................................... 97
FIGURE 3 · TOTAL AGRICULTURE CASH RECEIPTS, WESTON COUNTY ...................................... 98
FIGURE 3 · TOTAL AGRICULTURE CASH RECEIPTS, PLANNING AREA ......................................... 99

MAPS

MAP 1 · General Location .................................................................................................................. 6
MAP 3 · Areas of Natural or Historic Interest ................................................................................... 463
MAP 3 · Geology ............................................................................................................................... 465
MAP 3 · Coal-bearing Areas ............................................................................................................. 467
MAP 3 · Bentonite Mining Areas ....................................................................................................... 469
MAP 3 · Uranium Mining Districts and Occurrences ....................................................................... 471
MAP 3 · Metallic Mineral Areas ........................................................................................................ 473
MAP 3 · Mineral Materials ............................................................................................................... 475
MAP 3 · Generalized Geologic Hazards ........................................................................................... 477
MAP 3 · Hydrogen Sulfide as a Geologic Hazard ............................................................................. 479
MAP 3 · Generalized Landslide Areas in Crook County ................................................................... 481
MAP 3 · Generalized Landslide Areas in Niobrara County ............................................................... 483
MAP 3 · Generalized Landslide Areas in Weston County ................................................................. 485
MAP 3 · Areas with Selenium ............................................................................................................ 487
MAP 3 · Windblown Areas ................................................................................................................ 489
MAP 3 · Existing Classifications and Withdrawals .......................................................................... 491
MAP 3 · Deer Hunt Areas .................................................................................................................. 493
MAP 3 · Antelope Hunt Areas ........................................................................................................... 495
MAP 3 · Elk Hunt Areas ..................................................................................................................... 497
MAP 3 · Recreation Development Areas ......................................................................................... 499
MAP 3 · Visual Resource Management ............................................................................................ 501
MAP 3 · Surface Hydrology .............................................................................................................. 503
MAP 3 · Deer Critical Winter Range ................................................................................................. 505
MAP 3 · Deer Herd Unit Area Boundaries ....................................................................................... 507
MAP 3 · Elk and Antelope Herd Unit Area Boundaries .................................................................... 509
MAP 3 · Grouse Nesting and Raptor Concentration Areas ............................................................. 511

Surface Ownership .......................................................................................................................... Back Pocket

TABLES

TABLE 1 · Land and Mineral Ownership in the Wyoming Portions of the Newcastle RMP Planning Area 4
TABLE 2 · Summary of Alternatives, Including the Proposed Resource Management Plan ............. 14
TABLE 3 · Criteria Air Pollutant Standards and Background Concentrations .................................... 59
TABLE 3 · Air Pollution Increments for Prevention of Significant Deterioration ............................... 60
TABLE 3 · Bentonite Production in Crook and Weston Counties in 1989 ........................................... 74
TABLE 3 · Mineral Material Types and Locations ............................................................................ 76
TABLE 3 · Free-use Permit Activity ................................................................................................... 77
TABLE 3 · Total Production From Free-use Permits ........................................................................ 77
CHAPTER 1 PURPOSE OF AND NEED FOR THE ACTION

INTRODUCTION

This is the final environmental/impact statement (EIS) for the proposed Newcastle Resource Management Plan (Proposed RMP).

The draft EIS for the Newcastle RMP, published in March 1998, described the alternatives that were analyzed for the planning area and the anticipated consequences of those alternatives. The draft EIS, and the public comments submitted on that document, provided the basis for developing this final EIS and the Proposed Newcastle RMP.

This final EIS is a complete reprinting of the material presented in the draft EIS. It contains updated and revised chapter narratives, maps, tables, and appendices. It should not be necessary to refer to the draft EIS in reviewing this final EIS.

Information on changes in proposals presented in the draft, corrections of any erroneous material, and in some cases more recent data have been incorporated. For this chapter, three planning criteria have been added: biological diversity, leasable minerals potential, and wild and scenic rivers. None of these criteria caused any changes in the Preferred Alternative presented in the draft EIS.

Table 2-1 in chapter 2 contains the proposed RMP which was developed by making minor adjustments to the Preferred Alternative. Chapter 3 contains additions and corrections to the ‘Socioeconomics’ section. Herd unit maps and big game populations have also been updated. Map 3-19, ‘Threatened or Endangered Species Habitat,’ in the draft has not been included in this document. It was eliminated because the information was found not to be complete. The environmental consequences of the Proposed RMP are described in chapter 4. Chapter 5 describes the consultation and coordination that has occurred since publishing the draft EIS as well as an updated ‘Preparers’ section. Chapter 5 also contains all comments received during the public comment period, transcripts of three public hearings, and BLM’s responses to the comments.

The ‘References’ section contains a few new references. The ‘Glossary of Terms’ and ‘Abbreviations’ are included to help the reader.

Appendix H, ‘Fire Management Implementation Plan for the BLM-Administered Public Lands in the State of Wyoming,’ has been added as a result of a new planning policy that calls for BLM-wide consistency in fire management and budgeting. Appendix H, ‘A Detailed Discussion of Oil and Gas Activities and Processes in the

Newcastle Resource Area’ and appendix I, ‘Reasonably Foreseeable Development Scenario for Oil and Gas,’ has been updated with more current information. Appendix M contains documentation covering the public participation that has occurred since publishing the second draft.

The Proposed RMP considers the land use and resource management plans, programs, and policies of local and state governments, other federal agencies, and Native American tribes. When approved, the Newcastle RMP will be consistent with these to the extent possible.

The BLM planning process for the development, approval, maintenance, and amendment or revision of RMPs was initiated under the authority of section 202(f) of the Federal Land Policy and Management Act of 1976 (FLPMA) and section 202(c) of the National Environmental Policy Act of 1969 (NEPA). The process is guided by BLM planning regulations in Title 43 of the Code of Federal Regulations (CFR), part 1603 (43 CFR 1603) and the Council on Environmental Quality (CEQ) regulations in 40 CFR 1500.

The BLM’s planning process consists of three phases. In the first phase, an interdisciplinary planning team compiled and reviewed the current laws, regulations, policies, executive orders, and directives pertaining to the BLM-administered public lands and resources in the planning area. The Wyoming BLM State Director also provided guidance specific to the individual planning effort and the planning area. These requirements were followed in conducting the planning effort and preparing the draft and final EISs.

The BLM will establish overall land use and resource management serving as the general management guidance for BLM-administered public lands surface and BLM-administered mineral estate in the planning area. Approval and publication of the Newcastle RMP represents completion of the second phase of the planning process.

The last phase is activity planning. When compared to the RMP, activity planning results in site-specific and more detailed analyses and decisionmaking for implementing the general RMP decisions, addressing management concerns in smaller geographical areas, and evaluating projects on a daily basis.

After completion, the Newcastle RMP will be kept current through minor maintenance or through amendments and revisions, as demands on public lands and resources change, as the land and resource conditions change, or as new information is acquired.
PURPOSE OF AND NEED FOR THE ACTION

PURPOSE AND NEED

Currently, the management direction for the public lands administered by the BLM in the planning area is provided by the Newcastle Management Framework Plan (MFP) (USDI, BLM 1981), the decisions for a grazing EIS completed in 1984, and various site-specific activity plans. The purpose for developing the Newcastle RMP is to provide an updated, comprehensive, and environmentally adequate planning and management base for the BLM-administered public lands and resources that is consistent with policy and management changes that have occurred since 1981. The RMP is developed through an environmental analysis process which is documented in an EIS. The EIS describes the anticipated consequences of current management as well as alternatives to current management and their consequences. It provides the basis for developing an RMP that resolves land use and resource issues associated with current management.

Until the Newcastle RMP is completed, daily management decisions will continue to be based on the existing planning decision documents. The approved Newcastle RMP will supersede the existing MFP and other general planning decision documents for the planning area.

DESCRIPTION OF THE PLANNING AREA

Effective October 1, 1998, the BLM in Wyoming removed the middle layer from its management structure. The four district offices and ten resource area offices were consolidated into ten field offices. The district and resource area offices that were colocated in Casper, Rawlins, Rock Springs, and Worland were merged into single field offices. The resource area offices in Newcastle, Buffalo, Cody, Lander, Pinedale, and Kemmerer were simply renamed “field offices.” The managers in each office are now referred to as field managers.

The Newcastle Field Office of the BLM, U.S. Department of the Interior (USDI), is responsible for managing all public lands in Crook, Niobrara, and Weston counties in northeast Wyoming (map 1-1), as well as all public lands in Nebraska. As defined by the FLPMA, the “public lands” are those federally owned lands and interests in lands (for example, federally owned mineral estate) that are administered by the Secretary of the Interior, specifically through the BLM. The planning area for the public lands addressed in this document is only the Wyoming portion of the Newcastle field office administrative area. The public lands in Nebraska are covered under the Nebraska Resource Management Plan (USDI, BLM 1992).

Within the Newcastle RMP planning area (Crook, Niobrara, and Weston counties, Wyoming) there are varied and intermingled land surface ownerships and overlapping mineral ownerships. Therefore, the administrative jurisdictions for land use planning and for managing the land surface and minerals are also varied, intermingled, and sometimes overlapping (split-estate). Table 1-1 contains a summary of the land surface and mineral ownership and administrative relationships for the area. Because of this situation, the approved Newcastle RMP will not include planning and management decisions for (1) lands or minerals within the planning area that are privately owned or owned by the state of Wyoming or local governments, or (2) those federally owned minerals within the planning area that are under federally owned land surface that is administered by other federal agencies.
TABLE 1-1

LAND AND MINERAL OWNERSHIP IN THE WYOMING PORTION
OF THE NEWCASTLE RMP PLANNING AREA

<table>
<thead>
<tr>
<th>Areas the Newcastle RMP Decisions Will Cover</th>
<th>Approximate Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Areas where the land surface and mineral estate are both federally owned and are both administered by the BLM (Crook, 92.024; Niobrara, 124.085; Weston, .72.059)</td>
<td>291,168</td>
</tr>
<tr>
<td>B. Areas where the land surface is federally owned and administered by the BLM and the mineral estate is owned and administered by private individuals</td>
<td>1,000</td>
</tr>
<tr>
<td>C. Areas where the land surface is owned and administered by private individuals, the state of Wyoming, or local governments</td>
<td>1,407,698</td>
</tr>
</tbody>
</table>

Total BLM-administered federal land surface to be covered by RMP decisions. | 292,168 |

Total BLM-administered federal mineral estate to be covered RMP decisions. | 1,698,866 |

PLANNING ISSUES AND PLANNING CRITERIA

Planning Issues Identified

Issue identification is the first step of the nine-step BLM planning process. The planning process is illustrated on figure 1-1 and described in appendix D. Planning issues are determined from public demands, and concern conflicts, or problems regarding the use or management of the public lands and resources. These are usually expressed in terms of the effects that some land and resource uses have on other land and resource uses or resource values. The following planning issues were identified through public scoping and BLM’s analysis of existing management in the Newcastle planning area.

ISSUE A: Retention or Disposal of Public Lands

The scattered, isolated public land surface ownership pattern in the planning area is the direct result of several decades of congressional mandated transfer of federal land ownership into private ownership. (Please see the “Surface Ownership” map in the back pocket.) Before passage of the Classification and Multiple Use (C&MU) Act in 1964, the primary role of the BLM was as the federal government’s interim landlord for the public lands until the lands could be transferred into private ownership and be “settled.” The BLM-administered public lands remaining today are either those that no one wanted and were sold or were carved out of larger areas and sold as small survey remnants, or were in some way encumbered from clear title transfer ownership (for example, litigation of land surveys and ownership). In 1976, the FLPMA substantially changed the way that BLM administered public lands were to be managed, especially in the area of public land disposal.

The FLPMA’s organic act (provided for the first time) for retention of the public lands in federal ownership and their management by the BLM in an environmentally acceptable manner using the principles of multiple use and sustained yield of the lands and resources. While transfer of public lands into private ownership was no longer a primary objective, it was still open to consideration and would be appropriate where supported by land planning and environmental analysis and a determination that it would be in the public interest.

Management of the scattered and isolated parcels of BLM-administered public lands in the planning area is difficult because of their small size and the lack of access to many parcels. Management objectives of adjacent private landowners often differ from those of the BLM, which also makes managing these public lands difficult.

ISSUE B: Surface Disturbance

Concerns expressed by numerous entities regarding surface disturbance include where it occurs, what kind occurs, how much occurs, how the BLM is mitigating it, and the reclamation being done after it occurs. Surface disturbance on public land requires complex evaluation and a complex management approach. While the BLM needs to provide for the protection and use of resources on the public lands (such as mineral development and livestock grazing), it also needs to provide for the protection and use of cultural resources, wildlife habitat, and other values.
Purpose of and Need for the Action

1. Identification of Issues, Concerns, and Opportunities
2. Development of Planning Criteria
3. Inventory Data and Information Collection
4. Analysis of the Management Situation
5. Formulation of Alternatives
6. Estimation of Effects of Alternatives
7. Selection of Preferred Management Plan
8. Selection of Resource Management Plan
9. Monitoring and Evaluation

The Resource Management Plan shall be revised as necessary, based on monitoring and evaluation findings, new data, new or revised policy and changes in circumstances affecting the entire plan or major portions of the plan.

Figure 1-1
Steps in the Resource Management Planning Process

We Are Here

Purpose of and Need for the Action

Issue C: Special Management Area Designations
The BLM identifies and designates public lands as special management areas to recognize unique or threatened resources. Whoopup Canyon and the Stateline SRMA are examples of this type of designation. Several comments and concerns suggested that designation of the Whoopup Canyon ACEC and the Stateline SRMA would restrict the use of these areas.

Some BLM-administered public lands also contain hazardous substances, such as high concentrations of hydrogen sulfide gas (H2S), which require special management attention (Onshore Oil and Gas Order No. 6).

Issue D: Control of Prairie Dogs on BLM-administered Public Lands

Concerns were expressed that BLM would not allow control of prairie dogs on BLM-administered public land.

It is important to note that BLM is not refusing to deal with the control of prairie dogs on BLM-administered public lands should their numbers increase to pest proportion. If the situation is determined to be a threat to human health and safety, to damaging to natural resources. BLM will implement procedures to diminish the number of prairie dogs on public lands and alleviate any problems created by their escalating population. BLM will coordinate efforts with other federal authorities, and with the state and local authorities, to implement safe and effective control measures when necessary. BLM is cognizant of its dual role with the state as guardians of wildlife and wildlife habitat and will continue to seek new opportunities to foster a good neighbor policy with the state. Prairie dogs and their towns are an important component of the prairie ecosystem and are valuable in providing habitat and a food source, for a number of wildlife species, many of which are species of special management concern.

While BLM would not consider total eradication of prairie dogs from BLM-administered public land surface, resources damage would be documented by BLM personnel when reported by the grazing lessee, adjacent landowners, or other interests. This could include resource damage occurring on private or state lands from prairie dog towns located on BLM-administered public lands. The BLM will continue to annually review with Animal Plant Health Inspection Service, Wildlife Services (APHIS WS), their annual wildlife damage management plans for animal damage control activities on public lands. Areas where proposed animal damage control activities on BLM-administered public land surface (all or specific methods) are not compatible with BLM planning and management objectives or prescriptions for other resource activities and uses will be identified on a case-by-case basis, and APHIS WS will be requested to amend or adjust proposed animal damage control activities accordingly. Human health and safety determinations would be made by the Wyoming Department of Health or by officers of the US Centers for Disease Control.

Planning Criteria
Planning criteria are the conditions and guidelines or parameters for conducting the planning effort, for preparing the draft and final EISs for the RMP, and for developing the approved RMP. The planning criteria serve to:

1. ensure that the planning effort is focused on the issues follows and incorporates legal requirements, addresses management of all public land resources and land use in the planning area, and that plan preparation is accomplished efficiently.
2. identify the scope and parameters of the planning effort for the decision maker, the interdisciplinary planning team, and the public.
3. inform the public of what should and should not be expected from the RMP, including identification of any planning issues that are not ready for decision-making in the RMP and that will be addressed only through subsequent planning efforts.

Planning criteria are based on standards prescribed by laws and regulations, guidance provided by the BLM Wyoming State Director, the results of consultation and coordination with the public, other agencies, governmental entities, and Indian tribes; analysis of information pertinent to the planning area; public input; and professional judgment. The general planning process described in appendix D has been developed to help focus the preparation of planning and management alternatives and the analysis of their impacts, and to guide selection of the Preferred Alternative and Proposed RMP. Additional planning criteria may be identified as the planning process progresses.

Criteria for Use of Mitigation Guidelines
The Wyoming BLM has developed mitigation guidelines for use in determining the types and levels of mitigation needed to protect important resources from actions involving surface disturbing and other human presence disturbance or disruptive activities. These guidelines are used in the RMP process for (1) developing the alternatives for the EIS and analyzing the impacts of the alternatives; and (2) as part of the planning criteria for developing the alternatives and for determining mitigation requirements to be included in the approved
RMP
The Wyoming BLM Mitigation Guidelines for Surface-disturbing and Disruptive Activities are detailed in Appendix E, which also contains further information on how they are used in the planning process.

Mitigation requirements (including restrictions on surface occupancy and soil and surface activity and uses) are applied as conditions of land and resource-use permits for the following situations:
1. All important, cultural, historical, and landscape resources, recreational values, and wildlife resources (including T&E and candidate species).
2. Mitigation also can address adverse effects on tundra and riparian areas, and to protect visual resources and historic trails.

As appropriate, surface disturbing activities would be subject to one or more of the mitigation requirements described above. On lands where the federal surface is administered by other agencies and the federal mineral estate is administered by the BLM, the Wyoming BLM mitigation guidelines would only apply where the surface management agency has not developed other surface protection mitigation measures or stipulations that are needed. The mitigation guidelines would be applied to land surface areas that are privately owned by the state of Wyoming or local governments only in cases where those lands overlay BLM administered federal minerals and only in situations where the mineral actions authorized by the BLM could cause or contribute to adverse effects on T&E or candidate species or on cultural resource values; or (b) cause adverse soil- or site-specific effects on cultural resource values; or (c) cause adverse soil- or site-specific effects on public land surface resources and associated use values. Where more than one condition is present, the guidelines should be applied.

Mitigation requirements ultimately included in the approved RMP that are developed through the use of the mitigation guidelines, could later be waived modified, or exceeded, if adverse effects on conditions of resource use. Circumstances which would warrant these changes are as follows: (a) as a result of address changes of the EIS, for example development and analysis of an alternative plan or a specific project proposal; (b) if the conditions that originally warranted a restriction, no longer exist, such as the presence of an active raptor nest; (c) no longer exist; (d) if the direction of a proposed activity or use was to be moved to a new location; (e) if the conditions are no longer applicable for other conditions of resource use.

The purpose of this chapter is to provide a basis for evaluating the effects of the EIS for any development and analysis of an alternative plan or a specific project proposal. Conditions that would warrant changes include, but are not limited to:

- As appropriate, environmental mitigation requirements that are not identified in the approved RMP could be applied to address situations or resource values that were not present or not considered at the time the RMP was developed.
- Where mitigation requirements established in the approved RMP, but that were later identified through site-specific mitigation evaluations or other conditions of the BLM planning process, they apply to all alternatives. However, the intensity of objectives and actions to implement the S&Gs may vary by alternative. As a result, specific site actions to implement the S&Gs will be developed on a case-by-case basis through site-specific activity planning (third phase of the planning process).

The Wyoming BLM Mitigation Guidelines for Surface-disturbing and Disruptive Activities are detailed in Appendix E, which also contains further information on how they are used in the planning process.

Mitigation requirements (including restrictions on surface occupancy and soil and surface activity and uses) are applied as conditions of land and resource-use permits for the following situations:
1. All important, cultural, historical, and landscape resources, recreational values, and wildlife resources (including T&E and candidate species).
2. Mitigation also can address adverse effects on tundra and riparian areas, and to protect visual resources and historic trails.

As appropriate, surface disturbing activities would be subject to one or more of the mitigation requirements described above. On lands where the federal surface is administered by other agencies and the federal mineral estate is administered by the BLM, the Wyoming BLM mitigation guidelines would only apply where the surface management agency has not developed other surface protection mitigation measures or stipulations that are needed. The mitigation guidelines would be applied to land surface areas that are privately owned by the state of Wyoming or local governments only in cases where those lands overlay BLM administered federal minerals and only in situations where the mineral actions authorized by the BLM could cause or contribute to adverse effects on T&E or candidate species or on cultural resource values; or (b) cause adverse soil- or site-specific effects on cultural resource values; or (c) cause adverse soil- or site-specific effects on public land surface resources and associated use values. Where more than one condition is present, the guidelines should be applied.

Mitigation requirements ultimately included in the approved RMP that are developed through the use of the mitigation guidelines, could later be waived modified, or exceeded, if adverse effects on conditions of resource use. Circumstances which would warrant these changes are as follows: (a) as a result of address changes of the EIS, for example development and analysis of an alternative plan or a specific project proposal; (b) if the conditions that originally warranted a restriction, no longer exist, such as the presence of an active raptor nest; (c) no longer exist; (d) if the direction of a proposed activity or use was to be moved to a new location; (e) if the conditions are no longer applicable for other conditions of resource use.

The purpose of this chapter is to provide a basis for evaluating the effects of the EIS for any development and analysis of an alternative plan or a specific project proposal. Conditions that would warrant changes include, but are not limited to:

- As appropriate, environmental mitigation requirements that are not identified in the approved RMP could be applied to address situations or resource values that were not present or not considered at the time the RMP was developed.
- Where mitigation requirements established in the approved RMP, but that were later identified through site-specific mitigation evaluations or other conditions of the BLM planning process, they apply to all alternatives. However, the intensity of objectives and actions to implement the S&Gs may vary by alternative. As a result, specific site actions to implement the S&Gs will be developed on a case-by-case basis through site-specific activity planning (third phase of the planning process).

Criteria for Coal Screening Process
The coal screening process (including application of the coal unsuitability criteria under 43 CFR 3461) will not be conducted for the planning effort. Any interest in coal exploration for or leasing of federal coal will be handled on a case-by-case basis. If an application for a federal coal lease is received sometime in the future, an appropriate land use and environmental analysis will be conducted (which will include conducting the coal screening process), to determine whether or not the federal coal areas required for are acceptable for leasing and leasing consideration. The RMP will be amended as necessary. To date, there has been no interest expressed to the BLM for leasing and development of federal coal in the planning area.

Criteria for Healthy Rangelands
The Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the State of Wyoming (S&Gs) were approved by the Secretary of the Interior on August 12, 1997. They have been included in this document as appendix F. The Secretary of the Interior approved the Wyoming BLM S&Gs to aid in achieving the four fundamentals of rangeland health outlined in the grazing regulations (43 CFR 4180). These four fundamentals are: (1) watersheds are functioning properly; (2) water, nutrients, and energy are cycling properly; (3) water quality meets state standards; and (4) habitat for species is protected. The standards apply to all resource uses on public lands while the guidelines apply specifically to livestock grazing practices. The S&Gs provide additional guidelines in developing alternatives for the EIS and in considering appropriate management actions necessary to implement the S&Gs.

As appropriate, mitigation objectives and actions described for each alternative addressed in the EIS would generally be subject to all of the standards. In addition, the livestock grazing management objectives and actions for each of the alternatives would be subject to both the standards and the guidelines. Therefore, actions to implement the S&Gs (including mitigation measures) in the planning area are described in the descriptions for each alternative. Because the S&Gs provide policy guidance (first phase of the BLM planning process) they apply to all alternatives. However, the intensity of objectives and actions to implement the S&Gs may vary by alternative. As a result, specific site actions to implement the S&Gs will be developed on a case-by-case basis through site-specific activity planning (third phase of the planning process).

Criteria for Special Situations

Biological Diversity. Biological diversity is the variety of life and its processes. Although vastly complex, it includes some measurable distinctions like genetic differences among species or associations of species with each other and their environments, and the patterns and linkages of these biological communities across geographical areas (Key- stone Center 1991).

Inventory, monitoring, research, data management, and information sharing are needed for understanding the unique biological diversity that exist in the Newcastle planning area. There is a need to identify biologically diverse areas and conserve their richness of national biological species. The FLPSA mandates inventory of the public lands and the use of inventories in management. According to the Keystone Center BLM's special areas/major management for public lands promotes biological diversity because under this management a variety of ecocological stages of habitat are developed and maintained even with the pressures of the human community. Also, the variety of landscapes and habitat types making up the public lands provides naturally for biological diversity.

BLM policy requires that habitats be managed with emphasis on biological communities and natural systems to ensure self-sustaining populations and an abundance and diversity of wildlife, fish, and plant resources on the public lands, and that rare, vulnerable, and unique plant and animal communities and natural systems be conserved.

Hydrocarbon Potential. As an aid in developing alternatives for this EIS, special criteria were developed relative to the leasing and development of carbon-based minerals (oil and gas). Using available geologic information: reports of past production and information from the minerals industry the Newcastle Field Office was divided into regions of high, moderate, and low potential for the occurrence and development potential of hydrocarbons. These estimates of oil and gas exploration and development activity presented under each alternative in table 2.1 (chapter 2) were developed from analysis of past activity and production. Because they are general, these occurrence and development potential classifications and production estimates are appropriate for planning purposes. The bonuses that are not approved are not held in the trust or are not controlled by the BLM so they are not intended to predict, future activity or the specific locations of new discoveries.

Leasable Minerals Potential. The Newcastle planning area has low to high potential for the occurrence and development of oil and gas, low potential for the occurrence and development of coal and low potential for development of coal bed methane. Unknown potential for hydrocarbons, petroleum, and natural gas at this time but low development potential for tar sands. Information on mineral occurrence potential and records of past minerals activities were used to estimate what types of future mineral development would take place in the planning area. Estimates of reasonably foreseeable mineral development were used to aid in the analysis of environmental consequences. Although exploration for leasable minerals could involve all of these resources, production during the analysis period for this EIS (15 years) is anticipated primarily for oil and gas.

Locatable Minerals Potential. Special criteria were developed relative to the potential for occurrence and development of locatable minerals such as uranium and boron. Additional A-15 potential points were derived to facilitate analysis of the effects that the variety of other land and resource uses and management actions would have on locatable minerals development. This evaluation is only based on a representative analysis by inference and does not imply that there may be other potential locatable minerals of economic value in the Newcastle RMP planning area.

Areas with high potential for the occurrence of locatable minerals include areas with current or past mining activity and areas where economic activity has been proven from past exploration activities, such as stratigraphic test holes. Areas with moderate potential have geologic formations known to include locatable minerals and where existing or previous mining claims have been located. Low potential areas have no geologic formations known to contain minerals of interest.

Withdrawals and Classifications. Under sections 202(d) and 204(d) of the FLPSA any classification or withdrawal on BLM administered public land is subject to approval or level of decision at the National, State, or local level. The classification or withdrawal is intended purpose and is still needed. These reviews can be conducted during the land use planning process. This means that withdrawals being modified or terminated and the management for the areas involved are also up to the level of decision at the National, State, or local level.

Withdrawals Under Other Agency Jurisdiction. The withdrawal review requirement of the FLPSA has not yet been completed on those federal lands withdrawn for purposes of other federal agencies for example, those under the jurisdiction of the National Park Service (NPS).
For the purposes of the EIS for the Newcastle RMP, it must be assumed that this will continue to be the case, and that the planning and management authorities for these lands will remain with those agencies.

The Newcastle RMP will not include any planning or management decisions for either the federal land surface or federal minerals within the administrative boundaries of such agencies. These lands were considered in conducting the environmental analysis for the EIS for the Newcastle RMP in terms of cumulative impacts and in terms of how they may be affected by management in the planning area or vice versa.

Withdrawals and Classifications Under BLM Jurisdiction. Where the review of withdrawals and classifications on any lands under BLM jurisdiction results in determining that any part of the withdrawals or classifications are no longer serving their intended purposes and are to be terminated, the planning and management decisions for the affected areas will also be reviewed to determine if and how the management of the involved lands should change. This latter review is done as an integral part of the environmental analysis process to establish any needed changes in the management of the involved lands before the existing withdrawals or classifications are terminated, and includes consideration of whether or not new withdrawals or classifications, for other purposes, should be placed on any of the lands in question.

For purposes of providing an adequate comparison of impact analyses in the EIS under Alternative A (the "No Action" Alternative) all existing withdrawals and classifications and their segregative effects are assumed to continue in effect. The other alternatives will address various changes in management for the areas where termination of withdrawals or classifications under BLM jurisdiction are being considered.

Wilderness and Wild Horse Management. Wilderness management and wild horse management will not be addressed in the Newcastle RMP planning effort. There are no wilderness areas or wilderness study areas on BLM-administered public lands in the planning area. In addition, there have been no other areas with wilderness characteristics identified on public lands in the planning area. There are no known wild horses or wild horse herd management areas in the planning area.

Wild and Scenic Rivers. In the course of conducting the planning effort, public lands along all waterways in the planning area were reviewed to determine their eligibility to be considered for inclusion in the National Wild and Scenic Rivers System. No public lands were found to meet the eligibility criteria. Appendix C describes the review process and the specific criteria that were used.

INTRODUCTION

The basic goal in formulating alternatives for an EIS is to identify combinations of management practices for and uses of the public lands and resources that would resolve the planning issues. Each alternative is to represent a complete and reasonable interdisciplinary (or multiple use) land use plan to guide future management of the public lands and resources in the planning area. One alternative, the No Action Alternative, represents the continuation of present management. The other alternatives provide a range of choices for solving problems associated with present management. Problems with present management are identified through scoping and issue identification for the planning process, which includes public involvement.

Analysis of impacts that would be associated with the alternatives is reduced by BLM planning regulations and the NEPA-based CEG regulations. Comparison of the differences among the alternatives is also required. Based on this comparative analysis, BLM develops and analyzes the Proposed RMP.

This chapter presents four alternative resource management plans, including the Proposed RMP for managing the public lands and resources in the Newcastle RMP planning area.

Alternative A, the "No Action" Alternative would continue present management practices on the basis of existing land use plans and other management decision documents. The other alternatives suggest different combinations of emphasis for management of the various resources and land uses on the BLM-administered public lands on the basis of needs opportunities and public demand. Of the four alternatives, the BLM believes the Proposed RMP, which was developed by combining parts of alternatives A, B, and C, and incorporating public input, provides the best balance of production or commodity uses with protection of the environment.

Under the Proposed RMP, management emphasis would be generally oriented toward managing the BLM-administered public lands for conservation of natural resources, providing for and sustaining the biodiversity (diversity of plant and animal species) in the planning area, and managing and sustaining the viability of ecosystems that occur in the planning area.

Known areas of species diversity richness in the planning area include riparian, stream and drainage areas, and the transition areas between physiographic zones along the edges of the Black Hills. Under the Proposed RMP, management in these areas would be directed toward maintaining those diverse values. In general, vegetation resources would be managed to provide for the enhancement of an appropriate habitat for vertebrate and nonvertebrate species of wildlife in some parts of the planning area where conflicts with those values exist in other parts of the planning area. Under the Proposed RMP, a concept of comprehensive ecosystem management would be practiced to ensure that man's use of the BLM-administered public lands and the development and enjoyment of resource products and values they contain would be provided in a manner that sustains healthy and productive ecosystems for future generations.

OTHER MANAGEMENT OPTIONS CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

Several possible resource management options were identified by members of the interdisciplinary team during the planning process. Some of these options were not carried forward for detailed analysis because they were unreasonable or not viable because of technical, legal, or other constraints. Each of these options is presented below.

Livestock Grazing Options

A full range of management options was presented and analyzed in the Newcastle Resource Area Grazing EIS (USDI, BLM, 1983); therefore, that analysis will not be repeated here. The approved decisions for the grazing EIS have been incorporated into this EIS for the RMP.

The elimination of livestock grazing from all public lands in the planning area was considered as a possible method of resolving some of the planning questions.
DESCRIPTION OF THE ALTERNATIVES, INCLUDING THE PROPOSE RESOURCE MANAGEMENT PLAN

ALTERNATIVES ANALYZED IN DETAIL

Table 2-1 is a comparative summary of alternative resource management plans, including BLM's Proposed RMP for managing the public lands and resources in the Newcastle planning area. Alternative A, the "No Action" Alternative, would continue present management practices on the basis of existing land use plans and other management decision documents. The other alternatives suggest different combinations of emphasis for management of the various resources and lands uses on the BLM-administered public lands on the basis of needs, opportunities, and public demand. While Alternative C may be considered the environmentally preferred alternative, BLM believes the Proposed RMP, which was developed by combining parts of alternatives A, B, and C, provides the best balance of production or commodity uses with protection of the environment. The environmental consequences (impacts) of the alternatives are summarized in chapter 4.

Elimination of Oil and Gas Leasing in Areas With High Hydrogen Sulfide Potential

This option was considered to protect human health and safety in an area of Nebraska County that contains as much as 55% hydrogen sulfide (map 3-8 in chapter 3). Two proposals were identified: 1) to close the area to leasing, and 2) to allow leasing in the area, but restrict drilling to zones above the hydrogen sulfide-bearing formations. This option was not analyzed in detail because hydrogen sulfide mitigation procedures, described in Onshore Oil and Gas Order Number Six and the appropriate state of Wyoming regulations, are considered adequate to protect the public health and safety. More detailed information on hydrogen sulfide can be found in chapter 3 in the "Geologic Hazards" section.

Restriction of Development or Activity in Areas Containing High Amounts of Selenium

Selenium in potentially toxic amounts may be present in a northwest to southeast band across the planning area. In addition, selenium indicator plants are present in the Newcastle planning area. No indication of selenium-related problems due to inhalation or ingestion of this mineral have been identified by grazing lessees, the mineral industry, the general public, or other federal agencies. Selenium levels may become hazardous in reservoirs that operate as closed systems in soils containing selenium, especially in soils derived from Cretaceous shales. It has been determined that no restrictive action is appropriate at this time. If new information becomes available, public land users will be notified of the potential hazard. More detailed information on selenium can be found in chapter 3 in the "Geologic Hazards" section.
<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR QUALITY MANAGEMENT</td>
<td>MANAGEMENT OBJECTIVE: Maintain or enhance air quality, protect public health and safety and sensitive natural resources, and minimize emissions that could result in acid rain, violations of air quality standards, or reduced visibility. (Also see appendix F.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS: All BLM-administered public lands would be managed to maintain the air quality at the current prevention of significant deterioration (PSD) Class II standard. BLM-initiated or authorized actions, such as the use of prescribed fire, would avoid violation of Wyoming and national air quality standards.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>Requirements would be applied to authorized actions and activities on a case-by-case basis to avoid air quality problems. Requirements could include limiting emissions, restricted spacing of project locations, and controlling dust from surface-disturbing activities.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>BLM would coordinate with Wyoming Department of Environmental Quality (DEQ) and the Environmental Protection Agency (EPA) on air quality standards and regulations as needed.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
</tbody>
</table>
### Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIR QUALITY MANAGEMENT (continued)</strong></td>
<td>BLM would coordinate and cooperate with other federal and state agencies in monitoring and collecting air quality data.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>CULTURAL RESOURCES (all public land interests only)</strong></td>
<td>MANAGEMENT OBJECTIVE: Protect, preserve, interpret, and manage significant cultural resources; manage cultural resources for information potential, public and educational values, and conservation.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>MANAGEMENT ACTIONS: Data would be collected on the nature and condition of significant cultural sites on public lands. Site protection measures would be initiated for significant sites as needed. Cultural resource project plans would be developed for the more sensitive sites.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Sites listed on the National Register of Historic Places (NRHP) would be appropriately protected. Investigations of violations of the Archaeological Resources Protection Act would be conducted.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Site-specific inventories for cultural resources would be required before the start of surface-disturbing activities. Adverse effects on significant resources would be mitigated, or the resources themselves would be avoided by surface-disturbing activities.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CULTURAL RESOURCES</strong>&lt;br&gt;(continued) (all public land interests only)</td>
<td>The BLM would cooperate with other agencies and private landowners to identify and interpret historic trails.</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Areas within ¼ mile or the visual horizon, whichever is closer, of significant segments of historic trails that are listed on the NRHP, or that are eligible for listing on the NRHP, would be avoidance areas for surface-disturbing activities.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>As appropriate, specific sites on public lands would be managed for their traditional Native American cultural values.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Surface-disturbing and disruptive activities associated with constructing and using interpretive sites and facilities would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>FIRE MANAGEMENT</strong>&lt;br&gt;(public land surface only)</td>
<td>MANAGEMENT OBJECTIVE: To cost effectively protect life, property, and resource values from wildfire and to use prescribed fire to achieve multiple use management goals. (Also see appendixes F and N.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>FIRE MANAGEMENT</strong></td>
<td><strong>MANAGEMENT ACTIONS:</strong> Fires in limited suppression areas would be monitored to ensure they do not threaten state or private lands, property, oil and gas fields, important riparian habitat, or human life.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>(continued) (public land surface only)</td>
<td>Full suppression would be used on fires endangering human life or that spread to within 1/4 mile of state or private lands, property, oil and gas fields, and important riparian habitat.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Some methods of suppression would be restricted in sensitive areas. This may include, but would not be limited to, restricting heavy equipment on cultural or historic sites (for example, Whoop-up Canyon). All wildfires would be evaluated to determine the need for rehabilitation or restoration measures.</td>
<td>There would be no restrictions on suppression methods.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Restoration of burned areas would be by natural succession unless a special need is identified to prevent further resource damage.</td>
<td>Same as Proposed RMP.</td>
<td>Restoration of burned areas would emphasize establishing vegetative cover to prevent erosion and to encourage desired plant species.</td>
<td>Restoration of burned areas would be designed to achieve a plant community tailored to the anticipated uses of the area.</td>
</tr>
<tr>
<td></td>
<td>Prescribed burning would be used as a resource management tool on public land surface. Activity plans would be prepared to address specific applications in accordance with multiple use resource management objectives.</td>
<td>Same as Proposed RMP.</td>
<td>Prescribed burning would not be used as a management tool.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>FIRE MANAGEMENT (continued) (public land surface only)</td>
<td>Fire line construction would be avoided if natural fire breaks could be used.</td>
<td>No similar action.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>Using bulldozers in riparian and wetland areas, areas of significant cultural resources or historic trails, and in important wildlife birthing areas would generally be prohibited.</td>
<td>Using bulldozers in riparian and wetland areas, areas of significant cultural resources or historic trails, and in important wildlife birthing areas would be determined on a case-by-case basis.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>Fire retardant drops by air tankers would be prohibited within 200 feet of water.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>Prescribed burning would be conducted so that the Class II air quality standard would be maintained. A Wyoming DEQ permit would be required before any prescribed burning is done. Smoke and pollution would be minimized as described in the Smoke Management Guidebook (USDI, BLM 1985).</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>Use of fire for disposal of slash and residue from timber sales and thinning activities would be allowed when necessary to reduce the danger of wildfire and to reduce the volume of slash and debris or hazardous fuel levels in an area.</td>
<td>Same as Proposed RMP</td>
<td>As a general rule, fire would be used for disposal of slash and debris from timber sale and thinning areas.</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>FIRE MANAGEMENT (continued) (public land surface only)</td>
<td>Surface-disturbing and disruptive activities associated with all types of fire management would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>FOREST RESOURCES MANAGEMENT (public land surface only)</td>
<td>MANAGEMENT OBJECTIVE: Maintain and enhance the health, productivity, and biological diversity of forest and woodland ecosystems. Provide a balance of natural resource benefits and uses, including opportunities for commercial forest production. (Also see appendix F.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS: Public lands available for management of forest products (11,935 acres) would be managed by implementing sound silvicultural activities that include two- or three-cut shelterwood harvest, commercial, and precommercial thinnings.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>The maximum allowable harvest level would be set at 4.7 million board feet (mmbf) per decade. Timber would be harvested on an evenflow basis.</td>
<td>Same as Proposed RMP.</td>
<td>The maximum allowable timber harvest would be set at 13.9 mmbf the first decade, 9.7 mmbf the second and third decades, then dramatic declines in the next four decades.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
</tbody>
</table>
Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FOREST RESOURCES MANAGEMENT</strong> (continued) (public land surface only)</td>
<td>Road construction for harvesting timber or for conducting forest management practices would be prohibited on slopes greater than 25%, unless site-specific environmental analyses demonstrate that adverse effects can be mitigated or avoided.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Skidder-type yarding would be prohibited on slopes greater than 45%. Other logging operations on slopes steeper than 45% would be limited to technically, environmentally acceptable methods such as cable yarding.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Management of forest products on approximately 3.864 acres would be limited because of slope restrictions or inaccessibility for mechanical harvest methods that include two- and three-cut shelter-wood harvest, commercial, and precommercial thinnings.</td>
<td>Same as Proposed RMP.</td>
<td>Management of forest products on approximately 3.864 acres would implement silvicultural activities that include two- and three-cut shelter-wood harvest, commercial, and precommercial thinnings and would not be limited because of slope restrictions.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>About 9.084 acres would be made available for forest products harvest only when tailored specifically to benefit other identified resource values.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>About 417 acres of forestlands are not available for management of timber products due to unique riparian areas.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>FOREST RESOURCES MANAGEMENT (continued) (public land surface only)</strong></td>
<td>Roads and landings developed for forest products removal would be rehabilitated unless it was determined that they were useful for other management purposes.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>About 600 acres of timber stand improvement and precommercial thinning would be conducted per decade.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>To maintain biodiversity and the old growth component of the forest ecosystem, forested areas on public lands would be managed to maintain approximately 5% old growth.</td>
<td>Old growth components of the forest ecosystem on public lands would not be maintained.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Minor forest products (firewood, posts, poles, Christmas trees, and other minor products) would be made available on a demand basis.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Surface-disturbing and disruptive activities associated with all types of forest management practices would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>GEOLOGY AND MINERAL RESOURCES MANAGEMENT (BLM-administered federal minerals)</strong></td>
<td><strong>MANAGEMENT OBJECTIVE:</strong> Maintain or enhance opportunities for mineral exploration and development while maintaining other resource values. (Also see appendix F)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>GEOLOGY AND MINERAL RESOURCES MANAGEMENT (continued) (BLM-administered federal minerals)</strong></td>
<td><strong>MANAGEMENT ACTIONS:</strong> Surface-disturbing and disruptive activities associated with all types of minerals exploration and development and with geophysical exploration would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>General</strong> (continued)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Leasable Minerals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal</td>
<td>Coal classifications on about 194,500 acres of federal coal lands in the planning area would be terminated. These land classifications, for the protection of the federal coal, are no longer serving or needed for their intended purpose.</td>
<td>Coal classifications for the protection of the federal coal on about 194,500 acres of federal coal lands in the planning area would remain in effect.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Oil and Gas</td>
<td><strong>MANAGEMENT ACTIONS:</strong> Parcels would be leased with appropriate stipulations for protection of other resource values.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GEOLOGY AND MINERAL RESOURCES MANAGEMENT</strong> (continued) (BLM-administered federal minerals)</td>
<td>MANAGEMENT ACTIONS: Leasing of other leasable federal minerals would be considered on a case-by-case basis and would be subject to the same or similar resource protection and mitigation requirements as those applied to oil and gas leases and rights-of-way.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Other Leasable Minerals</td>
<td>MANAGEMENT ACTIONS: Other than lands withdrawn from mineral location (table 3-7), the planning area would be open to mineral location, exploration and development.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>A plan of operations would be required for any surface-disturbing activity, regardless of size, in designated ACECs and in areas closed to off-road vehicular travel.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>Locatable Minerals</strong></td>
<td>MANAGEMENT ACTIONS: Other than areas that would be closed, the BLM-administered federal mineral estate in the planning area would be open to mineral materials sales and development subject to appropriate conditional requirements (table 3-7)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>Salable Minerals</strong></td>
<td>Extraction of mineral materials would be permitted from BLM-administered public surface sites whenever possible to avoid use of private lands where the mineral materials are federally owned.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Extraction of mineral materials would be made available to other agencies and municipalities without regard to surface ownership</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>GEOLOGY AND MINERAL RESOURCES MANAGEMENT</strong> (continued) (BLM-administered federal minerals)</td>
<td>Free use of mineral materials from split-estate lands (nonfederal surface over federal minerals) would be discouraged whenever possible and would be allowed only when public land surface sites are not available.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Free use of mineral materials from split-estate land (nonfederal surface over federal minerals) would not be discouraged.</td>
</tr>
<tr>
<td><strong>Salable Minerals</strong> (continued)</td>
<td>Mineral material sale areas, free use areas, community pits, and common use areas would be established as needed in accordance with other resource uses and values.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>A reclamation plan would be required for all surface disturbance.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Reclamation of private land surfaces would be the responsibility of the entity requesting the use in accordance with the private surface owner.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td><strong>Geologic Hazards</strong></td>
<td>MANAGEMENT ACTIONS: Any request received by the BLM for a permitted activity on public land surface in a landslide area would be evaluated to determine if there is a threat to public health or safety (map 3-8). Specific construction requirements may be required in these areas.</td>
<td>No special consideration would be given to potential landslide areas on public land surface unless a specific problem were identified during a permitted activity.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GEOLOGY AND MINERAL RESOURCES MANAGEMENT</strong> <em>(continued)</em> <em>(BLM-administered federal minerals)</em>&lt;br&gt;Geophysical Exploration</td>
<td>MANAGEMENT OBJECTIVE: Provide opportunity for exploration of mineral resources and geologic data while protecting other resource values on BLM-administered public land surface. (Also see Appendix F.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS:</td>
<td></td>
<td>Same as Proposed RMP.</td>
<td>There would be no restrictions on geophysical exploration activities.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>All parts of the planning area that are open to oil and gas leasing, exploration, and development would be open to geophysical exploration subject to appropriate mitigation requirements. Mitigation may include seasonal use restrictions, restrictions during wet or muddy periods, explosive charge restrictions, and other restrictions where disturbance in an area is determined to be undesirable.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Explosive charges would not be allowed if environmental analysis shows that unacceptable adverse impacts would occur.</td>
<td></td>
<td></td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>On lands where surface-disturbing activities would be prohibited or on public lands closed to ORV use (see Glossary), casual use geophysical exploration would be allowed. (Casual use for geophysical exploration is described in 43 CFR 3150.05(b).)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
</tbody>
</table>
| **GEOLOGY AND MINERAL RESOURCES MANAGEMENT**  
(continued)  
(BLM-administered federal minerals)  
Paleontology Resources  
(all public land interests) | **MANAGEMENT OBJECTIVE:**  
Manage paleontological resources that are part of the BLM-administered public land surface estate for their informational, educational, scientific, and recreational uses. | Same as Proposed RMP | Same as Proposed RMP | Same as Proposed RMP |
| | **MANAGEMENT ACTIONS:**  
Vertebrate fossils could be collected from public land only under a paleontological resources use permit issued by the BLM. | Same as Proposed RMP | Same as Proposed RMP | Same as Proposed RMP |
<p>| | A paleontological resources use permit issued by the BLM may be required for the collection of noteworthy plant and invertebrate fossils from public lands. | Same as Proposed RMP | Same as Proposed RMP | Same as Proposed RMP |
| | Individuals may collect up to 25 pounds of petrified wood, plus one piece per day from public land surface. They may collect a total of 250 pounds per year without a permit. However, this material is for personal use only and may not be sold, bartered, or traded. | Same as Proposed RMP | Same as Proposed RMP | Same as Proposed RMP |
| | Individuals may collect reasonable amounts of common invertebrate fossils for personal use. This material may not be used for commercial purposes. | Same as Proposed RMP | Same as Proposed RMP | Same as Proposed RMP |</p>
<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOLOGY AND MINERAL RESOURCES MANAGEMENT (continued) (BLM-administered federal minerals)</td>
<td>Assessment and/or mitigation of impacts to paleontological resources may be required on federal mineral leases in accordance with BLM policy. If suspected fossil materials are uncovered during construction, the operator would be required to stop work immediately and contact the authorized BLM officer. Activities would be brought to a halt until the authorized officer can assess the situation and advise whether any mitigating measures need to be undertaken before the operations can continue. If fossils are found and operations are adversely affected, a suspension of operations would be granted.</td>
<td>Same as Proposed RMP.</td>
<td>A complete paleontological inventory identifying important formations would be completed for the entire planning area.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>HAZARDOUS MATERIALS AND OTHER HAZARDS MANAGEMENT (public land interests only)</td>
<td>MANAGEMENT OBJECTIVE: Protect public and environmental health and safety on BLM-administered public lands, comply with applicable federal and state laws, prevent waste contamination due to any BLM-authorized actions, minimize federal exposure to the liabilities associated with waste management on public lands, and integrate hazardous materials and waste management policies and controls into all BLM programs. (Also see appendix F.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAZARDOUS MATERIALS AND OTHER HAZARDS MANAGEMENT (continued) (public land interests only)</td>
<td>MANAGEMENT ACTIONS: For BLM-authorized activities that involve hazardous materials or their use, precautionary measures would be used to guard against releases or spills into the environment.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>When discovered, BLM-administered public land sites contaminated with hazardous wastes would be reported, secured, and cleaned up according to applicable federal and state regulations and contingency plans. Parties responsible for contamination would be liable for cleanup and resource damage costs, as prescribed in federal and state regulations.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>If hazards should be identified, the BLM would provide appropriate warnings and establish precautions for safety hazards associated with the use of any areas on BLM-administered public lands.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Surface-disturbing and disruptive activities associated with all types of hazardous materials and waste management would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>---------------------------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>LANDS AND REALTY MANAGEMENT (public land surface only)</td>
<td>MANAGEMENT OBJECTIVE: Support the multiple-use management goals of the various BLM resource programs; respond to public requests for land use authorizations, sales, and exchanges; and, acquire access to serve administrative and public needs. (Also see appendix F.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS: Utility/transportation systems would be located adjacent to existing utility/transportation systems whenever practical. Areas to be avoided for new facility placement and routes would be identified on a case-by-case basis rather than attempting to establish new utility corridors.</td>
<td>Same as Proposed RMP.</td>
<td>Utility corridors would be established on BLM-administered public land surface to include as many existing facilities as possible. Future rights-of-way would be routed through these corridors whenever possible.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>Areas within ½ mile of developed or semideveloped recreation sites would be avoidance areas for development activities such as roads, power lines, pipelines, and well pads. This requirement could be modified by the authorized officer. However, these areas would be open to development activities specifically for the purpose of recreation site facilities.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
</tbody>
</table>
### Table 2-1
**Summary of Alternatives, Including the Proposed Resource Management Plan**

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LANDS AND REALTY MANAGEMENT (continued) (public land surface only)</strong></td>
<td>Projects would be designed to meet the objectives of the established visual classifications and would include appropriate mitigation. Facilities, including those related to existing or new wells, structures, power lines, and linear rights-of-way would be screened, painted, or designed to blend with the surrounding landscape.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Areas within 500 feet of 100-year floodplains, wetlands, or perennial streams on BLM-administered public lands would be avoidance areas for surface-disturbing activities unless modified by the authorized officer.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Landownership adjustment actions involving BLM-administered public lands (exchanges or sales, recreation and public purpose (R&amp;PP) leases and patents, withdrawals and transfers of administrative jurisdiction of public lands) would be considered on a case-by-case basis.</td>
<td>Same as Proposed RMP.</td>
<td>Landownership adjustments would not be pursued.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The preferred method of landownership adjustment would be land exchanges. Appendix B outlines the landownership adjustment strategy to be followed.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANDS AND REALTY MANAGEMENT (continued) (public land surface only)</td>
<td>There would be no requirement to avoid reduction of public land acreages.</td>
<td>Same as Proposed RMP.</td>
<td>Exchanges would require that the total acreage of BLM-administered public lands in the planning area would not decline.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The planning area would be open to operation of the public land laws except for the 1.152 acres closed to location, sale, or entry (437 acres power site classification; 715 acres Forest Service withdrawal: table 3-7; map 3-9).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The coal classifications that segregate 194.520 acres of coal from disposal would be removed since they no longer serve the purpose for which they were intended.</td>
<td>Coal classifications on 194.520 acres of public land would remain in effect.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>As determined or, a case-by-case basis, easements would be pursued to provide access to public lands to support the objectives of other resource programs.</td>
<td>Same as Proposed RMP.</td>
<td>No attempt would be made to acquire additional access to public lands.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The planning area would be open for rights-of-way development Proposals would be addressed on an individual basis with emphasis on avoiding conflict or sensitive areas.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Surface-disturbing and disruptive activities associated with all types of rights-of-way construction and maintenance would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>-------------------------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>LIVESTOCK GRAZING MANAGEMENT (public land surface only)</td>
<td>MANAGEMENT OBJECTIVE: Maintain or improve forage production and range condition to provide a sustainable resource base for livestock grazing on the public lands while improving wildlife habitat and watershed conditions. (Also see appendix F.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS: Livestock grazing on BLM-administered public lands would be authorized in a manner consistent with sound range management principles and to be consistent with other resource values.</td>
<td></td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>The authorized grazing use on the BLM-administered public land surface would not exceed recognized active preference (48,818 animal unit months--AUMs).</td>
<td></td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Implementation of grazing management plans, monitoring studies, and the construction of range improvements based on identified need would continue unless documented damage to other resource values is shown.</td>
<td></td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>When prescribed fire and mechanical or biological treatments can be used effectively to manage vegetation, they would be preferred over chemical treatments.</td>
<td></td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>LIVESTOCK GRASSING MANAGEMENT (continued) (public land surface only)</td>
<td>BLM would coordinate efforts with other federal authorities and with state and local authorities to implement safe and effective prairie dog control measures on public lands when prairie dogs are determined to be a threat to human health and safety or are causing resource damage. Resource damage would be documented by BLM personnel when reported by the grazing lessee, adjacent landowners, or other interests. This could include resource damage occurring on private or state lands from prairie dog towns located on BLM-administered public lands. Animal damage control activities would be subject to established procedures and policies as outlined in the national and state level memoranda of understanding between BLM and APHIS and the animal damage control plan for the planning area. Human health and safety determinations would be made by the state of Wyoming, Department of Health or by officers of the US Center for Disease Control.</td>
<td>Prairie dog control on public lands would be conducted when requested by a grazing lessee or adjacent landowner</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>There would be no control of the size of prairie dog towns on public lands unless resource damage were occurring or human health and safety were threatened.</td>
<td>Same as Proposed RMP.</td>
<td>Prairie dog towns would not be allowed to exceed the size of the town as of October 1, 1992.</td>
<td>Size limitations of prairie dog towns on public lands would be determined on a case-by-case basis.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>---------------------------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>LIVESTOCK GRAZING MANAGEMENT (continued) (public land surface only)</td>
<td>New prairie dog towns would be allowed to become established on public lands.</td>
<td>Same as Proposed RMP.</td>
<td>New prairie dog towns would not be allowed to become established on public lands.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Unless one of the above situations were occurring, prairie dog control on BLM-administered public land in the planning area would not be allowed. Prairie dogs and their towns are an important component of the prairie ecosystem and are valuable in providing habitat and a food source for a number of wildlife species, some of which are species of special management concern.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Permitting for livestock grazing use up to recognized active preference would continue until a change in resource conditions indicates that an adjustment is needed. Note that numbers of grazing allotments in each category (table 3-8) are subject to change as ecological range conditions change.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Any adjustments in livestock grazing use would be made as a result of monitoring and consultation with grazing permittees. Monitoring studies would be conducted using current BLM-approved methodology.</td>
<td>Same as Proposed RMP.</td>
<td>Livestock grazing use would be adjusted according to the range condition and potential use.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIVESTOCK GRAZING MANAGEMENT (continued) (public land surface only)</td>
<td>Monitoring would be continued following adjustments in grazing use to assure that grazing and other management objectives are being met.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Interdisciplinary rangeland monitoring studies would be conducted on an allotment category priority basis (I, M, and C) to detect changes in range condition and trend, and to determine if vegetation management objectives are being met for all resource uses (livestock grazing, watershed, riparian, and wildlife).</td>
<td>Monitoring studies would be established in &quot;I&quot; category allotments to monitor the effects of livestock grazing on the vegetation resource. Monitoring in other allotments may occur if determined to be necessary.</td>
<td>Monitoring studies would be established in allotments representative of ecological sites throughout the planning area.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Based on monitoring, the effectiveness of on-the-ground management toward meeting RMP and various resource activity plan objectives would be evaluated. Any rangeland studies would be carried out in accordance with approved standards and guidelines. Kind of livestock and seasons of livestock use may be modified to meet established interdisciplinary objectives or to prevent resource damage.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>LIVESTOCK GRAZING MANAGEMENT (continued) (public land surface only)</td>
<td>Interdisciplinary monitoring studies would be established in riparian sites. The priority for establishing the studies would be &quot;I,&quot; &quot;M,&quot; and &quot;C&quot; category allotments. Studies in riparian areas in category &quot;M&quot; and &quot;C&quot; allotments would be established as workload allows or as a need is identified.</td>
<td>No riparian studies would be established.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Developed and semideveloped recreation sites would be closed to livestock grazing.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>In conjunction with the wildlife habitat management and water resources management programs, specific riparian management guidelines would be developed and implemented in all allotments, with priority given to category &quot;I&quot; grazing allotments. These guidelines could apply to such things as protective fencing, changes in livestock seasons of use, and project work to enhance and improve riparian zones.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Surface-disturbing and disruptive activities associated with all types of range project construction and maintenance would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>RECREATION RESOURCES MANAGEMENT (public land surface only)</td>
<td>MANAGEMENT OBJECTIVE: Provide outdoor recreational opportunities on BLM-administered public land while providing for resource protection, visitor services, and the health and safety of public land visitors. (Also see appendix F.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>MANAGEMENT ACTIONS: The BLM-administered public land in the planning area would be available for recreation use subject to appropriate restrictions for the protection of other resource values.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Response to public requests, including dispersed recreation opportunities (hunting, rockhounding, and sightseeing), information, permitting of guide and outfitter activities on public land, limited field patrols of public land during hunting seasons, and boundary marking of areas where problems or conflicts occur would be provided.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Acquisition of lands with recreation potential would be pursued (map 3-13).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Access to BLM-administered public land surface in selected areas would be provided through purchase of access, exchange of use agreements, or exchange of lands (map 3-13) based on a willing buyer-seller agreement.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECREATION RESOURCES MANAGEMENT (continued) (public land surface only)</td>
<td>A recreation project plan, livestock water development, and wildlife habitat management plan would be completed for the development of the proposed Meadow Draw Reservoir recreation site (T 45 N., R. 63 W., section 3). Development of additional recreation sites on public lands would be done as needs are identified.</td>
<td>Same as Proposed RMP.</td>
<td>No recreation site would be developed.</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>Primitive camping sites would be established in Crook County (T. 56 N., R. 66 W., sections 5, 8, and T. 56 N., R. 67 W., section 1) to provide better control of camping use, fire, and trash collection. Additional sites would be established as they are identified if the need justifies development (map 3-13).</td>
<td>No campsites would be established.</td>
<td>No developed campsites would be provided. Camping would be allowed on any public lands not closed to camping.</td>
<td>Developed campsites would be provided with hard surface parking and camping areas, drinking water, trash, and sanitary facilities.</td>
</tr>
<tr>
<td></td>
<td>Cutting trees and firewood for recreational purposes would be restricted to dead and down wood.</td>
<td>There would be no restrictions on firewood cutting.</td>
<td>No firewood cutting would be allowed.</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>Areas within 1/4 mile of developed or semideveloped recreation sites on public land would be avoidance areas for development activities (such as roads, power lines, pipelines, well pads.) This requirement could be modified by the authorized officer. However, these areas would be open to development activities specifically for the purpose of recreation site facilities.</td>
<td>Same as Proposed RMP</td>
<td>Development activities would not be restricted within 1/4 mile of developed or semideveloped recreation sites. Such developments would be subject to design or color standards to be compatible to the recreation site as possible.</td>
<td>Development would not be allowed within 1/4 mile of developed or semideveloped recreation sites.</td>
</tr>
</tbody>
</table>
Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECREATION RESOURCES MANAGEMENT (continued) (public land surface only)</td>
<td>Camping would be allowed on developed recreation sites or on undeveloped BLM-administered public land surface for a period of not more than 14 days within 28 consecutive days. After this time the camp must be moved to a site at least 5 miles away.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>A 14-consecutive-day camping limit would be established at any location in the planning area open for camping with no further restrictions.</td>
</tr>
<tr>
<td></td>
<td>The BLM would cooperate with other agencies and private landowners to explore opportunities to interpret a portion of the Cheyenne to Deadwood Trail.</td>
<td>No similar action</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>Selected tracts of BLM-administered public land surface within T. 43-46 N., R. 60 W. would be designated as the Stateline SRMA to emphasize recreation-related opportunities. See the “Special Management Areas” section.</td>
<td>No SRMA designation would be pursued</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>BLM-administered lands in the remainder of the planning area (except for Whoopup Canyon ACEC) would be designated an extensive recreational management area (ERMA).</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>Surface disturbing and disruptive activities associated with constructing and using roads, campgrounds, interpretive sites, and other recreational facilities would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>RECREATION RESOURCES MANAGEMENT</strong> (continued) (public land surface only)</td>
<td><strong>MANAGEMENT OBJECTIVE:</strong> Provide opportunities for ORV use in conformance with other resource management objectives (Also see appendix F.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Off-road Vehicle Management (public land surface only)</td>
<td><strong>MANAGEMENT ACTIONS:</strong> Unless otherwise specified, ORV travel in the planning area would be limited to existing roads and trails. Seasonal restrictions for ORVs could be applied in crucial wildlife habitats (strutting grounds, nesting areas, spawning beds, crucial big game winter ranges, parturition areas) as needed. Off-road vehicle travel would be required to follow the same prescriptions as for other vehicles.</td>
<td>No similar action.</td>
<td>Off-road vehicle use would be allowed on public lands with public access (175,000 acres of legal access; 110,000 acres of practical vehicle access). All other public lands would be limited to existing roads and trails.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>On areas designated as limited to existing roads and trails, the performance of necessary tasks requiring off-road use of a vehicle would be allowed provided resource damage does not occur. Examples of necessary tasks include constructing or repairing authorized range improvements.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------</td>
<td>----------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>RECREATION RESOURCES MANAGEMENT</strong> (continued) (public land surface only)</td>
<td>Driving would be prohibited on wet soils and on slopes greater than 25% if unnecessary damage to vegetation, soils, or water quality would result.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Off-road Vehicle Management (continued) (public land surface only)</td>
<td>The BLM-administered public lands within the Whoopup Canyon ACEC are closed to vehicle use except for administrative purposes.</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>SOILS MANAGEMENT</strong> (public land surface only)</td>
<td><strong>MANAGEMENT OBJECTIVE:</strong> Maintain soil cover and productivity and provide for improvement in areas where soil productivity may be below potential on BLM-administered public land surface. (Also see appendix F.)</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS: Protecting and enhancing soil resources on public land surface would be accomplished through site-specific mitigation of individual surface-disturbing actions. Mitigation measures such as special construction techniques would be required on highly erosive or fragile soils.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td></td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>SOILS MANAGEMENT (continued) (public land surface only)</td>
<td>Land uses and surface-disturbing activities on BLM-administered public land surface would be designed to promote reduction of channel erosion where it would result in severe losses of riparian habitat and reduction of accelerated surface erosion in areas having severe erosion problems or susceptibility. To the extent practical, damaged wetland and riparian areas would be restored.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>VEGETATION RESOURCES MANAGEMENT (public land surface only)</td>
<td>MANAGEMENT OBJECTIVE: Maintain or improve the diversity of plant communities to support timber production, livestock grazing, wildlife habitat, watershed protection, and acceptable visual resources; and reduce the spread of noxious weeds. (Also see appendix F.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS: Protect and enhance the vegetation resources on BLM administered public land surface through site-specific mitigation of surface-disturbing actions.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
</tbody>
</table>
Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEGETATION RESOURCES MANAGEMENT (continued) (public land surface only) Noxious Weeds (public land surface only)</td>
<td>Noxious weeds and other undesirable vegetation would be controlled in conjunction with counties, APHIS, and other agencies and affected interests, consistent with the Wyoming Record of Decision for the Final EIS Addressing Vegetation Treatment on BLM Lands in the 13 Western States (USDI. BLM 1991a).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Control of noxious weeds, in priority order, may include the use of species-specific insects, livestock grazing, mechanical methods, or chemical methods. If herbicides are proposed for use, those with minimum toxicity to wildlife and fish would be selected. As appropriate, buffer zones would be provided along streams, rivers, lakes and riparian areas, including riparian areas along ephemeral and intermittent streams.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Treatments would avoid bird nesting seasons and other times when loss of cover or disturbance by equipment would be detrimental to wildlife. Projects that may affect threatened or endangered plants or animals would be postponed or modified to protect the presence of these species. In such cases, the BLM would consult with the US Fish and Wildlife Service (FWS) as required by the Endangered Species Act.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VEGETATION RESOURCES</strong>&lt;br&gt;MANAGEMENT (continued) (public land surface only) <strong>Special Status Plant Species</strong> (public land interests only)</td>
<td>MANAGEMENT OBJECTIVE: Maintain or enhance essential and important habitats for special status plant species (for example, sensitive and threatened and endangered plants) on BLM-administered public land surface and prevent the need for any special status plant species from becoming listed as threatened and endangered.</td>
<td>No similar objective.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Sensitive species designation for species identified as being present or potentially present in the resource area would be requested (table 3-20).</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>A search for species would be required before allowing surface-disturbing activities in identified potential habitat locations.</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Threatened, endangered, and sensitive plant surveys and general floristic surveys would be conducted on BLM-administered public land surface to note locations and to obtain recommendations for management.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Surface-disturbing and disruptive activities associated with all types of vegetation management would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>VISUAL RESOURCES MANAGEMENT (public land surface only)</td>
<td>MANAGEMENT OBJECTIVE: Maintain or improve scenic values, visual quality, and establish visual resource management priorities in conjunction with other resource values. (Also see appendix F.)</td>
<td>No designated VRM areas exist.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS: Visual resources would be managed in accordance with objectives for VRM classes that have been assigned to the planning area (see &quot;Glossary&quot;). Map 3-14 shows the VRM management areas.</td>
<td></td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>VRM requirements would be applied only to public lands or to BLM-approved mineral exploration and development activities on split-estate lands.</td>
<td></td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Visual resources would be considered before authorizing land uses that may affect them.</td>
<td></td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>As appropriate, facilities or structures such as power lines, oil wells, and storage tanks would be screened, painted, and otherwise designed to blend with the surrounding landscape.</td>
<td></td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------</td>
<td>--------------------------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>WATERSHED AND WATER RESOURCES MANAGEMENT (public land surface only)</td>
<td><strong>MANAGEMENT OBJECTIVE:</strong> Maintain or improve surface and groundwater quality consistent with existing and anticipated uses and applicable state and federal water quality standards; provide for availability of water to facilitate authorized uses, and to minimize harmful consequences of erosion and surface runoff from BLM-administered public land surface. (Also see appendix F.)</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS: Protect and enhance the water resource through site-specific mitigation of individual actions.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>When herbicides are proposed for use, those with minimum toxicity to wildlife and fish would be selected. As needed, buffer zones would be provided along streams, rivers, lakes and riparian areas, including riparian areas along ephemeral and intermittent streams.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>Areas within 500 feet of 100-year floodplains, wetlands, or perennial streams would be avoidance areas for surface-disturbing activities.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>WATERSHED AND WATER RESOURCES MANAGEMENT (continued) (public land surface only)</strong></td>
<td>Areas within 100-year floodplains, wetlands, or riparian areas would be closed to placement or construction of structures (fuel or chemical storage tanks, well pads, buildings, or other types of structures), where there is potential for property, ecological, and general resource damage and human health and safety hazards from a flooding event.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Land use and surface-disturbing activities on BLM-administered public lands would be designed to promote reduction of channel erosion where it would result in severe reduction of riparian habitat, and to promote reduction of accelerated surface erosion in areas having severe erosion problems or susceptibility. To the extent practical, damaged wetland and riparian areas would be restored.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The protection of watershed resources would be considered in the analysis of BLM- and industry-initiated projects. As needed, watershed conservation practices and state of Wyoming Best Management Practices would be applied.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WATERSHED AND WATER RESOURCES MANAGEMENT</strong> (continued) (public land surface only)</td>
<td>Surface-disturbing and disruptive activities associated with watershed management would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
| **WILDLIFE HABITAT MANAGEMENT** (public land surface only) | **MANAGEMENT OBJECTIVE:**
1) Maintain biological diversity of plant and animal species;
2) support WGFD strategic plan population objective levels to the extent practical and to the extent consistent with BLM multiple use management requirements;
3) maintain, and where possible, improve forage production and quality of rangelands, fisheries, and wildlife habitat; and
4) to the extent possible, provide habitat for threatened and endangered and special status plant and animal species on all public lands in compliance with the Endangered Species Act (ESA) and approved recovery plans. (Also see appendix F.) | Same as Proposed RMP. | Same as Proposed RMP. | Same as Proposed RMP. |
**Table 2-1**  
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILDLIFE HABITAT MANAGEMENT (continued) (public land surface only)</td>
<td><strong>MANAGEMENT ACTIONS:</strong> BLM would coordinate efforts with other federal authorities and with state and local authorities to implement safe and effective prairie dog control measures on public lands when prairie dogs are determined to be a threat to human health and safety or are causing resource damage. Resource damage would be documented by BLM personnel when reported by the grazing lessee, adjacent landowners, or other interests. This could include resource damage occurring on private or state lands from prairie dog towns located on BLM-administered public lands. Animal damage control activities would be subject to established procedures and policies as outlined in the national and state level memoranda of understanding between BLM and APHIS and the Casper District animal damage control plan. Human health and safety determinations would be made by the state of Wyoming, Department of Health or by officers of the US Center for Disease Control.</td>
<td>Prairie dog control on public lands would be conducted when requested by a grazing lessee or adjacent landowner.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Control of the size of prairie dog towns on public lands would not occur unless resource damage were occurring or human health and safety were threatened as stated above.</td>
<td>Same as Proposed RMP.</td>
<td>Prairie dog towns would not be allowed to exceed the size of the town as of October 1, 1992.</td>
<td></td>
<td>Size limitations of prairie dog towns on public lands would be determined on a case-by-case basis.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>-------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>WILDLIFE HABITAT MANAGEMENT (continued) (public land surface only)</td>
<td>New prairie dog towns would be allowed to become established on public lands.</td>
<td>Same as Proposed RMP.</td>
<td>New prairie dog towns would not be allowed to become established.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Unless one of the above situations were occurring, prairie dog control on BLM-administered public land in the planning area would not be allowed. Prairie dogs and their towns are an important component of the prairie ecosystem and are valuable in providing habitat and a food source for a number of wildlife species, some of which are species of special management concern.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>No BLM-authorized actions would be allowed that would disrupt animals on identified crucial winter range generally from November 1 to March 30 unless approved by the authorized officer (map 3-16).</td>
<td>Same as Proposed RMP.</td>
<td>No BLM-authorized actions would be allowed that would disrupt animals on identified crucial winter range generally from November 1 to March 30.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>To protect raptors and/or sage and sharp-tailed grouse during nesting season, disruptive activity would not be allowed generally from February 1 to July 31. This limitation does not apply to maintenance and operations of existing facilities. Modification of this limitation in any year may be approved in writing by the authorized officer.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILDLIFE HABITAT MANAGEMENT (continued) (public land surface only)</td>
<td>Timber harvest on BLM-administered public land surface in crucial winter range would not be allowed unless the timber harvest is designed to improve winter habitat for wildlife species.</td>
<td>Timber harvest would be allowed in crucial winter range with actual harvest restricted from November 1 to March 30 unless approved by the area manager.</td>
<td>No restrictions would be placed on any timber harvests.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Riparian habitat management guidelines would be developed and implemented in all grazing allotments, with priority given to category &quot;I&quot; allotments. These guidelines could apply to such things as protective fencing, livestock season of use designations, and project work to enhance and improve riparian zones to achieve a healthy and productive condition in wetland/riparian areas, and to apply the &quot;no net loss of wetlands&quot; policy.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>Fence construction would be required to meet current BLM fence standards.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>All fences on BLM-administered public land surface that cause documented wildlife conflicts would be removed, reconstructed, or modified, as appropriate or necessary, to eliminate or reduce the conflict.</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
</tbody>
</table>
### Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILDLIFE HABITAT MANAGEMENT (continued) (public land surface only)</td>
<td>Animal damage control activities would be considered on a case-by-case basis. These activities would be subject to established procedures and policies as outlined in the national and state level memoranda of understanding between BLM and APHIS and the Casper District animal damage control plan. Areas where proposed animal damage control activities (all or specific methods) are not compatible with BLM planning and management objectives or prescriptions for other resource activities and uses will be identified on a case-by-case basis. and APHIS/WS will be requested to amend or adjust proposed animal damage control activities accordingly. Human health and safety determinations would be made by the state of Wyoming, Department of Health or by officers of the US Center for Disease Control.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Construction of fences that interfere with movements of big game species in crucial big game winter range would not be allowed.</td>
<td>Same as Proposed RMP.</td>
<td>No restrictions would be placed on the location of fences in big game winter ranges.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Cooperate with the WGFD to provide adequate habitat for wildlife population objectives in the approved strategic plan for wildlife populations.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>WILDLIFE HABITAT MANAGEMENT (continued) (public land surface only)</td>
<td>Surface-disturbing and disruptive activities associated with wildlife habitat management would be subject to appropriate mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>SPECIAL MANAGEMENT AREAS (public land surface only)</td>
<td>No similar objective.</td>
<td>No similar objective.</td>
<td>No similar objective.</td>
<td>MANAGMENT OBJECTIVE: Ensure continued public use and enjoyment of recreation activities while protecting and enhancing paleontological and cultural values; to improve opportunities for high quality outdoor recreation, and to improve visitor services related to safety, information, interpretation, and facility development and maintenance.</td>
</tr>
<tr>
<td>Lance Creek Fossil Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS: There would be no ACEC designation for the BLM-administered public lands in the Lance Creek Fossil Area.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
<td>The BLM-administered public land surface would be designated as an ACEC to emphasize management of paleontological resources and to encourage future research of the paleontological record present in the area.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>SPECIAL MANAGEMENT AREAS</strong> (continued) (public land surface only) <strong>Proposed Stateline Special Recreation Management Area</strong></td>
<td>MANAGEMENT OBJECTIVE: Ensure continued public use and enjoyment of recreation activities while protecting and enhancing natural and cultural values; improve opportunities for high quality outdoor recreation; and, improve visitor services related to safety, information, interpretation, and facility development and maintenance.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>MANAGEMENT ACTIONS: Selected tracts of BLM-administered public land surface in T. 43-46 N., R. 60 W. would be designated the Stateline SRMA due to its high potential for recreational activities.</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
<tr>
<td>Recreational trails in the proposed SRMA would be developed on BLM-administered public land surface for use by hikers, skiers, and mountain bike riders. The trails also could be nature walk trails or used by schools, volksmarches, and competitive and noncompetitive events for walking, horseback riding, mountain bike events, and cross-country skiing.</td>
<td>No recreation trail or other related developments would be developed on public lands.</td>
<td>Trails would be developed on public lands. but no other developments would occur.</td>
<td>Same as Proposed RMP.</td>
<td></td>
</tr>
</tbody>
</table>
# Table 2-1

## Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIAL MANAGEMENT AREAS (continued) (public land surface only)</strong></td>
<td><strong>MANAGEMENT OBJECTIVE:</strong> Protect and study rock art in the Whoopup Canyon area. Expand public education and interpretation in the area. Protect cultural resource values from degradation and provide for wildlife and scenic values, and Native American concerns.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>Whoopup Canyon ACEC</strong></td>
<td><strong>MANAGEMENT ACTIONS:</strong> The existing Whoopup Canyon ACEC designation (about 1,440 acres of BLM-administered public land) would be retained.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The public lands would be open to consideration for mineral leasing with a no surface occupancy stipulation (see Glossary).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>SPECIAL MANAGEMENT AREAS</strong></td>
<td>The public lands would be closed to:</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Access for public use and enjoyment would be pursued. Day use facilities such as parking, trash receptacles, trail markers, and picnic facilities would be provided.</td>
</tr>
<tr>
<td>(continued) (public land surface only)</td>
<td>- public access and general public use.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whooppee Canyon ACEC (continued)</td>
<td>-- surface-disturbing activities including rights-of-way actions. The only exception to this would be those surface-disturbing activities necessary for meeting the research, education, interpretive and preservation management objectives for the area.</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>-- mineral material sales</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>-- mineral location (a withdrawal would be pursued)</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>-- motorized or nonmotorized mechanical transport. Vehicle use for administrative purposes would be allowed on a case-by-case basis.</td>
<td>Off-road vehicle travel would be limited to existing roads and trails.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>-- the use of explosives or blasting</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>-- use of fire retardant chemicals or those retardants containing dyes to prevent adverse effects to the petroglyphs and to protect the integrity of sociocultural values</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Land Use or Resource</td>
<td>Proposed Resource Management Plan</td>
<td>Current Management Alternative A</td>
<td>Alternative B</td>
<td>Alternative C</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------</td>
<td>--------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>SPECIAL MANAGEMENT AREAS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(continued) (public land surface only)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whoopup Canyon ACEC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(continued)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-- geophysical exploration activity</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>-- commercial timber harvesting</td>
<td>No similar action</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>and sale of other forest products</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The public lands would be managed</td>
<td>No similar action.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>consistent with the Class II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>visual resource management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>classification.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The requirements identified above</td>
<td>No similar action.</td>
<td>Same as Alternative A.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>for no surface occupancy stipula-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>tions on oil and gas leases, sur-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>face-disturbing activities, mine-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ral material sales, mineral</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>location, the use of explosives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>or blasting, and geophysical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>exploration would be applied to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>split-estate lands (private</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>surface over federal minerals),</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in relation to federal mineral</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>exploration and development ac-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>tivities only.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Livestock grazing objectives</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>would be evaluated and, as needed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>modified to be consistent with the</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>management objectives for this</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>area.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 2-1
Summary of Alternatives, Including the Proposed Resource Management Plan

<table>
<thead>
<tr>
<th>Land Use or Resource</th>
<th>Proposed Resource Management Plan</th>
<th>Current Management Alternative A</th>
<th>Alternative B</th>
<th>Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SPECIAL MANAGEMENT AREAS (continued) (public land surface only)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whoopup Canyon ACEC (continued)</td>
<td>Legal access across private lands for administrative and management purposes would be pursued.</td>
<td>No similar action.</td>
<td>Same as Alternative A.</td>
<td>Access for public use and enjoyment would be pursued. Day use facilities such as parking, trash receptacles, trail markers, and picnic facilities would be provided.</td>
</tr>
<tr>
<td></td>
<td>Visitation to and use of the area would be limited to (1) research under a cultural resources research permit: (2) traditional religious use by Native Americans; and, (3) supervised, guided tours by the BLM.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Active research and preservation activities would be conducted. Petroglyphs, artifacts, and cultural deposits would be preserved and protected from weathering and vandalism.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>A land exchange to acquire private lands in the area determined to have significant cultural resource values would be pursued.</td>
<td>Same as Proposed RMP.</td>
<td>No attempt would be made to acquire private lands.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
CHAPTER 3
THE AFFECTED ENVIRONMENT

INTRODUCTION

This chapter contains a description of the existing physical, biological, and socioeconomic characteristics of the planning area that would be affected by the alternatives described in chapter 2. Figure 3-1 formerly named "Seasonal Sulfate and Nitrate Deposition" has been redrafted to show annual deposition of sulfate and nitrate. The "Socioeconomic section has been extensively revised. Table 3-2 has been revised to reflect updated information received during the comment period. Map 3-18 "Elek Hunt Areas" and Map 3-24 "Elek and Antelope Herb Unit Boundaries" have been updated to reflect new hunt area boundaries. Map 3-19 "Threatened or Endangered Species Habitat" in the draft has not been included in this final EIS for the Proposed RMP. It was eliminated because the information was found not to be complete.

AIR QUALITY

Air quality in the Newcastle planning area is generally excellent with measured background concentrations of all monitored criteria pollutants well below the established standards. Criteria pollutant concentrations are measured by the State of Wyoming, DEQ. The criteria pollutants the applicable National ambient air quality standards (NAAQS), the Wyoming ambient air quality standards (WAQAS), and the background concentrations are given in table 3-1. Other air quality related values such as acid deposition are monitored by the BLM near Newcastle. This site is part of the National Atmospheric Deposition Program National Trends Network. Figure 3-1 shows annual sulfate and nitrate deposition at this site. Deposition rates of 10 kilograms per hectare per year (kg/ha/yr) for sulfate and 15 kg/ha/yr for nitrate are considered potentially damaging to vegetation. Visibility is not measured in this area.

In addition to the ambient air quality standards, major new sources of pollutants or modifications to sources must comply with the New Source Performance Standards (NSPS) and PSD regulations. The NSPS are emission standards based on the type of plant to be built and thus not amenable to consideration in the planning process. The PSD regulations are ambient standards, the PSD increments are given in table 3-2. Unlike the NAAQS which are absolute values not to be exceeded more than once per year, the PSD standards are increments or increases above existing background conditions. No matter how low or high this background is. This serves to keep areas which have very good air quality from being degraded all the way to the NAAQS. The PSD increments are also not the same for all areas of the country. Each location is designated either PSD Class I, II or III. Class I areas have the smallest increments and were originally designated in the 1977 amendments to the Clean Air Act. Examples of Class I areas are national parks and wilderness areas larger than 5,000 acres and any other areas so designated by the states or Indian tribes at a later date. The rest of the United States were designated as Class II. Class III requires a redesignation from Class II and has the highest increments. Currently all BLM administered public lands in the Newcastle area are designated Class II.

TABLE 3-1
CRITERIA AIR POLLUTANT STANDARDS AND BACKGROUND CONCENTRATIONS
(These standards are not to be exceeded more than once per year.)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Period</th>
<th>Wyoming Standard (g/m²)</th>
<th>National Standard (g/m²)</th>
<th>Background Concentration (g/m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total suspended particulates (TSP)</td>
<td>24-hour</td>
<td>150</td>
<td>-</td>
<td>62.5</td>
</tr>
<tr>
<td>Sulfur dioxide (SO₂)</td>
<td>1-hour</td>
<td>1,300</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nitrogen dioxide (NO₂)</td>
<td>1-hour</td>
<td>60</td>
<td>80</td>
<td>1</td>
</tr>
<tr>
<td>Carbon monoxide (CO)</td>
<td>8-hour</td>
<td>10,000</td>
<td>10,000</td>
<td>1,500</td>
</tr>
</tbody>
</table>

AFFECTED ENVIRONMENT

TABLE 3-2
AIR POLLUTION INCREMENTS FOR PREVENTION OF SIGNIFICANT DETERIORATION

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Period</th>
<th>Class I</th>
<th>Class II</th>
<th>Class III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total suspended particulates (TSP)</td>
<td>annual geometric</td>
<td>5</td>
<td>19</td>
<td>37</td>
</tr>
<tr>
<td>Sulfur dioxide (SO₂)</td>
<td>annual arithmetic</td>
<td>2</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Nitrogen dioxide (NO₂)</td>
<td>annual arithmetic</td>
<td>5</td>
<td>91</td>
<td>182</td>
</tr>
</tbody>
</table>

Figure 3-1
Sulfate and Nitrate Deposition
Annual Averages Calculated from Monthly Measurements

Biodiversity/Ecosystem Management

There is growing recognition, globally, that a new approach to nature resource management is needed which assures that change will sustain the integrity, diversity, and productivity of entire ecological systems while continuing to provide resource products, uses values, and services for present and future needs.

Ecosystem management is a process that considers the total environment of an area. It uses ecological, economical, social, and managerial principles to produce, restore, or sustain the integrity and diverse functions of an ecosystem, and its uses, products, values, and services over the long term. Management of individual components of ecosystems for their immediate needs is expanded to management centered on long-term goals and objectives targeted to the entire ecosystem which may cross jurisdictional lines.

Ecosystems such as grasslands, forests, and aquatic systems contain a variety of species adapted to the components in which they exist and functioning in conjunction with each other. The loss or reduction of species within these ecosystems can have far reaching effects on all other species present. The full significance of the changes created by altering the balance of these ecosystems is often not immediately apparent and the impacts subtle and difficult to predict.
Future studies must be conducted to determine boundaries of ecoregions and ecosystems that involve part or all of the planning area to determine goals and objectives for managing ecoregions and ecosystems. Results of these studies will be used to determine various management actions that may be undertaken on the BLM-administered public lands to help achieve those objectives. Examples of possible ecosystems in the planning area are the Black Hills, the Little Missouri Breaks, and the shortgrass prairie.

Biological diversity, or biodiversity, is a recurring theme throughout resource management programs presented in this final EIS. The U.S. Congress, Office of Technology Assessment (1987) has defined biodiversity as "the variety and variability among living organisms and the ecological complexes in which they occur. Diversity can be defined as the number of different items and their relative frequency. Thus the term encompasses different ecosystems, species, genes and their relative abundance.'

The BLM Science Advisory Group has adopted a definition of biodiversity for use by the BLM which states that "biodiversity is the aggregates of species assemblages (communities), individual species and genetic variation within species, and the processes by which these components interact within and among themselves, for purposes of classification. Biodiversity can be divided into three levels: (1) community diversity (habitat, ecosystem), (2) species diversity, and (3) genetic diversity within species. all three levels change through time" (Cooperminder 1990).

The value of maintaining biodiversity of plant and animal species has long been recognized as a necessary and desirable goal for resource management. In all alternatives presented, an effort was made to provide for consideration of biodiversity and for reasonable resource development opportunities, while still providing adequate resource and environmental protection.

Past management actions have in some localized areas such as riparian areas reduced the number of specific types of species present from the original or potential condition that may exist. While an increase in individual species may be beneficial to one group or industry, the overall reduction in species and communities is a negative effect on the ecosystem as a whole which could lead to undesirable situations that can be costly and difficult to remedy.

Conserving biological diversity includes more than recovery of endangered species or creation of preserves. It encompasses maintaining the ecological processes and preserving the capability of genes, organisms, and communities to evolve over time.

The continuation of availability of natural resource products such as livestock forage, wildlife habitat, wood products, recreation areas, and water production and quality control will depend largely on the management of an area to preserve its biological diversity.

Biodiversity will be a management goal of all programs the BLM administers in the Newcastle planning area. This will be most evident in the management actions of the range, riparian, forestry, and wildlife habitat management, predator control, weed control, and rodent control programs and in the impacts of all commodity producing programs.

**CLIMATE**

The climate of the planning area is generally dry continental temperate. Most days in the area are dry and sunny with weather fronts coming from the Pacific Ocean. The area does vary in its climatic setting as influenced by elevation. Higher elevations experience lower average temperatures and higher average precipitation. Thus, the lowest area in the Belle Fourche valley supports steppe-grassland ecosystems. Most of the area is semiarid steppe, while the mountains in the northeast are more lush montane and alpine ecosystems.

Precipitation and temperature are the two most important climatic parameters relating to vegetation growth in the planning area. The locations of stations where climate measurements are made in the resource area can be found in the management situation analysis (MSA) which is on file at the Newcastle Field Office. The average annual precipitation for the area is from 22.78 inches in the Black Hills at Alva to 10.59 inches at Keeline. About 19% of the precipitation generally occurs from November through March as snow and about 57% from April through July as rain. Temperatures can be extreme in both winter and summer. The lowest recorded temperature was 30°F and the highest was 105°F, though the average annual temperature is a rather cool 46°F. Figure 3-2 shows the annual distribution of precipitation and temperature at the Newcastle station.

Other climatic factors which affect the ecological setting of the area are humidity, evaporation, and growing season length. Relative humidity over this area can be very low and averages about 55% throughout the year. Pan evaporation is an indication of the amount of moisture that can be lost by water bodies, soil, and vegetation due to atmospheric conditions. The estimated annual pan evaporation for this area is 60 to 95 inches of water. The growing season in this area is short making grain production limited and most other agricultural activities inappropriate, though the grasslands have
helped to foster the grazing industry. The frost-free period is a maximum of about 137 days (the longest in the state) and decreases with the increasing elevation to as low as 100 days. Winter in this part of the state is not as long and harsh as elsewhere, although severe snowstorms occur between once and twice a year, particularly in the higher elevations. Days with summer thunderstorms are more common along the eastern edge of the state, including the planning area, averaging over 50 days per year.

Wind observations are not taken in the area. The nearest such stations in similar parts of the state are at Caspar and Cheyenne. It is expected that like most of the state, winds are predominantly from the west to southwest, depending on the influence of local terrain, and can be quite strong. More information on wind speeds and directions can be found in the NSA on file at the Newcastle Field Office.

