



## **ALTERNATIVE FORMULATION OVERVIEW**

Both the National Environmental Policy Act (NEPA) regulations and the BLM resource management planning regulations require the formulation of alternatives. Each alternative represents a complete and reasonable plan to guide future management of public land and resources. One alternative must represent no action. This means a continuation of present levels or systems of resource use. The other alternatives are to provide a range of choices from those favoring resource protection to those favoring resource production.

The basic goal in formulating RMP alternatives is to identify various combinations of public land uses and resource management practices that respond to the planning issues. Alternatives for the resolution of most planning issues, including, for example, oil and gas leasing on the Rocky Mountain Front, were formulated by placing varying degrees of emphasis on resource protection (e.g. threatened and endangered species habitat) or resource production (e.g. minimizing restrictions on oil and gas leasing and development).

Alternatives for the resolution of the land ownership adjustment issue do not lend themselves to protection or production emphases, but instead were formulated by applying the interdisciplinary criteria for land retention and disposal as identified in the Draft State Director Guidance for Resource Management Planning. These criteria were derived from applicable laws, regulations, and BLM policy statements. In this case, two alternatives

were formulated, no action (i.e. no criteria were applied) and the proposed action.

In summary, issues dictated the way in which alternatives were formulated. Lands, resources, and programs administered by the BLM are proposed for changes in management based on the preferred means of resolving all issues. Those lands, resources, and programs not affected by the resolution of any issue will be managed in the future essentially as they are at present. Future changes will be permitted based on case-by-case analyses and in accordance with applicable laws, regulations, and policies.

## **ALTERNATIVES ELIMINATED FROM DETAILED STUDY**

The following alternatives were considered as possible methods of resolving specific issues in the Headwaters Resource Area, but were eliminated from detailed study due to technical, legal, and/or other constraints.

### **No Grazing**

The elimination of livestock grazing from all public land in the resource area was considered as a possible method of resolving the grazing allotment and riparian habitat management issue. Based on interdisciplinary discussions during the criteria development step of the planning process, the no grazing alternative was eliminated from detailed study for the following reasons:

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1. Resource conditions, including range vegetation, watershed, and wildlife habitat, do not warrant a resource areawide prohibition of livestock grazing.
2. Public comments received during the issue identification and criteria development steps indicate a general acceptance of livestock grazing on public land, provided that such grazing is properly managed.
3. The highly fragmented pattern of public land ownership in the resource area would necessitate extensive fence construction, at public expense, if livestock are to be effectively excluded from public land. Such fencing would not only be prohibitively costly, but also would be likely to disrupt established patterns of wildlife movement, and could also affect public access.

In summary, implementation of a no grazing alternative is not considered to be feasible or necessary except in specific, localized situations where livestock use is incompatible with other important management objectives. Such situations have been identified in the plan under the discussion of unleased tracts (Chapter 2) and in Appendix E.

### **Partial Wilderness Designation for Individual Areas Being Studied for Wilderness**

This alternative was considered for each area. However, because of their size, configuration, topographic layout, and resource characteristics, none of the areas were found to have logical partial wilderness alternatives.

### **Sequential Oil and Gas Leasing and Development in the Rocky Mountain Front**

This alternative was considered as a possible means of permitting relatively unrestricted oil and gas exploration and development in the Rocky Mountain Front, while retaining adequate habitat for the protection of threatened and endangered and other important species of wildlife. Under this alternative, the Rocky Mountain Front would have been divided into four oil and gas leasing zones, with leasing and development occurring in alternating zones. For example, during the period 1985 to 1995, leasing and development would occur with minimal restrictions in zones one and three, while zones two and four would be considered unavailable for leasing. During the period 1995 to 2005, the zones would be reversed. This alternative was eliminated from detailed study because

the intermingled private, state, and federal subsurface ownership in each zone does not permit the establishment of secure lease denial areas. In addition, the delineation of such zones in the absence of adequate geologic data is likely to result in severe technical problems affecting oil and gas exploration and reservoir drainage.

### **ACEC Designations in the Rocky Mountain Front**

This alternative was considered for public land in the vicinity of Blind Horse Creek, Ear Mountain, Chute Mountain, and Deep Creek/Battle Creek. All these areas appear to meet the criteria of relevance and importance established for the identification of potential Areas of Critical Environmental Concern.

However, the particular resources of primary concern along the Rocky Mountain Front, i.e. scenic values, wildlife habitat, unique geologic features, primitive recreation opportunities, and natural ecosystems, are considered to be of national significance. Therefore, the special designation of Outstanding Natural Area, which requires the Director's approval, was chosen as more appropriate for consideration in a special designation alternative. Management would be similar under either designation.

### **Jurisdictional Land Transfers to the Forest Service**

This alternative was considered for BLM-administered land contiguous to national forests. It was eliminated from detailed study in this RMP because it would unnecessarily duplicate other jurisdictional transfer studies currently being conducted by both agencies.

### **Maximum Unconstrained Alternatives**

No alternatives that proposed maximum resource areawide production or protection of one resource at the expense of other resources were considered because this would violate the BLM's legal mandate to manage public land on a multiple use, sustained yield basis.

## **DELINEATION OF MANAGEMENT UNITS**

The Headwaters Resource Area has been divided into thirty-five management units. These man-

agement units are displayed on the Management Units map in the back pocket. Each management unit is described in Appendix A.