CULTURAL RESOURCES

Description and Summary

Cultural resources in the area span at least 12,000 years of prehistory, a short protohistoric period of about 200 years, and an even briefer historic period. Remains from all periods are found throughout the Newcastle planning area.

Through December 1989, approximately 500 historic sites have been recorded in the planning area. Because a Class I overview of historic period resources has never been conducted in the Newcastle area, we do not know how many sites of various kinds are recorded and how many are significant.

A total of 1,656 prehistoric sites were on record for the planning area at the end of 1989. A Class I overview synthesizing these data is available in the Newcastle Field Office. The kinds of prehistoric sites known to occur in the planning area include occupations and campsites, tip rings, quarries, lithic workshops, rock art, kill and processing sites, rockshelters, hunting camps, overlooks, and stable processing camps and burials.

Of the 1,656, "prehistoric sites in the area, 866 (52%) lack evaluations, 230 (14%) are designated as eligible for the NRHP, and 560 (34%) are considered not eligible. The evaluations for many of these sites are based on inadequate data and may not be reliable.

No prehistoric or historic sites on BLM administered surface in the planning area are listed on the NRHP. Two sites have been nominated to the National Register, but the nominations were returned by the Keeper of the Register because inventory data were inadequate.

During a seven-year period (fiscal years 1983 through 1989) for which data are available, a total of 32,541 acres were surveyed for BLM-administered projects. This area represents 1.5% of the combined BLM administered surface and federal mineral estate in the planning area.

No extensive inventories have been conducted in the Newcastle planning area to identify Native American religious and cultural sites nor to identify possible conflicts.

Prehistoric and Protohistoric Periods

By about 12,000 B.P. (before present) the Paleo-Indian period was well established and lasted until about 7,700 B.P. Paleo-Indians hunted mammoths at the end of the last Ice Age and probably used other animal and plant foods as well. The earliest Paleo-Indians made distinctive Clovis fluted points. Clovis remains have been found at the Sheaman site in Ngorara County. The nearby Agate Basin site provides a picture of successive Paleo-Indian activities beginning with people who used Folsom points to hunt a large extinct form of bison.

Despite the fact that people had been living in northeastern Wyoming for several thousand years, only eight archeological sites have been recorded in the planning area from this time span. Excavations at the Betty Greene site in Ngorara County show a different way of life than many of the earlier kill sites. Large numbers of grinding stones suggest plant food processing. The Betty Greene site may represent a different aspect of the Paleo-Indian lifeway, or possibly the lifeway was beginning to change.

The Paleo-Indian period lasted from about 7,700 B.P. to 2,000 B.P. The Early Archaic period is poorly known. Seven Early Archaic sites have been recorded in the planning area: only one, the Hawkens site, has been extensively investigated. At the Hawkens site, prehistoric hunters trapped bison in an arroyo similar to many Paleo-Indian kill sites.

Middle Archaic sites are much more abundant in the planning area. A total of 31 sites have been recorded. Excavations at the McKean site and several other sites near Keyhole Reservoir provide a more detailed picture of how people lived. Most of these sites are living areas rather than kill sites. These sites provide evidence of cooking and food processing in the form of hearths and grinding stones. Middle Archaic sites show a wide range of plant and animal foods rather than a concentration on bison hunting.

During the Late Archaic, nearby sites show an increased reliance on bison hunting, including the con-
scullion of corral for driving and trapping animals. There have been 69 Late Archaic sites recorded in the area. Two have been excavated: 48WE320 and a small site near Jacob Kill sites in the resource area. The Fulton site in Weston County and the Lance Creek site in Nodrara County have been radio-carbon dated to the Archaic. They have never been extensively investigated.

The Late Prehistoric period, lasting from 2000 B.P. to approximately 250 B.P., has the most recorded sites in the area—81. Extensive excavations at the Vore site in Crook County show a series of 25 communal burial areas as a pit house. Evidence from the trap indicates that bone drives were made with complex flake and points in numbers of bone. Several sites excavated near Keyhole Reservoir provide information on the life of the Cheyenne. Pithouse Excavations associated with the Late Prehistoric are the bow and arrow and potsherd. It is important to mention hunting methods and food processing and storage.

Other prehistoric sites in the planning area are as yet unknown and may have been used for many years. Quarries used to extract stone for tools were probably used throughout the prehistoric period. The Spanish Digging quarries in the Hartville Uplift are one of the most extensive quarry locations in Nebraska. The quarry area alone covers 360 square miles in the planning area and a much larger area to the south. Extensive workshops and campsites are known near these quarries. The Manville and Old Woman Creek Hills quarries in Nodrara County are additional areas where similar stone was extracted. No quarry sites in the planning area have been excavated.

Significant rock art sites span much of the Paleo Indian, Archaic, and Late Prehistoric. Fourteen rock art sites have been minimally recorded in the planning area. In addition, Medicine Creek Cave in Crook County has been more fully investigated and is fieldwork is ongoing at Windpenny in Weston County.

The Whoppup Canyon petroglyph area was designated an ACEC in 1981. The area is an extensive complex of rock art panels and associated archaeological deposits. It is one of the oldest rock art sites in North America. National Register nomination forms were submitted in 1976 but returned for necessary information. Surveys to determine the site boundaries and gather data for a management plan began in 1990 and will take several years to complete. The site is endangered by continuing natural erosion and damage by visitors. An unusually high percentage of the site's surface has been damaged by visitors. There is no legal access to public lands within the site complex.

Only nine sites have been recorded from the Protohistoric period. This low number of sites is not consistent with known protohistoric activity in the area. Some Protohistoric sites may have been identified by Late Prehistoric because no trade goods happen to be found on the site surface and a similar lifeway continued for a while into the Protohistoric period. The Vore site in Weston County has been excavated last during the Protohistoric. The Vore site is recorded on a Cheyenne pictographic calendar. The Bush Bungert antelope trap is another significant protohistoric site. The V-shaped wings of the trap, which were made of juniper, are partly intact. Several other sites have sacred and cultural significance to contemporary Native Americans. While the entire Black Hills are important to Native Americans, a number of prominence sites are special. David's Tower, Sundance Mountain Little Saddle, Sundance Mountain Little Saddle (Green) Mountain, Inyan Kara, the vicinity of the Rawhide Buttes, and Whoppup Canyon are known sacred places in the planning area.

Native American Values

While concerns may be voiced by the public during the public scoping period, the unique legal status of American Indians, the sovereignty of tribal governments, and the nature of reserved tribal rights merits separate attention. The Newcastle planning area may contain sites and locales which some of today's Indian tribes could find significant because of an association with tribal history or because of the sacredness or religious or cultural importance to the tribe. Such sites are generally deeply rooted in the tribe's history and are important in maintaining the continuing cultural identity of the tribe.

These sites and locales may be merely natural features such as specific springs or unusual geologic formations which are sacred to a tribe. They may also be observable man-made features such as rock carvings, stone circles, medicine wheels, or other rock alignments generally found on high places or petroglyphs or petroglyphs. All of these types of sites and locales may have been used historically by and for cultural, religious or spiritual purposes or may still be used by a tribe's traditional practitioners. There may also be trails or specific locales where historic events have occurred and are important to a tribe's history. Finally, tribal members and traditional practitioners may traditionally use a particular locale for gathering and collecting materials for medicinal plants or minerals, used for important cultural or religious activities. Therefore, traditional gathering areas may also be of concern to a tribe.

Physical affects on a cultural or historical resource should not be the only consideration. Because sites and locales significant to a tribe may be used for religious purposes, which usually require prayer and meditation, affects from auditory and visual impacts must also be considered.

Procedures for identifying sites and locales of concern to Native Americans requires consultation with the appropriate tribal government or with traditional practitioners of the tribe. While some places may come to light by conducting archaeological or historical surveys, the existence and significance of locations of concern often can be ascertained only through interviews with knowledgeable Native American users of the area, or through other forms of ethnographic research. Executive Order No. 13007, "Indian Sacred Sites," requires that in managing federal lands, each executive branch agency with statutory or administrative responsibility for management of federal lands shall, to the extent practicable, permit the presence of cultural resources. It requires the following: (1) the acknowledgment of sacredness of certain types of natural resources, (2) the acknowledgment of sacredness of certain types of natural resources, (3) the acknowledgment of sacredness of certain types of natural resources, and (4) the acknowledgment of sacredness of certain types of natural resources.

In complying with Executive Order No. 13007 and identifying all other Native American concerns, the BLM will follow procedures and guidance established in BLM Manual Handbook H-8100-1, "General Procedural Guidance for Native American Consultation." Historic Period

Exploration and Fur Trade

Little is known about the earliest explorers and fur trappers in northeastern Wyoming. The area was on the fringe of fur activity. In 1811, William Price Hunt led a party of Astorians along the Little Missouri and Belle Fourche rivers en route to Oregon (map 3-1). A series of scientific and military expeditions were conducted in 1853 with Dr. Ferdinand Hayden's geological explorations. In 1857 Hayden returned accompanying Lieutenant G. D. Orient and the exploration of the Black Hills. Warren's expedition traveled from Fort Laramie to Beaver Creek, then continued to Inyan Kara and east across the Black Hills. A second expedition that gathered scientific data on the area was Captain W. F. Reynolds' expedition in 1859. Traveling from the west, the party traversed the northern Black Hills, then traveled north up the Little Missouri River. The next major exploration was the Custer expedition in 1874, which resulted in discovering gold and disrupting the temporary balance of Indians versus white settlers that was established under the treaty of 1868. To verify these discussions and ascertain their extent, geologist W. P. Jenney traveled north from Cheyenne in 1875 to a trading post on Beaver Creek, which was renamed Jenney Stockade. Jenney continued north to Beaver Creek and followed Custer's trail east into the Black Hills.

These early explorations left few traces in the archaeological record.

Trails and Transportation

As soon as the Black Hills were opened for mining in 1876, the Cheyenne to Black Hills Stage Line was initiated (map 3-1). During the first year, the stage traveled north of Lusk to Hat Creek Station, then veered northeast to the southern Black Hills. This line was soon abandoned and a route up the west side of the Black Hills was established. Called the Black Hills Wagon Road or the Cheyenne to Deadwood Stage Road, this route was used until the mid-1880s. A second route from northwestern Weston County to the Red Valley. The stage route was used long enough to leave traces in areas where subsequent roads have not obliterated them. Although only the Hat Creek route is the only one which still has a standing structure, archeological remains can be expected at all of the stations. The Jenny Stockade building is also intact, but it was moved to Newcastle.

From 1868 to 1897 cattlemen used the Texas Trail to move cattle from Texas to Montana. The trail extended south to north across the planning area. Because the cattle spread out and used various routes, it is difficult to find well-defined traces of the main route or secondary trails.

The railroads that entered northeastern Wyoming were a line of the Burlington and Missouri River Railroad. The line was extended from Newcastle to Grand Forks, North Dakota, in 1875. After sufficient coal was discovered at Cambria to run the steam engines. By 1891, the rail line reached Moorcroft and continued west across the Powder River Basin. Rail service to Aladdin was also associated with coal mining. A narrow gauge spur line connected to the Chicago, Burlington and Quincy to Aladdin. The Northern Pacific Railroad was also constructed.

Mining and Industry

The initial impetus for historic settlement of the planning area was the Black Hills gold rush. Only three early mining districts were in the planning area. The districts were remote from the towns and therefore were not fully developed. Placer mining began on Sand Creek in 1875, the first year of the gold rush, followed by quartz vein mining on Mineral Hill. Hill was across the border from the Tinton mining area in South Dakota. The Black Butte District southeast of
The Black Hills were formed by the erosion of this dome-shaped uplift during Laramide time and consist of a Precambrian core flanked by younger Paleozoic and Mesozoic sedimentary rocks. Structural deformations generally crop out in parallel arcuate belts that are convex toward the north and extend eastward across the district. The oldest rocks are exposed in the south-central part: the youngest are along the northeast and northwest margins. This general pattern is interrupted locally by anticlinal and synclinal flexures, the axis of which tends to parallel the arcuate belts, and by many small normal faults.

The Black Hills uplift is separated from the Powder River Basin by the Black Hills monocline, a steep west-dipping flexure which trends northwest across Wyoming. The Powder River Basin is a sedimentary basin, which in this case is highly deformed by a syncline which is the deepest point (map 3-2). It serves essentially as a boundary between gently dipping rocks of the Black Hills uplift and the strongly deformed rocks of the Powder River Basin. Sedimentary rocks of primarily Cretaceous age on the eastern or uplifted side of the Black Hills monocline are deformed by time- and northward-trending anticlines and synclines and by nearly circular domes (Robinson, Mapel, and Bergendahl 1964). These anticlinal structures are found throughout Crook County. Those present along the western and northern boundaries have produced economic quantities of oil and gas (USDI. BLM 1981c).

The Powder River Basin to the west of the Black Hills monocline is a deep, asymmetric, mildly deformed, synclinal basin. It encompasses most of the northeast corner of Wyoming and a small portion of eastern Montana (map 3-2). Steeply dipping to overturned strata form hogbacks flanking the west margin of the basin, while on the eastern margin the strata are relatively undisturbed and dip gently westward off the Black Hills upf1ll (Stockland 1958). More than 13,000 feet of Phanerozoic sediments overlie the Precambian basement in the Powder River Basin (Ayers 1986).

The general configuration of the Powder River Basin developed in Early Permian time with the landforms forming soon afterward. However, the present structure of the basin is the result of the late Cretaceous to early Tertiary Laramide Orogeny. Laramide deformation produced strong regional asymmetry, with the major part of the basin dipping southwest at about two degrees (Berg and Tenney 1967). The basin is bounded by time- and northward-strengthened deformation along the margins of the Black Hills and Hartville uplifts and the Big Horn Mountains. In these structural belts, small anticlinal closures were formed, probably along lines of structural weakness that were present at a much earlier date (Berg and Tenney 1967).

AFFFECTED ENVIRONMENT

Lands where the forest management is for the enhancement of other uses are areas where forest management activities are specifically for the benefit of identified resource uses or values (9,083 acres). Forestlands not available for management of forest products are areas where no forest management activities occurred since 1977 (17 acres).

During the past decade, about 1,600 acres (10%) of the commercial forest areas have been harvested using a two- or three-cut shelterwood harvest, commercial, and precommercial thinning. This is the accepted silvicultural practice in harvesting ponderosa pine. The harvest of trees is done with rubber-tired skidders or whole tree mechanical harvesters.

In the mid-1980s when funding became available, timber stand improvement and precommercial thinning began to treat large blocks of overstocked timber. The stands identified as needing treatment. At this time, some 1,200 acres have had some type of treatment. A maintenance level of about 60 acres is being treated annually. This level varies year to year with available funding.

The major wood product users in the planning area are sawmills located in Newcastle, Hills, and Spearfish, South Dakota. These mills receive most of their supply of timber from the Black Hills National Forest with the remainder supplied by private, state, and BLM-administered public lands.

Minor forest products (fuelwood, poles, and Pinterest) are sold and purchased from the public and private sector. The demand for these forest products in the past has been small to nonexistent and has been met by the Forest Service (FS) or private landowners.

AFFFECTED ENVIRONMENT

The Powder River Basin to the west of the Black Hills monocline is a deep, asymmetric, mildly deformed, synclinal basin. It encompasses most of the northeast corner of Wyoming and a small portion of eastern Montana (map 3-2). Steeply dipping to overturned strata form hogbacks flanking the west margin of the basin, while on the eastern margin the strata are relatively undisturbed and dip gently westward off the Black Hills upf1ll (Stockland 1958). More than 13,000 feet of Phanerozoic sediments overlie the Precambrian basement in the Powder River Basin (Ayers 1986).

The general configuration of the Powder River Basin developed in Early Permian time with the landforms forming soon afterward. However, the present structure of the basin is the result of the late Cretaceous to early Tertiary Laramide Orogeny. Laramide deformation produced strong regional asymmetry, with the major part of the basin dipping southwest at about two degrees (Berg and Tenney 1967). The basin is bounded by time- and northward-strengthened deformation along the margins of the Black Hills and Hartville uplifts and the Big Horn Mountains. In these structural belts, small anticlinal closures were formed, probably along lines of structural weakness that were present at a much earlier date (Berg and Tenney 1967).
The Hartville Hills area is a broad northeast-trending uplift 15 to 23 miles wide and 35 to 40 miles long extending from Guernsey on the southwest to Campbell and Lusk on the north and northwest (map 3-2: Condra, Reed, and Scherer 1950). It was formed by the erosion of uplifted Precambrian and Paleozoic age rocks, forming deep canyons and valleys containing late Tertiary deposits, remnants of an older upland surface. The upturned edges of the sedimentary strata surrounding the Hartville Hills form asymmetrical foothill ridges with inward-facing slopes.

Rawhide Butte, the northern extension of the Hartville Hills in southwestern Niobrara County, rises abruptly more than 1,000 feet above the surrounding plains to an altitude of about 6,100 feet. North of Rawhide Butte, rocks of the Hartville Hills extend as a low but well-defined ridge as far as the Niobrara River. North of the river, a few isolated outcrops of similar strata indicate that the hills once had a greater northward extension (Whitcomb 1965).

**Leasable Minerals**

**Coal**

Coal leasing and development activities are not currently being conducted in the planning area. However, coal mining was an important part of Weston County's economy between 1889 and 1928. Bituminous coal of coking quality was mined at Cambria, 5 miles north of Newcastle, on a spur of the Burlington Railroad (map 3-1). The coal bed located within the Lower Cretaceous Lakota Formation, averaged about five feet thick. The coal was mined out of five separate mines with total production amounting to 12,464,047 short tons (Rich, Pish, and Knell 1988). Much of the coal was used directly by the railroad, and coke was supplied to smelters in the northern Black Hills and elsewhere between 1871 and 1903. Small quantities of the same bituminous coal were mined at Aladdin in Crook County between 1898 and 1909 for domestic use and for the Chicago and Northwestern Railway. There has been no recorded production in any of these areas since 1935.

Sporadic prospecting for additional minable deposits occurred in the early 1900s, but no new workable deposits were discovered (map 3-1). Coal deposits in the planning area appear to be restricted to relatively thin (one to seven feet) beds of the Lakota and Fall River formations and are not considered to be economic for mining purposes (map 3-3). Coal production has shifted to the center of the Powder River Basin in Campbell County where production is from beds of high-quality, low sulfur sub-bituminous coal in Tertiary strata (Wasatch and Fort Union formations).

It is not anticipated that coal leasing activities will occur in the planning area as long as abundant supplies of high quality sub-bituminous coal are available in nearby Campbell County.

**Oil and Gas**

The following is a summary of oil and gas activity in the Newcastle area. The reader is encouraged to turn to appendix H for a much more complete description of oil and gas activity and processes. Appendix I presents the reasonably foreseeable development scenario for oil and gas activity.

The planning area covers the eastern Powder River Basin, which is the most prolific oil-producing basin in the Rocky Mountains. The earliest reported discovery in the area is the Moorcroft Field near Moorcroft, Wyoming in Crook County. Eleven geologic formations are productive in the area, and well depths range from very shallow (less than 100 feet) in the Newcastle and Osage areas to almost 11,000 feet in western Niobrara County.

The United States owns 2,12 million acres of oil and gas land in the area. This acreage is 43% of the total planning area and is interspersed with nonfederal oil and gas ownership. In the area, there are 0.29 million acres of BLM-administered public lands. Other federal agencies administer 0.42 million surface acres in the area (figure 3-3).

In November 1990, 3,578 oil and gas leases covering 1,52 million acres were in effect in the planning area. Of the leases in effect, 702 were productive (0.21 million acres) and 2,876 were not productive (1.31 million acres).

Federal oil and gas lease sales are held every two months. The amount of acreage sold in the Newcastle planning area from February 1989 through August 1991 (16 sales) is shown in figure 3-4. The total bonus from these sales is shown in figure 3-5. About half of the bonus money received from these sales is returned to the State of Wyoming.

Seismic exploration is a process where energy is transmitted into the subsurface (usually by explosives or low frequency vibrations) and the reflected energy waves are recorded and electronically processed. The processed seismic profile shows the rock layers of the earth and is useful in locating oil and gas reservoirs. There were about 13 miles of seismic exploration on BLM-administered public lands in 1989 and 9.1 miles in 1990.

Before drilling operations can begin, an application for permit to drill (APD) must be approved by the authorized officer. An average of 65 APDs per year were approved by the authorized officer from 1987 through
Figure 3-3
Surface and Mineral Ownership
(4.57 million acres)

- Nonfederal Surface and Mineral Ownership (54%)
- Federal Mineral Ownership (31%)
- NonBLM-managed Surface and Mineral Ownership (10%)
- BLM-managed Surface and Mineral Ownership (6%)
Figure 3-4
Oil and Gas Lease Sale Results
Acres Offered and Leased

Acres (in thousands)

Year (in two-month intervals)
Figure 3-5
Oil and Gas Lease Sale Results
Money from Bonus Bids

Dollars (in thousands)

Years (in two-month intervals)

Feb. 90, Feb. 91, Feb. 92, Feb. 93, Feb. 94, Feb. 95, Feb. 96, Feb. 97

April 1992 sale was cancelled due to a partial government shut.
Mining activities are regulated under 43 CFR 3809 to prevent undue degradation of surface resources and to ensure reasonable reclamation of disturbed sites on federal lands. The BLM conducts regular field monitoring inspections of mining activities on federal surface to ensure compliance and to check for unauthorized use.

Public lands are open to exploration for locatable minerals except those withdrawn to protect other resource values and uses or those lands with acquired mineral status. Acquired minerals are subject to leasing under 43 CFR 3500. The only areas under BLM jurisdiction in Newcastle Field Office area which are currently closed to the operation of the mining laws are BOR lands at Keyhole Reservoir in Crook County.

BLM has limited management authority over mining claim operations conducted under the General Mining Law of 1872. These operations are managed using the surface regulations in 43 CFR 3809. BLM is required to prevent unnecessary and undue degradation of public lands and provides for reasonable reclamation by applying the 43 CFR 3809 regulations and any agreements made with the Wyoming DEQ pursuant to those regulations.

There are approximately 1,800 active placer mining claims in the area, with bentonite, uranium, and gypsum being the principal locatable minerals. Presently, only bentonite is being mined.

Bentonite

In the planning area there are two principle bentonite mining areas, the northern Black Hills, or Colony Mining District, and the Clay Spur Mining District (map 3-4). The northern Black Hills bentonite mining district comprises an irregularly shaped area of about 980 square miles extending about 60 miles along the north side of the Black Hills of Wyoming and South Dakota into Montana. Within this district, many beds of bentonite occur interspersed with sedimentary strata of Cretaceous age (figure 3-6) that have an average thickness of about 3,000 feet and consist chiefly of marine shale, marl, and argillaceous sandstone (Kniefel and Patterson 1962). In the northern Black Hills mining district, the important commercial beds are the Clay Spur bed at the top of the Mowry Shale and the F and E beds in the lower part of the Belle Fourche Shale. These beds average two and one-half to three feet thick.

The Clay Spur District is located in the south-central part of Crook County and the north-central part of Weston County extending from Keyhole Reservoir on the Belle Fourche River south to Osage, Wyoming. The mining area is a narrow sinuous belt approximately 30 miles long encompassing about 100 square miles which
is mostly confined to the outcrop area of the Upper Cretaceous Belle Fourche Shale. It is 5 miles across at its widest point north of Upton. Wyoming. Outcropping Cretaceous formations dip gently southwestward at 2° to 3° throughout the district. At the northern and southern ends of the district, the dip abruptly increases to 20° or more and thus becoming unfissile. Nearly all bentonite production in the Clay Spur District comes from the Clay Spur bed of the Mowry Shale. Another bentonite bed in the lower part of the Belle Fourche Shale (bed E) has produced a small quantity of bentonite. A very minor amount of bentonite also has been mined from the Newcombe Formation, but none of the operations were commercially successful (Davis 1965).

Bentonite mining out of the Belle Fourche and Mowry Shales occurs in the extreme southwestern corner of Weston County and the extreme northeastern corner of Nubra County.

The Black Hills region, which includes both of these districts, produced 10,000 tons (0.2 percent of total United States sodium bentonite production (Allison 1988).

Mineral exploration, discovery, and development of significant new uranium deposits in Crook and Weston counties, as well as several deposits of uraninite, have only been used for fabrication into art materials. Production from Niobrara County has been from stream-deposited, conglomeratic, sandstone lenses of the Tertiary White River Group (USDI. BLM 1981b).

In Weston County minor amounts of uranium have been extracted from weathered areas about 10 miles southeast of Newcastle from sandstones of the Fall River Sandstone.

Surface outcrops of the Fall River and Lakota sandstones occur throughout the planning area, but little or no active exploration for uranium is occurring. Most, if not all, of the claims located for uranium are inactive at this time.

In the northern Black Hills during the uranium boom of the late 1970s identified additional ore deposits in the Crook and Weston districts. Commercial mining of uraninite were first discovered in 1918 in Nubra County at the Silver Cliff Mine. located 1.2 mile west of Lusk. Several minor shipments were made from this mine in 1918. 1922, and during the 1950s and 1960s (Elevatorski 1976). During the 1950s, two uranium mines were opened in the Lance Creek area. However, very little uranium was produced from either of these mines, and they are presently inactive (USDI. BLM 1981).

The primary uranium mining district is the Black Hills mining district. Located in Crook County, it contains five subdistricts: Elkhorn Creek, Hulett Creek (New Haven), Barlow Canyon, Canville, and Aalderen (map 3-6). Commercial deposits of uranium in Crook County were first discovered in 1952 near Carile, Wyoming. From 1953 to 1959, more than 90% of the total production (2.7 million pounds of uranium) came from the Hulett Creek and Canville districts (Elevatorski 1976). The Hauber Mine, in the Hulett Creek district, was the largest mine in the northern Black Hills. It accounted for 83% of the uranium produced in the area (Chenoweth 1988). From 1953 through 1968, mines on 29 properties in the northern Black Hills produced 719,911 tons of ore averaging 0.22% uranium and containing 3,151,474 pounds of uranium (Chenoweth 1988). A uranium ore produced in Crook County has come from fluvial sandstones and conglomerates of the Lower Cretaceous Lakota Formation and in marginal marine sandstones and siltstones of the overlying Fall River Formation. All of the major mining districts in Crook County are located near paleochannels, which may have acted conduits for mineralizing solutions. Where the fine-grained materials have eroded, groundwaters have migrated through fluvial sandstones into a reducing environment conducive to deposition of uranium minerals. Production from Niobrara County has been from stream-deposited, conglomeratic, sandstone lenses of the Tertiary White River Group (USDI. BLM 1981b).

In Weston County minor amounts of uranium have been extracted from weathered areas about 10 miles southeast of Newcastle from sandstones of the Fall River Sandstone.

Surface outcrops of the Fall River and Lakota sandstones occur throughout the planning area, but little or no active exploration for uranium is occurring. Most, if not all, of the claims located for uranium are inactive at this time.

In the northern Black Hills during the uranium boom of the late 1970s identified additional ore deposits in the Crook and Weston districts. Commercial mining of uraninite were first discovered in 1918 in Nubra County at the Silver Cliff Mine. located 1.2 mile west of Lusk. Several minor shipments were made from this mine in 1918. 1922, and during the 1950s and 1960s (Elevatorski 1976). During the 1950s, two uranium mines were opened in the Lance Creek area. However, very little uranium was produced from either of these mines, and they are presently inactive (USDI. BLM 1981).

The primary uranium mining district is the Black Hills mining district. Located in Crook County, it contains five subdistricts: Elkhorn Creek, Hulett Creek (New Haven), Barlow Canyon, Canville, and Aalderen (map 3-6). Commercial deposits of uranium in Crook County were first discovered in 1952 near Carile, Wyoming. From 1953 to 1959, more than 90% of the total production (2.7 million pounds of uranium) came from the Hulett Creek and Canville districts (Elevatorski 1976). The Hauber Mine, in the Hulett Creek district, was the largest mine in the northern Black Hills. It accounted for 83% of the uranium produced in the area (Chenoweth 1988). From 1953 through 1968, mines on 29 properties in the northern Black Hills produced 719,911 tons of ore averaging 0.22% uranium and containing 3,151,474 pounds of uranium (Chenoweth 1988). A uranium ore produced in Crook County has come from fluvial sandstones and conglomerates of the Lower Cretaceous Lakota Formation and in marginal marine sandstones and siltstones of the overlying Fall River Formation. All of the major mining districts in Crook County are located near paleochannels, which may have acted conduits for mineralizing solutions. Where the fine-grained materials have eroded, groundwaters have migrated through fluvial sandstones into a reducing environment conducive to deposition of uranium minerals. Production from Niobrara County has been from stream-deposited, conglomeratic, sandstone lenses of the Tertiary White River Group (USDI. BLM 1981b).

In Weston County minor amounts of uranium have been extracted from weathered areas about 10 miles southeast of Newcastle from sandstones of the Fall River Sandstone.

Surface outcrops of the Fall River and Lakota sandstones occur throughout the planning area, but little or no active exploration for uranium is occurring. Most, if not all, of the claims located for uranium are inactive at this time.

In the northern Black Hills during the uranium boom of the late 1970s identified additional ore deposits in the Crook and Weston districts. Commercial mining of uraninite were first discovered in 1918 in Nubra County at the Silver Cliff Mine. located 1.2 mile west of Lusk. Several minor shipments were made from this mine in 1918. 1922, and during the 1950s and 1960s (Elevatorski 1976). During the 1950s, two uranium mines were opened in the Lance Creek area. However, very little uranium was produced from either of these mines, and they are presently inactive (USDI. BLM 1981).

The primary uranium mining district is the Black Hills mining district. Located in Crook County, it contains five subdistricts: Elkhorn Creek, Hulett Creek (New Haven), Barlow Canyon, Canville, and Aalderen (map 3-6). Commercial deposits of uranium in Crook County were first discovered in 1952 near Carile, Wyoming. From 1953 to 1959, more than 90% of the total production (2.7 million pounds of uranium) came from the Hulett Creek and Canville districts (Elevatorski 1976). The Hauber Mine, in the Hulett Creek district, was the largest mine in the northern Black Hills. It accounted for 83% of the uranium produced in the area (Chenoweth 1988). From 1953 through 1968, mines on 29 properties in the northern Black Hills produced 719,911 tons of ore averaging 0.22% uranium and containing 3,151,474 pounds of uranium (Chenoweth 1988). A uranium ore produced in Crook County has come from fluvial sandstones and conglomerates of the Lower Cretaceous Lakota Formation and in marginal marine sandstones and siltstones of the overlying Fall River Formation. All of the major mining districts in Crook County are located near paleochannels, which may have acted conduits for mineralizing solutions. Where the fine-grained materials have eroded, groundwaters have migrated through fluvial sandstones into a reduc-
AFFECTED ENVIRONMENT

building materials, road surfaces, and tools. Today, mineral materials are used primarily for building and maintaining roads and activities associated with the oil and gas industry.

In the Newcastle area there are several different forms of stone aggregate materials which are used for construction projects: sand and gravel, sandstone, shale, limestone and dolomite, and gneiss and metamorphic rocks (granitic gneiss).

Sources of mineral materials for aggregate are more readily available in Weston and Crook counties than in Niobrara County. Deposits of sand and gravel, limestone, and shale are scattered throughout Weston and Crook counties and are used primarily as aggregate materials for road surfacing by state and county agencies (map 3-7). A few gravel deposits are present in terraces along drainage and in some sandstone outcrops in the northern part of Niobrara County. In the southern part of the county a large amount of limestone is present which could be quarried and crushed for aggregate use. A granite outcrop at Bald Butte in southern Niobrara County contains material which could be used as railroad ballast.

Specific mineral material types and their locations within the planning area by county are listed in table 3-4.

TABLE 3-4 MINERAL MATERIAL TYPES AND LOCATIONS

<table>
<thead>
<tr>
<th>County</th>
<th>Type of Deposit</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crook</td>
<td>Terrace sand and gravel</td>
<td>along drainages: scattered throughout the county</td>
</tr>
<tr>
<td></td>
<td>Alluvial sand and gravel</td>
<td>northwestern portion of the county</td>
</tr>
<tr>
<td></td>
<td>Limestone</td>
<td>western and northeastern portions of the county along drainages</td>
</tr>
<tr>
<td></td>
<td></td>
<td>eastern portion of county along flanks of Black Hills</td>
</tr>
<tr>
<td>Weston</td>
<td>Alluvial sand and gravel</td>
<td>along drainages: scattered throughout the county</td>
</tr>
<tr>
<td></td>
<td>Shale</td>
<td>western 2-3nds of county</td>
</tr>
<tr>
<td></td>
<td>Limestone</td>
<td>along eastern border of county along the flanks of Black Hills</td>
</tr>
<tr>
<td></td>
<td>Terrace sand and gravel</td>
<td>sparse deposits in eastern portion of county along flanks of Black Hills</td>
</tr>
<tr>
<td>Nobi rara</td>
<td>Alluvial sand and gravel</td>
<td>along drainages in the northern portion of the county</td>
</tr>
<tr>
<td></td>
<td>Limestone</td>
<td>southern portion of the county</td>
</tr>
</tbody>
</table>

At the field office level, disposal of mineral materials is on a case-by-case basis. Applications for salable materials are reviewed and processed on a case-by-case basis as they are received. Appropriate surface disturbance mitigation requirements are included in the permits (appendix E).

Regular field monitoring inspections of salable mineral permit areas are conducted biannually to ensure compliance and to check for unauthorized use. Material sites average between three and five acres, and sites may be active under various (or successive) permits for from one to ten years. Site reclamation is initiated after the mineral material is removed.

At the field office's policy to provide sand, gravel, and stone from federal mineral deposits as necessary to meet the needs for construction and maintenance projects in the planning area (USDI. BLM 1981). Although demand for mineral materials in Crook, Weston, and Nobi rara counties is low, the maintenance and construction of roads in these areas are necessary to create and maintain a viable economic base for the resource area.

Activity in the mineral material program in the Newcastle Field Office has been limited in recent years due to the downturn in the economy locally and statewide. The location of a good portion of the mineral deposits is on private surface.

The primary uses of federal minerals in the form of free use permits (FUPs) issued to county road and bridge departments. The majority of the FUPs issued are in Crook and Weston counties. Mineral materials permit activity, as of February 1991, for the three counties is shown in table 3-5. Total production from active case files is shown in table 3-6. There are currently no community pits or common use areas in the resource area.

TABLE 3-5 FREE-USE PERMIT ACTIVITY

<table>
<thead>
<tr>
<th>County</th>
<th>Permits</th>
<th>Use</th>
<th>Sand and Gravel</th>
<th>Shales</th>
<th>Limestone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crook</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Weston</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Nobi rara</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

The recent conversion of Wyoming State Highway Department FUPs to Title 23 Letter of Consent actions has impacted activity and decreased the number of permit areas. The existence of split estate and isolated federal lands (lands surrounded by private surface) significantly impedes the mineral materials program.

Throughout the planning area activity is not uniform. Total production from the mineral material sites that have been identified in each county is shown in table 3-6. The amount of activity in the planning area's mineral materials program cannot be expected to increase in the foreseeable future unless economic conditions in the region and Wyoming improve. Particularly the oil and gas industry.

Geothermal Steam

The eastern portion of the planning area lies within the Madison aquifer. However, no data is available as to whether subsurface temperatures and pressures are suitable for geothermal steam production.

Geologic Hazards

Geologic hazards occur in many forms and to varying degrees in the planning area (map 3-8). The most acute geologic hazard is hydrogen sulfide gas liberated by oil and gas operations. Other hazards in their approximate order of importance are landslides, shrinking and swelling clays, radon and selenium, earthquakes, and windblown sand.

Hydrogen Sulfide

Hydrogen sulfide is a flammable, extremely toxic gas that occurs in two areas in the planning area (map 3-9). In western Crook and northwestern Weston counties, the gas is the result of secondary recovery operations and is associated with petroleum tank andEarlier facil ities in fields undergoing secondary or tertiary recovery. Hydrogen sulfide occurs in at least 30% of the wells. Where present, concentrations are usually between 0.2% and 0.6% (0.6% is lethal).

In central Niobrara County, hydrogen sulfide occurs as a natural gas in some petroleum reservoirs. Some wells have concentrations of 20% or more. Gas from one well in the Newcastle area is 48% hydrogen sulfide. The gas may occur in dangerous quantities in all oil and gas operations from drilling through plugging and abandonment.
Earthquake epicenters have been reported in and near the planning area (Case et al. 1990) but none had a magnitude greater than five on the Richter scale, which is the threshold for damage. Case (1990) indicates that the earthquake danger in the planning area is low.

Windblown sand, although present in the Newcastle area, appears to be a very minor geologic hazard (map 3:14).

\section*{Landslides}

Most landslides are in the Black Hills area of Crook County but several have been identified in other parts of the planning area. Maps 3.10, 3.11, and 3.12 are generalized landslide maps for each county in the planning area (WGS 1989). All types of landslides, active as well as quiescent, have been identified. The BLM has no management directives for hazards caused by landslides. If the BLM receives a request to permit an action in a landslide area, the hazard would be addressed at that time.

Shrinking and Swelling Clays. Radon and Selenium. Earthquakes. and Windblown Sand

The extent of these geologic hazards is not known. But they are not thought to be extensive in the planning area. The BLM also has no specific management plan for them.

Shrinking and swelling clays are mainly due to the absorption, desorption, and evaporation of water from bentonite. In the planning area, several geologic formations contain bentonite. Shrinking and swelling clays can damage structures. Enough water is present to cause swelling. This occurs near the surface and can usually be controlled by adequate drainage and the amount of water that is allowed to contact the bentonite. Radon is a product of the natural radioactive decay of uranium and should be anticipated in areas with high uranium content. Many areas of uranium mineralization are present in the area. Data on radon and selenium are sparse and only very generalized. Background radiation values from Harris (1985) do not show any areas of unusually high gamma radiation in the planning area.

Selenium in potentially toxic amounts may be present in the Newcastle area. Case and Cannan (1968) show an area extending from northwest to southeast across the resource area with geologic formations that have the potential to support vegetation that may be highly toxic to animals and birds (map 3:13). Selenium indicator plants are present in the area; however, few if any cases of selenium poisoning have occurred.

where they recognize a layer of rock thought to contain material from a comet or meteorite that hit the earth about 65 million years ago.

Fossils occur in most sedimentary rocks and are widespread throughout the Newcastle planning area. Most are invertebrates (animals without backbones); but there are areas where vertebrates (animals with backbones) are well known. We consider vertebrate fossils to be significant, nonrenewable resources. Some occurrences of invertebrate and plant fossils are also noteworthy.

The Lance Creek Fossil area, nominated by the NPS as a NNL in 1966, was enlarged and designated in 1973 to recognize these resources. Only about 12% of the area of the NNL is under BLM administration although we administer some 70% of the mineral estate in this area. The NPS is responsible for administering and managing its part of the same area.

The Lance Formation in the Lance Creek area has produced skulls and skeletons of horned dinosaurs. Bucknell and Frick (1986) reported one positive mammal. A few horned dinosaurs and mammals were found earlier in other areas, those from Lance Creek were the best-preserved specimens known at the time of their discovery (Hatcher, Marsh, and Lull 1907). The American Museum of Natural History (New York) and the University of California at Berkeley have collected and identified many specimens of furs, amphibians, turtles, lizards, snakes, crocodiles, birds, and mammals but little dinosaur material (Clamp, 1963, 1966; Estes 1964). Additional localities and specimens are still being discovered and described (Estes and Sanchiz 1983; Estes and Sanchiz 1982; Whitmore 1985; Fox 1976; Ostrom and Welihofe 1990).

An inventory of paleontological resources in the Lance Creek NNL was completed under contract for us in 1979. William G. Metton of the Department of Geology, University of Montana, summarized published research about the Lance Formation and other ecological units in the area. Unfortunately, this report repeated some earlier misconceptions and is also largely out of date. Current research in the Lance Creek area has focused on changes in the kinds of animals and plants that lived during and near the end of the Age of Dinosaurs. Scientific debate over the events and conditions that led to dinosaur extinction continues, and rocks in the Lance Creek area may represent the Cretaceous-Tertiary boundary, the transition from the Age of Dinosaurs to the Age of Mammals (Bohor et al. 1987).

Noteworthy fossils have also been found along the Horsethief Creek Bluffs, near the lands where dinosaurs from the Chadronian and Lance Formations contain skeletons of primitive cats, dogs, camels, horses, rodents, and rabbits. Most of these animals are extinct species but would still look almost familiar.

Marine reptiles and fish are found in deposits of Mesozoic age throughout the Newcastle planning area. Jurassic dinosaurs—giant sauropods, the carnivore Allosaurus, and early duckbills—are familiar. Other and other animals occur in the Morrison Formation where it is exposed around the Black Hills.

\section*{Hazardous Materials}

The BLM has committed to the Office of Management and Budget to compile an inventory of all hazardous sites and gas wells for potential hazardous waste contamination by 1998. This inventory is considered as the first step toward compliance with federal and state laws and regulations and the management of hazardous waste sites. The planning area has 4,957 oil and gas wells in all stages of completion, abandonment, and reclamation. There are 381 operating oil and gas drilling pads. The planning area has 4,957 oil and gas wells in all stages of completion, abandonment, and reclamation. There are 381 operating oil and gas drilling pads.
AFFECTED ENVIRONMENT

Local demand for land disposal actions has been low because of such things as high market value, processing timeframes, lower workload priority, and lack of funding for processing small parcels (1 to 120 acres) of public land. If these current practices continue, the demand for disposal actions would not be expected to increase significantly.

Land Use Authorizations

All public lands, except some withdrawals and the Whoopup Canyon ACEC, have been available for rights-of-way and temporary use permits. There are 317 rights-of-way and 2 temporary use permits affecting approximately 4,000 acres of public lands in the planning area.

The majority of rights of way are granted for access roads, pipelines, and electrical distribution lines associated with oil and gas wells and production facilities. These rights-of-way may be temporary (six months to two years) for wells which are dry holes or used for an extended period (more than two years) when wells produce oil or gas.

The number of rights of way granted averages from 10 to 15 per year and may fluctuate depending on the level of oil and gas activities in the area.

Rights-of-way are located next to existing facilities whenever possible. Common use is required whenever feasible. Utility corridors have not been designated because of the scattered public land pattern in the Newcastle area. Only existing utility and transportation rights-of-way have the potential to decrease the need for new rights-of-way routes, for example, power lines or buried telephone cables that use existing road rights-of-way.

Outside Influences

The lands program is strongly influenced by the activities of private landowners, oil and gas operators, and utility companies due to the scattered pattern of public lands within the planning area. The majority of land use authorization and disposals will continue to be influenced by projects which originate on lands other than BLM administered public lands.

Classifications and Withdrawals

Classification and withdrawals in the planning area are listed in table 3-7. Classifications and withdrawals are used to protect resource values or to restrict land use authorizations or mineral entry (map 3-15).

LIVESTOCK GRAZING

There are 312 ranch operators that graze livestock on the public land in the Newcastle area. These ranchers generally have a low percentage of public land in their total operation. Many have 5,000- to 10,000-acre ranches with scattered 40- to 80-acre tracts of public land. Only 65 operators have leases containing more than 1,000 acres of public land.

Approximately 282,000 acres of public land and 48,000 AUMs are leased for livestock grazing (table 3-8). An AUM equals about 800 pounds of dry forage. Carrying capacities for livestock average about 6 acres per AUM.

Lease periods vary in the planning area; however, some ten-year grazing leases are being issued. As on-the-ground monitoring of ranch units obtain information on kinds and numbers of livestock and seasons of use, more ten-year leases will be issued. Exceptions to this procedure will be made when private leased land is involved. In such cases, the term of the federal lease will match the private lease term.

Cow-calf operations are the norm in the area, but there are some sheep and yearling cattle operations. Generally, the season-of-use varies from year-long to five to six months (mid-May through October) in all counties.

Rangeland conditions are generally good (table 3-8). Livestock forage use is basically uniform, but situations exist where livestock distribution and thus use could be improved. This situation exists where livestock waters are insufficient, especially in rough terrain.

Recent evaluations indicate that the trend in range conditions to be static or improving. This conclusion is based on professional observation, consultation with Natural Resources Conservation Service (NRCS) (formerly the Soil Conservation Service) personnel and local ranchers, use of current NRCS range site guides, and Phase I watershed studies. The Phase I watershed studies gathered basic data for soils, vegetation, and erosion on about 87,000 acres in Nibrara County in 1978.

The predominant vegetation type in the planning area is sagebrush grasslands. However, the vegetation ranges from sparse saltbush and grass on shaley soils of the plans to timbered areas of juniper and pine occurring on ridges and in rougher areas.

RECREATION RESOURCES

Recreation activities on public land in the resource area are unstructured and dispersed in nature. There are no developed recreation sites in the planning area. The main recreational activity is hunting, primarily for
<table>
<thead>
<tr>
<th>Classification or Withdrawal</th>
<th>County</th>
<th>Type of Segregation</th>
<th>Acreage</th>
<th>Surface Management Agency</th>
<th>Review Status</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal classification</td>
<td>Weston</td>
<td>none</td>
<td>11.520</td>
<td>BLM, private, state</td>
<td>pending</td>
<td>designated lands valuable for coal, but did not segregate against surface disposal</td>
</tr>
<tr>
<td>GLO O 05/04/1909</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal classification</td>
<td>Weston</td>
<td>none</td>
<td>7.040</td>
<td>BLM, private, state</td>
<td>pending</td>
<td>designated lands valuable for coal, but did not segregate against surface disposal</td>
</tr>
<tr>
<td>GLO O 05/15/1909</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal classification</td>
<td>Niobrara</td>
<td>none</td>
<td>960</td>
<td>BLM, FS, state</td>
<td>pending</td>
<td>designated lands valuable for coal, but did not segregate against surface disposal</td>
</tr>
<tr>
<td>GLO O 11/14/1913</td>
<td>Weston</td>
<td></td>
<td>92.160</td>
<td></td>
<td>private</td>
<td></td>
</tr>
<tr>
<td>Coal classification</td>
<td>Niobrara</td>
<td>none</td>
<td>5.120</td>
<td>Private</td>
<td>pending</td>
<td>designated lands valuable for coal, but did not segregate against surface disposal</td>
</tr>
<tr>
<td>GLO O 05/12/1911</td>
<td>Weston</td>
<td></td>
<td>92.160</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal classification</td>
<td>Niobrara</td>
<td>none</td>
<td>7.680</td>
<td>BLM, private, state</td>
<td>pending</td>
<td>designated lands valuable for coal, but did not segregate against surface disposal</td>
</tr>
<tr>
<td>GLO O 11/04/1913</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal land classification</td>
<td>Crook</td>
<td>none</td>
<td>920</td>
<td>Private</td>
<td>pending</td>
<td>designated lands valuable for coal, but did not segregate against surface disposal</td>
</tr>
<tr>
<td>BLM O 07/15/1964</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power site classification</td>
<td>Crook</td>
<td>location, sale, or entry</td>
<td>437</td>
<td>BLM BOR</td>
<td>pending</td>
<td>subject to valid existing rights. Any actions on these lands are subject to this classification</td>
</tr>
<tr>
<td>No. 375, Belle Fourche River</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SO 08/25/1945, W92933</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal classification</td>
<td>Crook</td>
<td>none</td>
<td>46,080</td>
<td>BLM, FS, private, state, Air Force</td>
<td>pending</td>
<td>designated lands valuable for coal, but did not segregate against surface disposal</td>
</tr>
<tr>
<td>SO 10/10/1906</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdrawal</td>
<td>Crook</td>
<td>Weston</td>
<td>Niobrara</td>
<td>Crook</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td>--------</td>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>SO 10 15 1906</td>
<td>Crock</td>
<td>none</td>
<td>23,040</td>
<td>BLM private, state</td>
<td>pending</td>
<td>designated lands valuable for coal but did not segregate against surface disposal</td>
</tr>
<tr>
<td>Executive Order 5441</td>
<td>Crock</td>
<td>settlement, location, sale, or entry</td>
<td>715</td>
<td>FS</td>
<td>pending</td>
<td>For classification and in aid of legislation</td>
</tr>
<tr>
<td>11 21 1933</td>
<td>Executive Order 7616</td>
<td>settlement, location, sale, or entry</td>
<td>320</td>
<td>FS</td>
<td>N/A</td>
<td>Thunder Basin National Grassland</td>
</tr>
<tr>
<td>05 13 1937</td>
<td>Crock</td>
<td>settlement, location, sale, or entry</td>
<td>85,249</td>
<td>FS</td>
<td>N/A</td>
<td>Black Hills National Forest</td>
</tr>
<tr>
<td>Crock</td>
<td>settlement, location, sale, or entry</td>
<td>Open to mineral entry</td>
<td>165,994</td>
<td>FS</td>
<td>N/A</td>
<td>Keyhole Reservoir</td>
</tr>
<tr>
<td>SO 03 10 1949</td>
<td>Crock</td>
<td>location, sale, or entry</td>
<td>Open to mineral leasing</td>
<td>637</td>
<td>BOR</td>
<td>reviewed in 1988, recommended for continuation</td>
</tr>
<tr>
<td>W17424</td>
<td>Executive Order 10046</td>
<td>none</td>
<td>142,218</td>
<td>FS</td>
<td>N/A</td>
<td>Thunder Basin National Grassland</td>
</tr>
<tr>
<td>Weston</td>
<td>Niobrara</td>
<td>Open to mineral leasing</td>
<td>840</td>
<td>FS</td>
<td>N/A</td>
<td>Black Hills National Forest</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>Weston</td>
<td>none</td>
<td>6,499</td>
<td>FS</td>
<td>N/A</td>
<td>Black Hills National Forest</td>
</tr>
<tr>
<td>Public Law 622</td>
<td>Crook</td>
<td>none</td>
<td>2,226</td>
<td>FS</td>
<td>N/A</td>
<td>Black Hills National Forest</td>
</tr>
</tbody>
</table>

General Land Office order of...
Forest Service
Bureau of Reclamation
Secretarial Order
BLM responsible for mineral leasing only
### TABLE 3-8

"I" AND "M" CATEGORY ALLOTMENTS MONITORED AS OF SEPTEMBER 1989

<table>
<thead>
<tr>
<th>Operator Number</th>
<th>Operator Name</th>
<th>Allotment Number</th>
<th>BLM Acreage</th>
<th>State Acreage</th>
<th>Private Acreage</th>
<th>Total Acreage</th>
<th>Amount of Livestock</th>
<th>Kind of Livestock</th>
<th>AUMs</th>
<th>Percent Federal Range</th>
<th>Acreage per AUM</th>
<th>Range Condition of Public Land</th>
<th>Season of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>49-8220</td>
<td>Busenitz, M.A.</td>
<td>04207</td>
<td>3.100</td>
<td>160</td>
<td>6.040</td>
<td>9.300</td>
<td>30</td>
<td>C</td>
<td>36u</td>
<td>33.0</td>
<td>8.61</td>
<td>2.860</td>
<td>240</td>
</tr>
<tr>
<td>49-8342</td>
<td>McDonald, J.O.</td>
<td>04319</td>
<td>1.026</td>
<td></td>
<td>3.929</td>
<td>4.955</td>
<td>15</td>
<td>C</td>
<td>423</td>
<td>21.0</td>
<td>8.31</td>
<td>166</td>
<td>920</td>
</tr>
<tr>
<td>49-8385</td>
<td>Battle Creek Ranch</td>
<td>04320</td>
<td>4.727</td>
<td>1.920</td>
<td>9.465</td>
<td>16.122</td>
<td>37</td>
<td>C</td>
<td>437</td>
<td>29.0</td>
<td>10.84</td>
<td>680</td>
<td>120</td>
</tr>
<tr>
<td>49-8412</td>
<td>Bush, F.A. Inc.</td>
<td>04377</td>
<td>4.501</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49-8045</td>
<td>Bush, F.A. Inc.</td>
<td>04389</td>
<td>5.323</td>
<td>2.880</td>
<td>13.840</td>
<td>26.544</td>
<td>117</td>
<td>C</td>
<td>1.405</td>
<td>37.0</td>
<td>6.00</td>
<td>8.204</td>
<td>1620</td>
</tr>
</tbody>
</table>

### "I" CATEGORY ALLOTMENTS

<table>
<thead>
<tr>
<th>Operator Number</th>
<th>Operator Name</th>
<th>Allotment Number</th>
<th>BLM Acreage</th>
<th>State Acreage</th>
<th>Private Acreage</th>
<th>Total Acreage</th>
<th>Amount of Livestock</th>
<th>Kind of Livestock</th>
<th>AUMs</th>
<th>Percent Federal Range</th>
<th>Acreage per AUM</th>
<th>Range Condition of Public Land</th>
<th>Season of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>49-8001</td>
<td>Ackerman, D.</td>
<td>04000</td>
<td>2.772</td>
<td>640</td>
<td>4.571</td>
<td>7.983</td>
<td>33</td>
<td>C</td>
<td>394</td>
<td>35.0</td>
<td>7.03</td>
<td>1.812</td>
<td>960</td>
</tr>
<tr>
<td>49-8010</td>
<td>Baker, Paul L.</td>
<td>14010</td>
<td>1.360</td>
<td>441</td>
<td>1.322</td>
<td>2.682</td>
<td>9</td>
<td>C</td>
<td>108</td>
<td>15.6</td>
<td>5.05</td>
<td>1.801</td>
<td></td>
</tr>
<tr>
<td>49-8012</td>
<td>Baldwin, D.</td>
<td>14011</td>
<td>3.664</td>
<td>2.240</td>
<td>10.538</td>
<td>16.462</td>
<td>50</td>
<td>C</td>
<td>602</td>
<td>22.0</td>
<td>6.00</td>
<td>80</td>
<td>2.704</td>
</tr>
<tr>
<td>49-8013</td>
<td>LS&amp;J Livestock</td>
<td>14012</td>
<td>4.552</td>
<td>1.920</td>
<td>7.60</td>
<td>14.232</td>
<td>76</td>
<td>C</td>
<td>908</td>
<td>32.0</td>
<td>4.57</td>
<td>80</td>
<td>4.472</td>
</tr>
<tr>
<td>49-8022</td>
<td>Hamilton's, Inc.</td>
<td>04041</td>
<td>3.414</td>
<td>640</td>
<td>6.00</td>
<td>10.654</td>
<td>72</td>
<td>C</td>
<td>144</td>
<td>8.0</td>
<td>7.90</td>
<td>3.414</td>
<td>Sp</td>
</tr>
<tr>
<td>49-8046</td>
<td>Reiland, W.</td>
<td>04040</td>
<td>5.328</td>
<td>1.520</td>
<td>9.280</td>
<td>16.128</td>
<td>60</td>
<td>C</td>
<td>724</td>
<td>33.0</td>
<td>7.36</td>
<td>3.488</td>
<td>1.840</td>
</tr>
<tr>
<td>49-8048</td>
<td>Bush R.D.</td>
<td>04042</td>
<td>4.172</td>
<td>640</td>
<td>4.920</td>
<td>9.732</td>
<td>54</td>
<td>C</td>
<td>642</td>
<td>43.0</td>
<td>6.50</td>
<td>3.352</td>
<td>820</td>
</tr>
<tr>
<td>49-8050</td>
<td>Stodrard, R.</td>
<td>04044</td>
<td>2.826</td>
<td>280</td>
<td>10.170</td>
<td>13.916</td>
<td>250</td>
<td>C</td>
<td>620</td>
<td>22.0</td>
<td>5.00</td>
<td>2.800</td>
<td>306</td>
</tr>
<tr>
<td>49-8057</td>
<td>Christensen, C.</td>
<td>04051</td>
<td>2.491</td>
<td>640</td>
<td>6.754</td>
<td>9.245</td>
<td>85</td>
<td>C, S</td>
<td>354</td>
<td>26.0</td>
<td>7.00</td>
<td>2.941</td>
<td></td>
</tr>
<tr>
<td>49-8058</td>
<td>Christensen, C.</td>
<td>04052</td>
<td>600</td>
<td>640</td>
<td>3.940</td>
<td>5.180</td>
<td>31</td>
<td>C, S</td>
<td>91</td>
<td>11.0</td>
<td>6.59</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>49-8068</td>
<td>Darrow G</td>
<td>04062</td>
<td>1.480</td>
<td></td>
<td>12</td>
<td></td>
<td></td>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 3-8
**"I" AND "M" CATEGORY ALLOTMENTS**
(continued)

<table>
<thead>
<tr>
<th>Operator Number</th>
<th>Operator Name</th>
<th>Allotment Number</th>
<th>BLM Acreage</th>
<th>State Acreage</th>
<th>Private Acreage</th>
<th>Total Acreage</th>
<th>Kind of Livestock</th>
<th>Amount of Livestock</th>
<th>AUMs</th>
<th>Percent Federal Range</th>
<th>Acreage per AUM</th>
<th>Range Condition of Public Land</th>
<th>Season of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>49 8080</td>
<td>Dixon, C R</td>
<td>04073</td>
<td>2.499</td>
<td></td>
<td></td>
<td>11.200</td>
<td>C</td>
<td>36</td>
<td>436</td>
<td>19.0</td>
<td>5.70</td>
<td>1.838</td>
<td>601</td>
</tr>
<tr>
<td>49 8081</td>
<td>Dixon, H B</td>
<td>04074</td>
<td>3.355</td>
<td>640</td>
<td>2.640</td>
<td>6.634</td>
<td>C</td>
<td>177</td>
<td>619</td>
<td>50.2</td>
<td>5.40</td>
<td>1.995</td>
<td>6.360</td>
</tr>
<tr>
<td>49 8084</td>
<td>Dorsett, F</td>
<td>04077</td>
<td>1.286</td>
<td></td>
<td></td>
<td>1.578</td>
<td>C</td>
<td>20</td>
<td>138</td>
<td>45.0</td>
<td>9.30</td>
<td>6.286</td>
<td>SpSuF</td>
</tr>
<tr>
<td>49 8094</td>
<td>Stoddard, R</td>
<td>04087</td>
<td>2.065</td>
<td>10.401</td>
<td>3.783</td>
<td>22.340</td>
<td>C</td>
<td>140</td>
<td>1.673</td>
<td>32.0</td>
<td>6.17</td>
<td>160</td>
<td>10.747</td>
</tr>
<tr>
<td>49 8097</td>
<td>Foster, C</td>
<td>04090</td>
<td>1.400</td>
<td></td>
<td></td>
<td>1.960</td>
<td>C,S</td>
<td>84</td>
<td>176</td>
<td>42.0</td>
<td>7.80</td>
<td>1.400</td>
<td>SpSuF</td>
</tr>
<tr>
<td>49 8145</td>
<td>HKC Ranch, Inc</td>
<td>04135</td>
<td>1.000</td>
<td>640</td>
<td>3.940</td>
<td>5.900</td>
<td>C</td>
<td>18</td>
<td>220</td>
<td>22.4</td>
<td>6.00</td>
<td>1.040</td>
<td>280</td>
</tr>
<tr>
<td>49 8150</td>
<td>J&amp;J Inc</td>
<td>04148</td>
<td>1.320</td>
<td>640</td>
<td>3.940</td>
<td>5.900</td>
<td>H</td>
<td>109</td>
<td>99</td>
<td>39.0</td>
<td>10.00</td>
<td>1.000</td>
<td>SpSuF</td>
</tr>
<tr>
<td>49 8167</td>
<td>Joss Ranches, Inc</td>
<td>04157</td>
<td>8.476</td>
<td>21.758</td>
<td></td>
<td>20.000</td>
<td>C</td>
<td>109</td>
<td>1.309</td>
<td>17.0</td>
<td>6.00</td>
<td>8.476</td>
<td>YL</td>
</tr>
<tr>
<td>49 8181</td>
<td>Schlosser, J C</td>
<td>04170</td>
<td>4.375</td>
<td></td>
<td>2.560</td>
<td>7.500</td>
<td>C</td>
<td>25</td>
<td>816</td>
<td></td>
<td></td>
<td>YL</td>
<td></td>
</tr>
<tr>
<td>49 8257</td>
<td>Schlosser, J C</td>
<td>04238</td>
<td>2.320</td>
<td>1.290</td>
<td>12.675</td>
<td>20.660</td>
<td>S</td>
<td>35</td>
<td>1.260</td>
<td>32.0</td>
<td>5.50</td>
<td>6.355</td>
<td>360</td>
</tr>
<tr>
<td>49 8286</td>
<td>Middleton, B</td>
<td>04275</td>
<td>2.199</td>
<td>1.280</td>
<td>9.508</td>
<td>12.977</td>
<td>C</td>
<td>24</td>
<td>292</td>
<td>16.0</td>
<td>4.38</td>
<td>2.189</td>
<td>YL</td>
</tr>
<tr>
<td>49 8221</td>
<td>Crow Creek Ranch</td>
<td>04208</td>
<td>364</td>
<td></td>
<td></td>
<td>13.817</td>
<td>C</td>
<td>11</td>
<td>61</td>
<td>2.0</td>
<td>5.96</td>
<td>14.181</td>
<td>SpSuF</td>
</tr>
<tr>
<td>49 8223</td>
<td>Moore, C M</td>
<td>04210</td>
<td>1.637</td>
<td>1.280</td>
<td>7.200</td>
<td>10.117</td>
<td>C</td>
<td>41</td>
<td>225</td>
<td>19.0</td>
<td>7.20</td>
<td>1.636</td>
<td>SpSuF</td>
</tr>
<tr>
<td>49 8242</td>
<td>Ondezek, J</td>
<td>04228</td>
<td>1.318</td>
<td>4.871</td>
<td>6.189</td>
<td>17</td>
<td>C</td>
<td>17</td>
<td>200</td>
<td>2.0</td>
<td>6.59</td>
<td>1.198</td>
<td>120</td>
</tr>
<tr>
<td>49 8258</td>
<td>Pierce, V</td>
<td>04244</td>
<td>1.476</td>
<td>3.440</td>
<td>4.916</td>
<td>15</td>
<td>C</td>
<td>15</td>
<td>182</td>
<td>30.0</td>
<td>8.11</td>
<td>1.156</td>
<td>320</td>
</tr>
<tr>
<td>49 8261</td>
<td>Stoddard Ranches</td>
<td>04084</td>
<td>1.606</td>
<td>640</td>
<td>5.250</td>
<td>6.856</td>
<td>C</td>
<td>15</td>
<td>60</td>
<td></td>
<td></td>
<td>W</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>04249</td>
<td>640</td>
<td>5.250</td>
<td>6.856</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sp</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>04247</td>
<td>843</td>
<td>5.668</td>
<td>9.660</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sp</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>04275</td>
<td>843</td>
<td>5.668</td>
<td>9.660</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sp</td>
<td></td>
</tr>
<tr>
<td><strong>Total (49 8261)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49 8265</td>
<td>Putnam, L</td>
<td>04254</td>
<td>1.440</td>
<td>3.721</td>
<td>5.161</td>
<td>14</td>
<td>C</td>
<td>14</td>
<td>178</td>
<td>28.0</td>
<td>8.09</td>
<td>1.440</td>
<td>YL</td>
</tr>
</tbody>
</table>

**"M" CATEGORY ALLOTMENTS**
(continued)
### TABLE 3-8
"I" AND "M" CATEGORY ALLOTMENTS (continued)

<table>
<thead>
<tr>
<th>Operator Number</th>
<th>Operator Name</th>
<th>Allotment Number</th>
<th>BLM Acreage</th>
<th>State Acreage</th>
<th>Private Acreage</th>
<th>Total Acreage</th>
<th>Amount of Livestock</th>
<th>Kind of Livestock</th>
<th>AUMs</th>
<th>Percent Federal Range</th>
<th>Acreage per AUM</th>
<th>Range Condition of Public Land</th>
<th>Season of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>49-8269</td>
<td>Quest, H</td>
<td>04258</td>
<td>1.363</td>
<td></td>
<td>2.602</td>
<td>3.965</td>
<td>32</td>
<td>C</td>
<td>384</td>
<td>3.0</td>
<td>3.50</td>
<td>Excellent</td>
<td>YL</td>
</tr>
<tr>
<td>49-8293</td>
<td>Robson, J</td>
<td>04278</td>
<td>574</td>
<td></td>
<td>1.797</td>
<td>2.371</td>
<td>7</td>
<td>C</td>
<td>87</td>
<td>11.6</td>
<td>6.60</td>
<td>Fair</td>
<td>YL</td>
</tr>
<tr>
<td>49-8295</td>
<td>Rocky Point Grazing</td>
<td>04290</td>
<td>7.628</td>
<td>1.643</td>
<td>19.062</td>
<td>28.333</td>
<td>613</td>
<td>C, S</td>
<td>2,590</td>
<td>27.0</td>
<td>2.95</td>
<td>Excellent, Good, Fair</td>
<td>YL</td>
</tr>
<tr>
<td>49-8296</td>
<td>Porter, F</td>
<td>04281</td>
<td>760</td>
<td></td>
<td>4.840</td>
<td>5.600</td>
<td>12</td>
<td>C</td>
<td>142</td>
<td>14.0</td>
<td>5.30</td>
<td>Excellent, Good, Fair</td>
<td>YL</td>
</tr>
<tr>
<td>49-8303</td>
<td>Schmidt, H</td>
<td>04288</td>
<td>5.075</td>
<td></td>
<td>12.640</td>
<td>17.715</td>
<td>79</td>
<td>C</td>
<td>949</td>
<td>28.6</td>
<td>5.35</td>
<td>Excellent, Good, Fair</td>
<td>YL</td>
</tr>
<tr>
<td>49-8304</td>
<td>Schmutz, H</td>
<td>04289</td>
<td>1.266</td>
<td></td>
<td>4.867</td>
<td>6.093</td>
<td>21</td>
<td>C</td>
<td>254</td>
<td>20.1</td>
<td>4.83</td>
<td>Excellent, Good, Fair</td>
<td>YL</td>
</tr>
<tr>
<td>49-8310</td>
<td>Seers, J</td>
<td>04293</td>
<td>2.134</td>
<td>1.680</td>
<td>9.360</td>
<td>13.174</td>
<td>35</td>
<td>C</td>
<td>430</td>
<td>16.0</td>
<td>4.70</td>
<td>Excellent, Good, Fair</td>
<td>YL</td>
</tr>
<tr>
<td>49-8311</td>
<td>Siegle, E A</td>
<td>04294</td>
<td>1.120</td>
<td>880</td>
<td>3.720</td>
<td>5.720</td>
<td>22</td>
<td>C</td>
<td>266</td>
<td>20.0</td>
<td>5.00</td>
<td>Excellent, Good, Fair</td>
<td>YL</td>
</tr>
<tr>
<td>49-8320</td>
<td>Siegle, E A</td>
<td>04303</td>
<td>1.106</td>
<td>1.560</td>
<td>6.240</td>
<td>8.400</td>
<td>43</td>
<td>C</td>
<td>520</td>
<td>18.0</td>
<td>4.62</td>
<td>Excellent, Good, Fair</td>
<td>YL</td>
</tr>
<tr>
<td>49-8351</td>
<td>Bruegger, S</td>
<td>04328</td>
<td>5.236</td>
<td>1.680</td>
<td>19.747</td>
<td>25.163</td>
<td>209</td>
<td>C, S</td>
<td>777</td>
<td>19.5</td>
<td>5.80</td>
<td>Excellent, Good, Fair</td>
<td>YL</td>
</tr>
<tr>
<td>49-8361</td>
<td>True Ranches</td>
<td>04337</td>
<td>7.060</td>
<td>2.980</td>
<td>25.880</td>
<td>35.820</td>
<td>73</td>
<td>C</td>
<td>879</td>
<td>19.7</td>
<td>8.03</td>
<td>Excellent, Good, Fair</td>
<td>YL</td>
</tr>
<tr>
<td>49-8379</td>
<td>Flores, A D</td>
<td>04168</td>
<td>2.759</td>
<td></td>
<td>28</td>
<td>C</td>
<td>335</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>YL</td>
<td></td>
</tr>
<tr>
<td>49-8380</td>
<td>Krust, W T</td>
<td>04356</td>
<td>2.792</td>
<td>1.280</td>
<td>13.360</td>
<td>20.191</td>
<td>42</td>
<td>C</td>
<td>507</td>
<td>27.5</td>
<td>6.90</td>
<td>Excellent</td>
<td>YL</td>
</tr>
<tr>
<td>49-8382</td>
<td>Todd Ranches, Inc</td>
<td>04357</td>
<td>560</td>
<td></td>
<td>2.040</td>
<td>2.600</td>
<td>38</td>
<td>C</td>
<td>150</td>
<td>22.0</td>
<td>3.70</td>
<td>Excellent</td>
<td>Su-F</td>
</tr>
<tr>
<td>49-8399</td>
<td>Zerbst, W</td>
<td>04374</td>
<td>4.216</td>
<td>1.360</td>
<td>6.640</td>
<td>12.216</td>
<td>51</td>
<td>C</td>
<td>615</td>
<td>34.5</td>
<td>6.85</td>
<td>Excellent</td>
<td>YL</td>
</tr>
<tr>
<td>49-8403</td>
<td>Slattery, J</td>
<td>04378</td>
<td>720</td>
<td></td>
<td>360</td>
<td>1,080</td>
<td>28</td>
<td>C</td>
<td>148</td>
<td>6.6</td>
<td>4.80</td>
<td>Excellent</td>
<td>YL</td>
</tr>
<tr>
<td>49-8411</td>
<td>McGuire, W G</td>
<td>04396</td>
<td>4.793</td>
<td></td>
<td>7.643</td>
<td>12.436</td>
<td>324</td>
<td>C, S</td>
<td>660</td>
<td>38.5</td>
<td>7.26</td>
<td>Excellent, Good, Fair</td>
<td>Sp-Su F</td>
</tr>
<tr>
<td>49-8435</td>
<td>Simon, M</td>
<td>04409</td>
<td>1.228</td>
<td></td>
<td>1.120</td>
<td>2.348</td>
<td>43</td>
<td>C</td>
<td>214</td>
<td>52.0</td>
<td>6.73</td>
<td>Excellent, Good, Fair</td>
<td>Sp-Su F</td>
</tr>
</tbody>
</table>
### TABLE 3-8
**"I" AND "M" CATEGORY ALLOTMENTS**
(continued)

<table>
<thead>
<tr>
<th>Operator Number</th>
<th>Operator Name</th>
<th>Allotment Number</th>
<th>BLM Acreage</th>
<th>State Acreage</th>
<th>Private Acreage</th>
<th>Total Acreage</th>
<th>Amount of Livestock</th>
<th>Kind of Livestock</th>
<th>AUMs</th>
<th>Percent Federal Range</th>
<th>Acreage per AUM</th>
<th>Range Condition of Public Land</th>
<th>Season of Use&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>49:8154</td>
<td>Simon M</td>
<td>04144</td>
<td>603</td>
<td>3.200</td>
<td>3.803</td>
<td>11</td>
<td>C</td>
<td>15.0</td>
<td>8.86</td>
<td>68</td>
<td>603</td>
<td>Good</td>
<td>Sp Su F</td>
</tr>
</tbody>
</table>

<sup>a</sup>C = cattle  
S = sheep  
H = horse  
<sup>b</sup>YL = yearlong  
Su = summer  
W = winter  
Sp = spring  
F = fall
mule deer and pronghorn antelope. Hunt areas for deer antelope and elk are shown on maps 3-16, 3-17, and 3-18. The demand for recreational shooting of prairie dogs has increased substantially in the past five years. Larger-scale poisoning projects have occurred both on private land and other federal land in the region. In 1992, prairie dogs occurred on approximately 3,300 acres of public land in the planning area (Table 3-9). Varmint shooters from as far away as Michigan, Iowa, and California come to the area to hunt the animals. The main factor limiting this activity in the past has been public access.

### AFFECTED ENVIRONMENT

TABLE 3-9

ACREAGE OF PRAIRIE DOG TOWNS ON PUBLIC LANDS IN 1982 AND 1992

<table>
<thead>
<tr>
<th>County</th>
<th>1982 Acres</th>
<th>1992 Acres</th>
<th>Total Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crook</td>
<td>1,108</td>
<td>730</td>
<td>1,838</td>
</tr>
<tr>
<td>N excess</td>
<td>1,186</td>
<td>2,156</td>
<td>3,342</td>
</tr>
<tr>
<td>Average</td>
<td>140</td>
<td>184</td>
<td>324</td>
</tr>
</tbody>
</table>

TABLE 3-10

BASELINE AND PROJECTED POPULATION GROWTH FOR SELECTED YEARS

<table>
<thead>
<tr>
<th>Year</th>
<th>Wyoming</th>
<th>Crook</th>
<th>N excess</th>
<th>Century</th>
<th>Planning Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>474,185</td>
<td>5,345</td>
<td>2,954</td>
<td>7,188</td>
<td>2,246</td>
</tr>
<tr>
<td>1990</td>
<td>453,398</td>
<td>5,301</td>
<td>2,491</td>
<td>6,499</td>
<td>1,291</td>
</tr>
<tr>
<td>2000</td>
<td>480,111</td>
<td>5,764</td>
<td>2,636</td>
<td>6,583</td>
<td>1,491</td>
</tr>
<tr>
<td>% Change</td>
<td>434</td>
<td>6,491</td>
<td>6,583</td>
<td>149,183</td>
<td>3,054</td>
</tr>
<tr>
<td>% Change</td>
<td>87.3</td>
<td>3,272</td>
<td>3,272</td>
<td>87.3</td>
<td>3,272</td>
</tr>
<tr>
<td>% Change</td>
<td>1,233</td>
<td>7,843</td>
<td>10,077</td>
<td>8,420</td>
<td>4,359</td>
</tr>
</tbody>
</table>

### RESOURCE MANAGEMENT

Vehicle travel on existing roads and trails can be authorized to accomplish necessary tasks if such travel does not result in resource damage or encourage additional use on a regular basis. Random off-road travel and creating new roads or trails not specifically authorized by the BLM is not permitted.

### SOCIOECONOMICS

**Characteristics**

The planning area has been historically rural in character and sparsely populated with agriculture occupying an important part of the area's development. This importance has diminished as mineral resources, first coal, then oil, and gas, have exceeded agriculture as base industries dominating the economics of the region. Oil development and production in the planning area suffered a significant downturn after 1985 which is reflected in the economic data. While there has been some recovery as the economy adjusted to a lower level of economic activity in oil, agriculture suffered a decline at about the same time, but it has recovered to some degree.

### Population

Fifty one percent of the planning area's population reside in towns of 760 or more people, while the remaining 49% live in small communities (USBC 1991). Lusk, Newcastle, and Sundance make up about 39% of the planning area's population and constitute the county seats and local trade centers for Crook, Weston, and N excess counties, respectively.

From 1980 through 1996, the planning area population decreased 3.25%, compared to a 1.23% increase for the state. Breaking this change down into segments, 1980 through 1990 saw a decline in both the state's and planning area's population by 4.38%, and 7.22%, respectively. From 1990 to 1996, the state's population grew by 5.87%, while the planning area's population grew by a slower rate of 4.84% (Table 3-10). Although the population increased for both the state and the planning area during this period, the planning area has lost population from 1980 to 1996. To put this into perspective, the anticipated loss in population for the planning area is about 3.6 times the anticipated decline for the entire state from 1980 through 1996.
AFFECTED ENVIRONMENT

Economic Growth and Activity

Economic growth in the planning area is indicative of the economic activity in the area. An indication of the economic viability of the area can be shown by employment comparisons and personal incomes that are all measured over time. This is illustrated in tables 3-11 and 3-12.

In addition to the other economic sectors, it is important to note the importance of agricultural roots historically important to the health of the area. Therefore, this section will be highlighted in table 3-13, which illustrates the income and expenses from 1986 through 1996.

The statistics for table 3-13 are from the U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information Division. They explain the derivation of the table as follows:

Farm Income and Expenses (table CA45) provides detailed estimates of gross farm income and production expenses. Gross farm income consists of estimates for the following items: cash receipts from marketing of crops and livestock, income from other farm-related activities, and value of livestock and crops consumed. Production expenses consist of purchases of feed, livestock, and petroleum products. All labor estimates, including contract labor, and all other production expenses (e.g., depreciation and interest on loans) are included.

Production expenses and gross farm income excluding inventory changes are used to calculate realized net income of all farms (gross farm income excluding inventory change minus production expenses equals measured net income). Realized net income is then modified to reflect current production through the change-in-inventory adjustment and to exclude the income of corporate farmers and corporate officers. These modifications yield BEA’s estimate of farm proprietors’ income.

The State totals used to estimate farm income at the county level are taken from the component detail of the farm income estimates prepared by the Economic Research Service (ERS). U.S. Department of Agriculture (USDA) with adjustments to account for definitional differences between the National Income and Product Accounts (NIPA) and ERS’s farm income accounting standards.

The methods used to estimate farm proprietors’ income at the county level rely heavily on data obtained from the censuses of agriculture and on selected annual county data presented by the State offices affiliated with the National Agricultural Statistics Service (NASS). These data are used wherever possible to interpolate and extrapolate the census-based estimates to non-census years. Administrative records data from the Agricultural Stabilization and Conservation Service of USDA are used directly to account for total government program payments to farmers.

Table 3-13 indicates total net receipts, measured in current dollars for the agricultural sector in the planning area was slightly over $7 million in 1987 and then peaked at about $96 million in 1991 and dropped to $62.6 million by 1996.

Figures 3-7 through 3-10 compare both current and constant 1996 dollars for the planning area’s agricultural receipts. In constant 1996 dollars, the planning area’s 1987 receipts were nearly $68.8 million, and peaked at about $108 million in 1991. By 1996, agricultural receipts were about $62.6 million. These same figures indicate agriculture in the planning area declined by nearly 30% from 1986 through 1996, measured in constant 1996 dollars.

All these individual counties have also shown a decline in constant 1996 dollars during this same nine year period. That decline has varied from a high of nearly 45% in Westen County to a low of about 15%, in Crook County with Natrona falling between Westen and Crook counties at slightly over 22 %. Even though agricultural receipts have fallen during this period, agriculture remains an important component of the planning area’s economy.

Labor Force and Employment

In 1980, the total full- and part-time employment for the planning area was 8,824, or about 3.2% of the state’s total (USBC BEA 1986-1996). Employment in the planning area increased about 14% between 1980 and 1996, but pacing the state’s 10.6% increase. Between 1990 and 1995 the planning area’s employment grew by only 2.8%, as the oil and gas industry weakened. However, during this same time frame, the state’s employment fell by 2.2% (table 3-11).

TABLE 3-11
EMPLOYMENT BY PLACE OF WORK

<table>
<thead>
<tr>
<th>Wyoming</th>
<th>Planning Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total full- and part-time employment</td>
<td>279,637</td>
</tr>
<tr>
<td>By race</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>250,701</td>
</tr>
<tr>
<td>Black</td>
<td>48,900</td>
</tr>
<tr>
<td>Farm proprietors employment</td>
<td>8,710</td>
</tr>
<tr>
<td>Nonfarm proprietors employment</td>
<td>40,220</td>
</tr>
<tr>
<td>By industry</td>
<td></td>
</tr>
<tr>
<td>Farm employment</td>
<td>14,304</td>
</tr>
<tr>
<td>Nonfarm employment</td>
<td>265,120</td>
</tr>
<tr>
<td>Private employment</td>
<td>214,841</td>
</tr>
<tr>
<td>Ag. sales, livestock, and other</td>
<td>2,076</td>
</tr>
<tr>
<td>Construction</td>
<td>30,523</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>10,534</td>
</tr>
<tr>
<td>Service and public utilities</td>
<td>19,169</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>20,055</td>
</tr>
<tr>
<td>Retail trade</td>
<td>43,988</td>
</tr>
<tr>
<td>Finance, insurance, and real estate</td>
<td>16,324</td>
</tr>
<tr>
<td>Services</td>
<td>48,437</td>
</tr>
<tr>
<td>Government and public enterprises</td>
<td>50,292</td>
</tr>
<tr>
<td>Federal civilian</td>
<td>1,934</td>
</tr>
<tr>
<td>Military</td>
<td>6,205</td>
</tr>
<tr>
<td>State and local</td>
<td>36,423</td>
</tr>
<tr>
<td>Private</td>
<td>10,988</td>
</tr>
<tr>
<td>Local</td>
<td>25,435</td>
</tr>
</tbody>
</table>


Excused partners.

"Other" covers the number of jobs held by US residents employed by international organizations and foreign embassies and consulates in the United States.

*Not shown to avoid disclosure of confidential information. Estimates are included in totals.
## TABLE 3-12
PERSONAL INCOME BY MAJOR SOURCE FOR SELECTED YEARS\(^a\)
(1980)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal income (thousands of dollars)</td>
<td>$5,438,559</td>
<td>$7,804,400</td>
<td>$10,302,181</td>
<td>$160,269</td>
<td>$245,823</td>
<td>$309,082</td>
</tr>
<tr>
<td>Nonfarm personal income</td>
<td>$5,362,591</td>
<td>$7,860,013</td>
<td>$10,301,164</td>
<td>$159,265</td>
<td>$239,166</td>
<td>$302,989</td>
</tr>
<tr>
<td>Farm income(^b)</td>
<td>$86,968</td>
<td>$144,388</td>
<td>$60,987</td>
<td>$10,004</td>
<td>$12,759</td>
<td>$6,113</td>
</tr>
<tr>
<td>Population (number of persons)(^f)</td>
<td>474,185</td>
<td>469,398</td>
<td>480,011</td>
<td>15,487</td>
<td>14,291</td>
<td>14,983</td>
</tr>
<tr>
<td>Per capita personal income (dollars)</td>
<td>$114,469</td>
<td>$117,213</td>
<td>$121,587</td>
<td>$10,949</td>
<td>$117,201</td>
<td>$22,629</td>
</tr>
<tr>
<td>Derivation of personal income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings by place of work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>less: Personal cont. for social insurance(^f)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plus: Adjustment for residence(^f)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>equals: Net earnings by place of residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plus: Dividends, interest, and rent(^f)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plus: Transfer payments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings by place of work</td>
<td>$4,453,014</td>
<td>$5,445,183</td>
<td>$6,906,217</td>
<td>$117,013</td>
<td>$185,804</td>
<td>$164,265</td>
</tr>
<tr>
<td>Components of earnings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wage and salary disbursements</td>
<td>$3,532,553</td>
<td>$4,221,361</td>
<td>$5,405,420</td>
<td>$75,204</td>
<td>$86,672</td>
<td>$110,787</td>
</tr>
<tr>
<td>Other labor income</td>
<td>$294,096</td>
<td>$413,921</td>
<td>$562,893</td>
<td>$66,838</td>
<td>$83,236</td>
<td>$126,003</td>
</tr>
<tr>
<td>Proprietors' income(^f)</td>
<td>$589,366</td>
<td>$810,291</td>
<td>$927,614</td>
<td>$257,771</td>
<td>$401,686</td>
<td>$404,756</td>
</tr>
<tr>
<td>Farm proprietors' income</td>
<td>$288,436</td>
<td>$399,605</td>
<td>$99,560</td>
<td>$257,627</td>
<td>$40,067</td>
<td>$1,479</td>
</tr>
<tr>
<td>Nonfarm proprietors' income</td>
<td>$299,930</td>
<td>$416,686</td>
<td>$947,474</td>
<td>$20,614</td>
<td>$34,168</td>
<td>$38,796</td>
</tr>
<tr>
<td>Earnings by industry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farm earnings</td>
<td>$86,968</td>
<td>$144,388</td>
<td>$60,987</td>
<td>$10,949</td>
<td>$117,201</td>
<td>$22,629</td>
</tr>
<tr>
<td>Nonfarm earnings</td>
<td>$4,367,046</td>
<td>$5,000,796</td>
<td>$6,846,230</td>
<td>$97,606</td>
<td>$122,845</td>
<td>$158,152</td>
</tr>
<tr>
<td>Private earnings</td>
<td>$3,962,804</td>
<td>$3,856,915</td>
<td>$5,234,935</td>
<td>$87,175</td>
<td>$90,007</td>
<td>$118,274</td>
</tr>
<tr>
<td>Ag. serv., forestry, fishing, and other(^f)</td>
<td>$14,605</td>
<td>$39,289</td>
<td>$64,432</td>
<td>(i)</td>
<td>(1)</td>
<td>1,489</td>
</tr>
<tr>
<td>Mining</td>
<td>$1,135,644</td>
<td>$919,735</td>
<td>$1,021,919</td>
<td>$124,082</td>
<td>$150,477</td>
<td>$26,656</td>
</tr>
<tr>
<td>Construction</td>
<td>$1,567,019</td>
<td>$872,785</td>
<td>$2,056,027</td>
<td>$10,391</td>
<td>$10,687</td>
<td>$12,435</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>$206,296</td>
<td>$778,635</td>
<td>$391,088</td>
<td>$10,976</td>
<td>$12,491</td>
<td>(3)</td>
</tr>
<tr>
<td>Durable goods</td>
<td>$86,143</td>
<td>$122,563</td>
<td>$159,127</td>
<td>$9,067</td>
<td>$8,947</td>
<td>(3)</td>
</tr>
<tr>
<td>Nondurable goods</td>
<td>$122,113</td>
<td>$156,392</td>
<td>$231,041</td>
<td>$3,121</td>
<td>(i)</td>
<td>(3)</td>
</tr>
<tr>
<td>Transportation and public utilities</td>
<td>$441,468</td>
<td>$557,762</td>
<td>$688,747</td>
<td>$11,714</td>
<td>$14,007</td>
<td>$20,072</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>$186,660</td>
<td>$140,307</td>
<td>$294,956</td>
<td>$2,029</td>
<td>(i)</td>
<td>1,674</td>
</tr>
<tr>
<td>Retail trade</td>
<td>$419,791</td>
<td>$527,779</td>
<td>$715,012</td>
<td>$10,562</td>
<td>$14,426</td>
<td>$16,250</td>
</tr>
<tr>
<td>Finance, insurance, and real estate</td>
<td>$1,413,363</td>
<td>$1,044,018</td>
<td>$2,044,097</td>
<td>$2,036</td>
<td>$2,420</td>
<td>$5,402</td>
</tr>
<tr>
<td>Services</td>
<td>$586,658</td>
<td>$919,296</td>
<td>$1,311,975</td>
<td>$10,427</td>
<td>$15,960</td>
<td>$22,430</td>
</tr>
<tr>
<td>Government and government enterprises</td>
<td>$704,182</td>
<td>$1,311,006</td>
<td>$1,610,005</td>
<td>$16,494</td>
<td>$18,928</td>
<td>$18,979</td>
</tr>
</tbody>
</table>
Federal, civilian
$143,039
$232,167
$289,986
$2,752
$4,744
$5,657
Military
$55,941
$106,712
$136,204
($)
$518
$820
State and local
$505,202
$978,092
$1,184,115
$18,487
$788,376
$332,403
State
$169,097
$301,027
$345,024
$2,684
$5,489
$6,298
Local
$336,105
$673,975
$839,091
$10,783
$23,087
$27,103
Source: USDA, BEA 1969-1996
Farm income consists of proprietor's net income: the cash wages, play-in-kind, and other labor income of hired farm workers, and the salaries of officers of corporate farms.
Census Bureau income population estimates. Estimates for 1990-1995 reflect county population estimates available as of March 1998
Personal contributions for social insurance are included in earnings by type and industry but excluded from personal income.
The adjustment for residence is the net inflow of the earnings of interstate commuters. For the US, it consists of adjustments for border workers and for certain temporary and migratory workers. Wage and salary disbursements to US residents commuting or working temporarily inside US borders less wage and salary disbursements to foreign residents commuting or working temporarily inside US borders.
Includes the capital consumption adjustment for rental income of persons.
Includes the inventory valuation and capital consumption adjustments.
"Other" consists of wage and salary disbursements to US residents employed by international organizations and foreign embassies and consulates in the US.
1 Not shown to avoid disclosure of confidential information. Estimates are included in totals
2 Less than $50,000. Estimates are included in totals

### Table 3-13: Farm Income and Expenditures

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Cash Receipts</th>
<th>Total Cash Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>22,914</td>
<td>23,275</td>
</tr>
<tr>
<td>1975</td>
<td>20,341</td>
<td>21,602</td>
</tr>
<tr>
<td>1980</td>
<td>21,713</td>
<td>23,014</td>
</tr>
<tr>
<td>1985</td>
<td>22,068</td>
<td>23,396</td>
</tr>
<tr>
<td>1990</td>
<td>24,466</td>
<td>25,937</td>
</tr>
<tr>
<td>1995</td>
<td>26,954</td>
<td>28,795</td>
</tr>
</tbody>
</table>

### Adjusted Environment

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Cash Receipts</th>
<th>Total Cash Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>38,482</td>
<td>40,389</td>
</tr>
<tr>
<td>1975</td>
<td>48,551</td>
<td>51,298</td>
</tr>
<tr>
<td>1980</td>
<td>58,485</td>
<td>62,845</td>
</tr>
<tr>
<td>1985</td>
<td>68,698</td>
<td>74,298</td>
</tr>
<tr>
<td>1990</td>
<td>79,632</td>
<td>86,532</td>
</tr>
<tr>
<td>1995</td>
<td>92,697</td>
<td>100,597</td>
</tr>
</tbody>
</table>
### AFFECTED ENVIRONMENT

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total crop losses and other crops</td>
<td>20,096</td>
<td>23,338</td>
<td>22,362</td>
<td>24,457</td>
<td>25,322</td>
<td>25,488</td>
<td>24,814</td>
<td>23,013</td>
</tr>
<tr>
<td>Seed purchased</td>
<td>18,466</td>
<td>21,185</td>
<td>19,462</td>
<td>20,341</td>
<td>21,115</td>
<td>21,172</td>
<td>20,980</td>
<td>20,032</td>
</tr>
<tr>
<td>Farm crops</td>
<td>17,310</td>
<td>19,715</td>
<td>18,403</td>
<td>19,417</td>
<td>20,272</td>
<td>20,324</td>
<td>19,564</td>
<td>18,442</td>
</tr>
<tr>
<td>Value of quantity of seed purchased</td>
<td>253,135</td>
<td>251,057</td>
<td>250,127</td>
<td>247,277</td>
<td>244,722</td>
<td>242,893</td>
<td>239,619</td>
<td>231,975</td>
</tr>
<tr>
<td>Total farm income from supplement</td>
<td>1,199</td>
<td>1,222</td>
<td>2,469</td>
<td>3,950</td>
<td>1,478</td>
<td>1,449</td>
<td>1,397</td>
<td>1,169</td>
</tr>
<tr>
<td>Value of farm income</td>
<td>780</td>
<td>780</td>
<td>780</td>
<td>780</td>
<td>780</td>
<td>780</td>
<td>780</td>
<td>780</td>
</tr>
<tr>
<td>Total farm income from supplement</td>
<td>711</td>
<td>711</td>
<td>711</td>
<td>711</td>
<td>711</td>
<td>711</td>
<td>711</td>
<td>711</td>
</tr>
<tr>
<td>Value of farm income</td>
<td>65</td>
<td>65</td>
<td>65</td>
<td>65</td>
<td>65</td>
<td>65</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Total payment adjustment</td>
<td>337,620</td>
<td>337,620</td>
<td>337,620</td>
<td>337,620</td>
<td>337,620</td>
<td>337,620</td>
<td>337,620</td>
<td>337,620</td>
</tr>
<tr>
<td>Change in supplement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total change in quantity</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Change in value of supplement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### AFFECTED ENVIRONMENT

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total farm pay</td>
<td>36,103</td>
<td>37,049</td>
<td>37,934</td>
<td>38,941</td>
<td>39,038</td>
<td>40,213</td>
<td>41,753</td>
<td>42,699</td>
</tr>
<tr>
<td>Total value of quantity of supplement</td>
<td>58,570</td>
<td>58,570</td>
<td>58,570</td>
<td>58,570</td>
<td>58,570</td>
<td>58,570</td>
<td>58,570</td>
<td>58,570</td>
</tr>
<tr>
<td>Value of farm income</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
</tr>
<tr>
<td>Value of farm income</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
<td>1,677</td>
</tr>
<tr>
<td>Change in quantity of supplement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Change in value of supplement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Western County Wisconsin

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total farm pay</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
</tr>
<tr>
<td>Total value of quantity of supplement</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
</tr>
<tr>
<td>Value of farm income</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
</tr>
<tr>
<td>Value of farm income</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
<td>30,298</td>
</tr>
<tr>
<td>Change in quantity of supplement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Change in value of supplement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Planning Area

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total farm pay</td>
<td>1,588,599</td>
<td>2,440,162</td>
<td>3,262,054</td>
<td>4,084,019</td>
<td>4,906,085</td>
<td>5,728,151</td>
<td>6,550,217</td>
<td>7,372,283</td>
</tr>
<tr>
<td>Total value of quantity of supplement</td>
<td>1,588,599</td>
<td>2,440,162</td>
<td>3,262,054</td>
<td>4,084,019</td>
<td>4,906,085</td>
<td>5,728,151</td>
<td>6,550,217</td>
<td>7,372,283</td>
</tr>
<tr>
<td>Value of farm income</td>
<td>1,588,599</td>
<td>2,440,162</td>
<td>3,262,054</td>
<td>4,084,019</td>
<td>4,906,085</td>
<td>5,728,151</td>
<td>6,550,217</td>
<td>7,372,283</td>
</tr>
<tr>
<td>Value of farm income</td>
<td>1,588,599</td>
<td>2,440,162</td>
<td>3,262,054</td>
<td>4,084,019</td>
<td>4,906,085</td>
<td>5,728,151</td>
<td>6,550,217</td>
<td>7,372,283</td>
</tr>
<tr>
<td>Change in quantity of supplement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Change in value of supplement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Source

USDA USDA Reporting Economic Conditions Division

[p] a less than .0000 estimations are included in totals
Figure 3-7
Total Agricultural Cash Receipts
Crook County

Receipts (in millions)


Current dollar
Figure 3-8
Total Agricultural Cash Receipts
Niobrara County

Receipts (in millions)


Years

$17 $18 $19 $20 $21 $22 $23 $24 $25 $26 $27

Current dollar
Figure 3-9
Total Agricultural Cash Receipts
Weston County

Receipts (in millions)

$50

$45

$40

$35

$30

$25

$20

$15


Years

Current dollar

AFFECTED ENVIRONMENT
AFFECTED ENVIRONMENT

Wyoming farm employment fell by 14% from 1980 to 1990. From 1990 to 1996, it fell only another 1%. By contrast, the number of workers in nonfarm employment fell by 18% from 1980 to 1990 and then fell another 17% by 1996. Overall, Wyoming's farm employment fell by nearly 12% between 1980 and 1996. However, the planning area's employment fell by nearly 15% during that same time period.

Wyoming farm employment accounted for about 5% of the total state employment in 1980. By 1996, that number had declined to 4% of the state total. In the planning area, farm employment's share of the total employment is over three times what it was statewide. For example, in 1980 farm employment accounted for nearly 17% of the total planning area's employment. By 1996, this had declined to 10%, which is still three times the statewide proportion of farm employment. It is clear that even though the planning area's proportion of farm employment has declined from 1980 to 1996, farm employment remains an important component to the area's economy.

The sector generally showing the largest decline in employment between 1980 and 1994 is mining. Statewide, mining employment fell 53%, over this period while the planning area's fell just less than half that amount. While mining employment declined both statewide and in the planning area over this period, the planning area had a 16% increase of mine employment in the planning area even though employment statewide fell by 13% during this time. The decline throughout the period from 1980 to 1996 was more pronounced on a statewide basis compared to the decline experienced in the planning area.

In 1980, Wyoming mining employment accounted for nearly 14% of the state's employment compared to 14.5% in the planning area's employment. By 1996, Wyoming mining employment had dropped to only about 5.5% of the state's total employment. This is compared to the planning area's mining employment which had accounted for nearly double that at 9.5% of the total employment in the planning area.

Personal Income
Table 3.12 depicts the personal income for 1980 and 1990. The source for data contained in this table is from the Report for Environmental Incomes System (REIS) 1969-1996. And they describe the data as follows:

Personal income is a measure of income received, therefore estimates of State and local area personal income reflect the residence of the income recipients. The adjustment for residence is made to wages and salaries, other labor income, and personal contributions for social insurance in order to place them on a place of residence basis. The adjustment is necessary because these components of personal income (except those that are reported by place of work where earned). The estimates of proprietors' income, although presented on the table as part of place of work earnings, are largely by place of residence to residential adjustment is made for this component. Net earnings by place of residence is calculated by subtracting personal contributions for social insurance from earnings by place of work and then adding the adjustment for residence. The estimate of the net inflow of the earnings of intangible factors, the estimates of dividends, interest, and rent, and of transfer payments are prepared by place of residence only.

Estimates of place of work are provided in CAOS at the two-digit Standard Industrial Classification (SIC) level. The personal income component data for the wage and salary portion of REMEO's earnings estimates are from the Bureau of Labor Statistics (BLS). The BLS data provide monthly employment and quarterly wages for each county in four-digit SIC detail. REMEO restricts its earnings estimates to the SIC Division 'one-digit', and two-digit levels and suppresses these estimates in many individual cases in order to prevent the disclosure of information about individual employers.

Between 1980 and 1990, total personal income (TPI) within the planning area increased 53.4% and it further increased by an additional 26% between 1990 and 1996. (Table 3.12). At the state level, personal income increased 43.5% between 1980 and 1990 and further increased 32.8% between 1990 and 1996. In 1980, mine earnings at the state level made up the largest non-farm industrial sector, as minerals did within the planning area, accounting for 25.5% and 22.6% of all earnings respectively. Governmental government enterprises for the state and planning area followed at 15.8% and 15.3%, respectively in 1980. One of the most significant differences between the sector's contribution to the state and planning area levels was in the farm sector which contributed only about 2% to the state but 8.3% to the planning area in 1980. The farm sector's contribution to the state and planning area had declined to 3% and 3% respectively. Regardless of the decline the planning area's farm sector remained comparatively more important to the planning area than it is to the state.

In 1987, the average value of a farm including buildings, equipment and land was estimated to be approximately $60,247 or almost 33% of the average state income (USBC 1989). In contrast to 1982 the average value per farm was $62,587 or almost 50% of the average state income (USBC 1989). This indicates a 24% decline in value over the five year period. In 1987, the county within the planning area with the highest value per farm including buildings was Weston County, the least was Crook County.

Government and government enterprises and services continued to be important contributors to earnings statewide between 1980 and 1996. By 1996, they had both overtaken mining at 23.3% and 19% compared to 14.8% for mining. In the planning area, mining remained the number two source of earnings at 15% behind government and government enterprises at 24.3% and ahead of services at 13.7% in 1996.

Per capita personal income for the state was $1,146 in 1980, with $9,726 for Crook County, $10,223 for Natrona County, and $10,840 for West counties (USBC 1969-1996). In 1990, per capita personal income had increased to $17,213 for the state and $17,491 for Crook, Natrona, and West counties, respectively (USBC BEA 1969-1996). By 1996, this had increased further with $23,801 for the state and $21,360 for Crook, $19,393 for Natrona, and $21,956 for Weston counties. The per capita income is based on this information: the planning area's per capita personal income approximates that of the rest of the state from 1995 to 1996.

Property Values and Local Taxes
Assessed property values affect the level of tax revenues available for local governments. Tax computations are made using difference bases for different types of property. For example, prior to 1990 real property was based on 25% of 1957 replacement cost. Beginning January 1, 1990, it has been based on 9.5% of the market value. On the other hand, mineral production taxes are based on actual revenue from the sale of the product at the point it leaves the mine or well. The mill rate, or the location is then applied to determine the tax amount.

In the state's fiscal year of 1989 the total assessed property value of the planning area including real property, minerals, utilities, and personal property amounted to $17,451 million or 3% of the state total (WDEP 1989). This is a decline of 43% in total property value from fiscal year 1986 levels (WDEP 1987). The main reason for this fall was mineral production which sustained a 50% drop in assessed valuation during this time frame. Following this was a 36% decline in personal property values. Between 1986 and 1988, total property, valuables increased 23.6%, led by mineral production and utilities valuations. Between 1988 and 1989, these two categories declined slightly to 3% (Table 3-14). As a result of the decreased valuation, total taxes assessed by the counties in the planning area declined from $1,915 million in 1986 to $2,330 million in 1988 (34.6%). WDCP 1988). Impacts to the individual counties varied but were significant in all cases. Crook County declined from $1,127 million or $6.5 million to $4.1 million or $2.5 million (Table 3-15). Natrona County declined from $2.9 million to $2.3 million or $0.6 million (WDCP 1988).

TABLE 3-14

<table>
<thead>
<tr>
<th>Year</th>
<th>Planning Area Total Value (Million)</th>
<th>Real Property Value (Million)</th>
<th>Mineral Production Value (Million)</th>
<th>Utilities Value (Million)</th>
<th>Personal Property Value (Million)</th>
<th>Total Value (Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>6,176,291</td>
<td>42,079</td>
<td>174,046</td>
<td>1,174</td>
<td>11,479</td>
<td>7,271,456</td>
</tr>
<tr>
<td>1987</td>
<td>8,730,115</td>
<td>41,422</td>
<td>182,825</td>
<td>1,624</td>
<td>20,502</td>
<td>9,567,141</td>
</tr>
<tr>
<td>1988</td>
<td>5,729,687</td>
<td>39,852</td>
<td>96,140</td>
<td>1,406</td>
<td>14,237</td>
<td>6,613,244</td>
</tr>
</tbody>
</table>


Payment in lieu of taxes, P.L.T, are payments made to the counties by the federal government to compensate the county for the status of federal lands present in the county. P.L.T is determined by statute and cannot exceed $12 per acre. The values shown in Table 3-15 represent the amount received per acre for P.L.T and what the acreage would have generated for taxes had it been in private ownership. Figures used are those actually received by the counties in 1995.
**TABLE 3-15**  
**COMPARISON OF PAYMENT IN LIEU OF TAXES (PILT) AND COUNTY TAX LEVY FOR AVERAGE AGRICULTURAL LAND**  

<table>
<thead>
<tr>
<th>Tax per Acre</th>
<th>County</th>
<th>1980</th>
<th>1986</th>
<th>1989</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>PILT County Levy</td>
<td>Crook</td>
<td>$41.20</td>
<td>$31.21</td>
<td>$36.22</td>
<td>$21.15</td>
</tr>
<tr>
<td>PILT County Levy</td>
<td>Nokomis</td>
<td>$68.36</td>
<td>$72.23</td>
<td>$75.25</td>
<td>$75.15</td>
</tr>
<tr>
<td>PILT County Levy</td>
<td>Weston</td>
<td>$45.22</td>
<td>$37.20</td>
<td>$39.21</td>
<td>$10.13</td>
</tr>
</tbody>
</table>

PILT cannot exceed a statutory ceiling based on county population. These amounts are reduced relative to a per-acre value based on a representative public land type for each county from the Wyoming Data Handbook (WDFHC). County tax is based on production per acre. These areaffle average range ranks for variable grazing land.

---

**AFFECTED ENVIRONMENT**  

**Forestry**  

There is an estimated 41.5 million of timber cut in the planning area each year, however, only about 500 mbf is cut from BLM-administrated public lands. This volume represents 1.4% of the estimated total levels taken from the planning unit, and has a value of approximately $135,222 based on $225.37 per mbf (log scale price) (Adams 1989). About 5.9 direct and indirect jobs could be involved from this volume of timber produced and marketed. This would contribute an estimated $270.147 in direct and indirect revenues to the economy based on a 1999 business multiplier supplied by Colorado State University. This timber would probably be processed in line with other timber with no change in work force except under conditions of very high demand, tight work schedules, and a minimum work force on line.

There are about 1,500 poles and posts plus about 4.74 million of firewood harvested from the planning area each year. Posts, poles, and firewood harvested off public lands are of small quantities and are on a demand basis.

**Recreation**  

The planning area contains several recreational opportunities attracting people from both inside and outside the region. In the North Sand Creek, Cook Lake, and Keyhole State Park provide fishing throughout much of the year. There are also numerous wildlife viewing spots. Camping facilities are available at Keyhole State Park, Cook Lake, and Devils Tower National Monument. In 1986, Keyhole State Park recorded 584,079 camping nights. In 1987, the number had fallen to 494,624 representing a decrease of 14.9%. This figure is based on the summer season and is an average of $30.11 per visitor day expenditures for both resident and nonresident tourists. At Devils Tower National Monument in 1986, some 288,148 visitors were recorded increasing to 347,451 in 1988.

Further south, LAK and MW Reservoir are favorite fishing spots for sportsmen. In 1989, hunting and fishing in the planning area resulted in the creation of nearly $11 million in income, most of which remained in Wyoming (table 3-16). The public lands administered by the BLM provided an estimated $1.7 million (WDFC 1990).

Additional recreational opportunities such as sightseeing and self-guided tours to many of the natural sights of the area including the Bear Lodge Mountains and the Thunder Basin Natural Grasslands are available. The area is rich in history with historic sites such as old pioneer ranches, buildings of homesteader houses, cabins, and schools available to the public.

---

**Major Economic Bases Within the Planning Area**

**Agriculture**

The most recent detailed agricultural data are for the years 1987 and 1982. In 1987, 87% of the planning area was classified as farm land (including grazing lands) up nearly 1% from 1982 (USBC 1985). During this period farm numbers increased 5.4%. However, the average size of farms decreased 3.6% or 18 acres per farm. This is evidenced mainly by the nearly 22% increase of small (less than 10 acres) across the planning area. Medium-sized enterprises (500 to 999 acres) decreased 5% during the period, while larger operations (1,000 acres or more) showed a 2% increase (USBC 1989).
Environmental Justice

Environmental justice issues are concerned with actions that unequally impact a given segment of society either as a result of physical location, perception, design, or noise, among others. On February 11, 1994, Executive Order 12898, Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations, was published in the Federal Register (59 FR 7629). The executive order requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations (defined as those living below the poverty level). The executive order makes clear that its provisions apply fully to American Indian populations and Indian tribes, specifically to affects on tribal lands, treaty rights, trust responsibilities and the health and environment of Indian communities. Environmental justice concerns are usually directly associated with impacts on the natural and physical environment, but these impacts are likely to be interrelated to social and economic impacts as well.

Native American access to cultural and religious sites may fall under the umbrella of environmental justice concerns if the sites are on tribal lands or treaty right has granted access to a specific location. With regard to environmental justice issues affecting Native American tribes or groups, the planning area contains no tribal lands or Indian communities, and no treaty rights or Indian trust resources are known to exist for this area.

SOIL RESOURCES

Soil development is influenced by five major factors: climate, living organisms, parent material, topography, and time. In the planning area these factors have combined to produce soils with many different characteristics. For interpretive purposes, please refer to the Wyoming General Soil Map (Univ. of WY 1977). Due to the general nature of this map, it is intended to provide a broad perspective for planning purposes rather than decisions on the use of specific tracts. Table 3-17 is a list of general soil units in the planning area taken from the Wyoming General Soil Map.
<table>
<thead>
<tr>
<th>Recreation Activity</th>
<th>Total Visitor Days</th>
<th>Total Planning Area Visitor Days</th>
<th>Visitor Days on BLM Lands</th>
<th>Expended per Day</th>
<th>Resulting Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fishing</td>
<td>3,107.036</td>
<td>16.560</td>
<td>91.315</td>
<td>—</td>
<td>$ 54.83</td>
</tr>
<tr>
<td>Elk hunting</td>
<td>301.650</td>
<td>156</td>
<td>1,620</td>
<td>93</td>
<td>70.90</td>
</tr>
<tr>
<td>Mule deer hunting</td>
<td>354.967</td>
<td>4.158</td>
<td>26.071</td>
<td>1,494</td>
<td>64.43</td>
</tr>
<tr>
<td>White-tail deer hunting</td>
<td>72.171</td>
<td>1.107</td>
<td>34.136</td>
<td>1,956</td>
<td>64.43</td>
</tr>
<tr>
<td>Antelope hunting</td>
<td>117.916</td>
<td>4.216</td>
<td>12.069</td>
<td>692</td>
<td>96.53</td>
</tr>
<tr>
<td>Upland bird hunting</td>
<td>125.911</td>
<td>2.019</td>
<td>2.019</td>
<td>—</td>
<td>59.86</td>
</tr>
<tr>
<td>Turkey hunting</td>
<td>15.709</td>
<td>10.366</td>
<td>10.366</td>
<td>512</td>
<td>45.39</td>
</tr>
<tr>
<td>Geese hunting</td>
<td>28.344</td>
<td>646</td>
<td>646</td>
<td>—</td>
<td>59.86</td>
</tr>
<tr>
<td>Duck hunting</td>
<td>32.599</td>
<td>1.456</td>
<td>1.456</td>
<td>—</td>
<td>59.86</td>
</tr>
<tr>
<td>Small game</td>
<td>51.061</td>
<td>2.010</td>
<td>2.010</td>
<td>—</td>
<td>49.84</td>
</tr>
<tr>
<td>Non-consumptive use</td>
<td>—</td>
<td>—</td>
<td>500</td>
<td>30.00</td>
<td>—</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,207,364</strong></td>
<td><strong>16.188</strong></td>
<td><strong>27,577</strong></td>
<td><strong>181,708</strong></td>
<td><strong>5,347</strong></td>
</tr>
</tbody>
</table>

**Note:**

- WGFD 1990 as amended
- Not available by county combined figure
- Estimated value
- WGFD 1990, fiscal year 1990 data (calendar 1989)
**AFFECTED ENVIRONMENT**

**TABLE 3-17 GENERAL SOIL UNITS**

<table>
<thead>
<tr>
<th>Soil Unit</th>
<th>Percentage of Area</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOILS OF THE MOUNTAINS AND MOUNTAIN VALLEYS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MF-1</td>
<td>7.3</td>
<td>Euroborals Hc-Horborals Association. Dominantly dark colored soils developing in residuum and transported materials from igneous and sedimentary bedrocks.</td>
</tr>
<tr>
<td><strong>SOILS OF THE EASTERN WYOMING PLAINS</strong> (soils formed from transported materials)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P-3</td>
<td>5.5</td>
<td>Torrfluvents Haplargids-Torrothents Association. Nearly level to gently sloping soils of alluvium on flood plains and terraces.</td>
</tr>
<tr>
<td><strong>SOILS OF THE EASTERN WYOMING PLAINS</strong> (soils formed from residual materials on steep uplands)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P-4</td>
<td>2.6</td>
<td>Torrothents, shallow Association. Shallow and very deep soils developing in residuum and alluvium from interbedded sandstone and shale.</td>
</tr>
<tr>
<td>P-5</td>
<td>2.49</td>
<td>Torrfluvents Haplargids Association. Rolling to steep soils are developing in residuum and alluvium from interbedded sandstone and shale.</td>
</tr>
<tr>
<td>P-6</td>
<td>5.4</td>
<td>Torrfluvents Haplargids, shallow Association. Rolling to steep soils are developing in residuum from siltstones.</td>
</tr>
<tr>
<td>P-9</td>
<td>0.4</td>
<td>Argustolls Association. Located in the Hartville uplift area. Sloping to steep soils developing in residuum from metasedimentary bedrock.</td>
</tr>
<tr>
<td>P-10</td>
<td>6.0</td>
<td>Torrothents, fine Association. Gently rolling soils developing in residuum from shale.</td>
</tr>
<tr>
<td>P-11</td>
<td>10.5</td>
<td>Torrothents Argustolls Association. Located adjacent to the Black Hills. These gently sloping to steep soils are developing in residuum from interbedded shales and sandstone.</td>
</tr>
<tr>
<td>P-12</td>
<td>4.7</td>
<td>Torrfluvents Haplargids-Haplustolls Association. Adjacent to the Black Hills. Gently sloping soils are developing in residuum and alluvium from siltstones and limestones.</td>
</tr>
<tr>
<td>P-13</td>
<td>2.8</td>
<td>Haplargids, Paleargids, Torrothents Association. Located in the central part of the Powder River Basin. Rolling soils are developing in residuum and alluvium from interbedded sandstones and shales.</td>
</tr>
<tr>
<td>P-16</td>
<td>7.5</td>
<td>Argustolls-Haplustolls Association. Gently rolling and rolling soils developing in residuum from fine-grained sandstone.</td>
</tr>
<tr>
<td>P-21</td>
<td>22.7</td>
<td>Torrfluvents, fine Torrfluvents Association. Gently to moderately sloping soils are developing in alluvium and residuum from shales.</td>
</tr>
</tbody>
</table>

**SOURCE:** UNK 1987

Specific soil information for Crook County is available in the **Soil Survey of Crook County, Wyoming** (USDA NRCs 1983). A similar detailed survey has been completed for Weston County, and it is published in **Soil Survey of Weston County, Wyoming** (USDA NRCs 1990). The NRCs has completed, but not yet published, a detailed survey of Nibobara County. These more detailed surveys should be used when implementing land management practices.

All of the publications cited are available for review at the Casper Field Office. Copies may also be available at local libraries, NRCS offices, or the University of Wyoming.

**TABLE 3-18 VEGETATION TYPES AND ACREAGES**

<table>
<thead>
<tr>
<th>Vegetation Type</th>
<th>Crook County Acres</th>
<th>Crook County Percentage of MAB Study</th>
<th>Weston County Acres</th>
<th>Weston County Percentage of MAB Study</th>
<th>Nibobara County Acres Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big sage</td>
<td>113,000</td>
<td>67</td>
<td>110,100</td>
<td>29</td>
<td>93,985</td>
</tr>
<tr>
<td>Grassland</td>
<td>25,300</td>
<td>15</td>
<td>199,600</td>
<td>48</td>
<td>16,900</td>
</tr>
<tr>
<td>Conifer</td>
<td>12,600</td>
<td>8</td>
<td>51,200</td>
<td>13</td>
<td>360</td>
</tr>
<tr>
<td>Saltbrush</td>
<td>9,400</td>
<td>6</td>
<td>4,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meadow</td>
<td>5,600</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td>1,300</td>
<td>1</td>
<td>6,100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Browse</td>
<td>500</td>
<td>trace</td>
<td>6,400</td>
<td>2</td>
<td>600</td>
</tr>
<tr>
<td>Agricultural</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>No data available.</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**AFFECTED ENVIRONMENT**

Soils of the Mountains and Mountain Valleys

This association is located in the Black Hills. These generally dark-colored soils are developed in residuum and transported materials from igneous and sedimentary bedrock. The soils formed in a cool (frigid) climate and are usually moist in some parts during the summer. This mapping unit is rolling to steep, mountainous landscapes with narrow valleys and is principally forest covered with interspersed areas of grass-shrub lands. Average annual precipitation (AAP) is 14 to 24 inches; mean annual soil temperature (MAST) is less than 47 and, mean summer soil temperature (MSST), is greater than 59 F.

Soils of the Eastern Wyoming Plains

The plans soils can be divided into three broad groups: soils formed from transported materials, soils formed from residual materials on steep uplands, and soils on nearly level to rolling upland plains, terraces, and fans. Soils formed in transported materials are associated with the major drainages in northeastern Wyoming. The soils are nearly level to gently sloping (zero to six percent slopes) and are developing in alluvium on flood plains and terraces. The soils are generally deep to very deep and are well drained.

**TABLE 3-18 VEGETATION TYPES AND ACREAGES**

<table>
<thead>
<tr>
<th>Vegetation Type</th>
<th>Crook County Acres</th>
<th>Crook County Percentage of MAB Study</th>
<th>Weston County Acres</th>
<th>Weston County Percentage of MAB Study</th>
<th>Nibobara County Acres Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big sage</td>
<td>113,000</td>
<td>67</td>
<td>110,100</td>
<td>29</td>
<td>93,985</td>
</tr>
<tr>
<td>Grassland</td>
<td>25,300</td>
<td>15</td>
<td>199,600</td>
<td>48</td>
<td>16,900</td>
</tr>
<tr>
<td>Conifer</td>
<td>12,600</td>
<td>8</td>
<td>51,200</td>
<td>13</td>
<td>360</td>
</tr>
<tr>
<td>Saltbrush</td>
<td>9,400</td>
<td>6</td>
<td>4,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meadow</td>
<td>5,600</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td>1,300</td>
<td>1</td>
<td>6,100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Browse</td>
<td>500</td>
<td>trace</td>
<td>6,400</td>
<td>2</td>
<td>600</td>
</tr>
<tr>
<td>Agricultural</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>No data available.</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The natural vegetative cover in the planning area is predominantly the shortgrass or mixed prairie. The principal grass species are needle-and-thread grass, wheatgrass, and bluegrama. These grasses occur in the native grassland. Texas, and bluegrama grasses. Kentucky bluegrass, bluegrama, and bluegrass are also present.

For the Western area as a whole, bluegrama is probably the most important species for livestock forage. Cattle, sheep, and horses may make use of bluegrama any season of the year. The proper use factor for bluegrama for cattle and horses is usually 100 to 125 pounds of forage per acre per year. Beef cattle grow to 2 to 6 inches high and may be considered as a key species of the shortgrass range.

Much of the range in the area has a sagebrush aspect in which big sagebrush is the dominant shrub vegetation often comprising one-fourth of the vegetative composition. Other shrubs associated with big sage are silver sagesbrush, rabbitbrushes, prairie smoke, and black greaseweed. Along the tributaries and main streams are found willows, cottonwoods, green ash, nuttall service berry chokecherry, and viburnum. Rocky Mountain juniper, ponderosa pine, and creeping juniper are found along some of the higher ridges and slopes in the north south central and eastern portions of the Western area.

Most of this native forage and vegetation is produced on poor soils and topographically rolling to rough terrain of the semiarid and prairie and is used by a vigorous livestock industry and abundant wildlife. For complete list of plant species and their ecological characteristics see the previous table.

From 1977: J. Am. Forestry Assn Paper RM 11 June 1971 (p 323 325) by describing the following important vegetative types of the Black Hills.

Grassland Type
Grassland vegetation in the Black Hills can be subdivided into types based on effective moisture. The driest parts of the Western area support a bunchgrass vegetation dominated by Andropogon scoparius. This type also occurs on exposed southwest and west facing slopes and bluffs in the Central area, where it intergrades into the Pinus ponderosa Andropogon scoparius subtype previously mentioned. Additional component species are similar in these two vegetation types.

The mid-grasses, Agropyron smithii and Stipa spp., dominate extensive grasslands in the southern Black Hills. Other important species in this grassland are Artemisia frigida and Bouteloua spp.

Short-grass prairie dominated by Bouteloua gracilis and Buchloe dactyloides intermixed with the Agropyron-Stipa mid-grass type, possibly as a result of overgrazing. Opuntia spp. are also common here, as are Artemisia frigida and Bromus japonicus.

Grassland types are the most abundant in N.R.A. accounting for about half of all vegetative types.

Big Sagebrush Shrubland
An Artemisia tridentata shrubland type occurs on lowlands to the west and south of the Black Hills. Several other species of Artemesia are also present.: a cana. A Miflola and A frigida are the most common of these, Although Ammodendron nauseus is abundant on eroded sites.

Big sagebrush shrublands are the second most abundant vegetative type in the planning unit, accounting for about one-tenth of the vegetative types.

Juniper Woodland
The Juniperus scopulorum woodland type is best developed in the southern Black Hills and on river breaks in the northern Great Plains to the east of the Black Hills. Pinus ponderosa is often an important shrub species. Ribes spp. and Rhus trilobata are important shrubs. The herb layer has distinct prairie affinities, Stipa spp. Bouteloua graci!is, and B curtipendula are common.

True shrubland vegetation in the Black Hills is limited, although some tree species (Quercus macrocarpa, Populus tremuloides) also grow as shrubs, especially in old forest burns. However, shrubland dominated by Cercocarpus montanus is present along the western edge of the Black Hills and extends to the south and east. At lower elevations, Cercocarpus montanus has an open distribution and individual shrubs are seldom more than 4 feet tall. At higher elevations, the shrubs exceed 10 feet in height and form very dense thickets. Associated shrub species are Ribes spp., Rhus trilobata and Juniperus communis. A shrub species, Cercocarpus, is ranked as one of the most common species. Cercocarpus montanus

Ponderosa Pine Forest
Pinus ponderosa Cercocarpus montanus occurs on the western edge of the Black Hills. [It] intergrades into Cercocarpus montanus shrubland at

lower elevations. [It] is confined to calcareous parent materials. Ribes spp., Rhus trilobata, and Andropogon spp. are also present.

Pinus ponderosa Juniperus communis Berberis repens [] the dominant forest type at higher elevations (+6000 feet) on the northwestern Lime-

stone Plateau. Shepherdia canadensis. Bromus plumosus, Elymus glaucus, and Trilobum ssp. are the more common associates.

Poisonous and Noxious Plants
Locoweed, silver lupine or wildbees, and kikuk are the principal poisonous plants in the planning area. Locoweed (crazyweed) is attractive spring forage but capable of inducing a disease in cattle, sheep, and goats. While generally not palatable, a lack of good forage can force livestock to eat it. Relatively, few American plants must be eaten to be dangerous, but this is possible because once animals start eating the plants: a craving develops for more. The entire plant is poisonous, either green or dry. Death is slow in livestock, with symptoms in early stages of poisoning most dramatic in horses. Horses seem to be the most affected, possibly because of their disease, which is the shorter and more labored, and goats. In terms of poisoning, foals are more susceptible. Poisonous plants are not uncommon. Conalbum K contains additional information on poisonous plants.

Weed Control
Weed control in the planning is accomplished using herbicides. Selective control is accomplished using a variety of herbicides. Grazing on noxious weeds by sheep and goats is also being studied. The control is variable but usually the weeds reappear within two years. Target species are lespedeza and Canada and musk thistle. Ninety-five percent of the budget is spent controlling leafy spurge. Between $20,000 and $22,000 was spent annually over the last five years. A summary of weed control for each county in the planning area follows.

Crook County has the largest weed problem in the region. Leaping leafy spurge has become a serious economic problem in the Devil Tower Area. Over 2000 acres of BLM administered area are affected. Leaping leafy spurge continues to spread in spite of the control efforts of the BLM. A study of the weed problem was prepared by the Crook County Weed Control Program.

Insect species were released on leafy spurge in 1991. This is a new biological control program which is showing good results in other states and Canada. Ranchers are also encouraged to use sheep or goats to control leaping leafy spurge through grazing. The goal is to achieve control of weedy species, primarily leaping spurge and reduce the use of herbicides.

Weston County sprays small acreage of BLM administered public lands for leafy spurge white top and clover. The weeds are scattered on lands totaling less than 15 acres. Approximately $800 is spent annually on this program.

Niobrara County sprayed one tract of Canada thistle in the last five years at a cost of $6,180. The small area is located near the mouth of the Niobrara River.
Rangeland
This is defined as land where the potential natural vegetation is predominantly grasses, grasslike plants, forbs or shrubs, and where natural vegetation was an important influence in its present state.

Herbaceous Rangeland
This category encompasses lands dominated by occurring grasses and forbs as well as those areas of actual rangeland which have been modified to include grasses and forbs as their principal cover, when the land is managed for rangeland purposes and not managed using practices typical of pasturage. It includes the tallgrass (or true prairie) shortgrass, bunchgrass or palouse grass and desert grass regions.

Shrub and Brush Rangeland
The shrub and brush rangeland is found in the semi-arid regions characterized by several vegetative types with woody stems as big sagebrush, shadecover greenwood, and nistibush.

Mixed Rangeland
When more than one third of the rangeland consists of either herbaceous or shrub and brush rangeland species, a specific area is classified as mixed rangeland. Where the interspecies land use ratios total less than one third of the specific area, the category appropriate to the dominant type of rangeland is applied. Mixtures of herbaceous and shrub plants are not considered rangeland.

Forestland
Forestlands are lands occupied at least 10% by forest trees of any size or size class that formerly had tree cover and are not currently developed for nonforested use. Pinyon pines and junipers are considered forest trees.

Deciduous Forestland
Deciduous forestland includes all forested areas having a predominance of trees that lose their leaves at the end of the frost-free season or at the beginning of a dry season (cottonwood).

Conifer Forestland
Conifer forestlands include all forested areas in which the trees are predominantly those which remain green throughout the year (pine).

Wetland
Wetlands are those areas where the water table is near or above the land surface for a significant part of most years.

Nonforested Wetland
These wetlands include brackish saltmarshes, and nonvegetated flats, and also freshwater marsh, wet prairies, and open bogs.

Rare Plants
In 1986, The Nature Conservancy began an inventory of threatened, endangered, candidate rare or sensitive plant species on public land in the planning area. This was the first attempt at an inventory of such species or unique communities in the area. It was originally designed to be a multiphase evaluation of all public lands in the planning area that would include literature and herbarium searches, field surveys, and recommendations concerning management of species of concern and possible threats or impacts to these species resulting from management actions of other programs. Due to budgetary restraints this inventory was not continued in 1990. Work was completed in 1991 and additional information is now available.

Currently only three species of plants have been proposed for any kind of designation in the planning area and are listed in table 3-19. Both general floristic and species specific surveys for target species will be continued to increase knowledge of the occurrence of these species and to implement management decisions that may affect these species.

<table>
<thead>
<tr>
<th>Scientific Name Common Name</th>
<th>FED Status</th>
<th>BLM Status</th>
<th>TNC Status</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprainthes diwuais</td>
<td>FT</td>
<td>S</td>
<td>S</td>
<td>Notbana</td>
</tr>
<tr>
<td>Ute Ladies Tresses</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Lesquerella ameza var. angiosa</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Sidersadde Bladdersop</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Parthenum amphi</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Alpine fever few</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Where sensitive species occur on public land, BLM will strive to use conservation practices to keep them and their habitats from decreasing and keep them from being designated as candidate or T&E species.

The goals of this approach is to try to sufficiently protect these sensitive species so that it will be unnecessary for them to be listed as either candidate species of T&E species.

It is believed that it would be of mutual benefit to all parties within the Newcastle area if listing co would be avoided due to insufficient protective measures.

VISUAL RESOURCES
Visual resource classification inventories have not been completed in the planning area. Map 3.20 shows the proposed visual resources classifications for the area. Each VRM class has an objective which specifies the level of acceptable change in the landscape. These objectives are as follows:

VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man (0 acres surface), 0 acres split estate

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape (2 560 acres surface, 240 acres split estate)

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape (248 860 acres surface, 4 048 828 acres split estate)

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape (320 acres surface, 0 acres split estate)

VRM Class V: This class applies to areas where the natural character has been drastically altered and the area requires rehabilitation to upgrade it to one of the above classifications (0 acres surface, 0 acres split estate)

The area surrounding Devils Tower National Monument in Custer County was proposed for Class II designation. There was no opposition from the Indian tribes or farming interests in the area, although the BLM did not feel it was a probable environment for either species. The area was proposed for Class II designation as a result of the BLM's preliminary analysis of the area.

The area surrounding Devils Tower National Monument in Custer County was proposed for Class II designation. There was no opposition from the Indian tribes or farming interests in the area, although the BLM did not feel it was a probable environment for either species. The area was proposed for Class II designation as a result of the BLM's preliminary analysis of the area.

The area surrounding Devils Tower National Monument in Custer County was proposed for Class II designation. There was no opposition from the Indian tribes or farming interests in the area, although the BLM did not feel it was a probable environment for either species. The area was proposed for Class II designation as a result of the BLM's preliminary analysis of the area.
WATER RESOURCES

Groundwater
Since perennial supplies of surface water are scarce in the area, the primary source of water for domestic, agricultural (livestock), and industrial use is groundwater produced from wells. Water is available from several aquifers ranging from recent alluvial deposits to the Mississippian-aged Madison Limestone.

Alluvium
Alluvial aquifers are locally important throughout the planning area for livestock and irrigation. Logically it is more important in the larger river valleys, such as the Belle Fourche, Cheyenne, and Little Missouri. In the larger valleys, quantities are suitable for irrigation; however, quality may limit usefulness.

Arikaree
In parts of Nodriza County, the Arikaree Formation yields large quantities (up to 1,000 gallons per minute [gpm] or more) of water suitable for practically any use. However, use of the Arikaree in parts of Wyoming and Nebraska has often exceeded the estimated 0.33 inches per year of annual recharge from surface infiltration resulting in groundwater mining. Because of this, additional uses of the water may be limited in the future.

White River
Where it is present in Nodriza County, the White River Formation has some of the best, consistently good-quality water in the area. Quantity is the only factor which limits its use to primarily domestic and livestock. Recharge is by exposed outcrops and surface infiltration.

Fort Union/Lance
The Fort Union and Lance formations are the primary source of domestic and stock wells. Total dissolved solids (TDS) range from less than 1,000 milligrams per liter (mg/l) to over 3,000 mg/l. The water is characterized as a calcium sulfate sodium sulfate type. In most wells the TDS concentration exceeded the recommended level for a drinking water supply; however, it is often used as such.

Fox Hills
The Fox Hills Formation, with artesian pressure, is a commonly used aquifer for stock wells and a few domestic wells.

Newcastle Sandstone
The Newcastle Sandstone is a locally significant aquifer where fairly large quantities of good-quality water are produced. This aquifer supplies a few stock and domestic wells near the area of the outcrop along the flank of the Black Hills.

Lower Cretaceous and Upper Jurassic Aquifers
This group of aquifers include the Cloverly, Fall River, Inyan Kara, Lakota, Morrison, and Sundance formations. These formations are locally important sources of stock water where they are shallow enough to be economically developed (for example, near outcrops). Except for the Hulett Sandstone member of the Sundance Formation, the yields are generally low but quite adequate for stock. The yield from the Hulett Sandstone, because of its coarse texture and relative thickness, may be the exception.

Minnelusa-Pahasapa (Madison)
The Minnelusa is generally too deep for economic development. However, where it is shallower near Hulett (700 feet) it is the source for a large flowing well. A few deep wells have been drilled to the Minnelusa and Pahasapa (or Madison) and produce large quantities of good-quality water. Large supplies of water could be used from these aquifers.

Surface Water
The planning area is drained primarily by four river basins: the Cheyenne River (51%), the Belle Fourche River (32%), the Little Missouri River (9%), and the Nodriza River (6%). A very small portion of the area (2%) drains into the Platte and Powder Rivers. Peak runoff occurs generally at two times during the year: Early runoff (March through April) in response to snowmelt with the major peak occurring in May and June in response to rainfall events. A summary of monthly average daily flows at selected stations in the planning area and a tabulation of the stream gauging stations in the planning area are available for review in the MSA on file at the Newcastle Field Office. Most of the streams in the planning area are ephemeral in nature and flow only in response to snowmelt and rainfall events. Surface water quality of the area is generally suitable for livestock and limited irrigation of salt-tolerant crops.
TABLE 3-20
WATER QUALITY SUMMARY FOR SELECTED STATIONS IN THE NEWCASTLE PLANNING AREA

<table>
<thead>
<tr>
<th>Station Name</th>
<th>Water Temperature (°C)</th>
<th>Specific Conductivity</th>
<th>pH</th>
<th>Bicarbonate (mg/l)</th>
<th>Carbonate (mg/l)</th>
<th>Calcium (mg/l)</th>
<th>Magnesium (mg/l)</th>
<th>Sodium (mg/l)</th>
<th>Potassium (mg/l)</th>
<th>Chlorine (mg/l)</th>
<th>Sulfate (mg/l)</th>
<th>Fluorine (mg/l)</th>
<th>Total Dissolved Solids (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niobrara River at state line</td>
<td>11.1</td>
<td>441</td>
<td>7.5</td>
<td>---</td>
<td>---</td>
<td>51.0</td>
<td>11.0</td>
<td>8.8</td>
<td>5.7</td>
<td>2.2</td>
<td>14.0</td>
<td>0.3</td>
<td>267</td>
</tr>
<tr>
<td>Belle Fourche River at Devils Tower</td>
<td>10.4</td>
<td>1,481</td>
<td>8.0</td>
<td>227.0</td>
<td>0.3</td>
<td>174.4</td>
<td>54.4</td>
<td>96.9</td>
<td>7.0</td>
<td>9.1</td>
<td>651.5</td>
<td>0.6</td>
<td>1,123</td>
</tr>
<tr>
<td>Belle Fourche below Moorcroft</td>
<td>10.7</td>
<td>2,386</td>
<td>8.0</td>
<td>425.1</td>
<td>1.3</td>
<td>105.4</td>
<td>63.9</td>
<td>294.3</td>
<td>11.0</td>
<td>62.5</td>
<td>761.9</td>
<td>0.5</td>
<td>1,500</td>
</tr>
<tr>
<td>Donkey Creek near Moorcroft</td>
<td>9.4</td>
<td>3,249</td>
<td>8.1</td>
<td>565.1</td>
<td>2.5</td>
<td>152.3</td>
<td>144.2</td>
<td>595.3</td>
<td>16.4</td>
<td>101.6</td>
<td>1,607.0</td>
<td>1.1</td>
<td>2,962</td>
</tr>
<tr>
<td>Beaver Creek near Newcastle</td>
<td>10.6</td>
<td>4,105</td>
<td>7.6</td>
<td>184.0</td>
<td>0.0</td>
<td>374.4</td>
<td>123.4</td>
<td>807.8</td>
<td>6.6</td>
<td>594.4</td>
<td>1,558.5</td>
<td>0.9</td>
<td>3,268</td>
</tr>
<tr>
<td>Cheyenne River near Riverview</td>
<td>15.5</td>
<td>3,414</td>
<td>8.1</td>
<td>302.1</td>
<td>0.5</td>
<td>193.0</td>
<td>77.5</td>
<td>497.0</td>
<td>11.6</td>
<td>74.3</td>
<td>1,482.2</td>
<td>0.7</td>
<td>2,288</td>
</tr>
<tr>
<td>Cheyenne River at Riverview</td>
<td>15.6</td>
<td>2,707</td>
<td>7.9</td>
<td>---</td>
<td>---</td>
<td>172.0</td>
<td>68.9</td>
<td>436.0</td>
<td>11.4</td>
<td>86.4</td>
<td>1,286.2</td>
<td>0.5</td>
<td>2,207</td>
</tr>
<tr>
<td>Lance Creek near Riverview</td>
<td>13.2</td>
<td>3,155</td>
<td>7.9</td>
<td>355.4</td>
<td>0.0</td>
<td>194.6</td>
<td>71.7</td>
<td>469.6</td>
<td>12.9</td>
<td>106.4</td>
<td>1,346.2</td>
<td>0.6</td>
<td>2,420</td>
</tr>
<tr>
<td>Lodgepole Creek near Hampshire</td>
<td>10.8</td>
<td>2,788</td>
<td>8.6</td>
<td>759.5</td>
<td>28.2</td>
<td>22.2</td>
<td>17.8</td>
<td>625.4</td>
<td>7.3</td>
<td>16.7</td>
<td>7,672.0</td>
<td>0.6</td>
<td>1,847</td>
</tr>
<tr>
<td>Black Thunder Creek near Hampshire</td>
<td>12.6</td>
<td>886</td>
<td>7.9</td>
<td>150.0</td>
<td>0.0</td>
<td>49.0</td>
<td>21.5</td>
<td>116.0</td>
<td>85.7</td>
<td>8.0</td>
<td>328.8</td>
<td>0.5</td>
<td>660</td>
</tr>
<tr>
<td>Little Thunder Creek near Hampshire</td>
<td>11.1</td>
<td>2,049</td>
<td>8.0</td>
<td>274.3</td>
<td>0.3</td>
<td>93.3</td>
<td>58.8</td>
<td>280.1</td>
<td>12.9</td>
<td>14.7</td>
<td>771.4</td>
<td>0.5</td>
<td>1,448</td>
</tr>
<tr>
<td>Little Missouri River near New Haven</td>
<td>14.3</td>
<td>1,600</td>
<td>7.5</td>
<td>140.0</td>
<td>0.0</td>
<td>100.0</td>
<td>59.3</td>
<td>172.6</td>
<td>9.2</td>
<td>4.1</td>
<td>706.7</td>
<td>0.6</td>
<td>1,129</td>
</tr>
</tbody>
</table>
area with the greatest concentrations on public land occurring in foothill areas and the rough, broken plains areas. White-tailed deer occur in the timbered habitats found along the Wyoming-South Dakota state line in Weston County and in association with riparian zones. Crucial winter ranges, including 9,080 acres of public lands, have been identified for both deer species in the planning area. These areas are shown on map 3-22. Pronghorn antelope prefer the open plains areas of all three counties, and elk use on public land is restricted to the timbered habitat types in Weston and Crook counties. Table 3-22 shows big game populations in the planning area. Maps 3-16, 3-17, 3-18, 3-23, and 3-24 show hunt areas and herd unit areas for deer, antelope, and elk.

Four big game species inhabit the resource area: mule deer, white-tailed deer, pronghorn antelope, and elk. Mule deer occur in most habitats in the planning area. White-tailed deer prefer foothill transition zones. Sharp-tailed grouse prefer foothills and riparian zones. Mule deer—timbered areas and riparian zones. Elk—occurs in most of the Wyoming-South Dakota state line in Weston County and in association with riparian zones. Sage grouse—found on the sagebrush grasslands, while sharp-tailed grouse prefer foothills transition zones between shrub communities and forested lands. Ruffed grouse prefer timbered habitats. Activity levels of sage grouse and sharp-tailed grouse leks and nesting areas can vary greatly from year to year depending on population levels. It is not uncommon for a lek to have no or little activity for a period of years, then become active again as populations and habitat conditions become more favorable. Tables 3-23 and 4-1 denote recorded leks with current or recent activity. These leks may become more or less active in future years—some may be abandoned and new ones may be established. Turkeys generally prefer the same habitat types as white-tailed deer—timbered areas and riparian zones.

### TABLE 3-21
**ACREAGE OF COMMUNITY TYPES**

<table>
<thead>
<tr>
<th>Type</th>
<th>Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland</td>
<td>25,300</td>
</tr>
<tr>
<td>Riparian</td>
<td>1,363</td>
</tr>
<tr>
<td>Aquatic</td>
<td>1,065</td>
</tr>
<tr>
<td>Shrub-grassland</td>
<td>264.772</td>
</tr>
</tbody>
</table>

*Includes all shrub species.*

Table 3-22 shows big game populations in the planning area. Maps 3-16, 3-17, 3-18, 3-23, and 3-24 show hunt areas and herd unit areas for deer, antelope, and elk.

### TABLE 3-22
**WGFD 1996 BIG GAME POST-SEASON POPULATIONS AND POPULATION OBJECTIVES**

<table>
<thead>
<tr>
<th>Herb Unit</th>
<th>Post-season Population</th>
<th>Population Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTELOPE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Black Hills</td>
<td>10,277</td>
<td>14,000</td>
</tr>
<tr>
<td>South Black Hills</td>
<td>2,309</td>
<td>3,000</td>
</tr>
<tr>
<td>Thunder Basin</td>
<td>6,985</td>
<td>8,000</td>
</tr>
<tr>
<td>Lance Creek</td>
<td>26,016</td>
<td>27,000</td>
</tr>
<tr>
<td>MULE DEER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Hills</td>
<td>21,592</td>
<td>20,000</td>
</tr>
<tr>
<td>Lance Creek</td>
<td>15,709</td>
<td>18,000</td>
</tr>
<tr>
<td>Thunder Basin</td>
<td>17,201</td>
<td>13,000</td>
</tr>
<tr>
<td>ELK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Hills</td>
<td>unknown</td>
<td>500</td>
</tr>
<tr>
<td>Rawhide</td>
<td>90-110</td>
<td>40</td>
</tr>
<tr>
<td>WHITE-TAILED DEER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Hills</td>
<td>29,027</td>
<td>40,000</td>
</tr>
<tr>
<td>Thunder Basin</td>
<td>unknown</td>
<td>1,750</td>
</tr>
</tbody>
</table>

*Includes all shrub species.*

The only trophy game species present in the area is the mountain lion. The majority of sightings have occurred in the Elk Mountain area and the foothills along the eastern side of Weston County. Upland game species include sage grouse, sharp-tailed grouse, ruffed grouse, and wild turkeys. Sage grouse are found on the sagebrush grasslands, while sharp-tailed grouse prefer foothills transition zones between shrub communities and forested lands. Ruffed grouse prefer timbered habitats. Activity levels of sage grouse and sharp-tailed grouse leks and nesting areas can vary greatly from year to year depending on population levels. It is not uncommon for a lek to have no or little activity for a period of years, then become active again as populations and habitat conditions become more favorable. Tables 3-23 and 4-1 denote recorded leks with current or recent activity. These leks may become more or less active in future years—some may be abandoned and new ones may be established. Turkeys generally prefer the same habitat types as white-tailed deer—timbered areas and riparian zones.

### SPECIAL SITUATION AREAS

#### Aquatic Habitat

The Newcastle area is lacking in an abundance of streams and lakes that are capable of sustaining a game fishing resource. The planning area contains 1,065 acres of surface waters in 390 ponds and reservoirs. The number of miles of streams and their classification has not been completed for the planning area. While some stream habitat such as the short sections of the Belle Fourche River that occur on public land support game species, the opportunity for management is limited due to the small amount of public land involved. Ponds and reservoirs are well adapted to several species including rainbow trout and largemouth bass and many do contain these species. However, very little management activity has taken place due to the isolated location and lack of public access to most waters on public lands. Table 3-24 gives the trout stream classifications for the three counties in the planning area.
Habitat zone types that offer a diversity in structure and vegetative species such as riparian zones, juniper-shrub woodlands, and ponderosa pine forests also support the greatest diversity of wildlife species. This is due to the large number of sites available for providing feeding, reproduction, and shelter areas.

Riparian areas also attract domestic livestock for the same reasons that wildlife species are attracted, resulting in a higher degree of use than is found on adjacent uplands. The BLM recognizes the value and importance of riparian areas and has established policies for managing riparian zones.

T&E Species

The ESA of 1973 recognized that endangered or threatened species of fish, wildlife, and plants "are of aesthetic, ecological, educational, historical, recreational and scientific value to the nation and its people." An agency cannot allow any management actions or permit any actions on federal land that could contribute to the decline of a listed species or cause a species to become a candidate for listing under the provisions of the ESA. This pertains primarily to actions affecting the black-footed ferret, bald eagle, peregrine falcon, Ute ladies' tresses orchid, swift fox, and mountain plover (Jennings 1997).

The following species have been identified by the WGFD as being in need of special management and occurring within the boundaries of the Newcastle planning area.

<table>
<thead>
<tr>
<th>Avian Species of Special Concern</th>
<th>Threatened, Endangered, and Candidate Species (includes animals and plants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Loon (C) (SSC1)</td>
<td>Black-footed ferret (C) (SSC1)</td>
</tr>
<tr>
<td>Galapagos Flightless Cormorant</td>
<td>Mountain plover</td>
</tr>
<tr>
<td>American White Pelican (C) (SSC3)</td>
<td>Charadrius montanus</td>
</tr>
<tr>
<td>Pelecanus erythrorhynchos</td>
<td>Swift fox</td>
</tr>
<tr>
<td>American Bittern (C) (PR1) (SSC3)</td>
<td>Vultur velox</td>
</tr>
<tr>
<td>Botaurus lenticulatus</td>
<td></td>
</tr>
</tbody>
</table>

The black-footed ferret, bald eagle, and peregrine falcon may occur in the planning area. While no confirmed sightings have been made in the last 10 years of the black-footed ferret, several unconfirmed reports have been made and suitable habitat does exist. Black-footed ferrets use prairie dogs almost exclusively as a prey base and live in prairie dog towns. The Ute ladies' tresses orchid occurs within the boundaries of the planning area in Nebraska County along the Niobrara River and may occur in other riparian or wetland areas within the planning area.

Candidate species and species listed by the state of Wyoming as species in need of special management occur in the area and are listed in Table 3-26. Candidate species are those federally designated (FWS) plants and animals for which the FWS has on file sufficient information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species. Proposed rules have not yet been issued because this action is currently precluded by other listing activity. Development and publication of proposed rules for these plants and animals are anticipated. The FWS encourages state and other federal agencies as well as other affected parties to give consideration to these species in environmental planning.
A variety of raptors exist in nearly all habitat types in the planning area. Populations are not known for public land at this time, but nest concentration areas are shown on map 3.25. Additional use is made of public land for a forage prey base in many areas. Raptor information is not gathered on a routine basis with the exception of recording the activity of known nests.

Fish species identified by the WGFD as being rare, but possibly occurring in the planning area are the northern pearl dace, finescale dace, hor-hor chub, silvery minnow, goldeye sturgeon chub, and shovel-nose sturgeon. Species identified by the WGFD as a special management concern (not rare), and only occurring in limited numbers in the planning area are: plains topmminnow, Iowa darter, stoneoller, plains killifish, freshwater drum, spottail shiner, and emerald shiner.

AFFECTED ENVIRONMENT

<table>
<thead>
<tr>
<th>Avian Species of Special Concern</th>
<th>Mammalian Species of Special Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black-crowned Night-Heron (C)(SSC3)</td>
<td>Little Brown Myotis (C) (SSC3)</td>
</tr>
<tr>
<td>Nycticorax nycticorax</td>
<td>Myotis lucifugus</td>
</tr>
<tr>
<td>White-faced ibis (C) (SSC3)</td>
<td>Fringed Myotis (C) (SSC2)</td>
</tr>
<tr>
<td>Plegadis chihi</td>
<td>Myotis rhysodes</td>
</tr>
<tr>
<td>Forster's Tern (C) (SSC3)</td>
<td>Long-legged Myotis (C) (SSC2)</td>
</tr>
<tr>
<td>Sterna forsteri</td>
<td>Myotis volans</td>
</tr>
<tr>
<td>Black Tern (C) (SSC3)</td>
<td>Big Brown Bat (C) (SSC3)</td>
</tr>
<tr>
<td>Chlidonias niger</td>
<td>Eptesicus fuscus</td>
</tr>
<tr>
<td>Trumpeter Swan (C) (SSC2)</td>
<td>Townsend's Big-eared Bat (PO) (SSC2)</td>
</tr>
<tr>
<td>Cygnus buccinator</td>
<td>Corynorhynchus townsendii</td>
</tr>
<tr>
<td>Bald Eagle (C) (SSC2)</td>
<td>Pallid Bat (PO) (SSC2)</td>
</tr>
<tr>
<td>Haliaeetus leucocephalus</td>
<td>Arnozous pallidus</td>
</tr>
<tr>
<td>Northern Goshawk (C) (SSC4)</td>
<td>Black-tailed Prains Dog (C) (SSC3)</td>
</tr>
<tr>
<td>Accipiter gentilis</td>
<td>Cynomys ludovicianus</td>
</tr>
<tr>
<td>Ferruginous Hawk (C) (SSC3)</td>
<td>Swift fox (C) (SSC3)</td>
</tr>
<tr>
<td>Buteo regalis</td>
<td>Vulpes velox</td>
</tr>
<tr>
<td>Merlin (C) (SSC3)</td>
<td>Lynx (HX X) (SSC2)</td>
</tr>
<tr>
<td>Falco columbarius</td>
<td>Lynx lynx</td>
</tr>
<tr>
<td>Peregrine falcon (C) (SSC3)</td>
<td>Black-footed Ferret (HX) (SSC1)</td>
</tr>
<tr>
<td>Falco peregrinus</td>
<td>Mustela ngripes</td>
</tr>
<tr>
<td>Mountain Plover (C) (SSC4)</td>
<td></td>
</tr>
<tr>
<td>Charadrius montanus</td>
<td></td>
</tr>
<tr>
<td>Long-billed Curlew (C) (SSC3)</td>
<td></td>
</tr>
<tr>
<td>Numenius americanus</td>
<td></td>
</tr>
<tr>
<td>Yellow-billed Cuckoo (C) (SSC3)</td>
<td></td>
</tr>
<tr>
<td>Coccyzus americanus</td>
<td></td>
</tr>
<tr>
<td>Lewis Woodpecker (C) (SSC3)</td>
<td></td>
</tr>
<tr>
<td>Melanerpes lewis</td>
<td></td>
</tr>
</tbody>
</table>

C - Confirmed (>95% certain) or known to occur
PB - Predicted (>80% certain)
PO - Possible (10-80% certain)
HX - Historical Excluded. species historically occurring but not expected to occur anywhere
X - Excluded. originally coded as confirmed. predicted or possible, but believed to be in or
SSC1. SSC2. SSC3 Species of Special Concern 1, 2, 3 (see Appendix I for matrices of habitat and population variables).

CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This chapter presents the environmental consequences of implementing the management actions in the Proposed RMP as described in chapter 2. Both the beneficial and adverse impacts are discussed. The impact analysis is cumulative, not site-specific.

The identification and analysis of impacts presented in this chapter were based on available information and on the professional judgement of resource specialists.

The projected level of development, where known, is presented with the discussion of the individual program.

The value of maintaining biodiversity of plant and animal species has long been recognized as a necessary and desirable goal for resource management. In all alternatives presented, an effort was made to provide for consideration of biodiversity and for reasonable resource development opportunities, while still providing adequate resource and environmental protection.

EFFECTS ON ENVIRONMENTAL JUSTICE

Issues relating to the social, cultural, and economic well-being and health of minorities and low income groups were evaluated. Such issues are termed environmental justice issues. None were identified that would be effected. Other impacts related to visual resources and socioeconomic activity are addressed in the appropriate sections of this analysis.

Compliance with Executive Order 12898 concerning environmental justice will be accomplished through scoping conducted to receive public comment. In reviewing the impacts of this alternative on socioeconomic resources, surface water and groundwater quality, air quality, hazardous materials, or other elements of the human environment, it was determined that potentially adverse impacts do not disproportionately affect Native American tribes or minority and or low-income groups in the planning area.
<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management – Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AIR QUALITY</strong></td>
<td>Air pollution levels would not exceed the criteria pollutant standard levels in the planning area as a result of any activity under the Proposed RMP. The criteria pollutants, the applicable standards (NAAQS and WAAQS), and the background concentrations are given in table 3-1. All BLM-administered public lands in the planning area are classified as PSD Class II areas. The PSD regulations are ambient standards. They are given in table 3-2 and explained in more detail in chapter 3.</td>
<td>Same as Proposed RMP</td>
<td>Increased levels of timber harvest would result in large amounts of slash debris that, if burned, would increase the volume of particulates by a factor of three to the atmosphere over the levels in the Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td><strong>CULTURAL RESOURCES</strong></td>
<td>All programs that involve surface-disturbing projects collectively drive the cultural resources compliance program. The oil and gas program has the largest impact, both beneficial and adverse, on cultural resources because of the number of projects and acreages involved. Even though a few undiscovered cultural sites may be damaged or destroyed, many more sites would be discovered because before approval of any of the above activities a cultural survey must be completed. For some land use activities, such as grazing and recreational activities, the impacts to cultural resources have never been adequately assessed even though damage to cultural resources may occur through trampling, erosion, and rubbing of rock art.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
</tbody>
</table>
### Table 4-1
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CULTURAL RESOURCES (continued)</td>
<td>Public awareness and education about the significance and fragility of cultural resources are crucial to the future preservation of sites. Interpretive exhibits would increase the general public's knowledge, awareness, and sensitivity about the area's prehistoric and historic cultural resources. As a result, it is anticipated that damage to cultural resources would decrease compared to Alternative A.</td>
<td>No interpretive facilities would be provided in the resource area. This lack of interpretation about the area's prehistoric and historic cultural resources would result in a potential for cultural resources being damaged.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>FIRE MANAGEMENT</td>
<td>Prohibiting development in the 1/4-mile or visual horizon buffer around significant historic trail segments would preserve the integrity of the trails.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Prescribed fires could be precluded in some areas in adherence to air quality standards.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>FOREST RESOURCES</td>
<td>When management practices allow the basal area to go over or under the optimum basal area, the ability of the forest to produce wood fiber would be reduced. Forest management practices under this alternative would maintain the optimum basal area.</td>
<td>Same as Proposed RMP.</td>
<td>When management practices allow the basal area to go over or under the optimum basal area, the ability of the forest to produce wood fiber would be reduced. The accelerated harvest level of this alternative would mean an uneven supply of forest products to the local economy. The rise and fall in the supply of forest products would bring about a drastic change in the historic evenflow which has occurred.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management -- Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>FOREST RESOURCES (continued)</td>
<td>Maintaining 5% of the forested acreage in the planning area for &quot;old growth&quot; would ensure the existence of this component of the forest and would also enhance stand diversity. Eventually larger trees would be available for harvest as these areas are rotated through the various growth cycles in the forest. This would contribute to the biodiversity of the forest and provide habitat for a variety of wildlife species that depend on or prefer older trees and their associated species.</td>
<td>No special attention would be given to the old growth component of forested lands on BLM-administered public surface. This could result in the loss or reduction of this component of the forest ecosystem and would not contribute to providing wildlife habitat variation.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Landownership adjustments in the planning area could have a long-term beneficial effect on the forest resource. Forest management activities would be enhanced by consolidating small parcels.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Slope restrictions for road construction and skidder-type logging would adequately reduce soil erosion and sedimentation in drainages and help maintain water quality.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The requirement to rehabilitate roads used for timber harvest (to enhance other management opportunities) would decrease timber sales costs.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 4-1
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FOREST RESOURCES</strong> (continued)</td>
<td>Forest enhancement opportunities on 2,082 acres would be managed to maintain Class II visual resources designation on public lands around Devils Tower National Monument and a Class II visual resources designation on lands in Weston County.</td>
<td>The visual quality provided by the trees would not be protected.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>GEOLOGY AND MINERAL RESOURCES</strong></td>
<td>The coal classification is no longer serving its intended purpose. Removal or termination of the classification would have no effect on land use.</td>
<td>The coal classification remaining on 194,520 acres other than an encumbrance on disposal would have no effect on land use.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Leasable Minerals</td>
<td>Paleontological values on BLM-administered federal interests would be preserved. Federal operators could be required to cease operations for several days while fossils are evaluated and longer if it is a significant find. A suspension of operations may be granted if lease status is adversely affected by work stoppage due to paleontological resources.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Coal</td>
<td>Oil and Gas</td>
<td>There should be little or no conflict with oil and gas development activity and no adverse affect on leasing in the proposed primitive campsite locations (sections 5, 8, T. 56 N., R. 66 W. and section 1, T. 56 N., R. 67 W.). Any oil and gas leases involving these areas would have a stipulation added to protect the campsite locations from surface-disturbing activities.</td>
<td>There would be no conflict with oil and gas development activity as no campsites would be developed.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 4-1
**Summary of Impacts by Alternative**

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management – Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GEOLOGY AND MINERAL RESOURCES</strong> (continued)</td>
<td>Designating sensitive plant species would, by itself, have little effect on leasing or development of oil and gas resources. If sensitive species were identified in oil and gas development areas, the required searches by a qualified botanist could cause slight delays and could be an additional expense for oil and gas operations. If searches could not be done year round, significant delays could occur. If these species are found, limitations on surface-disturbing activities would be implemented.</td>
<td>The Nature Conservancy has developed a &quot;watch list&quot; for sensitive plant species but that would not provide any protection.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>Leasable Minerals</strong> (continued)</td>
<td>The Class II visual designation for the area around Devils Tower would probably preclude oil and gas development on approximately 3,400 acres. Because of the low development potential for oil and gas in the area, it is unlikely any exploration or development would occur in the foreseeable future regardless of visual resource management designation.</td>
<td>Having no visual resource designation does not preclude oil and gas development.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>Oil and Gas</strong> (continued)</td>
<td>The 1.5-mile or visual horizon buffer protecting significant segments of National Register-eligible trails may prohibit drilling within that area. The increased cost to directionally drill may prohibit reserves from being taken.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td><strong>GEOLOGY AND MINERAL RESOURCES</strong> (continued)</td>
<td>Other program activities would have minimal impact on locatable minerals development.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>Locatable Minerals</strong></td>
<td>Winter range stipulations (for big game species) during the period from November 15 through March 30 may limit operators conducting activities under notices of intent and plans of operation.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>A plan of operations would be required for any surface-disturbing activity over five acres. Since most of the activity in the resource area is under five acres, no plan of operations would be required for most actions. This could result in unregulated disturbance on several sites with cumulative impacts on several hundred acres.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Evaluating landslide areas before approving a plan of operation may slow down the process.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>Salable Minerals</strong></td>
<td>Wildlife winter range stipulations from November 15 through March 30 may require operators of sand and gravel pits to cease operations during that time period.</td>
<td>Same as Proposed RMP.</td>
<td>Winter range stipulations with no exception from November 15 through March 30 would require operators of sand and gravel pits to cease operations until that time period has passed.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td><strong>GEOLOGY AND MINERAL RESOURCES</strong> (continued)</td>
<td>The prescribed management for the Whoopup Canyon ACEC and VRM Class II area would preclude sand and gravel site development in the area. This impact would be minimal because of the ample number of existing and potential material site locations in the planning area.</td>
<td>Impacts to material sales would be minimal because of the ample number of existing and potential locations in the planning area. Having no VRM classifications in the planning area would not preclude potential sand and gravel site development.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td><strong>Salable Minerals</strong> (continued)</td>
<td>The 1/4-mile or visual horizon buffer protecting significant segments of eligible trails may prohibit some development within that area.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td><strong>Geophysical Exploration</strong></td>
<td>Restrictions to protect other resources would have a minimal impact on geophysical activity. These restrictions would be such things as limiting the time or season of activity due to wet conditions or for wildlife protection.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>The 1/4-mile or visual horizon buffer protecting recreation sites may prohibit some development within that area.</td>
<td>Same as Proposed RMP</td>
<td>Development activities would not be restricted near recreation sites.</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------</td>
<td>-------------------------------------------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td><strong>GEOLOGY AND MINERAL RESOURCES (continued)</strong></td>
<td>Surface-disturbing activities could impact paleontological resources by exposing buried fossils. This may result in damage, but it could create opportunities for new discoveries. Assessment and mitigation guidelines for paleontological resources provide a series of filters that paleontologists and managers can use to identify areas where there are noteworthy fossils, and to develop recommendations for mitigating damage from surface disturbance. These guidelines are applied wherever there is reason to believe that noteworthy fossils are present.</td>
<td>Same as Proposed RMP</td>
<td>A paleontological inventory for the entire planning area would be unnecessary because the standard provisions identified under the Proposed RMP adequately protect the resource.</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td><strong>LANDS AND REALTY</strong></td>
<td>Applying protective measures of other resource programs could extend the completion time or change the location of some projects and also affect the availability of areas for land tenure adjustment.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>VRM Class II designation area around Devils Tower would protect the visual quality of the area and allow more management flexibility.</td>
<td>The visual quality of the area would not be protected because of a lack of VRM classification.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Prior evaluations of geologic hazards before approving lineal facilities and defining special construction methods would minimize potential problems.</td>
<td>Landslides may cause pipeline breaks releasing unwanted materials into the environment. Road sloughing may result in a human hazard as well as causing increased erosion and localized loss of vegetation communities.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
</tr>
</tbody>
</table>
| LIVESTOCK GRAZING            | The following benefits would be expected from implementation of grazing management plans and the associated construction of any proposed range improvements (water facilities and fencing).  
... Better distribution of livestock and forage use on the public lands. The effect would occur in both the short term (up to 25 years) and the long term (more than 25 years).  
... It is estimated that within 25 years of implementation forage production would increase as much as 15%. The increase, which is based on production potential described in NRCS range technical guides, could be allocated to livestock, wildlife, and watershed. The effect would be long term.  
... Rest during critical growing periods would improve plant vigor and litter accumulation causing beneficial changes in organic matter content, soil structure, and permeability. | Same as Proposed RMP. | Same as Proposed RMP. | Same as Proposed RMP. |
<p>|                              | The presence of prairie dogs may remove forage that would otherwise be available for livestock grazing. Allowing limited control on prairie dog towns that exist entirely on BLM-administered public land surface could limit the expansion of the towns to private and state lands. | Same as Proposed RMP. | The level of prairie dog control in towns on BLM-administered public land surface would result in maintaining constant levels of livestock forage. | Same as Proposed RMP. |</p>
<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIVESTOCK GRAZING (continued)</td>
<td>Riparian management guidelines may restrict livestock use temporarily. Periods of restricted use, changes in season of use, or management of livestock in riparian zones should improve riparian areas and benefit livestock grazing. In the short term, this could result in reduction of livestock use in the &quot;I&quot; category allotments. The intended coordinated activity planning for riparian management could maintain or increase livestock grazing levels.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Continued fire management and rehabilitation of burned areas could restore or improve livestock forage by increasing the quality and quantity of forage.</td>
<td>Same as Proposed RMP.</td>
<td>Livestock forage enhancement from prescribed fire would be precluded.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Land tenure adjustments could maintain or decrease the amount of public land available for livestock grazing. Any withdrawals, sales, or exchanges could reduce or eliminate existing grazing leases and subsequently result in fewer leases and less administrative costs for the BLM. Larger blocks of public lands resulting from exchanges or acquisition would result in more efficient BLM management areas for livestock grazing.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Timber harvesting would increase forage for livestock and wildlife.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>LIVESTOCK GRAZING (continued)</td>
<td>ORV designations would control the indiscriminate use of vehicles on BLM-administered public land surface. This would reduce surface disturbance and the harassment of livestock and wildlife.</td>
<td>No similar effects.</td>
<td>Indiscriminate use of motorized vehicles by the public on BLM-administered public land surface would create erosion, new roads, disturbance to wildlife and livestock, and damage to vegetation.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Protective measures identified for the Whoopup Canyon ACEC and developed recreation sites would restrict or preclude livestock grazing in the area. Some of the area may have to be protected by fences. This could result in a negligible reduction in grazing use. For Whoopup Canyon, a reduction of only three AUMs is anticipated.</td>
<td>Grazing use would not be reduced in Whoopup Canyon.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Developing the proposed Meadow Draw recreation site and reservoir could reduce livestock grazing by up to 20 AUMs but would provide a reliable source of high quality water for livestock and wildlife.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>RECREATION RESOURCES</td>
<td>Development of a recreation site at the proposed Meadow Draw Reservoir (T. 45 N., R. 63 W., section 8) would allow recreation use of the area to its fullest potential.</td>
<td>Same as Proposed RMP.</td>
<td>Development of the Meadow Draw site in T. 45 N., R. 63 W., section 8 as a wildlife habitat improvement project with no visitor facilities would not allow the site to be used to its fullest recreation potential.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 4-1
**Summary of Impacts by Alternative**

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECREATION RESOURCES (continued)</td>
<td>If the Meadow Draw Reservoir area were developed, impacts associated with increased user visits could include wildlife disturbance, littering, vandalism, and sedimentation and erosion from roads and parking facilities.</td>
<td>Same as Proposed RMP.</td>
<td>The effects would be less than the Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The 1/4-mile or visual horizon buffer around recreation sites would maintain the visual quality of the area.</td>
<td>Same as Proposed RMP.</td>
<td>The visual quality of these sites would not be protected.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Designating and managing the planning area (excluding the proposed Stateline SRMA) as an extensive recreation management area would preclude intensive recreation management but would not limit public use. This would allow developments such as primitive campsites, day use areas, and sign programs.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>RECREATION RESOURCES (continued)</td>
<td>Establishing the proposed primitive camping facilities in Crook County would increase visitor convenience, improve trash collection by localizing it thus reducing potential litter problems, and decreasing fire hazards by providing fire pits and campsites in areas that are easier to monitor and designed to create the least amount of environmental damage possible.</td>
<td>Since no campsites would be developed in the planning area, camping would occur on an uncontrolled basis. Trash, litter, and damage to the resource from use of inappropriate areas would continue. A service to the public would not be met. Conflicts between recreation site development and utility corridor development could occur, but the potential is very unlikely considering the scattered land pattern of the planning area. This could cause damage to vegetation and water resources as well as harassment to wildlife and livestock. Campers find areas to their liking or convenient to activities they are pursuing and establish a camp. These areas have no trash receptacles and no fire pits or grates. Trash and human waste could accumulate at popular use areas, and the potential problem for wildfires is increased. As the demand for use of the public lands increases camping would also increase on the public lands.</td>
<td>Same as Proposed RMP.</td>
<td>Establishing developed camping sites that would include hard-surface parking and camping areas, drinking water, trash, and sanitary facilities in Crook County would increase visitor convenience, improve trash collection, and decrease fire hazards.</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------</td>
<td>-------------------------------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>RECREATION RESOURCES (continued)</td>
<td>Recreational use of an area could be temporarily displaced while timber harvesting operations were being conducted. Logging slash and debris left after harvest is completed may temporarily detract from recreational use of the area. Logging can improve the visual image of forests by opening dense stands of timber, reducing overgrown stands, and allowing for an increase in the amount and diversity of understory vegetation. Logging roads can provide vehicle access into areas that were previously restricted to nonmotorized mechanical transport.</td>
<td>Same as Proposed RMP.</td>
<td>A three-fold increase in timber harvest and a 50% increase in thinning activity in the planning area would result in a strong negative impact on the visual resource and reduce recreational opportunities in timbered areas for several decades (approximately 560 acres per year). Additional recreational use of the area could be temporarily displaced while timber harvesting operations were being conducted. An accelerated harvest would have a corresponding increase on the visual aspect of timbered areas. Accelerated harvest and increased slash and debris at this level may make those harvested areas unattractive enough to preclude recreational use until slash decomposes.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Restricting firewood cutting for recreational use to dead and downed trees would reduce the potential for destruction of live trees and the hazards associated with cutting standing timber. This policy would help to maintain the aesthetics of the area.</td>
<td>There would be no regulations or restrictions regarding cutting trees for firewood. Indiscriminate cutting of live or dead trees for firewood would affect the wildlife population by decreasing habitat, and reducing structure and diversity of an area. Excess wood removal and cutting live trees in popular camping areas would reduce the aesthetics of the area.</td>
<td>If no firewood cutting for camping use were allowed, an increase in cutting in undesired areas and a loss of live trees and snags would occur. The publics' demand for an available resource would not be met. There would also be impacts to the aesthetics of the area.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>RECREATION RESOURCES (continued)</td>
<td>Camping duration restrictions are currently in effect statewide. A 14-day camping limit would provide ample opportunity for camping use while preventing extended or permanent stays on BLM-administered public surface.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The limited control of prairie dogs on BLM-administered public surface in the planning area would have little or no effect on the recreational use of this species for such activities as wildlife viewing and shooting.</td>
<td>Prairie dog control as a range improvement practice only when requested by a grazing lessee or adjacent landowner would decrease the recreational aspects (shooting) of prairie dog populations. This would reduce or eliminate viewing of prairie dogs and associated wildlife.</td>
<td>Controlling prairie dog townsizes on BLM-administered public surface would limit the availability of prairie dogs for recreational opportunities.</td>
<td>Same as Alternative B.</td>
</tr>
<tr>
<td></td>
<td>The proposed ORV designations would allow use of the BLM-administered public surface while protecting resource values from excessive uncontrolled use. Some unstocked areas would not be accessible to motorized vehicles.</td>
<td>No ORV designations allows unregulated use of public lands. Damage to resource values could occur.</td>
<td>More resource damage could occur under this alternative compared to the Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>RECREATION RESOURCES (continued)</td>
<td>Range management practices that have a beneficial effect for wildlife such as water developments and improved livestock distribution also have a beneficial effect on the recreational use of wildlife. Grazing systems that include small pastures and a large number of miles of fencing can be detrimental to the recreational use of public land. Allowing livestock to graze on BLM-administered public surface during hunting seasons can lead to conflicts between recreational users and the lessee or the livestock. In the past, instances have occurred where public land users have been denied legal access to public land or discouraged from using public lands by grazing permit holders. This problem, while becoming less widespread, has not been resolved and is likely to continue in the future.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Acquiring lands with recreation potential would expand the recreational opportunities and may also provide access to public lands that were previously unavailable. Consolidating public land into larger, manageable units would have the effect of increasing recreational opportunities.</td>
<td>Same as Proposed RMP.</td>
<td>The total amount of public lands available for recreational use would remain essentially the same—no reduction.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
Table 4-1  
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIOECONOMICS</td>
<td>Income and taxes from mineral development, timber harvesting, recreation, and livestock grazing would continue to add to the economic base of the area at the same or a slightly lower level than has occurred in the recent past. The mineral industry, particularly oil and gas, is subject to potentially increased costs for such things as mitigation measures. Mitigation requirements for hazardous materials management could potentially increase costs. This may force small producers from business, and production may not be recovered because of the market. This could result in a decrease in production and tax revenues to state and local governments, as well as a slight decrease in royalty revenues returned to the state.</td>
<td>Income and taxes from mineral development, timber harvesting, recreation, and livestock grazing would continue to add to the economic base of the area. The application of some of the mitigation measures could increase the costs to operators.</td>
<td>Accelerated timber harvesting would generate about the same revenues as the Proposed RMP but over a shorter period of time.</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td></td>
<td>In agriculture, there may be some fence construction or modification requiring labor contribution by the operator. It is unlikely that an agricultural operator would be forced from business or to change his operations.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management -- Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td><strong>SOCIOECONOMICS</strong> (continued)</td>
<td>The potential exists for counties to lose in lieu of tax revenues if BLM-administered public lands within the planning area are exchanged for lands in other parts of the state. This would be offset in whole or in part by tax revenues on the properties exchanged and held privately. In some counties the effect could be significant on a single parcel, but it is unlikely that a significant amount of public land in the NRA would be disposed.</td>
<td>Same as Proposed RMP.</td>
<td>In lieu of tax revenues would not be affected.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>SOILS</strong></td>
<td>Fire control measures such as fire lines remove vegetation and create drainageways which can concentrate overland flow increasing the velocity of runoff water and increasing soil erosion. Soil erosion could be mitigated by reseeding and water barrering, resulting in only short-term soil loss before fire lines are revegetated.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Prescribed burning of rangeland or slash in forest sale areas can cause localized short-term changes in the physical, chemical, and biological properties of the soil. Severity of the impact would depend on the fuel type, duration, and the intensity of the fire. Burning could decrease soil infiltration rates causing accelerated erosion and removal of some nutrients. Vegetation could be re-established in one to three years, resulting in only short-term soil loss, and no reduction in long-term productivity of the site.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td><strong>SOILS</strong> (continued)</td>
<td>Commercial timber harvesting causes soil disturbance resulting from road building, skidding, and yarding. Soil compaction from heavy equipment and vehicle traffic would reduce infiltration and permeability and reduce root growth. However, erosion would be minimized through the use of mitigating measures including ripping, water barring, reseeding, and closing roads and skid trails.</td>
<td>Same as Proposed RMP.</td>
<td>Accelerating the timber harvest to 460 acres per year would result in an additional 300 acres of soil disturbance per year, increasing the potential for erosion and a loss of soil productivity. About 97% of the total forest base (3,864 acres) has limited potential for forest management. These areas include steep slopes and rough terrain. This activity would result in a greater potential for erosion on the steep slopes. Shelterwood harvests and commercial thinnings would occur in these areas of limited potential.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>Effective grazing management,</strong> including rest during critical growing periods, would improve plant vigor and litter accumulation causing beneficial changes in organic matter content, soil structure, permeability, and productivity.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>Underground pipeline construction results in the mixing of soil materials. When less productive subsoil becomes mixed with the topsoil, overall reclamation potential of the topsoil is reduced. Through the application of standard stipulations, site-specific mitigation measures, and the use of routing alternatives, soil erosion could be minimized.</strong></td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
## Table 4-1
### Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management – Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOILS (continued)</strong></td>
<td>By locating utility/transportation systems adjacent to existing systems whenever possible, additional soil disturbance would be minimized or localized, and enhanced soil resource protection would result.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Two general areas are proposed for establishment of campsites (T. 56 N., R. 66 W., sections 5, 8, and T. 56 N., R. 67 W., section 1). This relatively large area (2 square miles) contains up to 20 different soil types. Nearly 50% of the soil types (series) in these areas have severe limitations for the development of campsites. Limitations include steep slopes, shallow depths to bedrock, high water tables, and potential flooding. Before campsites are developed a site-specific investigation should be conducted to avoid development on soils that exhibit the severe limitations mentioned above.</td>
<td>Since no campsites would be developed in the area, there would be no similar impacts.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>In the Meadow Draw Reservoir area were developed, impacts associated with increased user visits could include wildlife disturbance, littering, vandalism, and sedimentation and erosion from roads and parking facilities.</td>
<td>Same as Proposed RMP.</td>
<td>The effects would be less than the Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
</tbody>
</table>
Table 4-1  
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management – Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOILS (continued)</strong></td>
<td>Enhancing riparian zones would lead to more protective vegetation and greater streambank stability. The effect would be less bank sloughing and reduced headcutting which would decrease soil loss through these processes.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>VEGETATION RESOURCES</strong></td>
<td>Treatment of noxious weeds would reduce the population as well as control the spread of undesirable species to adjacent state and private lands. Noxious weeds can create a severe economic problem by crowding and out-competing desirable species for nutrients, water, and space. Currently, approximately 2.300 acres of public land in the planning area have noxious weed infestations (leafy spurge) severe enough to inhibit the growth of desirable plant species.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Using chemical treatments could result in damage to nontarget species as well as leave residues of chemicals in the soil. Sheep, goats, and species-specific insects would provide the necessary control while reducing the amount of herbicides used.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Temporary loss of vegetation could occur during logging on skid trails, roads, and landings. Reclaimed areas typically require treatment for the invasion of weeds for a short period after logging activity ends.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------</td>
<td>-------------------------------------------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td><strong>VEGETATION RESOURCES</strong></td>
<td>The proposed designation for the three identified species (table 3-19 in chapter 3) would provide protection of those species through inventory requirements and avoidance by mitigation measures on surface-disturbing activities on BLM-administered public lands. This may cause some disruptions or delays in approving the surface-disturbing activities as well as an additional expense to operators.</td>
<td>Management actions under this alternative could impact the sensitive plant species listed in table 3-19 in chapter 3 causing them to be considered for listing as threatened and endangered species.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>Special Status Plants Species</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VISUAL RESOURCES</strong></td>
<td>Designating visual resource management classes would provide management guidelines to control authorized actions that would occur in the planning area. These guidelines would ensure that scenic values in the area would be protected.</td>
<td>VRM classes would not be established in the planning area. This could allow actions to occur (i.e., wells, road development, utility systems, timber cutting, and fences) that could temporarily or permanently alter the visual character of the area.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td><strong>WATER RESOURCES</strong></td>
<td>Due to the small amount of activity on public land in the planning area, expected impacts to water quality would be slight.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 4-1
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER RESOURCES (continued)</td>
<td>Short-term increased erosion and sedimentation could be expected from forest management activities. The most significant of these would result from road construction. Through the use of standard surface-disturbance stipulations (for example, no road construction on slopes exceeding 25%) and site-specific mitigation, these impacts would be insignificant. Water yield and runoff from forest harvest areas (approximately 1,600 acres) may increase up to approximately 10% depending on size, orientation, and aspect of the harvest area. These increases would decline to preharvest levels over approximately 30 years as the stand becomes re-established. Because of the relative size of the harvest areas in comparison to the watersheds as a whole it is unlikely that these increases would be distinguishable offsite.</td>
<td>Same as Proposed RMP.</td>
<td>The types of impacts on forest resources would be the same as those under the Proposed RMP. However, since there would be two to three times as much land disturbed in the first 20 years, a commensurate increase in impacts could be expected, including a possible three-fold increase in water yield.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Implementation of grazing systems and allotment management plans (AMPs) would result in increased surface cover, reduced erosion, and improved water quality.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
**Table 4-1**  
**Summary of Impacts by Alternative**

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WATER RESOURCES</strong> (continued)</td>
<td>Range improvement water development projects cause concentration of livestock and wildlife that would result in localized areas of increased erosion and sedimentation. However, improved livestock and wildlife distribution would result in overall range improvement and a corresponding reduction in erosion and sedimentation on a pasture-wide basis.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Developing specific riparian management guidelines, and the subsequent implementation, would result in healthier riparian areas. Benefits to water resources as a result of improving riparian areas would include: reduced erosion and sedimentation; improved water quality (riparian zones act as filters that accumulate sediment and other pollutants); flood control (riparian areas tend to attenuate flood peaks); and, better flow duration (water stored in the alluvium associated with the riparian area during higher flows is slowly released during periods of lower flow or no flow).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Mining activities associated with the sale of sand, gravel, shale, bentonite, and limestone have the potential for increasing erosion and sedimentation due to surface disturbance. These impacts would be mitigated (but not eliminated) by applying site-specific mitigation measures.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
Table 4-1
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER RESOURCES (continued)</td>
<td>Surface disturbance associated with oil and gas exploration and development activities would result in increases in erosion and sedimentation and a reduction in water quality at specific sites. These impacts would be minimized by application of site-specific mitigation measures.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The effects of breaching a reserve pit are both chemical and physical. Chemical pollution could result from the direct contamination of water bodies and from contamination of the soil, which may release materials slowly over long periods. Physical degradation of water quality could result from destruction of vegetation, which causes increases in runoff and erosion and, consequently, increased sedimentation. These impacts could last for years until cleanup and reclamation are completed. These impacts would be minimized by application of site-specific mitigation measures (appendix E).</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Produced water is often high in dissolved solids (in some cases to the point of being classified as brine) and is often quite warm (40°C and higher is common). Discharge of this water to surface or groundwater (rejection) could cause degradation of the receiving water. Drilling activities would be regulated to mitigate these impacts.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
Table 4-1
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management – Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER RESOURCES (continued)</td>
<td>Oil and gas exploration and development activities (particularly shot hole seismic operations) have the potential of disrupting aquifers. If well bores and shot holes are not properly plugged, mixing of aquifers may occur. This mixing could result in degraded water quality in some aquifers and lower water tables in some areas. Drilling activities would be regulated to mitigate these impacts.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>While regulations and stipulations would minimize the impact of new wells, problems with older wells increase with time. Aging, improperly or inadequately plugged and abandoned wells could also result in aquifer commingling and a resultant degradation of the water quality in some formations.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Prescribed burning could result in short-term increases in erosion and sedimentation due to reduction in surface cover. As ground cover re-establishes, conditions would return to preburn levels and, if final ground cover is greater than preburn, erosion and sedimentation could be reduced below preburn levels.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Developing concentrated use sites (for example, primitive campsites) would result in decreased erosion and sedimentation and chemical and biological pollutants.</td>
<td>Since no campsites would be developed in the area, there would be increased erosion and sedimentation and chemical and biological pollutants.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
### Table 4-1
**Summary of Impacts by Alternative**

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management – Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER RESOURCES (continued)</td>
<td>If the Meadow Draw Reservoir area were developed, impacts associated with increased user visits could include wildlife disturbance, littering, vandalism, and sedimentation and erosion from roads and parking facilities.</td>
<td>Same as Proposed RMP.</td>
<td>The effects would be less than the Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Implementation of the proposed off-road vehicle designations would result in decreased surface disturbance and reduction of erosion and sedimentation.</td>
<td>Off-road vehicle use would result in more surface disturbance, erosion, and sedimentation than the Proposed RMP and Alternative B.</td>
<td>Surface disturbance, erosion, and sedimentation would be greater than under the Proposed RMP but less than Alternative A</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>WILDLIFE HABITAT</td>
<td>Limited control of prairie dogs would provide a prey source for a variety of species. Prairie dogs also keep the vegetative composition in close proximity to their towns in an earlier successional stage that is generally higher in forb content than later stages. Vegetation in prairie dog towns could change to a later seral stage after control or loss of prairie dogs which may be less desirable to other wildlife species. Prairie dogs, and the plant, animal, and insect habitat they provide, contribute to the natural diversity of species in an ecosystem. Limited control would ensure the contribution to biodiversity these species make on the BLM-administered public lands.</td>
<td>Compared to the Proposed RMP, the effects under this alternative would be less. Biodiversity of the area would be altered by removing most of the prairie dogs as a component of the ecosystem.</td>
<td>Reducing or eliminating towns or acreage of towns would reduce habitat and a food source for various species. Elimination or reduction of towns would remove or lessen the availability of vegetation with higher forb content. Since vegetation in prairie dog towns could change to a later seral stage after removal of prairie dogs, this could be less desirable to some species. Biodiversity of the area could be altered by reducing prairie dogs as a component of the ecosystem.</td>
<td>Same as Alternative B.</td>
</tr>
</tbody>
</table>
### Table 4-1
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management – Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILDLIFE HABITAT (continued)</td>
<td>Mitigating surface-disturbing activities on BLM-administered public land surface in crucial deer winter range (table 4-2; map 3-22; 9.080 acres) would allow the deer to use the area without undue harassment when their vulnerability is greatest and their ability to respond to stress is lowest. This would also remove the potential for habitat degradation. During mild winters when other winter habitat is available, requests for surface-disturbing activities could be approved by the authorized officer after confirming that the action would not have undue detrimental effects on wildlife.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>WILDLIFE HABITAT (continued)</td>
<td>The 1/4-mile or visual horizon buffer protecting significant segments of National Register eligible trails would have no effect on wildlife within that area.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------</td>
<td>------------------------------------------------</td>
<td>---------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td><strong>WILDLIFE HABITAT</strong> (continued)</td>
<td>Timber harvesting and thinning could occur in crucial winter range without adversely affecting the value of the habitat. Timber stand improvements would have a beneficial effect on habitat by opening dense stands and increasing forage and species diversity in the understory. Some desirable thermal or hiding cover for some species may be reduced or lost through harvest or thinning activities. Improvements in habitat would be realized by tailoring silvicultural practices to benefit wildlife (age classes, snags, old growth, and basal area) but could result in a lower volume of timber harvesting in an area or increased cost of harvest. Also, increased forage would be available for livestock after timber harvesting.</td>
<td>Same as Proposed RMP</td>
<td>Accelerated timber harvest levels would be detrimental to wildlife habitat values by reducing thermal and hiding cover. Harvesting at this level (approximately 460 acres per year) would take an extended time to recover to the point where habitat values returned to their optimum stage resulting in lowered use by forest-dependent species. Understory vegetation would increase resulting in increased diversity of species and an increase in available forage.</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Managing 5% of the forested areas for old growth would provide structural diversity and habitat for wildlife species that prefer old growth type habitats.</td>
<td>If the old growth forest component was not managed, this could result in a loss or reduction of this forest type. This would also remove habitat for species that depend on or prefer larger trees and associated understory vegetation.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td></td>
</tr>
</tbody>
</table>
### Table 4-1
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
</table>
| WILDLIFE HABITAT (continued) | The following benefits would be expected from implementation of grazing management plans and the associated construction of any proposed range improvements (water facilities and fencing):  
... Better distribution of wildlife resulting in increased population levels as more suitable habitat is occupied.  
... New water sources (reservoirs) would provide additional habitat for waterfowl (approximately 1.5 acres per year).  
Biodiversity, wetland, and riparian components would also be increased. | Same as Proposed RMP. | Same as Proposed RMP. | Same as Proposed RMP. |
<p>|                              | Prescribed fire would increase forage, site productivity, and improve wildlife habitat, watershed, riparian, and soil conditions. | Same as Proposed RMP. | Same as Proposed RMP. | Same as Proposed RMP. |
|                              | Movement of big game animals and stress levels would not be affected by fence locations in crucial big game winter ranges. | Same as Proposed RMP. | Fence construction in crucial big game winter ranges could restrict or impede movement of animals when their stress levels are high and energy reserves are low. | Same as Proposed RMP. |</p>
<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILDLIFE HABITAT (continued)</td>
<td>Modifying old fences and constructing new fences to current BLM fence standards would be sufficient to eliminate the problem of restricting wildlife movement. This could result in livestock permittees not being allowed to build fences on BLM-administered public surface that would be detrimental to wildlife.</td>
<td>Old fences could restrict wildlife movement and cause excessive stress levels.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Restricting access to reserve and overflow pits would reduce a hazard to wildlife species and domestic livestock attracted to a water source that may be contaminated with oil or toxic chemicals.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Public land boundary identification could result in increased recreational hunting pressure which could cause localized harvest to increase. This could place an undue amount of pressure on species inhabiting BLM-administered public surface. Identifying boundaries would also result in fewer complaints from hunters and landowners and provide a service to the public using public lands.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Consolidating public land through land tenure adjustment could make management more effective and could result in additional quality habitat.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
</tbody>
</table>
Table 4-1
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management – Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILDLIFE HABITAT (continued)</td>
<td>Implementation of riparian management guidelines would benefit wildlife, livestock, and the ecosystem as a whole through increased plant health and diversity, the presence of shade and water, stable water tables, water quality improvement, and development of highly productive soils.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>The proposed management for the Whoopup Canyon ACEC would protect wildlife habitat values through monitoring and protection of the site. Increased visitation or scientific study may result in disturbance to wildlife species inhabiting the area including nesting prairie falcons.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td></td>
<td>Limiting off-road vehicle use to existing roads and trails would reduce potential impacts including damage to vegetation, increased erosion, and disturbance to wildlife and livestock.</td>
<td>ORV use would damage vegetation, increase erosion, and disturb wildlife and livestock.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>SPECIAL MANAGEMENT AREAS</td>
<td>The Lance Creek Fossil Area National Natural Landmark (NNL) would not be designated an ACEC. Instead, the application of statewide guidelines on assessment and mitigation of damage to paleontological resources would be applied to surface-disturbing activities throughout the planning area. This would allow consistent management and protection wherever noteworthy fossils occur.</td>
<td>Same as Proposed RMP.</td>
<td>Same as Proposed RMP.</td>
<td>Designating BLM-administered federal surface within the Lance Creek Fossil Area as an ACEC would emphasize management of paleontological resources and encourage future research of the paleontological record present in the area.</td>
</tr>
</tbody>
</table>

Lance Creek Fossil Area
Table 4-1
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIAL MANAGEMENT AREAS (continued)</td>
<td>Developing trails in the proposed Stateline SRMA would respond to an increasing recreation demand in the Black Hills area. The SRMA designation would place this area in a category that would promote recreation as the primary use of the area. Increased visitation could be expected. This could result in vandalism, littering, disturbance to wildlife and livestock, damage to historic and prehistoric sites, conflicts with adjacent landowners and other resource users, and increased erosion from trail use and vehicle travel to trailheads. Information and interpretive signs would provide the public with knowledge of the natural resources present in the area.</td>
<td>The area in i. 43-46 N., R. 60 W., would be open to recreational use with no facilities, interpretative signs, or developments being constructed. No recreation trail designation would be made. This could result in indiscriminate use of the area causing impacts to soils, vegetation, wildlife, livestock, and conflicts with landowners. Educational opportunities would be foregone.</td>
<td>To construct two trails without interpretive signs or other developments would only meet a limited demand of the public users. Not having trash receptacles or parking areas established near the trailheads would lead to increased litter and trash in the area, and erosion and damage to vegetation would occur due to indiscriminate parking.</td>
<td>Same as Proposed RMP.</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management -- Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------</td>
<td>-------------------------------------------------</td>
<td>-----------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td><strong>SPECIAL MANAGEMENT AREAS</strong></td>
<td>Compared to Alternative A, visitor use impacts to the site would be negligible because the site would not be developed for unrestricted public visitation. Instead, the educational values of the site would be brought to the public through exhibits, presentations, other off-site means, and supervised guided tours. This would result in increased public awareness of the significance and sensitivity of the site and would also result in a significant reduction of site damage.</td>
<td>The petroglyph panels would be impacted by unrestricted visitor use, shooting, vandalism, and livestock rubbing the panels. Damage would include chalking, painting, shooting, defacing, scratching, and touching the panels. Vandalism would increase the rate of natural erosion of the petroglyphs. Increased surface disturbance, erosion, sedimentation, new roads, disturbance to wildlife, and damage to vegetation could occur with unrestricted visitation to the site. The archaeological deposits and surface artifacts would also be impacted. Unless protective measures were implemented, damage could be expected to increase because of greater public attention on the site.</td>
<td>Same as Proposed RMP.</td>
<td>Establishing day use facilities would increase visitor use and could have the potential for conflicts between resource users and adjacent landowners. This could increase the potential for damage to the rock art panels and associated cultural sites. Potential for escape of campfires could increase.</td>
</tr>
<tr>
<td><strong>Whoopup Canyon ACEC</strong></td>
<td>The site would be available for Native American religious and cultural use. This is fully consistent with the site protection required under the conservation use classification for the site.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
</tbody>
</table>
### Table 4-1
Summary of Impacts by Alternative

<table>
<thead>
<tr>
<th>Affected Land Use or Resource</th>
<th>Impacts Under the Proposed RMP</th>
<th>Impacts Under Current Management -- Alternative A</th>
<th>Impacts Under Alternative B</th>
<th>Impacts Under Alternative C</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIAL MANAGEMENT AREAS (continued)</td>
<td>Controlling grazing, timber cutting, right-of-way actions, and mineral exploration and development would minimize impacts to the site. These measures would have little or no affect on other resources.</td>
<td>Mining activities associated with locatable minerals could destroy or cause damage to rock art panels and associated sites. Increase erosion due to surface disturbance, and increase potential for vandalism. Construction of rights-of-way could impact rock art panels and associated sites. Timber harvesting activities (such as felling, skidding, yarding, and hauling) or removal of vegetative materials would impact cultural resources.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Whoopup Canyon ACEC (continued)</td>
<td>Interested publics would be able to view the site only under BLM supervision. Legal access for management and administrative purposes only would minimize the effects of unrestricted visitor use.</td>
<td>There would be no public access to the site although access would be permitted courtesy of surrounding private landowners. Unauthorized use of the BLM administered public surface could occur since the BLM does not control access to the site.</td>
<td>Same as Alternative A</td>
<td>Gaining legal public access would result in unrestricted visitor use of the site</td>
</tr>
<tr>
<td>Exchanging lands to acquire important private lands in the area would bring sensitive petroglyph panels and associated archeological sites into federal ownership. Management of the site would be easier and more efficient.</td>
<td>Same as Proposed RMP</td>
<td>The area being a combination of private and public landowners would make it difficult to manage effectively.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Limiting vehicle use to administrative purposes only would eliminate unnecessary degradation of the area</td>
<td>Limiting vehicle use to existing roads and trails would not adequately prevent vegetative damage and erosion in the area.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Affected Land Use or Resource</td>
<td>Impacts Under the Proposed RMP</td>
<td>Impacts Under Current Management – Alternative A</td>
<td>Impacts Under Alternative B</td>
<td>Impacts Under Alternative C</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>---------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>SPECIAL MANAGEMENT AREAS (continued)</td>
<td>Under the VRM Class II designation, the visual integrity of the site would be maintained.</td>
<td>The visual integrity of the site would not be maintained.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
<tr>
<td>Whropup Canyon 4CEC (continued)</td>
<td>Management of fuels and control of fire would minimize potential fire and smoke damage to rock art panels.</td>
<td>The integrity of the petroglyphs could be affected by fire and smoke from fires.</td>
<td>Same as Proposed RMP</td>
<td>Same as Proposed RMP</td>
</tr>
</tbody>
</table>
CHAPTER 5
CONSULTATION AND COORDINATION

INTRODUCTION
The final EIS for the Proposed RMP was prepared by an interdisciplin ary team of specialists from the BLM’s Newcastle and Casper Field offices and the Wyoming State Office. Field and state office staffs also provided in-depth reviews for accuracy and consistency.

Preparation of the document began in 1989. Much of the research and inventory that produced data used in preparation of the various sections of the document and for analysis of actions was completed prior to the start of the planning process. Due to budget constraints the development of the draft EIS was postponed during fiscal year 1990 and resumed in fiscal year 1991.

Consultation, coordination, and public involvement on both draft documents have occurred throughout the planning process through scoping meetings, individual contacts, informal consultations, newspaper releases, and Federal Register notices. Documents contained in appendix M of the draft RMP EIS have not been reprinted in this document: however, new documents (for example, press releases) issued since April 8, 1997, have been reproduced in this final EIS.

PUBLIC PARTICIPATION
On April 24, 1998, the Environmental Protection Agency’s Notice ofAvailability, announcing the availability of the second draft RMPwas published in the Federal Register. By this notice, the 90-day comment period on the second draft RMP EIS began.

On April 27, 1998, we issued a press release to 58 media contacts and elected representatives informing them that the second draft RMP EIS was available for public review and comment.

On May 4, 1998, the BLM’s Notice of Availability, announcing the availability of the second draft RMP EIS was published in the Federal Register.

On May 13, 1998, we issued a press release to 58 media contacts and elected representatives announcing three open houses/public meetings scheduled in Crook, Weston, and Nogoborad counties June 8, 9, and 11, respectively, in order for the public to discuss and submit formal comments on the plan.

On June 3, 1998, we issued a press release similar to that above to the same 58 contacts reminding everyone of the open houses June 8, 9, and 11.

On June 5, 1998, we issued a press release to 58 media contacts and elected representatives announcing that the June 9 meeting to be held at the BLM’s Newcastle office was changed to the First Security Bank building because of construction in the office.

On June 8, 9 and 11, 1998, we held open houses and public meetings in Sundance, Newcastle, and Lance Creek, respectively. The minutes from those meetings have been reproduced in this document with corresponding responses, where necessary.

On July 9, 1998, the BLM conducted a bus tour of the Lance Creek area. This tour was attended by people representing various state and county agencies, a special interest group, a Congressional representative, and two newspaper reporters. The purpose of the tour was to physically show public accessibility to BLM administered public lands in the Lance Creek Area. BLM’s paleontologist identified potential areas along the route where paleontology resources could occur.

CONSISTENCY
Requirements pertaining to consistency between BLM resource management plans and other planning efforts are described in federal regulations:

... resource management plans ... shall be consistent with officially approved or adopted resource related plans, and the policies and programs contained therein, of other Federal agencies. State and local governments and Indian tribes, so long as the resource management plans are also consistent with the purposes, policies and programs of the Federal laws and regulations applicable to public lands, including Federal and State pollution control laws as implemented by applicable Federal and State air, water, and other pollution standards or implementation plans. (43 CFR 1610.3.2)

Coordination with other agencies and consistency with their plans has been accomplished through continuous communication and cooperative efforts between us and involved federal, state, and local agencies and organizations.

The Wyoming Governor’s Cleaning House was supplied with copies of this final EIS for review by state agencies to ensure consistency with the state’s ongoing plans. The state planning coordinator was notified of the state of development of the draft EIS and comments were received from several state agencies. Wyoming state government was also consulted during development of the second draft EIS.
CONSULTATION AND COORDINATION

The RMP team contacted county commissioners in Crook, Weston, and Natrona counties to inform them of the development of the final EIS. Officials of the Black Hills National Forest, Thunder Basin National Grassland, and Devils Tower National Monument have been contacted and planning procedures coordinated with their ongoing plans and programs. All incorporated municipalities in the three counties have been contacted to inform them of the development of the plan. BLM offices in Buffalo and Mills, Wyoming, as well as Montana and South Dakota were also contacted to coordinate with their planning efforts since they adjoin the Newcastle planning area.

AGENCIES AND ORGANIZATIONS CONTACTED

Members of the planning team contacted numerous agencies and elected officials during development of the draft and final EIS documents. The following list is representative of the agencies and offices that indicated an interest in the Newcastle RMP and those that have been contacted during the planning process. This list is not inclusive; a complete list is on file at the Newcastle Field Office.

Federal Elected Officials
Office of Representative Barbara Cubin
Office of Senator Mike Enzi
Office of Senator Craig Thomas

State of Wyoming
Association of Conservation Districts
Board of Agriculture
Department of Agriculture
Department of Commerce
Department of Energy
Department of Transportation
Farm Bureau Federation
Game and Fish Department
Geological Survey
Office of Federal Land Policy
Office of the Governor of Wyoming
Oil and Gas Conservation Commission
State Engineer's Office
State Historic Preservation Office
State Inspector of Mines

Local Government
Chambers of Commerce – Lusk, Marlville, Newcastle
Conservation Districts – Devils Tower, Horse Creek, Natrona County
County Commissioners – Crook, Natrona, Weston
Mays – Lusk, Newcastle, Marlville, Glendo, Sundance
Wright – Pine Haven
Natrona County Resources Association
Tribal Governments and Native American Leaders

DISTRIBUTION

In addition to the agencies and offices listed above, notices, requests for comments, and copies of this document have been sent to businesses, organizations, interest groups, and individuals. Copies are available for review at the BLM offices in Casper, Cheyenne, and Newcastle and at the libraries of Crook, Natrona, and Weston counties, among others.

The mailing list for this document is also available for review at the Newcastle Field Office.

PREPARERS OF THE DOCUMENT

ABBREVIATIONS: CFO – Casper Field Office (formerly Casper District Office); FOM – Field Office Manager; FDM – District Field Manager; FDMF – Field Office Manager; NFO – Newcastle Field Office (formerly Newcastle Resource Area); PDE – Planning and Environmental Coordination; PRRA – former Platte River Resource Area; WSO – Wyoming State Office.

Federal Elected Officials
Office of Representative Barbara Cubin
Office of Senator Mike Enzi
Office of Senator Craig Thomas

State of Wyoming
Association of Conservation Districts
Board of Agriculture
Department of Agriculture
Department of Commerce
Department of Energy
Department of Transportation
Farm Bureau Federation
Game and Fish Department
Geological Survey
Office of Federal Land Policy
Office of the Governor of Wyoming
Oil and Gas Conservation Commission
State Engineer's Office
State Historic Preservation Office
State Inspector of Mines

Local Government
Chambers of Commerce – Lusk, Marlville, Newcastle
Conservation Districts – Devils Tower, Horse Creek, Natrona County
County Commissioners – Crook, Natrona, Weston
Mays – Lusk, Newcastle, Marlville, Glendo, Sundance
Wright – Pine Haven
Natrona County Resources Association
Tribal Governments and Native American Leaders

CONSULTATION AND COORDINATION

Name | Title and Office | Responsibility
--- | --- | ---
Management Team
Gary Johnson | Former Field Office Manager, NFO | Review and approval
Jim Murrin | Field Office Manager, CFO | Review and approval
Assistant FOMs, Administration | Lands and Renewable Resources, Minerals, and Operations, CFO | Minerals, plan development, technical coordination, land management
Core Team
Jack Hanson | Supervisory Petroleum Engineer, Town Leader, NFO | Document format and organization, editorial management
Patricia Hiller | Writer-Editor, CFO | Legal notices, environmental planning process, plan development, budget, technical coordination
Glen Nebeke | P&E, CFO | Legal notices, environmental planning process, plan development, budget, technical coordination
Shelly Peele | Land Law Examiner, Fluid Minerals, NFO | Legal notices, environmental planning process, plan development, budget, technical coordination
Interdisciplinary Team
Mike Brogan | Hydrologist, CFO | Hydrology, water quality
Laurie Bryant | Former Paleontologist, CFO | Paleontology resources
Bill Carson | Realty Specialist, NFO | Lands and realty
Fred Crockett | Geologist, CFO | Fluid minerals, geologic hazards
Sharon Dries | Former Geologist, NFO | Solid minerals, word processing
Kane Hilt | Staff Assistant, NFO | Fire management
Jim Johnson | Fire Management Specialist, CFO | Wildlife habitat, TSE plants and animals, QRV, VRM recreation
Gary Lieback | Former Team Leader, NFO | Planning and Environmental Coordination, Wildlife Biologist
Kathy Lehman | Range Management Specialist, NFO | Range management
Bill McNally | Former Economist, CFO | Socioeconomic conditions
Terry Matchett | Former Access Specialist, CFO | Access
Joe Meyer | Soil Scientist, CFO | Soils
Kate Padilla | Former Public Affairs Specialist, CFO | Public participation
Don Peterson | Former Range Conservationist, NFO | Range management, vegetation
Mike Riggleman | Forester, NFO | Forestry
Leslie Thress | Former Geologist, CFO | Geology, solid minerals, paleontology
Alice Tratabes | Archeologist, NFO | Cultural resources
Support Staff, CFO and NFO
Larry Apple | Former Wildlife Biologist, CFO | Wildlife habitat
Jude Canno | Former Archeologist, CFO | Cultural resources
Bruce Daughton | Former Range Conservationist, CFO | Range management
### CONSULTATION AND COORDINATION

<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Office</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom Durst</td>
<td>Geologist. CFO</td>
<td>Solid minerals</td>
</tr>
<tr>
<td>Willie Fitzgerald</td>
<td>Wildlife Biologist. PRRA</td>
<td>Wildlife habitat</td>
</tr>
<tr>
<td>Pat Moore</td>
<td>Former Realty Specialist. CFO</td>
<td>Lands and realty</td>
</tr>
<tr>
<td>George Ruebelmann</td>
<td>Former Archeologist. CFO</td>
<td>Cultural resources</td>
</tr>
<tr>
<td>Stephen Salzman</td>
<td>Former Petroleum Engineer. CFO</td>
<td>Fluid minerals</td>
</tr>
<tr>
<td>George Schoenfield</td>
<td>Former Natural Resource Specialist. NFO</td>
<td>Surface protection: reclamation,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>weed control</td>
</tr>
</tbody>
</table>

### CONSULTATION AND COORDINATION

#### COORDINATION, SUPPORT, AND REVIEW

Coordination, support, and review were provided by the divisions of Lands and Renewable Resources, Operations, Minerals, and Administration. Casper Field Office, and the divisions of Minerals, Lands and Renewable Resources, and Operations of the Wyoming State Office, BLM. The Division of Administration, Branch of Administrative Services, was responsible for typesetting and printing arrangements.

#### COMMENTS AND RESPONSES

##### Introduction

We appreciate the time and effort everyone made in reviewing and preparing comments on the final EIS for the Proposed RMP. Both the written comments and the oral comments presented at various meetings were useful in deciding what needed to be modified or changed to prepare the final EIS for the Proposed RMP. All comment letters were reviewed by both BLM managers and staff members. Table 5-1 contains an index of comment letters and hearing testimonies from public meetings held on the Newcastle draft EIS for the Proposed RMP.

Responses were written to comments if the comment related to inadequacies or inaccuracies in the analysis, methodologies used, or if they identified new impacts or recommended reasonable alternatives or mitigation measures. Although responses were not written for every comment each one was taken into consideration during the process of completing the final EIS for the Proposed RMP.

There are five major sections in this chapter:

(a) Comments received via e-mail. Where the letters were identical, only names and addresses appear after the letter. Where letters varied by a sentence or two, the entire letter has been reproduced. One response was given for all e-mail letters.

(b) Form letters received in the mail. Since the letters were identical, only names and addresses appear after the letter. Handwritten comments on the form letter were reproduced adjacent to the commenter’s name.

(c) Form ‘green cards’ received in the mail. Since these comment cards are identical, only names and addresses appear after the card. Handwritten comments on the card were reproduced adjacent to the commenter’s name.

(d) Telephone conversations, and letters received in the mail, commenting on the revised draft RMP EIS and our responses to those comments.

(e) Transcripts from Crook, Weston, and Niobrara County public hearings.

#### TABLE 5-1 INDEX OF COMMENTS ON THE SECOND DRAFT EIS

<table>
<thead>
<tr>
<th>Comments Received by E-mail</th>
<th>Form Letters Received in the Mail</th>
<th>Form ‘Green Cards’ Received in the Mail</th>
<th>Cartherton Conversation</th>
<th>Christinson Conversation</th>
<th>Heumier Conversation</th>
<th>Crook County Land Use Planning and Zoning Commission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter 2</td>
<td>Crook County Land Use Planning and Zoning Commission (July 15, 1998)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter 3</td>
<td>Crook County Land Use Planning and Zoning Commission (July 17, 1993)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter 4</td>
<td>Hutchins. Sandra L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter 5</td>
<td>Nibora County Commissioners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter 6</td>
<td>Nibora Resources Association</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter 7</td>
<td>Reed Ranch—Jeff and Danese Reed Danes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter 8</td>
<td>Sierra Chib</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter 9</td>
<td>Swanson. John R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter 10</td>
<td>Town of Hulett (July 15, 1998)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter 11</td>
<td>Town of Hulett (July 16, 1998)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CONSIDERATION AND COORDINATION

Dear Mr. Johnson,

I would like to express my concern over the Bureau of Land Management’s decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. Lance Creek’s fossil resources are known throughout the world as an important source for study and enlightenment of Mesozoic paleontology and need special management protection. Please accept my recommendation that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Regards,

Michael Arnold 100 Allen Drive San Bruno, CA 94066
Kenneth Baccus PO Box 43 Arvada, CO 80001
Karen Blenc 2618 Rochester Rd. Apt. R4 Royal Oak, MI 48073
Donald J. Cramer 133 Nymphenburgerstr Munich, GE 89636 Cathryn Cutler 489 Carowood Lane Atlanta, GA 30342
Daniele M. Davies 6321 Peddington Land Centreville, VA 20120 Michele Dotson PO Box 346 Benton, KY 40205
Julie A. Dull 608 Willowgate Street Mountain View, CA 94043
Timothy Dunbar 250 Hermer Road. No. 510 San Antonio, TX 78232
Richard A. Emory PO Box 684 Farndale, WA 98248
Scott Ferguson 4323 1 Avent Ferry Road Raleigh, NC 27606
Stephen Fick 1235 Shannon County Dr. St. Louis, MO 63125
Brad Flowers 235 Littleton. Apt. 1 West Lafayette, IN 47906
Audra Friend 2969 Mattern Avenue Pittsburgh, PA 15216
Todd M. Friez 590 Glenwood Way Butler, PA 16001
Liz Gensheimer PO Box 796005 Dallas, TX 75379-6005
Jay Gocel PO Box 862 Emhurst, IL 60126
James Gregory 5157 Patriot Drive Stone Mountain, GA 30087
Kevin Hall 11134 NE 3rd Place Bellevue, WA 98008
Scott Harber 3871 Manor Street Philadelphia, PA 19128

Comments Received by E-mail

Dear Mr. Johnson,

I would like to express my concern over the Bureau of Land Management’s decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. Lance Creek’s fossil resources are known throughout the world as an important source for study and enlightenment of Mesozoic paleontology and need special management protection. Please accept my recommendation that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Regards,

Michael Arnold 100 Allen Drive San Bruno, CA 94066
Kenneth Baccus PO Box 43 Arvada, CO 80001
Karen Blenc 2618 Rochester Rd. Apt. R4 Royal Oak, MI 48073
Donald J. Cramer 133 Nymphenburgerstr Munich, GE 89636 Cathryn Cutler 489 Carowood Lane Atlanta, GA 30342
Daniele M. Davies 6321 Peddington Land Centreville, VA 20120 Michele Dotson PO Box 346 Benton, KY 40205
Julie A. Dull 608 Willowgate Street Mountain View, CA 94043
Timothy Dunbar 250 Hermer Road. No. 510 San Antonio, TX 78232
Richard A. Emory PO Box 684 Farndale, WA 98248
Scott Ferguson 4323 1 Avent Ferry Road Raleigh, NC 27606
Stephen Fick 1235 Shannon County Dr. St. Louis, MO 63125
Brad Flowers 235 Littleton. Apt. 1 West Lafayette, IN 47906
Audra Friend 2969 Mattern Avenue Pittsburgh, PA 15216
Todd M. Friez 590 Glenwood Way Butler, PA 16001
Liz Gensheimer PO Box 796005 Dallas, TX 75379-6005
Jay Gocel PO Box 862 Emhurst, IL 60126
James Gregory 5157 Patriot Drive Stone Mountain, GA 30087
Kevin Hall 11134 NE 3rd Place Bellevue, WA 98008
Scott Harber 3871 Manor Street Philadelphia, PA 19128

CONSIDERATION AND COORDINATION

Skip Harris 3309 Seymour Road Wichita Falls, TX 76309
Eugene M. Herman 10717 South La Porte Ave. Oak Lawn, IL 60453-5410
Maria Hoehn 1552 Timber Creek Drive San Jose, CA 95153
Kenneth E. Hyde 9 Hillsboro Road Clarksville, TN 37042
Patrick D. Kirby 1552 Timber Creek Drive San Jose, CA 95131
Christopher Kost 506 Citadel Drive Davis, CA 95616
Michelle Lods 1255 Barker Drive East Mobile, AL 36608
Audrey Longhurst 964 Savannah Falls Drive Weston, FL 33327
Jeff McGraw 1465 Evergreen Point Road Bellevue, WA 98804
Kim Miller 801 NE Ridgeview Drive Lee’s Summit, MO 64068
Melissa Miller 3909 Bon Aire Monroe, LA 71203
Rob Miller 110 South Kennicott Arlington Heights, IL 60005
April Neimann 174 New Road Montague, NJ 08727
Kieu Nguyen 3382 Vincent Drive Santa Clara, CA 95051
David Nye 307 East 44th Street.#1110 New York, NY 10017
Steven Opitz 119 South Vermont Fullerton, CA 92833-2923
Andrew and Pat Panelli 12051 Mackinac Lockport, IL 60441
Jaslyn M. Pasquarelli 321 Seneca Avenue Middlesex, NJ 08846
Philip J. Peluso 55 Prospect Place Belleview, NJ 07109
J. Kelley Pope 501 Riverfront Drive Bullehead City, AZ 86442
Aruna Reifman 1771 First Avenue. No. 4 New York, NY 10128
Kim Remninger 1140 Commonwealth Blvd. Reading, PA 19607
Tius S. Seifhner N207 Park Drive New Auburn. WI 54757
Ray Simmons 449 Mountain Meadows Rd Boulder. CO 80302
Daniel Snyder Berkley, CA
Lorraine Stanton 157 Rutledge Avenue Concord. NC 28805
Dr. N. Sukumar Chemistry Department. Marquette University Milwaukee. WI 53201-1881
Michael A. Temple PO Box 321 Holland. OH 43528
Teresa Tucker 2346 Garnett Street Arcata, CA 95521
Lanissa Ulutas 316 Preston Lake Drive Tucker. GA 30084
Albert Verbyla PO Box 585 Lenor. NC 28645
Michael Wagner 4046 East 130th Way Thornton. CO 80241
Chelsea Watson 206 Hart Drive Pittsburgh, PA 15235
Dana Westmoreland 547 33rd Street. No. B Oakland. CA 94605
Erin Nicole Wilson NJ
CONSULTATION AND COORDINATION

Dear Mr. Johnson,

I would like to express my concern over the Bureau of Land Management’s decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek’s fossil resources are known throughout the world as an important source for study and enlightenment in areas of Mesozoic paleontology and need special management protection. Please accept my recommendation that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Sincerely,

Gwen Ackley

CONSULTATION AND COORDINATION

Dear Mr. Johnson,

I want to express my deep concern over the Bureau of Land Management’s decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. Lance Creek’s fossil resources are of world renown and need special management protection. I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Time and again it can be proven that the long-term benefits of tourism will outweigh the short-term gains for a few at the expense of the public. Please reconsider your decision.

Sincerely,

Wayne Kirol

CONSULTATION AND COORDINATION

an Area of Critical Environmental Concern so that these fossil resources can be adequately protected. As an archaeologist and as a caver, I see the sickness results of looting all too often. Please re-think your stand on this issue and save this valuable resource for our children and their children to come.

Sincerely,

Donna Knob Cobb

CONSULTATION AND COORDINATION

Dear Mr. Johnson,

I want to express my deep concern over the Bureau of Land Management’s decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

I was told to learn about the Bureau of Land Management’s decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. My purpose in writing is to express my concern for the preservation of fossil resources. Lance Creek is particular, on behalf of myself and my 10-year-old son, who has a keen interest in studying fossils.

I won’t you please recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Sincerely,

LaDonna M. Kraft

CONSULTATION AND COORDINATION

Dear Mr. Johnson,

I want to express my deep concern over the Bureau of Land Management’s decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek’s fossil resources are of world renown and need special management protection. Such fossil resources are unique, and the destruction of the beds will be irreversible. I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Sincerely,

W. Michael McShan, Ph.D.

CONSULTATION AND COORDINATION

Dear Mr. Johnson,

I want to express my deep concern over the Bureau of Land Management’s decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Fossils are an important pre-historic resource and should be protected not only from development, but from those wishing to loss and sell these precious remains. Fossil theft is rampant in our country and cannot be stopped unless the level of awareness is raised.

Lance Creek’s fossil resources are of world renown and need special management protection. I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek as an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Sincerely,

W. Michael McShan, Ph.D.

CONSULTATION AND COORDINATION

Dear Mr. Johnson,

I want to express my deep concern over the Bureau of Land Management’s decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Fossils are an important pre-historic resource and should be protected not only from development, but from those wishing to loss and sell these precious remains. Fossil theft is rampant in our country and cannot be stopped unless the level of awareness is raised.

Lance Creek’s fossil resources are of world renown and need special management protection. I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek as an Area of Critical Environmental Concern so that these fossil resources can be adequately protected.

Sincerely,

W. Michael McShan, Ph.D.
Sequence databases for Streptococcus pyogenes, Neisseria gonorrhoeae, and other genomes are available at the University of Oklahoma's Advanced Center for Genome Technology: http://www.genome.ou.edu.

Dear Mr. Johnson,

I want to express my deep concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation.

Lance Creek's fossil resources are of world renown and need special management protection. I recommend that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected as an important link to our history and an area worthy of study.

Sincerely,

Dusty Miller 11515 Hauser Overland Park, KS 66210
dusty@isound.net

Mr. Johnson,

I want to express my concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. I am a student at Appalachian State University, and I found out about this fateful outcome from the Sierra Club. I am disturbed especially because of my recent education in the field of geology. I realized this past year how amazing the history of the earth is and how insignificant humans really are to the whole scheme of things.

If Lance Creek is a sight of the largest collection of Mesozoic fossils on the world, then we have no choice but to preserve them so that we might know more about the earth and its past. Please suggest that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental concern so the fossils can be adequately preserved. Thank you.

Sincerely,

Susan Mortenson

-----

Dear BLM Representative,

I want to express my deep concern over the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. Lance Creek needs special management protection and should be designated an ACEC so that its fossil resources are protected.

Sincerely,

Tammi J. Parsons 6986 County Road 8 NE Kandyhols, MN 56251
tammi@crazys.com

Dear Mr. Johnson,

I would like to take an opportunity to express my concern about the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. These natural resources for education are renowned and need special protection. It is my recommendation that the Bureau of Land Management reconsider its decision and designate Lance Creek an Area of Critical Environmental Concern so that these fossil resources can be adequately protected as an important link to our history and an area worthy of study.

Sincerely,

Dennis R. Troy 435 Koser Avenue Iowa City, IA 52246
dennis@iowu.edu

4644 South Woodlake Lane Conyers GA 30013 May 21, 1998

Dear Sir,

I am currently 15 years old and in the tenth grade. I have future ambitions of becoming a paleontologist, but this supports me greatly to learn that I may never have the chance to visit the Lance Creek Fossil Beds. Please designate this site an Area of Critical Environmental Concern so it will be protected from gas and oil development.

Sincerely yours,

Dana Marie Van Ord

Response to the Above Letter

Thank you for your comments. The Lance Creek area has indeed produced important fossils and continues to do so. But the first horned dinosaurs were collected in Montana in the 1850s. Nearly all the known vertebrate collections have been made from private, not public, lands. There is no indication that 'fossil theft' is occurring on public lands in the Lance Creek area. BLM policy now includes procedures for evaluating and protecting fossils wherever they occur on public lands and is not limited to special management areas. The limited acreage, access difficulties, and absence of known vertebrate fossil localities make the public lands in the Lance Creek area unsuitable as an ACEC.

-----

Form Letters Received in the Mail

Gary Johnson
Newcastle Area Manager
Bureau of Land Management
1101 Washington Blvd
Newcastle, WY 82701

Dear Mr. Johnson,

I want to express my deep concern over the Bureau of Land Management's decision to change its recommendation and not designate the Lance Creek Fossil Beds an Area of Critical Environmental Concern (ACEC). This area is well deserving of this designation and needs special management protection. I would like to urge you to reconsider your decision before the Newcastle Resource Management Plan is finalized.

Lance Creek is one of the United States' most important fossil beds. The area produced the first horned dinosaur fossils and the first Cretaceous mammal fossils found in North America. At least a dozen internationally important museums contain extensive fossil collections, from Lance Creek. Lance Creek contains some of the most highly fossilized deposits from the Mesozoic Age anywhere in the world. In 1973, the National Park Service recognized the importance of the Lance Creek area by designating the site a National Natural Landmark.

However, the National Natural Landmark is a designation which only recognizes the national importance of the area. It does not provide any protection. The BLM's method for protecting special...
areas like this is by using the ACEC designation. In fact, every National Natural Landmark located on BLM land in the Rocky Mountain region other than Lance Creek has been designated an ACEC.

Lance Creek is of particular need of special management protection because of the amount of fossil theft that has been occurring on our public lands. In addition gravel pits and other surface disturbances can destroy fossils.

The BLM realized the importance of Lance Creek in its draft management plan and recommended Lance Creek for ACEC designation. However, in the revised draft of the plan this recommendation was dropped. I, thus, urge you to reconsider your decision and designate Lance Creek an ACEC. Thank you.

Sincerely,

Unreadable
No. 6 Taxi Drive
Sheridan, WY 82801

Lauree Smith
732 Hinote
Sheridan, WY 82801

Lorenzo A. Durante
PO Box 6126
Sheridan, WY 82801

Kathryn H. Penney
343 Trigee
Casper, WY 82601

Tom Davis
2953 Hamilton Avenue
Casper, WY 82604

Jeanette Beebe
4523 Audubon
Bilings, MT 59106

Dan Colby
1101 Bretton Drive
Casper, WY

Mary W. Holm
6145 South Nebraska
Casper, WY 82609

George Rubeleman
1335 Leopard Street
Sheridan, WY 82801

L. S. McGurre
2052 W. Basin Court
Wheatland, WY 82201

Chelsea B. Kessselhem
20 Pheasant Run
Lander, WY 82520

Sandi Zier
867 Olympus Drive
Sheridan, WY 82801

Sheliy Santin
150 South Linden No. 2
Sheridan, WY 82801

Unreadable
4046 North Drive
Pl. Collins, CO 80524

Charles A. Eschelman
5311 Sagebrush Avenue
Cheyenne, WY 82009

Unreadable
460 West Loucks
Sheridan, WY 82801

Lori Logan
460 West Loucks
Sheridan, WY 82801

Leroy Burgis
230 Wind River
Casper, WY 82609

Unreadable
185 Madison
Lander, WY 82520

Premise Notice
3950 Eage Drive
Casper, WY 82604

Lorna M. Wilkes
1305 Leopard Street
Sheridan, WY 82801

Comment written on letter
Gary: I supported this when I was on the District staff and I support it now. Please reconsider. Greg

Vickie Goodwin
1906 Madora
Douglas, WY 82633

Unreadable
L&G Hall, Northwest College
231 West Six Street
Powell, WY 82433

A. Donn Kessselhem
20 Pheasant Run
Lander, WY 82520

Pamela I. Rankin
PO Box 3449
Jackson, WY 83001

Chuck Rhea
PO Box 8487
Jackson, WY 83002

Rita Lewis
PO Box 900, Becklacke
Cody, WY 82414

Ann M. Stephenson
880 North Fall Creek Road
Wilson, WY 83014

Robb Reuss
PO Box 2104
Jackson, WY 83001

Byra L. Carson
1304 Odell
Thermopolis, WY 82443

Scott Anya
8120 Lakona Drive
Anchorage, AK 99516

Mike Medberry
4632 First Avenue NE
Seattle, WA 98105

Unreadable
Box 1032
Jackson, WY 83001

Mary Lou Morrison
845 East Third
Casper, WY 82609

Karen Walfinsley
939 South Main Street
Sheridan, WY 82801

Bill Arthur
14821 Ashworth Ave. N.
Seattle, WA 98133

Leslie Peterson
PO Box 569
Wilson, WY 83014

Unreadable
1315 Hervey
Boise, ID 83705

Kevin R. Marsh
PO Box 345
Skykomish, WA 98288

Unreadable
PO Box 331
15 Catherine Street
LeMars, IA 51042

Jack Robins
139 Stonewall Road
Berkeley, CA 94705

Burt Koehler
Box 21106
Juneau, AK 99802

Mike F. Gierau
2097
Jackson, WY 83001

Steve Jones
PO Box 84
Jackson, WY 83001

Harry Locke
4304 17th Street SW
Calgary, AB, Canada

Comment written on letter: Please protect this beautiful area.

Comment written on letter: Please respond in writing to me about this request. Thanks!

Miles Mathews
2146 F Street
Cody, WY 82414

Rep. Wende Barker
Minority Whip, WY Leg.
954 McCue No. 177
Laramie, WY 82072-6732

Unreadable
PO Box 584
Lander, WY 82520

Betsy Dower
3930 Cynthia Drive
Casper, WY 82609

Comment written on letter: This is an incredible place! Please save it.

Jennifer Ferstenh
326 East Spruce
Missoula, MT 59802

John Leary
4679 Sunnprise
Seattle, WA 98103

Betsy Ganes
628 Fridley
Bozeman, MT 59615

Unreadable
5045 SW Downsview Court
Portland, OR 97221

Brian Unreadable?&
15619 SE 157th Street
Renton, WA 98058

Peter Rinakos
805 Silverwood Place
Redlands, CA 92373

Anne Mitchell
3349 NW Hancock
Portland, OR 97212

Larry Mikkoff
18 Taxi Drive
Sheridan, WY 82801

Ed Fox
PO Box 29241
San Francisco, CA 94129

Brad Coeigins
10329 Linda Avenue North
Seattle, WA 98133

Kenneth Gerten
23114 53rd Avenue SE
Bothell, WA 98021

Katherine Johnson
13820 84th Street NE
Lake Stevens, WA 98258
Dear Mr. Johnson,

I want to express my deep concern of the Bureau of Land Management's decision not to recommend the Lance Creek fossil beds for Area of Critical Environmental Concern designation. This area is well-known for its diverse fossil assemblages, including the famous Lance Formation dinosaurs. The decision seems to overlook the importance of this site for scientific research and public education.

The Lance Creek fossil beds are a vital resource for understanding the prehistoric environment and for teaching our children about the history of the Earth. I urge you to reconsider this decision and to ensure that these valuable resources are protected for future generations.

Sincerely,
[Your Name]
deserving of this designation and needs special management protection. The BLM needs to reconsider its decision regarding Lance Creek.

Jack Goldstein
11150 S. Hoback Jct. Rd.
Jackson, WY 83001

Jean T. Miller
General Delivery
Dayton, WY 82836

James Maxwell
PO Box 7374
Shoshone, WY 82081

Burgess
1407 Emerson
Sheridan, WY 82801

Dr. Hal Wedel
802 South 12th Street
Laramie, WY 82070-4630

Phyllis Dugan
408 Dana, PO Box 1017
Thayne, WY 83127

Edith Howard
2622 Central Avenue
Cheyenne, WY

Julene Barn
505 South Cedar
Laramie, WY 82072

Peter Rider
PO Box 225
Jackson, WY 83001

Red Velvet Swing
Old Time Photos
Robert K. Hargis
36 Just Broadway
PO Box 2826
Jackson Hole, WY 83001

Jazmyn McDonald
PO Box 1808
Lander, WY 82520

Elise M. Przyboh
PO Box 2852
Jackson, WY 83001

Comment written on card: This area needs to be protected from fossil theft and potential for coal, oil, gas, and gravel development. Why is it the only National Natural Landmark on BLM in the Rocky Mountain region that is not an ACEC?

Comment written on card: Lance Creek is a resource of world renown, and a National Natural Landmark. The latter needs to be upgraded for more protection.

Comment written on card: Dear Sir, Lance Creek must be designated an area of Critical Environmental Concern. The fossils must be protected at all costs. To let it do so would be foolish.

Comment written on card: Please help protect this area.

Comment written on card: Please tell me sir, how are (as a responsible gov't official) going to replace these fossil beds as they could be destroyed globally unless protection is given? Thanks.

Comment written on card: Please the special quality of WY. I believe that industry and ecology can work side by side - if the protective rules are in place.

Comment written on card: I feel that it is important to protect the fossil reserves and feel also that the concerns about this area on the part of many people is reasonable. Your influence will be appreciated.

Comment written on card: Please do revise your map to include these important public lands. They are a national treasure.

Comment written on card: These lands must be saved from distraction.

Comment written on card: In view of the shrinking habitat this area and its scientific importance deserves protection.

Comment written on card: As a weekend geologist, I am eager to see us [sic] all we can to preserve this area's special specimens.

Comment written on card: I wonder about your reason for withholding designation. Is there a compelling reason for this? Thank you.

Copyright 1985 by Interior Department

BLM Response: Thank you for your comments. The Lance Creek area has produced important fossils and continues to do so. BLM policy includes procedures for evaluating and protecting fossils wherever they occur on public lands and is not limited to just special management areas. The limited acreage, access difficulties, and absence of known vertebrate fossil localities make the public lands in the Lance Creek area unsuitable as an ACEC.

Responses to Conversations and Comment Letters

Introduction

All the comment letters we have received here in alphabetical order. Each letter is numbered, and comments within each letter are marked with lower-case letters. Corresponding BLM responses are adjacent to each letter. All original letters are on file at the National Field Office.

Response to Cartwright Conversation

a) Based on guidance from the Wyoming State office and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands in the area.

Response to Christinson Conversation

All land exchange proposals are evaluated when submitted. The number of actions that can be processed is limited by the budget funds allocated to the lands program. Because it is frequently inefficient to conduct small individual land exchanges, procedures for conducting assembly land exchanges have been developed. An assembled land exchange is an exchange where several different federal and or nonfederal parcels are combined together and exchanged in one or more transactions over time. Please see appendix B for more information on assembled land exchanges.

Response to Heumier Conversation

a) BLM policy allows for the noncommercial collection of invertebrates and plants in reasonable amounts.

Petriwod wood may also be collected in limited amounts. No permit or other notification of collection is required but none of these materials may be traded or sold. Vertebrate fossil collection is managed through permits that are issued only to qualified paleontologists. Fossils collected under these permits remain the property of the federal government and cannot be traded or sold. They must be kept in a museum or other institution for study, teaching, or display. BLM welcomes the participation of all parties interested in developing ideas for a special management area in the Lance Creek area.

Response to Crook County Land Use Planning and Zoning Commission

a) Placing a 'no surface occupancy stipulation on oil and gas leases within 3 miles of Devil's Tower National Monument would be a de facto withdrawal from oil and gas development. Because drilling depths to potential oil and gas producing horizons are only about 700 to 1,500 feet within 3 miles of the monument, directional drilling would be impractical in most cases. If directional drilling were practical, oil and gas impacts would be shifted from federal leases to state and private leases. The potential for oil and gas development within 3 miles of Devil's Tower is low, therefore, it is unlikely that any wells will be drilled in the foreseeable future.

b) Based on guidance from the Wyoming State office, and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands in the area.
Response to Letter 1
Thank you for your comments.
a) BLM welcomes the opportunity to work with anyone interested in identifying and establishing a special management area and or interpretive materials.

Response to Letter 2
Thank you for your comments.
a) Based on guidance from the Wyoming State Office, and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands in the area.

Response to Letter 3
Thank you for your comments.

Response to Letter 4
Thank you for your comments.
a) We do not have data to support the observation that plants are not as deep rooted in prairie dog towns nor that prairie dogs cannot control soils.

Response to Letter 5
Thank you for your comments.
a) Based on your comments, the data sources used in developing the tables you refer to on pages 98 and 99 of the draft document have been reexamined and revised accordingly.

Response to Letter 6
Thank you for your comments.
a) All land exchange proposals are evaluated when submitted. The number of actions that can be processed is limited by the budget funds allocated to the lands program. Because it is frequently infeasible to conduct small individual land exchanges, procedures for conducting assembled (consolidated) land exchanges have been developed. An assembled land exchange is an exchange where several different federal and or nonfederal parcels are combined and exchanged in one or more transactions over time.

b) The idea of a small special management area is one thing that could be explored by interested parties and the BLM. We welcome the opportunity to work on this.

c) Based on your comments, the data sources used in the draft EIS, the state statistician and the Nobrara County Assessor were contacted to gather what information they have regarding agriculture and the oil and gas industry within the planning area. The Wyoming Oil and Gas Conservation Commission was also contacted to find out what other sources might be applicable in determining the importance of oil and gas production to this area. Based on the findings of this effort, this final EIS was adjusted accordingly.

d) The areas referred to should be listed as potential threatened or endangered species habitat. These areas contain habitat characteristics required by species that are known to exist regionally or have historically existed in the area. Characteristics may include soil types, vegetation, occurrence of prey species in sufficient densities, among others.

Response to Letter 7
Thank you for your comments.
a) The areas referred to should be listed as potential threatened or endangered species habitat. These areas contain habitat characteristics required by species that are known to exist regionally or have historically existed in the area. Characteristics may include soil types, vegetation, occurrence of prey species in sufficient densities, among others.

b) The BLM did not specifically address weed control in the RMP. However, it is a fundamental part of healthy rangeland evaluations. Standard 4 mentions noxious weeds specifically as an indicator of whether or not the rangeland is capable of supporting a viable population of native species. Weeds are addressed as part of our monitoring program as well as the standards and guidelines evaluation.

Response to Letter 8
Thank you for your comments.
a) The resources mentioned are protected by lease notice BLM 1, which applies to all parcels, except FS parcels, offered for lease in the Nevada area. Specific conditions and restrictions are attached to approved ARDS. All the nonfederal lands shown on Map #1 are covered by lease notice BLM 1.

b) The wildlife-related areas indicated do not require a surface occupancy designation for adequate protection. It is the position of this office that existing stipulations as outlined in the document provide adequate protection.

c) The area referred to currently has limited motorized vehicle access. We do not feel additional restrictions on the limited access to this area would improve the quality of the hunting experience available to the general public.

d) We agree with the need for additional boundary marking. However, the area is currently available for foot travel, and we do not feel that demand at this time warrants constructing or establishing trails in this area.

e) Our current standard refers to existing roads and trails. This is interpreted to mean existing at the time the record of decision for this document is signed.

f) Please refer to chapter 4, table 4-1 under Geology, the "oil and gas" section.

Response to Letter 9
Thank you for your comments.
a) As mandated in FLPPA lands in the Newcastle area are managed for multiple use which includes the species you mention, as well as others. In the case of special status species, habitat is managed according to provisions of the Endangered Species Act of 1973 and BLM manuals, among others.

b) All lands in the Newcastle area have been evaluated for wilderness status, and no lands were found to meet the criteria.

c) As discussed in appendix C, lands along the river were waterways and were evaluated for their potential to be considered for inclusion in the wild and scenic rivers system. Some BLM-administered public lands parcels along eight waterways in the review area were found to meet the wild and scenic rivers eligibility criteria. However, these BLM-administered public lands were not found to meet the wild and scenic rivers suitability factors and were dropped from further consideration.

Response to Letter 10
Thank you for your comments.
a) Based on guidance from the Wyoming State Office, and for the reasons given in this document, a Class II designation is most appropriate for public lands in the area.
Response to Letter 11

Thank you for your comments.

a) Based on guidance from the Wyoming State office, and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands in the area.

Response to Letter 12

Thank you for your comments. (Note: The enclosure referred to in this letter is on file at the Newcastle Field Office.)

1) In this final EIS, we have made that change in chapter 1, under "Issue D: Control of Prairie Dogs on BLM-Administrated Public Lands.

2) Since there was a concern and an issue regarding control of prairie dogs, we are required to address it in the planning effort. We agree that a request for prairie dog control would require preparation of a separate NEPA analysis which calls for coordination with the grazing lessee and other interested parties, in addition to your agency, before any control could actually occur.

3) If wild animal attacks to humans were to occur on BLM-administered public lands, these attacks would be reported to the Wyoming Game and Fish Department.

4) Prairie dog towns are considered wildlife habitat. Predator control activity may not have any effect on wildlife habitat. However, prairie dog control could be habitat manipulation modification for certain animals that rely on them for food (for example, black-tailed ferrets, eagles, and hawks). Therefore, this discussion is appropriate. We intend to follow existing laws and procedures in addressing the need for prairie dog control. One of the criteria for approving a prairie dog control action is that unacceptable resource damage is occurring. These actions would be considered on a case-by-case basis.

We agree with your comment that the second longevity paragraph is inappropriate in the "Wildlife Habitat Management Section," and predator control is probably not habitat management per se. The need for animal damage control is typically identified by the livestock operator. Therefore, if discussed, this matter would be better discussed in the "Livestock Grazing Management Section." Existing animal damage control and local memoranda of understanding and animal damage control plans address the process and would apply.

Response to Letter 13

Thank you for your comments.

a) We agree and have deleted "Wasatch."

b) The Act of March 3, 1891, better known as the 1891 Mining Law, defines placer claims as "including all forms of deposits excepting veins of quartz, or other rock in place." In other words, every deposit, not located with a lode claim, should be documented by a placer location (Malley 1996).

1) This is a "generic" document: it is not a site-specific geologic report.

2) The first sentence under "Bentonite" reads, "In the planning area, bentonite mining areas, the northern BLM Hills, or Colony Mining District, and the Clay Butte Mining District.

3) These changes have been made.

4) You can find this acronym in the "Abbreviations" list at the front of the revised draft document as well as this document.

5) The BLM does not promote development of any minerals.

6) We have made a reference here to Map 3-5 in this document.

7) This is a "generic" document: it is not a site-specific geologic report.

8) These changes have been made.

9) This is a "generic" document: it is not a site-specific geologic report.

10) This is a "generic" document: it is not a site-specific geologic report.

11) These changes have been made.

12) This is a "generic" document: it is not a site-specific geologic report.

13) These changes have been made.

14) This is a "generic" document: it is not a site-specific geologic report.

15) These changes have been made.

16) This is a "generic" document: it is not a site-specific geologic report.

17) These changes have been made.

18) This is a "generic" document: it is not a site-specific geologic report.

19) These changes have been made.

20) This is a "generic" document: it is not a site-specific geologic report.

21) These changes have been made.

22) This is a "generic" document: it is not a site-specific geologic report.

23) These changes have been made.

24) This is a "generic" document: it is not a site-specific geologic report.

25) These changes have been made.

26) We agree and the oil and gas plays summarized in Table 1-1 should be updated, and maps would be more informative than information in tabular form. As a practical activity, the plays were tabulated, and although detail is lost, Table 1-1 provides a summary of estimated future oil and gas reserves. The 1996 update by the USGS revised downward the undiscovered oil reserves for the plays listed in Table 1-1 by 61%. The number of undiscovered oil and gas fields was revised downward by 35%.

27) The white unshaded area represents deposits that are not tertiary in age.

Response to Letter 14

Thank you for your comments.

a) Our analysis of potential mineral development on public lands involved does not indicate that the viewing of potential development would be prohibited by any NEPA requirement. It was not reasonable to suggest restricting the regulations in some of the alternatives. Therefore, we requested USGS to prepare a separate NEPA analysis.

b) The draft EIS also identifies the "Alternatives and Management Options Considered But Eliminated From Detailed Analysis" pages 15 and 16. We point out that these things also contribute to the range of alternatives considered, as required by NEPA.

The representative landownership pattern in the New- castle resource management plan planning area is about 85% private and state and 15% scattered BLM-administered public parcels.

2) Based on guidance from the Wyoming State office and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands.

3) A detailed response to b above.

Response to Letter 15

Thank you for your comments.

a) Many of the alternative management option statements that are presented as "Same as Preferred" are statements of standard operating procedures derived from Section 1 of the BLM policy. A source management plan must be consistent with law, regulation, and policy; so, in a sense, it is not necessary for the EIS to restate those types of statements. However, we have found through expe- rienee that if some of these are not restated in the EIS, many people will assume that these requirements will be violated and will ask for reissuance that they will not.

One example is the Preferred Alternative paragraph for air quality on page 120 of the draft EIS, indicating that BLM would avoid violating Wyoming and national air quality standards. Making this statement is an appropriate form of repeating the obvious requirement for public disclosure.

There are also common sense management options that reflect the way existing policy should be carried out. For example, the planning team thought it was important to tell the public that "No land exchange may be permitted without notification that the public interest will be served according to 43 CFR 2200.66(b) (page 179 of the draft EIS). Because this is a common method of regulatory requirement, it was not reasonable to suggest breach- ing the regulations in some of the alternatives. Therefore, we requested USGS to prepare a separate NEPA analysis.

The draft EIS also identifies the "Alternatives and Management Options Considered But Eliminated From Detailed Analysis" pages 15 and 16. We point out that these things also contribute to the range of alternatives considered, as required by NEPA.

The representative landownership pattern in the New- castle resource management plan planning area is about 85% private and state and 15% scattered BLM-administered public parcels.

2) Based on guidance from the Wyoming State office and for the reasons given in this document, we feel a Class II designation is most appropriate for public lands.

3) A detailed response to b above. 


CONSULTATION AND COORDINATION

Cloud Peak Wilderness Area. The Forest Service samples ANC and other parameters in Florence and Emerald Lakes as part of their long-term sampling program and recommends a 10% change in ANC as the level of acceptable change (LAC).

The closest class I areas are the Wind Cave National Park and Badlands National Park in South Dakota, and the Northern Cheyenne Indian Reservation in Montana. The Wind Cave and Badlands National parks are about 50 and 100 miles east, respectively, of the Newcastle planning area, and the Northern Cheyenne Indian Reservation is about 100 miles northeast of the area.

The BLM does not have a complete emission inventory available for the Newcastle planning area, but we can estimate emission factors from various BLM-managed activities as indicated in the following table:

<table>
<thead>
<tr>
<th>Activity/Pollutant</th>
<th>Emission Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM-10 (particulate matter with diameter less than 10 microns (micrometers))</td>
<td>30 - 100 b/year/acre disturbed b/VMT (vehicle miles traveled)</td>
</tr>
<tr>
<td>TSP (total suspended particles)</td>
<td>100 - 300 b/year/acre disturbed</td>
</tr>
<tr>
<td>SO2 (sulphur dioxide)</td>
<td>&lt;0.1 ton/year/well</td>
</tr>
<tr>
<td>TSP</td>
<td>&lt;0.1 ton/year/12K HP (12,000 horsepower)</td>
</tr>
<tr>
<td>NOx (oxides of nitrogen)</td>
<td>006 - 232 ton/year/12K HP (2.5 million horsepower)</td>
</tr>
<tr>
<td>PM-10</td>
<td>&lt;0.1 ton/year/well</td>
</tr>
<tr>
<td>VOC (volatile organic compounds)</td>
<td>20 - 25 ton/year/12K HP (2.5 million horsepower)</td>
</tr>
<tr>
<td>CO (carbon monoxide)</td>
<td>02 - 11 ton/year/12K HP (2.5 million horsepower)</td>
</tr>
<tr>
<td>HAPs (hazardous air pollutants)</td>
<td>1.8 - 15 ton/year/12K HP (2.5 million horsepower)</td>
</tr>
<tr>
<td>Prescribed Burning</td>
<td>0052 ton/acre burned</td>
</tr>
<tr>
<td>TSP</td>
<td>0065 ton/acre burned</td>
</tr>
</tbody>
</table>

Also, table 3-1 in chapter 3 shows that background concentrations are well within national and Wyoming standards. Background concentration of TSP is 42% of the standard, meaning that TSP concentration would have to more than double to exceed the standard.

Figure 3-1 in chapter 3 has been redrafted to show annual deposition of sulfate and nitrate, showing that deposition for all years is well below the LAC set by the US Forest Service.

The Black Hills area is close to the Newcastle planning area, but it is not classified as class I.

By order of the authorized officer, old oil and gas well sites are reclaimed by BLM or landowner specifications before the bond is released.

The Newcastle area is a suitable oil and gas producing area. Although development has occurred and will continue to occur, as shown in the following graph, the number of producing wells and oil production has been declining for several years. This decline is expected to continue given the analysis period for the document. To set an upper limit for either wells or oil production before significant environmental degradation occurs is probably not necessary since it is unlikely that either will attain the levels of 1966 through 1990.

All activities initiated by the BLM are required to comply with the state and federal regulations. Specific measures to ensure compliance are developed at the project planning level.

It is true that some types of development have the potential to impact local groundwater quality. Again, measures to ensure compliance with federal and state regulations and to mitigate any of these potential impacts are developed during specific project planning.

BLM's standard practice is to cooperate with local, state, and federal agencies entities in managing and protecting natural resources (including water quality). It is outside of our staffing and budget capabilities to assist in all outside program activities especially where BLM management activities are not specifically involved. All BLM-initiated activities are required to comply with state and federal regulations. Specific measures to ensure compliance (including the Clean Water Act and Wyoming's nonpoint source program) are developed at the project planning level.

We feel this document provides adequate information for the decisions to be made at the project planning level.

Critical habitat has not been identified in the Newcastle planning area. Mitigation of potential impacts to wildlife will be analyzed in site-specific environmental assessments when an action is projected. Proper mitigation and monitoring will be identified and specified in the site-specific document.

Response to Letter 16

Thank you for your comments.

The data for the planning area has not significantly changed. Where applicable, newer data has been used (e.g., oil and gas and socioeconomics).

These standards and guidelines are compatible with BLM's three-tiered land use planning process. The first tier includes laws, regulations, and policies governing BLM's administration and management of the public lands and their uses. The previously mentioned fundamentals of range and wildlife specified in 43 CFR 4180.1, the requirement for BLM to develop these state or regional standards and guidelines, and the standards and guidelines themselves, are part of the first tier. Since standards and guidelines are policy, all land use decision alternatives expressed in the draft EIS for the Proposed RMP must be in conformance with or meet the standards.

Implementation of grazing management must take full consideration of the guidelines, and this occurs in the third tier or activity planning stage. The activity planning phase uses the "1 and 1/2" category in setting priorities for standard conformance determinations and implementation of on-the-ground grazing management in accordance with the guidelines.

The Newcastle RMP is a complete revision of the current management framework plan. It is not an amendment, therefore policy requires the revised document be in conformance with the standards and guidelines.

The guidelines you refer to are being addressed during activity planning. It is at this stage of the planning process that a grazing management strategy is designed in accordance with the guidelines in making significant progress toward standard conformance or maintaining conformance. Applying the guidelines for grazing management are intended to provide good science for many resource values including vertical structure of grasses for ground-nesting birds.
CONSULTATION AND COORDINATION

Response to Letter 17

Thank you for your comments.

a) All land exchange proposals are evaluated when submitted. The number of actions that can be processed is limited by the budget funds allocated to the lands program. Because it is frequently inefficient to conduct small individual land exchanges, procedures for conducting assembled land exchanges have been developed. An assembled land exchange is an exchange where several different federal and/or nonfederal parcels are combined together and exchanged in one or more transactions over time. Please see appendix B for more information on assembled land exchanges.

Response to Letter 18

Thank you for your comments.

a) As your letter notes, there are no significant changes in the cultural resources sections of the revised draft RMP. Because the additional cultural resource data collected over the past 10 years did not affect any decisions in the plan, updating the Class I overview was not necessary for completion of the RMP. After the RMP becomes final, the BLM is required to prepare a cultural resources management plan for the Newcastle Field Office. An updated literature review and analysis will be the first steps in developing that plan.

Response to Letter 19

Thank you for your comments.

a) The map you refer to is in the process of being updated. This area is also referenced on tables 1-1 and 3-7.

Response to Letter 20

Thank you for your comments.

a) ELM does not consider recreational shooting of prairie dogs as a control measure. It may be considered as part of a control project if the conditions for control are determined to be present and control is appropriate.

b) Penalties for disregarding vehicle travel restrictions can be found at 43 CFR 8341.1(b)(Vehicle Operation Off Designated Areas and Trails" 43 CFR 8341.1(c)("Vehicle Operation in Closed Area" 43 CFR 8341.1(f)(4)"Vehicle Operation Causing Environmental Damage" 43 CFR 8364.1(d)("Violating a Closure or Restriction Order")

Any person who violates 43 CFR regulations "shall be fined no more than $1,000 or imprisoned no more than 12 months, or both." [43CFR, 43 USC 1733(a)] Generally, persons violating the above regulations are issued a violation notice, the and in some cases, the bond amount ranging from $50 to $100,000 is also referenced on tables 8-12. The BLM is not responsible for any damages caused by unauthorized vehicles.

Also, BLM's Instruction Memorandum WY-84-256, "Off-Road Vehicle (CRV) Designation, Signing Standards, and Guidelines" (USD) BLM 1984) contains current guidance. It does not require written permit or approval for necessary tasks. It does define necessary tasks as "work requiring the use of a motor vehicle." Examples include picking up big game kills, repairing range improvements, and livestock activities where surface disturbance does not total more than 5 acres as described in the 5-acre exemption under the 43 CFR 3809 regulations, etc. This memorandum further states that the necessary tasks will be allowed "only if such travel does not result in resource damage." Resource damage, as defined in that same memorandum, is "leaving long term signs of vehicle use (ruts) or causing erosion or water pollution, creating undue degradation of other vegetative or wildlife resources.

Thank you for this information: we have updated this document accordingly.

d) Each time an application is submitted, the current electronic data is analyzed before the application is processed.

e) Because of the fragmented nature of forestlands in the Newcastle area, BLM determined that a management goal of 5% was the most appropriate.

Response to Letter 21

Thank you for your comments.

a) Where practical, some of the data you referenced has been updated for this final EIS document. Whether or not the most current data used still falls within the 15 year analysis period of the EIS, is adequate for purposes of the analysis, and does not result in any bias or changing any of the proposed RMP decisions. Be assured that accuracy planning and implementation actions that occur in the future, will utilize the most current data available.

b) The benthonte industry is always looking for new ways to use benthonte. Demands and needs go up and down in cycles. The demand for benthonte this year may not be the demand 10 years from now. It was not our goal in this document to state what industry is using benthonte for but to give an overview of some of the uses of benthonte. The benthonte industry is at a high right now but it may go down in the future.

c) Almost all of the areas in the Bear Lake Mountains of the Black Hills is managed by the Forest Service. BLM does not address Forest Service lands where they manage the minerals.

d) Please see the updated "Socioeconomics" section.

e) The stratigraphic nomenclature chart used was also in a document printed in 1993 entitled Geology of Wyoming. It did state that some significant changes in stratigraphic nomenclature as depicted on this class c chart are presented on the 1993 stratigraphic chart showing Phanerozoic nomenclature for the state of Wyoming. This is a class c chart and was used for general purposes.


Response to Letter 22

Thank you for your comments.

a) We welcome the opportunity to work with interested parties to identify and establish a small special management area.

Response to Letter 23

Thank you for your comments.

a) A right of way grant will include any stipulations that the authorized officer determines are necessary to mitigate environmental impacts identified in the NEPA process (conducting and documenting an environmental analysis). There is no BLM management objective to require the underground location of electric utility facilities.

b) Right of way applications for oil and gas utilities and pipeline facilities are subject to the same NEPA processes identified above. Under the Proposed RMP, there should not be any undue restrictions on pipeline and utility facilities necessary for the exploration and production of oil and natural gas.

c) When public lands are conveyed, the patents are issued subject to all void existing rights, including rights of way. It is BLM policy to encourage a right of way holder and the potential new landowner to reach an independent agreement accommodating the unauthorized use before the patent is issued. When lands are acquired, reserved interests of the nonfederal landowner are subject to agreed-on covenants or conditions included in the conveyance documents.

d) The impacts of proposed new construction on existing facilities and pipelines are evaluated during the right of way application process (including the NEPA process). New right of way grants are issued subject to all existing rights, including rights-of-way.

e) Please see new appendix N. This is also addressed in specific RMP plans.

f) The location and maintenance of rights-of-way in timbered areas is addressed during the right-of-way application process (including the NEPA process).

This is our maintenance that BLM requires as part of the application process.

Responses to Public Hearing Concerns

Cook County (Sundance)

No responses necessary.

Nobrara County (Lance Creek Elementary School)

Page 16, lines 20-25; page 17, lines 1-2. The areas referred to should be listed as potential threatened or endangered species habitat. These areas contain habitat characteristics required by species that are known to exist regionally or have historically existed in the area. Characteristics may include soil types, vegetation, occurrence of prey species in sufficient densities, among others.

Page 18, lines 19-25; page 19 lines 1-21. The following table is reproduced from the original referred to by Mr. Dan Hansen and given to Mr. Gary Johnson.
CONSULTATION AND COORDINATION

NIOBRA COUNTY

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Gross Income in Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agriculture</td>
</tr>
<tr>
<td>1993</td>
<td>26.5</td>
</tr>
<tr>
<td>1994</td>
<td>23.8</td>
</tr>
<tr>
<td>1995</td>
<td>23.0</td>
</tr>
<tr>
<td>1996</td>
<td>21.8</td>
</tr>
<tr>
<td>1997</td>
<td>NA</td>
</tr>
</tbody>
</table>

SOURCE: Wyoming Ag Society, State Forester, Richard Courter
Wyoming County Assessor, Elaine Grimm
307-334-3047

Weston County (Security First Bank, Newcastle)

Page 6, lines 17-24: If a search is determined to be necessary, it must be performed either by an authorized Bureau employee or an authorized contractor. Lists of approved contractors would be available from the BLM or the FWS.

Page 7, lines 24-25: page 8, lines 1-14: The Proposed RMP decision for restoration (rehabilitation) of burned areas does not preclude seeding or planting as part of restoration. Long-term loss of production of a site would be included in the definition of 'resource damage.' Our experience has been that burned areas recover quite well naturally in most situations. In areas of low annual precipitation or during periods of drought conditions, reseeding efforts must be limed very carefully to ensure adequate ground moisture for germination and growth to be successful. Otherwise, the effort and expense are wasted.

Nothing in this Proposed RMP prevents an affected landowner or lessee from raising his concerns after a fire to the resource advisor or field office manager. These concerns would be taken into account when BLM is evaluating burned areas for rehabilitation or restoration needs.

In this regard, it is imperative that BLM be informed of fires that occur on BLM-administered public lands. Too often fires are suppressed by cooperators and not reported to BLM in a timely manner, or often times, not at all, delaying or preventing any chances at evaluation or restoration efforts.

Page 17, lines 10-17: The areas referred to should be listed as potential threatened or endangered species habitat. These areas contain habitat characteristics required by species that are known to exist regionally or have historically existed in the area. Characteristics may include soil types, vegetation, occurrence of prey species in sufficient densities, among others.

Page 18, lines 12-25; page 19, lines 1-25; page 20, lines 1-22: The areas referred to should be listed as potential threatened or endangered species habitat. These areas contain habitat characteristics required by species that are known to exist regionally or have historically existed in the area. Characteristics may include soil types, vegetation, occurrence of prey species in sufficient densities, among others.

Page 24, lines 2-11: The BLM is mandated by law to protect and preserve significant sites on federal surface or affected by federally funded or permitted actions. The Newcastle Field Office agrees that the Whoopup Canyon site is very fragile and that protection of this site is extremely important. The interim management plan for the site is based on the draft RMP and emphasizes protection of the site. These protection measures will be carried into the final site management plan. For the Whoopup Canyon site and other sites that are highly significant, the BLM will devise plans which will emphasize site protection and conservation. Such sites will not be exploited for other purposes in ways that would damage the resource. It information from these sites is used for public education, the education effort will be designed to avoid adverse impacts to the sites.

Telephone Conversation
Friday, April 24, 1998

He called and discussed his concerns about the fact that in the original RMP-EIS, we classified the BLM lands around the monument as VRM Class I and later we have now changed it to VRM Class II.

He said he would send formal comments about his views on the importance of classifying these lands as VRM Class I. He also wanted to discuss his views, which he did.

I told him I would get back with him in the next few weeks (3 weeks or so). I told him I would have Jack and Shelly with me in the discussion to provide some background, etc. about this issue.

I told him we would make the decisions after the comment period was over. He seemed to expect me to concur with him and change the decision (which has not yet been made). I explained the planning process and the fact that this is a comment period.
Telephone Conversation
Thursday, July 23, 1998
Jack Hanson, BLM, and Don Christinson, Assistant to the Director for Planning,
Wyoming Department of Agriculture

Don called Thursday, July 23, 1998, to discuss issues specific to the RMP. He had
four areas of concern:

1. He was in agreement with the Preferred Alternative on ACEC in the Lance
   Creek area. Specifically with management of small isolated tracks with little to
   no public access.

2. He had concern with Agricultural Economics and how it was represented in the
   RMP. He felt that more significance contribution should be placed on Ag
   Economics.

3. He is in support of Land Exchanges, as proposed. To block up portions of
   public land for educational purposes, in the instance of Lance Creek and
   recreational uses.

4. He was in support of BLM's outreach effort to inform the public on issues
   contained in the draft RMP.

He stated he would follow up in writing the information discussed during the telephone
conversation.
Conversation July 13, 1998 between Gary Johnson, BLM, and members of the Crook County Land Use Planning and Zoning Commission (hereinafter referred to as the Commission)

While attending a meeting with the Commission on July 13, 1998, I brought up the fact that Mr. Chass Cartwright, Superintendent of the Devils Tower National Monument, National Park Service, had expressed concern with our change of designation in the second draft of the EIS/RMP for the area of BLM land surrounding Devils Tower from a visual resources management (VRM) Class I to a Class II.

I explained Chass' concerns about potential mineral development and its potential to destroy the views which the approximately 500,000 visitors per year at the park. He expressed his desire for us to attach 'no surface occupancy' (NSO) stipulations on any parcels lease for oil and gas development. I pointed out that there is very little mineral development based on BLM's staff expense and the history of mineral development in the area. Over the past 10 years, there has been very little interest and leasing.

The members of the Commission reached a consensus with the opinion that they are concerned that if we change the Class II back to a Class I and institute NSO stipulations on any oil and gas leasing, it would reduce potential royalties to the county. Their concern was over potential economic loss of revenue. They asked to be put on the record as commenting as follows: They would prefer a VRM Class III designation; however, they would be willing to compromise with a Class II designation as is now the Preferred Alternative of the draft RMP. They also did not want NSO stipulations to be attached if and when oil and gas leasing occurs.

I asked them to please put this in writing and send it to me. They agreed they would do this. If they don't, this note will serve as my effort in documenting their comments and opinions on this issue.

Mrs. Heumier and I have discussed the apathy of Wyoming with its fossils. Our famous museums are proud to display our Wyoming fossils, are we? At least, a few of our new museums are doing so now. What does our university in Laramie display? We allow almost all of them to go out of state or to foreign countries, yet, suddenly, there is great concern about them. When a new discovery is made, do we display it in one of our museums? Certainly not!! We need a museum desperately in Torrington for school children. It is low priority as it is doubtful that we ever do. Yet, BLM does not allow vertebrate hunting and it is a known fact that amateurs have discovered most of the major discoveries and reported them. Letts said she suggested a building under construction discovery so that we and tourists could watch the process, much as the mammoth dig and Ash Fall. It seems that we need to get our priorities straight.

We would most appreciate notification to us as well as to the Torrington Telegram about the new changes that are made. When I discovered the rules in process in 97, I immediately went to the
paper office to her alert the public. She ignored it. I finally wrote a letter to the editor and she wanted to publish it. She finally put an article in the Telegram. I was told that there was a
meeting in Torrington later which we knew nothing about.

Please see to it that there is notification by the BLM of changes and of meetings. We are tired of
living in a limbo. Radio and television should also be informed.

I thank you so very much; we are interested, simply not informed.

Sincerely,

Norma Beers

---

BLM extends comment period

The Wyoming Congressional Delegation is pleased by the Bureau of
Land Management's extension of the comment period on proposed
changes to its law en-
forcement regulations by
another 30 days.

Today's action ex-
tends the deadline for
public comment on the
issue from Feb. 5 until
March 7, 1997. This fol-
lows on the heels of an
earlier 30-day extension
from Jan. 7 until Feb. 5. The delegation said this is welcome news for
those who wish to com-
ment on and seek clarifi-
cation of the agency's
proposed plan.

Senator Craig Tho-
mans and Mike Enzi and
Rep. Barbara Cubin were
concerned that the BLM had
not allotted enough time
for adequate public com-
ment on proposed
changes and sought the
extension.

"I appreciate the ex-
tension," Thomas said.
"Clearly many people
want the opportunity to
further review the pro-
posed rules during this
extension.

"I believe these proposed rule changes could contain
the President's wishes by
actually giving a federal
agency additional law en-
forcement power that
may not be authorized."

"I'm always con-
cerned about the trans-
mission from law to regu-
lation," Enzi said. "Hope-
fully the extension will
give folks from Wyo-
ing the necessary time
to comment and the BLM
will listen."

Those wishing to
voice their opinions
should send their com-
ments to: BLM Adminis-
trative Record, Room
401 E. 18th St. Cheyenne,
WY, Washington, D.C. 20240.

Your opinion

BLM tries to
slip criminal
rules by

Dear Editor:
The Bureau of Land
Management (BLM)
recently proposed to
change the Criminal
Law Enforcement (CLE)
rules. The BLM is trying
to make these law
enforcement rules a part of
BLM's administrative
rules without proper public
notice.

In 1990, BLM proposed
new Criminal Law
Enforcement rules to
Congress. After receiving
comments from the public,
the Congress passed a law
that requires the BLM to
inform the public of new
rules. The BLM is trying
to make these rules a part
of their administrative
rules without proper public
notice.

I am concerned about
this change because it
would give the BLM
additional authority over
the public without proper
notice. I believe the public
should be given the
opportunity to comment on
these proposed rules before
they are made a part of
BLM's administrative
rules.
Crook County Land Use Planning and Zoning Commission
P.O. Box 37
Sundance, WY 82729

July 15, 1998

Bureau of Land Management
Newcastle Resource Area
9000 Washington Blvd
Newcastle, WY 82701

Attention: Gary Johnson, Area Manager

Dear Gary,

We appreciate the opportunity to comment on the Environmental Impact Statement for
the Newcastle Resource Management Plan (Second Draft)

In the Visual Resources portion of the proposed resource management plan, on page 1109,
the WRXII Class designation for the area surrounding Devils Tower National Monument is
discussed. We recommend that the area be designated a WRXIII Class III, although we
could accept the WRXII Class II designation that the draft plan proposes. We agree that a
WRXIII Class III designation is neither necessary nor appropriate for the area surrounding the
national monument.

The Commission recognizes that the draft plan is not much of a departure from present
management activities, but does propose some minor changes for the Newcastle Resource
Area. We do see a strong need for the direction and implementation of the proposed
management plan to continue to provide for commodity interests, even where the
standards and guidelines within the plan may appear vague.

We do not oppose the proposed plan as written.

We appreciate your willingness to attend our meetings to discuss the draft plan and look
forward to continuing communications with you as the planning process evolves. Please
keep us informed.

Sincerely,

Anita Fish
Chair
Crook County Land Use Planning and Zoning Commission

P.O. Box 37
Sundance, WY 82729

June 23, 1998

From: Sandra L. Hutchings
P.O. Box 843
Teton Village, WY 83025

To: Gary Johnson
Newcastle Area Manager
1101 Washington Blvd.
Newcastle, WY 82701

Mr. Johnson:

I am writing to you concerning your decision to not recommend the Lance Creek fossil beds for an Area of Critical Environmental Concern. This delicate area is very deserving of this specific designation.

Many of our nations’ museums are graced by dinosaurs found in these fossil beds and far more information about our past may be lost if this area is not protected from the continued looting and desecration which is going on there right now.

Since the BLM originally realized the importance of the Lance Creek area in its draft management plan, and removed it due to a mistake of improper mapping procedures, it behooves your agency to once again recommend this area for ACEC and protect it from further damage.

You can change this situation and make it right Mr. Johnson. Please tell the BLM once again that the Lance Creek area needs to be designated an ACEC and its fossil resources protected.

Thank you for helping in this matter.

Sincerely,

Sandra L. Hutchings

June 17, 1998

Bureau of Land Management
Newcastle Resource Area
1214 Washington Blvd.
Newcastle, WY 82701

Attention: Gary Johnson, Area Manager

Dear Gary,

We would like to submit this addition to our official comments, dated July 15, 1998, on the Environmental Impact Statement for the Newcastle Resource Management Plan (Second Draft).

The preferred alternative’s proposal to implement only limited control on prairie dog populations on BLM-administered lands is an area of concern for this Commission. The plan states, “Control of the size of prairie dog towns on public lands would not occur unless resource damage were occurring or human health and safety were threatened.”

On our recent field tour of BLM grazing allotments in the county, it was noted that there seemed to be a lack of deep-rooted plants within the prairie dog towns we encountered. We are concerned that this deficiency may lead to unstable soils, an increase in the area’s already high tendency to flash flooding and damage of the soil resources there. The plan does not specify what level of resource damage warrants subsequent control measures by the BLM.

The spread of disease by prairie dogs is also a major concern, for the public and for private landowners in close proximity to the prairie dog towns located on public land. Again, it is unclear what level of human health and safety must be threatened before population reduction is deemed necessary.

Furthermore, this Commission is not convinced that disease and resource damage are the only two conditions under which prairie dog population control measures should be deemed appropriate. Other reasonable circumstances could develop that would necessitate some level of control. The plan does not provide for that possibility.

Thank you for this opportunity to comment further on the Draft Plan.

Sincerely,

Anita Fish
Chair
ATTACHMENT A

LANCE CREEK FOSSIL AREA
NATIONAL NATURAL LANDMARK (NNL)

THE FOLLOWING INFORMATION IS A SYNOPSIS OF THE HISTORY OF THE ABOVE-ENTITLED NNL.

05/04/66 - Site was nominated and determined "eligible". Representative Jim Thompson was contacted to secure landowners' participation. Three hundred (300) square miles were in the original nomination.

10/05/66 - Thompson responds that landowners are not interested, nor will County Commissioners represent landowners in general.

09/00/72 - The "eligible" NNL was recommended for enlargement.

03/13/74 - The NNL was "enlarged" to present boundaries, i.e., between R65 & R66 on the west, between R62 & R63 on the east, between T15 & T16 on the south, and the Weston county line on the north. 351,360 acres.

01/00/94 - Landowners and Commissioners became aware of NNL designation thru the Bureau of Land Management’s draft Environmental Impact Statement/Resource Management Plan (EIS/ RMP). The BLM proposed to designate the NNL boundaries as an Area of Critical Environmental Concern (ACEC). The BLM deleted the proposed designation after public comment.

Figures show:

<table>
<thead>
<tr>
<th>Type of Land</th>
<th>Acres</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deeded land</td>
<td>280,080</td>
<td>79.7%</td>
</tr>
<tr>
<td>Federal land</td>
<td>48,840</td>
<td>13.9%</td>
</tr>
<tr>
<td>State land</td>
<td>22,440</td>
<td>6.4%</td>
</tr>
</tbody>
</table>

BLM has access to only 15,120 acres; 33,720 acres are landlocked.

12/11/96 - 84 petitions of the 108 private landowners were sent to the National Park Service who refuses to act on their request to remove their land from the NNL designation.
Mr. Gary Johnson  
Area Manager  
Newcastle Resource Area  
[110] Washington Boulevard  
Newcastle, WY 82701

Re: Consideration of a possible scientific and educational site to serve the interests of the United States Bureau of Land Management and the interested public.

Dear Mr. Johnson:

The Niobrara Resources Assn. would suggest the consideration of a possible site in the Lance Creek Fossil Area to further the interests of the Bureau of Land Management and the general public. Such site should meet the following criteria:

1. Be of great scientific importance
2. Be easily accessible
3. Be readily accessible from an all-weather road
4. Have the potential for a field exhibit which would interest not only the scientific community but most importantly, the interested public
5. Have little or no impact on the surrounding private property owners

We envision a site which would have scientific work in progress on permanent basis with a resultant display which could be viewed by educational groups including, but not limited to, schools and natural resource based organizations. Furthermore, the site could be a destination for individuals wishing to view a sample of the fossils present in the area.

During the course of the consideration and the accompanying dialogue, areas of concern could be addressed and creative reasoning could be brought to bear on present challenges.

If a potential site for meeting the above goals is not presently in the federal inventory, we would suggest the consideration of a Consolidated Land Exchange to facilitate the transfer of such site.

James W. Kruse  
President  
Niobrara Resources Assn.

---

### Niobrara County

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Total gross income in millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>79.5</td>
</tr>
<tr>
<td>1994</td>
<td>84.0</td>
</tr>
<tr>
<td>1995</td>
<td>84.5</td>
</tr>
<tr>
<td>1996</td>
<td>89.8</td>
</tr>
<tr>
<td>1997</td>
<td>94.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Oil and Gas Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>NA</td>
</tr>
<tr>
<td>1994</td>
<td>12.2</td>
</tr>
<tr>
<td>1995</td>
<td>10.5</td>
</tr>
<tr>
<td>1996</td>
<td>11.8</td>
</tr>
<tr>
<td>1997</td>
<td>14.0</td>
</tr>
</tbody>
</table>

**Personal income pg. 98 and table 3-14 pg. 99 are obviously flawed.** We request that updated and validated data be obtained from available sources. This RMP is valuable, not only as a planning tool, but also as a historical record, so utmost accuracy is paramount.

Our second major area of contention is with map 3-19. Some of the maps indicate that they are applicable only to BLM administered surface. All such maps, especially this one should have that information on them. Secondly, the map is titled "Threatened or Endangered Species Habitat" while the actual map notation lists "Potential Threatened or Endangered Species Habitat Area". This is not consistent. What are we actually referring to? If this is really a "potential" habitat area, what differentiates it from like surrounding habitat? We would challenge this designation.

Niobrara Resources Assn. requests that the Niobrara County Commissioners synopses of the history of the Lance Creek Fossil Area NNL be included with any discussion of the NNL.

In conclusion, we were pleased with the process which produced this document. It is just this cooperative effort which will save time and money and will produce a superior product.

James W. Kruse  
President  
Niobrara Resources Assn.
The proposal to be unveiled by Interior Secretary, Bruce Babbitt, marks the first time in the laws 25 year history that such a large number of species would be ear marked for removal from the endangered list. Babbit is scheduled to trumpet the proposed removal of such species as the peregrine falcon and bald eagle.* This is one more example of misinformation in Map 3-19. If that statement is true, there is no need to designate areas within this map for these species, as all areas within the RA would be handled under the same guidelines as mentioned in the RMP under ESA.

In conclusion, marked areas within the RMP Map 3-19 could possibly have severe financial and economic impact to landowners with lands that set inside these specific areas. I will reiterate that these marked areas are not necessary because according to guidelines outlined in the RMP all federal and split estate lands will be managed the same. I feel that financial hardships could be caused from future sales of any lands that are marked potential endangered habitat areas. Who would want to buy lands in an area such as that? This map is misleading and should be re-evaluated and totally rejected.

In addition to these comments, I would also like to state that noxious weed control needs to be addressed and clarified to the position of the BLM management of such. It needs to be more precise in what procedures for BLM land leasees need to follow for the control of noxious weed. It also need to addressed if there would be any cost share approach to these problem weeds.

The subject of land consolidation has been mentioned for the need of an acquisition by BLM to acquire a fossil pit as an alternative to ACEC. Reed Ranches would totally disagree to an alternative such as this as it would not be in the best interest of landowners who would have land in the immediate area. I think the BLM should stay with their position of no ACEC in this draft.

Thank you.
Reed Ranch
Jeff Reed

Receipt Requested!
Dear Mr. Johnson,

The following are the Sierra Club’s comments regarding the Newcastle Resource Management Plan:

Oil and Gas

We have major concerns regarding the RMP’s oil and gas leasing program. Table 2-1 (Page 25) states under the preferred alternative that “parcels would be leased with Wyoming standard oil and gas lease stipulations. This section fails to mention special protection stipulations or even cite Map H-1. Map H-1 shows four special stipulations that are needed in the Resource Area, but fails to map or identify the No Surface Occupancy stipulation called for in the Plan for Whoopup Canyon. It seems that Table 2-1, Map H-1, and the stipulations for Whoopup Canyon need to show some consistency. Table 2-1 should at a minimum reference the stipulations on Map H-1, and Map H-1 should include the NOSO stipulation for Whoopup Canyon.

The BLM also has failed to protect other important natural values with stipulations. The BLM needs to consider NOSO stipulation for the following areas:

- steep slopes and unstable soils
- prairie dog towns
- wooded draws and riparian areas
- known cultural sites
- ferruginous hawk nesting areas
- 1/4 mile buffer around developed and semi-developed recreation sites.

The oil and gas leasing section of the plan also fails to comply with NEPA because it does not provide a range of alternatives. All four of the alternatives are exactly the same.

The following is the BLM’s proposal to put a primitive campground in this area is a good one, but better controls on access are also needed. The Little Missouri area would be a good place for nonmotorized access using a post to post trail system for hikers and horseback riders, because the current motorized use causes animals to flee the public lands during hunting season. Not only would the trails be used by hunters, but we think that the area would get recreational use throughout the year.

The BLM’s Off Road Vehicle management need to be upgraded to the standard of designated roads and trails. This standard allows the BLM to better manage vehicle use and control problem situations quickly. By using the standard of existing roads and trails, the BLM must determine what are the existing roads and trails at the time of release of the plan, and then prevent future creation of new roads and trails. The designated road and trail standard allows public use only on roads and trails shown to be open on a BLM map.

The Sierra Club supports the designation of the Stateline Special Recreation Management Area, but better controls on logging need to be implemented for this area. This area should now be allowed to return to an old growth state. The recreation users would enjoy a forest with large yellowbox ponderosa pines much more than earlier successional stages, and the impacts associated with logging such as roads and skid trails would make this area less desirable for recreational use.

Areas of Critical Environmental Concern

We support the BLM’s decision to retain Whoopup Canyon as an Area of Critical Environment Concern (ACEC). We, however, have major concerns regarding the BLM’s recommendation on Lance Creek Fossil Beds. This area deserves ACEC designation and needs special management protection. You need to reconsider your decision in the final Newcastle Resource Management Plan.
Lance Creek is one of the United States' most important fossil beds. Lance Creek contains some of the most highly fossilized deposits from the Mesozoic Age anywhere in the world. The National Park Service has recognized the importance of the Lance Creek area by designating the site a National Natural Landmark. The BLM must also recognize this area's importance and need for special protection by making the area an ACEC. Lance Creek is the only National Natural Landmark located on BLM land in the Rocky Mountain region which has not been designated an ACEC.

Lance Creek is in particular need of special management protection for two reasons. First, many federal lands have been subject to fossil theft. The Allosaursite near Shell, Wyoming (which was designated an ACEC in January of 1995) and the controversy regarding the Tyrannosaurus Rex fossil in South Dakota come to mind as examples of where this problem has been brought to the public's attention. Such unrestrained fossil collecting activities, particularly any fossil collecting in this area and help insure that the BLM has adequate resources to combat fossil theft. Secondly, mineral development could also have substantial impacts. A prohibition on coal leasing and reclamation on gravel and scoria pit development are needed. According to Map H-1, a special stipulation regarding oil and gas development supposed will be required for the Lance Creek area, but we did not find a discussion of what the actual restrictions of the stipulation. Oil and gas development can destroy important fossil resources and must be done with care to insure that any oil and gas disturbance involves collection and inventory of the fossil resources at the site.

The BLM realized the importance of Lance Creek in its first draft management plan and recommended Lance Creek for ACEC designation. However, in the revised draft of the plan this recommendation was dropped. We urge you to reconsider your decision and designate Lance Creek an ACEC. We also feel that restrictions on mineral development must be extended to all publicly owned minerals in the National Natural Landmark.

We appreciate this opportunity to comment.

Sincerely yours,

Kirk Kropel
Regional Representative
July 15, 1998

Mr. Gary Johnson, Area Manager
BLM - Newcastle Resource Area
1101 Washington Blvd
Newcastle, WY 82701

Dear Mr. Johnson,

As an interested governmental entity, we wish to comment on a specific aspect of your Draft Environmental Impact Statement for the Newcastle Resource Management Plan (Second Draft).

On Page 109 of the Draft Plan, there is a section that specifically addresses visual resource classifications and the current proposals for classifying the area surrounding Devils Tower National Monument. By BLM’s definition, a VRM Class I designation “applies to areas where the objective is to maintain a landscape setting that appears unshaped by man.”

We wish to go on record as strongly opposing the VRM Class I designation for the area surrounding Devils Tower, as it is not an appropriate classification for that area. We request that the area be designated a VRM Class IV area, though we could possibly accept a VRM Class III.

Thank you for this opportunity to comment on the proposed management plan.

Sincerely,

[Signature]

Winnie Bush
Mayor

Mr. Gary Johnson, Area Manager
BLM - Newcastle Resource Area
3001 Washington Blvd
Newcastle, WY 82701

RE: Environmental Impact Statement for the Newcastle Resource Management Plan (Second Draft)

Dear Mr. Johnson:

We are concerned about the proposed VRM Class II designation for the area surrounding Devils Tower National Monument, which is mentioned in the Draft Plan.

We fear that a VRM Class II designation would impose objectives that are too restrictive and could potentially adversely impact important developments in the area. We recommend a VRM Class IV to provide ample latitude for management of the 400 acres of public land surface and the 3,080 acres of federal mineral estate in question.

A VRM Class III is within the realm of acceptability. A VRM Class II, however, is not viewed by this board as an acceptable classification.

Please consider our concerns on this issue as you prepare to finalize the proposed resource management plan for the Newcastle Resource Area.

Sincerely,

[Signature]

Don Anderson
President
Hulett Airport Advisory Board
June 23, 1998

Gary Johnson
Area Manager, Newcastle Resource Area

Dear Mr. Johnson:

I have been reviewing the second draft EIS for the RMP covering public lands in the Wyoming portion of the Newcastle Resource Area. I have a few comments concerning the wording therein regarding "Animal Damage Control".

The NEPA document, Environmental Assessment for Predator Damage Management in Eastern Wyoming was completed this past winter by Wildlife Services, in cooperation with the Bureau of Land Management. It thoroughly addresses the Wildlife Services Predator Damage Management program in eastern Wyoming. I believe it would be appropriate for the BLM to reference that document in the EIS whenever needed. I am sending along a copy for your reference. Specific comments follow:

Page 11, Issue D, Prairie Dog Control

I question whether the language regarding APHIS control programs is necessary or appropriate here, because APHIS has not conducted operational prairie dog control in Wyoming for many years. If we were to do so on public lands, it would almost surely be at the request of BLM. Since prairie dog control is not addressed under our Predator Management EA's, a separate NEPA document would have to be prepared, either by BLM or WS, to cover such action. The language here doesn't address prairie dog control anyway, since it refers to our annual work plan.

Table 2-1:

<table>
<thead>
<tr>
<th>Livestock Grazing Management Section:</th>
<th>Animal damage control activities would be subject to established procedures and policies as outlined in the national and state level memoranda of understanding between BLM and APHIS and the animal damage control plan for the planning area.</th>
</tr>
</thead>
</table>

Thank you for the opportunity to review this document. If I can answer any questions about the Wildlife Services program in Wyoming, please give me a call at (307) 261-5336, or write to the letterhead address. Please keep me on your mailing list.

Sincerely,

[Signature]
Richard H. Phillips
State Director

Enclosure

*Animal health and safety determinations would be made by the state of Wyoming, Department of Health or by officers of the US Center for Disease Control.* I'm sure you are talking about disease threats here. However, would it be appropriate to consider something like a mountain lion attack on a human at a campground? While unlikely, this sort of thing has happened in other places, and would then be under authority of Wyoming Game & Fish.
MEMORANDUM

To: Gary Johnson, Area Manager

From: James F. Devine
Senior Advisor for Science Applications


As requested in your correspondence dated February 25, 1998, the U.S. Geological Survey (USGS) has reviewed the subject draft environmental impact statement (EIS) and offers the following comments.

Page 70, second full paragraph, left column:

"The Black Hills were formed by the erosion of this dome-shaped uplift during Laramide time..."; this sentence is somewhat misleading. The Black Hills were uplifted during Laramide time and the present topography is a result of erosion since that time. Citing a reference to a paper or map that provides a good general description of the geologic history of the Black Hills would be valuable here.

Page 70, second paragraph, right column:

"It (Hartville Hills) was formed by the erosion..." is also misleading for the same reason.

Page 71, first paragraph, left column:

This paragraph in the Coal section indicates that only the lower Cretaceous Lakota and Fall River Formations in the study area contain 1-7 ft thick, uneconomic coal beds. The upper Cretaceous Lance Formation (type locality is in the Lance Creek) found in the southern part of the Newcastle Resource area (NRA) also contains coal beds from 1-2 m thick. This formation should be included even though these coal beds, like those of the Lakota and Fall River Formations, are not considered economical. The location of these coal beds should be included in Map 3-3. Further in the same paragraph is indicated that the production of high quality, low sulfur sub-bituminous coals is found in the center of the Powder River Basin and is contained in both the Wasatch and Fort Union Formations. These statements are not correct. Coals are produced only in the upper part (Tongue River Member) of the Fort Union Formation and mining occurs in the east-central, southern, and northwestern margins of the Powder River Basin.

Page 75, fourth full paragraph, left column:

"There are approximately 1,800 active placer mining claims in the NRA..."; it is unclear what you have defined as a "placer" mining claim. Are all locatable mineral claims—such as bentonite, uranium, gypsum—considered "placer claims"? If not, then 1,800 active placer mining claims seems to be very high.

Page 75, Bentonite Section:

The addition of a short description (one paragraph should suffice) that summarizes the character, origin and uses of bentonite, and includes a citation to a general guide for the details would be helpful here.

Page 77, last sentence of left column:

"In the northern Black Hills mining district..."; this district is labeled as the "Colony Mining District" on your map (map 3-4). It would be helpful to refer to this district as the Colony District in your discussion here.

Page 75, fourth full paragraph, right column:

"Bentonite deposits in the resource area generally occur at or near the surface..."; this statement would be more accurate if modified to say that the deposits "generally" occur at depth, but "often" can crop out in the area.

Page 77, citation under Table 3-3:

"Source: WOSIM 1990"; it would be helpful for this acronym to be spelled out here.

Page 77, Gypsum Section:

Unlike the other minerals described in this report, you offer no suggestion regarding the potential for development or interest in the foreseeable future of gypsum. Are the gypsum beds near Rapid City thicker or closer to the surface? Is a gypsum processing infrastructure in place at Rapid City, which is lacking here? Explain further why there is a lack of gypsum exploration and development in the Resource Area and why it is unlikely in the near future. Also, refer to Map 3-7 in this discussion.
Page 77, second paragraph of Uranium section:

A reference should be made to Map 3-5 in this paragraph.

Page 78, first full paragraph, left column:

When referring to production of uranium in this paragraph ("2.7 million pounds of uranium", "core averaging 0.22% uranium"), you should be aware that these data actually refer to pounds of uranium oxide. There is a big difference between pounds of uranium and pounds of uranium oxide.

Page 78, second full paragraph of left column:

"All of the major mining districts in Crook County are located near paleontological stream channels. "; you mean to say "paleochannels" or "buried stream paleochannels," not fossil-hunting sites. Refer to the reference that describes the geology and origin of these deposits. Also, "Tertiary White River Formation" is actually "Tertiary White River Group."

In the paragraph that follows, "Fall River Formation" should be "Fall River Sandstone."

Page 78, last sentence, left column:

"...the amount of activity in uranium exploration cannot be expected to increase...”; this seems to be an overstatement. How about "is not likely to increase"?

Page 78: Metallic Minerals:

This entire section is far too brief, given the high potential for a variety of metals in these districts. Silver and copper are not mentioned, but are also highly anomalous here. I refer you to two USGS products by Ed DeWitt (303-236-5636), Anna Wilson, and others, which thoroughly discuss the resources of these districts and evaluates their potential.

Page 78, last paragraph in Metallic Minerals section:

"The original source of the gold is believed to be volcanic ash falls.; ash falls of what age and what formation?"

Page 78: Salable Minerals, second paragraph:

"...and igneous and metamorphic rocks (granite); because granite is not a metamorphic rock, granite gneiss would be a more precise term."

Page 81, Landslides:

This discussion is insufficient to describe the landslide hazards of the area. For example: Are landslides active or inactive? What kind of slips? Deep or shallow? Caused by what? Seasonally active? Fast or slow moving?

Page 81, second full paragraph of right column:

There should be information on how frequent and where these earthquakes are. Even though there are none above magnitude 5, there still needs to be comments about whether or not local geologic structures are seismogenic, how often the area is shaken by magnitude 3 and above, and what potential there is for earthquakes greater than magnitude 5. A map showing the distribution and magnitude of earthquakes would be a good idea.

Page 83-85, Figures 3-8 to 3-10:

These maps have a limited use. Ancient slides that are now stable may pose no threat. There should be a distinction between landslides considered active or potentially active and those that are inactive. The landslide hazard may actually be greater in areas that are ready to fail adjacent to the mapped slides. Also, the kind of slides in the area need to be stated. For example, are they just minor translational slides that pose no threat, even when they slide, or are they rapid debris flows that are a major threat in every large thunderstorm?

Page 112, Table 3-21:

First, it is not clear whether these data represent average or median data, or whether they were collected on a specific date. It would be useful if the table included the dates associated with the data. The EIS should identify and reference the sources of the data it presents. The USGS operates and maintains stations on Belle Fourche, below Moorcroft (06426500); Beaver Creek, near Newcastle (06394400); and Little Thunder Creek, near Hamshire (06375600). It also collects water quality data at stations 06426500 and 06375600. The report should include the USGS data and compare it with data from other sources. The Bureau of Land Management (BLM) should report where and when its data were collected for comparison with the USGS’s collection stations and dates. A comparison of the values of data from different sources should support the conclusions drawn or the differences should be explained. There are a few BLM numbers higher than those of the USGS, but without BLM’s sample dates, we cannot comment further.

Page 243, Appendix 1:

The oil and gas plays, summarized in Table 1-1, may need an update. These plays in the NRA were taken from the 1990 USGS publication (Open File Report 88-450, prepared by G.L. Dalton, J.E. Fox, and J.L. Clayton). The information on oil and gas plays from the 1996 USGS Digital Data Series DDES-30 (National Assessment of the U.S. Oil and Gas Resources - Results,
Methodology, and Supporting Data edited by Gautier and others) should be used instead. In addition, summarizing and synthesizing the oil and gas plays in a tabular form may be less informative than presenting them as maps. Maps can be obtained from the 1996 publication.

Page 345, Map 3-2: Geology:

What rock units are represented by the white (unshaded) areas on this map? Our recommendation is that all rock units be shown on the map, so that the reader can spatially view the pertinent units discussed in the "Locatable Minerals" discussion (p. 71). A reference to a geologic map that covers this area would also be helpful.

References containing relevant information follow:


Thank you for the opportunity to contribute to the Draft EIS of the Newcastle Resource Management Plan.

Copy To: Director, Office of Environmental Policy and Compliance
District Chief, Water Resources Division, Wyoming

July 7, 1998

To: Area Manager, Newcastle Resource Area, Bureau of Land Management
From: Superintendent, Devils Tower National Monument

After reviewing this draft document, Devils Tower National Monument has one primary concern, that being the development of leasable (oil and gas and coal), locatable, and salable minerals (sand and gravel) on Bureau of Land Management (BLM) administered lands (public and private surface) within 3 miles of our boundaries. The protection of the viewshed surrounding the park is critical if the National Park Service (NPS) is to continue providing visitors with a quality experience, especially one free of visual and auditory intrusions. Devils Tower National Monument, this country’s first National Monument, is an extremely sensitive area, as it is one of the most heavily visited and congested small NPS units. The viewshed surrounding the park is in imminent danger of being modified either through development of federal minerals or sub-division of private ranches for home sites and commercial tourism related activities. We recommend that needed protection of our viewshed be accomplished by:

- Placing a No Surface Occupancy (NSO) designation on all federal mineral lands within 3 miles of the park. Preferably, this designation would be made within the context of the subject planning document as opposed to being placed as a protective stipulator just prior to actual mineral leasing/development. We recommend this easier to implement NSO designation instead of a Withdrawal/Closed classification.
Gary, I appreciate all the time and consideration you have given to our concerns. As a sister Department of the Interior agency, this kind of cooperation is essential if we are to be "good neighbors." Please do whatever you can to incorporate our concerns into your final Environmental Impact Statement for this Resource Management Plan. Understandably, a NSO designation is our first preference over a VRM Class I designation. Thank you in advance for your assistance.

Chas Cartwright

Chas Cartwright

---

Dear Mr. Johnson:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA), Region VIII of the Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the Newcastle Resource Management Plan (RMP). Based on that review, EPA offers comments to be considered in the Final Environmental Impact Statement (FEIS).

The EPA review has identified a number of concerns with this DEIS and the adequacy of the analysis. Our concerns include the need for a clear definition of alternatives and the environmental consequences of each alternative for air quality, water quality and pollution prevention in the Newcastle Resource Area.

EPA's primary concern with this updated DEIS continues to focus on the need for clear definition of the range of alternatives for management of public lands in this Resource Area and the environmental consequences of each alternative including cumulative effects from other adjacent activities. The distinction between alternatives and the environmental consequences of implementation seems obscure in Chapter Two (Alternatives) and Chapter Four (Environmental Consequences). It appears that all the alternatives are very similar to the preferred alternative. We recommend that the BLM develop more distinctive alternatives in the FEIS. The environmental consequences section of an EIS should then discuss the specific environmental impacts of each alternative including the direct, indirect, and cumulative effects. This approach is intended to sharply define the issues and provide a clear choice for decision-makers. On page 119, it is indicated that the impact analysis is cumulative.

The blending of impacts and the presentation of environmental consequences in Chapter Four does not clearly inform the public and disclose anticipated effects.
of federal land management plans. As noted in 40 CFR 1500.1(c), "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment".

Based on the procedures EPA uses to evaluate the potential effects of the proposed action and the adequacy of the information in the DEIS, the DEIS for the Newcastle Resource Management Plan will be listed in the Federal Register as category EC-2 (environmental concern, insufficient information). This means that the review has identified environmental impacts that should be avoided in order to fully protect the environment. Also, the DEIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment.

The enclosed detailed comments are the basis for the EC-2 rating and are a part of our review. These comments should be incorporated in the FEIS. We appreciate the opportunity to review and comment on the DEIS. If you have any questions, please contact Mike Strieby at (303) 312-6002.

Sincerely,

Cynthia Cody, Chief
NEPA Unit
Ecosystem Protection Program

Enclosure

cc: Mike Strieby
Elaine Surnano, EPA, HQ
Robert Edgar
Tommy Ortiz
Kate Padilla, BLM/EPA

GENERAL

The RMP provides very little well-defined criteria to guide site-specific decision making by federal land management. It is EPA's understanding the a resource management plan should "guide and control future management actions and the development of subsequent, more detailed and limited plans for resources and uses." With the exception of indicating compliance with existing regulatory programs for air quality and water quality protection and the application of standards and guidelines (Appendix E, Surface Disturbance Mitigation, and Appendix F, Rangeland and Grazing), the RMP does not establish directions for the appropriate implementation or limitation of activities that could adversely impact the environment.

The alternatives discussed in Chapter Two, Table 2-1, is inadequate for analyzing substantive differences. Typically, the information for Alternatives A, B, and C, states, "Same as Preferred Alternative." What parts of each of the alternatives were combined to create the Preferred Alternative? The FEIS should clearly define each of the alternatives and their respective environmental consequences. The Table appears to be a comparison of environmental impacts for each alternative. However, the Table is comparing different natural resource categories with respect to each alternative. What is really being proposed in the alternatives? Using the example of oil and gas wells, the DEIS does not appear to evaluate the difference in air quality using electric compressors versus pumping stations rather than combustion engines? How many diesel or natural gas compressors could operate without causing violations of national ambient air quality standards?

The environmental consequences of proposed management actions are indicated to be cumulative (Chapter Four, page 119). This approach avoids comparison of alternatives on a scientific and analytic basis. NEPA requires that the direct, indirect, and cumulative impacts of proposed actions be fully disclosed to establish the level of significance of potential environmental impacts over the life of the plan. It should be noted that the "cumulative analysis" should include impacts of other activities in the area such as coal mining and coal bed methane recovery in adjacent Resource Management Areas. NEPA requires that cumulative effects be addressed as a summary of the individual effects of both the proposed action and any other reasonable foreseeable developments, including those generated by other entities and occurring on other ownerships. The cumulative effects analysis should summarize the specific impacts of past, present and future actions on the ecological resources, such as water quality, air quality, vegetation, and wildlife etc.
AFFECTED ENVIRONMENT

AIR QUALITY

1. Page 61. A potentially damaging deposition rate for sulfate and a rate for nitrate is stated. What would be considered potentially damaging for a combination of sulfate and nitrate? It is indicated that all BLM-administered lands in the Newcastle Resource Area are Class II under the Clean Air Act. What is the closest Class I Area? Are meteorological conditions and emission rates in the Resource Area likely to contribute to air quality degradation in adjacent areas?

2. Page 62. In Figure 3-1, what is the typical total annual deposition for sulfate and nitrate? Are any years exceeding levels "...potentially damaging to vegetation".

3. Page 64. Last paragraph. With a projected predominant wind from west to southwest, could emitters from this Resource Area affect the Black Hills Class I Area? What is the nearest distance to the Black Hills?

OIL AND GAS

1. Page 71. The Newcastle Area has been the subject of significant oil and gas development activities. The ERM does not address the adequacy of reclamation or identify any plans for completion of reclamation on old oil and gas sites. As a guidance for future decisions making on oil and gas development there is very little information in the ERM that would define the limit of development that could be acceptable before significant environmental degradation occurs or more stringent lease stipulation and/or conditions of approval are necessary. This is a key function of the ERM. Appendix H and Appendix I provide some information about past development and attempt to present an RDF. However, the basic conclusion after review of these appendices is that development has occurred and will continue and that any potential impact can be mitigated with existing BLM control. BLM’s Manual 14024.1, Planning for Fluid Mineral Resources, recommend a procedure for projecting RDF and analyzing the direct, indirect and cumulative impacts of the development. The results of this analysis should be incorporated into the ERM/EIS. With the exception of several maps (1-1 and 1-2), the public is not offered a reasonable insight into oil and gas development potential in the Resource Area and the potential environmental impacts to air quality, water quality and habitat fragmentation.

WATER QUALITY

GROUND WATER

1. EPA continues to be concerned about the lack of clear direction in the ERM for ground water protection. Any activities on BLM land needs to comply with the State of Wyoming ground water regulations. Ground water in the Newcastle Resource Area is classified as Wyoming Class I ground water and protective standards are defined in Chapter VIII of the Wyoming Water Quality Rules and Regulations. The ERM should establish the measures necessary to ensure compliance with the Wyoming GW program.

2. Some types of additional development in the Resource Area are likely to impact local ground water quality. EPA suggests that the ERM establish specific requirements for investigation of ground water resources and the recommended measures necessary for protection of the resource.

SURFACE WATER

1. With the exception of a brief discussion about surface water on page 111, and the inclusion of a map (15-18), the ERM fails to provide the necessary management guidance or direction to assist the Wyoming BLM with the implementation of the Water Quality Standards and nonpoint source control program. The Newcastle Resource Area has a number of impaired waterbodies on the 1998 State of Wyoming 303(d) list. Several of those impaired waterbodies (see Table A. State of Wyoming 1998 303(d) list) require total maximum daily load (TMDL) analysis. EPA has provided specific guidance to the BLM State Office regarding the rules and responsibilities for federal agencies under the Clean Water Act. In general, Section 333 and Section 309, require federal agencies to comply with state water pollution control programs and ensure that federal programs are consistent with the states’ nonpoint source management program. EPA recommends that the specific provisions of the CW Act be referenced in the ERM and that the BLM clearly establish the necessary activity restrictions, if any, to comply with the State’s nonpoint source program.
ENVI RONMENTAL CONSEQUENCES

The goals of NEPA are to inform the public and disclose the anticipated effects of federal decision making on the environment. These goals are not met without disclosure of effects on the physical environment. In the Newcastle RMP, when physical effects are discussed, it is either generalized statements or uninterpreted data. This programmatic NEPA document or RMP needs to contain enough environmental information to allow the decision-maker to understand the impacts of the recommended management actions. Only then can the decision-maker select alternatives based on full knowledge of the potential environmental impacts. The RMP/EIS for the Newcastle Resource Area fails to provide an adequate basis for decision making as required by NEPA.

POLLUTION PREVENTION

EPA is concerned about comprehensive protection and preservation measures for indigenous plants and wildlife. Species-specific ecosystem requirements should be preserved and pollution prevention concepts for air quality and water quality should be established. These requirements and concepts should be documented in the RMP/EIS. EPA recommends that the RMP establish guidance to insure that critical habitat use patterns are addressed and protected in site-specific decision making. EPA expects that the RMP/EIS to specify guidance and direction for mitigation of potential impacts to wildlife and propose appropriate monitoring of those measures.
the BLM in Wyoming. These standards and guidelines present specific criteria that will be met when permitting livestock grazing. Since livestock grazing is one of the major uses on public lands in the Newcastle Resource Area these guidelines must be used in land management decisions. On page 214 it is explained that these standards and guidelines provide for state-wide consistency and guidance in the preparation, amendment, and maintenance of BLM land use plans. Yet in the DEIS, there is no mention of the impact of the various alternatives on meeting these standards and guidelines. The DEIS should reference the number of “I” and “M” Category allotments and provide a reader indication of which allotments meet these standards and guidelines and how those guidelines provided guidance to the development of the preferred alternative.

This is especially important for the allotments categorized as “I” or improve. I have reviewed all the Standards and Guidelines for the various states; and most states have issued Plan amendments for Land Use Plans for implementation of the adopted Rangeland Health Standards and Guidelines. What is the status of Land Use Plan amendments for the Newcastle Resource Area? Shouldn’t the amendment process be part of the current DEIS planning effort? The FEIS must address this concern.

Additionally, a review of Table 3-8 summarizing the various grazing allotments illustrates that 2/3 of the 60 allotments are under yearlong management. Yearlong management does not allow vegetative resources to recover from grazing and results in a downward trend in vegetative condition and trend. The BLM should be striving to reduce the number of allotments that are managed under yearlong treatment and implement either rotational grazing or seasonal deferred systems. The FEIS must provide direction in this regard to future allotment plans.

Ground nesting birds are in trouble in the grassland regions of North America. The vertical structure of grasses available for nesting (May–July) is severely reduced by livestock grazing. Grassland birds need residual vegetation from the previous growing season in which to hide their nests. Often the grass is grazed to a level that prevents successful nesting. This concern would apply to sharptail and sage grouse. As a result, nests are often lost to abandonment or destruction by predators.

On page 217, Guideline #1 states that “timing, duration, and levels of authorized grazing will ensure that adequate amounts of vegetative cover, including standing plant material and litter, remain after authorized use to support infiltration, maintain soil moisture storage, stabilize soils, allow the release of sufficient water to maintain system function, and to maintain subsurface soil conditions that support permeability rates and other processes appropriate to the site.” Maintaining adequate residual cover after grazing in consideration of nesting bird habitat should be part of these grazing practices. The FEIS should acknowledge this relationship and provide direction on this important consideration of livestock grazing for future allotment management plans.

I appreciate the opportunity to comment. Please contact me if you have questions on any of my concerns.

Sincerely,

Len H. Carpenter

cc:
R. Sparrow, WMI

wmi/len/newcaes.wpd
Wyoming Department of Agriculture

July 23, 1998

Dear Mr. Johnson,


We would like to express our appreciation to the Newcast RA officials for their efforts during the last four years to involve the public in the planning of this EIS. Their notices, meetings, and tours aided the awareness of objectives and concerns by both the public and HML officials. These efforts increased the understanding of critical issues and resulted in sounder decisions that will benefit both the natural resources of the affected area and the people affected by those decisions. The success of these efforts reinforces the importance of federal officials working with ranchers, farmers, landowners, natural resource holders, local government officials, and other affected publics to determine concerns and objectives before and during plan development. The success of this Second Draft EIS is a testament to the success of this collaborative process. We can not overemphasize the importance of this collaboration.

We definitely agree with the HML to do not declare the Lance Creek Fossil Area as an Area of Critical Environmental Concern. HML officials are correct to note the immense number and size of federal parcels of land in this area relative to the large number and size of private lands, many of which have had significant excavations. We believe this decision is in the best interest of the fossils that need to be protected as well as the people who will be affected by these decisions. Given the small number and sizes of BLM parcels, we believe that HML officials are correct in not designating these parcels as AECCs. If the AECC designation and resulting publics would do far more to protect these fossils than whatever protection the AECC designation would bring, then i.e., the AECC designation and resulting publics would do far more to harm these fossils than protect them.

We believe strongly that the economic impact of agriculture for this area needs to be updated and better reflected in the final EIS. Statistics compiled by the Wyoming Agricultural Statistics Service show the total livestock and crop markets in 1985 (the last year for which statistics are available) for the three counties affected by the Newcast BLM equal about $46 million. This one-year total of $46 million is particularly significant for this rural area and reflects a far greater economic impact. Most, if not all, livestock and crops raised in this area are sold out of state. Thus, these sales import valuable out-of-state dollars into the local rural economies.

Sincerely,

Don Christiansen
Director

cc State Clearing House
June 3, 1998

MEMORANDUM

TO: Wyoming State Clearinghouse

FROM: Jeff Haufl, Planning & Grants Manager

DATE: June 15, 1998

SUBJECT: Newcastle Resource Management Plan, SIN#89-087

COPIES: N/A

Lands involved with Keyhole State Park are administered by the U.S. Department of the Interior, Bureau of Reclamation, Dakotas Area Office and are managed for recreational use under agreement with the Wyoming Dept. Of Commerce, Division of State Parks & Historic Sites. The Surface Ownership Map included with the document should so indicate Bureau of Reclamation ownership of the Keyhole Reservoir area.

John T. Keck
State Historic Preservation Officer
June 18, 1998

The staff of the Wyoming Game and Fish Department has reviewed the 2nd Draft Environmental Impact Statement for the Newcastle Resource Management Plan, Newcastle Resource Area. We offer the following comments.

Prairie Dog Control: In Table 2-1, under both the Livestock Grazing Management and Wildlife Habitat Management Sections, there are statements relating to prairie dog control. One of these statements indicates prairie dog control will not be allowed on Bureau-administered lands unless the animals are causing resource damage or present a human health safety hazard. A distinction needs to be made somewhere within the document between large scale control efforts and hunting/shooting. As currently read, the statement could potentially preclude sportsmen from hunting prairie dogs on Bureau-administered lands under the suspicion that it represents a type of “control effort”.

Off-Road Vehicles: Under the ORV Use and Designations section on page 96, the plan should mention potential penalties that may be incurred for disregarding off-road travel restrictions. In addition, the third paragraph states: "Vehicle travel off existing roads and trails can be authorized to accomplish necessary tasks." This statement should be clarified as to what constitutes a "necessary task". We suggest off-road restrictions would be more effective if "necessary off-road travel" required a written permit or approval from the Bureau.

Big Game Population Figures: Table 3-23 on page 113 outlines several 1989 postseason population estimates and objectives for big game herd units included in the Resource Area.

Ms. Julie Hamilton
June 18, 1998
Page 2 - WER 5837

Area

Many of these figures have changed since 1989. Updated information is listed below:

<table>
<thead>
<tr>
<th>Herd Unit</th>
<th>1996 Postseason Population</th>
<th>1996 Population Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTELOPE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Black Hills</td>
<td>10,277</td>
<td>14,000</td>
</tr>
<tr>
<td>South Black Hills</td>
<td>2,309</td>
<td>3,000</td>
</tr>
<tr>
<td>Thunder Basin</td>
<td>6,985</td>
<td>8,000</td>
</tr>
<tr>
<td>Lance Creek Antelope</td>
<td>26,016</td>
<td>27,000</td>
</tr>
<tr>
<td>MULE DEER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Hills</td>
<td>21,392</td>
<td>20,000</td>
</tr>
<tr>
<td>Thunder Basin</td>
<td>17,261</td>
<td>13,000</td>
</tr>
<tr>
<td>Lance Creek Mule Deer</td>
<td>15,709</td>
<td>18,000</td>
</tr>
<tr>
<td>ELK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Hills</td>
<td>unknown</td>
<td>500</td>
</tr>
<tr>
<td>Rawhide Elk</td>
<td>90-110</td>
<td>40</td>
</tr>
<tr>
<td>WHITE-TAILED DEER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Hills</td>
<td>29,027</td>
<td>40,000</td>
</tr>
<tr>
<td>Thunder Basin WTD</td>
<td>unknown</td>
<td>1,750</td>
</tr>
</tbody>
</table>

Hunt Area/Herd Unit Boundaries: In addition to the population changes since 1989, several hunt area and herd unit boundaries have changed. These boundary changes render maps 3-12 and 3-18 obsolete. Specifically, elk areas 3, 116 and 117 on map 3-12 have changed. The new descriptions for the areas are as follows:


Elk area 116. Beginning where the Belle Fourche River intersects the Wyoming-South Dakota state line; southerly along said line to Interstate Highway 90; southeasterly along said highway to U.S. Highway 14 at the town of Moorcroft; northeasterly along said highway to Wyoming Highway 24; northerly along said highway to the Belle Fourche River in the town of Hulett; northeasterly and southeasterly down said river to the Wyoming-South Dakota state line.

Elk area 117. Beginning where Interstate Highway 90 crosses the Wyoming-South Dakota state line; southerly along said line to the Black Hills National Forest boundary.
westerly along said boundary to U. S. F. S. Road #63, southerly along said road to the Mosier Road, southeasterly along I. S. F. S. Road #87 to the Wyoming-South Dakota state line, southerly along said line to U. S. Highway 16, northwesterly along said highway to Interstate Highway #6, northeasterly along said highway to the Wyoming-South Dakota state line.

These changes also impact Map 3-18 (the elk herd unit boundary map).

The antelope herd unit boundaries on Map 3-18 have also changed. The Thunder Basin Antelope Unit now only includes antelope herd area 7. Antelope herd area 6 has been incorporated into the Lance Creek Herd Unit.

**Sage Grouse Leks.** On map 3-20, a number of sage grouse lek and nesting areas are not plotted. To ensure an accurate accounting of sage grouse leks, these sites should be reviewed with Wyoming Game and Fish personnel prior to publication of the final EIS.

**Old Growth.** Under the Preferred Alternative (Forest Resource Management), the Department recommends forested areas on public lands be managed to maintain approximately 10% old growth, instead of the 5% suggested by the preferred alternative. Old growth forests are one of the most limiting habitat types in forested areas nationwide, and should be protected as much as possible.

Thank you for the opportunity to comment.

Sincerely,

Bill Wichers
DEPUTY DIRECTOR

BW 7C as
cc USFWS

---

MEMORANDUM

TO: Julie Hamilton, Wyoming State Clearinghouse

FROM: Gary B. Glass, P.G., State Geologist

SUBJECT: Newcastle Resource Management Plan (Second Draft) (State Identifier # 89-087)

June 6, 1998

First, we want to go on record as supporting the Bureau of Land Management’s (BLM’s) decision to not make the Lance Creek fossil area an ACEC (page 1). This is an appropriate decision as there are adequate protections for the fossils in this area without this designation. We also support the decision to not place interpretive signs regarding the fossils in this area (pages 1-2).

It is, however, very difficult to comment on the remainder of this document because so much of it is outdated. This is particularly true for the information and data on mineral resources found on pages 70-80, pages 101-102, and in Appendices H and I. For examples, much of the information on oil and gas on page 71 and in Appendices H and I has not been updated since the first draft of this document, which was issued in 1993 using data through 1989.

In regard to bentonite, this document does not recognize the more recent recovery of this industry related to its new markets as kitty litter, as a binder in taconite pellets, and in environmental cleanup and containment. In fact, the bentonite industry is approaching record levels of production.

There is no mention that the Bear Lodge Pluton contains the largest resource of thorium and rare earth mineralization in the U.S., of the uranium
resources of the Bear Lodge Plateau. of the potential for diamond-bearing kimberline, or of the occurrences of fluorspar, chemical-grade limestone, decorative and dimensional stone, and rockites.

Socioeconomics for the Resource Area have to be based on more current mineral resource information and more forecasts than provided in these sections. We can provide some of this information if the BLM contacts us. This includes relatively current maps of oil and gas, coal, industrial minerals, construction materials, uranium, metals, and precious stones for this area of the State, which should help improve the mineral resource discussions since these maps are not cited as sources of information in this draft of the EIS.

The stratigraphic nomenclature chart (Figure 3-6) on page 76 is from a 1968 guidebook by the Wyoming Geological Association and does not include the latest interpretations for nomenclature in the area of the Black Hills uplift, Hartzell uplift, and the eastern Powder River Basin. The Stratigraphic Nomenclature Chart published by the Wyoming State Geological Survey in 1993, as Map Series 41, is a more up-to-date version to use and cite. There are some significant discrepancies between this 1993 chart and the 1968 chart, especially in the Cretaceous and Tertiary portions of the stratigraphic column.

On Map 3-2 in the back of this document, is the dashed line, which is identified as a structure contour on the base of the Fall River Formation, a structure contour?

If there are questions on our comments, please direct them to the appropriate member of our staff to or me. Rod DeBruin is our oil and gas expert, Ray Harris handles industrial minerals, construction materials, and uranium; Bob Lyman is our coal geologist. Dan Hauked can answer questions on metals and precious stones; and Alan Ver Plaag can discuss the general geology of the area and the paleontology.

Office of Federal Land Policy

July 28, 1998

Gary Johnson, Newcastle Resource Area Manager

Dear Gary:

This office provided the Newcastle Resource Management Plan, 3rd Draft Environmental Impact Statement, to all affected state agencies for their review, in accordance with State Clearinghouse procedures. Specific comments from the Wyoming Game & Fish Department, State Parks & Historic Sites, Public Service Commission, and State Geological Survey are attached for your review. Please give them full consideration. Informal comments from other agencies that resulted from the Cheyenne briefing and the on-site tour are incorporated below.

Because Bureau of Land Management (BLM) holdings in this area tend to be small, scattered parcels with no public access, the State does not support designating the area a Critical Environmental Concern (CEC). Nor do we support a section designation for parcels without public access. Believing that smaller, discrete, and well-defined areas can be managed more effectively than large, poorly-defined areas, the State would encourage you and your staff to consider utilizing the land exchange proposed by the landowners in the list of alternatives in the Final Environmental Impact Statement. Such a land swap could consolidate BLM and private land ownership, simplifying management of both, and acquire for BLM a discrete parcel of land which has public access and easily-visible drainage features. We suggest that, should such a land exchange occur, the resultant forest location be designated as an ACEC with anticipated significant public visitation, and managed accordingly.

If BLM retains ownership of the three parcels in this area which currently have public access, the State suggests that BLM conduct an on-the-ground paleontological survey of these specific sites prior to ACEC designation of any of these parcels. Such a survey would complement the current GIS modeling work, and would determine if there is truly a need to designate any of these areas as ACECs.

The State is very appreciative of the extensive and ongoing efforts of your staff to involve the State and the public in this planning process. We are aware that these efforts are resource-intensive relative to budgets and man-hours. The gratification of seeing formerly-conflictual interests discovering common goals, and the catalyzation of knowledge and values among all the interests, has hopefully "broadened" the investments of you and your staff.

Thank you for this opportunity to comment.

Sincerely,

Carol Kreis
Planning Consultant
MEMORANDUM

TO: MS JULIE L. HAMILTON
POLICY ANALYST
OFFICE OF FEDERAL LAND POLICY

FROM: JON F. JACQUOT
ENGINEERING SUPERVISOR
PUBLIC SERVICE COMMISSION

DATE: JUNE 29, 1998

RE: BUREAU OF LAND MANAGEMENT NEWCASTLE RESOURCE
MANAGEMENT PLAN, SECOND DRAFT, STATE IDENTIFIER NO. 89-087

Thank you for the opportunity to comment on the referenced matter. The Commission requests that no unreasonable restrictions be placed on the provision of utility service or on the construction of utility and pipeline facilities as a result of the development or implementation of the referenced plan.

The Commission would prefer that the Bureau of Land Management avoid mandatory undergrounding of electrical utility facilities as a management objective. The cost of constructing, operating and maintaining underground lines is generally higher than the cost of comparable overhead facilities and the reliability is not as good. The Commission’s general policy is that those who cause the higher costs of undergrounding electrical lines should pay the difference. If the additional costs are not borne by those who cause them, the rate payers of the affected utility would be unfairly discriminated against when burdened with paying the additional costs.

The Commission requests that, in cases involving oil and gas leasing, the Bureau of Land Management not restrict the construction of utility and pipeline facilities necessary for the exploration and production of oil and gas.

The Commission requests that, when the Bureau of Land Management sells or exchanges lands, the rights of the utilities and pipeline operators holding right-of-way easements from the private land owner and right-of-way grants from the Bureau of Land Management be protected. The Commission suggests that the private land owners acquiring Bureau of Land Management lands give new right-of-way easements to the utilities and pipeline operators for their existing facilities, and that, when the Bureau of Land Management acquires private lands, it issue new right-of-way grants to the utilities and pipeline operators for their existing facilities.

Where construction is undertaken, the Bureau of Land Management or those managing the construction should contact and coordinate with the utilities and pipeline operators serving and otherwise present in the area to prevent contact with and damage to utility and pipeline facilities. If it becomes necessary for utility or pipeline facilities to be modified or relocated, the cost of modifying or relocating any utility and pipeline facilities to accommodate construction, should be borne by the Bureau of Land Management or those benefitting from the construction. If these costs are not borne by the Bureau of Land Management or those benefitting from the construction, those costs would fall unfairly on the rate payers of the affected utility or pipeline.

When the Bureau of Land Management undertakes prescribed burns or applies a let burn policy, it should make every effort to protect utility facilities in and near the burn area from fire and related damage. If such damage occurs, the cost of repairing or replacing such facilities should be borne by the Bureau of Land Management. Such costs, if not paid by the Bureau of Land Management, would fall unfairly on the rate payers of the affected utility. If you have any questions about the location or characteristics of the utility facilities in the proposed burn area, whether they are located above or below ground, please contact the involved utility or utilities directly.

The Bureau of Land Management should make provisions requiring those with timber operations to contact and coordinate with the utilities and pipeline operators serving or otherwise present in the area to prevent contact with and damage to utility and pipeline facilities. This should also apply to those clearing future rights-of-way. Consideration should also be given to the establishment of utility corridors through timbered areas, with maintenance of cleared areas for construction.

The Bureau of Land Management and the utilities using the forest should make every effort to prevent trees from falling onto utility lines. Forest fires have been known to be caused by trees falling into electrical utility lines and such fires should be prevented.

If you should have any questions regarding this matter, please let me know.
MR. JOHNSON: Welcome, everyone, to the session. First, I would like to bring out the point that this is not the place to argue or discuss or answer questions, this is time set aside for official statements for the record, and our purpose is to receive comments.

I want to introduce you to the group. Jack Hanson is the team leader, Shelley Peele is a team member, and I am Gary Johnson, the area manager at Newcastle. We also have Jude Carino with us from the district office as public affairs representative.

This is the first draft EIS for the Newcastle RMP issued September, 1993. So that all interested persons would have an equal opportunity to review and comment, it was decided to update the document and reissue a second draft of the EIS.

In this document, there are four alternatives for management of the public lands. It’s important to note that public lands include not only the Federal land surface administered by BLM, but also the Federal mineral estate.

From the first draft, we sorted out what we considered 11 concerns. And from those 11 concerns, we’ve developed four major issues, and the document addresses these.
The concerns are Lance Creek Fossil area ACEC proposal, interpretive signs and displays about fossils placed on BLM-administered public lands in the Lance Creek fossil area, BLM responsibilities on the split-estate lands, interpretation that livestock grazing is a surface disturbance, proposal to establish the Stateline special recreation management areas detriment to all interests and uses in the area, access to BLM-administered public lands is lacking and whether or not increased access to public lands would adversely affect private lands and private landowners, whether or not the BLM-administered public lands in the resource area need more identifying signs, public land sales and exchanges are too time-consuming and costly, whether or not federal oil and gas leases should be more restrictive, whether or not policy changes in the wild and scenic rivers review process will change the outcome of the review-threatened and endangered (T&E) or sensitive species.

From those concerns, we developed four major issues. No. 1, retention or disposal of public lands; 2, surface disturbance; 3, special management areas; and 4, control of prairie dogs on BLM-administered lands.

The formal comment period for this issue of the RMP began April 24, 1998 and ends on July 23, 1998. Written comments can be sent to the Newcastle Resource Area office. We have additional copies of the RMP available if anyone wants them.

In our presentation, we have ground rules. One person speaks at that time, give name and who you represent, one representative for an organization. And a time limit if needed. Tonight, since we haven’t had any comment, we don’t need a time limit.

One of the things we’re counting as part of the record is the sign up book. We encourage that everyone sign up so it’s on the record that you did attend the meeting.

Basically, that’s it. One other thing, we will stay here until 9 o’clock in case someone wants to give a comment.

(Meeting concluded at 9:00 p.m.)
REPORTER'S CERTIFICATE

I, Catherine M. Moriarity, a Professional Shorthand Reporter for the State of Wyoming, do hereby certify that I reported by machine shorthand the proceedings contained herein and that the foregoing pages 2 through 4 constitute a full, true and correct transcript.

Dated this 7th day of July, 1998.

Catherine M. Moriarity
Court Reporter

My commission Expires July 8, 1998.
PROCEEDINGS:

HEARING OFFICER JOHNSON: Could everybody please take their seat. We're about ready to get started. Are we ready?

First of all, good evening. And the people from BLM are really glad to be here. And we are glad that you are here. First thing I want to do is -- very first thing I want to do is thank Jim Kruse and those folks who helped to set this meeting up tonight, did a very, very good job. And we appreciate that.

And secondly I would like to introduce myself and the other people here from BLM. My name is Gary Johnson. I am the area manager, Newcastle resource area. Jack Hanson is the RPM leader. Shelley Feele is an RPM team member. Where is Shelley? Right there. Jude Carino is helping us with public affairs from the Casper district. And Lorrie Brant is here, the paleontologist also out of our Casper district. And tonight we have Gust Hatanellas who is our court reporter.

Just real quickly, as you probably know, read the papers, we've had open houses and public meetings now in all three of the counties. We had Crook County Monday night, Newcastle Tuesday night and tonight here.

The purpose of this meeting we're not here to argue, or discuss, or answer questions. The open houses were intended for that. And I invite anybody and everybody if you have a problem, you are welcome to come to the office. You know, this is an opportunity for you to be able to comment, but please don't think this is only opportunity until comment period closes, we certainly welcome any thoughts that you have.

For this meeting we're here to receive comments and to allow you to make an official statement for the record. And everything we will record and be part of the record. And there will be a transcript of this meeting tonight. Just a real brief summary of what's happened with this RPM first draft that the Newcastle RPM issued September 1993.

So that all interested persons would have an equal opportunity to review and comment, we decided to update the document and reissue it as a second draft which will we have -- which is what you have right now.

In the second draft we have four alternatives for management of the public lands.

This includes not only federal land surface
administered by BLM, but also the Federal Mineral
States.

As a result of our review and of the first
draft and comments we have 11 concerns in the new
draft. From these 11 concerns we have developed four
major issues and I will read you the concerns and
issues.

Concern number one, the ACRC proposal.

Concern number two, interpretive signs and displays
about fossils placed on BLM administered public lands
in the Lance Creek fossil area. Three, BLM's
responsibility on split of state lands four -
interpretation that livestock grazing is a surface
disturbance. Five, the proposal to establish the
state hand as official recreation management area,
and it's potential detriment to all interested users
in the area. Six, access to BLM administered public
lands is lacking and whether or not increased access
to public lands would adversely affect private lands
and private landowners. Seven, whether or not BLM
administered public lands in the resource area need
more identifying signs. Eight, public land sales and
exchanges too time consuming and costly. Nine,
whether or not federal oil and gas land leasing
should be modified. 10, whether or not policy
changes while the review process changes the outcome
of the review. And 11 threatened and endangered or
sensitive species, of these we developed four major
issues. Number one, restriction or disposal of
public lands. Number two, surface disturbance.
Number three, special management areas. And number
four, control of prairie dogs on BLM administered
public lands.

The formal comment period for the second
draft of the RMP began on April 24, 1998. And it
will end only July 23, 1998. Written comments can be
sent to the Newcastle resource area and we certainly
welcome them. Additional copies of the draft are
over there. I think we have some more in the
vehicles if you need them. We have them at our
office if you need a copy.

I am going to ask that we have a few ground
rules for this meeting so that we can make it work in
an orderly manner. First, I ask that anyone that
makes a comment please come to the podium and do so.
And one of the reasons for that is that the court
reporter can transcribe your comments and we have
some order.

Secondly, one person at a time at the
podium.
Third, please state your name and who you represent when you come up to comment. Whether it be yourself or an organization.

Fourth, we would prefer to have one representative per organization, if that's the situation here.

Fifth, we've been trying to set a time limit. And I don't know how well that's working.

What I have done at the last two meetings was to ask for a five-minute limit. But we really didn't have much many comments.

I noticed that we might have a lot more tonight. I talked with the court reporter, all the people from HLM are willing to stay past 9 o'clock.

The court reporter said that he would also stay past 9:00.

I would ask if you could please try to limit your comments to five minutes. If you can't, that's fine too. After a certain point what I would ask you to do is maybe wait until the end of the meeting to finish, depending upon how long your presentation is.

This is your meeting. So I am just trying to moderate and try to get us through it.

I have noted here, but I don't think it applies, so I will skip that one. It's not a good ground rule. Let's see. And I guess one other thing I got down here, I am not sure I want to do that, but I guess in the interest of orderly progressions of the meeting, depending on how many people comment, I guess I would ask a second time to try to -- glad that I have in to let everybody here make a comment.

But again I think with this idea in mind, we will stay as long as we need to.

And basically that's the initial discussion. I am going to ask four people -- I talked with Jim and he requested that four people want to make comments first. And that's fine with me. After those four people make comment first, I was going to go down the list.

One other thing, I don't know if I mentioned it or not, please make sure you sign.

Because that all of this becomes a part of the record and that's important for us, but after that we can either go through the names of people or maybe have people hold their hands up and volunteer to comment, whatever will suit you. But with that, again I thank you for your attendance. You know, for what it's worth, there was a lot more people from Missoula area than the Weston and Crook County.
And with that I will go ahead and open the meeting up. And first person I will ask to come and give testimony is Donna Ruffing.

MS. RUFFING: Good evening. Here we are four and a half years later still trying to defend our private property rights. I wanted to show you what has happened in four years. That is a lot of time on everybody's part. Not only our's but the BLM's. That's a lot of taxpayer's money. It's a lot of volunteer hours and hours that most of you haven't had. Actually you weren't able to give those that time, but you did and you stuck in there and that's why we're here today.

Have we made any progress? Yes, we have. But uniting through the osipus that's the Niobrara Resources Organization, we have stood up. Our concerns have been heard. They've been duly noted and most have been favorably acted on.

Early on, the BLM recognized the fallacies, declaring the Lance Creek fossil area of critical concern, ACEC, the proposed areas of 351,360 acres consisted of 79.7 percent of deeded land. There is 6.4 percent of state land and 13.9 percent is federal land. That's 4840 acres, 33,720 acres of federal land is land locked. Leaving only 15,000 120 acres

As a result, the BLM deleted ACEC designation from the ensuing drafts. 10 pages were submitted to the BLM detailing by page, paragraph and line, the issues and concerns on every topic. And this was done in cooperation, consultation with the Niobrara County Resources Board.

The BLM recognized the ambiguous language and the contradictory statements. The second draft has been cleaned up significantly. The second draft deals with federal surface only. Prairie dog control and split estate to our satisfaction. The ACEC designation has been eliminated and we can live with the threatened and endangered species now that it reflects to federal surfaces only.

Our greatest concern at this point is the possibility of the ACEC being included in the final record of decision. The Sierra Club, the Wyoming Outdoor Council, the Wyoming Wildlife Federation, the National Wildlife Federation, the Greater Yellowstone Coalition are indicating the BLM with comments to declare the Lance Creek fossil creek area an ACEC. I don't have access to their comments other than what was in the Casper Star Tribune. And I would like to quote some of their statements.
"Lance Creek is in disparate need of special management. Investigated all the NNLs that the Park Service has designated, had substantial BLM land. This is only NNL in the Rocky Mountain region." That is not good grammar. "ACEC designation. The ACEC would not, as appeared locally, amount to a strict National Park designation with all strict regulation that entails that designation would allow the BLM a procedural tool for ordering patrols of the area, marking the boundaries between public and private lands. Protect the fossils from surface disturbing activities. ACEC designation would permit multiple-use activities to continue with some restriction to protect the fossil resources, would do little, if anything, to augment tourism. There are still some quotas from the environmentalists. The BLM went to too far in stripping the landmark ACEC status all together based on what amounts to mapping, the landowner getting out NNL is overreaction.

It's just like the National Historic Landmark designation, there is nothing regulatory to this designation other than it recognizes some values out there.

Local opposition to both designations is based on fear that the area is going to become a national park and they are going to lose their land. It just doesn't make sense.

Wyoming BLM is giving these people way too much credibility in their decision-making process at the state level. Let's get real. The original resource management plan called for ACEC designation to be the entire NNL area, the 351,360 acres including all of the deeded land. There was no mistake. There was no mapping error. It was intentional and the landowners did not overreact.

It was discovered that the private property owners declined from participating in the original voluntary NNL designation in 1966. That the area was expanded in 1974 without the landowners knowledge that 84 of the 200 landowners, the removal their land from the NNL designation. To date the Park Service has refused to honor this request the NNL, ACEC are not symbiotic designations and governmental action has consequences.

Special management -- I don't think the federal government could provide any additional special management. The landowners in this area, in spite of the federal government have done more to protect the paleontologic resources. The landowners
recognize the potential historic value to our agriculture.

At the same time, comparing NNLs with substantial BLM land is ludicrous. This area does not have substantial BLM land. 23.9 percent to 79.7 gives us a break. The ACEC designation would allow the BLM to substantiate an increased budget request. The end result we pay more taxes, and you as stewards of the land would have to deal with the increased numbers of the entitled public only a daily basis.

The environmental organizations have no concept of the cost required to mark the boundaries between the private and public lands. I can't even conceive of it. They have no concern if a landowner would be required to share in that cost.

Their focus is only the small picture. Some restrictions it's that concerns us. Is it removal of livestock from the area to protect the fossils. It certainly won't be the wild game. They wouldn't want that. It is not erroneous fear that drove us to express our concerns over these designations. It's our constitutional right to protect our property, our custom, heritage and culture. Too often we have allowed the government to infringe in the past by not expressing our opinions.

Each time we apprehensively allow government interference, it leads to additional infringements. Pretty soon we have lost all control and our way of life is lost.

In the past few years we have observed the federal government arbitrarily declaring which would be necessary areas, historic and scenic rivers.

Don't presume to tell us about erroneous fear. We have stood up, expressed our legitimate concerns and been recognized by the BLM as being credible.

Over the past four years we have developed an adequate working relationship, better than it was in prior years. I urge the BLM to continue to recognize those credible concerns. To recognize our constitutional rights as private citizens and property owners. And my Niobrara County's right to participate as a cooperating agency. I urge them to submit the second draft as it is for a record of decision.

Thank you.

HEARING OFFICER JOHNSON: Thanks, Donna.

Next, Tom Hamilton.

MR. HAMILTON: She said what I have to say.

THE COURT: Okay.
Next Tim Kruge.

MR. KRUGE: This might be a little low. I have done some low things, but -- thank you, Gary. I really appreciate the fact that the BLM saw fit to appoint you as district manager because of your open-mindedness and willingness to listen. That's all we ask for. I appreciate the work done by Jack and Shelly, done a tremendous amount of work. Rest of the BLM personnel that's been involved in this that changed the attitude.

I think this is what we really have been hoping for was the fact that we would be able to work together to improve the resources in this area. And we're really tickled.

I also want to thank our three county commissioners for the support that they have done. They are all three here. They have given us. We've got Ross Dielch. We thank you. We also have two representatives of our federal elected officials. We got Elaine and Robin here Robin has been with us the hole way. Done a great amount of good for us. And we also thank Jeannie Peterson for being here. For representing the Lusk Harold.

I guess that the Niobrara Resource's position is mainly as clear leader. We realize there weren't great changes made in this, but what we see is a clarification and specificity of language, you know where our fears were, that it could be interpreted in many different ways.

I think you have done a lot of work on narrowing the scope of it saying exactly what you mean and I think that's important. We support the Niobrara Resources' support the ACEC for Canyon. We think it's right and appropriate for that. We also support the decision to remove the request for the Lance Creek fossil area. Because if you look at it from a resource point of view we thought that it was going to be detrimental to the resources in this area. We thought it would have adverse publicity that would cause people to come here and we didn't have the ability to control that inflation of people. It's much like declaring a wilderness area and everybody thinks that's special, different from the forest next to it. Or declaring a wild and scenic river. And as happened on the Niobrara River, people flock to it. You get a lot more pressure.

We believe that the Sierra Club and these other organization's opposition to removing this ACEC designation or not having that designation is more of
a membership issue rather than a resource issue. We believe
that there are misrepresenting this strictly to gain
membership rather than to protect the resource and we
are really disappointed in this stance.

What we would like to really comment on is
the language on the prairie dog issue. Our fear was
it was a health and safety issue if there was no
control. And if there was no control, there would be
a resource degradation problem.

And we like the language that you put in
here regarding those two problems. We like the
language on the Salt River Estate. You have cleaned that
up a lot.

As most people know that's involved in the
oil and gas business, there are tremendous number of
rules and regulations on oil and gas exploration. We
feel that those regulations that are presently in
place are adequate to protect the resources in this
New Castle district.

There was a couple issues that we still
have a bit of a problem with. One of them is mapping
of the threatened or endangered species habitat
area. We don't see and we haven't been shown the
data or information that that area is any more
important to threatened and endangered species than
any of the rest of this area. We would still like to
see proof that that's necessary.

The other things is Dan Hanson has done
some research, and he's got updated information for
the economics, agriculture economies. He will
present that, but he has done research on that. We
would like to present that.

In all we're really pleased with the
changes that are made. We realize that there was
only about two major changes and that most of it was
semantics. But we really appreciate the work that's
been done on this and we appreciate the openness of
the BLM personnel in hearing our concerns and
changing wording. So that always our fears.

Well, some further written comments, but
these are our general feelings and I really
appreciate the work that's been done.

Thank you.

HEARING OFFICER JOHNSON: Thank you, Jim.

DANNY HANSON?

MR. HANSON: Once again, I would like to
commend BLM for the great job they've done and the
change of attitude. And we are going to have some
written comments and this is one of them. And this
one is kind of my Achilles heel. So I'll go on with
it here.

This is about what agriculture produces and
contributes to the state and to the county. And I
will just read from the book right here. Let's see.
The most significant difference between
economic sectors at the state and planning area
levels was in the farm sector which contributes only
1.6 percent to the state. Here is something from the
state statistician, Dick Colter. And he says
agriculture continues to be a top industry for
Wyoming. And that's in the introduction of the book.
So I think that probably means we're a little bit
more than 3 percent of the state.

Now, going on down they say that we do, in
the county level as an indication of the volatility
in farming, this sector of my Niobrara County
contributes only 1 percent to the state level and
3 percent to the planning area level.

Okay. I have got a bunch -- I did some
research. And I have got a bunch of papers here I
would like to leave with you. And this is kind of my
Achilles heel. I would like to see this part changed
in here because we are really more than 3 percent.
The fact -- here is the fact that we got from the
state statistician in 1993, agriculture -- this is

Niobrara County total gross income in Niobrara County
was 26.5. The next closest industrial -- I don't
have that one available. In 1994 agriculture
contributed 21.8 million in Niobrara County. Oil and
gas was 12.2. '95 was 23 million even. Oil and gas
was 10.5. '96, agriculture was 21.8 oil and gas was
11.9.

That's a little bit more than 3 percent I
think everybody agrees. And the reason this is my
Achilles heel really is we go through this AEC and
there really are a lot of well-meaning people that
are part of the Sierra Club and they really like to
weigh things. And they think, well, if it's only 1
or 2, 3 percent of the economy we are not going to
hurt them by taking that land over, making a fossil
park or something. That's why we would really like
to see that changed other.

Then that, and few changes that Jim was
talking about, we're pretty happy with it, but we
would like to see this part changed and I will leave
those sheets of paper here for you.

That's all I got.

HEARING OFFICER JOHNSON: Are those the
ones that you are leaving here?

MR. HANSON: Yeah.
HEARING OFFICER JOHNSON: Thanks.

Jim, that's the four people I had on the list. So now if you want to hold up your hand if you would like to comment.

I don't seem any hands.

MR. PEASLEY: For the purpose of the comment on the draft EIS, would you like to know each individual's position on the proposed ACEC, whether or not they agree with your change? Or does that help or not?

HEARING OFFICER JOHNSON: Excuse me.

The way I look at it, any comment that we receive helps us. And I welcome all comments.

Did I answer your question or --

MR. PEASLEY: Yeah, I think it's really important. This fact this is part of the record so you don't have to write a letter, but if you are opposed to that ACEC designation, if you agree with the BLM on the draft EIS, I think it's important to give your name and position that you take there.

It's just the same as writing a letter; is that right?

HEARING OFFICER JOHNSON: Yes.

In fact, any comment we listen to, including verbal comments and discussions, written
cattle ranch and landowner also. I am very opposed to also the ACEC designation.

MR. GUNN: I am Dale Gunn. I am a rancher. I am opposed to the ACEC.

MR. ROBB: I am Ray Robb and I am opposed to the ACEC.

HEARING OFFICER JOHNSON: Do you want to --

MR. ROBB: Yes. I am a landowner.

HEARING OFFICER JOHNSON: -- for the record.

MR. HAMILTON: I am Tom Hamilton, commissioner and landowner. I am also opposed to the ACEC.

HEARING OFFICER JOHNSON: Thanks.

MR. STEWART: I am Ron Stewart, the current representative from this district in the Wyoming legislature. I urge you to stick with this second draft. I urge you to heed the comments of the Niobrara County Commissioners to hold on to the second draft. We do oppose ACEC here.

I would also like to second the comments of Mr. Hanson about what Agriculture contributes to our areas. I would like to see these clarified.

MR. SMITH: I am Claude Smith, a landowner. I am opposed to ACEC, but I would also like to second your comments.

I think probably this draft after really reading the first one and studying it, I think you have done a real job on the second draft. And it isn't perfect for everybody, but it can't be. I think you have done a good job of balancing the issues and being open. And I appreciate that and I thank you.

HEARING OFFICER JOHNSON: Thank you.

MR. JAMES: I am Richard James, county commissioner. Used to be a landowner, but I am with the other commissioners that we were definitely against the ACEC.

HEARING OFFICER JOHNSON: Thanks.

Any more comments?

MR. BAYNE: Gary Bayne. For the record, I guess I would like to also say that I support Danny Hanson and Ross Dierck in this clarification as far as getting the figures correct on agriculture and the economics involved.

HEARING OFFICER JOHNSON: Thanks.

MS. LANDERT: I am Shirley Landert. From the very beginning when this came down the pike, I think we all were in a little in amazement that something could be coming from the BLM office because
we felt like you have always worked with us and
everything. And the first original draft just blew
us all out of the saddle.
I really feel that just glancing through,
having seen this book for the first time tonight, I
really think that there has been a lot of work done.
Our opposition has been recognized. You
people in the BLM office have recognized the fact
that we have got to make a living. We have to live
within the regs that we can and honor your rules and
regulations that makes it beneficial for all
involved.
And I really feel that the ACEC is not
really necessary and I am opposed to it.

HEARING OFFICER JOHNSON: Thank you.
Any more comments?
(No audible response.)

HEARING OFFICER JOHNSON: Give you another
couple of minutes.
We are interested in comments and it
appears maybe that most folks have commented. One
thing I've learned tonight is some people like to
comment from the audience and less hard for us. I
suppose if there is not any more comments -- again,
this is your meeting. The purpose of it is for you
to comment, but it appears that every one has kind of
said what they wanted to say.

So if there is not anything else, I kind of
give one last chance, and if not we will close the
meeting.

MR. SWANSON: My name is Stan Swanson. I
am a landowner. I have got one question.
I was at your office in New Castle the
other -- I believe the final comments for this are
due in by the 9th of July.

HEARING OFFICER JOHNSON: No. July 23.
Jack?

MR. HANSON: Right.

MR. SWANSON: So July 23 everything has to
be in by then?

HEARING OFFICER JOHNSON: Yes. I again
stress to every one that any time you talk with us
that's a comment, we want you to do that. As far as
the record goes, that's when it stops, but any time
you have any thoughts about it, sharing with us up
until that point, we will listen to what people have
to say. I don't know if you want to say this here,
tell them about the tour on the 9th of July.

Jack, what do you think?

MR. HANSON: Yeah, that would be good.
HEARING OFFICER JOHNSON: If we don't have any more comments, what I would like to do then is tell you about the tour. And the way I tell people things is let someone else. I would like Lorie Bryant, our paleontologist come up in general and discuss it. And I will talk a little bit about it. As you know, there is an opposing point of view on ACEC. One of the things that spirit of BLM it's working is to try to work with the public. When we saw the strong feelings people had, we decided to try to set up a tour. And we have been working on that real hard and we were trying to do that. I think we're kind of getting it to the point where we are about ready to do it we have some details, and I'm not sure we haven't ironed everything out quite yet. We will let every one know, but any way, Lorie, would you come up and kind of talk about the tour.

Jack, if you need to, would you also?

MS. BRIANT: I am Lorie Bryant. I am the BLM paleontologist for Wyoming and several other states. I have learned a lot from this process. It's been a great learning experience for me. It sounds like it has been for you.

Part of what we've been discussing is the opportunity not only to deal with the question of fossil resources on paper, but to have an opportunity to take interested parties out to see what's actually on the ground. I'm not sure that we're at all final on how we are going to do this. Gary's picked a date and I'll be continuing to work with Gary and other staff at Newcastle to put a tour together that will accommodate some questions and maybe give people some answers.

HEARING OFFICER JOHNSON: Jack.

MR. HANSON: My name is Jack Hanson. I am the RMP team leader for the current project.

In talking with Lorie about the tour, that's how it came about. Is just to explain the ACEC, what an ACEC is, what it does. It benefits the feasibility, given the specific resources available and the best way -- we decided the best way to do this is an on-the-ground visitation to determine and to express what it is we're trying to protect.

So we've come up with a field tour to do this. The date on that is July 9th, but that's as close as we have come to specific details. We have kicked a lot of things around, penciled some things in. We don't have specific areas. We have been talking with Jim Kruse, Donna Ruffing concerning pulling this thing together and that's as far as we
have it right now.

HEARING OFFICER JOHNSON: Thanks,

Jack.

Donna, do you have any more discussion?

MS. HUFFING: This is being put together
particularly for the environmentalists and those
people who really don't understand what the situation
is in our county and whether those individuals will
show up or not, we don't know.

Sierra Club has been invited a number of
times to come to Niobrara County and they have
neglected to feel that it was important to do so. So
we may put it together, but I thought it would be
kind of interesting because whenever I come to the
Lance Creek area I always get lost and maybe somebody
can show me where I am going. You know?

And you might enjoy it, too.

HEARING OFFICER JOHNSON: Thank you,

Donna.

Any more comments? Anything? Anyone else
would like to say for the record while we have a
court reporter here?

And if not, one last time maybe I guess put
it on the record, but I do support and encourage you
to keep giving us your comments. Keep letting us

know what kind of job we're doing. And I want to
thank some people that I have been working with over
the last ... I was thinking I have been here I think
little over two years, I think? Yeah. No, maybe
three years. Anyway, there is some people that I
worked pretty closely with. Donna is one of them.
Jim Kruse is another. There is Danny, county
commissioners. I also would like to recognize The
congressional delegation and I thank those folks.

I think we are reaching a point now where
we are working together pretty good. But anyway, I
want to thank those people.

I want to thank all of you people for
coming out tonight. If there is nothing else, we
will close the meeting.

(No response.)

HEARING OFFICER JOHNSON: Okay. Thanks.

(The proceedings were concluded at the
approximate hour of 7:45 p.m.)
STATE OF WYOMING
COUNTY OF LARAMIE

I, Gust J. Hasongas, official court reporter, hereby certify that the foregoing transcript of the proceedings is a true and correct transcription of the taped proceedings on the date indicated.

Dated this ___ day of July, 1998.

Gary Johnson, Hearing Officer, presiding.
HEARING OFFICER JOHNSON: Okay. Welcome.

First I would like to introduce all of the

BLM people who are involved in this tonight. I'm

Gary Johnson I'm the area manager, Newcastle Resource

Area. Jack Hunsen is the RMP team leader.

Shelly Peel is the RMP team member. And Jude Carino

is representing public affairs for us tonight.

Welcome to you.

The purpose of this session is not really
to argue, discuss or answer questions about the RMP.

We've had an open house this week. We had an open

house last night in Sundance, we had one today in our

office, and an open house tomorrow night from 6:00 to

7:00 in Lance Creek at the elementary school.

The purpose of this is to make a statement
for the record and to make comment on the RMP. Just

a brief summary of what's happened in this process.

The first draft EIS for the Newcastle RMP was issued

September 1993. We've decided, so that all

interested persons would have had an equal

opportunity to review and comment, we have decided to

update the document and reissue a second EIS. We

have done now to those who need there are copies in

the back basically presents four alternatives to the

Newcastle Resource Area. Public lands include not
only the federal land service administered by the

BLM, also the federal mineral land from the first
draft. We took all the comments and the draft itself
and came up with 11 concerns from that process. And
out of those 11 concerns we've developed four major
issues.

The concerns are, number one, Lance Creek
fossil area, ACEC proposal. Number two,
interpretive provisions as to the fossils on BLM
administered public lands in the Lance Creek fossil
area. Number three, BLM responsibilities on state
lands. Number four, interpretation of livestock
grazing as a surface disturbance. Number five,
proposal to establish the state line special
recreation management area and the possible detriment
to all interest and uses in the area. Number six,
access to BLM administered public lands is lacking
and whether or not to increase access to public lands
would adversely affect private lands and private
landowners. Number seven, whether or not the BLM
administered public lands in the resource area need
more identifying signs. Number eight, public land
sales, exchanges are too consuming and costly.
Number nine, whether or not federal oil and gas
leasing should be more restrictive. Number ten, whether or not policy changes in the wild and scenic review process will change the outcome of the review threatened and endangered or species. Must have lost count. Supposed to be 11. I only come up with 10 here, but I have given you a copy of it -- of the concerns.

Out of those concerns we developed four major issues. They are number one, retention or disposal of public lands. Number two, surface disturbance. Number three, special management areas. And number four, control of prairie dogs on BLM administered public lands.

The formal comment period for the second draft of the EIS began on April 24 of this year and ends July 23. Written comments are welcome and you can send them to our office. As I mentioned earlier, we've made some available copies for anyone who doesn't have a copy in the front.

We've developed some ground rules for the presentation, but I think that we can maybe be a little flexible with that. We didn't really know how many people would come tonight.

First ground rule for this presentation would be one person speak at a time. And I ask that anyone who gives testimony would please come up front here and do so. Secondly, ask that you give your name and who you represent, whether you are representing yourself or an organization. If we had quite a large crowd, we were probably going to limit comment to one representative per organization and then if we had time, come back and let other people do so more. But from the looks of things, I think we can probably entertain all of the comments tonight. And again, we are going to set a time limit at this point in time. You know, go ahead and make your comment. If it looks like we get quite a few people in, we might have to set a time limit on how much time is available.

And I guess the last thing is that everyone please sign in. There is a sign-in book at the back. And again, if there is more time, we can let people talk, give comment again. And kind of looks like people sort of wondering in. So maybe if other folks come in, I might go through this again if people think we need it.

But again, the purpose of this is to allow you to make comment. So at this point in time we could go in order of the people who came in and signed the book.
So the first person I think -- Darryl, are you the first one? Sorry? You are welcome to make comment.

MR. JOZWIK: Darryl Jozwik with American Coal Company. I just had a couple of real small comments.

In appendix E, as far as mitigation for surface disturbing activities, there is some items in here. Such as you don't want any disturbance within 500 feet of surface water or riparian area. And in here it says that you can get in exception waiver or modification of this limitation approved in writing. And I was just wondering that could be spelled out a little bit better as far as whether a permit or included within a plan of operations. Something along that line.

Then the only other comment that I had was dealing with the -- let's see if I can find it in here. When your dealing with the special status plant species, it says in here a search for the species would be required before allowing the surface disturbing activities. And I guess if a guy could get a little bit more what type of search would be required and by whom.

And those are the only comments that I had.

Thank you.

HEARING OFFICER JOHNSON: Thank you. Next?

MR. HARBINGER: Well, I guess I can be.

MR. HARSHBARGER: We have plenty of time right here.

Need to come up here and you can take more than five minutes.

MR. HARSHBARGER: Well, okay.

I'm Robert Harshbarger, rancher and president of the Weston County Farm Bureau. And I represent myself and members was my farm bureau.

First off the great improvement from the draft of 19 --

HEARING OFFICER JOHNSON: '93?

MR. HARSHBARGER: '93. I was going to say 1906.

So I have gone through and highlighted some things. So you might bear with me. And if I can go from the table 2-1, and I will try to be as brief and just make what my impressions are and so on, and get the started here.

The first one that I have where I would like to suggest a change would be in the fire
management. You have restoration of burned areas would be any natural succession unless a special need is identified to prevent special resource damage.

I would like to see alternative B put in preferred alternate on this thing which says restoration of the burn areas would emphasized, restarting vegetative cover and prevent erosion that the plant species move into -- in other words we have a burned area and we really need the resource, we need help to get the resource started again.

Particularly any area where we only have 12 inches of or less of rain fall a year needs some help. I don't mean you got to go out and water it. Species have been added possibly.

Next one is on we don't have a page here for resource management. This is under -- to maintain diversity and the old growth after the forested areas on public lands would be managed to maintain approximately 5 percent old growth.

I guess where I am coming from, I would just as soon see it stay under the no action alternative where old growth, the public service would not be maintained. And again this sort of follows what the Black Hills National Forest on their skaggs or dead treus and so forth. I believe that's a little bit high percent, not saying we don't need skaggs or we don't need dead trees, but I think that 5 percent might be high.

This is under the geology and mineral resource management. And your paleontology there is quite a long paragraph. Let's see, assessment, mitigation of impact to those resources might be required on that, the concordance with BLM policy.

And if suspected fossil materials are the unoperated would be required to stop immediately.

But anyway I like alternative B on complete inventory identifying formations be completed for the entire area and anything that's planned before we even suggest that they can come in and start digging that we get on that point there. Lands and royalty and management public land surface only.

Utility management actions, utility transportation system would be located adjacent to transportation systems whereever practical. I would like to move again going to alternative B and use utility course would be established on BLM administered public surface to include as being existing facilities as possible future right of ways would be routed through corridors whereever possible.

And if I know where I am coming from in
regards current railroad problem that they
maintain -- that they use the current. Anyway I
think that alternative B is little bit stronger on
that aspect.

On still water lands and royalty management
as an alternative determined on case-by-case basis
alternative easements would be pursued to provide
access to public lands to support the objectives of
other resource programs. Again I like alternative B,
no attempt would be required to gain additional
access to public lands as private landowner that the
public lands within the ranch. We have to work
things out, you know, but from that for access to
public land. I would like alternative B. Livestock
grazing and management on public lands surface only
under your management actions. The authorized
grazing use on the BLM administered public land
surface would not exceed 48,818 animal units per
month.

Having set in -- the last year -- on the
BLM the grazing thing, the Resource Advisory Counsel
developed and so forth and as our programs move
forward. And we when I say we, all of us as land
managers pursue and develop our resource which is the
forage and we improve it. I think that the time will
come that we will be able to increase AUMs. And I am
of the opinion that in cases as we go on through here
where we have in Metal Creek recreation, whatever it
is, where we are going to lose some AUMs. What I am
saying there should be no net loss of AUMs on the
federal lands at this time. And I think down the
road the direction that we are going -- you people
are going and we ranchers are going, I think that
with the little bit of ingenuity and as we become
more educated and so forth, that our lands will be
able to sustain and have more AUMs. And we will not
be degrading the system at all.

So I have a put question mark there. You
don't have any other alternatives, but I have a
questionmark and I think that they can be increased,
so not tomorrow, but down the road some time.

I still have livestock grazing and
management of course, we are going to get into the
prairie dog area. Having close to a quarter of my
ranch infested with prairie dogs both on my private
land and on federal lands both the national grass
lands and BLM lands within the ranch boundaries, I
find it very hard to say that we are going to say no
control. There would be no control of the size of
the prairie dog town on public lands unless that the
human health and safety threatened. So you have that in there. But alternative three, prairie dog towns would not be allowed to exceed the size of the town as of October one of '92.

This is how I do I want to put this, but I called it my range land enhancement program, going on with ranches and this summer we have a number of recreational shooters on the ranch. And for this is our seventh summer now. And for the first five summers -- four summers I thought we had stabilized our prairie dog towns and population. The last two summers and springs have been very good grass years. I am having another good grass year this year and my prairie dogs population is exploding and they are moving. They are moving beyond the towns and there. One thing, they are coming into my hay meadows which is not to my best interests. And I don't know where I can bring in more range hand enhancement personnel. We are pretty well booked solid for our period of time which will run this program from Memorial Day through Labor Day. So I, in essence, have been managing my prairie dog population this past year because these folks give our ranch what I word, cash flow during the period of time that we do that. Otherwise don't generate cash for the ranch. It's been working out very good for us. Working out very good for the recreational shooter.

That was another thing I did notice and I may have missed that in your draft for this document here that came out a couple of three years ago. You mention that recreational shooting would not be considered as a source of control. And I would like to see that remain in this document here. And as we talk about that, the clientele that I have coming in, we know what they are doing -- we know that they are selective and we know that they were careful and -- versus the other means of control, which is basically poisoning of them which is nonselective of the species.

And so now I could probably let people come in late March and April, and then work on the breeding stock and I wouldn't have the population that I have now at this particular time, which is expanding only me. But again, doesn't fit into our ranch activities or ranch needs at that time to have people there at that time of the year.

So one other thing that I have done, I only did it last year. I have started put nesting boxes out on the range. We put up three last year. I had a troop of Boy Scouts came out and stay on the ranch
for a week. And this was their nature project was to build and put up these nesting platforms hopefully for the hawks.

And as of this year, we didn't have any takers. I do think that this is a very viable type of management. It's a natural management. And I would like to see federal agency work on this as a means of helping control this population. And we benefit two things there with the Ferrugineous Hawk. As you know, is a ground nester, but a platform is available to them, they will nest on them. And in my area along the Cheyenne River they do to some degree nest in the trees. Mainly the Red Tails and the Ferrugineous Hawk being a ground nester is subject to presentation to whatever critter comes along and disturbs its nest.

And my background on this and my son is a biologist environmental specialist at Bridger Coal Company in Rock Springs. And he has a very successful rate on his nesting boxes over there. And so I have been getting some help and advice from him. And he said it might take two or three, four years before we get some of these things to take it, but the Ferrugineous Hawk young hatch at the same time that the young prairie dogs are emerging from the dens or the boroughs, and so that's the way that nature --

So any way I think that would be very positive thing for maybe from the public relations standpoint, if nothing else, we would accomplish two things.

So I think we are going to have prairie dog control. And if we wait -- if you wait one year for surface damage, or forest damage, or range land damage, the way that they move in, with the rapidity that they move in, while you have waited to the point that if you are going to cut them back and hold them in check, why you would have to use the poison. And personally I think that the poison is very expensive and highly ineffective.

We've done a little bit on our place a number of years ago. I think we just threw $700 down the drain because it just didn't do a bit of good. That's been my experience with it. And we go on.

I've covered quite a bit on this thing. I won't belabor it any more. I have a few prairie dog towns on public lands. I again go to alternative B where new prairie dog towns would not be allowed to be become established on public lands.

I have gone over five minutes, Gary.
HEARING OFFICER JOHNSON: Yeah. I think what we can do is -- how much longer do you think that you will be?

MR. HARSHBARGER: Let's see.

HEARING OFFICER JOHNSON: What I was going to suggest if you think that you are going to be quite a while, there are some other folks, maybe you could --

MR. HARSHBARGER: I think I am about at the of it here. I got my train of thought going.

HEARING OFFICER JOHNSON: Okay.

MR. HARSHBARGER: Basically I think that everything wildlife habitat and management no BLM authorized actions will be allowed that would disrupt animals on identified crucial range on 1 November to 30 of March unless approved by the authorized officer and reference to map JS6.

Alternative B says no BLM authorized actions would be allowed that would disrupt animals on identified crucial winter range. And I don't necessarily -- they both say about the same. Alternative B is preferred. So I don't know why I marked that.

Basically that's the extent of my comments and I want to emphasize no loss of AUMs under any circumstance. And I think about as our range lands improve, which they are doing, let's think about upping the AUMs. And let's really be very conscious of the prairie dog problem. And for many, many landowners and for the federal surface itself.

Thank you.

HEARING OFFICER JOHNSON: Thank you.

Leonard?


I guess the only thing that I have to comment about is endangered species on the Snyder Creek Drainage where I live. In '93, I guess it was on the other draft, we were in it then. I always thought that it was going to be taken off from it and I have seen no one out checking on anything to verify why we weren't in it or why we were in it.

In the last five years so I guess when I got the new draft, that I thought that we would be out of it and we weren't. So I guess that's my comment on why we are still in it? And I have -- you know, nobody has contacted us why we were originally put it in it or why we weren't taken out of it. And so that's basically my question.

And I do appreciate the new water well I
got.
Thank you.

Hearing Officer Johnson: Next.

Mr. Reed: I am Jeff Reed representing Reed Ranches.

First, I would like to commend the BLM for rewriting this second draft. It’s a much more readable and understandable draft. It’s not near as contradictory as the first draft. Probably 90 to -- I figure 90 percent of this draft is probably a more workable solution for most people.

My biggest concern is this map 3-19. These designated species areas, one of them pretty much engulfs our whole ranch. This one on Snyder Creek, map 3-19, it is presenting the entire ranch and applies to the BLM lands within the RMP map 3-19.

Also to differentiate between BLM administered public lands and any other lands surface ownership as it is now it appears, that’s all marked lands regardless of ownership are to be designated a proposed T&E. Map 3-19 then loads one to believe these are the only areas within the RMP that needs to be classified as potential T&E’s. It seems that the T&E’s, species unwarranted by the designated areas in the split state lands RMP should be treated the same.

There is no proof that these species are more prevalent where it is designated on map 3-19 than it is anywhere else. According to the RMP on page 116 it says these species, the Black Footed Ferret, Peregrine Falcon, Bald Eagle may occur in this resource area. It also goes on to say that no confirmed sightings have been made of Black Footed Ferret in the last 10 years, but some unconfirmed sightings have been made. This kind of evidence is laughable.

I don’t agree that information based on unconfirmed reports should be used to base a decision that certain areas be listed as potential endangered or threatened species areas. It goes onto suggest that suitable habitat does exist for these species. As for the Laid Eagle and Peregrine Falcon, there is no truth to the single areas on 3-19 for these species throughout the resource area you could run into these species anywhere. There is just no basis for this proposal on map 3-19. I would like to see your evidence that proposes otherwise. This is an article from the Washington Associated Press endangered species to be reduced by 29. Many species that are covered be removed in the law. Proposal to remove species is to occur for the first time in 25
years, that such a large number of species would be
cartmarked for removal will from the endangered list,
Mr. Babbitt said, that prompted such species as
*Accipiter* Falcon, Bald Eagle.

This is one more example of misinformation
in map 3-19. If that statement is true, there is no
need to designate areas within the map for these
species as all areas within the resource area would
be handled under the same guidelines as mentioned in
the RMP.

In conclusion, marked areas within the RMP
map 3-19 could possibly have severe financial and
economic impact to landowners with land set inside
these specific areas. I would reiterate that these
marked areas are not necessary because according to
the guidelines outlined in the RMP, land will be
managed the same. I feel that financial hardships
could be caused from future sales from any lands for
potential endangered habitat areas, who would want to
buy lands in an area such as that?

This map right here is misleading and
should be reevaluated and totally rejected.

Thank you.

HEARING OFFICER JOHNSON: Appreciate
everyone's comments. We are going to keep this open
until 8 o'clock and you are welcome to stay as people
come in we will give them the opportunity to
come in we will give them the opportunity to
comment.

(Pause.)

HEARING OFFICER JOHNSON: Can we kind of
come to order again.

We have some more people here who would
like to give comment. So I guess question is, is
every signed in?

And my next question is, are you all in one
group?

VOICE: Basically individuals.

HEARING OFFICER JOHNSON: Okay. Well, it's
supposed to go to 8 o'clock, little longer than
that.

Would you want to give your comments? Do
each one of you want to give a comment individually
or do you want to give it as a group?

VOICE: Will it carry the same weight as a
group as it would as individuals?

HEARING OFFICER JOHNSON: My sense of this
is, if it's on the same subject, I would then --
probably it would, but you know, you are certainly
welcome to give individual comment. I guess to try
to prevent too much repetitiveness. I don't know if
it carry more weight, but it's up to you.

VOICE: Bob, since you read the plan, what
do you think about talking.

MR. KREGGER: Thanks.

HEARING OFFICER JOHNSON: Can you go ahead
and talk if someone feels like there is some more
information, you are welcome to come on up. So you
can come on up.

MR. KREGGER: That's what I was afraid you
was going to get me to do is get me up front.

My name is Robert Kregger, K-r-e-g-g-e-r.

I am a business owner here in Newcastle. I am also
part of the archeology group here in town.

And I read the report as much as I could
understand of it, getting around the lawyer language,
shall we say. And I think that I on the whole agree
with what they are trying to do as to protect the
sites up to a certain point, as to where there is
studies done instead of just letting people run
rampantly over them. Instead of taking everything
away so there is no research done.

I think that the reports after the final
draft is figured out, I think it needs to be put in
plain language and put out for the education of
"
Anyone talks, please come up front.

MS. BURGESS: I am Shorry Burgess. I am from Sundance. My name is I am president of the local society here. I am also the state president. I have not had an opportunity to read this, so I don't feel really comfortable speaking, other than to note that one of the sites that the BLM has influence on is Whoop-Up Canyon. And this particular site is very fragile and therefore protection of this particular area is extremely important to us.

HEARING OFFICER JOHNSON: Thank you.

MS. CAPSUN: When does the comment period end?

HEARING OFFICER JOHNSON: July 23.

MR. HANSON: Yes, that's correct.

HEARING OFFICER JOHNSON: Encourage you all if you have written comments and submit into the office and talk to us. And take one of those with you. Anyone else of the group that would like to add?

The purpose of this comment period is to allow people to give comments. Certainly invite you to give comment if you would like.

Anyone like to add my more?

MS. BURGESS: I wanted to ask a question of you.

How long will they have after this finally is put together on this thing to find out whether or not we have something that we have some disagreements with?

MR. HANSON: That record is going to be published approximately March of 1999 and that will be our guiding document. That's the process that we are currently going through will culminate with the record of decision.

What would be recommended is that the review of this and comments prior to July 23 would significantly assist the formation of the record of decision. That's about a month and a half is what we're looking at for the remaining 90-day comment period.

MS. BURGESS: Even when the record of decision is finalized in '99 there is also a 30-day protest period of that comes out so that the public have a --

MS. CAPSUN: That's what I was trying to find out.

MS. BURGESS: Rights.
Hearing Officer Johnson: Anyone else like to give comment.

(No response.)

Mr. Hanson: We have additional copies if somebody would like to --

Hearing Officer Johnson: One other thing that, again, we try to encourage is at the office, any time you have opinions or feelings about how we manage the lands, we certainly invite and welcome you to talk with us at any time.

The purpose of this hearing tonight was intended to receive comment on the RMF, but certainly invite you any time that you have an issue or opinions about the way that we manage public lands.

Any other comment while we still have the court reporter here?

Ms. Kregger: I am Angie Kregger and I am with archaeology group here. Also the director of the museum.

My concern is that just the protection, especially of Canyon and sites like that. The main issue is that they be protected and not exploited for purposes that aren't to their best interests. And that's my main concern for those sites.

Hearing Officer Johnson: Real quickly one other thing that I forgot to mention is that we have another BLM person in attendance Alice from the BLM, archaeologist.

Any other formal comments that you would like to make while we have the reporter here?

(No response.)

Hearing Officer Johnson: We said we were going to conclude at 8 o'clock and according to my watch it's one minute to 8:00.

Give you one last opportunity if you do want to add. If not, there is some people who have already left, but I certainly want to thank everyone for coming. Apologize a little bit for our accommodations. We had planned this and we had planned to have it at our office. And our office is being repainted and recarpeted right now. So we had to make those arrangements at the last minute, but the people that made them did a very good job with the short time period that we have.

If there is nothing else, we will go ahead and close the succession.

(The proceedings were concluded at the approximate hour of 8:00 p.m.)
STATE OF WYOMING

COUNTY OF LARAMIE

I, Gust J. Matanias, hereby certify that
the foregoing transcript of the proceedings is a true
and correct transcript of the taped proceedings.


[Signature]

1 STATE OF WYOMING )
2 ) ss
3 COUNTY OF LARAMIE )
4
5 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
6
7 STATE OF WYOMING
8 ) ss
9 COUNTY OF LARAMIE )
10
11 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
12
13 STATE OF WYOMING
14 ) ss
15 COUNTY OF LARAMIE )
16
17 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
18
19 STATE OF WYOMING
20 ) ss
21 COUNTY OF LARAMIE )
22
23 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
24
25 STATE OF WYOMING
26 ) ss
27 COUNTY OF LARAMIE )
28
29 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
30
31 STATE OF WYOMING
32 ) ss
33 COUNTY OF LARAMIE )
34
35 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
36
37 STATE OF WYOMING
38 ) ss
39 COUNTY OF LARAMIE )
40
41 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
42
43 STATE OF WYOMING
44 ) ss
45 COUNTY OF LARAMIE )
46
47 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
48
49 STATE OF WYOMING
50 ) ss
51 COUNTY OF LARAMIE )
52
53 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
54
55 STATE OF WYOMING
56 ) ss
57 COUNTY OF LARAMIE )
58
59 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
60
61 STATE OF WYOMING
62 ) ss
63 COUNTY OF LARAMIE )
64
65 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
66
67 STATE OF WYOMING
68 ) ss
69 COUNTY OF LARAMIE )
70
71 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
72
73 STATE OF WYOMING
74 ) ss
75 COUNTY OF LARAMIE )
76
77 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
78
79 STATE OF WYOMING
80 ) ss
81 COUNTY OF LARAMIE )
82
83 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
84
85 STATE OF WYOMING
86 ) ss
87 COUNTY OF LARAMIE )
88
89 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
90
91 STATE OF WYOMING
92 ) ss
93 COUNTY OF LARAMIE )
94
95 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
96
97 STATE OF WYOMING
98 ) ss
99 COUNTY OF LARAMIE )
100
101 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
102
103 STATE OF WYOMING
104 ) ss
105 COUNTY OF LARAMIE )
106
107 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
108
109 STATE OF WYOMING
110 ) ss
111 COUNTY OF LARAMIE )
112
113 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
114
115 STATE OF WYOMING
116 ) ss
117 COUNTY OF LARAMIE )
118
119 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
120
121 STATE OF WYOMING
122 ) ss
123 COUNTY OF LARAMIE )
124
125 I, Gust J. Matanias, hereby certify that the foregoing transcript of the proceedings is a true and correct transcript of the taped proceedings.
CONSULTATION AND COORDINATION

APPENDIX A

SPLIT-ESTATE LANDS

OVERVIEW

In Wyoming, the BLM manages approximately 11.6 million acres of federal minerals under private surface, usually referred to as split estate. Of this total amount, some 8.5 million acres (approximately 72%) lie within the Casper District of the BLM. The majority of this split estate resulted from the Act of July 17, 1914, as amended (30 U.S.C § 121, 122), which opened prior withdrawn federal mineral lands to mineral entry, more specifically, the appropriate Homestead Acts (HAA), and the Stockraising Homestead Act (SRHA) of December 29, 1916, as amended (43 U.S.C § 299).

By the late 1950s much of the public domain lands had been transferred to private ownership either by sale or homesteading. The annual report for 1982 from the General Land Office pointed out that companies had fraudulently acquired great quantities of valuable coal and other lands. In response to this and subsequent investigations President Theodore Roosevelt withdrew in 1906 more than 66 million acres of coal lands from settlement and location. Congress questioned whether or not the President had authority to do this. In 1910 Congress passed the General Withdrawal or Pickett Act giving the President power to "temporarily" withdraw public lands from settlement and location for public purposes.

In response to the uproar that this created with politicians, business people, and homesteaders President Roosevelt signed the Act of March 3, 1909 which allowed homesteaders who had settled coal lands to patent those lands as long as the coal was reserved to the United States. The act of June 22, 1910 permitted homesteaders to file for coal lands as long as the coal was reserved to the United States.

The mineral policies were extended to receiving portions, or in most cases, the full mineral estate to the United States by the Act of July 17, 1914. That Act opened lands that were withdrawn or classified for phosphate, nitrate, potash, oil, gas, or asphaltic minerals or are valuable for those deposits to entry under the appropriate HA. Finally, the SRHA reserved all minerals to the United States.

As part of the mineral policies initiated during his Presidency Roosevelt had advocated a leasing policy for coal and petroleum lands, but Congress resisted the idea. In 1917, potassium deposits could be leased with the enactment of the Potash Leasing Act, which was passed because potassium was essential to America's production of military explosives during World War I. After numerous proposals and much heated debate in the Congress, the Mineral Leasing Act (30 U.S.C § 181 et seq.) was adopted in 1920 and extended leasing to coal, petroleum, natural gas, sodium phosphate oil shale, and geosilite. Under the appropriate provisions and authorities of the Mineral Leasing Act, individuals and companies could prospect for and develop the minerals listed.

Discussed in this appendix is what authority BLM has to condition and regulate federally authorized leases, specifically oil and gas, on split estate and the policy and guidance used to accomplish this.

The BLM is mandated by the Federal Land Management and Policy Act of 1976 (FLMPA), section 202, to develop, maintain, and revise land use plans on public lands where appropriate using and observing the principles of multiple use and sustained yield. Section 133(b) of the FLMPA defines public lands as any lands and interest in lands owned by the United States. The mineral estate is an interest owned by the United States. BLM has an obligation to address this interest in their planning documents (43 CFR 1801.0-70a). Bureau Manual 1801.09).

The FLMPA is intrinsically tied to the mandate provided by the National Environmental Policy Act of 1969 (NEPA). Specifically, section 102 of NEPA states: "Congress authorizes and directs the federal government and its agencies to use a systematic interdisciplinary approach which insures the integrated use of the natural and social sciences and the design arts in planning and decision making where an impact on man's environment. This theme is also present in section 202(c)(2) of the FLMPA where, with NEPA, it recognizes that management of the public lands and resources (interest) and the consequences associated with their use or consumption are tied to biological, ecological, social, and economic boundaries and not merely surface boundaries.

Through the years, the planning stage through development of the mineral estate, two areas of concern have consistently arisen from this split estate issue: do the BLM have the statutory authority to regulate new private surface owners use their property, and does the BLM have the authority to condition and regulate federal mineral development such as a federal oil and gas lease. These two concerns have been addressed in the resolution of two RIMP protests in 1988 on split estate (North Dakota RIMP and Little Snake RIMP) and two Washington Solicitor's Opinions (April 1 and 4, 1986). The conclusion states, "In summary, while the BLM does not have the legal authority in split estate situations to regulate how a surface owner manages his or her
property, the agency does have the statutory authority to take reasonable measures to avoid or minimize adverse environmental impacts that may result from federally authorized mineral lease activity.

An exemple in this area is the 1982 Interior Board of Land Appeals (IBLA) Decision (122 IBLA 36, Glen Morgan, January 7, 1992) which stated “The operator of an oil and gas lease is responsible for reclamation of land leased for oil and gas purposes, even after expiration of the lease and even where the surface estate is privately owned. Such reclamation includes the restoration of any area within the lease boundaries disturbed by lease operations to the condition in which it was found prior to surface disturbing activities.” Another key point that was presented in this IBLA decision referenced the reservation of mineral resources in Section 9 of the SRMA. This section provides that reserved to the United States is “the right to prospect for, mine, and remove the [reserved mineral], and to the protection of the surface. Subject to the purposes reasonably incident to the mining or removal of the coal or other minerals” (43 USC 3929, 1988). As long interpreted by the Department of the Interior, such purposes include reclamation of the surface of the affected land after mining is complete and the minerals are removed.

AUTHORITY

The Mineral Leasing Act of 1920 (MLA)

The Mineral Leasing Act, as amended (30 U.S.C. §§ 181-287) and its implemented regulations are the authority to lease and produce federal minerals. The restrictions identified through the planning process and attached to federal oil and gas leases constitutes a legal contract between the lessee and the BLM. No other party can change that contract without the expressed consent of the authorized officer. The authorized officer may waive, modify, or amend lease conditions as site-specific analysis required.

The section of the MLA that specifically refers to the regulation of surface disturbing activities on oil and gas leased lands is found in 30 U.S.C. § 226(g). 1988. The key statement which does not distinguish between public and private surface and split estate surface but applies to all leases is, “The Secretary of the Interior for the National Forest lands, the Secretary of Agriculture shall regulate all surface disturbing activities conducted pursuant to any lease issued under the MLA and shall determine reclamation and other actions as required in the interest of conservation of the surface resources” (emphasis added).

It has been cited that Onshore Oil and Gas Order #1 of 1983, “Approval of Operations on Onshore Federal Land and Indian Oil and Gas Leases” is the final resolution to the split estate mineral leasing issue. It has sometimes been interpreted to mean that BLM has waived all or many of its responsibilities during the development of the federal oil and gas where split estate is involved. The order does not rescind or revoke any of the law or regulations including the MLA that inspired it. Furthermore, this order cannot revoke any other BLM responsibility or obligation specified elsewhere in laws or regulations, again including the MLA.

The following are the laws and executive orders in addition to the MLA that pertain to split-estate federal mineral authorizations. They are not all inclusive; new laws and amendments are passed frequently.

Federal Land Policy and Management Act of 1976 (FLPMA)

BLM is responsible for both considering the impacts of its actions and approvals in land use planning as well as for managing those impacts for public lands. The public land to be considered for split estate is the mineral interest and not the surface. The private surface is not public land; thus, it is not subject to the planning and management requirements of the FLPMA. BLM has no authority over use of the surface by the surface owner. BLM is required to declare how the federal mineral estate will be managed in the RMP, including identification of all appropriate lease stipulations (43 CFR 3101.1; BLM Manual Handbook, H-1624-1, IV.C.2). To be consistent with the requirement of the FLPMA, it is necessary to apply the same standards for environmental protection of split estate lands as applied to the federal surface (BLM Manual 3101.91 B.1). The FLPMA also provides in Section 202 that the BLM “shall provide for compliance with applicable pollution control laws, including State and federal air, water, noise, or other pollution standards of implemented plans.” Many of these laws are addressed later in this document.

National Environmental Policy Act of 1969 (NEPA)

BLM’s responsibilities on split-estate lands under NEPA are basically the same as for federal surface. Even though the impacts will occur on private surface, BLM is still responsible for considering alternative measures for improving protective measures since the impacts will be caused as a direct consequence of activities approved by BLM and conducted pursuant to a federal oil and gas lease. Mitigation measures for impacts which are identified during the NEPA analysis may be imposed under the general authority set out in sections 30 and 37 of the MLA of 1920 (30 U.S.C. §§ 187 and 193) and the policy of FLPMA. Other statutes that could apply for taking reasonable measures to avoid or minimize adverse environmental impacts that may result from federal authorities approved activities are: the Clean Water Act of 1977 (CWA), the Clean Air Act (CAA), the National Historic Preservation Act (NHPA), the Endangered Species Act of 1973 (ESA), and the Federal Onshore Control and Reclamation Act of 1987 (FOCRA).

The FOCRA specifically requires BLM to regulate surface disturbance and reclamation on all leases. With respect to offsite impacts which also could include off-lease, off-unit, or off-original patent boundary, mitigation must be considered and met in order to approve a lease or other action regardless of whether the surface is private or federal. The legal jurisdictional boundary (the lease boundary) and access to such disturbed surface is the section “Access to Split Estate to Develop Federally Owned Mines.” If an operator cannot mitigate impacts of jurisdictional boundary or lease development, BLM gives careful consideration as to whether the application could or should be approved. Also, before leasing the mineral estate or approving lease development, BLM determines whether that action would significantly affect the quality of the human environment regardless of the surface ownership. In this analysis, BLM considers all impacts, even visual, of the proposed action whether those impacts are to surface resources, to other public lands, to the surface owner, or to the subsurface. BLM also takes into account the views of the surface owner on what effects implementing the mining or leasing project or lease activity would have on the use of the surface.

National Historic Preservation Act (NHPA)

Section 106 of the NHPA requires the BLM to consider the effects of its actions on historic properties and to seek comments from the State Historic Preservation Officer and the Advisory Council on Historic Preservation (BLM Manual Section 8143.06). In fact, federal agencies are required to take into account the effect of any federally assisted or federally licensed undertaking on properties included on, or eligible for inclusion on, the National Register of Historic Places. These responsibilities are the same on split-estate lands as on public lands.

The other avenue for access is by way of the courts and is addressed under ‘Access to Develop Federally Owned Mines.’

Endangered Species Act of 1973 (ESA)

Section 7 of the ESA requires federal agencies, in consultation with the Fish and Wildlife Service (FWS) and the US Fish and Wildlife Service to ensure that no action authorized, funded, or carried out by the agency is likely to jeopardize the continued existence of a threatened or endangered species, whether plant or animal, or would result in the destruction or adverse modification of a species’ critical habitat. ESA requirements apply to all

APPENDIX A

(A) those carried out by or on behalf of the agency;
(B) those carried out with federal financial assistance;
(C) those requiring a federal permit, license, or comparable authorization;
(d) those subject to State and local regulation administered pursuant to a delegation or approval by a federal agency.

If activities to be conducted on split estate under the terms and conditions of a federal oil and gas lease would result in adverse effects to historic properties, BLM has the authority to impose appropriate avoidance or mitigating measures. Currently, the BLM Authorized Officer consults with the State Historic Preservation Officer (SHPO) to identify and evaluate historic properties that might be affected by an activity. Evaluation is necessary to avoid or mitigate adverse effects. The Advisory Council is then given the opportunity to comment on the potential for the SHPO to be affected. This process is explained in more detail in a current agreement between the Advisory Council, SHPO and BLM (regulation guidance is found in 36 CFR 800). BLM Manual 8100 (including the Wyoming manual supplements) contains guidance, policy, and the extent that BLM is responsible on split estate. It also indicates direction when access is denied to an operator or BLM personnel in determining which actions can be reviewed. Key points in the manual are that: a) any historic properties encountered belong to landowner and if the landowner wishes, any cultural property removed from the landowner’s property would be returned after study; b) the Authorized Officer must consider alternatives if the landowner continues to refuse access; and c) the Authorized Officer may also consider approval or denial of the application without the cultural resource information. The other avenue for access is by way of the courts and is addressed under ‘Access to Develop Federally Owned Mines.’
A proposed surface-disturbing federally related ac-
tion cannot and should not proceed until all applicable
federal statutory requirements have been met.

OTHER STATUTES AND EXECUTIVE ORDERS

Clean Water Act of 1977, as amended (CWA)

This act is an extremely complex and lengthy statute
but is a key law regarding the control of toxic substances.
It is the act that sets water quality standards throughout the state and
federal agencies in water quality planning and permitting activities.
It was amended by the Water Quality Act of 1977 to require states to
control and reduce specific nonpoint sources of pollution.
Required federal agencies to be consistent with management programs.
The 1987 Act added section 402(p) to the CWA to address storm water
and gas leases and operations on split estates just as

Eagle Protection Act of 1940

This act prohibits taking any golden or bald eagle or
nests of such birds. Taking is defined under this statute
to include molesting or disturbing. Violation of the
prohibition in 16 U.S.C. §§ 668-668a is a criminal viola-
tion regardless of where the activity occurs, whether it is
on public land. National Forest lands, or private lands.

Resource Conservation and Recovery Act of 1976, amended
(RCRA)

This law is used to regulate the treatment, storage,
and disposal of hazardous wastes. Hazardous wastes are
solid and liquid wastes that are listed or exhibit one or more of the characteristics of hazardous waste such as certain human toxicity criteria or contain one or more of 50 chemical compounds or substances that are listed as haz-
azardous contaminants. RCRA defines solid wastes as any material that is discarded or intended to be discarded.
It can be solid, semi-solid, liquid, or contain gaseous material. Oil and E&P wastes are generated in primary field operations and not as a result of transportation or maintenance activities. When oil and gas waste and exempt wastes are mixed, the entire mixture could be considered a hazardous waste. For example, discarding a half empty 55-gallon drum in a reserve pit could cause the otherwise exempt reserve pit contents to become a hazardous waste. This may result in closure of a reserve pit and/or RCRA hazardous wastes regula-
tions. The amendment to RCRA also mandated EPA to study E&P wastes and recommend appropriate regula-
tory programs by: 1) Improving Federal programs under existing au-
thetic programs; and 2) Working with Congress to develop any additional

Federal programs under existing au-
thetic programs; and 2) Working with Congress to develop any additional

Federal programs under existing au-
thetic programs; and 2) Working with Congress to develop any additional

Some of the reasons put forth by EPA for this determination are:
- "Subtitle C does not provide sufficient flexibility to consider the costs and avoid the serious economic impacts that regulation would create for the industry's exploration and production operations.
- Existing state and federal regulatory programs are generally adequate for controlling oil, gas, and geothermal wastes. Regulatory gaps in the Clean Water Act, and UIC (Underground Injection Control) program are already being addressed, and the remaining gaps in state and federal regulatory programs can be efficiently addressed by formulating appropriate regulations under Subtitle D of RCRA and by working with the States.

In the impractical and insufficient to implement Subtitle C for all or some of these wastes because permit applications filed that actually will not be reviewed by regulatory agencies would occur if even a small percentage of these sites were considered Treatment, Storage, and Disposal Facilities (TSDFs) (53 FR 25456, July 6, 1988).

The Interstate Oil and Gas Compact Commission (IOGCC) is an organization comprised of the governors of the 29 oil and gas producing states and has been assisting states in developing their oil and gas regulatory programs since 1935. In January 1989, the IOGCC formed a council on regulatory needs to assist EPA in its three-pronged approach mentioned above to fill the gaps in regulations. This is comprised of 12 state regulatory agency members and is supported by a member advisory committee made up of representatives from state regulatory agencies, industry, and public interest groups. The council is also assisted by representatives from EPA, Department of Energy (DOE), and BLM who act as official observers.

The purpose of the council is to recommend effective regulations, guidelines, and standards for state-level management of oil and gas production (E&P) wastes. It is not intended to form the sole basis for any future federal statutory or regulatory authorities that may be sought by EPA for E&P wastes. In 1990 the IOGCC adopted guidelines in the form of technical and administrative criteria recommended by the council and advisory board. This publication, EPA IOGCC Study of State Regulation of Oil and Gas Exploration and Production, which includes is known as "IOGCC Guidelines" or the "Green Book." These guidelines were update in May 1994 with the publication titled IOGCC Environmental Guidelines for State Oil & Gas Regulatory Programs.

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended (CERCLA)

CERCLA, also known as "Superfund," and closely related to RCRA, is distinct from these programs that mandates the cleanup of hazardous substances which encompasses a much broader range of products than does hazardous wastes defined by RCRA. It requires the potentially responsible party (PRP) to undertake cleanup (section 106) or to recover costs incurred in conducting remedial actions from PRPs (section 107).

Hazardous substance means any element, compound, mixture, solution, or substance designated pursuant to section 102 of CERCLA.

CERCLA provides for the exclusion of petroleum, including crude oil, or any fraction thereof which is not otherwise or specifically listed from the definition of "hazardous substances, contaminants, or pollutants" (sections 101 and 104). This also includes natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel. The legislative history of the petroleum exclusion in CERCLA indicates that although petroleum and any fractions thereof are exempt, hazardous substances that have been added to oil but are not normally found in petroleum at the levels added, are not exempt. EPA could respond under CERCLA to releases of added hazardous substances or contaminants.

Several oilfield waste disposal sites that accept RCRA Subtitle C exempt wastes are now Superfund sites because these sites were not managed to prevent the release of hazardous substances. RCRA exemptions does not release the operator of liability under CERCLA.

CERCLA can be reapplied retroactively to provide for strict liability without regard to fault, and in circumstances, to impose joint and several liability. This liability may ultimately be the responsibility of the landowner, who also has the option of using state cleanup or trust funds. EPA may be the legal basis to sue the responsible parties who abandon hazardous substances on their land. It has been interpreted that any such release which is defined in section 101 of CERCLA occurring on split estate be removed by the responsible party as provided by 40 CFR 316.2-1(c) and Notice to Lessors and Operators of Onshore Federal and Indian Oil and Gas Leases (NTL-3A). It further interpreted to expand the requirement by the BLM to federal oil and gas leases only to that land at any such release be removed in compliance with the regulations provided for RCRA for hazardous wastes and CERCLA for hazardous substances. EPA has determined that the expanded interpretation is presently being reviewed by BLM's Washington Solicitor. The reasoning for this expanded interpretation is leasing and subsequent development of the federal mineral estate on split-estate land is a federal action controlled by federal regulation and application of state and federal law. The BLM is the managing agency for federal oil and gas lease development on split estate. Although it could be strictly interpreted that the BLM is not the ultimate responsible landowner (surface owner), there is a legal and moral interpretation that the BLM is the surface estate which is leasing federal minerals, is the ultimate responsible party if all else failed to secure retribution for damages and cleanup from the responsible operators.

This would release the private surface owner(s) from any potential liability for a release of hazardous waste or substance that they authorized on their land that was not part of the federal lease development.

There is a multitude of players as well as laws in solid waste management: it is difficult to determine who to call or is responsible for what. The key experts for the BLM are the hazardous materials specialists coordinators. The regulations for hazardous substances and wastes are found in 40 CFR, and they are the enforceable domain of EPA. The DEQ is anticipated to be delegated primary from EPA for the enforcement of the solid waste management regulations including those for hazardous substances and wastes. This delegation is anticipated to take place in October 1995.

The Department of the Interior has the following fundamental principles of waste management:

- Wherever feasible, we will seek to prevent the generation or acquisition of hazardous wastes where waste generation is unavoidable, we will work to reduce the amounts (toxicity or risk) generated through the use of sound waste management practices; we will manage waste materials responsibly in order to protect not only the natural resources, but also the environment, by controlling toxic substances, and pollutants, and minimizing the impacts on the environment, particularly the surface and subsurface where we live and work on our public lands, and the millions who enjoy our lands and facilities each year; we will aggressively clean up and restore areas under our care that are contaminated by pollution.
The protest period runs for 30 days from date of service by BLM. The emphasis in this section is on access within all the SRHAs. The process for these cases is also pertinent to patents issued pursuant to section 203 (sales) and section 206 (exchanges) of the FLPMA. The right to access an oil and gas lease includes all the lands within the original patent if that land is not within the lease. If an oil company wishes to cross one portion of a patent that has been subdivided into two portions to drill in the other portion, they have that right. In Kinney Coastal Oil Co. v. Kieffer, 277 US 488, 544 (1928), Coastal Oil, who held a federal oil and gas lease, sued the surface owner for subdividing the surface and erecting buildings for a town. The Supreme Court agreed with the oil company and ruled to prevent the use of the area as a commercial or residential area. Thus, the mineral owner’s dominant servitude applies anywhere within the limits of the original patent no matter how far oil and gas are found on the surface. The surface estate has been subdivided. In another landmark case, Mountain Fuel Supply Co. v. Smith, 471 F. 2d (10th Cir. 1973), an oil company wished to cross 10 parcels to drill a well on the 11th parcel. All of the parcels had been patented at different times to different parties. At a later date, all of these parcels had been obtained by the defendant in this case. The court made no less than three significant holdings in this case. One, if the parcels had remained separately owned, the oil company would not have access rights across the 10 parcels to drill a well on 11. However, the company does have access rights on the 11th parcel on which they wish to drill their well 471 F. 2d at 596, 597. Two, where the surface ownership of all the parcels had been unified under a single ownership, the oil company would indeed have access across all the parcels 471 F. 2d at 597. Three, the approved unitization of the area by the appropriate authority was simply relevant 471 F. 2d at 597. The lessees were restricted to the development of their leases. If appropriate within a unit: The SRHA or HA access rights to develop federal mineral is dictated by the patented surface or a combination of patents unified by a single owner.

Following are three decisions options that may evolve in the protest period. If no objections are received from the landowner within the protest period, the authorized officer will issue and serve a final decision of objection of the sufficient bond coverage, a copy going to the lessee operator. The lessee operator can then enter onto the surface of the patented land(s) of which are affected by the proposed all applicable federal and state laws are met. If the surface owner files a protest (objection) to the bond within the protest period, the authorized officer will review the bond coverage, appending papers, and objections to determine whether the bond should be approved or disapproved. If the bond is disapproved, a decision will be served on the lessee operator with a copy going to the lessee operator. The lessee operator will have 30 days to appeal to the Director. There have been cases in which this appeal has gone to the Interior Board of Land Appeals, however, this is not the process according to the regulations contained in 43 CFR 384. If the bond is approved, the decision will be served to the surface owner with a copy going to the lessee operator. The surface owner will be given 30 days to appeal the decision to the Director. If an appeal is filed, the authorized officer will serve a second final decision to the landowner approving the bond with no further right of appeal. The lessee operator can then enter onto the land as specified above. If an appeal is not filed, the action cannot be approved unless it is settled by a decision from the Director or his delegated authority approving or disapproving the bond. In no instances will lease action such as an APD be approved in the absence of the surface owner’s consent without first satisfying the requirements of 43 CFR 384. The purpose of these requirements is to ensure that the surface owners are treated fairly, and the mineral lessee operators are allowed to enjoy the full privileges of their lease.

In instances where landowner demands become unreasonable or excessive, the lessee operator is required by 43 CFR 384 regulations. Conversely, BLM is assured the landowners of the opportunity to protect themselves and to assure just compensation via the 43 CFR 384 regulations.

If a landowner and lessee operator cannot agree or settle on a payment for damages within a 60 days of the authorization, or if the lease is abandoned, then the landowner should take her action to a court of competent jurisdiction to secure payment of such damages. The lessee operator is required to go to court to settle for payment of damages to the landowner. This may be especially true if a lessee landowner should want their bond released from any lease obligations including termination. If an agreement cannot be reached for settlement of the payment of damages, either party may go to court in any venue as above mentioned process to have the court set the amount of damages which are to be paid at that time. Another option that could be pursued by a lessee operator for access to develop federal minerals is via state condemnation procedures. It is not BLM’s position to encourage the practice of payment of damages in lieu of restoration, nor to question the terms and dollar amounts under which an agreement is made. It is merely a position to assure that an agreement reached is which is acceptable to both parties. The BLM policy that the surety must be able to provide additional surface real estate mechanisms on all lease actions. However, they must be reasonable, justifiable, and in compliance with all pertinent laws. The surface owner should be reimbursed for all damages created by lease development.

Policy and Guidance for authorizing Class II Injection Wells for Fluid Disposal located on Split Estate. Private Surface Federal Mineral. If an oil and gas well located within a federal oil and gas lease on split estate is converted to an injection well for disposing of lease unit produced oil and gas, or by a third party or the current oil and gas lessee operator, a right of way (ROW) is not the appropriate authorization, and the lessee operator must be in compliance with pertinent laws. The policy resulted from two key IBLA decisions. Malion Oil Company (104 IBLA 145, September 2, 1989) and Phillips Petroleum Company (105 IBLA 345, November 17, 1988). The outcome from the Malion Oil Company case was that once the minerals have been removed from the ground, the void formerly occupied by the minerals reverts to the surface owner. In this case both the surface and minerals were owned by the United States, and the court upheld that an ROW issued by BLM was the appropriate authorization. The federal oil and gas lease was not the appropriate authority to issue a permit for the disposal of salt water into a dry well located on private surface and federal minerals. In actuality BLM was the appropriate authorization mechanism—a permit pursuant to section 302(b) of the FLPMA instead of an ROW under section 501 of the FLPMA. The BLM was not the owner According to the Malion Oil Company case decision, the void space is the property of the surface owner. Henceforth, the federal mineral estate will be protected using the following guidelines and procedures. Where BLM determines that there are federal mineral interests or that injection of fluids, the appropriate authorization for fluid disposal on federal oil and gas leases on split estate is by an approved Surface Mineral Disposal Form (SMD) 50. These well activities will be the responsibility of the appropriate lessee operator and not a third party. In considering and documenting feasibility for each case, the following factors must be analyzed, where applicable in the applicant’s proposal for subsequent well operation (Sundy Notice): (1) geology, (2) economic factors, (3) volume of produced fluids, (4) hydrology and hydrogeology, (5) land use plans, (6) availability of the site, and other land disposal sites, (7) state and/or federal agencies permitting offshore oil and gas leases. (8) water quality, (9) well casings, (10) monitoring requirements of down hole injection disposal and, (11) other factors determined by the authorized officer. Not only the applicant, but even more important, the BLM must consider these factors before approving an authorization.

If the proposal is determined to be feasible, and a Sundy Notice is the instrument of authorization, the following conditions and stipulations should be considered and included as part of the authorization:

1. A stipulation stating: The disposal well authorization is conditioned upon the applicant filing the authorized notice with the BLM. Further, the authorization of the lessee operator acting for BLM is effective.
Including: (1) that appropriate steps will be taken to avoid intermingling of fluids (oil, gas, and water) between formations or intervals that contain fluids of significant different quality, and (2) protect all federal minerals that may occur in other formations.

3) For an abandoned federal well to be used for subsurface disposal of off-lease unit produced fluids into a formation depleted of federal minerals, the following release form, WY-06-3160-35 (Nov. 1992) must be properly filled out and signed by the private surface owner(s) and accepted by the BLM authorized officer. By signing this release form, the private surface owner acknowledges her his potential future liability for disposal activities and for ensuring the operation of the well to standards as required by appropriate federal and state regulatory agencies. With an approved release, the landowner also could ultimately assume the responsibility for the final plugging and reclamation requirements for the well. When BLM accepts this release, the lessee/operator’s oil and gas bond should also be released for this well.

APPENDIX A

UNITED STATES DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Casper District

DISPOSAL WELL RELEASE

KNOW ALL MEN BY THESE PRESENTS, that I, __________ of the County of __________ in the State of __________, am the surface owner and owner of the void mineral formation of the hereinafter described land upon which a well for oil or gas was drilled and to be converted to a produced water disposal well the source of produced water being from off lease/unit/third party operators, to wit:

Operator/Lessee: __________

Oil and Gas Lease Number: __________

Well No. __________ (lot: __________ Sec. __________ Twp. __________ Rge. __________)

The well is located _____ feet from the ____ line and _____ feet from the ____ line of Sec. __________.

I do hereby notify the Bureau of Land Management of my desire to allow __________ to dispose of produced water into the above described well. I do hereby release the Bureau of Land Management from any further liability authorized by this action as well as any further responsibility of plugging and restoration of the well site as related to the action.

WITNESS by hand and seal this ___ day of __________, 19__.

____________

Surface Owner

____________

Address

IN THE PRESENCE OF:

____________

Witness

____________

Address

____________

Witness

____________

Address

WY-06-3160-35 (Nov. 1992)
Landownership Adjustment Strategy of Casper District

Bureau of Land Management

Proposed By: Land Exchange Team, Casper District 3/13/96

Approved By: Donald Hinrichsen
Don Hinrichsen, Casper District Manager 3/13/96 Date
INTRODUCTION

The Casper District Bureau of Land Management (BLM) made up of three resource areas-Buffalo, Newcastle and Platte River-has the responsibility for management of some 2.9 million acres of public lands (federal surface and federal minerals), and approximately 8.5 million acres of federal minerals referred to as idle estate private surface and federal minerals. Focusing primarily on the 2.9 million acres of public lands within this district, many are isolated, unaccessible, and scattered parcels that are intermixed with private, state and other federal lands, managed by other agencies.

PURPOSE OF THE LAND ADJUSTMENT STRATEGY

The purpose of this land adjustment strategy is to provide general guidance to the land adjustment program for Casper District in order to accomplish plan objective of the resource areas. The strategy will be useful in guiding land exchange negotiations as well as other land adjustment actions with landowners and discussing the overall program with the public.

The strategy provides general direction for federal land adjustments and may be modified or amended as new information and or opportunities become evident. The strategy does not make hard and fast decisions on land adjustment it provides concepts. Specific land adjustment proposals will be analyzed using the NEPA process including public participation. Decisions to implement specific proposal will be based on the specific NEPA analysis and finding that the proposal is in the public interest and consistent with the BLM plans and applicable laws and regulations.

Objectives

These objectives will be resource area management plans (emphasis on land adjustment using exchanges including assembled land exchanges):

1) provide or improve public access and recreation use and opportunities by consolidating landowners' pattern and acquiring easement through land adjustment;
2) reduce conflicting land management objectives of private landowners and BLM;
3) improve resource management of BLM public lands and other federal lands to meet planning direction and allow implementation of an ecosystem management approach;
4) acquire lands within critical wildlife and or Areas of Critical Environmental Concern (ACEC), and riparian areas according to planning direction;
5) improve cost effective management practices and cost efficiency of management objectives by reducing the administrative costs.

JUSTIFICATION FOR A LAND ADJUSTMENT PROGRAM

The intermingled landownership pattern of this district makes it especially difficult for both the BLM and the private landowners to achieve their often different management objectives. The BLM has multiple objectives endorsed by planning objectives while the private owners primarily have revenue production objectives. The intermingled ownerships where BLM public lands are scattered, unmanageable and inaccessible leads to conflicts in meeting these different objectives and inhibits management effectiveness and efficiency for both the BLM and the private landowners. In striving to meet its planning objectives, Casper District will plan and use landownership adjustment to consolidate public lands into more manageable and accessible lands to further the public and to more effectively initiate and continue sound ecosystem management practices. The intent of landownership adjustment is not to increase the federal land estate, but to consolidate parcels into more efficient and manageable patterns.

The predominant issues and matters of concern are past and current mapping and identification of resource area planning documents were one of access to and recreation potential on public lands. Another area of high interest in these meetings and through direct inquiries over the past several years from both adjoining landowners and the general public was the desire to acquire many of these isolated federal (public lands) parcels. Also, with the onset of range reform and the uncertainty of grazing lease fees. Landowners surrounding isolated, scattered parcels of public lands within their ranch units have voiced their growing sincere interest in purchasing these lands. These scattered isolated public lands are both expensive and impossible to manage, and more efficiency would be gained while better serving the public by disposing of these parcels. For the Casper District, in order to initiate practices and make sound decisions based on effects to ecosystem units the land pattern must be adjusted. Currently, identified within this district, there are over 300,000 acres of scattered, isolated parcels of land identified within planning documents as available for possible disposal. The majority of the adjoining landowners, the grazing lessees, and the general public have expressed interest in purchasing these parcels. In exchange for many of these disposal parcels, lands or easements could be acquired through avenues such as "assembled land exchanges" defined simply as a type of exchange where several different federal and or private parcels are combined together and exchanged in one or more transactions over time. The purpose of conducting the exchange can be distributed among several different participants and a higher dollar value can be utilized to exchange for lands or public interest therein. Therefore, the priority acquisition BLM for has identified high priority acquisition agreement with land use plans.

LAND ADJUSTMENT PROGRAM

The land adjustment program will make full use of all land adjustment tools as appropriate. These include land for land exchanges, land for other interests such as Minerals, land for land exchange for easements, access, conservation, land sales, purchases, transfers and donations. Any of these tools could be used individually or in combination to further the land adjustment objectives. It is anticipated that emphasis that land exchanges will provide the greatest opportunity to improve the landownership pattern. No exchange may be completed without a determination that the public interest will be well served according to 43 CFR 2250.06 (b).

SCOPE OF THE PROGRAM

Casper District: 2.9 million acres of public lands and interest therein: 8.5 million acres of federal mineral estate.

For exchanges in order to minimize negative local impacts such as loss of Payment in Lieu of Tax (PLT) preference should be first given to acquiring lands in counties where these public lands are to be disposed of. If private lands cannot be acquired in the affected counties their preference should be to acquire lands or interests therein for counties within the affected resource area, followed by preference for counties within the Casper District, and finally preference within the State of Wyoming. The public interest determination and ranking of effect as well as the feasibility of the exchange shall dictate the applicability of the above preferences; however, they should, if at least, be considered in the process.

LAND ADJUSTMENT EVALUATION CRITERIA

The following acquisition and disposal evaluation and ranking criteria were approved by the Casper District Corporate Board (CBB) on October 1, 1989. They were developed as part of an interagency agreement with the Casper District Land Exchange Team (LEF) comprised of members from the resource areas and the district. The criteria were derived from NEPA, regulations policy program resource management experience, planning decisions and presented in draft to all district personnel for review and comment. These criteria are to be used to evaluate rank and prioritize land exchange proposals districtwide. Therefore, these criteria will be used by the LEF to evaluate all exchange proposals within the district and present their recommendations to the CBB. The CBB will make the decision as to whether to proceed with the proposal.
APPENDIX B

Acquisition Criteria for Casper District

Given: Acquisition of land has to have and/or provide public access that can be managed effectively and cost efficiently according to BLM goals and initiatives. Can this given be met? (Yes or No)

(If yes continue completing ranking criteria)

Explain: (i.e. noncontrolled access, restricted or cooperative)

Ranking Criteria (points awarded)

1) Public values
   a) Recreation
      1) Hunting
         a) Big Game
            1) Multiple species (15 points) or
            2) Single species (10 points)
         b) Small Game
            1) Multiple species (15 points) or
            2) Single species (10 points)
      2) Fishing (15 points)
      3) ORV Use (if meets planning or public demand objectives)
         a) Present (5 points)
         b) Potential (5 points)
      4) Scenic (0.15 points in increments of 5 points)
         *(Based on visual resource management ratings)
      5) Other Recreation Value(s) (5 points each)
         (Specify)
   b) Resource(s) Management
      * If the resource value is present, would the value(s) acquired or consolidated be added to the cost efficiency and manageability of them by BLM federal agency by completing the land adjustment.

Points

APPENDIX B

1) Improves cost and management efficiency in:
   1) Cultural Resources (5 points)
   2) Forestry Resources (5 points)
   3) Valuable Historic Resources (5 points)
   4) Minerals Resources (5 points)
   *Indicate which minerals affected:
      a) Oil and Gas leases
      b) Coal leases
      c) Locatables
      d) Salables
   5) Paleontological Resources (5 points)
   6) Range Resources (5 points)
   7) Watershed (5 or 10 points)
      (wetlands/riparian)
   8) Wildlife Resources (habitat) (5 points)
   9) T & E species (5 points)
   9) Other (5 points)

   (Yes or No)

3) Provide access to blocks of consolidated federal land or State (?) lands.
   5 points for 1-640 acres
   10 points for 640-2000 acres
   15 points for 2,000-5,000 acres
   20 points for 5,000-10,000 acres
   30 points for 10,000 + acres

   a) Acre(s) in consolidated blocks that access effects: ______ acres.

Total Points:

Note: Unique opportunities may also be qualified by factors that aid in the economics of the opportunities: i.e. proponent shares a percentage of the expenses on the evaluation of the public land. Such expenses as the costs of cultural inventory, T&E, appraisal, etc.

2) Provide access to blocks of consolidated federal land or State (?) lands.
   5 points for 1-640 acres
   10 points for 640-2000 acres
   15 points for 2,000-5,000 acres
   20 points for 5,000-10,000 acres
   30 points for 10,000 + acres

   a) Acres in consolidated blocks that access effects: ______ acres.

   Total Points:
APPENDIX B

Further explanation of topics:

Criteria for Disposal of Public Lands
Casper District

Given: Public interest will be well served.

Any one or more of the following criteria may be used to justify the disposal of public land:

* There will be no acre restriction on disposal.
  - public land, because of its location and other characteristics, is difficult and uneconomical to manage.
  - public land is not suitable for management by another federal department or agency.
  - public land acquired for a specific purpose is no longer required for that or any other federal purpose.
  - disposal of public land would serve important public purposes.
  - public land is more suitable for residential, commercial, agriculture, or industrial development in nonfederal ownership.
  - create ownership patterns that allow for local community development that cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values.
  - consistent with the mission of BLM and land use plans.

** Dispose of entire grazing allotment lease (yes or no)

Acres in grazing allotment lease

---

CASPER DISTRICT
LANDOWNERSHIP MAP
NARRATIVE

The following areas identified on the Casper District land status map for building or consolidating within for future landownership patterns were developed by the LET (land exchange team) in conformance with current planning documents and Record of Decisions. They were reviewed, but should continued to be fine-tuned as appropriate by districtwide resource specialists using their general and specific knowledge of the district land pattern and uses. These areas mostly are defined by larger blocks of federal ownership with private surface inholdings. Also noted were areas identified by the public as lacking necessary access to these larger blocks of public lands. It should be understood that the intent is to build and consolidate within these areas; however, this does not completely negate trading out of these areas depending on the merits of the individual proposal. The remaining parcels not identified within these areas are mostly scattered and/or difficult to manage public land parcels that do not offer much public benefit and may be more beneficial in private ownership or administered by either local, county, State or other federal agencies. However, each exchange no matter where it is located in this Casper District landownership map will be evaluated on its own merit and the public interest determination will be a major determination factor as to whether to pursue it or not.
Map B-1
Lands Adjustment Strategy–Potential Acquisition Areas–BLM
BEST COPY AVAILABLE

1. Bighorn Herb Field Area
2. Harrings Range
3. North Platte River Drainage
4. Muddy Mountain
5. Pine Ridge San Dunes Area
6. Powder River Brakes, North
7. Powder River Brakes, South
8. Thunder Basin National Grasslands
9. Wind River Hill Spring Creek
10. L. the Missouri Brakes
11. Miuin Kana Reckztle
12. State Line Area

Map B-2
Lands Adjustment Strategy–Potential Acquisition Areas–USFS
BEST COPY AVAILABLE

1. Thunder Basin National Grasslands
2. Medicine Bow National Forest
APPENDIX B

This page left blank intentionally.

APPENDIX C

WILD AND SCENIC RIVER REVIEW OF WATERWAYS IN THE NEWCASTLE PLANNING AREA

As part of the planning effort for developing the proposed Newcastle RMP for the final EIS, the BLM planning team members reviewed all BLM-administered public land surface along waterways within the Newcastle RMP planning area (Crook, Weston and Niobrara counties). This review was to determine if any of these BLM-administered public lands met the wild and scenic rivers eligibility criteria and suitability factors, as identified in the Wild and Scenic Rivers Act (WSRA).

PUBLIC INVOLVEMENT AND COORDINATION

Wyoming BLM staff met with representatives of various Wyoming state agencies, including the Governor’s office, in January 1991. These meetings were specifically for the purpose of reaching a mutual understanding of the wild and scenic rivers review process, and of the wild and scenic rivers eligibility criteria and suitability factors to be used in the process. This included some agreement on any needed refinements of these criteria and factors, specific to Wyoming, and their statewide application on BLM-administered public lands. These eligibility criteria and suitability factors, including minor refinements agreed to at that time, are still consistent with the later released BLM Wild and Scenic Rivers Manual 8351 (May 19, 1992). At the same time, this included disagreement by state government, with giving any consideration for reviewing waterways that do not contain water year-round (for example, intermittent and ephemeral waterways). The Wyoming BLM recognizes that position but is obligated to follow the BLM manual requirement to include intermittent and ephemeral waterways in the review.

The State Director’s policy and guidance statement for conducting the BLM wild and scenic rivers review process in Wyoming was issued December 31, 1992. Minor editorial refinements to this policy and guidance were made on June 29, 1993, to make the wording more consistent with BLM Manual 8351. The policy and guidance statement was again updated to reflect a December 1993 Washington office policy change concerning the inappropriateness of jurisdictional concerns as an eligibility criterion instead of a suitability factor.

A September 20, 1989, Federal Register notice included the intent to conduct a wild and scenic rivers review in the Newcastle RMP planning area.

On June 20, 1991, an open house was held at the Newcastle Field Office (formerly referred to as the Newcastle Resource Area) in Newcastle. Several topics discussed at the open house covered all identified issues and land use and resource management options to be addressed in the Newcastle EIS, including the wild and scenic rivers review. On June 28, 1991, a presentation on the Newcastle wild and scenic rivers review was given to the Casper District Multiple Use Advisory Council.

On February 12, 1992, the Newcastle wild and scenic rivers review was discussed with a representative of the Sierra Club.

In July 1992, BLM personnel briefed Wyoming state agencies on the preliminary eligibility and suitability findings of the wild and scenic rivers review in the Newcastle RMP planning area. No BLM-administered public lands along waterways in the planning area were found to meet either the eligibility criteria or the suitability factors. Due to a BLM policy change, some BLM-administered public lands parcels along eight waterways in the review area were found to meet the wild and scenic rivers eligibility criteria. However, these BLM-administered public lands were not found to meet the wild and scenic rivers suitability factors. Thus, the policy change did not result in any net change in the ultimate outcome of the wild and scenic rivers review in the Newcastle RMP planning area. This is explained further below.

The RMP update mailed to everyone on the Newcastle mailing list discusses the change (Appendix M in the second draft document).

General mailings were sent to the individuals, interest groups, and agencies on the Newcastle Field Office’s mailing list requesting input for the development of the Newcastle RMP throughout the RMP development process. Individuals and groups that have expressed interest in special designations or special management areas (such as wild and scenic rivers) are included on the list.

Briefings on the eligibility and suitability determinations were also given to the Wyoming Congressional delegation representatives, representatives from local government agencies, and the Crook, Weston and Niobrara County Commissioners.
**APPENDIX C**

**PROCESS**

The following definitions apply to key terms used in the WSRS process:

**Waterway.** A flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kilns, sls, and small lakes. For purposes of this review, a waterway is not required to have water in it year round and may be ephemeral or intermittent.

**Public lands.** The BLM-administered public land surface along waterways within an RMP planning area. Those state or privately owned lands are not public lands but are considered to be BLM administered public lands if they meet the criteria for being considered as such.

**Public-scene rivers.** Rivers, streams, creeks, and runs that are privately owned but are not public lands because they are administered by the BLM and are not involved with these reviews. These rivers are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene recreation areas.** Areas that meet the eligibility criteria and are designated as public-scene recreation areas. These areas are part of the BLM-administered public lands.

**Public-scene rivers.** Rivers, streams, creeks, and runs that are privately owned but are not public lands because they are administered by the BLM and are not involved with these reviews. These rivers are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene recreation areas.** Areas that meet the eligibility criteria and are designated as public-scene recreation areas. These areas are part of the BLM-administered public lands.

**Public lands.** The BLM-administered public land surface along waterways within an RMP planning area. Those state or privately owned lands are not public lands because they are administered by the BLM and are not involved with these reviews. These lands are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene rivers.** Rivers, streams, creeks, and runs that are privately owned but are not public lands because they are administered by the BLM and are not involved with these reviews. These rivers are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene recreation areas.** Areas that meet the eligibility criteria and are designated as public-scene recreation areas. These areas are part of the BLM-administered public lands.

**Public lands.** The BLM-administered public land surface along waterways within an RMP planning area. Those state or privately owned lands are not public lands because they are administered by the BLM and are not involved with these reviews. These lands are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene rivers.** Rivers, streams, creeks, and runs that are privately owned but are not public lands because they are administered by the BLM and are not involved with these reviews. These rivers are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene recreation areas.** Areas that meet the eligibility criteria and are designated as public-scene recreation areas. These areas are part of the BLM-administered public lands.

**Public lands.** The BLM-administered public land surface along waterways within an RMP planning area. Those state or privately owned lands are not public lands because they are administered by the BLM and are not involved with these reviews. These lands are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene rivers.** Rivers, streams, creeks, and runs that are privately owned but are not public lands because they are administered by the BLM and are not involved with these reviews. These rivers are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene recreation areas.** Areas that meet the eligibility criteria and are designated as public-scene recreation areas. These areas are part of the BLM-administered public lands.

**Public lands.** The BLM-administered public land surface along waterways within an RMP planning area. Those state or privately owned lands are not public lands because they are administered by the BLM and are not involved with these reviews. These lands are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene rivers.** Rivers, streams, creeks, and runs that are privately owned but are not public lands because they are administered by the BLM and are not involved with these reviews. These rivers are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene recreation areas.** Areas that meet the eligibility criteria and are designated as public-scene recreation areas. These areas are part of the BLM-administered public lands.

**Public lands.** The BLM-administered public land surface along waterways within an RMP planning area. Those state or privately owned lands are not public lands because they are administered by the BLM and are not involved with these reviews. These lands are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene rivers.** Rivers, streams, creeks, and runs that are privately owned but are not public lands because they are administered by the BLM and are not involved with these reviews. These rivers are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene recreation areas.** Areas that meet the eligibility criteria and are designated as public-scene recreation areas. These areas are part of the BLM-administered public lands.

**Public lands.** The BLM-administered public land surface along waterways within an RMP planning area. Those state or privately owned lands are not public lands because they are administered by the BLM and are not involved with these reviews. These lands are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene rivers.** Rivers, streams, creeks, and runs that are privately owned but are not public lands because they are administered by the BLM and are not involved with these reviews. These rivers are not included in the BLM-administered public lands that meet the eligibility criteria.

**Public-scene recreation areas.** Areas that meet the eligibility criteria and are designated as public-scene recreation areas. These areas are part of the BLM-administered public lands.

**Public lands.** The BLM-administered public land surface along waterways within an RMP planning area. Those state or privately owned lands are not public lands because they are administered by the BLM and are not involved with these reviews. These lands are not included in the BLM-administered public lands that meet the eligibility criteria.
development than a recreational segment. For example, roads may cross the waterfront in places but generally not suitable to it. In certain cases, however, if a parallel road is used and well-screened from the waterfront by vegetation or a hill, for example, it could qualify for scenic classification.

**Recreational Waterway Areas** Recreational areas are those where the waterways or sections of waterways on the BLM-administered public land surface are readily accessible by road or roadway that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past. Parallel roads or roadways, or the existence of small dams or other structures, may be considered in this classification. A recreational area classification does not imply that the waterfront or section of waterway on the public land is already used or have priority for recreational use or development.

### Results of the Wild and Scenic Rivers Eligibility Review for the Newcastle RMP Planning Area

The Newcastle wild and scenic rivers review team met on October 9, 10, 11, 22, and 23, 1992 to conduct the preliminary review of the suitability of the waterway in the Newcastle RMP planning area.

Because the broad interpretation of the "free-flowing" criteria, all waterways were reviewed to assess their free-flowing status by a landowner's point of view. Consequently, these waterways were further reviewed to determine whether any BLM-administered public lands along their courses contain outstandingly remarkable values described in the eligibility criteria. Of the 226 waterways reviewed in the RMP planning area, 16 BLM-administered lands along 218 of the waterways were found to have outstandingly remarkable values, and were dropped from further consideration.

Pursuant to BLM Manual 8351: May 19, 1992, an additional eligibility criterion (the "junior distributary" qualification) was established. This new criterion provided that where the BLM-administered public land surface represents less than 40% of the shoreline in a waterway or waterway segment being reviewed, the BLM-administered public land surface involved will be considered to be ineligible for further consideration. In considering this new criterion, 19 BLM administered public parcels (scattered along the remaining 8 of the waterways reviewed (Beaver Creek, West Plum Creek, Blacktail Canyon, Belle Fourche River, Irion, Kara Creek, Wohopoo Creek, Cave Springs Creek, and Bear Run Creek) were found to not meet the eligibility criteria. Subsequently, this jurisdictional eligibility criterion policy was rescinded (BLM Washington Office Instruction Memorandum No. 94-69, December 8, 1993) because jurisdictional considerations (administrative role or presence) are factors of suitability, rather than eligibility criteria, and are more appropriately considered as part of the suitability determination phase of the review process. As a result, the 19 parcels of BLM-administered public lands along the remaining 8 waterways mentioned above were found to meet the wild and scenic rivers eligibility criteria.

### Attachment A (Wild and Scenic Rivers Eligibility Review) shows the waterways containing BLM administered public lands that were reviewed and the eligibility determinations made for the public lands involved.

### Step II: Wild and Scenic Rivers Suitability Factors

Any BLM-administered public lands that are found to meet the eligibility criteria and that are classified (wild, scenic, or recreational) are further reviewed to determine if they meet the wild and scenic rivers suitability factors. The suitability determinations are made after the general public, local, state and federal governments and agencies, and other affected parties have reviewed the eligibility and classification determinations.

Some factors to be considered in making the suitability determinations include, but are not limited to:

1. Characteristics which do or do not make the BLM-administered public lands a worthy addition to the WSRS.
2. Status of landownership, minerals (surface and subsurface), use in the area, including the amount of private land involved, and associated developable uses. Jurisdictional considerations (administrative role and presence) must be taken into account to the extent that management would be affected. Refer to BLM Manual 8351:3342 (as amended on December 22, 1993) for additional information and instructions on the consideration of public lands in the eligibility review process. In the determination of suitability, the eligibility review process was not notified of the preliminary suitability determinations by mail and were afforded the opportunity to comment. Specialists determined that none of the BLM administered public lands met the suitability factors. Therefore, they will not be considered for inclusion in the WSRS.

### Step III: Management of BLM-administered Public Lands That Meet the Suitability Factors

Because there were no BLM-administered public lands that met the suitability factors, step III of the review process described below was not applicable to and was not conducted as part of the wild and scenic rivers review processes in the Newcastle RMP planning area. It is described here for informational purposes only. Management of the BLM administered public lands involved will be included within the provisions of the general planning and management decisions of the Newcastle RMP.

BLM land use planning decisions are developed and implemented for any BLM administered public lands along waterways that are determined to meet the suitability factors. These planning decisions are made in the RMP and include management objectives, management actions, and appropriate allocations of land and resource uses that would maintain the outstandingly remarkable wild and scenic rivers characteristics. The Newcastle WSRS preliminary suitability determinations were made based on an internal BLM screening of the above eight factors. Both in-house knowledge and comments received from the general public were used to make these determinations. Much of the public input received during the eligibility phase involved discussions of suitability factors. The input proved very valuable in helping the BLM to make the preliminary suitability determinations. In the determination of suitability, the eligibility review process was not notified of the preliminary suitability determinations by mail and were afforded the opportunity to comment.
## APPENDIX C

### ATTACHMENT A

**NEWCASTLE RMP PLANNING AREA WILD AND SCENIC RIVERS ELIGIBILITY REVIEW**

<table>
<thead>
<tr>
<th>County</th>
<th>Number</th>
<th>Name of Waterway</th>
<th>Team ship</th>
<th>Range</th>
<th>Section Quarter</th>
<th>Quarter Free Flowing</th>
<th>Remaining Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newcastle</td>
<td>37</td>
<td>Cresswell River</td>
<td>39 N</td>
<td>67 MW</td>
<td>54 WR</td>
<td>SE</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>97</td>
<td>Cresswell River</td>
<td>67</td>
<td>67 MW</td>
<td>366</td>
<td>SE</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>03</td>
<td>Armleigh Creek</td>
<td>67</td>
<td>67 MW</td>
<td>242</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>04</td>
<td>Black Tree Creek</td>
<td>67</td>
<td>67 MW</td>
<td>119</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>95</td>
<td>Indian Creek</td>
<td>67</td>
<td>67 MW</td>
<td>97</td>
<td>NE</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>56</td>
<td>Shingan</td>
<td>67</td>
<td>67 MW</td>
<td>57</td>
<td>SE</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>58</td>
<td>Snow Creek</td>
<td>67</td>
<td>67 MW</td>
<td>86</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>05</td>
<td>Cow Creek</td>
<td>67</td>
<td>67 MW</td>
<td>78</td>
<td>SE</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>10</td>
<td>Little Cow Creek</td>
<td>67</td>
<td>67 MW</td>
<td>24</td>
<td>SE</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>92</td>
<td>Spring Creek</td>
<td>67</td>
<td>67 MW</td>
<td>34</td>
<td>SE</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>93</td>
<td>South Spring Creek</td>
<td>67</td>
<td>67 MW</td>
<td>34</td>
<td>NW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>41</td>
<td>North Spring Creek</td>
<td>67</td>
<td>67 MW</td>
<td>15</td>
<td>NW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>94</td>
<td>Snyder Creek</td>
<td>67</td>
<td>67 MW</td>
<td>33</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>16</td>
<td>North Snyder Creek</td>
<td>67</td>
<td>67 MW</td>
<td>33</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>78</td>
<td>South Spring Creek</td>
<td>67</td>
<td>67 MW</td>
<td>35</td>
<td>NW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>18</td>
<td>South Snyder Creek</td>
<td>67</td>
<td>67 MW</td>
<td>33</td>
<td>NW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>19</td>
<td>Roast EB Creek</td>
<td>67</td>
<td>67 MW</td>
<td>34</td>
<td>NW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>00</td>
<td>Shingan</td>
<td>67</td>
<td>67 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>32</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>22</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>23</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>13</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>25</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>27</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>07</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>19</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>29</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>77</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>39</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>31</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>41</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>51</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>33</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>43</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>61</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>35</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>45</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>75</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>25</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>17</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Alston</td>
<td>07</td>
<td>Shingan</td>
<td>45</td>
<td>45 MW</td>
<td>54</td>
<td>SW</td>
<td>0</td>
</tr>
<tr>
<td>Newcastle</td>
<td>39</td>
<td>Shingan</td>
<td>67</td>
<td>67 MW</td>
<td>97</td>
<td>SW</td>
<td>0</td>
</tr>
</tbody>
</table>
## APPENDIX C

### ATTACHMENT A (continued)

**NEWCASTLE RMP PLANNING AREA**

### WILD AND SCENIC RIVERS ELIGIBILITY REVIEW

<table>
<thead>
<tr>
<th>Segment Number</th>
<th>Name of Waterway</th>
<th>Township</th>
<th>Range</th>
<th>Section</th>
<th>Quarter Quarter</th>
<th>Free Flowing*</th>
<th>Outstanding Remarkable Values*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crook S121</td>
<td>Mule Creek</td>
<td>56N 6W 25</td>
<td>25</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S122</td>
<td>Mule Creek</td>
<td>56N 6W 25</td>
<td>25</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S123</td>
<td>Canyon Diablo Creek</td>
<td>56N 6W 06</td>
<td>25</td>
<td>SW</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Crook S124</td>
<td>Stream</td>
<td>56N 6W 19</td>
<td>30</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S125</td>
<td>Stream</td>
<td>56N 6W 15</td>
<td>30</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S127</td>
<td>Stream</td>
<td>56N 6W 15</td>
<td>30</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S128</td>
<td>Stream</td>
<td>56N 6W 15</td>
<td>25</td>
<td>NW</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Crook S129</td>
<td>Little Missouri River</td>
<td>56N 6W 15</td>
<td>18</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S131</td>
<td>Wolf Creek</td>
<td>49N 6W 25</td>
<td>14</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S132</td>
<td>Wolf Creek</td>
<td>49N 6W 25</td>
<td>25</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S133</td>
<td>Wolf Creek</td>
<td>49N 6W 25</td>
<td>23</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S134</td>
<td>Wolf Creek</td>
<td>49N 6W 25</td>
<td>23</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S135</td>
<td>Wolf Creek</td>
<td>49N 6W 25</td>
<td>23</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S137</td>
<td>Wolf Creek</td>
<td>49N 6W 25</td>
<td>25</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S138</td>
<td>Stream</td>
<td>56N 6W 11</td>
<td>30</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S145</td>
<td>Cedar Creek</td>
<td>56N 6W 05</td>
<td>15</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S151</td>
<td>Cedar Creek</td>
<td>56N 6W 10</td>
<td>25</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S152</td>
<td>Stream</td>
<td>56N 6W 05</td>
<td>15</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S153</td>
<td>Stream</td>
<td>56N 6W 05</td>
<td>30</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S154</td>
<td>Stream</td>
<td>56N 6W 05</td>
<td>15</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S155</td>
<td>Stream</td>
<td>56N 6W 05</td>
<td>15</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S156</td>
<td>Stream</td>
<td>56N 6W 05</td>
<td>25</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S157</td>
<td>Stream</td>
<td>56N 6W 05</td>
<td>25</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S158</td>
<td>Stream</td>
<td>56N 6W 05</td>
<td>25</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S159</td>
<td>North Fork</td>
<td>57N 6W 05</td>
<td>15</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S160</td>
<td>North Fork</td>
<td>57N 6W 05</td>
<td>15</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S161</td>
<td>North Fork</td>
<td>57N 6W 05</td>
<td>15</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S162</td>
<td>North Fork</td>
<td>57N 6W 05</td>
<td>15</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S163</td>
<td>Stream</td>
<td>56N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S164</td>
<td>Stream</td>
<td>56N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S165</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S167</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S168</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S169</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S170</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S171</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S172</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S173</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S174</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S175</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S176</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S177</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S178</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S179</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S180</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Crook S181</td>
<td>Stream</td>
<td>57N 6W 05</td>
<td>30</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
### Attachment A (continued)

#### Newcastle RMP Planning Area

**Wild and Scenic Rivers Eligibility Review**

<table>
<thead>
<tr>
<th>County</th>
<th>Segment Number</th>
<th>Name of Waterway</th>
<th>Township</th>
<th>Range</th>
<th>Section</th>
<th>Quarter</th>
<th>Quarter</th>
<th>Free Flowing?</th>
<th>Remarkable Values?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nibrua</td>
<td>241</td>
<td>Sheephorn</td>
<td>39 N</td>
<td>64 W</td>
<td>05</td>
<td>SW</td>
<td>SE</td>
<td>SW</td>
<td>Yes</td>
</tr>
<tr>
<td>Nibrua</td>
<td>242</td>
<td>Sheephorn</td>
<td>39 N</td>
<td>64 W</td>
<td>08</td>
<td>SE</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>243</td>
<td>Sheephorn</td>
<td>40 N</td>
<td>65 W</td>
<td>25</td>
<td>SW</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>244</td>
<td>Sheephorn</td>
<td>40 N</td>
<td>64 W</td>
<td>32</td>
<td>SW</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>246</td>
<td>Sheephorn</td>
<td>40 N</td>
<td>65 W</td>
<td>13</td>
<td>NW</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>247</td>
<td>Sheephorn</td>
<td>40 N</td>
<td>64 W</td>
<td>17</td>
<td>SW</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>248</td>
<td>Sheephorn</td>
<td>40 N</td>
<td>68 W</td>
<td>27</td>
<td>NW</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>249</td>
<td>Sheephorn</td>
<td>39 N</td>
<td>63 W</td>
<td>28</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>250</td>
<td>Sheephorn</td>
<td>39 N</td>
<td>62 W</td>
<td>27</td>
<td>NW</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>251</td>
<td>Sheephorn</td>
<td>39 N</td>
<td>63 W</td>
<td>27</td>
<td>NE</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>252</td>
<td>Sheephorn</td>
<td>39 N</td>
<td>64 W</td>
<td>28</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>253</td>
<td>Sheephorn</td>
<td>38 N</td>
<td>63 W</td>
<td>00</td>
<td>SW</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>254</td>
<td>Sheephorn</td>
<td>38 N</td>
<td>63 W</td>
<td>32</td>
<td>SE</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>255</td>
<td>Sheephorn</td>
<td>38 N</td>
<td>63 W</td>
<td>05</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>256</td>
<td>Sheephorn</td>
<td>39 N</td>
<td>63 W</td>
<td>27</td>
<td>NW</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>257</td>
<td>Rock Creek Drain</td>
<td>40 N</td>
<td>62 W</td>
<td>01</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>258</td>
<td>Rock Creek Drain</td>
<td>40 N</td>
<td>63 W</td>
<td>05</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>259</td>
<td>Trout Creek</td>
<td>40 N</td>
<td>62 W</td>
<td>05</td>
<td>NW</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>260</td>
<td>Miners Creek</td>
<td>37 N</td>
<td>66 W</td>
<td>07</td>
<td>NE</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>261</td>
<td>Shinnery</td>
<td>37 N</td>
<td>66 W</td>
<td>05</td>
<td>SE</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>262</td>
<td>Shinnery</td>
<td>37 N</td>
<td>66 W</td>
<td>33</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Nibrua</td>
<td>263</td>
<td>Shinnery</td>
<td>37 N</td>
<td>65 W</td>
<td>31</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>264</td>
<td>Shinnery</td>
<td>37 N</td>
<td>66 W</td>
<td>12</td>
<td>SE</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>265</td>
<td>Clyde Creek</td>
<td>36 N</td>
<td>65 W</td>
<td>38</td>
<td>NE</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>266</td>
<td>Tafton-Mueller</td>
<td>36 N</td>
<td>66 W</td>
<td>02</td>
<td>NW</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>267</td>
<td>Tafton-Mueller</td>
<td>36 N</td>
<td>66 W</td>
<td>14</td>
<td>NE</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>268</td>
<td>Sheephorn</td>
<td>36 N</td>
<td>66 W</td>
<td>09</td>
<td>NE</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>269</td>
<td>Mason Creek</td>
<td>36 N</td>
<td>66 W</td>
<td>11</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>270</td>
<td>Shinnery</td>
<td>36 N</td>
<td>67 W</td>
<td>11</td>
<td>SE</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Nibrua</td>
<td>271</td>
<td>Shinnery</td>
<td>35 N</td>
<td>65 W</td>
<td>04</td>
<td>SE</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>272</td>
<td>Oil Creek</td>
<td>41 N</td>
<td>62 W</td>
<td>23</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>273</td>
<td>Oil Creek</td>
<td>41 N</td>
<td>67 W</td>
<td>35</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>274</td>
<td>Oil Creek</td>
<td>41 N</td>
<td>62 W</td>
<td>15</td>
<td>NW</td>
<td>SW</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>275</td>
<td>Four Mile Creek</td>
<td>41 N</td>
<td>62 W</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>276</td>
<td>Williams Creek</td>
<td>41 N</td>
<td>60 W</td>
<td>06</td>
<td>SE</td>
<td>NW</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>277</td>
<td>Williams Creek</td>
<td>41 N</td>
<td>60 W</td>
<td>27</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>278</td>
<td>Williams Creek</td>
<td>41 N</td>
<td>60 W</td>
<td>27</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>279</td>
<td>Williams Creek</td>
<td>41 N</td>
<td>60 W</td>
<td>29</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>280</td>
<td>Williams Creek</td>
<td>41 N</td>
<td>60 W</td>
<td>29</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>281</td>
<td>Williams Creek</td>
<td>41 N</td>
<td>60 W</td>
<td>31</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>282</td>
<td>Williams Creek</td>
<td>41 N</td>
<td>60 W</td>
<td>31</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>283</td>
<td>Cow Spring Creek</td>
<td>31 N</td>
<td>47 W</td>
<td>16</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>284</td>
<td>Cow Spring Creek</td>
<td>31 N</td>
<td>67 W</td>
<td>19</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>285</td>
<td>Beaver Creek Tributary</td>
<td>32 N</td>
<td>67 W</td>
<td>30</td>
<td>NW 2</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>286</td>
<td>Beaver Creek</td>
<td>46 N</td>
<td>66 W</td>
<td>09</td>
<td>SE</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>287</td>
<td>Thompson Canyon Creek</td>
<td>46 N</td>
<td>62 W</td>
<td>24</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>288</td>
<td>Thompson Canyon Creek</td>
<td>46 N</td>
<td>62 W</td>
<td>34</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>289</td>
<td>Thompson Canyon Creek</td>
<td>46 N</td>
<td>62 W</td>
<td>24</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>290</td>
<td>Thompson Canyon Creek</td>
<td>46 N</td>
<td>62 W</td>
<td>27</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>291</td>
<td>Thompson Canyon Creek</td>
<td>46 N</td>
<td>62 W</td>
<td>28</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>292</td>
<td>Thompson Canyon Creek</td>
<td>46 N</td>
<td>62 W</td>
<td>30</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>293</td>
<td>Thompson Canyon Creek</td>
<td>46 N</td>
<td>62 W</td>
<td>34</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>294</td>
<td>Thompson Canyon Creek</td>
<td>46 N</td>
<td>62 W</td>
<td>34</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>295</td>
<td>Hay Creek</td>
<td>46 N</td>
<td>67 W</td>
<td>34</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>296</td>
<td>Kitchen Creek</td>
<td>46 N</td>
<td>68 W</td>
<td>05</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>297</td>
<td>Kitchen Creek</td>
<td>46 N</td>
<td>68 W</td>
<td>06</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>298</td>
<td>Cedar Creek Tribs</td>
<td>46 N</td>
<td>68 W</td>
<td>09</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Westor</td>
<td>299</td>
<td>Cedar Creek Tribs</td>
<td>46 N</td>
<td>66 W</td>
<td>04</td>
<td>-</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
APPENDIX C
ATTACHMENT B
IDENTIFICATION AND CLASSIFICATION OF BLM-ADMINISTERED PUBLIC LANDS ALONG THE WATERWAYS DETERMINED TO MEET THE WILD AND SCENIC RIVERS ELIGIBILITY CRITERIA

SEGMENT OF WATERWAY REVIEWED

INYAN KARA CREEK

Inyain Kara Creek flows for approximately 21.4 linear miles. Less than 1 mile of the creek flows across public land administered by the BLM. From its origin to its confluence with the Belle Fourche River, the public land portion lies in a scenic creek bottom in rolling terrain. The riparian zone includes deciduous trees and shrubs. The BLM-administered portion of the stream is not large enough to preserve the outstanding values of the area.

WHOOPOP CREEK AND TRIBUTARIES

The Whoopop Creek drainage and its tributaries on public land pass through varied terrain along the foothills of Elk Butte, a part of the Black Hills of South Dakota and Wyoming. The creek itself has been dry for several years; the tributaries are intermittent, flowing only when snowmelt and heavy rains occur. The main drainage of Whoopop Creek passes through Whoopop Canyon, a steep-walled red and scree canyon. There is no public access to any segments of Whoopop Creek and only limited foot access to the public land along its tributaries. A portion of the public land along Whoopop Creek is managed as part of an ACEC for other values, and to protect the character of the drainage. The scattered parcels and intermittent landownership do not lend themselves to management as a component of the WSR system.

CAVE SPRINGS CREEK

Cave Springs Creek drainage is approximately 3 miles long of which approximately 1 mile crosses BLM-administered public land. The drainage passes through broken terrain with deciduous trees and shrubs in a portion of the riparian zone and grassland in the remainder of the area. There is no public access. Scenic and historic values are not threatened. Public land management has only a minor influence on the character of the area. The public land segments alone do not contain the most significant historic or scenic values on the stream. Due to the small amount of public land and the lack of threats to values, the area is not recommended as suitable for inclusion in the WSR system.

BEAR RUN CREEK

Bear Run Creek traverses approximately 5 miles of which approximately 1 mile is on BLM-administered public land. This is an extremely rough and steep area in the foothills of the Black Hills of South Dakota and Wyoming. The BLM segment in itself is not manageable for any purposes other than its current uses which are recreation, potential timber management, and limited livestock grazing. Adjacent private lands have been subdivided and developed as seasonal home sites. Public access is by foot only.

WEST PLUM CREEK

West Plum Creek flows for approximately 10.1 linear miles. BLM-administered public land occurs in two parcels totaling 1 mile in length. The area is in scenic pine-covered, steep terrain. The creek bottom meanders and has shrubs and deciduous trees along a portion of its length. Due to the small amount of public land and the scattered ownership pattern, the public land segments are not recommended for inclusion as part of the WSR system.

BLACKTAIL CANYON CREEK

Blacktail Canyon Creek flows for approximately 4 linear miles with approximately ½ mile crossing BLM-administered public land. The area is in the foothills of the Black Hills of South Dakota and Wyoming and crosses rugged steep terrain with pine-covered slopes and shrubs and deciduous trees in the riparian zone. Due to the small amount of public land this segment is not recommended for inclusion in the WSR system.

BELLE FOURCHE RIVER

The Belle Fourche River flows for approximately 75 linear miles in the planning area with less than 2½ miles in four segments crossing BLM-administered public land. Only one parcel has public access. The Belle Fourche River flows through varied terrain changing from grass-shrub rangeland to steep pine-covered terrain with cottonwoods and willows in the riparian zone and grading back to grassland. Leaky sponge, a noxious weed, has become established and is at infestation levels along several segments both on public and private land. While the length of the river can be considered highly scenic and passes through Devils Tower National Monument, the public land segments are separated and do not contribute enough river distance to justify inclusion in the WSR system.

APPENDIX C

STOCKADE BEAVER CREEK

The public land segment (approximately ½ mile) on Stockade Beaver Creek has been transferred to Weston County under the provisions of the Recreation and Public Purposes Act and is no longer in federal ownership. The area is currently being managed by Weston County as part of a county recreation site.
<table>
<thead>
<tr>
<th>PARCEL NUMBER</th>
<th>MILEAGE ACROSS PUBLIC LAND</th>
<th>NAME AND LOCATION OF WATERWAY</th>
<th>DISTANCE TO NEXT PUBLIC LAND PARCEL</th>
<th>DESCRIPTION AND VALUES OF PUBLIC LAND PARCEL</th>
<th>PRELIMINARY CLASSIFICATION OF PUBLIC LAND PARCEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1(S64)</td>
<td>&lt;1/4</td>
<td>T. 50 N., R. 64 W., section 35, SWSE</td>
<td>single parcel</td>
<td>Wide creek bottom, riparian zone includes deciduous trees and shrubs; scenic setting.</td>
<td>scenic</td>
</tr>
<tr>
<td>S1(S276)</td>
<td>3/16</td>
<td>T. 43 N., R. 60 W., section 6, SENW</td>
<td>1/4 mile to S7</td>
<td>Dry creek bed in canyon; steep walls, few cottonwood trees, scattered shrubs.</td>
<td>recreation, scenic</td>
</tr>
<tr>
<td>S2(S277)</td>
<td>3/16</td>
<td>T. 43 N., R. 60 W., section 20</td>
<td>1/4 mile to S2</td>
<td>Intermittant stream; tributary to Whoopup Creek, broken terrain with scattered pine and juniper; no public access.</td>
<td>recreation, scenic</td>
</tr>
<tr>
<td>S3(S278)</td>
<td>1/4</td>
<td>T. 43 N., R. 60 W., section 21</td>
<td>1/4 mile to S2 and S4</td>
<td>Intermittant stream; tributary to Whoopup Creek, broken terrain with scattered pine and juniper; foot access only.</td>
<td>recreation, scenic</td>
</tr>
<tr>
<td>S4(S279)</td>
<td>1/2</td>
<td>T. 43 N., R. 60 W., section 28</td>
<td>1 mile from S2</td>
<td>Tributary to Whoopup Creek; broken terrain through moderate to steep hills; foot access only.</td>
<td>recreation, scenic</td>
</tr>
<tr>
<td>PARCEL NUMBER</td>
<td>MILEAGE ACROSS PUBLIC LAND</td>
<td>NAME AND LOCATION OF WATERWAY</td>
<td>DISTANCE TO NEXT PUBLIC LAND PARCEL</td>
<td>DESCRIPTION AND VALUES OF PUBLIC LAND PARCEL</td>
<td>PRELIMINARY CLASSIFICATION OF PUBLIC LAND PARCEL</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------</td>
<td>-------------------------------</td>
<td>--------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td><strong>WHOOUP CREEK</strong> (continued)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S5 (S280)</td>
<td>1/2</td>
<td>T. 43 N., R. 60 W., section 29</td>
<td>1 mile from S2</td>
<td>Tributary to Whoopup Creek; broken terrain through moderate to steep hills; foot access only</td>
<td>recreation scenic</td>
</tr>
<tr>
<td>S6(S281)</td>
<td>1</td>
<td>T. 43 N., R. 60 W., section 33</td>
<td>1 air mile from S5</td>
<td>Deep canyon with shrubs and scattered pine and juniper, chokecherry, and few deciduous trees in bottom. Intermittent stream. Foot access only</td>
<td>recreation scenic</td>
</tr>
<tr>
<td>S7</td>
<td>3/4</td>
<td>T. 44 N., R. 60 W., section 31, SENE</td>
<td>1/4 mile to S1</td>
<td>Steep walled narrow canyon with shrubs, cottonwood and juniper in bottom; no water in channel for several years; no public access</td>
<td>recreation scenic</td>
</tr>
<tr>
<td><strong>CAVE SPRINGS CREEK</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S1(S283)</td>
<td>1/4</td>
<td>T. 45 N., R. 51 W., section 18</td>
<td>adjacent to S2</td>
<td>Small canyon; intermittent stream, deciduous trees and shrubs in bottom; surrounded by shrub grassland; no access</td>
<td>recreation scenic</td>
</tr>
<tr>
<td>S2(S284)</td>
<td>1/4</td>
<td>T. 45 N., R. 61 W., section 19</td>
<td>adjacent to S1</td>
<td>Small canyon; intermittent stream, deciduous trees and shrubs in bottom; surrounded by shrub grassland; no access</td>
<td>recreation scenic</td>
</tr>
<tr>
<td>PARCEL NUMBER</td>
<td>MILEAGE ACROSS PUBLIC LAND</td>
<td>NAME AND LOCATION OF WATERWAY</td>
<td>DISTANCE TO NEXT PUBLIC LAND PARCEL</td>
<td>DESCRIPTION AND VALUES OF PUBLIC LAND PARCEL</td>
<td>PRELIMINARY CLASSIFICATION OF PUBLIC LAND PARCEL</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------</td>
<td>--------------------------------</td>
<td>-------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>S1(S296)</td>
<td>1/4</td>
<td>T. 46 N., R. 60 W., section 9</td>
<td>single parcel</td>
<td>Rugged, steep terrain; pine-covered hills, narrow riparian zone; difficult foot access only</td>
<td>recreation scenic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>BEAR RUN CREEK</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>STOCKADE BEAVER CREEK</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>This parcel is no longer in federal ownership, transferred to Weston County under provisions of the Recreation and Public Purposes Act. Currently managed as part of county recreation site.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>WEST PLUM CREEK</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S1(S35)</td>
<td>1/4</td>
<td>T. 46 N., R. 62 W., section 27, SWSE</td>
<td>1/2 mile</td>
<td>Scenic, pine-covered steep terrain; meandering creek bottom with shrubs and deciduous trees</td>
<td>scenic</td>
</tr>
<tr>
<td>S2(S36)</td>
<td>1/4</td>
<td>T. 46 N., R. 62 W., section 27, NWNE</td>
<td>1/2 mile</td>
<td>Scenic, pine-covered steep terrain; meandering creek bottom with shrubs and deciduous trees</td>
<td>scenic</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>BLACKTAIL CANYON CREEK</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S1(S37)</td>
<td>1/4</td>
<td>T. 46 N., R. 62 W., section 15, SENW</td>
<td>single parcel</td>
<td>Rugged steep, pine-covered slopes, creek bottom with shrubs and deciduous trees</td>
<td>scenic recreation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARCEL NUMBER</td>
<td>MILEAGE ACROSS PUBLIC LAND</td>
<td>NAME AND LOCATION OF WATERWAY</td>
<td>DISTANCE TO NEXT PUBLIC LAND PARCEL</td>
<td>DESCRIPTION AND VALUES OF PUBLIC LAND PARCEL</td>
<td>PRELIMINARY CLASSIFICATION OF PUBLIC LAND PARCEL</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------------</td>
<td>---------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>S1(S47)</td>
<td>½</td>
<td>T 59 N, R 86 W, section 25, NNW</td>
<td>½ mile to S2</td>
<td>Timbered slopes, wide floodplain, cottonwood riparian zone, rocky spurge infestation, no access</td>
<td>recreation, scenic</td>
</tr>
<tr>
<td>S2(S48)</td>
<td>½</td>
<td>T 59 N, R 86 W, section 26, SE</td>
<td>½ mile to S4, approximately 1½ air miles to S8</td>
<td>Timbered slopes, wide floodplain, cottonwood riparian zone, rocky spurge infestation, no access</td>
<td>recreation, scenic</td>
</tr>
<tr>
<td>S3(S49)</td>
<td>½ to ⅔</td>
<td>T 59 N, R 86 W, section 03, SWNE</td>
<td>approximately 1½ air miles</td>
<td>Steep red rock cliffs to river bottom, wide grassy bottom, abutting cliff</td>
<td>recreation, scenic</td>
</tr>
<tr>
<td>S4(S50)</td>
<td>⅔</td>
<td>T 59 N, R 86 W, section 03, SWNE</td>
<td>approximately 1½ air miles to S8</td>
<td>Broad cottonwood riparian zone grading into prairie, no access</td>
<td>recreation, scenic</td>
</tr>
</tbody>
</table>
### APPENDIX D

**THE PLANNING PROCESS**

The process for the development, approval, maintenance, and amendment or revision of the RMPs and their associated EISs was initiated under the authority of section 202(f) of FLPMA and section 202(c) of NEPA. This process is guided by BLM planning regulations in 43 CFR 1600 and the CEO regulations in 40 CFR 1500. The steps used in the planning process are described below.

#### STEP 1: IDENTIFICATION OF ISSUES

Step 1 is intended to identify resource management problems, conflicts, or opportunities that can be resolved through the planning process.

A Federal Register notice was published, a scope letter was sent to interested parties, and an open house was held to gain public input into identifying land and resource use, management problems, conflicts, or opportunities in the planning area. In addition, a letter was also sent to 17 Native American individuals and tribes (Appendix M in the second draft). The preliminary issues the BLM identified were included in this scoping letter. Along with the general public, other federal agencies and state and local governments were also asked to participate in the issue identification process. The BLM combined the information from these and internal sources into five planning issues that could be resolved through the RMP EIS process.

#### STEP 2: DEVELOPMENT OF PLANNING CRITERIA

Step 2 involved development of criteria to identify the standards, guidelines, and constraints that would apply to the planning process. These criteria are the “sideboards” that were applied by the specialists so that their work was focused on resolution of the issues. The original criteria were made available to interested parties for review.

#### STEP 3: INVENTORY AND DATA COLLECTION

Step 3 allowed for the collection of various kinds of issue related resource, environmental, social, and economic data. During this phase, current information was collected on resource values in the planning area to supplement existing information in resource area files.

#### STEP 4: ANALYSIS OF THE MANAGEMENT SITUATION

The MSA supports all subsequent steps in planning. Each specialist on the interdisciplinary team was involved in preparing the MSA. The MSA included a physical profile and brief description of each resource as well as the current management situation describing current management practices by resource and the status of on-going programs. This section provided the basis for the description of the No Action Alternative and the basis for the planning issues. It also provided the analysis of future demands which identified present and future capabilities, problems, and conflicts of current management. The MSA is on file at the Newcastle office.

#### STEP 5: FORMULATION OF ALTERNATIVES

Five alternatives were developed by the interdisciplinary team. These alternatives, described in chapter 2 of each Draft RMP EIS, include the No Action Alternative (continuation of current management) and the Preferred Alternative. The alternatives represent a choice of management actions to achieve goals, and they provide for resource use and environmental protection.

#### STEP 6: ANALYSIS OF ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

The physical, biological, social, and economic effects of implementing each alternative were assessed. This step is the environmental impact analysis required by NEPA. The analysis is presented in chapter 4.

#### STEP 7: SELECTION OF THE PREFERRED MANAGEMENT PLAN

Selection of the preferred management plan will be based on public input and coordination. current BLM management policies and directions, and analysis of each alternative.

#### STEP 8: SELECTION OF THE PROPOSED RESOURCE MANAGEMENT PLAN

Based on the results of public review and comment on the Draft RMP EIS, a Proposed RMP will be selected and published with a final EIS. The selection and

---

**APPENDIX C**

**ATTACHMENT C**

**NEWCASTLE RMP PLANNING AREA WILD AND SCENIC RIVERS SUITABILITY REVIEW**

<table>
<thead>
<tr>
<th>WATERWAY REVIEWED</th>
<th>TOTAL LENGTH (miles)</th>
<th>TOTAL BLM LENGTH (miles)</th>
<th>DETERMINATION</th>
<th>RATIONALE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Plum Creek</td>
<td>12</td>
<td>12</td>
<td>unsuitable</td>
<td>1, 2</td>
</tr>
<tr>
<td>Blacktail Canyon Creek</td>
<td>4</td>
<td>4</td>
<td>unsuitable</td>
<td>1, 2</td>
</tr>
<tr>
<td>Belize Fourche River</td>
<td>75</td>
<td>&lt;2.5</td>
<td>unsuitable</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Inyan Kara Creek</td>
<td>13</td>
<td>&lt;1.5</td>
<td>unsuitable</td>
<td>1, 2</td>
</tr>
<tr>
<td>Cave Springs Creek</td>
<td>3</td>
<td>3</td>
<td>unsuitable</td>
<td>1, 2</td>
</tr>
<tr>
<td>Bear Run Creek</td>
<td>5</td>
<td>5</td>
<td>unsuitable</td>
<td>1, 2</td>
</tr>
<tr>
<td>Whoopup Creek</td>
<td>13</td>
<td>3</td>
<td>unsuitable</td>
<td>1, 2, 4</td>
</tr>
<tr>
<td>Stockade Beaver Creek</td>
<td>No longer in federal ownership</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Rationale codes:

1. Not manageable due to small percent of federal ownership.
2. Federal ownership not enough to preserve outstanding values without adjacent nonfederal lands.
3. Conflicting management goals on federal, private, and state ownership.
4. Currently portions managed as special management area for other values.
approval of the RMP is made after a 30-day protest period on the proposed plan. Any person who participated in the planning process and who has an interest which is or may be adversely affected by adoption of the plan may protest its approval. A protest may raise only those issues which were submitted for the record during the planning process.

APPENDIX D

STEP 9: MONITORING AND EVALUATION

This step involves monitoring the selected plan. The results of implementing the plan will be evaluated to determine the planning action’s effectiveness. Monitoring may result in revisions to the plan.

APPENDIX E

WYOMING BLM MITIGATION GUIDELINES FOR SURFACE-DISTURBING AND DISRUPTIVE ACTIVITIES

INTRODUCTION

These guidelines are primarily for the purpose of attaining statewide consistency in how requirements are determined for avoiding and mitigating environmental impacts and resource and land use conflicts. Consistency in this sense does not mean that identical requirements would be applied for all similar types of land use activities that may cause similar types of impacts. Nor does it mean that the requirements or guidelines for a single land use activity would be identical in all areas.

There are two ways the mitigation guidelines are used in the RMP EIS process: (1) as part of the planning criteria in developing the RMP alternatives, and (2) in the analytical processes of both developing the alternatives and analyzing the impacts of the alternatives. In the first case, an assumption is made that any one or more of the mitigations will be appropriately included as conditions of relevant actions being proposed or considered in each alternative. In the second case, the mitigations are used (1) to develop a baseline for measuring and comparing impacts among the alternatives; (2) to identify other actions and alternatives that should be considered; and (3) to help determine whether more stringent or less stringent mitigations should be considered.

The EIS for the RMP does not decide or dictate the exact wording or inclusion of these guidelines. Rather, the guidelines are used in the RMP EIS process as a tool to help develop the RMP alternatives and to provide a baseline for comparative impact analysis in arriving at RMP decisions. These guidelines will be used in the same manner in analyzing activity plans and other site-specific proposals. These guidelines and their wording are matters of policy. As such, specific wording is subject to change primarily through administrative review, not through the RMP EIS process. Any further changes that may be made in the continuing refinement of these guidelines and any development of program-specific standard stipulations will be handled in another forum, including appropriate public involvement and input.

PURPOSE

The purpose of the ‘Wyoming BLM Mitigation Guidelines’ are (1) to reserve, for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and (2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. These guidelines have been written in a format that will allow for (1) their direct use as stipulations, and (2) the addition of specific or specialized mitigation following the submission of a detailed plan of development or other project proposal, and an environmental analysis.

Those resource activities or programs currently without a standardized set of permit or operation stipulations can use the mitigation guidelines as stipulations or as conditions of approval, or as a baseline for developing specific stipulations for a given activity or program.

Because use of the mitigation guidelines was integrated into the RMP EIS process and will be integrated into the site-specific environmental analysis process, the application of stipulations or mitigation requirements derived from the guidelines will provide more consistency with planning decisions and plan implementation than has occurred in the past. Application of the mitigation guidelines to all surface and other human presence disturbance activities concerning BLM-administered public lands and resources will provide more uniformity in mitigation than has occurred in the past.

MITIGATION GUIDELINES

1. Surface Disturbance Mitigation Guideline

Surface disturbance will be prohibited in any of the following areas or conditions. Exception, waiver, or modification of this limitation may be approved in writing, including documented supporting analysis, by the Authorized Officer.

a. Slopes in excess of 25 percent.
b. Within important scenic areas (Class I and II Visual Resource Management Areas).
c. Within 500 feet of surface water and or riparian areas.
d. Within one quarter mile or the visual horizon (whichever is closer) of historic trails.
e. Construction with frozen material or during periods when the soil material is saturated or when water-shed damage is likely to occur.
Guidance

The intent of the SURFACE DISTURBANCE MITIGATION GUIDELINE is to inform interested parties (including lessors, lessees, permitees, and other stakeholders) that when one or more of the five (1a through 1e) conditions exist, surface disturbance activities will be prohibited unless or until a permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development.

Specific criteria (e.g., 500 feet from water) have been established based upon the best information available. However, such items as geographical areas and sea- sons must be delineated at the field level.

Exception waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill, and, if necessary, must allow for other mitigation to be applied on a site specific basis.

2. Wildlife Mitigation Guideline

a. To protect important big game winter habitat, activities or service use will not be allowed from November 15 to April 30 within certain areas encompassed by the authorization. The same criteria apply to defined big game birthing areas from May 1 to June 30.

b. Application of this limitation to operation and maintenance of a developed project must be based upon environmental analysis of the operational or production aspects.

c. No activities or service use will be allowed on that portion of the authorization area identified with illegal descriptions for the purposes of association (e.g., sage brush tailed grouse breeding grounds, and or other species activities) habitat.

Exception: waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

d. Portions of the authorized use area legally described as illegal description, are known or suspected to be essential habitat for (name) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee permittee will be required to contact BLM or USFWS to verify the status of these species. The lessee permittee shall be allowed to modify operational plans to include the protection requirements of the species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).

Guidance

The WILDLIFE MITIGATION GUIDELINE is intended to provide two basic types of protection: seasonal restriction (2a and 2b) and prohibition of activities or service use (2c). Item 2d is specific to situations involving threatened or endangered species. Legal descriptions will ultimately be required and should be measurable and legally definable. There are no minimum sub-division requirements for projects at this time, and the delineation can and should be defined as necessary, based upon current biological data, prior to the time of processing an application and issuing the use authorization. The legal description must eventually become a part of the conditions for approval of the permit, plans of development, or other use authorization.

The seasonal restriction section identifies three example groups of species and delineates three similar time frame restrictions. The big game species including elk, deer, antelope, and bighorn sheep, all require protection of crucial winter range between November 1 to April 30. Elk and bighorn sheep also require protection from disturbance from May 1 to June 30, when they typically occupy distinct calving and lambing areas. Raptors include eagles, hawks, falcons, peregrine, prairie, and ravens. Burrowing owls (such as Swanson's hawks), osprey, and burrowing owls. The raptors and sage and sharp-tailed grouse

• 'require nesting protection between February 1 and July 31. Some birds often require protection from disturbance from November 1 through April 30 while they occupy winter concentration areas.

Item 2c, the prohibition of activity or service use, is intended for protection of specific wildlife habitat areas or values within the use area that cannot be avoided or mitigated using seasonal restrictions. These areas or values must be factors that limit life cycle activities (e.g., sage brush tailed grouse, known threatened and endangered species habitat).

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill, and, if necessary, must allow for other mitigation to be applied on a site specific basis.

3. Cultural Resource Mitigation Guideline

When a proposed discretionary land use has potential for affecting the characteristics which qualify a cultural property for the National Register of Historic Places (National Register), mitigation will be considered. In accordance with Section 106 of the Historic Preservation Act, procedures specified in 36 CFR 800 will be used in consultation with the Wyoming State Historic Preservation Officer, and the Advisory Council on Historic Preservation in arriving at determinations regarding the need and type of mitigation to be required.

Guidance

The preferred strategy for treating potential adverse effects on cultural properties is avoidance. If avoidance involves relocation, the project shall not be approved on a site specific basis. Factors such as site significance, military and/or archaeological significance, and potential for mitigation are usually taken into account when making a decision to mitigate. Authority to protect through mitigation such values is provided for in FLPMA, Section 106(2)(a)(8). When avoidance is not possible, appropriate mitigation may include excavation (dissipation of data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative protection measures.

4. Special Resource Mitigation Guideline

To protect resource values, activities or service use will not be allowed (i.e., within a specific distance of the resource value or between date to date) in (legal description).

The application of this limitation to operation and maintenance of a developed project must be based upon environmental analysis of the operational or production aspects. Exception may include excavation (dissipation of data recovery) or other physical and administrative protection measures.

Example Resource Categories (select or identify category and specific resource values):

- Recreation areas
- Special natural history or paleontological features
- Special management areas
- Sections of major rivers
- Poor existing rights of way
- Occupied dwellings
- Other (specify)
APPENDIX E

Guidance

The SPECIAL RESOURCE MITIGATION GUIDELINE is intended for use only in site-specific situations where one of the first three general mitigation guidelines will not adequately address the concern. The resource value, location, and specific restrictions must be clearly identified. A detailed plan addressing specific mitigation and special restrictions will be required prior to disturbance or development and will become a condition for approval of the permit, plan of development, or other use authorization.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

5. No Surface Occupancy Guideline

No Surface Occupancy will be allowed on the following described lands (legal description) because of site-specific value:

Example Resource Categories (select or define category and specific resource value):

a. Recreation Areas (e.g., campgrounds, historic trails, national monuments).

b. Major reservoirs/dams.

c. Special management area (e.g., known threatened or endangered species habitat, areas suitable for consideration for wild and scenic rivers designation).

d. Other (specify).

Guidance

The NO SURFACE OCCUPANCY (NSO) MITIGATION GUIDELINE is intended for use only when other mitigation is determined insufficient to adequately protect the public interest and is the only alternative to "no development" or "no leasing." The legal description and resource value of concern must be identified and be tied to an NSO land use planning decision.

Waver of, or exception(s) to, the NSO requirement will be subject to the same test used to initially justify its imposition. If, upon evaluation of a specific proposal, it is found that less restrictive mitigation would adequately protect the public interest or value of concern, then a waiver or exception to the NSO requirement is possible. The record must show that because conditions or uses have changed, less restrictive requirements will protect the public interest. An environmental analysis must be conducted and documented (e.g., environmental assessment, environmental impact statement, etc., as necessary) in order to provide the basis for a waiver or exception to an NSO planning decision.

Modification of the NSO requirement will pertain only to refinement or correction of the location(s) to which it applied. If the waiver, exception, or modification is found to be consistent with the intent of the planning decision, it may be granted. If found inconsistent with the intent of the planning decision, a plan amendment would be required before the waiver, exception, or modification could be granted.

When considering the "no development" or "no leasing" option, a rigorous test must be met and fully documented in the record. This test must be based upon stringent standards described in the land use planning document. Since rejection of all development rights is more severe than the most restrictive mitigation requirement, the record must show that consideration was given to development subject to reasonable mitigation, including "no surface occupancy." The record must also show that other mitigation was determined to be insufficient to adequately protect the public interest. A "no development" or "no leasing" decision should not be made solely because it appears that conventional methods or development would be unfeasible, especially where an NSO restriction may be acceptable to a potential permittee. In such cases the potential permittee should have the opportunity to decide whether or not to go ahead with the proposal (or accept the use authorization), recognizing that an NSO restriction is involved.

APPENDIX F

STANDARDS FOR HEALTHY RANGELANDS

AND

GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT

FOR

PUBLIC LANDS ADMINISTERED

BY THE

BUREAU OF LAND MANAGEMENT

IN THE

STATE OF WYOMING

AUGUST 12, 1997
APPENDIX F

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
In Reply Refer To: 4180 (220)

MEMORANDUM

To: The Secretary
Through: Bob Armstrong Assistant Secretary, Land and Minerals Management

From: Director, Bureau of Land Management

Subject: Approval of Wyoming Standards and Guidelines for Livestock Grazing Management

In accordance with 43 CFR 4180 2(b), the Bureau of Land Management Wyoming State Director is submitting the attached Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Secretarial approval. The standards and guidelines have been reviewed by the Departmental Review Team who found that they comply with the requirements of the regulations. The standards and guidelines were developed with full public participation and in consultation with Wyoming’s State resource advisory council and are in conformance with the appropriate land use plans.

I recommend that you approve the Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management.

I concur with your recommendation and approve the Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for immediate implementation.

Approved AUG 1 2 997
Disapprove

Date

Attachment
Prepared by ext:

APPENDIX F

INTRODUCTION

According to the Department of the Interior’s final rule for grazing administration, effective August 21, 1995, the Wyoming Bureau of Land Management (BLM) State Director is responsible for the development of standards for healthy rangelands and guidelines for livestock grazing management on 18 million acres of Wyoming’s public rangelands. The development and application of these standards and guidelines are to achieve the four fundamentals of range and health outlined in the grazing regulations (43 CFR 4180.1). Those four fundamentals are: (1) watersheds are functioning properly; (2) water, nutrients, and energy are cycling properly; (3) water quality meets State standards; and (4) habitat for special status species is protected.

Standards address the health, productivity, and sustainability of the BLM administered public range lands and represent the minimum acceptable conditions for the public rangelands. The standards apply to all resource uses on public lands. Their application will be determined as use specific guidelines are developed. Standards are synonymous with goals and are observed on a landscape scale. They describe healthy rangelands rather than important rangeland by products. The achievement of a standard is determined by observing, measuring, and monitoring appropriate indicators. An indicator is a component of a system whose characteristics (e.g., presence, absence, quantity, and distribution) can be observed, measured, or monitored based on sound scientific principles.

Guidelines provide for and guide the development and implementation of reasonable, responsible, and cost-effective management practices at the grazing allotment and watershed level. The guidelines in this document apply specifically to livestock grazing management practices on the BLM administered public lands. These management practices will either maintain existing desirable conditions or move rangelands toward statewide standards within reasonable timeframes. Appropriate guidelines will ensure that the resultant management practices reflect the potential for the watershed, consider other uses and natural influences, and balance resource goals with social, cultural historic, and economic opportunities to sustain viable local communities. Guidelines, like standards, apply statewide.

Implementation of the Wyoming standards and guidelines will generally be done in the following manner: Grazing allotments or groups of allotments in a watershed will be reviewed based on the BLM’s current allotment categorization and prioritization process. Allotments with existing management plans and high-priority allotments will be reviewed first. Lower priority allotments will be reviewed as time allows or when becomes necessary for BLM to review the permit lease for other reasons such as permit/lease transfers, permit/lease requests for change in use, etc. The permittees and interested publics will be notified when allotments are scheduled for review and encouraged to participate in the review. The review will first determine if an allotment meets each of the six standards. If does, no further action will be necessary. If any of the standards aren’t being met, then rationale explaining the contributing factors will be prepared. If livestock grazing practices are found to be among the contributing factors, corrective actions consistent with the guidelines will be developed and implemented before the next grazing season in accordance with 43 CFR 4180. If lack of data prohibits the reviewers from determining if a standard is being met, then a strategy will be developed to acquire the data in a timely manner.

On a continuing basis, the Standards for Healthy Rangelands will direct the ground management on the public lands. They will serve to focus the on-going development and implementation of activity plans to support the maintenance or the attainment of healthy rangelands.

Quantifiable resource objectives and specific management practices to maintain or achieve the standards will be developed at the local BLM District and Resource Area levels and will consider all reasonable and practical options available to achieve desired results on a watershed or grazing allotment scale. The objectives shall be reflected in site specific activity or implementation plans as well as in livestock grazing permits or leases for the public lands. These objectives and practices may be developed formally or informally through mechanisms available and appropriate under the Coordinated Resource Management (CRM) efforts.

The development and implementation of standards and guidelines will enable the ground management of the public rangelands to maintain a clear and responsible focus on both the health of the land and its dependent natural and human communities. This development and implementation will ensure that any mechanisms currently being employed or that may be developed in the future will maintain a consistent focus on these essential concerns. This development and implementation will also enable immediate attention to be brought to bear on existing resource concerns.

These standards and guidelines are compatable with BLM’s three tiered land use planning process. The first tier includes the laws, regulations, and policies governing BLM’s administration and management of the public lands and their uses. The previously mentioned funda-mentals of rangeland health, i.e., in 43 CFR 4180.1.
the requirement for BLM to develop these standards and guidelines. The standards and guidelines themselves, as part of this tier, also form part of this first tier and are the specific requirements of various Federal laws and the objectives of 43 CFR 41052 that require BLM to consider the social and economic well-being of the local communities in its management process. These standards and guidelines will provide for state-wide consistency and guidance in the preparation, amendment, and maintenance of BLM land use plans, which represent the second tier of the planning process. The BLM land use plans provide general allocation decisions concerning the kinds of resource and land uses that can occur on the BLM administered public lands, where they can occur, and the types of conditional requirements under which they can occur. In general, the standards and guidelines will be the BLM land use planning area specific management objectives concerning rangeland health and productivity, and the guidelines will direct development of livestock grazing management actions to help accomplish those objectives. The third tier of the BLM planning process, activity or implementation planning, is directed by the applicable land use plan and, therefore, by the standards and guidelines. The standards and guidelines as BLM statewide policy will also directly guide development of the site specific objectives and standards and practices used to implement the land use plan decisions. Activity or implementation plans contain objectives which describe the site specific conditions observed. Grazing permits leases for the public lands contain terms and conditions which describe specific actions required to attain or maintain the desired conditions. Through monitoring and evaluation, the BLM grazing permittees, and other interested entities, determine if progress is being made to achieve activity plan objectives.

Wyoming rangelands support a variety of uses which are of significant economic importance to the State and its communities. These uses include oil and gas production, mining, recreation and tourism, fishing, hunting, wildlife viewing, and livestock grazing. Rangelands also provide amenities which contribute to the quality of life in Wyoming such as open spaces, solitude, and opportunities for personal renewal. Wyoming’s rangelands should be managed with consideration of the State’s historical, cultural, and social development and in a manner which contributes to a diverse, balanced, competitive, and resilient economy in order to provide opportunity for economic development. Healthy rangelands can best sustain these uses.

To varying degrees, BLM management of the public lands and resources plays a role in the social and economic well-being of Wyoming communities. The National Environmental Policy Act (part of the above-mentioned first tier) requires BLM regulations mandate the BLM to analyze the socioeconomic impacts of actions occurring on public rangelands. These analyses occur during the environmental analysis process of land use planning (second planning tier), where resource allocations are made, and during the environmental analysis process of activity or implementation planning (third planning tier). In many situations, factors that affect the social and economic well-being of local communities extend far beyond the scope of BLM management or individual public lands users responsibilities. In addition, since standards and guidelines respectively relate primarily to physical and biological features of the landscape, it is very difficult to provide measurable socioeconomic indicators that relate to the health of rangelands. It is important that standards be reviewed and updated by the control of the land manager and users to achieve.

STANDARDS FOR HEALTHY PUBLIC RANGELANDS

STANDARD #1

Within the potential of the ecological site (soil type, landform, climate, and geology), soils are stable and allow for water infiltration to provide for optimal plant growth and minimal surface runoff.

THIS MEANS THAT

The hydrologic cycle will be supported by providing for water storage, capture, and surface runoff. Adequate energy flow and nutrient cycling through the system will be achieved as optimal plant growth occurs. Plant communities are highly varied and healthy.

INDICATORS MAY INCLUDE BUT ARE NOT LIMITED TO

- Water infiltration rates
- Soil compaction
- Erosion (rills, gullies, pedestals, piping)
- Soil micro organisms
- Vegetative cover (gully bottoms and slopes)
- Bare ground and litter

The above indicators are applied as appropriate to the potential of the ecological site

STANDARD #2

Riparian and wetland vegetation has structural, age, and species diversity characteristic of the stage of channel succession and is resilient and capable of recovering from natural and human disturbance.

Indicators may include, but are not limited to:

- Vegetative cover
- Plant composition and diversity and species, structure, successional stages, desired plant community, etc.
- Bare ground and litter
- Erosion (rills, gullies, pedestals, piping)
- Water infiltration rates

The above indicators are applied as appropriate to the potential of the ecological site.

STANDARD #4

Rangelands are capable of sustaining viable populations and a diversity of native plant and animal species in a balanced situation that supports or could support threatened species, endangered species, species of special concern, or sensitive species will be maintained or enhanced.

This means that

The management of Wyoming rangelands will achieve or maintain adequate habitat conditions that support diverse plant and animal species. These may include listed threatened or endangered species (US Fish and Wildlife Service), species of special concern (BLM designated) and other sensitive species (State of Wyoming designated). The intent of this standard is to allow the listed species to recover and be delisted and to avoid or prevent additional species becoming listed.

Indicators may include, but are not limited to:

- Nuisance weeds
- Species diversity
- Age class distribution
- All indicators associated with the upland and riparian standards
- Population trends
- Habitat fragmentation

The above indicators are applied as appropriate to the potential of the ecological site.

STANDARD #5

Water quality meets State standards.

This means that

The State of Wyoming is authorized to administer the Clean Water Act. BLM management actions or uses authorizations will comply with all Federal and State
BLM WYOMING GUIDELINES FOR LIVESTOCK GRAZING MANAGEMENT

1. Timing, duration, and levels of authorized grazing will ensure that adequate amounts of vegetative ground cover, including standing plant material and litter, remain after authorized use to support infiltration, maintain soil moisture storage, stabilize soils, allow the release of sufficient water to maintain system function, and to maintain subsurface soil conditions that support permeability rates and other processes appropriate to the site.

2. Grazing management practices will restore, maintain, or improve riparian plant communities. Grazing management strategies consider hydrology, physical attributes, and potential for the watershed and the ecological site. Grazing management will maintain adequate residual plant cover to provide for plant recovery, residual forage, sediment capture, energy dissipation, and groundwater recharge.

3. Range improvement practices (instream structures, fences, water troughs, etc.) in and adjacent to riparian areas will ensure that stream channel morphology (e.g., gradient, width, depth, ratio, channel roughness and sinuosity) and functions appropriate to climate and landform are maintained or enhanced. The development of springs, seeps, or other projects affecting water and associated resources shall be designed to protect the ecological and hydrological functions, wildlife habitat, and significant cultural, historical, and archaeological values associated with the water source. Range improvements will be located away from riparian areas if they conflict with achieving or maintaining riparian function.

4. Grazing practices that consider the biotic communities as more than just a forage base will be designed in order to ensure that the appropriate kinds and amounts of soil organisms, plants, and animals to support the hydrologic cycle, nutrient cycle, and energy flow are maintained or enhanced.

5. Continuous season-long or other grazing management practices that hinder the completion of plants life-sustaining reproductive and/or nutrient cycling processes will be modified to ensure adequate periods of rest at the appropriate times. The rest periods will provide for seedling establishment or other necessary processes at levels sufficient to move the ecological site condition toward the resource objective and subsequent achievement of the standard.

6. Grazing management practices and range improvements will adequately protect vegetative cover and physical conditions and maintain, restore, or enhance water quality to meet resource objectives. The effects of new range improvements (water developments, fences, etc.) on the health and function of rangelands will be carefully considered prior to their implementation.

7. Grazing management practices will incorporate the kinds and amounts of use that will restore, maintain, or enhance habitats to assist in the recovery of Federal threatened and endangered species or the conservation of federally-listed species of concern and other State-designated special status species. Grazing management practices will maintain existing habitat or facilitate vegetation change toward desired habitats. Grazing management will consider threatened and endangered species and their habitats.

8. Grazing management practices and range improvements will be designed to maintain or promote the physical and biological conditions necessary to sustain native animal populations and plant communities. This will involve emphasizing native plant species in the support of ecological function and incorporating the use of non-native species only in those situations in which native plant species are not available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health.

9. Grazing management practices on uplands will maintain desired plant communities or facilitate change toward desired plant communities.
DEFINITIONS

ACTIVITY PLANS
Allocation Management Plans (AMPs), Habitat Management Plans (HMPs), Watershed Management Plans (WMPs), Wild Horse Management Plans (WHMPs), and other plans developed at the local level to address specific concerns and accomplish specific objectives.

COORDINATED RESOURCE MANAGEMENT (CRM)
A group of people working together to develop common resource goals and resolve natural resource concerns. CRM is a people process that strives for win-win situations through consensus-based decisionmaking.

DESIZED PLANT COMMUNITY
A plant community which produces the kind, proportion, and amount of vegetation necessary for meeting or exceeding the land use plan activity plan objectives established for an ecological site. The desired plant community must be consistent with the site’s capability to produce the desired vegetation through management, land treatment, or a combination of the two.

ECOLOGICAL SITE
An area of land with specific physical characteristics that differs from other areas both in its ability to produce distinctive kinds and amounts of vegetation and in its response to management.

EROSION
Detachment and movement of soil or rock fragments by water, wind, ice, or gravity. This includes all processes by which the land surface is worn away by running water, wind, ice or other geological agents, including such processes as gravitational creep.

GRAZING MANAGEMENT PRACTICES
Grazing management practices include such things as grazing systems, rest and rotation, deferred rotation, etc.; timing and duration of grazing; herding, salting, etc. They do not include physical range improvements.

GUIDELINES (For Grazing Management)
Guidelines provide for and guide the development and implementation of reasonable, responsible, and cost-effective management actions at the allotment and watershed level which move rangelands toward statewide standards or maintain existing desirable conditions. Appropriate guidelines will ensure that the resultant management actions reflect the potential for the watersheds, consider other uses and natural influences, and balance resource goals with social, cultural historic, and economic opportunities to sustain viable local communities. Guidelines, and therefore, the management actions they engender, are based on sound science, past and present management experience, and public input.

INDICATOR
An indicator is a component of a system whose characteristics (e.g., presence, absence, quantity, and distribution) can be observed, measured, or monitored based on sound scientific principles. An indicator can be evaluated at a site- or species-specific level. Monitoring of an indicator must be able to show change within timeframes acceptable to management and be capable of showing how the health of the ecosystem is changing in response to specific management actions. Selection of the appropriate indicators to be observed, measured, or monitored in a particular allotment is a critical aspect of early communication among the interests involved on the ground. The most useful indicators are those for which change or trend can be easily quantified and for which agreement as to the significance of the indicator is broad based.

LITTER
The uppermost layer of organic debris on the soil surface, essentially the freshly fallen or slightly decomposed vegetal material.

MANAGEMENT ACTIONS
Management actions are the specific actions prescribed by the BLM to achieve resource objectives, land use allocations, or other program or multiple use goals. Management actions include both grazing management practices and range improvements.

OBJECTIVE
An objective is a site-specific statement of a desired rangeland condition. It may contain either or both qualitative elements and quantitative elements. Objectives frequently speak to change. They are the focus of monitoring and evaluation activities at the local level. Monitoring of the indicators would show negative changes or positive changes. Objectives should focus on indicators of greatest interest for the area in question.

RANGE IMPROVEMENTS
Range improvements include such things as corrals, fences, water developments (reservoirs, spring developments, pipelines, wells, etc.) and land treatments (prescribed fire, herbicide treatments, mechanical treatments, etc.).

RANGELAND HEALTH
The degree to which the integrity of the soil and ecological processes of rangeland ecosystems are sustained.

RIPARIAN
An area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lakeshores and streambanks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not have vegetation dependent on free water in the soil.

STANDARDS
Standards are synonymous with goals and are observed on a landscape scale. Standards apply to rangeland health and not to the important by-products of healthy rangelands. Standards relate to the current capability or realistic potential of a specific site to produce these by-products, not to the presence or absence of the products themselves. It is the sustainability of the processes, or rangeland health, that produces these by-products.

TERMS AND CONDITIONS
Terms and conditions are very specific land use requirements that are made a part of the land use authorization in order to assure maintenance or attainment of the standard. Terms and conditions may incorporate or reference the appropriate portions of activity plans (e.g., Allocation Management Plans). In other words, where an activity plan exists that contains objectives focused on meeting the standards, compliance with the plan may be the only item and condition necessary in that allotment.

UPLAND
Those portions of the landscape which do not receive additional moisture for plant growth from run-off, streamflow, etc. Typically these are hills, ridgetops, valley slopes, and rolling plains.
APPENDIX F

This page left blank intentionally.

APPENDIX G

THE FORESTRY PROGRAM

OVERVIEW

This appendix was developed to provide more information about the forestlands and the forestry program. Forest management is directed to manage the forestlands in a healthy productive condition. To keep the forestland in a healthy productive condition, forest management activities may include forest inventories, site preparation, timber stand improvement (precommercial and commercial thinning), harvesting mature timber, timber sale preparation and sale administration, and surveillance of forestlands for insect and disease problems.

FORESTED LAND

All land having 10\% or more canopy cover per acre are classified as forestlands or woodslands. These lands are classified as either:

Commercial Forestland

Forestland (or all species of trees) which is producing or is capable of producing 20 cubic feet per acre per year.

Wood and Noncommercial Forestlands

Land which is not capable of yielding at least 20 cubic feet of wood per acre per year of sawtimber tree species, or land which is capable of producing only non-sawtimber tree species.

FOREST MANAGEMENT PLAN

A timber management plan for the commercial forestland was prepared for the planning area in 1981. This plan provides information on the forest resources. The timber sale program EA was approved in 1983. It provides information on site-specific management activities within the planning area.

SILVICULTURAL PRACTICES

Silvicultural practices are the site-specific, on-the-ground activities used to cultivate the growing of trees. The major silvicultural practices used in the planning area are described in the following section.

Regeneration

Regeneration is the process of reforestation of a site. There are two types of regeneration. The natural method is when the site is reforested from seeds left on the site and seeds deposited from the remaining trees. Ponderosa pine in the Black Hills lends itself easily to this method when there is a good seedbed, good seed crop, and cooperating weather. This is the preferred and most extensive method used for reforestation of ponderosa pine in the Black Hills. The artificial method is when seeds or tree seedlings are planted by humans. This method of regeneration may be used when a fire has destroyed all seed sources on the site.

Stand Development and Silvicultural Treatments

Stand development refers to the life of a stand from establishment until harvest or the death of the stand. Depending on the management objective for that stand the silvicultural treatments that occur during the life of the stand may improve the stands growth potential, help reduce a fire hazard, improve forage production, and reduce insect or disease outbreaks. These objectives may be accomplished with a single or series of treatments which may include precommercial thinning, commercial thinning, and some form of a shelterwood cut. Precommercial thinning (PCT) occurs in a young stand that is overstocked with unmerchantable sawtimber. This cut removes unpressed and damaged trees giving the remaining healthier trees a better chance to survive. Spacing guidelines used for ponderosa pine in the Black Hills are as follows:

- one-inch trees are spaced at 600 per acre;
- two-to-three-inch trees are spaced at 403 per acre;
- five-inch trees are spaced at 300 per acre.

Precommercial thinning is a treatment method that the BLM contracts out.

Commercial thinning is a treatment where a commercial sawtimber size has been reached in the stand. This treatment removes slower growing, low, and damaged trees from the stand leaving the final crop trees. The next treatment that occurs is the first cut or a series of harvest or shelterwood cuts. The first shelterwood or preparatory cut (individual cut tree selection) removes 30\% to 40\% of basal area. Trees harvested are the
APPENDIX G

Pile and Burn
As a whole tree mechanical harvester becomes more widely used, more piles are being created at the landing sites. With this method of slash treatment the whole tree is yanked to a central location where it is delimbed, and the top is cut into lengths. The slash is piled and burned at a later time.

ALLOWABLE HARVEST
The planning area's allowable harvest level was calculated from data collected in an extensive forest inventory completed in 1973 and intensive forest inventory completed in 1979. This inventory data was evaluated, and the allowable harvest level was calculated. The yield for the 17,147 acres available for management was calculated to be 673 thousand board feet annually. A decision record and finding of no significant impact for the timber sale EA (USDI. BLM 1983a) set the harvest at 500 mbf annually.

Data from stand-based forest inventory for the former Casper District including Buffalo, Platte, and Newcastle resource areas was entered in 1987 into the U.S. Forest Service FGIRLAN planning model. Three alternative harvest schedules or solutions were calculated using a variety of management constraints. All three alternatives were modeled over a 200-year planning horizon. For each alternative a long-term sustained yield capacity for the district was calculated and a decadal harvest for each resource area was calculated.

APPENDIX H

A DETAILED DISCUSSION OF OIL AND GAS ACTIVITIES AND PROCESSES IN THE NEWCASTLE PLANNING AREA

INTRODUCTION
This appendix contains a detailed discussion of the activity caused by the presence, or anticipated presence, of oil and gas resources. Leasing, seismic exploration, drilling operations, and production operations are each discussed separately. Oil and gas activity is almost entirely the result of demands from the oil and gas industry. These demands are based on commodity prices, advances in technology, and interest in oil and gas plays.

LEASING
The Mineral Leasing Act of 1920 (as amended) provides that all public lands be open to oil and gas leasing unless a decision of the authorized officer has been issued to close the area. Through the BLM's land use planning system the availability of public land for leasing is analyzed and conflicts between oil and gas development and other resources are identified and hopefully resolved.

Process
Leases on federal oil and gas are offered by the Wyoming state BLM office (WSO) in Cheyenne. Acreage may be nominated for lease by interested parties. Acreage is offered first in a competitive lease sale then noncompetitively over the balance. Acreage to be offered for lease is proportioned into groups called parcels. Legal descriptions of these parcels are sent to the Newcastle Field Office and other surface management agencies for review and application of lease stipulations that will mitigate the effect of oil and gas operations on other resources. Stipulations on oil and gas leases are applied by the staff in Newcastle. The lease stipulations used BLM guidance and how the stipulations are applied in the Newcastle area are given in appendix E. "Map H-1 shows the areas currently open to development under standard terms and conditions, areas currently open with minor constraints, areas currently open with major constraints, and areas closed to leasing. After the lease stipulations are applied the parcel descriptions are returned to the WSO. Oil and gas leases covering the area listed in the parcel descriptions are offered for sale competitively via oral bid. The

minimum bid is $2.00 per acre. Oil and gas leasing is a discretionary act by the Secretary of the Interior. A minimum bid does not compel the BLM to lease any of the acreage offered if there is sufficient justification not to issue a lease. The Federal Onshore Oil and Gas Leasing Reform Act of 1987 requires that a competitive sale be held four times a year. Since June 1988 competitive sales have been held bi-monthly in Wyoming (except for April 1996 which was canceled because of the partial federal government shutdown). Leases issued via the competitive sale have a ten-year term and one-eighth royalty. Yearly rentals are $1.50 per acre for the first five years and $2.00 per acre thereafter.

Acreage in lease offers that do not receive a minimum bid is available noncompetitively for two years starting the day after the competitive sale. A substantial amount of acreage that did not get a minimum bid is leased noncompetitively over the counter the day after the sale. Applications for noncompetitive oil and gas leases are processed in the WSO. If two or more applications are received the same day for the same acreage a drawing is held. Leases offered noncompetitively have a 10-year term and one-eighth royalty. Yearly rentals for noncompetitive leases are the same as for competitive leases.

Past and Current Activity
There are 2.12 million acres of federal oil and gas ownership in the Newcastle planning area. This acreage is 40% of the total planning area and is interspersed with nonfederal oil and gas ownership. In the Newcastle area there are 29 million acres of BLM administered surface; other federal agencies administer 42 million acres of surface acres (figure 3-3 in chapter 3). In March 1994, there were 1,743 oil and gas leases covering 0.69 million acres in effect in the Newcastle planning area. Of the leases in effect, 658 were productive (0.19 million acres) and 1,085 were nonproductive (0.50 million acres). Table H-1 shows these figures for 1989, 1990, and 1997. Note there is an overall decrease in leases and acreage but the decrease in held by production (HBP) leases and acreage is relatively less than for non-HBP acreage.

The acreage offered in the Newcastle area between the February 1989 and February 1997 lease sales varied considerably (figure 3.4 in chapter 3). The amount of acreage sold in these lease sales also varied, but in most cases it was considerably less than 50% of
what was offered figures 3-4 and H-1. The average successful bids in these sales varied from about $2 to $25 per acre. Average successful bids generally decreased until 1991, when they increased since then (figure H-2). Likewise the total dollar bonuses bid varied from about $2,000 to $285,000. Total bonuses tended downward but appear to trend upward since 1991 (figure 3-5 or chapter 3). From February 1989 through February 1997, the average sale offered 29,000 acres in the lease sale area, with 41 lease units sold, for a total bonus of $74,000. About half of the bonus money received by the BLM is returned to the state of Wyoming.

**SEISMIC EXPLORATION**

Seismic exploration is a process where energy is transmitted into the subsurface usually by explosives or low frequency vibrations. The reflected energy waves are recorded and electronically processed. This process usually involves the operation of small- or medium-sized trucks on the surface and drilling shallow to about 200 feet shot holes. After the seismic data are collected and further processed, a cross-section of the earth's geologic layers is produced. Seismic reflection surveys help locate and determine the extent of oil and gas reservoirs.

**Process**

Before a seismic survey is conducted, BLM administers a surface notice of intent (NOI) which gives the location and type of activity, and the results of an on-the-ground cultural inventory is filed in the Newcastle Field Office. The BLM does an in-office study to determine if any threatened or endangered species are affected. The BLM notifies the seismic operator when all the criteria of the NOI are met.

If a seismic survey is conducted on behalf of an oil and gas operator or lessee on lease, a lease bond of at least $10,000, a statewide bond of at least $25,000, or a nationwide bond of at least $150,000 is required. The field office manager may and does increase the bond amount if the minimum amount is inadequate. The BLM also determines if the seismic survey will adhere to stipulations and may specify how shot holes are to be plugged.

If a seismic contractor is not conducting a survey on behalf of a lessee or operator and desires to cross BLM-administered state, a $5,000 bond is required. A $50,000 statewide bond or a $50,000 nationwide bond is required. If bond amounts are inadequate they may be increased by the field office manager.

If a seismic contractor is not conducting a survey on behalf of a lessee or operator over split estate land (oil and gas) it is not necessary to notify the BLM.

After the seismic survey is complete a notice of completion (NOC) is required. The BLM then has 30 days to inspect the survey site and determine if shot holes are adequately plugged. If reclamation of the survey site is adequate the BLM approves the project for completion.

On November 15, 1990 the NOI process was replaced by the Application to Conduct Oil and Gas Geophysical Exploration. As with the NOI process it is the BLM's objective to promote the development and utilization of oil and gas resources while assuring adequate protection of other resource values. The district manager holds and administers the individual geophysical bonds posted within the district. The field office manager is responsible for processing each application and ensuring that public resource values are protected.

A programmatic agreement (PA) for managing cultural resources in response to geophysical actions has been signed by the BLM, the State Historic Preservation Office, and the Advisory Council on Historic Preservation. The PA provides for approval of NOIs before State Historic Preservation Office (SHPO) comments are received if cultural resources can be avoided. This is a major time saving measure which represents a departure from normal regulatory procedure. Additionally the BLM will not be responsible for cultural resources on private land unless a BLM-authorized geophysical project may result in an effect on public surface immediately adjacent to federal surface or between tracts of federal surface.

**Past and Current Activity**

From 1987 through 1996 there were 47 NOIs in the Newcastle planning area. Most seismic exploration was in extreme western Crook County and northwestern Weston County. The BLM received several NOIs covering scattered townships in northern Niobrara and extreme southeastern Weston counties. Almost all seismic surveys in the past five years have been 3-D surveys. Figure H.3 shows the number of NOIs filed from 1987 through 1996.

**OIL AND GAS DRILLING OPERATIONS**

Once a potential hydrocarbon reservoir prospect has been located, the next step is drilling one or more wells. This is often the single most expensive step in developing an oil and gas reservoir. It oil is discovered, wells are often drilled over several years as more is learned about the reservoir and additional wells are needed to maximize recovery or replace undiscovered reserves. Before drilling operations can begin on federal minerals an application for permit to drill (APD) must be approved by the field office manager.

Once the location is determined the well is staked (surveyed). The BLM is notified either by a notice of staking or an APD. Before any surface disturbing activity can occur the APD must be approved by the field office manager. A site-specific environmental assessment (EIA) is done for each APD. BLM and operator representatives conduct an on-site inspection of the proposed drilling location before an APD is approved. APDs are subject to site specific conditions of approval. These site specific conditions of approval, which may be more restrictive than the lease stipulations, mitigate the impact of oil and gas operations on other resource values even though these values were not known at the time the lease was issued. In specific instances as part of the approved APD some lease stipulations may be modified by the field office manager if there is no impact to other resource values.

If oil and gas operations are expected to have a significant adverse impact on other resource values and these impacts cannot be mitigated by the site specific conditions of approval then an EIS must be prepared.

The field office manager may restrict oil and gas drilling operations in specific parts of federal leases during some times of the year and in some locations to protect other resource values such as cropland, winter range or stream channels. Generally these areas and times are identified in the lease stipulations or on the approved APD.

While federal wells are being drilled BLM personnel are authorized to inspect the operations to ensure that federal regulations, guidelines, and the terms of the approved APD are being complied with. All high pressure federal wells, such as wells in high hydrogen sulfide gas or environmentally sensitive areas, are inspected at some time during drilling operations.

**Past and Current Activity**

Figure H-4 shows the total number and federal number of APDs approved from 1990 to 1996 in the Newcastle planning area. All three counties have significant numbers of APDs each year, but those in Niobrara County are noticeably fewer. Figure H-5 shows the number of approved APDs plotted against average oil price from 1977 through 1995. During this period, APDs for the planning area ranged from 10-15% of all APDs approved in Wyoming.

An average of 48 federal APDs per year in the Newcastle planning area were approved by the field office. This number varies from calendar year to calendar year. Federal APDs averaged 57% of all APDs in the Newcastle during this time. Figure H-6 shows the number of wells drilled in the planning area. Note that drilling activity is at a 50-year low.

Between 1980 and 1989 several oil and gas fields were discovered in the Newcastle planning area. Figure H-7 shows the number of discoveries each year since 1977. The annual discovery rate in the area has decreased substantially since 1989 (figure H-7). Some wells although discoveries are often not economic, and no additional drilling occurs.

Field size distributions for fields discovered during five year increments since 1945 are shown in figure H-8. With the exception of one field discovered in the 1965-1969 interval, field size has decreased steadily since 1945 although the number of new field discoveries and the size of the fields discovered since 1945 has increased (figure H-9). The largest decline in the 1965-1969 interval, figure H-8, is due to the Finn-Field in Weston County. If the Finn-Field had not been discovered in 1965, was developed mostly in the early 1980s. The largest new field discoveries since 1970 are the average of the three largest five largest and 13 newly
discovered fields is shown in figure H-8. Note that all trends are downward. Many new field discoveries ultimately have only one well and are uneconomic. Abandoned or shut-in fields with no productive wells were considered to have one well. Other fields were considered to have the number of wells listed.

From calendar years 1987 through 1996 an average of 36 federal wells per year were drilled in the planning area. Each federal well causes an estimated disturbance of 0.5 acre for the location and 0.3 acre for the access road. All of this area is reclaimed within two to three years after the well is plugged and abandoned. Total disturbed area due to federal wells is estimated to have averaged 39 acres per year from calendar years 1987 through 1996. During these years an average of 48 federal wells per year have been abandoned. These abandonment have resulted in reclamation of an estimated 52 acres per year. Figure H-10 shows the net change in federal wells from 1987 through 1996. The excess of federal wells plugged over federal wells drilled is due largely to temporarily abandoned wells being plugged and fewer federal wells being drilled.

Oil and Gas Production Operations

After an oil and gas reservoir has been drilled it is necessary to apply sound engineering principles to maximize reservoir recovery and economic return. Production operations occur over the life of the field until the last well is shut-in. Production operations include such things as maintenance and repair of pumps and surface equipment, measurement of produced oil and gas, transportation of oil and gas, and installation of secondary recovery facilities.

Process

Initially only the original reservoir energy is used to produce oil and gas. This is called primary recovery and allows about 10% to 25% of the original oil in place to be recovered. After the reservoir’s energy begins to deplete due to withdrawals secondary recovery may be initiated. Secondary recovery involves injecting water to increase or maintain reservoir pressure and allows about 25% to 40% of the original oil in place to be recovered. Many fields in the planning area are undergoing secondary recovery. Some fields are undergoing enhanced oil recovery (EOR). EOR may begin at any stage of reservoir development and involves injection of surfactants or other chemicals to increase oil recovery.

Oil and gas production operations are not subject to prior approval by the field office manager unless there is a possible loss of royalty, additional surface disturbance, recompletion in a different zone, or operations are nonroutine or unusual. Examples of activities requiring prior approval by the field office manager are gas venting or flaring and water disposal.

Production operations and facilities must meet federal requirements and are subject to BLM inspection and enforcement (I&E). High priority inspection items, such as leases producing over 12,000 barrels of oil per month or leases with a history of past major violations, are inspected at least once every three years. Lower priority inspection items are inspected as time and resources allow. When violations are found the operator is notified and damages may be assessed.

Past and Current Activity

Oil and gas production for the Newcastle planning area is shown in figure H-11. All three counties have significant oil production. Oil production from the planning area has increased from about 4.5% (6.2 million barrels of oil) of the state’s total in 1977 to about 7% (17.6 million barrels of oil) in 1985. Since 1985, the planning area has averaged 7% of the state’s total oil production. In 1995, 2.2 million barrels of oil were produced in the area. Gas production is relatively minor compared to oil. There are no major gas fields in the planning area.

In 1978, 38% (2.3 million barrels of oil) of the oil produced in the planning area was from federal wells. After reaching a peak of 50% in 1990 federal wells now produce 47% (2.4 million barrels of oil) of the total oil in the area. Gas production from federal wells decreased from 78% (2.4 billion cubic feet of gas) in 1978 to 47% (1.8 billion cubic feet of gas) in 1995. Federal, fee, and state oil production are shown in figure H-12.

From calendar years 1978 through 1995 there were an average of 1,827 productive oil wells in the Newcastle planning area (figure H-13). Productive federal wells increased from about 500 in 1978 to about 900 in 1984. From 1978 to 1995 productive federal oil wells have been 41% to 44% of the total producing oil wells.
Figure H-1
Oil and Gas Lease Sale Results
Percent of Acreage Leased Competitively

Years (in two-month intervals)
Figure H-2
Oil and Gas Lease Sale Results
Average High Bid

Years (in two month intervals)

High Bid (in dollars per acre)

- $25
- $20
- $15
- $10
- $5
- $0

1989
1990
1991
1992
1993
1994
1995
1996
1997

Note: April 1996 sale was canceled due to a partial government shutdown.
Figure H-3
Notices of Intent to Conduct Seismic Operations


Notice of Intent

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
Figure H-4
Drilling Permits

[Bar chart showing drilling permits from 1977 to 1996.]

Approved Drilling Permits

[Bar chart showing BLM issued permits as a percent of the total permits issued from 1977 to 1996.]

BLM Issued Permits as a Percent of the Total Permits Issued
Figure H-5
Approved Applications Compared to Oil Price

The numbers represent the year for the data point. The linear regression line is shown, $r^2$ is 0.60.
Figure H-6
Wells Drilled in Newcastle Field Area
Figure H-7
Oil and Gas Field Discoveries

Source: Wyoming Oil and Gas Conservation Commission.

No oil and gas fields were discovered from 1994 through 1996.
Figure H-3
Average Number of Producing Wells Per Field

- Average Wells in the 5 Largest Fields
- Average Wells in the 5 Largest Fields
- Average Wells in All Fields

Source: Wyoming Oil and Gas Conservation Commission
Figure H-9
Oil and Gas Field Discoveries

<table>
<thead>
<tr>
<th>Five Year Interval</th>
<th>Number of Fields Discovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945-1949</td>
<td>0</td>
</tr>
<tr>
<td>1950-1954</td>
<td>10</td>
</tr>
<tr>
<td>1955-1959</td>
<td>10</td>
</tr>
<tr>
<td>1960-1964</td>
<td>20</td>
</tr>
<tr>
<td>1965-1969</td>
<td>20</td>
</tr>
<tr>
<td>1970-1974</td>
<td>0</td>
</tr>
<tr>
<td>1975-1979</td>
<td>0</td>
</tr>
<tr>
<td>1980-1984</td>
<td>0</td>
</tr>
<tr>
<td>1985-1989</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure H-10
Net Change in Federal Wells

From 1987 through 1996, 356 federal wells were drilled and 476 federal wells were abandoned.
Figure H-11
Monthly Oil and Gas Production and the Number of Producing Wells

- Oil Production
- Gas Production
- Number of Producing Wells

1^ (MBO): Thousands of barrels of oil
2^ (MMCFG): Millions of cubic feet of gas

Source: Dwights Energy Data Inc
Figure H-12
Oil Production by Ownership

- Produced from Federal Minerals
- Produced from Private Minerals
- Produced from State Minerals
- Total Oil Production

Barrels of Oil (in millions)
Figure H-13
Producing Oil Wells

- Producing Federal Wells
- Producing Private Wells
- Producing State Wells
- Total Producing Wells

Producing Wells

APPENDIX I

REASONABLY FORESEEABLE DEVELOPMENT SCENARIO FOR OIL AND GAS

This appendix presents a development scenario for oil and gas leasing and development activities in the Newcastle planning area. This scenario is an estimate of future activity and how much of this activity is on BLM-administered mineral acreage.

The oil and gas occurrence potential has been estimated for the area and is shown on map I-1. This map represents only occurrence potential of hydrocarbons and does not indicate development potential. Definitions of high, moderate, low, and no occurrence potential are given at the end of this appendix. Moderate to high occurrence potential areas in central and eastern Crook County probably contain several undiscovered heavy oil or tar deposits in the Minnelusa Formation. These deposits are from a few hundred feet or less to nearly 2,000 feet below the surface. Geologically, these deposits are probably similar to oil and gas reservoirs in eastern Crook County. So far, two deposits have been discovered (Burr Hollow and "Rocky Ford") but neither has produced a significant amount of oil.

Twelve major oil and gas plays have been identified and described by the U.S. Geological Survey (USGS 1990). These plays are summarized in table I-1. The numbers are mean value estimates of undiscovered economically recoverable conventional oil, gas, and natural gas liquids as of January 1, 1987. Most of the oil produced from fields within the planning area is from these plays. The percentages shown in table I-1 were estimated from the maps shown in USGS 1990.

The reader is cautioned from estimating how much undiscovered oil and gas remains based on the information in table I-1. Estimates for fields with less than one million barrels of oil (MMBO) or six billion cubic feet of gas (BCFG) were not included. Due to geologic changes, uneven development, and differences in reservoir size, it cannot be assumed that 20% of a play area is within the planning area that approximately 20% of the undiscovered reserves are also within the planning area.

Oil and gas activity is primarily based on three factors: crude oil prices and anticipated oil price changes, development of new plays or renewal of interest in old plays; and advances in and application of technology, especially secondary and enhanced oil recovery and seismic.

These factors are difficult to predict with much certainty. Some generalizations are possible. The

<table>
<thead>
<tr>
<th>Play</th>
<th>Undiscovered Reserves</th>
<th>Percent of Play in Planning Area</th>
<th>Percent of Planning Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fields</td>
<td>MMBO</td>
<td>BCFG</td>
</tr>
<tr>
<td>Dakota</td>
<td>21</td>
<td>158</td>
<td>158</td>
</tr>
<tr>
<td>Deep Frontier</td>
<td>6</td>
<td>37</td>
<td>99</td>
</tr>
<tr>
<td>Lakota</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Leo</td>
<td>60</td>
<td>110</td>
<td>60</td>
</tr>
<tr>
<td>Mesaverde and Lewis</td>
<td>10</td>
<td>66</td>
<td>91</td>
</tr>
<tr>
<td>Minnelusa</td>
<td>185</td>
<td>822</td>
<td>203</td>
</tr>
<tr>
<td>Mowry Shale</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Muddy</td>
<td>39</td>
<td>1333</td>
<td>1298</td>
</tr>
<tr>
<td>Suddox and Shannon</td>
<td>20</td>
<td>128</td>
<td>103</td>
</tr>
<tr>
<td>Turner</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Basin Margin Aquifer</td>
<td>5</td>
<td>25</td>
<td>27</td>
</tr>
<tr>
<td>Basin Margin Subtrust</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

* Million barrels of oil, includes natural gas liquids
* Billion cubic feet of gas

SOURCE: USGS 1990
estimates presented in this appendix are based on past trends and current information. What actually happens may be significantly different.

LEASING

Leasing is an early phase in oil and gas development and is often based on speculation. In the planning area it is anticipated that oil and gas leasing will continue at approximately the 1980 levels. It is estimated that 50,000 to 250,000 acres per year in the area will be put up for lease. In 1994 this will increase about 50 thousand acres. After that it is estimated about 75,000 to 250,000 acres will be put up for lease annually.

Although the amount will vary considerably from sale to sale, it is estimated that approximately 30% of the acreage put up for lease will be sold competitively. The variation will depend mostly on crude oil prices and play developments. Most of the acreage leased competitively will be in areas of moderate or greater development potential (map 2-1 and appendix H). Much of the acreage not sold competitively will be leased over the counter within two years after the sale.

It is estimated that the total amount of acreage under lease will vary somewhat but average about 1.0 to 1.5 million acres. About 0.5 million acres will remain unleased. Most of the unleased acreage will be in areas of low development potential (map 2-1).

SEISMIC

Between 1987 and 1992 a total of 41 NOIs (5.8 per year) were filed. It is anticipated that seismic activity will average about the same as it was between 1987 and 1992. A significant increase in seismic activity will depend mainly on new play developments. The activity will probably be concentrated in westernmost Crook County, northwestern Weston County, and northern Nodora County. OIL AND GAS DRILLING OPERATIONS

Historically there is a correlation between the total number of approved drilling permits filed, state and federal and oil prices. Data from the last three years seems to indicate a lower level of drilling for a given oil price (figure H-5 in appendix H). The line shows linear regressions for 1977 through 1987 and 1988 through 1993 data. Whether or not the lower trend will prove to be valid remains to be seen, but it does appear that the trend established by the 1977 through 1987 data is no longer valid.

The annual number of approved drilling permits is expected to remain between 50 and 300 with a few exceptions. It is not considered likely that the number of approved permits will reach the level it was between 1980 and 1985 (figure H-5). It is anticipated that the number of permits will not vary directly with oil price until the price or anticipated price exceeds $25 per barrel. If a new and relatively widespread play develops in the planning area, the number of permits would increase, but the amount is impossible to predict.

Federal APDs have been 44% to 68% (averaged 54%) of the total approved permits from 1987 through 1992 (figure H-4 in appendix H). This is not expected to change significantly. With few exceptions the number of federal APDs is expected to be between 50 and 150 during the next ten years.

New field discoveries have averaged 4.1 per year from 1977 to 1991 according to WOGCC statistics. If this rate continues there should be several new discoveries involving federal minerals in the next 10 years. The number of new federal permits discovered is anticipated to average between two and six fields per year during the life of this plan. Field size distribution indicates that the average size of new federal discoveries has declined steadily with one exception since 1959. The average size of new federal discoveries is anticipated to be two to four producing wells, and the maximum size is not expected to exceed 15 producing wells.

Recently, there has been considerable interest in horizontal drilling to develop fractured reservoirs. Horizontal drilling is not expected to have a large impact in the area because only a relatively small part of the resource area appears to have the necessary geologic factors for fractured reservoirs.

OIL AND GAS PRODUCTION OPERATIONS

Although the total number of producing wells has increased steadily (figure l-1) the number of productive federal wells has decreased slightly (about 1%) since 1987. The total number of federal wells including shut-in, temporarily abandoned, and service wells has also declined slightly (figure l-2). It is anticipated that the number of productive federal wells will remain near 1,300 or decrease slightly over the life of this plan. The total number of federal wells producing, shut-in, and service is also expected to remain approximately constant or decrease slightly.

Oil production increased in both absolute and relative amounts from 1977 to 1985 (figure l-3), but it has decreased somewhat since then. If carbon dioxide becomes available at economic prices, several EOR projects will probably be initiated. These will most likely be concentrated in western Crook County and northwestern Weston County. If this occurs oil production would probably increase somewhat or at least decline more slowly. New discoveries will probably keep all production from declining steeply from present levels and may result in some increases, but sharp increases in production are not expected.

Nonassociated gas production in the planning area, compared to oil production, is small. This is not expected to change without the development of a major gas play which is unlikely.

DEFINITIONS OF OIL AND GAS OCCURRENCE POTENTIAL

High

There is a demonstrated existence of petroleum source, reservoir quality strata, and trapping mechanisms. APDs for all types of occurrences have been obtained from well tests.

Moderate

There is direct or indirect geological evidence that petroleum source, reservoir quality strata, and trapping mechanisms are present. Discovery from shows are not present, but there may be showed oil in some or well tests.

Low

There is geological evidence that a petroleum source, reservoir quality strata, or a trapping mechanism is not present.

None

There is a demonstrated absence of a petroleum source, reservoir quality strata, or trapping mechanism. ‘Demonstrated absence’ means physical evidence documented in geological literature.
APPENDIX I

Figure I-1
Producing Wells

![Graph showing producing wells from 1977 to 1992. The graph indicates a peak in the early 1980s.]


Number of Wells

---

APPENDIX I

Figure I-2
Federal Wells

![Bar chart showing federal wells from 1986 to 1992.]


---

All Producing Wells as a Percent of Wyoming

![Graph showing all producing wells as a percent of Wyoming from 1977 to 1992.]

Source: Wyoming Oil and Gas Conservation Commission and BLM.
Figure I-3
Oil Production
in the Newcastle Field Area

NRA Oil Production
Percent of Wyoming

Millions of Barrels

Oil Production as a Percent of Total Production in Wyoming

0% 2% 4% 6% 8% 10% 12%


Percent of Wyoming


NRA Oil Production

### APPENDIX J

#### PLANT SPECIES AND ECOLOGICAL CHARACTERISTICS OF IMPORTANT PLANTS IN THE PLANNING AREA

<table>
<thead>
<tr>
<th>Common and Scientific Name</th>
<th>Symbol</th>
<th>Origin</th>
<th>Longevity</th>
<th>Height</th>
<th>Season of Maximum Growth Form</th>
<th>Growth Flowering</th>
<th>Grazing Behavior</th>
<th>General Importance Distribution</th>
<th>Forage Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grasses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bluegrass, Kentucky</td>
<td>POPS</td>
<td>NA</td>
<td>P</td>
<td>M</td>
<td>R</td>
<td>C</td>
<td>t</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td>Bluegrass, Crested</td>
<td>AGCR</td>
<td>(AGDE)</td>
<td>I</td>
<td>P</td>
<td>M</td>
<td>B</td>
<td>c</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td>Bluegrass, Crested</td>
<td>AGCR</td>
<td></td>
<td>I</td>
<td>P</td>
<td>M</td>
<td>B</td>
<td>c</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td>Bluegrass, Kentucky</td>
<td>POPS</td>
<td>NA</td>
<td>P</td>
<td>M</td>
<td>R</td>
<td>C</td>
<td>t</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td>Bluegrass, Crested</td>
<td>AGCR</td>
<td></td>
<td>I</td>
<td>P</td>
<td>M</td>
<td>B</td>
<td>c</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td>Bluegrass, Crested</td>
<td>AGCR</td>
<td></td>
<td>I</td>
<td>P</td>
<td>M</td>
<td>B</td>
<td>c</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td>Dovegrass</td>
<td>AGCR</td>
<td></td>
<td>I</td>
<td>P</td>
<td>M</td>
<td>B</td>
<td>c</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td><strong>Sedges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sedge, Needleleaf</td>
<td>CAEL</td>
<td></td>
<td>N</td>
<td>P</td>
<td>S</td>
<td>R</td>
<td>c</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Sedge, Sun</td>
<td>CAIE</td>
<td></td>
<td>N</td>
<td>P</td>
<td>S</td>
<td>R</td>
<td>c</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td><em>Forbs</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alfalfa</td>
<td>MESEA</td>
<td></td>
<td>I</td>
<td>P</td>
<td>M</td>
<td>S</td>
<td>w</td>
<td>T</td>
<td>M</td>
</tr>
<tr>
<td>Medicago sativa</td>
<td>KUEU</td>
<td></td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>S</td>
<td>w</td>
<td>T</td>
<td>M</td>
</tr>
<tr>
<td><em>Other Forbs</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Grasses and Forbs Combined</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Summary:</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Continued)
APPENDIX J

PLANT SPECIES AND ECOLOGICAL CHARACTERISTICS OF IMPORTANT PLANTS IN THE PLANNING AREA (Continued)

<table>
<thead>
<tr>
<th>Common and Scientific Name</th>
<th>Symbol</th>
<th>Origin</th>
<th>Longevity*</th>
<th>Height</th>
<th>Season of Maximum Growth Form</th>
<th>Growth Flowering</th>
<th>Grazing Behavior</th>
<th>General Important Distribution</th>
<th>Forage Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mule's Groundsel</td>
<td>ASCR</td>
<td>N</td>
<td>P</td>
<td>S</td>
<td>S5</td>
<td>C</td>
<td>D</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td>Atriplex canescens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puma Prince's</td>
<td>SPRI</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>S5</td>
<td>C</td>
<td>C</td>
<td>M</td>
<td>Po</td>
</tr>
<tr>
<td>Salvia rosmarinus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positively Racemous</td>
<td>ASRA</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>S5</td>
<td>C</td>
<td>C</td>
<td>M</td>
<td>Po</td>
</tr>
<tr>
<td>Atriplex canescens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positively TaagooeasyABI</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>S5</td>
<td>C</td>
<td>C</td>
<td>M</td>
<td>M</td>
<td>Po</td>
</tr>
<tr>
<td>Atriplex canescens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prune Flower Purple</td>
<td>PEPU</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>S5</td>
<td>W</td>
<td>D</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td>Petalospermum purpureum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sage with Cudweed</td>
<td>ARU</td>
<td>N</td>
<td>P</td>
<td>S, M</td>
<td>R5</td>
<td>C, F</td>
<td>C</td>
<td>M</td>
<td>P</td>
</tr>
<tr>
<td>Artemisia ludovicana</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samson's Black</td>
<td>ECAN</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>S5</td>
<td>W</td>
<td>D</td>
<td>T</td>
<td>M</td>
</tr>
<tr>
<td>Eriochloa angustifolia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scoups' Silverleaf</td>
<td>PSAR</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>S5</td>
<td>C</td>
<td>C</td>
<td>M</td>
<td>Po</td>
</tr>
<tr>
<td>Pseudower aragonia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scoups' Slimflower</td>
<td>PSTE</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>S5</td>
<td>C</td>
<td>C</td>
<td>M</td>
<td>P</td>
</tr>
<tr>
<td>Phlox elongata</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunflower Common</td>
<td>HEAN</td>
<td>N</td>
<td>A</td>
<td>--</td>
<td>S5</td>
<td>W</td>
<td>C</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td>Helianthus annuus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunflower Mexican</td>
<td>HEMA</td>
<td>N</td>
<td>P</td>
<td>T</td>
<td>R5</td>
<td>W</td>
<td>S</td>
<td>T</td>
<td>G</td>
</tr>
<tr>
<td>Helianthus mexicanus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunflower Short</td>
<td>AERI</td>
<td>N</td>
<td>P</td>
<td>T</td>
<td>R5</td>
<td>W</td>
<td>D</td>
<td>TP</td>
<td>G</td>
</tr>
<tr>
<td>Helianthus milliifolius</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweetclover Yellita</td>
<td>MEOF</td>
<td>N</td>
<td>Na</td>
<td>B</td>
<td>S, M</td>
<td>S5</td>
<td>W</td>
<td>C</td>
<td>M</td>
</tr>
<tr>
<td>Melilot officinalis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vetch American</td>
<td>VAM</td>
<td>N</td>
<td>P</td>
<td>S</td>
<td>S5</td>
<td>W</td>
<td>D</td>
<td>M</td>
<td>G</td>
</tr>
<tr>
<td>Vicia villosa americana</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semi- shrubs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sage with Fringed</td>
<td>ARFR</td>
<td>N</td>
<td>P</td>
<td>S, M</td>
<td>R5</td>
<td>C, F</td>
<td>C</td>
<td>M</td>
<td>P</td>
</tr>
<tr>
<td>Artemisia frigida</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snakeblossom Broad</td>
<td>GUSA</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>S5</td>
<td>W</td>
<td>C</td>
<td>M</td>
<td>P</td>
</tr>
<tr>
<td>Glyceria sandwachia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yucca</td>
<td>YUL</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>R5</td>
<td>W</td>
<td>C</td>
<td>M</td>
<td>P</td>
</tr>
<tr>
<td>Yucca glauca</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrubs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leadplant</td>
<td>AMCA</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>S5</td>
<td>W</td>
<td>D</td>
<td>T</td>
<td>G</td>
</tr>
<tr>
<td>Amorpha canescens</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sagebrush Big</td>
<td>ARTR</td>
<td>N</td>
<td>P</td>
<td>S, M</td>
<td>S5</td>
<td>C, F</td>
<td>C</td>
<td>M</td>
<td>P</td>
</tr>
<tr>
<td>Amorpha fruticosa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

APPENDIX J

PLANT SPECIES AND ECOLOGICAL CHARACTERISTICS OF IMPORTANT PLANTS IN THE PLANNING AREA (Continued)

<table>
<thead>
<tr>
<th>Common and Scientific Name</th>
<th>Symbol</th>
<th>Origin</th>
<th>Longevity*</th>
<th>Height</th>
<th>Season of Growth Form</th>
<th>Growth Flowering</th>
<th>Grazing Behavior</th>
<th>General Important Distribution</th>
<th>Forage Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sagebrush Silver</td>
<td>AMCA</td>
<td>N</td>
<td>P</td>
<td>M, T</td>
<td>R5</td>
<td>C, F</td>
<td>C</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Artemisia frigida</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raspberry Western</td>
<td>SYOC</td>
<td>N</td>
<td>P</td>
<td>M</td>
<td>R5</td>
<td>W</td>
<td>C</td>
<td>M</td>
<td>T</td>
</tr>
<tr>
<td>Symphyotica occidentalis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chokecherry Common</td>
<td>PRBJ</td>
<td>N</td>
<td>P</td>
<td>T</td>
<td>S5</td>
<td>C</td>
<td>D</td>
<td>T</td>
<td>Po</td>
</tr>
<tr>
<td>Prunus virginiana</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Succulents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puy, Pinyay</td>
<td>OPPO</td>
<td>N</td>
<td>P</td>
<td>S</td>
<td>--</td>
<td>W</td>
<td>C</td>
<td>M</td>
<td>P</td>
</tr>
<tr>
<td>Obachia pilearella</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 1 = Introduced, N = Native, NA = not recorded

+ 1 = annual, B = perennial, P = perennial
+ S = short, M = mid, T = tall
+ B = bunch, R = rosette, ST = stolon, SS = single stem, RS = rootspace
+ C = cool, W = warm, C* = cold, W* = warm
+ Grazing behavior: M = moderate, D = decrease, H = increase, E = high increase, C = low decrease, L = low increase, N = no change
+ M = moderate, H = high, L = low, N = none
+ G = good, F = fair, P = poor, Po = poor

### APPENDIX K
### POISONOUS PLANTS

<table>
<thead>
<tr>
<th>Common/Scientific Name</th>
<th>Animals Endangered</th>
<th>Seasonal Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deathcamus (Zygodenus paniculatus)</td>
<td>Sheep, Cattle, Horse</td>
<td>early spring and all season</td>
</tr>
<tr>
<td>Larkspur (Delphinium nelsoni)</td>
<td>Cattle, Sheep, Horse</td>
<td>summer and fall</td>
</tr>
<tr>
<td>Locoweed (Astragalus spp.)</td>
<td>Horse, Cattle, Sheep</td>
<td>year-round</td>
</tr>
<tr>
<td>Arrowgrass (Triglochin maritima and Triglochin palustris)</td>
<td>Sheep, Cattle</td>
<td>summer and fall</td>
</tr>
<tr>
<td>Greasewood (Sarcobatus vermiculatus)</td>
<td>Sheep, Cattle</td>
<td>fall</td>
</tr>
<tr>
<td>Halogeton (Golmeratus)</td>
<td>Sheep, Cattle</td>
<td>year-round</td>
</tr>
</tbody>
</table>

**NOTE**: in the Animals Endangered column, the names are listed in order of the animal's susceptibility to the poison plant. For additional information see 22 Plants Poisonous to Livestock in the Western States. USDA: Agriculture Info. Bulletin 371, April 1968.

## APPENDIX L

### POPULATION AND HABITAT VARIABLES MATRIX FOR BIRD SPECIES OF SPECIAL CONCERN

<table>
<thead>
<tr>
<th>Birds</th>
<th>A. Ongoing significant loss of habitat</th>
<th>B. Habitat is restricted or vulnerable but not recent or ongoing significant loss, species may be sensitive to human disturbance</th>
<th>C. Habitat is not restricted vulnerable but no recent or ongoing loss is not sensitive to human disturbance</th>
<th>D. Habitat is stable and not restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Populations are greatly threatened or declining, suitable habitat appears possible</td>
<td>SSR1</td>
<td>SSR2</td>
<td>SSR3</td>
</tr>
<tr>
<td>2.</td>
<td>Populations are declining or restricted in numbers and distribution, population status is not identified</td>
<td>SSR2</td>
<td>SSR3</td>
<td>SSR3</td>
</tr>
<tr>
<td>3.</td>
<td>Species is widely distributed, population status and trends are not identified</td>
<td>SSR3</td>
<td>SSR3</td>
<td>SSR3</td>
</tr>
<tr>
<td>4.</td>
<td>Populations are stable or increasing and not restricted in numbers and distribution</td>
<td>SSR3</td>
<td>SSR3</td>
<td>SSR3</td>
</tr>
</tbody>
</table>

### POPULATION AND HABITAT VARIABLES MATRIX FOR MAMMAL SPECIES OF SPECIAL CONCERN

<table>
<thead>
<tr>
<th>Mammals</th>
<th>A. Ongoing significant loss of habitat</th>
<th>B. Habitat is restricted or vulnerable but not recent or ongoing significant loss, species may be sensitive to human disturbance</th>
<th>C. Habitat is not restricted vulnerable but no recent or ongoing loss is not sensitive to human disturbance</th>
<th>D. Habitat is stable and not restricted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Populations are greatly threatened or declining, suitable habitat appears possible</td>
<td>SSR1</td>
<td>SSR2</td>
<td>SSR3</td>
</tr>
<tr>
<td>2.</td>
<td>Populations are declining or restricted in numbers and distribution, population status is not identified</td>
<td>SSR2</td>
<td>SSR3</td>
<td>SSR3</td>
</tr>
<tr>
<td>3.</td>
<td>Species is widely distributed, population status and trends are not identified</td>
<td>SSR3</td>
<td>SSR3</td>
<td>SSR3</td>
</tr>
<tr>
<td>4.</td>
<td>Populations are stable or increasing and not restricted in numbers and distribution</td>
<td>SSR3</td>
<td>SSR3</td>
<td>SSR3</td>
</tr>
</tbody>
</table>

*WGFD 1996*
APPENDIX M
PUBLIC PARTICIPATION DOCUMENTATION
ENVIROMENTAL PROTECTION AGENCY

[ER-5491-1-1]

Environmental Impact Statements: Notice of Availability


EIS No. 980122, Draft Supplement, COE, DE, Delaware Coast from Cape Henlopen to Fenwick Island Feasibility Study and Bethany Beach and South Bethany Beach Feasibility Study, Additional Information. Ecosystem Analysis, Reduction and Construct a Protective Berm and Dune, Sussex County, DE. Due: June 26, 1998, Contact: Jeff Ogler (302) 734-8137.


EIS No. 980129, Final EIS, FWM, TN, I-40 Reconstruction, I-40/I-240 Directional (Midtown) Interchange to TN 305 Interchange, Funding and Possible COE 408 Permit, Shelby County, TN. Due: May 26, 1998, Contact: James R. Scoppelito (615) 736-5994.

EIS No. 980130, Final EIS, AFS, CO, South Quarantte Site Timber Sale, Timber Harvesting and Road Construction, White River National Forest, HiRo Ranger District, Gristly Creek Rare Species Area, Garfield County, CO. Due: May 26, 1998, Contact: David T. Van Norman (970) 927-5715.

EIS No. 980131, Final EIS, AFS, CA, Emergent Wilderness Management.

[Page 20405]

Direction: Implementation, Stanislaus National Forest, Tuolumne County, CA. Due: May 26, 1998, Contact: Dave Martin (209) 967-3636.


EIS No. 980133, Draft EIS, JUS, WY, Federal Correctional Institution near the City of Gillette, Construction and Operation, Gilmer County, WY. Due: April 08, 1998, Contact: David J. Dorworth (202) 514-6470.

EIS No. 980134, Draft EIS, FHM, MI, US 54/285 Highway Transportation Improvements from Alamo Drive in Santa Fe to Viarrial Street in Pueblo, Right-of-Way Acquisition, NEPA Permit and COE Section 404 Permit, Santa Fe County, NM. Due: June 08, 1998, Contact: Gregory D. Rawlings (505) 820-2021.

EIS No. 980135, Final EIS, BLM, MT, Golden Sunlight Mine Expansion, Implementation of Amendment 008 to Operating Permit No. 0065, COE Section 404 Permit, Whitehall, Jefferson County MT. Due: May 26, 1998, Contact: David Williams (406) 494-5059.

EIS No. 980136, Final EIS, AFS, CA, Chico Genetic Resource Center for Pest Management Program, Implementation, Mendocino National Forest, Willow, Butte County, CA. Due: May 26, 1998, Contact: Dennis Weber (503) 326-7771.


EIS No. 980139, Final Supplement, BLM, CO, NM, TransColorado Gas Pipeline Transmission Project, Construction, Operation and Maintenance, Section 404 and 10 Permits, Right-of-Way Grants and Special Use Permit, La Plata, Delta, Dolores, Garfield, Mesa, Montezuma, Montrose, Rio Blanco, San Miguel Counties, CO and San Juan County, NM. Due: May 26, 1998, Contact: Bill Bottomly (208) 378-5032.


EIS No. 980141, Final EIS, AFS, CA, Redwood National Forest. Construction, Maintenance, and Operation, Road Easement within National Forest System land in the vicinity of Echo Cove, EPA Permit, COE Section 10 and 404 Permits, Juneau, AK. Due: May 26, 1998, Contact: Jennette C. de Leuw (507) 790-7445.


William D. Dickerson, Director, NEPA Compliance Division, Office of Federal Activities.

For Doc. 98-10981 Filed 4-23-98; 8:45 am BILLING CODE 6560-50-P
SECOND DRAFT EIS AVAILABLE FOR NEWCASTLE RESOURCE AREA

CASPER: The second draft environmental impact statement for the resource management plan covering the public lands in the Wyoming portion of the Newcastle Resource Area has been released for public review and comment, according to a press release issued by the Bureau of Land Management. The BLM will accept comments through July 23.

The first draft EIS for the Newcastle RMP was issued in September 1993. “So that all interested persons would have an equal opportunity to review and comment, it was decided to update the document and reissue a second draft EIS,” according to Gary Johnson, Newcastle Resource Area Manager. This document outlines four alternatives for managing the public lands and resources in the Newcastle Resource Area. The public lands include not only the federal surface administered by the BLM but also the federal mineral estate. The four alternative plans presented in chapter 2 focus on allocating public lands and resources among their uses and prescribing general management actions that would be taken. The alternatives are designed to resolve resource management issues that were identified with public involvement during the planning process. This document also describes the anticipated environmental consequences of implementing each alternative.

Your comments are invited on the alternatives and the descriptions of environmental consequences. The 90-day comment period began April 25 when the notice of availability of the draft EIS was published in the Federal Register by the Environmental Protection Agency.

Comments may be e-mailed (wyncasrmp@wy.blm.gov) or sent to Gary Johnson, Area Manager, or Jack Hanson, Team Leader, BLM, Newcastle Resource Area, 1101 Washington Boulevard, Newcastle, WY 82701. Comments will be fully considered and evaluated in the development of the RMP/final EIS.

The BLM will be holding public meetings and an open house during the 90-day comment period. The date, time, and location of the meetings and open house will be announced in the near future. For additional information, or to request a copy of the draft document, interested persons may call the BLM’s Newcastle Resource Area office at (307) 746-4453 or write to the address above.

[Federal Register: May 4, 1998 (Volume 63, Number 85)]
[Notices]
[Page 24568]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr06my98-113]

[Page 24568]

DEPARTMENT OF THE INTERIOR
Bureau of Land Management
(WY-060-1610-00)

Notice of Availability
AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of Availability of the second draft Environmental Impact Statement (EIS) for the Newcastle Resource Management Plan (RMP) for the Public Lands administered by the Bureau of Land Management (BLM) in the Wyoming portion of the Newcastle Resource Area.

SUMMARY: The first draft EIS for the Newcastle RMP was issued in September, 1993. It has been decided to update and reissue a second draft for further comment because some public comments were inappropriately accepted on the first draft after the comment period ended. All public comments received on the first draft EIS have been considered and changes in the second draft document have been made based on those comments. When published, the final EIS will contain the proposed Newcastle Resource Management Plan, the comments on the second draft EIS, and the BLM responses to them.

EFFECTIVE DATES: Written comments concerning the analysis will be accepted for 90 days following the date the Environmental Protection Agency (EPA) publishes a notice of availability and filing of the draft EIS in the Federal Register. The EPA notice of availability is expected to be published on April 24, 1998. Public meetings will be held in Sundance, Newcastle, and Lusk, Wyoming, to provide opportunities for the public to meet with representatives from the BLM and to comment on the draft EIS. A court reporter will be in attendance to record all comments for the record. When the times, dates, and places for these meetings are established, the public will be notified in advance through Federal Register or other notices, news releases, or mailings. Persons who wish to be placed on the mailing list or participate in the Newcastle RMP planning process should contact the person(s) identified below at the Newcastle Resource Area Office.

The draft EIS may be viewed at the following locations: Newcastle Resource Area BLM Office, 1101 Washington Blvd., Newcastle, Wyoming; and county and city libraries in Crook, Niobrara and Weston counties.

Copies of the draft EIS may be obtained from the address below.

FOR FURTHER INFORMATION CONTACT: Gary Johnson, Area Manager, or Project Leaders, Jack Hanson or Shelley Peele, Bureau of Land Management.
SUPPLEMENTARY INFORMATION: The Bureau of Land Management Newcastle Resource Area administers all public lands and minerals (as defined by the Federal Land Management Policy Act (FLMPA) in Crook, Niobrara, and Weston counties. The draft EIS for the Newcastle RMP presents four alternative multiple use management plans (or four alternative RMPs) for those public lands that were analyzed in detail: Alternative A (continuation of existing management direction) and three other alternatives that provide a variety of land use and resource management options for the public lands.

Issues addressed in the draft EIS include split-estate lands and the related limitations of BLM management responsibilities, particularly those involving non-Federal land surface over Federally owned minerals, the control of prairie dogs on intermingled public and private land ownerships, whether or not public lands in the Lance Creek Fossil Area should be designated an Area of Critical Environmental Concern (ACEC), and clarification of several maps in the first draft EIS to distinguish between public and non-Federal lands.

Alan L. Kesterke,
Associate State Director.
[PR Doc. 98-11610 Filed 5-1-98; 8:45 am]
The open houses will provide an additional chance for the public to meet with personnel from the BLM and discuss the draft EIS. The public meetings will provide a formal format for submission of comments. A court reporter will record all submissions at the public meetings.

Copies of the document are available by writing to Jack Hanson, Team Leader, 1101 Washington Blvd., Newcastle, WY, 82701 or by calling (307) 746-4453.

END
Copies of the document may still be obtained by writing to Jack Hanson, Team Leader, 1101 Washington Blvd., Newcastle, WY, 82701 or by calling (307) 746-4453.

CASPER DISTRICT
BLM NEWS
Casper District Office 1701 East E Street Casper, WY 82601
Contact: Kathy Alexander (307) 261-7600
Jude Carino

CORRECTION

NEWCASTLE RESOURCE MANAGEMENT PLAN MEETING LOCATION CHANGED

CASPER: Due to office construction at the Bureau of Land Management’s (BLM) Newcastle Resource Area office, the public meeting scheduled for June 9 from 6:00 to 8:00 p.m. to take comments on the draft environmental impact statement (EIS) for the Newcastle Resource Management Plan has been changed. The new location is the First Security Bank at 204 West Main Street in Newcastle. The open house will still be held at the BLM’s Newcastle office from 9:00 a.m. to 4:30 p.m. on June 9. All other open houses and meetings will remain the same.

More information may be obtained by calling Jack Hanson, Team Leader, at (307) 746-4453.

Rediscover Your Public Lands
APPENDIX N

FIRE MANAGEMENT IMPLEMENTATION PLAN FOR THE BLM-ADMINISTERED PUBLIC LANDS IN THE STATE OF WYOMING
FIRE MANAGEMENT
IMPLEMENTATION PLAN
FOR THE
BLM-ADMINISTERED PUBLIC LANDS
IN THE
STATE OF WYOMING

Prepared by
U.S. Department of the Interior
Bureau of Land Management
Wyoming State Office
in coordination with the
Casper Field Office, the
Rawlins Field Office, the
Rock Springs Field Office, and the
Worland Field Office

July 1998
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACEC</td>
<td>area of critical environmental concern</td>
</tr>
<tr>
<td>AMR</td>
<td>appropriate management response</td>
</tr>
<tr>
<td>BLM</td>
<td>U.S. Department of the Interior, Bureau of Land Management</td>
</tr>
<tr>
<td>BOR</td>
<td>U.S. Department of the Interior, Bureau of Reclamation</td>
</tr>
<tr>
<td>RMEF</td>
<td>Rocky Mountain Elk Foundation</td>
</tr>
<tr>
<td>RMP</td>
<td>resource management plan</td>
</tr>
<tr>
<td>VRM</td>
<td>visual resource management</td>
</tr>
<tr>
<td>WGFD</td>
<td>State of Wyoming, Game and Fish Department</td>
</tr>
<tr>
<td>WSA</td>
<td>wilderness study areas</td>
</tr>
</tbody>
</table>
The proposed action is to approve the Wyoming Bureau of Land Management (BLM) fire management plan to be submitted for implementation and inclusion in the Bureau-wide fire management plan.

PART II: PLAN CONFORMANCE REVIEW

The proposed Wyoming BLM Fire Management Plan was prepared in compliance and in accordance with the national guidance provided in BLM Manual Handbook H-9211-1, "Fire Management Activity Plan Procedures", and Information Bulletin No. 97-2031, "Guidance for Phase One of the Fire Management Planning Process" (2/5/97).

A review of all BLM land use plans in Wyoming was conducted to determine whether or not the proposed Wyoming BLM Fire Management Plan is in conformance with the land use plans (per 43 CFR 1610.5. BLM MS 1617.3). It was found that the proposed Wyoming BLM Fire Management Plan is in conformance and does not conflict with any BLM land use plans in Wyoming. Actually, the proposed fire management plan was basically derived from the fire management planning and management decisions contained in the land use plans. The specific plans involved are: Newcastle Management Framework Plan (MFP-1982) and the imminent Newcastle Resource Management Plan (RMP), Grass Creek MFP (1983) and the imminent Grass Creek RMP, Buffalo RMP (1985), Platte River RMP (1985), Kemmerer RMP (1986), Lander RMP (1987), Pinedale RMP (1988), Washakie RMP (1988), Cody RMP (1990), Great Divide RMP (1990), and Green River RMP (1997).

The planning objective and management action decisions in the BLM Resource Management Plans or Management Framework Plans (land use plans) in Wyoming provide for cost effective protection of life, property, and resource values from wildfire and to use prescribed fire to achieve multiple use management goals. As necessary, maintenance actions will be completed to incorporate new fire terminology in the older RMPs. No needs for amending any of the land use plans were identified. Minor maintenance needs for the land use plans may be identified in the future, as implementation of the Wyoming Fire Management Plan progresses. Since the Grass Creek and Newcastle RMPs are imminent and the new fire terminology has been incorporated into the RMP development process for those projects, the Grass Creek and Newcastle MFPs will not be maintained.

I certify that he proposed action has been reviewed for conformance with these plans (per 43 CFR 1610.5, BLM MS 1617.3).

Reviewer (Renee Dapa, Resource Advisor - for Kemmerer, Pinedale, Green River RMPs)

Reviewer (Bob Ross, Resource Advisor - for Cody, Washakie, proposed Grass Creek RMPs, Grass Creek MFP)

Reviewer (Glen Nebeker, Resource Advisor - for Buffalo, Platte River, proposed Newcastle RMPs, Newcastle MFP)

Reviewer (McWhiter, Resource Advisor - for Lander, Great Divide RMPs)

Reviewer, Joe Pati, Field Planning Coordinator - for Wyoming State Office)

PART III: NEPA REVIEW

The environmental impact analyses conducted and documented in the environmental impact statements (EISs) for the above mentioned land use plans were reviewed and were found to be appropriate and adequate for making the fire management planning and management decisions contained in the land use plans. The specific EISs involved are: Platte River RMP EIS (1984), Buffalo RMP EIS (1985), Kemmerer RMP EIS (1985), Lander RMP EIS (1986), Washakie RMP EIS (1987), Pinedale RMP EIS (1987), Cody RMP EIS (1988), Medicine Bow Divide (Great Divide) RMP EIS (1988), Green River RMP EIS, (1996), Grass Creek RMP EIS (1996), Newcastle RMP DEIS (1998).

The proposed Wyoming BLM Fire Management Plan is an action representative of the third tier of the BLM planning process (i.e., the activity or implementation planning tier) and was developed within the parameters and provisions of the fire management planning and management decisions contained in the above mentioned land use plans. While the Newcastle and Grass Creek "MFP" fire management decisions are not supported by environmental analyses, they are imminent to be replaced by "RMPs" which are supported by environmental analyses. The EISs for those imminent RMPs are also appropriate and adequate for the proposed fire management decisions in those on-going planning efforts. The Newcastle and Grass Creek portions of the proposed Wyoming BLM Fire Management Plan are in accordance with those proposed RMP decisions and will be assured to conform with the final decisions.

Approval of the proposed Wyoming BLM Fire Management Plan is an implementing action of decisions that have already been supported by the appropriate environmental analyses and documentation in the above mentioned EISs. Also, further site-specific environmental
analyses will be conducted and documented for any prescribed burning project proposals before they are implemented.

Criteria for and Findings of the NEPA review

1. The proposed Wyoming BLM Fire Management Plan (the proposed action) is a feature of, or essentially the same as, the collective alternatives selected and analyzed in the existing documents.
2. A reasonable range of alternatives was analyzed in each of the existing documents.
3. There has been no significant change in circumstances or significant new information germane to the proposed action.
4. The methodology analytical approach previously used is appropriate for the proposed action.
5. The direct and indirect impacts of the proposed action are not significantly different than those identified in the existing documents.
6. The proposed action would not change the previous analyses of cumulative impacts.
7. Public involvement in the previous analyses provides appropriate coverage for the proposed action. Public involvement was also conducted during development of the proposed Wyoming BLM Fire Management Plan and further public involvement will be conducted in the development of site-specific prescribed burning proposals before they are approved.

Findings: Upon review, I find that all of the above criteria are applicable to approval of the proposed Wyoming BLM Fire Management Plan.

Remarks: The proposed Wyoming BLM Fire Management Plan is a part of implementing the existing BLM land use plan decisions for the BLM-administered public lands in Wyoming and is collectively addressed in the alternatives and impact analyses in the EISs for the RMPs.

PART IV: DECISION

I have reviewed this plan conformance and NEPA compliance record and have determined that the proposed Wyoming BLM Fire Management Plan is in conformance with the approved BLM land use plans in Wyoming and that no further environmental analysis is required. It is my decision to approve and implement the Wyoming BLM Fire Management Plan, as described in the copy attached.

State Director: [Signature] Alan R. Pierson
Date: 7/27/98

Cooperator - for Wyoming State Office: Glen Nebecker, Resource Advisor - for Buffalo, Platte River, proposed Newcastle RMPs, Newcastle MFP

Reviewer (Joe Patt, Field Planning Coordinator - for Wyoming State Office)
INTRODUCTION
PUBLIC PARTICIPATION
FIRE MANAGEMENT OBJECTIVES AND STRATEGIES FOR BLM-ADMINISTERED PUBLIC LANDS IN WYOMING
GENERAL
WILDFIRE MANAGEMENT
WILDLAND FIRE MANAGEMENT
PRESCRIBED FIRE
MANAGEMENT AREAS
AREA 1: Central Bighorn Basin
AREA 2: Southern Bighorn Basin
AREA 3: Northern Absaroka Mountains
AREA 4: Southern Bighorn Mountains
AREA 5: Southern Absaroka Mountains
AREA 6: Northern Bighorn Mountains
AREA 7: Bridger Mountains
AREA 8: Woods Landing, Jelm and Sheep Mountains
AREA 9: Encampment Canyon Wilderness Study Area
AREA 10: Seminoe and Shirley Mountains Area
AREA 11: Platte Valley and Bagg's Big Game Crucial Winter Range
AREA 12: Checkerboard Public Lands in Carbon and Sweetwater Counties;
Intermingled Public Lands in Albany and Laramie Counties
AREA 13: Public Lands Near Medicine Bow National Forest (Laramie
Peak Area)
AREA 14: Shirley Basin
AREA 15: Ferris Mountains, Pedro Mountains, and Sentinel Rocks
AREA 16: Kinney Rim, Adobe Town, and Skully Creek, and Area 17: Great Divide Basin
AREA 18: Green and Crooks Mountains
AREA 19: Rattlesnake Hills
AREA 20: South Pass, Red Canyon, and Lander Slope
AREA 21: Dubois and Upper Wind River
AREA 22: Sweetwater Valley, Beaver Rim, and Gas Hills
AREA 23: Copper Mountain
AREA 24: Whiskey Mountain
AREA 25: Public Lands in Crook, Weston, and Niobrara Counties
AREA 26: Black Hills Area
AREA 27: Whoopup Canyon
AREA 28: Public Lands in Converse, Goshen, Natrona and Platte Counties
AREA 29: Laramie Range and Rattlesnake Mountains
AREA 30: Jackson Canyon
AREA 31: Muddy Mountain Environmental Education Area
AREA 32: Public Lands in Johnson, Sheridan, and Campbell Counties
AREA 33: Eastern Bighorn Mountains
GLOSSARY
CONTENTS (CONTINUED)
FIRE MANAGEMENT AREAS (CONTINUED)
AREA 34: Northern Campbell County and Bishop Area
AREA 35: Warren Bridge
AREA 36: Beaver Ridge
AREA 37: Cora Butte
AREA 38: Pine Dale
AREA 39: Ryegrass and Soaphole Basin
AREA 40: Mesa
AREA 41: Boulder Lake and Big Sandy
AREA 42: Bench Corral
AREA 43: Deer Hills
AREA 44: Desert
AREA 45: LaBarge
AREA 46: Big Sandy and Steamboat Mountain
AREA 47: Sweetwater
AREA 48: Red Desert
AREA 49: Little Mountain
AREA 50: Smiths Fork and Raymond Mountain
AREA 51: Hams Fork and Rock Creek
AREA 52: Green River and Seedskadee
AREA 53: Slate Creek
AREA 54: Bridger Valley and Granger
AREA 55: Bear River Divide
AREA 56: Collette Creek and Tern Creek
AREA 57: Meeks cabin
AREA 58: Meeks and Evanston
MAPS
Fire Management Areas Administered by the Worland and Cody Field Offices
Fire Management Areas Administered by the Rawlins and Lander Field Offices
Fire Management Areas Administered by the Casper, Newcastle, and Buffalo Field Offices
Fire Management Areas Administered by the Rock Springs, Kemmerer, and Pine Dale Field Offices
GLOSSARY
FIRE MANAGEMENT IMPLEMENTATION PLAN
FOR THE
BLM-ADMINISTERED PUBLIC LANDS
IN THE
STATE OF WYOMING

INTRODUCTION

A Federal Wildland Fire Management Policy and Program Review was completed in December 1995 by the Department of the Interior and the Department of Agriculture, with assistance from other federal departments, agencies, and partners. This review affirmed that public and firefighter safety continue to be the Bureau of Land Management’s (BLM) top fire management priorities. The review placed the second highest priority on protecting natural resources and property, while recognizing fire’s essential role in nature for restoring and maintaining the health of the public lands.

As a result of this national review and its recommendations, a statewide effort to review fire management and suppression activities on BLM-administered public lands in Wyoming was initiated. This involved a review of the eleven BLM land use plans in Wyoming. Those plans are:

- Buffalo Resource Management Plan (RMP)
- Cody RMP
- Grass Creek RMP
- Great Divide RMP
- Green River RMP
- Kemmerer RMP
- Lander RMP
- Newcastle Management Framework Plan
- Pinedale RMP
- Platte River RMP
- Washakie RMP

This review of the land use plans included identification of management strategies that would achieve desired resource conditions, and reduce the potential for catastrophic wildfires through management of fuels, in addition to identifying any new fire management prescriptions. After careful review, the land use plans were found to be in conformance with the fire management policy and it was determined that no new fire management prescriptions were needed. Some land use plans would require minor maintenance, or clarification, to incorporate new terminology related to the fire management policy.

The planning review addresses fire management and suppression decisions on BLM-administered public land surface in Wyoming. These decisions do not cover fire management or suppression on state or private land, or on lands administered by other federal agencies, including the Bureau of Reclamation and the Forest Service.

The BLM-administered public lands covered by this review comprise about 17.5 million acres. These lands will be described as 'public lands' throughout this planning review document. Other terminology is defined in the Glossary. In particular, the definitions for wildfire, wildland fire, and prescribed fire, which occur early in this document, should be reviewed. These terms have specific meanings identified by the federal wildland fire management policy which may differ from some definitions used in the past.

PUBLIC PARTICIPATION

With scoping letters and media releases starting in July 1996, and a Federal Register notice dated April 23, 1997, the BLM requested public participation in reviewing its fire management and suppression activities on public lands in Wyoming.

Specific public participation activities included one-on-one meetings with interested parties, open houses, field trips, and meetings with other governmental agencies such as the Forest Service, Environmental Protection Agency, Wyoming Game and Fish Department, Wyoming Department of Environmental Quality, and county commissions.

The purposes of these public participation activities were to identify fire management objectives and strategies to achieve desired resource management objectives stated in BLM land use plans, improve fire management coordination with other federal and state agencies, local governments, and Indian tribes; reduce the potential for catastrophic wildfires through the management of fuels; improve communication to promote fire line safety; and achieve a better understanding of fire's role in the natural environment. During the planning review the BLM has also attempted to gather information on public health and safety, smoke management, public perceptions regarding fire, and economic considerations.

FIRE MANAGEMENT OBJECTIVES AND STRATEGIES FOR BLM-ADMINISTERED PUBLIC LANDS IN WYOMING

GENERAL

Wildland and prescribed fire would be managed in all vegetation types to maintain or improve biological diversity and the health of the public lands. In particular, plant species and age class diversity would be a priority.

Burned areas would be monitored for the control of noxious weeds. Vegetation treatments and other follow-up management actions, as needed, would be used to prevent the spread of weeds.

The accomplishment of land use and resource management objectives would be tracked through the BLM's Geographic Information System.

In the Pinedale planning area, vegetation treatments, including the use of prescribed fire would be applied to no more than 20 percent of the area within 2 miles of active sage grouse leks, during a 10-year period.

WILDFIRE MANAGEMENT

As defined by policy, wildfires are unwanted natural- or human-caused fires and therefore will be suppressed. The following are examples of resources or areas that would be protected from wildfire:

- communities,
- campgrounds and other developed recreational areas,
- rock art, cultural sites, and historic structures.
PRESCRIBED FIRE

On all public lands in Wyoming, prescribed fire would be used to improve natural resource conditions and reduce hazardous fuels where management objectives have not been met by wildland fire or other vegetation treatments.

Prescribed fires would also be used to create fuel breaks and reduce hazardous fuels, especially in the early spring and late fall when vegetation is dormant and there is higher ground moisture.

Prescribed fire would be used in combination with all other vegetation treatments, as appropriate, including manual, mechanical, biological, and chemical methods.

A naturally caused fire occurring during favorable conditions in an area with a prescribed fire plan would be treated as a prescribed fire.

An general objective for fire treatments would be to remove excessive brush or woodland canopy in mosaic patterns. The percentage of brush or canopy removed would depend on the resource management objectives for the area which may include wildlife habitat needs, forage production for livestock, and watershed improvement.

Management objectives for the juniper and limber pine woodlands would be to promote age class diversity and reduce woodland invasion into more productive grasslands and commercial forests.

WILDLAND FIRE MANAGEMENT

The BLM in Wyoming will emphasize an "appropriate management response" (AMR) to naturally-caused wildland fires based on a consideration of firefighter and public safety, anticipated management costs, resource values at risk, resource benefits, threats to private property, opportunities for reducing hazardous fuels, and political and social concerns.

Appropriate management response would involve a wide range of fire management options. These might include containing or containing a wildland fire within a predetermined boundary, or aggressively and quickly suppressing the fire.

On all BLM-administered lands in Wyoming, wildland fire would be managed to improve natural resources.

To reduce wildland fire management costs and increase resource benefits, fires would be allowed to burn up to natural fuel breaks where and when feasible.

Minimal impact suppression techniques and restrictions or prohibition on the use of heavy equipment would be applied in wilderness study areas (WSAs) and in sensitive areas identified elsewhere in this document. Fire retardant drops generally would be prohibited or restricted within 200 feet of water and in the vicinity of significant cultural resources.

Fire management objectives and strategies were identified for 58 geographical areas on public lands in Wyoming. (See attached maps.) These areas were based on broad factors like fire frequency, elevation, and vegetation.

The following descriptions may vary from area to area in the information provided and in the level of detail of that information. The areas also show considerable variations in size. These differences can be related to vegetation types, administrative boundaries, landownership patterns, variations in specificity among the eleven resource management plans, and whether or not more detailed activity or implementation plans have been developed.

Area 1: Central Bighorn Basin

The resource management objectives for this broad area of saltbush and sagebrush is to maintain plant community composition and maintain or improve watershed conditions. Low frequency fires are designed to promote plant species and age class diversity. Emphasis would be placed on suppressing wildland fires in cottonwood riparian areas.

Full suppression would be practiced on most fires in the Central Bighorn Basin. Most are human-caused (trespass) fires near agricultural and riparian areas. Generally, fire occurrence is low. Naturally caused wildland fires would be managed to achieve resource management objectives, keep suppression costs at a minimum, and protect private property and improvements. Several oil fields in this area would need protection from fire.

Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Bridger Draw Badlands, Sheep Mountain, Red Butte, and McCullough Peaks WSAs and in the vicinity of the Red Gulch Dinosaur Tracksite.

Prescribed fire opportunities are limited to small shrub-dominated riparian areas and some isolated areas of dense sagebrush. One of the primary concerns with using fire in the central Bighorn Basin is that the smoke can easily reach local communities.

In the central Bighorn Basin the desired burn acreage in sagebrush is from 1,500 to 2,500 per decade under any fire intensity level. It is anticipated that naturally caused wildland fires in sagebrush generally would be confined or contained to less than 100 acres each. In riparian areas, naturally caused wildland fires would be confined or contained to less than 10 acres under moderate to high fire intensity levels.

Fire, mechanical, and chemical treatments would be used to produce mosaic patterns in about 2,000 acres of sagebrush per decade. The purpose would be to restore herbaceous vegetation, promote age class diversity, and maintain adequate cover for sage grouse, mule deer, antelope, and other wildlife.

About 200 acres per decade would be treated in riparian areas to restore herbaceous vegetation and promote desirable shrubs.

Area 2: Southern Bighorn Basin

The resource management objective for this area, which contains extensive tracts of cheatgrass and Japanese brome, is to prevent the spread of these undesirable annual grasses, and to maintain or promote sagebrush and grassland communities. Historically, fire size has been small in this area. However, fire size and occurrence appear to be increasing as cheatgrass and Japanese brome increase. In 1998, approximately 78,000 acres of sagebrush were burned by wildland fires in this area.

Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Cedar Mountain and Honeycomb WSA and in or near the Castle Gardens Campground.

Prescribed fire opportunities are few, being limited to small burns during the spring to control cheatgrass and a few burns in areas of dense sagebrush. An important safety concern in this area is the likelihood of fast-moving cheatgrass and sagebrush fires during the summer.

In the southern Bighorn Basin the desired burn acreage in sagebrush is 500 to 1,000 per decade, primarily in the spring and fall, and under moderate fire intensity levels.

High-intensity wildland fires during hot summer weather (usually in July and August) promote the increase of cheatgrass and Japanese brome. Therefore, wildland fires during this period should be confined or contained to less than 100 acres, by receiving full suppression. The desired burn
acreage in juniper and limber pine is 500 to 1,000 per decade. Any wildland fires in these woodlands, which would result in moderate to high intensity-level fires, would be confined or contained to 100 acres.

About 1,000 acres of cheatgrass would be treated per decade by prescribed burning, mechanical, and chemical methods. Prescribed fires would be limited to the Spring.

**Area 3: Northern Absaroka Mountains**

The resource management objective for this area is to maintain healthy forests and rangelands and to reduce the encroachment of juniper and limber pine. Emphasis would be placed on maintaining commercial timber on Rattlesnake Mountain. Fires in this area are highly visible to tourists on their way to Yellowstone Park. Therefore, effective smoke management and education efforts concerning fire's role in nature are important.

Generally, the BLM would aggressively respond to wildland fires in this area. An appropriate management response would be determined after the fire is assessed. The primary safety concerns for fire control are steep, rocky slopes making access and working conditions difficult and dangerous. Fire and fuels management are important issues along the interface between urban and wildland areas (urban interface), particularly where dense fuels exist.

Fire occurrence has been moderate in this area. However, large fires on Rattlesnake Mountain during the 1960s and early 1970s created a heightened awareness of fire among the citizens of Cody. Both Rattlesnake Mountain and Sheep Mountain are highly visible from the city of Cody and the North Fork of the Shoshone River, a major travel route to Yellowstone National Park.

In Wyoming and mountain big sagebrush communities of this area, desired burn acreage is from 2,000 to 4,000 per decade, under low to moderate fire intensity levels. Naturally-caused wildland fires would be confined or contained to less than 40 acres under moderate to high fire intensity levels.

In juniper and limber pine communities, the desired burn acreage is from 2,000 to 3,000 per decade. Naturally-caused wildland fires would be confined or contained to less than 40 acres under high fire intensity levels.

About 7,000 acres of mixed conifer occur on public land in the northern Absaroka Mountains. The desired burn acreage is 10 to 50 per decade, under low to moderate fire intensity levels. Since 1963, about 6,000 acres of lodgepole pine and spruce have burned on Rattlesnake Mountain. Each naturally-caused wildland fire would be confined or contained to less than 10 acres, under moderate or high fire intensity levels.

Opportunities for the use of prescribed fire in overmature and declining spruce-fir stands is limited to creating fuel breaks, reducing hazardous fuels, and burning logging slash. About 3,000 acres of juniper and limber pine would be treated to reduce woodland invasion into sagebrush and grasslands and to eliminate fuel hazards near urban areas. Prescribed burns are currently planned for 1,000 acres of sagebrush and juniper and limber pine woodlands. Other treatment methods would affect about 4,000 acres of sagebrush.

**Area 4: Southern Bighorn Mountains**

The resource management objective is to restore ponderosa pine stands to a healthy condition and maintain or improve habitat diversity in sagebrush and juniper vegetative communities. Aspen and mixed conifer types would be maintained or improved. Naturally-caused wildland fires would be managed under an appropriate management response. Roads and natural barriers would be used for control lines as much as possible. In this area emphasis is placed on protecting summer cabins and areas of urban interface.

Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Akluk Creek, Medicine Lodge, and Trapper Creek WSAs and in the Spanish Point Karst Area of Critical Environmental Concern (ACEC).

Noxious weeds exist locally in the southern Bighorn Mountains and would be monitored in burn areas. Prescribed burns would be focused in juniper and limber pine encroachment areas. Efforts to reduce fuels would be concentrated in ponderosa pine stands to restore a low intensity, high frequency fire regime. The primary safety concerns for fire control are steep, rocky canyons making access and working conditions difficult and dangerous. Smoke is a concern near towns such as Ten Sleep and Hyattville and in the Cloud Peak Wilderness Area to the east.

Fire occurrence is moderate throughout this management area, with the highest density of wildland fires located in juniper and ponderosa pine communities.

In areas dominated by Wyoming and mountain big sagebrush, the desired burn acreage is 6,000 to 10,000 per decade. Naturally-caused wildland fires would be confined or contained to less than 100 acres, under high fire intensity levels. During the last decade, approximately 2,100 acres of sagebrush have burned.

In areas of juniper and limber pine, the desired burn acreage is 5,000 to 8,000 per decade. Each naturally-caused wildland fire would be confined or contained to less than 100 acres, under high fire intensity levels. Wildland fire suppression efforts would take maximum advantage of natural barriers and fuel breaks to reduce hazards to personnel and equipment. Much of the juniper and limber pine is located in steep, rocky canyons where access and working conditions are difficult and dangerous.

In ponderosa pine, the desired burn acreage is about 2,200 per decade. The BLM would attempt to confine or contain wildland fires to less than 10 acres, under high fire intensity levels.

There is considerable potential for managing fuels throughout this area. Approximately 7,600 acres have been prescribed burned during the past decade. Prescribed burns are currently planned for 2,200 acres annually in sagebrush and juniper communities. The desired burn acreage is 13,500 to 21,200 per decade, however significant limiting factors of topography, landownership pattern, wildlife habitat, and livestock grazing affect the feasibility of these treatments.

Objectives are to treat 8,000 acres of sagebrush, 7,000 acres of juniper, and 2,000 acres of ponderosa pine per decade. Treatment efforts would focus on reduction of juniper invasion into ponderosa pine and sagebrush and grass communities. Fire, timber harvests, and mechanical and chemical treatments would be used to maintain or increase the relatively limited areas dominated by ponderosa pine. Treatments would also be used to reduce hazardous fuels and improve diversity in sagebrush throughout the mixed conifer areas. Fire would be used to promote uneven-aged timber stands and to reduce disease.

**Area 5: Southern Absaroka Mountains**

The resource management objectives are to restore aspen stands which are dying of old age, improve the health of diseased and bug-infested conifer forests, and reduce the amount of juniper and limber pine invasion into sagebrush communities and riparian areas. Emphasis would be placed on avoiding the loss of commercial timber and improving big game winter range. Fuels have built up in timber because of insect damage and past fire suppression.

Wildland fires would be managed under an appropriate management response. Restrictions on the use of heavy equipment and other minimal
impact suppression techniques would be followed in the Owl Creek WSA and in the Carter Mountain ACEC.

Extensive use of prescribed fire would be made to improve big game habitat, reduce hazardous fuels, restore aspen stands, and limit the encroachment of sagebrush and juniper. A primary concern is the need to protect summer cabins from wildfire.

Historically, fire occurrence has been low and only small acreages have burned. Precipitation accompanies most storms in this area, limiting the spread of lightning-caused fires.

In areas dominated by Wyoming and mountain big sagebrush, the desired burn acreage is 7,000 to 10,000 per decade. The BLM would attempt to confine or contain wildland fires to 100 acres, under high fire intensity levels.

In juniper and limber pine communities, the desired burn acreage is 5,000 to 8,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under high fire intensity levels.

In areas of mixed conifer and aspen, the desired burn acreage is 800 to 1,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 20 acres, under high fire intensity levels.

Approximately 10,600 acres of sagebrush, juniper, and limber pine have been burned with prescribed fire during the past decade. Prescribed burns are currently planned for 1,700 additional acres. The desired burn acreage is 13,000 to 19,000 per decade. Objectives are to treat 10,000 acres of sagebrush, 7,000 acres of juniper and limber pine, and 500 acres of mixed conifer and aspen. Most vegetation treatments would be done to reduce juniper and limber pine invasion into sagebrush and riparian areas, and for reduction of hazardous fuels caused by pine beetle infestations. Along with fire, timber harvests, and mechanical and chemical treatments would be used to rejuvenate aspen stands.

**Area 6: Northern Bighorn Mountains**

The resource management objective is to restore plant diversity in the juniper and sagebrush vegetative communities. Emphasis would be on protecting cultural resources, cave and karst features in the Little Mountain ACEC, and the Five Springs Falls Campground and ACEC. Naturally-caused wildland fires would be managed under an appropriate management response.

Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Little Mountain ACEC. The primary safety concerns for fire control are steep, rocky slopes making some wildland fires difficult and dangerous to access.

Historical fire occurrence and the acreages burned have been low in the northern Bighorn Mountains.

In areas dominated by Wyoming and mountain big sagebrush, the desired burn acreage is 2,000 to 5,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under moderate fire intensity levels.

In juniper and limber pine communities, the desired burn acreage is 500 to 1,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under high fire intensity levels.

Approximately 4,900 acres of sagebrush and juniper have been prescribed burned during the past 10 years. Objectives are to treat 4,000 acres of sagebrush and 1,000 acres of juniper and limber pine per decade. Vegetation treatments consisting of prescribed burns, and mechanical or chemical methods, would be used to restore herbaceous vegetation in sagebrush communities, and to remove encroaching juniper. These same treatments would be used to create mosaics and diversity in established juniper woodlands.

**Area 7: Bridger Mountains**

The resource management objective is to sustain the productivity and diversity of juniper and sagebrush vegetative communities. Emphasis would be placed on protecting private property and cultural resources. Historical fire occurrence and acreages burned have been very low in the Bridger Mountain area. The Hot Springs County fire district does most of the initial attack because of the large amount of private land in this area. Therefore, BLM's efforts are largely that of providing suppression assistance. Generally, the BLM would aggressively respond to wildland fires in this area. An appropriate management response would be determined after the fire is assessed. Fire management concerns relate to smoke settling into Thermopolis and outlying communities and restricted access resulting from locked gates.

The use of prescribed fire would be limited to small areas of sagebrush and juniper. The BLM would coordinate with adjacent nonfederal landowners for mutually beneficial prescribed fires and broadcast burning.

In areas dominated by Wyoming big sagebrush, the desired burn acreage is 2,000 to 4,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under high fire intensity levels.

In juniper and limber pine vegetative communities, the desired burn acreage is 1,500 to 2,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under high fire intensity levels.

Few opportunities exist for BLM-initiated prescribed burning because of landownership patterns and low fuel densities. Vegetation treatment objectives, to be accomplished as opportunities arise, are to burn 1,000 acres of sagebrush and 500 acres of juniper.

**Area 8: Woods Landing, Jelm and Sheep Mountains**

The resource management objectives for these areas—consisting largely of upland shrub, woodland, and timber—are to increase browse and forage for big game and livestock, reduce sagebrush encroachment, and stimulate aspen regeneration.

Landownership is intermingled in this area; about 50 percent is public land. There are many structures and facilities associated with ranches and summer cabins in the area. Therefore, wildland fires would be fully suppressed, although no heavy equipment would be used on the initial attack.

Fire suppression is difficult in some places because of locked gates and steep slopes. A protection exchange agreement with the Medicine Bow National Forest and an annual operating plan with Albany County have been established for fire suppression. The BLM would attempt to contain each wildland fire to less than 5 acres. Therefore, fire management efforts are largely that of providing suppression assistance. Generally, the BLM would aggressively respond to wildland fires in this area. An appropriate management response would be determined after the fire is assessed. Fire management concerns relate to smoke settling into Thermopolis and outlying communities and restricted access resulting from locked gates.

The use of prescribed fire would be limited to small areas of sagebrush and juniper. The BLM would coordinate with adjacent nonfederal landowners for mutually beneficial prescribed fires and broadcast burning.

In areas dominated by Wyoming big sagebrush, the desired burn acreage is 2,000 to 4,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under high fire intensity levels.

In juniper and limber pine vegetative communities, the desired burn acreage is 1,500 to 2,000 per decade. The BLM would attempt to confine or contain wildland fires to less than 100 acres, under high fire intensity levels.

Few opportunities exist for BLM-initiated prescribed burning because of landownership patterns and low fuel densities. Vegetation treatment objectives, to be accomplished as opportunities arise, are to burn 1,000 acres of sagebrush and 500 acres of juniper.

**Area 9: Encampment Canyon Wilderness Study Area**

The resource management objective for this area of upland shrub and timber is to reduce sagebrush and pine encroachment into other vegetative communities and to stimulate aspen regeneration. This area abuts a national forest wilderness area, is a heavy recreational use area, and includes a BLM-administered recreation site and many private cabins.

This area would be subject to full suppression of wildfire fires, pursuant to a protection exchange agreement with the Forest Service. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be required. Access is generally limited to foot or horseback. The BLM would attempt to...
contain each wildland fire to less than 5 acres at least 90 percent of the time.

Fire frequency is low (less than two fires per township) and many are single-tree fires from lightning strikes. The desired burn acreage is about 600 per decade. Less than 200 acres are proposed for prescribed fires, some burns being planned to improve bighorn sheep habitat.

**Area 10: Seminole and Shirley Mountains Area**

The resource management objective for BLM-administered public lands near Seminole and Pathfinder reservoirs, characterized by upland shrub and sand dunes, is to use fire to increase forage for big game and livestock. The resource management objective for timber and woodland vegetation communities, comprising important wildlife habitat in the Shirley Mountain and Bennett Peak areas, is to use prescribed fire and timber harvesting to reduce disease and insect infestations and promote healthy timber regeneration. This is especially important in elk winter and calving ranges on Shirley Mountain.

On public lands near Seminole and Pathfinder reservoirs full suppression would be used, consistent with county assistance agreements and agreements with the Bureau of Reclamation (BOR), where BOR-withdrawn lands are involved. No heavy equipment would be allowed on initial attack because of steep slopes and fragile, sandy soils.

Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed in the Bennett Peak WSA. Initial attack by the BLM is essential in timber communities on Shirley Mountain because the fire suppression capabilities of local firefighting forces could be quickly exceeded. Further, there are some areas with steep slopes and limited access. The BLM would attempt to contain each wildland fire to 5 acres or less at least 90 percent of the time.

Fire frequency is low in most of the area near Seminole and Pathfinder reservoirs. Along travel routes and in high recreation use areas most fires are human-caused.

Fire frequency is high in the Bennett Peak WSA (greater than six fires per township) and moderate on Shirley Mountain (with three to five fires per township). Most fires have been small, less than 3 acres, and are caused by lightning strikes.

The opportunity for using prescribed fire near Seminole and Pathfinder reservoirs is limited because of heavy recreational use. The opportunity for using prescribed fire to improve watershed condition, livestock forage, and wildlife habitat, and for hazardous fuels reduction.

The desired burn acreage is about 1,200 per decade. A maximum of 1,000 acres is proposed for prescribed burns per decade.

**Area 11: Platte Valley and Baggs Big Game Crucial Winter Range**

The resource management objectives for these areas—consisting largely of shrub, upland shrub, and woodland vegetation—include to increase browse and thermal hides for mule deer and elk, enhance forage for livestock use, create mixed-age stands of sagebrush and upland shrub, and reduce juniper and sagebrush encroachment into other vegetation communities.

In the Platte Valley, BLM would practice full suppression with no heavy equipment on initial attack. This is because of intermingled landownership and is pursuant to a protection exchange agreement with the Medicine Bow National Forest. About 75 percent of the fires in the Platte Valley are human-caused. Naturally-caused wildland fires in the Baggs crucial winter range would be managed under an appropriate management response. However, full suppression would be practiced in juniper woodland crucial winter habitat areas along the Colorado-Wyoming state line. The BLM would attempt to contain each wildland fire to less than 10 acres 90 percent of the time.

Fire frequency is low in the Platte Valley to moderate along the national forest boundary. In the Baggs area, fire frequency is also low and most fires do not exceed 10 acres. One exception is the juniper woodland along the Colorado-Wyoming state line where fire frequency is moderate to high.

The desired burn acreage is about 50,000 per decade to enhance wildlife habitat. Most of this will be accomplished with prescribed burns. Many shared-cost projects are under development.

**Area 12: Checkerboard Public Lands in Carbon and Sweetwater Counties; Intermingled Public Lands in Albany and Laramie Counties**

The resource management objectives for these areas—consisting largely of grassland, shrub, and woodland vegetation—are to reduce juniper, limber pine, and sagebrush encroachment, stimulate aspen regeneration, and improve big horn sheep habitat.

Wildland fires on public lands would be subject to full suppression until hazardous fuels from rangeland and insect infestations have been reduced through prescribed fire, mechanical, and other methods. At that time, an appropriate management response to naturally-caused wildland fires would be initiated. Full suppression would be practiced in high visibility and high-use recreation areas and on steep slopes that are limited to foot access. The BLM would attempt to contain wildland fire to less than 5 acres 90 percent of the time until hazardous fuels are reduced.

Fire frequency is high. The desired burn acreage is about 5,000 per decade. Most of this would be accomplished with prescribed burns.

Fire frequency is in the Platte Valley to moderate along the national forest boundary. In the Baggs area, fire frequency is also low and most fires do not exceed 10 acres. One exception is the juniper woodland along the Colorado-Wyoming state line where fire frequency is moderate to high.

The desired burn acreage is about 50,000 per decade to enhance wildlife habitat. Most of this will be accomplished with prescribed burns. Many shared-cost projects are under development.

The resource management objectives for these areas—consisting largely of grassland, shrub, and woodland vegetation—are to reduce juniper, limber pine, and sagebrush encroachment, stimulate aspen regeneration, and improve big horn sheep habitat.

Wildland fires on public lands would be subject to full suppression until hazardous fuels from rangeland and insect infestations have been reduced through prescribed fire, mechanical, and other methods. At that time, an appropriate management response to naturally-caused wildland fires would be initiated. Full suppression would be practiced in high visibility and high-use recreation areas and on steep slopes that are limited to foot access. The BLM would attempt to contain wildland fire to less than 5 acres 90 percent of the time until hazardous fuels are reduced.
Area 14: Shirley Basin
The resource management objectives for this area of sagebrush and grasslands are to maintain or improve plant community composition, watershed conditions, forage for livestock grazing, and wildlife habitat.

Naturally-caused wildland fires would be managed under an appropriate management response. Management costs would be reduced by monitoring wildland fires (rather than using full suppression) in areas of consolidated public lands. There would be no restrictions on initial attack (such as restrictions on the use of heavy equipment) in areas where land ownership is intermingled. Fire management agreements with private landowners would be pursued. The BLM would attempt to contain each wildland fire to 100 acres 90 percent of the time.

Fire frequency is low in the Ferris Mountains and moderate in the Pedros Mountains and Sentinel Rocks. The desired burn acreage is about 15,000 per decade. Most of this would be accomplished with prescribed burns.

Area 16: Kinney Rim, Adobe Town, and Skull Creek; and Area 17: Great Divide Basin
The resource management objective for these low precipitation, sparsely vegetated areas is to maintain or improve plant community composition while promoting plant species and age class diversity.

Naturally-caused wildland fires would be managed under an appropriate management response. Management costs would be reduced by monitoring wildland fires (rather than using full suppression) for fires under 1,000 acres. Wildland fire suppression actions would be limited because land status is predominantly public, topography is rolling to flat, access is good, and there are no firefighter safety concerns. The BLM would attempt to contain wildland fires to less than 1,000 acres 90 percent of the time.

Fire frequency is low. The desired burn acreage is about 2,000 per decade for each area. Most of this would be accomplished with prescribed burns.

Area 18: Green and Crooks Mountains
The resource management objectives for these areas of woodland and timber are to protect important wildlife habitat including elk and winter and calving areas, commercial timber, and public and private property. Fire management in this area is affected by a BLM-administered campground, heavy recreational use, summer cabins, and ranch facilities. There is also a build-up of hazardous fuels from fallen snags and trees killed by insect infestations. Fuels management opportunities include slash burning, light broadcast burning to stop pine invasion into meadows, and timber harvesting.

Full suppression of wildland fires would be practiced, with heavy equipment restricted or prohibited on initial attack. The BLM would attempt to contain wildland fires to less than 5 acres at least 90 percent of the time.

Fire frequency is moderate to high with at least half of the fires being human-caused. The desired burn acreage is about 350 to 500 per decade; 300 acres would be accomplished with prescribed burns.

Area 19: Rattlesnake Hills
The resource management objective for this area of upland shrub and woodlands is to improve elk and deer habitat while limiting surface disturbance related to fire management.

Full suppression of wildland fires would be practiced because of developed private property, especially around Garfield Peak and Goat Mountain, and because there are some areas of hazardous fuels. The use of heavy equipment would be restricted or prohibited on initial attack. A primary safety concern for fire control is difficult access because of steep slopes and locked gates. Some areas have foot access only. The BLM would attempt to contain each wildland fire to less than 10 acres.

Fire frequency is moderate to high and with at least 50 percent being human-caused. The desired burn acreage 350 to 750 per decade; approximately 250 acres are proposed for prescribed burns.

Area 20: South Pass, Red Canyon, and Lander Slope
The resource management objectives for these areas—consisting largely of upland shrub, woodland, and timber vegetative communities—are to enhance elk, moose, and deer habitat, and protect important fisheries.

The BLM would aggressively respond to wildland fires in this area. Full suppression would be practiced with heavy equipment restricted or prohibited on initial attack. These are sensitive areas because of fragile soils, steep slopes, and historic landmarks. Other fire management concerns are intermingled landownership, limited access, and private cabins.

Fire frequency is moderate to high. The desired burn acreage is about 1,000 per decade. Most of this would be accomplished prescribed burns. Some hazardous fuels would be reduced by thinning timber stands of overmature or bug-killed pine, in harvest areas of approximately 100 acres each.

Area 21: Dubois and Upper Wind River
The resource management objective for this area of upland shrub and timber is to enhance wildlife habitat, protect public and private property, and prevent erosion of fragile soils. This area supports nationally important wildlife habitat, consisting of bighorn sheep and elk winter ranges.

Full suppression of wildland fires would be practiced through a protection exchange agreement with the Shoshone National Forest. The purpose would be to reduce hazardous fuels caused by insect infestation and overmature timber. There are also many structures on
adjacent private lands and high recreational activity.

Fire frequency is low and the fires have been small. There is potential, however, for catastrophic fires because hazardous fuels have built up. The desired burn acreage is about 500 per decade. Most of this would be accomplished with prescribed burns. The reduction of hazardous fuels by fire would require highly controlled circumstances.

**Area 22: Sweetwater Valley, Beaver Rim, and Gas Hills**

The resource management objectives for these areas—consisting largely of exposed rock and soil, shrub, and scattered woodlands—are to maintain or improve plant community composition and watershed conditions, promote plant species and age class diversity, and improve mule deer habitat. Management costs would be reduced by monitoring small wildfire fires, rather than using full suppression.

Naturally-caused wildfire fires would be managed under an appropriate management response in most areas. Generally, fires are small and isolated because of a lack of continuous fuels. In the Sweetwater Rocks WSA, restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed. Firefighting would be restricted to daylight operations because of firefighter safety concerns, steep slopes, and difficult access. In areas of intermingled land ownership, full suppression of wildfire fires would be practiced if the fires are threatening private lands and no agreements are in place with the landowners allowing for less aggressive attack. The BLM would attempt to contain each wildfire fire to 10 acres 90 percent of the time.

Fire frequency is low. In the Beaver Rim and Gas Hills areas, most fires do not exceed 50 acres and are suppressed by Fremont County.

The desired burn acreage is about 5,000 per decade. Most of this would be accomplished with prescribed burns, particularly in the Beaver Rim and Gas Hills areas.

**Area 23: Copper Mountain**

The resource management objective for this area of juniper and limber pine woodlands is to protect public and private property and big game crucial winter range.

Full suppression of wildfire fires would be practiced. The use of heavy equipment would be restricted or prohibited because of intermingled land ownership and steep slopes creating difficult access. (Many private lands are developed with cabins and homesites.) The BLM would attempt to confine wildfire fires to 1 acre at least 90 percent of the time.

Fire frequency is low with most fires being lightning-caused and small, however, the potential for larger fires exists. The desired burn acreage is 300 per decade. Approximately 200 acres are proposed for prescribed burns.

**Area 24: Whiskey Mountain**

The resource management objectives for this area of upland shrub and high-elevation timber are to protect and enhance wildlife habitat and protect public and private property, while preventing erosion of unstable and fragile soils. Timber communities have high levels of hazardous fuels of insect infestations and overmature timber.

Wildfire fires would be subject to full suppression. No heavy equipment would be used on initial attack because of fragile soils. The importance of this area for recreation, and to protect important wildlife habitat, particularly for bighorn sheep. Most of the area is public land with rolling or steep topography. Many areas are difficult to access, creating concerns for firefighter safety. The BLM would attempt to confine wildfire fires to 1 acre at least 90 percent of the time.

Although fire frequency is low and most fires have been limited to single trees or shrubs, the potential for catastrophic fire exists because hazardous fuels have built up in some places. The desired burn acreage is about 250 per decade. Approximately 200 acres are proposed for prescribed burns.

**Area 25: Public Lands in Crook, Weston, and Niobrara Counties**

The majority of the land in these counties is in nonfederal ownership. Where public lands are scattered and isolated, resource management objectives would conform to those of the adjacent nonfederal lands.

The vegetation is primarily grass and sagebrush with some noncommercial ponderosa pine. Full suppression of wildfire fires would be practiced on public lands. Fires in the area are usually suppressed by county and volunteer fire departments. The BLM provides resource advisors and suppression assistance pursuant to annual operating plans with the counties.

Restrictions or prohibitions on the use of heavy equipment would be followed, primarily to avoid damage to commercial forestlands administered by BLM, and adjacent private, state, national forest, and national monument lands.

**Area 27: Whoopup Canyon**

The resource management objective for this area—consisting largely of sagebrush, grassland, and ponderosa pine—is to protect prehistoric petroglyphs of world class importance. All wildfire fires would be suppressed. Restrictions or prohibitions on the use of heavy equipment to construct firelines and on the use of chemical and dye retardants would be followed to protect the petroglyphs. Fire management projects would be conducted to reduce hazardous fuels near the petroglyphs. Primarily, these projects would be mechanical treatments but may include the use of prescribed fire involving less than 50 acres per decade.

Fires are common in the Whoopup Canyon and general area. Large fires have threatened the canyon and petroglyphs in recent years.

**Area 28: Public Lands in Converse, Goshen, Natrona, and Platte Counties**

The majority of the land in these counties is in nonfederal ownership. Where public lands are scattered and isolated, resource management objectives would conform to those of the adjacent nonfederal lands. Vegetation is primarily sagebrush and grass with small areas of upland.
shrub, woodland, and ponderosa pine. Naturally-caused wildland fires would be managed under an appropriate management response unless the fires threaten to burn onto adjacent nonfederal lands. Roads and natural barriers would be used for control lines as much as possible. Restrictions or prohibitions on the use of heavy equipment would be followed to avoid damage to the nonfederal lands. Full suppression would be practiced on the Table Mountain and the Springer wildfire management areas in Goshen County, in bald eagle roost areas in Converse and Natrona counties, and in the Goldeneye Recreation Area in Natrona County. In the bald eagle roost areas, cutting of roost trees would be prohibited. Restrictions on the use of heavy equipment would be followed on significant segments of the Oregon, Mormon, and Bozeman trails.

Where prescribed fire is used on public lands to manage vegetation, particularly in sagebrush and grassland areas, the purpose would be to improve watershed condition, forage for livestock grazing and wildlife use, and to reduce hazardous fuels.

Area 29: Laramie Range and Rattlesnake Mountains

This area consists of public lands in the Laramie Range and Rattlesnake Mountains, including Casper Mountain, Haystack Mountain, Muddy Mountain, and Pine Mountain in Converse, Natrona, and Platte counties. The resource management objectives for this area—consisting largely of sagebrush, grassland, woodland, lodgepole pine, and ponderosa pine—are to protect a bald eagle winter roosting area, enhance other wildlife habitat, and provide forage for livestock grazing. Naturally-caused wildland fires would be managed under an appropriate management response unless the fires threaten to burn onto adjacent nonfederal lands. Roads and natural barriers would be used for control lines as much as possible.

Full suppression would be practiced on public lands on Casper Mountain because of concentration of cabins, residences, recreational areas, and communication sites on intermingled nonfederal lands. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed to avoid damaging steep slopes and nonfederal lands. The cutting of eagle roost trees would be prohibited.

Prescribed fire or mechanical treatments of vegetation would be emphasized.

Area 31: Muddy Mountain Environmental Education Area

This area on Muddy Mountain consists of two campgrounds and an environmental education area with hiking trails. The resource management objectives for this area, which includes a significant number of beetle-killed lodgepole pines, is to use prescribed fire and mechanical treatments to reduce hazardous fuels and logging debris, and to protect public and private property and recreational opportunities. The site is known as Aspen Highlands would be suppressed.

Prescribed fires would be used primarily for disposing of logging debris and seedbed preparation, and improving wildlife habitat. Approximately 2,000 acres are proposed for prescribed burns on Haystack Mountain per decade.

Area 30: Jackson Canyon

The resource management objectives for this area—consisting largely of sagebrush, grassland, woodland, lodgepole pine, and ponderosa pine—are to protect a bald eagle winter roosting area, enhance other wildlife habitat, and provide forage for livestock grazing. Naturally-caused wildland fires would be managed under an appropriate management response unless the fires threaten to burn onto adjacent nonfederal lands. Roads and natural barriers would be used for control lines as much as possible.

Full suppression would be practiced on public lands on Casper Mountain because of concentration of cabins, residences, recreational areas, and communication sites on intermingled nonfederal lands. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed to avoid damaging steep slopes and nonfederal lands. The cutting of eagle roost trees would be prohibited.

Prescribed fire or mechanical treatments of vegetation would be emphasized.

Area 32: Public Lands in Johnson, Sheridan, and Campbell Counties

The majority of the land in these counties is in nonfederal ownership. Where public lands are scattered and isolated, resource management objectives would conform to those of the adjacent nonfederal lands. Wildland and prescribed fires are generally desired where public landownership is relatively consolidated. Resource management objectives for this area—consisting largely of sagebrush and grassland with small areas of woodland and ponderosa pine—are to improve forage for livestock and wildlife and provide for plant species and age class diversity.

Naturally-caused wildland fires would be managed under an appropriate management response unless the fires threaten to burn onto adjacent nonfederal lands. Roads and natural barriers would be used for control lines as much as possible.

In the Cantorson Reno historic site, wildland fires would be managed to reduce sagebrush cover and expose land features and artifacts. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed.

The Fortification Creek WSA contains 12,419 acres with vegetation consisting largely of sagebrush, grassland, and ponderosa pine. It is being managed to protect or enhance wilderness values and has a fire management plan in effect which specifies that all fires will be suppressed. Priority would be given to keeping fires from spreading onto adjacent private or state lands. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed.

Prescribed fire would be used in the WSA and adjacent land to maintain or improve watershed conditions, wildlife habitat, and livestock forage. Approximately 2,000 acres are proposed for prescribed burns per decade.

Area 33: Eastern Bighorn Mountains

The resource management objective for this area—consisting largely of sagebrush, grassland, upland shrub (principally cur©-leaf mountain mahogany), woodland, lodgepole pine, ponderosa pine, and aspen—is to maintain or improve watershed conditions, wildlife habitat, and forage for grazing.

Naturally-caused wildland fires would be managed under an appropriate management response using roads and natural barriers for control lines as much as possible, unless the fires threaten to burn onto adjacent nonfederal lands. Full suppression of wildland fires threatening the Buffalo Creek and Grave Spring campgrounds would be practiced.

Prescribed fires would be used for a number of reasons such as disposal of logging debris, reducing risk of hazardous fuels, and meeting the management objectives mentioned above. Partnerships for the use of prescribed fire would be pursued with the Wyoming Game and Fish Department, the Rocky Mountain Elk Foundation, grazing lessees, and others.

The North Fork and Gardner Mountain WSAs are located in close proximity to each other in the southern Bighorn Mountains. The North Fork WSA contains 1,672 acres, and Gardner Mountain WSA, 6,423 acres. Both areas are being managed to protect wilderness values and each has a fire management plan in effect which specifies that all fires will be suppressed. Priority would be given to keeping fires from spreading onto adjacent private or state lands. Restrictions or prohibitions on the use of heavy equipment and other minimal impact suppression techniques would be followed.
In the eastern Bighorn Mountains approximately 2,000 acres are proposed for prescribed burns per decade.

**Area 34: Northern Campbell County and Bishop Area**

The resource management objective for this area—consisting largely of sagebrush, grassland, and ponderosa pine—is to manage vegetation for grazing, wildlife habitat, and timber production. Naturally-caused wildland fires would be managed under an appropriate management response, unless the fires threaten to burn onto adjacent nonfederal lands. Roads and natural barriers would be used for control lines as much as possible.

**Area 35: Warren Bridge**

The primary resource management objective for this area—consisting largely of sagebrush, grassland, aspen, riparian areas, and meadow tundra—is to improve big game winter and transitional ranges, pronghorn antelope spring, summer, and fall range, and sage grouse habitat. Other objectives are to improve forage availability in the piplands to draw livestock use away from riparian areas, sustain aspen communities by reducing conifer and sagebrush encroachment, and stimulate aspen regeneration. Emphasis would be placed on protecting private and public property from wildfire by reducing hazardous fuels in the urban interface (for example, Hoback Ranches and Black Butte Estates) and along national forest boundaries. Post-burn archaeological inventories would be conducted.

There are intermingled private lands in the area. Developed and semideveloped campsites, such as those along the Green River and the Warren Bridge campground would be protected from wildfire. Without treatment, smoke byproducts would be suppressed within one mile of the Franz Elk Feedground operated by the WGF. Smoke in subdivisions and along U.S. Highway 189-191 may pose public safety hazards.

The BLM would attempt to confine or contain wildland fires to about 400 acres. The desired burned acreage is about 4,000 per decade.

**Area 36: Beaver Ridge**

The primary resource management objective for this area—consisting largely of sagebrush, grassland, aspen, riparian areas, and meadow tundra—is to improve big game winter ranges. Other objectives are to improve livestock forage availability in the uplands and protect private property by reducing hazardous fuels in the urban interface. Concerns related to wildland fire suppression include intermingled landownership and the urban interface.

The BLM would attempt to confine or contain wildland fires to about 200 acres. The desired burned acreage is about 2,000 per decade.

**Area 37: Cora Butte**

The resource management objectives for this area—consisting largely of sagebrush, grassland, mesic upland shrubs, and riparian areas—are to promote plant species and age class diversity and maintain or improve watershed conditions by using periodic wildland fire and prescribed burning as management tools.

Concerns related to wildland fire suppression include intermingled landownership and some concentrated areas of developed private property. Smoke may pose public safety hazards, for example near communities and subdivisions, and along U.S. Highway 191.

The BLM would attempt to confine or contain wildland fires to about 200 acres. The desired burned acreage is about 1,500 per decade.

**Area 38: Pinedale**

The primary resource management objective for this area—consisting largely of sagebrush, grassland, aspen, and forest-dominated riparian areas—is to improve big game winter and transitional ranges. Other objectives are to improve livestock forage availability in the uplands and protect public and private property by reducing hazardous fuels in the urban interface and along national forest boundaries.

There is a limited amount of public land in this area, intermingled with developed private property and urban interface. Smoke may pose public safety hazards in the city of Pinedale and surrounding subdivisions and along U.S. Highway 191. An air quality and acid rain monitoring station (NADP site) east of Fremont Lake would be protected from wildland fire.

The BLM would attempt to confine or contain wildland fires to about 200 acres. The desired burned acreage is about 3,000 per decade and it is anticipated that the majority of this would be accomplished by the use of prescribed fire. A priority area for prescribed burns would be along the national forest boundary.

**Area 39: Ryegrass and Soaphole Basin**

The primary resource management objective for these areas—consisting largely of sagebrush, grassland, aspen, and riparian areas—is to improve big game winter and transitional ranges, pronghorn antelope spring, summer, and fall range, and sage grouse habitat. Another objective is to improve livestock forage palatability and availability in upland areas. Native American sensitive sites in the west half of the area need to be protected.

Most of the lands in this area are public with rolling topography and good access for fire management. Smoke may pose public safety hazards in the community of Daniel and along U.S. Highway 189.

The BLM would attempt to confine or contain wildland fires to about 1,500 acres. The desired burned acreage is about 9,000 per decade and the majority would be accomplished with prescribed fire.

**Area 40: Mesa**

The resource management objectives for this area—consisting largely of sagebrush, grassland, and forest-dominated riparian areas—are to maintain or improve sagebrush and grassland plant community composition while using prescribed burns and periodic wildland fires to improve crucial mule deer winter ranges and sage grouse habitat. The Mocroft Native American sensitive sites in the northeastern portion of the area need to be protected. Wildland fires would be aggressively suppressed in cottonwood stands along the Green and New Fork rivers to protect wildlife habitat, and recreational and scenic values.

Most of the lands in this area are public with rolling topography and good access for fire management. Smoke may pose public safety hazards in the city of Pinedale and surrounding subdivisions and along U.S. Highway 191, and cause visibility problems at the Pinedale Airport. There are also flammable materials at the airport.

The BLM would attempt to confine or contain wildland fires to about 1,000 acres outside of crucial mule deer winter ranges, and about 500 acres within the winter ranges. The desired burned acreage is about 5,800 per decade.

**Area 41: Boulder Lake and Big Sandy**

The primary resource management objectives for these areas—consisting largely of Douglas fir, aspen, lodgepole pine, sagebrush, grassland, shrub, forest-dominated riparian areas, exposed rock and soil, and mesic upland shrub communities—are to reduce conifer and sagebrush encroachment into aspen communities, promote healthy timber regeneration, maintain or improve wildlife habitat and livestock forage, and protect cultural resources. Other objectives are to protect public and private property by reducing hazardous fuels in the urban interface and along national forest boundaries.
In the Scab Creek WSA and on the Lander Cutoff/Emigrant Trail, restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed. Fire retardant drops would be prohibited within 200 feet of riparian and wetland areas in the WSA, however, emergency use of helicopters would be acceptable. Wildland fires would be aggressively suppressed within 1 mile of the Fall Creek, Scab Creek, and Muddy Creek elk feedgrounds operated by the WGF.

This area is primarily timbered, with thin to moderate slopes and limited vehicle access. Intermingled private lands and potentially significant historic cabins are other concerns. Smoke may pose public safety hazards in subdivisions and along Wyoming Highway 351.

The BLM would attempt to confine or contain wildland fires to about 650 acres in sagebrush and grassland communities, 400 acres in aspen, and 100 acres in timber (where fuel levels are low) during low to moderate burning conditions. The desired burn acreage is about 5,000 per decade. Prescribed burns could be used to reduce hazardous fuels along the national forest boundary.

### Area 42: Bench Corral

The primary resource management objective for this area—consisting largely of sagebrush, grassland, shrub-dominated riparian areas, exposed rock and soil, mixed grass prairie, aspen, limber pine, woodland, and lodgepole pine—is to improve big game winter and transitional ranges, pronghorn antelope spring, summer, and fall range, and sage grouse habitat. Other objectives are to improve livestock forage availability in upland areas, sustain aspen communities by reducing conifer and sagebrush encroachment, and stimulate aspen regeneration through the use of fire.

There is a high potential for significant historic cabins in the west half of this area. Wardell buffalo trap is located in the southeast corner and is a significant Native American site. This area and its interpretive facilities would be protected from wildfire.

Wildland fires would be aggressively suppressed within 1 mile of the North Routt and Bench Corral elk feedgrounds operated by the WGF.

Landownership in this area is primarily public with rolling topography and good access for fire management. Along the Lander Cutoff/Emigrant Trail, restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed. Smoke may pose public safety hazards in the communities of Big Piney and Marbleton, along U.S. Highway 189. All vegetation is dominated by sagebrush and grassland plant communities. The desired burn acreage is about 20,000 per decade. Approximately 9,000 acres are proposed for prescribed burns per decade.

### Area 43: Deer Hills

The resource management objectives for this area—consisting largely of desert shrub, sagebrush, aspen, shrub-dominated riparian areas, mixed grass prairie, lodgepole pine, and whitebark pine—are to improve big game winter and transitional ranges, pronghorn antelope spring, summer, and fall range, and sage grouse habitat and improve livestock forage availability in the uplands.

There are oil and gas facilities in the area which need protection from wildfire and may affect firefighter safety. The topography is rolling and access is good. Smoke may pose public safety hazards in and near the communities of Big Piney and Marbleton and along U.S. Highway 189. Along the Lander Cutoff/Emigrant Trail, restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed.

The BLM would attempt to confine or contain wildland fires to about 1,200 acres. The desired burn acreage is about 20,000 per decade.

### Area 44: Desert

The resource management objectives for this area—consisting largely of exposed rock and soil, desert shrub, sagebrush, grassland, mixed grass prairie, aspen, shrub-dominated riparian areas, and forest-dominated riparian areas—are to maintain sagebrush and grassland plant community composition and maintain or improve watershed conditions. Prescribed burns and wildland fires would be used to meet the management objectives listed above and to maintain or improve wildlife habitat and livestock forage.

The topography is mostly flat, access is good, and landownership is predominantly public. Oil and gas facilities in the area would require protection from wildland fire and may affect firefighter safety. The BLM would attempt to confine or contain wildland fires to about 2,000 acres west of U.S. Highway 189 and 500 acres east of U.S. Highway 189. The desired burn acreage is about 20,000 per decade. Approximately 9,000 acres are proposed for prescribed burns per decade.

### Area 45: LaBarge

The primary resource management objectives for this area—consisting largely of exposed rock and soil, sagebrush, grassland, woodland, aspen, forest-dominated riparian areas, whitebark pine, and meadow tundra—are to maintain or improve wildlife habitat and livestock forage, sustain aspen communities by reducing conifer and sagebrush encroachment, and stimulate aspen regeneration through the use of fire. Another objective would be to promote healthy timber regeneration. Emphasis would also be placed on protecting important cultural sites.

There is a high potential for significant historic cabins in this area. Lake Mountain W3A, Rock Creek ACEC, and Beaver Creek ACEC contain crucial Colorado River cutthroat trout habitat. Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in these areas. Similar restrictions would apply along the Lander Cutoff/Emigrant Trail.

Recreational activity in the area is high, especially during hunting season. There is also a significant amount of oil and gas activity and fire management is complicated by intermingled private lands. Smoke may pose public safety hazards in and near Big Piney, Marblgetter, Calpet, or LaBarge and along U.S. Highway 189. Wildland fires would be aggressively suppressed in cottonwood stands along the Green River to protect wildlife habitat and recreational and scenic values. Wildland fires would be aggressively suppressed on the Holden Hill and Names Hill cultural sites.

The BLM would attempt to confine or contain wildland fires to about 1,200 to 1,500 acres in aspen, sagebrush, and grassland communities outside of crucial mule deer winter ranges, about 500 acres in the same communities within crucial mule deer winter ranges, and about 100 acres in timber. The desired burn acreage is about 27,000 per decade.

### Area 46: Big Sandy and Steamboat Mountain

The primary resource management objectives for these areas—consisting largely of grassweed, desert shrub, sagebrush, riparian, and conifer vegetation communities—are to reduce conifer and sagebrush encroachment into aspen and mountain shrub communities, promote healthy timber regeneration, and improve habitat for big game and sage grouse. Other objectives are to improve forage for livestock and wild horses and to protect public and private property by reducing hazardous fuels in the urban interface and near BLM-administered recreation areas and range improvements. In portions of the fire management area that are predominantly BLM-administered lands (north of the checkboard area), wildland
and prescribed fire could be used to meet resource management objectives.

Steamboat Mountain contains unique vegetative communities and high value wildlife habitat. The Steamboat Mountain vegetative communities include associations of sagebrush with Utah snowberry and basin wildrye, bluebunch wheatgrass, and lemon scurf pea. In these communities, the primary resource management objective is to protect wildlife habitat. Generally, wildland fire is not desired in the Steamboat Mountain area, although there may be opportunities for the use of prescribed fire.

These fire management areas contain historic trails, special recreation management areas, and six ACECs: Steamboat Mountain, Natural Corrals, Cedar Canyon, White Mountain Petroglyphs, Greater Sand Dunes, and the South Pass Historic Landscape. Four WSAs are entirely or partially inside the areas. The WSAs are Whitehorse Creek, Oregon Buttes, Buffalo Hump, and Sand Dunes. There are also important scenic resources (Class II VRM areas).

Restrictions on the use of heavy equipment and other minimal impact suppression techniques would be followed in these ACECs, WSAs, and along historic trails. Restrictions on the use of chemical and dye retardants would be followed in the vicinity of petroglyphs.

Fire frequency has been moderate with 27 fires recorded in 10 years. These fires burned about 860 acres.

The BLM would attempt to confine or contain wildland fires to less than 5 acres in the Steamboat Mountain area because of the importance of the wildland habitat. The use of prescribed fire would be the preferred method to meet resource management objectives.

Overall, up to a quarter of the public lands in these fire management areas could be burned per decade to achieve resource management objectives.

Area 47: Sweetwater

The resource management objectives for this area—consisting largely of sagebrush, desert shrub, sagebrush, riparian, and aspen vegetation—are to protect sensitive resources, improve wildlife habitat and forage for livestock, reduce conifer and sagebrush encroachment into aspen and mountain shrub communities, promote healthy timber regeneration, and protect public and private property by reducing hazardous fuels.

The area contains sensitive resources including two ACECs (one for special status plants and another for the South Pass Historic Landscape), special recreation management areas, and wild and scenic river values. These areas will have site-specific fire management prescriptions based on site-specific analysis. The use of heavy equipment and motorized vehicles for fire management would be restricted or prohibited in sensitive areas. This area borders the Bridger-Teton National Forest. Recreational activity in the area is high and takes place year-round.

Fire frequency is low to moderate with five fires recorded in 10 years. These fires burned about 26 acres.

The area has a low to moderate fire frequency, but there are opportunities for wildland and prescribed fire to meet resource management objectives. Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve the objectives.

Area 48: Red Desert

The resource management objectives for this area—consisting largely of desert shrub, sagebrush, riparian, aspen, and conifer vegetation communities—are to improve wildlife habitat, improve forage for livestock and wild horses, reduce conifer and sagebrush encroachment into aspen and mountain shrub communities, and promote healthy timber regeneration.

The area includes some checkerboard lands, major utilities, oil and gas fields, and a one wild horse herd management area. Five WSAs and one ACEC are entirely or partially in the area. These are Honeycomb Buttes, Oregon Buttes, South Pinnacles, Alkali Basin/East Sand Dunes, and Red Lake WSAs and the Oregon Buttes ACEC. Separate fire management plans may be written for the WSAs. Portions of the ACEC having significant wildlife habitat or cultural values may be protected from wildland fires.

Fire frequency is low with two fires recorded in 10 years. These fires burned about 31 acres.

Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives. Generally, prescribed fire would be used.

Area 49: Little Mountain

The resource management objectives for this area—consisting largely of desert shrub, sagebrush, riparian, aspen, and conifer vegetation communities—are to improve wildlife habitat, improve forage for livestock and wild horses, reduce conifer and sagebrush encroachment into aspen and mountain shrub communities, promote healthy timber regeneration, and protect public and private property by reducing hazardous fuels.

The primary objective for the Pine Mountain and Sugarloaf Basin management areas is to improve watershed condition, as well as to provide opportunities for dispersed recreation and protect wildlife habitat.

Much of the timber in the Little Mountain fire management area is located within the Pine Mountain and Sugarloaf Basin management areas. Fire management and suppression needs and the use of prescribed fire in this timber area will be determined on a case-by-case basis. The objectives would be to ensure that timber stands are maintained in a healthy condition and the “snow fence” effect created by the timber is preserved.

Recreational use in the area is high. There are also important scenic resources (Class II VRM areas) along with petroglyphs, historic trails, and two wild horse herds. Smoke in cities and towns and along major highways may pose public safety hazards.

The area contains portions of the checkerboard land pattern, urban interface, major utility rights-of-way, and oil and gas fields. Full suppression of wildland fires would be practiced. Constraints...
applied to fire management activities would include watershed concerns and providing protection of conifer stands and ACEC values. Restrictions on the use of heavy equipment and other minimal suppression techniques would be followed in areas such as the Bridger Creek ACEC, Pine Springs ACEC, candidate plant species sites and ACEC, and the other special management areas including Monument Valley, Pine Mountain, and Sugarloaf Basin. Similar restrictions would apply along historic trails and in the WSA. Restrictions on the use of chemical and dye retardants would be followed in the vicinity of petroglyphs.

The fire frequency is very high with 234 fires recorded in 10 years. These fires burned about 9,250 acres.

This area has the highest fire frequency in the state and opportunities exist for wildland and prescribed fire to meet resource management objectives. Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives.

Area 50: Smiths Fork and Raymond Mountain

The resource management objectives for these areas—consisting largely of sagebrush, grassland, aspen, and conifer vegetative communities—are to improve elk birthing habitat and big game winter and transitional habitat, improve sage grouse habitat, improve upland forage availability, reduce conifer and sagebrush encroachment in aspen and mountain shrub communities, and stimulate aspen and mountain shrub regeneration. In the Raymond Mountain WSA and ACEC areas another resource management objective is to enhance the habitat of the Bonneville cutthroat trout.

In the Raymond Mountain area the use of heavy equipment and motorized vehicles for fire management would be restricted or prohibited to preserve wilderness values and trout habitat. A separate fire management plan would be written for this area. Fire management activities adjacent to the Bridger-Teton National Forest would be coordinated with the Forest Service. Recreational use of these areas is high.

Two important areas need protection from wildland fire. These are the Canyon Club, and the ski area and lodge on Pine Creek. Concerns associated with controlling livestock may require burned areas to be fenced, so these areas can recover.

The fire frequency is low to moderate with eight fires recorded in 10 years. These fires burned about 800 acres.

Overall, up to a quarter of the public lands in these areas could be burned per decade to achieve resource management objectives.

Area 51: Hams Fork and Rock Creek

The resource management objectives for these areas—consisting largely of sagebrush with scattered aspen and conifer stands—are to improve elk birthing habitat and big game winter and transitional habitat, improve sage grouse habitat, improve upland forage availability, reduce conifer and sagebrush encroachment in aspen and mountain shrub communities, and stimulate aspen and mountain shrub regeneration.

Full suppression of wildland fires would be practiced in areas of intermingled landownership, although some opportunities may exist to use roads and natural barriers for control lines depending on what resources are threatened. In particular, wildland fires would be suppressed in the area east of South Fork Mountain where private lands are being subdivided and developed into cabin sites. Fire management activities near Fossil Butte National Monument would be coordinated with the National Park Service. Fire could be used to meet resource management objectives where public lands predominate.

Fire frequency is moderate with 19 fires recorded in 10 years. These fires burned about 3,300 acres.

Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives.

Area 52: Green River and Seedskadee

The resource management objective for these areas—consisting largely of sagebrush, grassland, and riparian vegetative communities—is to enhance wildlife winter habitat.

Considerable oil and gas exploration and development takes place adjacent to the Seedskadee National Wildlife Refuge and there are intermingled private and BLM-administered lands which complicate fire management activities.

Fire frequency is low to moderate with eight fires recorded in 10 years, and four fires occurring in the Granger area. These fires burned about 800 acres.

Full suppression of wildland fire would be practiced in these areas because of the intermingled landownership pattern and the oil and gas activities. The desired burn area is about 5 percent of the public lands per decade. Prescribed fire could be used to improve wildlife winter range and sage grouse habitat.

Area 53: Slate Creek

The resource management objective for this area—consisting largely of sagebrush, grassland, and aspen— is to enhance wildlife habitat.

Fire frequency is low with only one fire recorded in 10 years. That fire burned less than an acre.

To protect public and private property, full suppression of wildland fires would be practiced in oil and gas fields and in areas of intermingled landownership. The desired burn area is about 5 percent of the public lands per decade in this fire management area.

Area 54: Bridger Valley and Granger

The resource management objective for these areas of desert shrub, sagegrass, sagebrush, and grassland is to enhance wildlife habitat.

These fires include checkerboard lands, Interstate 80, oil and gas fields, and major utility rights-of-way.

Fire frequency is low to moderate with eight fires recorded in 10 years, and four fires occurring in the Granger area. These fires burned about 800 acres.

Full suppression of wildland fire would be practiced in these areas because of the intermingled landownership pattern and the oil and gas activities. The desired burn area is about 5 percent of the public lands per decade. Prescribed fire could be used to improve wildlife winter range and sage grouse habitat.

Area 55: Bear River Divide

The resource management objectives for this area—consisting largely of sagebrush, grassland, aspen, and mountain shrub vegetative communities—are to improve big game winter and transitional habitat, improve sage grouse habitat, improve upland forage availability, reduce conifer and sagebrush encroachment in aspen and mountain shrub communities, and stimulate aspen and mountain shrub regeneration.

Oil and gas development (including releases of sour gas, or H2S) is common throughout the area. The area also includes checkerboard lands, Interstate 80, and major utility rights-of-way. Although full suppression of wildland fire is practiced now, there is potential to work with private landowners to identify areas where wildland and prescribed fire could be managed.

The community of Evanston and its airport are in this area. Visibility around the airport may be affected by smoke, posing safety concerns.

Fire frequency is low to moderate with eight fires recorded in 10 years. These fires burned about 5,700 acres.

Generally, full suppression of wildland fires would be practiced in this area because of the intermingled landownership and large amount of oil and gas development. However, opportunities
may exist, especially on the eastern side of the continental divide, to let fires burn to roads and other natural barriers depending on what resources are threatened. In the future, it may be possible to manage some areas under appropriate management response. Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives.

**Area 56: Collett Creek and Twin Creek**

The resource objectives for these areas—consisting largely of sagebrush, grassland, aspen, and mountain shrub vegetative communities—are to enhance crucial wildlife winter and transitional habitat, increase forage for livestock, improve watershed condition, and rejuvenate aspen and mountain shrub communities. The Twin Creek area includes a coal mine and a subdivision which would be protected from wildland fire. Wildland and prescribed fire would be used elsewhere to meet resource management objectives.

Fire frequency is low to moderate with three fires recorded in 10 years. These fires burned about 1,640 acres.

Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives. Up to 50,000 acres would be treated with prescribed fire by the year 2005.

**Area 57: Meeks Cabin**

The resource management objectives for this area—consisting largely of sagebrush, grassland, aspen, and conifer vegetative communities—are to enhance wildlife habitat and improve watershed condition.

Fire frequency is low with one fire recorded in 10 years. That fire burned less than an acre.

Generally, wildland fires would be suppressed in this area although there are areas where wildland fire would be desired to meet resource management objectives. The BLM would manage some naturally-caused wildland fires subject to appropriate management response. Overall, up to a quarter of the public lands in this fire management area could be burned per decade to achieve resource management objectives.

**Area 58: Afton and Evanston**

The resource management objectives for these areas of sagebrush and grass are to improve wildlife habitat and promote plant species and age class diversity.

The areas include checkerboard lands, interstate 80, oil and gas fields, and major utility rights-of-way.

Fire frequency is low with four fires recorded in 10 years. These fires burned about 150 acres.

Generally, wildland fires would be suppressed in this area. The desired burn area is about 5 percent of the public lands in this fire management area per decade.

Fire Management Areas Administered by the Worland and Cody Field Offices
Fire Management Areas Administered by the Rawlins and Lander Field Offices

(Fire management areas consist of BLM-administered public lands in the shaded areas only.)

8 - Woods Landing, Jelm and Sheep Mountains
9 - Encampment Canyon WSA
10 - Seminole and Shirley Mountains
11 - Platte Valley and Baggs Crucial Winter Range
12 - Checkerboard and Intermingled Lands
13 - Laramie Peak Area
14 - Shirley Basin
15 - Ferris Mountains, Pedro Mountains and Sentinel Rocks
16 - Kinney Rim, Adobe Town and Skull Creek
17 - Great Divide Basin
18 - Greeri and Crooks Mountains
19 - Rattlesnake Hills
20 - South Pass, Red Canyon and Lander Slope
21 - Dubois and Upper Wind River
22 - Sweetwater Valley, Beaver Rim and Gas Hills
23 - Copper Mountain
24 - Whiskey Mountain

Fire Management Areas Administered by the Casper, Buffalo, and Newcastle Field Offices

(Fire management areas consist of BLM-administered public lands in the shaded areas only.)

25 - Crook, Weston, and Niobrara Counties
26 - Black Hills
27 - Whoopup Canyon
28 - Converse, Goshen, Natrona, and Platte Counties
29 - Laramie Range and Rattlesnake Mountains
30 - Jackson Canyon
31 - Muddy Mountain Environmental Education Area
32 - Johnson, Sheridan, and Campbell Counties
33 - Eastern Bighorn Mountains
34 - Northern Campbell County and Bishop Area
Fire Management Areas
Administered by the Rock Springs, Kemmerer, and Pinedale Field Offices

- Warren Bridge
- Beaver Ridge
- Cora Butte
- Pinedale
- Ryegrass and Soaphole
- Mesa
- Boulter Lake and Big Sandy
- Bench Corral
- Deer Hills
- Desert
- LaBarge
- Big Sandy
- Sweetwater
- Red Desert
- Little Mountain
- Smiths Fork and Raymond Mountain
- Hams Fork and Rock Creek
- Green River and Seedskadee
- Slate Creek
- Bridger Valley and Granger
- Bear River Divide
- Collett Creek and Twin Creek
- Meeks Cabin
- Alta and Evanston

(Fire management areas consist of BLM-administered public lands in the shaded areas only.)

GLOSSARY

Appropriate Management Response (AMR): Specific actions taken in response to a naturally-occurring wildland fire to implement protection and fire use objectives, while considering firefighter and public safety, anticipated management costs, resource values at risk, resource benefits, threats to private property, opportunities for reducing hazardous fuels, and political and social concerns. Appropriate management response would involve a wide range of fire management options. These might include confining or containing a wildland fire so it stays within a predetermined boundary, or aggressively and quickly suppressing the fire.

Biological diversity: The variety of life and its processes. Although vastly complex, it includes some measurable distinctions like genetic differences within and among species, species variations, association of species with each other and their environments, and the patterns and linkages of these biological communities across geographic areas. (Keystone Center 1991.) According to West (1993) "biological diversity is the variety of life and its process, including the variety of living organisms, the genetic differences among the five communities, the ecosystems, and landscapes in which they occur, plus the interactions of these components. Some [Authorities] would add the local peoples, their culture, and their indigenous knowledge to the list...."

Browze: The part of the current leaf and twig growth of shrubs, woody vines, and trees available for animal consumption.

Forage for big game and livestock: Browse and herbaceous foods that are available to grazing animals.

Bureau of Reclamation-withdrawn (BOR-) lands: A withdrawal is actions that restrict the use of public lands and segregate the land from the operation of some or all of the public lands and/or mineral laws. Withdrawals are also used to transfer jurisdiction of management to other Federal agencies, in this case, to the Bureau of Reclamation.

Crucial winter range: Winter habitat that a wildlife species depends upon for survival, especially during severe winter weather conditions. Alternative habitat areas would be very limited or unavailable because of severe weather conditions or other limiting factors.

desired burn acreage: The maximum acreage of public land that could be burned per decade by prescribed and wildland fire to meet resource management objectives.

Full suppression: A strategy for extinguishing fires that require immediate and continuous aggressive attack in the safest, most cost-effective manner, with the least amount of property damage or resources lost. Full suppression may include control, containment, or confinement of a wildfire to meet land management objectives.

Initial attack: An aggressive suppression action consistent with firefighter and public safety and values to be protected.

Prescribed fire: Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and National Environmental Policy Act (NEPA) requirements must be met prior to ignition.

Prescription: Measurable criteria which guide selection of appropriate management response and actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social or legal considerations.

Public lands: Any land or interest in lands owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management, except lands located on the outer Continental Shelf and lands held for the benefit of Indians, Aleuts, and Eskimos. (43 CFR 1801.0-5)

Visual resource management (VRM): The planning and implementation of management objectives for maintaining scenic values and visual quality on public lands. Visual resource management classes determine the amount of change that would be allowed to basic elements of the landscape. One of the two VRM classes is identified in this document. Class II. In Class II areas, changes in basic elements (form, line, color, texture) of the landscape can be evident but must remain subordinate to the existing landscape.

Wildfire: Any unwanted wildland fire

Wildland fire: Any nonstructure fire, other than prescribed fire, that occurs in the wildland.
Active preference: The currently authorized livestock grazing use on public lands in an allotment, measured in animal unit months (AUMs) of forage.

Actual use: The total grazing use estimated to have taken place, measured in animal unit months (AUMs) of forage annually.

Allotment: An area of land designated and managed for livestock grazing. An allotment may include intermingled private, state, public, and other federally administered lands that are administered for grazing. The number of livestock and period of use are stipulated for each allotment. An allotment may consist of several pastures or may be only one pasture.

Allotment categorization: The grouping of livestock allotments into the categories 'M' (maintain current condition), 'I' (improve current condition), or 'C' (manage custodially while protecting existing resource values). The criteria that determine the allotment categorization are described in Appendix G in the first draft document.

Animal unit month (AUM): The amount of forage needed to sustain one cow and calf pair, five sheep, or one horse for one month.

Authorized officer: Any employee of the Bureau of Land Management to whom has been delegated the authority to make the final, binding decision or take specific action or both, as an official representing the United States Government. Such authority has legal base in statute or regulation.

Avoidance area: An area designated to be avoided due to some resource value that may become damaged or detracted from if development activities were allowed. Examples of an avoidance area may be a recreation site or known cultural site. An area may also be an avoidance area if some hazard exists such as a landside area. The area may not be totally unavailable but should be avoided if possible.

Biological diversity: Biological diversity is the variety of life and its processes. Although vastly complex, it includes some measurable distinctions like genetic differences within and among species, species variations, associations of species with each other and their environment, and the patterns and linkages of these biological communities across geographical areas (Keystone Center 1991).

Inventory, monitoring, research, data management, and information sharing are needed for understanding the elements of biological diversity that exists in the Newcastle planning area.

There is a need to identify biologically diverse areas and conserve their richness of plant and animal species. The Federal Land Policy and Management Act mandates inventory of the public lands and the use of inventories in management. According to the Keystone Center, BLM's multiple-use management of public lands promotes biological diversity because, under this management, a variety of ecological stages of habitat are developed and maintained, each with its particular plant and animal communities. Also, the variety of landscapes and habitat types making up the public lands provides naturally for biological diversity.

The BLM policy requires that habitats be managed with emphasis on biological communities and natural systems to ensure self-sustaining populations and an abundance and diversity of wildlife, fish, and plant resources on the public lands, and that rare, vulnerable, and representative habitats, plant and animal communities, and natural systems be conserved. The Newcastle RMP EIS considered the effects of the alternatives on biological diversity by using the evaluation of habitat as a starting point.

Carrying capacity: The maximum number of animals that can be sustained on a given area without damaging vegetation or related resources. Carrying capacity of a given area may vary from year to year because of fluctuating forage production, which is primarily due to differing amounts of precipitation.

Category 2C species: A species of plant or animal showing evidence of survival vulnerability, in which the evidence of vulnerability is not sufficient to support listing of the plant or animal as threatened or endangered.

Conservation for future use: This category is reserved for any unusual cultural resource which, because of scarcity, a research potential that surpasses the current state of the art, singular historic importance, cultural importance, architectural interest, or comparable reasons, is not currently appropriate for consideration as the subject of scientific or historical study that would result in its physical alteration. A cultural property or location included in this category is considered worthy of segregation from all other land or resource uses that would threaten the maintenance of its present condition or setting. It will remain in this use category until specified provisions are met in the future.

Crucial winter range: Winter habitat on which a wildlife species depends for survival. Because of severe weather conditions or other limiting factors, no alternative habitat would be available.
GLOSSARY OF TERMS

Discharged use: Cultural sites may be assigned to this category when they were previously qualified for assignment to any of the other categories but no longer possess the qualifying characteristics for that use or for assignment to an alternative use. Sites may also be assigned to discharge use when the cultural property's scientific use potential was so slight that it was exhausted at the time the property was recorded and no alternative use is deemed appropriate.

Diversity: The relative abundance of wildlife species, plant species, plant communities, and habitats in an area. Ecosystem and ecosystem management: An ecosystem is an intricate group of organisms within their environmental communities, working as an ecological unit or natural system. Plants and animals, as well as interactions, are a part of this dynamic process of living and nonliving interaction. The BLM's mission is to efficiently manage these ecosystems.

Ecosystem management is a process that considers the entire environment. It requires the skillful use of ecological, economic, social, and managerial principles in managing ecosystems to produce, restore, or sustain ecosystem integrity and desired conditions, uses, products, values, and services over the long term. Management of individual components of ecological systems for immediate needs is tempered or expanded to responsible management centered on long term goals and objectives targeted to the entire ecological system. This type of ecosystem management, used in BLM's day to day management of the public lands and resources, includes recognition that people and their social and economic needs are an integral part of ecological systems—it is consistent with the BLM's mission and direction under the PLPMA and it is supported by other laws guiding the BLM's mission.

Effective ecosystem management will be incorporated into implementation of the Grass Creek RMP into specific implementation plans, and into daily management decisions.

Forage: All browse and herbaceous foods that are available to grazing animals.

Forb: A flowering plant whose above-ground stem does not become either grass or grasslike.

Full suppression: A strategy for extinguishing fires that requires immediate and continuous aggressiveness to attack in the most cost effective manner with the least amount of property damage or resources lost. Full suppression may include control containment, or confinement of a wildfire to meet land management objectives.

Functional-at-risk: Riparian wetland condition is functional, but soil, water, and/or vegetation make the area susceptible to degradation.

Crazing preference: The total number of animal units (AUMs) of livestock grazing on public lands apportioned and attached to base property owned or controlled by a permittee or lessee.

Limited suppression: A fire strategy used when full control of a fire is extremely difficult or when resource values do not warrant the expense associated with full suppression.

Management use: This category is applied to any cultural property considered most useful for controlled experimental study that would result in its physical alteration, to be conducted by the BLM or other entities concerned with the management of cultural properties.

Monitoring: The orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting resource management objectives.

Nonmotorized mechanical transport: Any device for moving people or material in or over land, water, snow, or air that has moving parts, and that is powered by a living or nonliving power source. This includes, but is not limited to, sailing, rafting, canoes, kayaks, sailboards, bicycles, game carri ers, carts, and wagons. The term does not include wheelchairs when used as necessary medical apparatus. It does not include skis, snowshoes, nonmotorized river craft, sleds, travois, or similar primitive devices without moving parts.

No surface occurrence (NSO): The term 'no surface occurrence' is used in two ways. It is used in one way to define a no surface occurrence area where any surface disturbing activities of any nature or for any purpose would be allowed. For example, construction or the permanent or long-term placement of structures or other facilities for any purpose would be prohibited in an NSO area.

The other way the 'no surface occurrence' term is used is as a stipulation or mitigation requirement for controlling or prohibiting selected land uses or activities that would conflict with other activities, uses, or values in a given area. When used in this way, the NSO stipulation or mitigation requirement applies to prohibited one or more specific types of land and resource development activities or surface uses in an area, while other—perhaps similar—types of activities or uses (for other purposes) would be allowed. For example, protecting invertebrate and vertebrate ecological communities from destruction may require closing the area to the staking of mining claims and surface mining, off-road vehicle travel, construction or long-term placement of structures or pipelines, power lines, general purpose roads, and livestock grazing. Conversely, the construction of fences to protect rock art from vandalism or from trampling or breakage by livestock, an access road or trail, and other visitor facilities to provide interpretation and opportunity for public enjoyment of the rock art would be allowed. Further, if there were interest in development of the leasable minerals in the area, leases for oil and gas, coal, and so forth, could be issued with a "no surface occurrence" stipulation or mitigation required with full suppression.

Glossary of Terms

Open. Vehicle travel is permitted in the area (both on and off roads) if the vehicle is operated rationally in a manner not causing, or unlikely to cause, significant undue damage to or disturbance of the soil, wildlife, wildlife habitat, improvements, cultural, or vegetative resources or other authorized uses of the public lands.

Limited. a. Vehicle travel is permitted only on existing roads and vehicles routes which were in existence prior to the date of designation in the Federal Register. Vehicle travel off of existing vehicle routes is permitted only on areas specifically identified as vehicle routes and only if such travel does not result in resource damage. Random travel from existing vehicle routes is not allowed. Creation of new routes or extensions and widening of existing routes is not allowed without prior written agency approval.

b. Vehicle travel is permitted only on roads and vehicle routes designated by BLM. In areas where final designation has not been completed, vehicle travel is limited to existing roads and vehicle routes as described above. Designations are posted as follows:

1. Vehicle route is open to vehicular travel.
2. Vehicle route is closed to vehicular travel.
3. Vehicle route is limited by number or type of vehicle. Designations are posted as follows:
   a. Vehicle route is limited to four-wheel drive vehicles only.
   b. Vehicle route is limited to motorbikes only.
   c. Area is closed to the snow vehicles.
   d. Vehicle travel is limited to licensed or permitted use.
   e. Vehicle travel is limited to time or season of use. Posted: Seasonal closure to all motor vehicles (the approximately dates of closure are indicated).
   f. Where specialized restrictions are necessary to manage resource management objectives, other limitations also may be developed.

Closed. Vehicle travel is prohibited in the area. Access by means other than motorized vehicle is permitted.
Glossary of Terms

Potential natural community: The community that would become established if all successional sequences were completed without interference by man under the present environmental conditions. The term is synonymous with climax community.

Prescribed fire: The skillful application of fire (by planned or unplanned ignition) to wildland fuels in either their natural or modified state under specified conditions to allow the fuels to burn in a predeter-

Prevention of significant deterioration (PSD): The process incorporated in the Clean Air Act which places emission limitations on specified new or modified sources. PSD regulations are intended to limit emissions of air pollutants that are currently cleaner than national ambient air quality standards.

Proper functioning condition: Riparian wetland ar-

Public land: Any land or interest in lands owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Manage-

Public use: This category is applied to any cultural property found to be appropriate for consideration as an interpretive exhibit in place, a subject of supervised participation in scientific or historical study, or related educational or recreational uses by members of the general public.

Range condition: The existing state of range vegeta-

Range improvement: Any activity or program on or relating to rangelands designed to improve produc-

Range site: A distinctive kind of rangeland in its ability to produce a characteristic natural plant community. A range site is capable of supporting a plant community that differs from other communities in the kinds of per-

Recommended stocking level: The level of livestock use measured in animal unit months (AUMs) recom-

Recreation opportunity spectrum (ROS): A contin-

Rest-rotation: A prescribed pattern of grazing use that provides sequential rest for various parts of the range unit for at least one year.

Riparian habitat: Common usage refers to the green zones along the banks of streams and ponds and such wetlands as springs or wet meadows. Other usage defines it as any area characterized by vegeta-

Roaded natural: One of the six classes of the recrea-

Seral stage: The present state of vegetation of a range site in relation to the potential natural community for the site. Vegetation status is the expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble those of the potential natural community. The classes are potential natural community, late seral, mid-seral, and early seral.

Socio-cultural use: This category is applied to any cultural resource that is perceived by a specified social and/or cultural group as having attributes that contribute to maintaining the heritage or existence of that group.

Surface disturbance (or surface-disturbance activ-

Trend: The direction of change in the condition of health of the range, usually gauged in relation to its natural potential and determined by observation over a period of time.

Utilization: The percentage of forage that has been consumed or destroyed by during a specific period.

Potential natural community—more than 75% of the vegetation is in a climax state: late seral—51% to 75% of the vegeta-

Range improvement: Any activity or program on or relating to rangelands designed to improve produc-

Range site: A distinctive kind of rangeland in its ability to produce a characteristic natural plant community. A range site is capable of supporting a plant community that differs from other communities in the kinds of per-

Recommended stocking level: The level of livestock use measured in animal unit months (AUMs) recom-

Recreation opportunity spectrum (ROS): A contin-

Rest-rotation: A prescribed pattern of grazing use that provides sequential rest for various parts of the range unit for at least one year.

Riparian habitat: Common usage refers to the green zones along the banks of streams and ponds and such wetlands as springs or wet meadows. Other usage defines it as any area characterized by vegeta-

Roaded natural: One of the six classes of the recrea-

Seral stage: The present state of vegetation of a range site in relation to the potential natural community for the site. Vegetation status is the expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble those of the potential natural community. The classes are potential natural community, late seral, mid-seral, and early seral.

Socio-cultural use: This category is applied to any cultural resource that is perceived by a specified social and/or cultural group as having attributes that contribute to maintaining the heritage or existence of that group.

Surface disturbance (or surface-disturbance activ-

Trend: The direction of change in the condition of health of the range, usually gauged in relation to its natural potential and determined by observation over a period of time.

Utilization: The percentage of forage that has been consumed or destroyed by during a specific period.
Wetland: Defined by the U.S. Fish and Wildlife Service as "areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Thus, the objective is to provide for management activities which support a prevalence of vegetation typically adapted for life in saturated soil conditions. Following are the five classes: VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man.

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape.

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape.

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape.

VRM Class V: This class applies to areas where the natural character has been drastically altered, and the area requires rehabilitation to upgrade it to one of the above classifications.

GLOSSARY OF TERMS

**Wetland**: Defined by the U.S. Fish and Wildlife Service as "areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Thus, the objective is to provide for management activities which support a prevalence of vegetation typically adapted for life in saturated soil conditions. Following are the five classes: VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man.

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape.

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape.

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape.

VRM Class V: This class applies to areas where the natural character has been drastically altered, and the area requires rehabilitation to upgrade it to one of the above classifications.

**Wetland**: Defined by the U.S. Fish and Wildlife Service as "areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Thus, the objective is to provide for management activities which support a prevalence of vegetation typically adapted for life in saturated soil conditions. Following are the five classes: VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man.

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape.

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape.

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape.

VRM Class V: This class applies to areas where the natural character has been drastically altered, and the area requires rehabilitation to upgrade it to one of the above classifications.

**Wetland**: Defined by the U.S. Fish and Wildlife Service as "areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Thus, the objective is to provide for management activities which support a prevalence of vegetation typically adapted for life in saturated soil conditions. Following are the five classes: VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man.

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape.

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape.

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape.

VRM Class V: This class applies to areas where the natural character has been drastically altered, and the area requires rehabilitation to upgrade it to one of the above classifications.

**Wetland**: Defined by the U.S. Fish and Wildlife Service as "areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Thus, the objective is to provide for management activities which support a prevalence of vegetation typically adapted for life in saturated soil conditions. Following are the five classes: VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man.

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape.

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape.

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape.

VRM Class V: This class applies to areas where the natural character has been drastically altered, and the area requires rehabilitation to upgrade it to one of the above classifications.

**Wetland**: Defined by the U.S. Fish and Wildlife Service as "areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Thus, the objective is to provide for management activities which support a prevalence of vegetation typically adapted for life in saturated soil conditions. Following are the five classes: VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man.

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape.

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape.

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape.

VRM Class V: This class applies to areas where the natural character has been drastically altered, and the area requires rehabilitation to upgrade it to one of the above classifications.

**Wetland**: Defined by the U.S. Fish and Wildlife Service as "areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Thus, the objective is to provide for management activities which support a prevalence of vegetation typically adapted for life in saturated soil conditions. Following are the five classes: VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man.

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape.

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape.

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape.

VRM Class V: This class applies to areas where the natural character has been drastically altered, and the area requires rehabilitation to upgrade it to one of the above classifications.

**Wetland**: Defined by the U.S. Fish and Wildlife Service as "areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Thus, the objective is to provide for management activities which support a prevalence of vegetation typically adapted for life in saturated soil conditions. Following are the five classes: VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man.

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape.

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape.

VRM Class IV: This class applies to areas where the objective is to provide for management activities which require major modification of the existing character of the landscape.

VRM Class V: This class applies to areas where the natural character has been drastically altered, and the area requires rehabilitation to upgrade it to one of the above classifications.

**Wetland**: Defined by the U.S. Fish and Wildlife Service as "areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Thus, the objective is to provide for management activities which support a prevalence of vegetation typically adapted for life in saturated soil conditions. Following are the five classes: VRM Class I: This class applies to areas where the objective is to maintain a landscape setting that appears unaltered by man.

VRM Class II: This class applies to areas where the objective is to design proposed alterations so as to retain the existing character of the landscape.

VRM Class III: This class applies to areas where the objective is to design proposed alterations so as to partially retain the existing character of the landscape.
Map 3-10
Generalized Landslide Areas in Crook County


Map 3-11
Generalized Landslide Areas in Niobrara County

Map 3-12
Generalized Landslide Areas in Weston County

Map 3-13
Areas with Selenium

Active and Inactive Landslide Areas

Selenium
Source: Cannia (1988)
Blowing and Drifting Sand
Source: Case and Boyde. 1987.

Map 3-14
Windblown Sand Areas
Hunt Trail-1811
Texas Trail-1868 - 1897
Custer Expedition Trail-1874
Cheyenne - Black Hills Stage Road-1876 - 1877
Black Hills Wagon Road-1877 - 1887

Prospect Area

The above areas pertain only to surface acres administered by the Bureau of Land Management.

Map 3-1
Areas of Natural or Historic Interest
Newcastle Field Office

BEST COPY AVAILABLE
Map 3-6
Metallic Mineral Areas
Newcastle Field Office
Map 3-6
Generalized Geologic Hazards
Newcastle Field Office

Potential landslide area
Potential hydrogen sulfide area


BEST COPY AVAILABLE
Public lands containing one or more classifications or withdrawals

Map 3-15
Existing Classifications and Withdrawals
Newcastle Field Office

Scale in miles
Map 3-16
Deer Hunt Areas
Newcastle Field Office
BEST COPY AVAILABLE
The above areas pertain only to surface acres administered by the Bureau of Land Management.
The above areas pertain only to surface acres administered by the Bureau of Land Management.

Map 3-20
Visual Resource Management
Newcastle Field Office

BEST COPY AVAILABLE
Map 3-23
Deer Herd Unit Area Boundaries
Newcastle Field Office
Land administered by the Bureau of Land Management

Land administered by the Forest Service (National Forest)

Land administered by the Forest Service (National Grasslands)

Land administered by the Forest Service (Land Use Land)

Land administered by the Park Service (National Monument)

Land administered by the Corps of Engineers (Military Reservation)

Land administered by the Bureau of Reclamation

State Land

Private Land

Scale in miles

Surface Ownership
Newcastle Resource Area