Management unit boundaries separate areas which, because of different issues, resource values, and/or management opportunities or constraints, require different management guidance. The boundaries are not absolutely fixed, and may be adjusted in the future on the basis of additional information gained during the formulation of activity plans.

Each management unit has one set of management guidelines for each alternative, although for most units, some management guidelines may be identical for two or more alternatives. Management unit guidelines, along with the resource areawide guidance common to all alternatives, define what the total management direction is and how it will be implemented.

In some cases the preferred management guidelines for wilderness study areas that are not recommended for wilderness are inconsistent with the Interim Management Policy for WSAs. The implementation of those guidelines will be deferred until Congress takes action on the wilderness suitability recommendations.

## **MANAGEMENT GUIDANCE COMMON TO ALL ALTERNATIVES**

The following management guidance is applicable to, and thus constitutes a part of, all alternatives considered in detail. It is presented here to avoid repetition.

### **Soil, Water, and Air Program**

#### **General**

Soil, water, and air resources will continue to be evaluated on a case-by-case basis as a part of project level planning. Such an evaluation will consider the significance of the proposed project and the sensitivity of soil, water, and air resources in the affected area. Stipulations will be attached as appropriate to ensure compatibility of projects with soil, water, and air resource management. Appendix C shows an example of general Best Management Practices (BMPs) adopted for forestry activities.

#### **Soils**

Soils will be managed to maintain productivity and to minimize erosion.

#### **Water**

Water quality will be maintained or improved in accordance with State and Federal standards, including consultation with State agencies on proposed projects that may significantly affect water quality. Management actions on public land within municipal watersheds will be designed to protect water quality and quantity.

Management activities in riparian zones will be designed to maintain or, where possible, improve riparian habitat condition.

Roads and utility corridors will avoid riparian zones to the extent practicable.

### **Energy and Minerals Program**

Oil and gas leasing in the Sun River Game Range on the Rocky Mountain Front will continue to be denied, in accordance with the Secretary's classification agreement of January 29, 1964, which closed the 10,952 acres of federal minerals within the Sun River Game Range to oil and gas leasing. The agreement is based on a finding by the Bureau of Land Management, the Fish and Wildlife Service, and the MDFW&P that oil and gas leasing is not compatible with the purposes for which the Sun River Game Range was originally withdrawn.

#### **Oil and Gas Leasing Outside of the Rocky Mountain Front**

As a general rule, public land outside of the Rocky Mountain Front is available for oil and gas leasing. In many areas, oil and gas leases will be issued with only standard stipulations attached. In other areas, leases will have special stipulations attached to them at the time of issuance to protect seasonal wildlife habitat and/or other sensitive resource values. In highly sensitive areas, where special stipulations are not sufficient to protect important surface resource values, no surface occupancy stipulations will be attached to the lease. The general areas where standard, special, and no surface occupancy stipulations will be applied are shown on the Management Units map. However, site-specific decisions regarding lease issuance and the attachment of appropriate stipulations will continue to be based on application of the Butte District Oil and Gas Leasing Checklist, and the leasing guidelines contained in the Butte District Oil and Gas Leasing Environmental Assessment. Standard and special stipulations

and the Butte District Oil and Gas Leasing checklist are included in Appendix B.

### **Geothermal Leasing**

Lease applications will continue to be processed as received. Stipulations will be attached based on interdisciplinary review of each proposal.

### **Locatable Minerals Outside of the Scratchgravel Hills**

All public land is open to mineral entry and development unless previously withdrawn. Mineral exploration and development on public land will be regulated under 43 CFR 3800 to prevent unnecessary and undue degradation of the land. Validity examinations may be requested under the following conditions:

where a mineral patent application has been filed and a field examination is required to verify the validity of the claim(s);

where there is a conflict with a disposal application, and it is deemed in the public interest to do so, or where the statute authorizing the disposal requires clearance of any encumbrance;

where the land is needed for a federal program; or

where a mining claim is located under the guise of the mining law and flagrant unauthorized use of the land or mineral resource is occurring.

Public land will be opened to mineral entry where mineral withdrawals are revoked through the withdrawal review process.

### **Common Variety Mineral Materials**

Applications for the removal of common variety mineral materials, including sand and gravel, will continue to be processed on a case-by-case basis. Stipulations to protect important surface values will be attached based on interdisciplinary review of each proposal.

## **Lands Program**

### **Land Ownership Adjustments**

Draft State Director Guidance for Resource Management Planning in Montana and the Dakotas, published in January 1983, provides criteria for use in categorizing public land for retention or disposal, and for identifying acquisition priorities. Site-specific decisions regarding land ownership adjustments in the resource area will be made based largely on consideration of the following criteria which are derived from State Director Guidance.

This list is not considered all-inclusive, but represents the major factors to be evaluated. These criteria may be modified in the future to assure consistency with final State Director Guidance. The criteria to be used include:

public resource values, including but not limited to:

T&E and sensitive species habitat,  
riparian areas,  
fisheries,  
nesting/breeding habitat for game animals,  
key big game seasonal habitat,  
developed recreation and recreation access sites,  
class A scenery,  
municipal watersheds,  
energy and mineral potential,  
sites eligible for inclusion on the National Register of Historic Places,  
wilderness and areas being studied for wilderness, and  
other statutorily-authorized designations,

accessibility of the land for public uses;

amount of public investments in facilities or improvements and the potential for recovering those investments;

difficulty or cost of administration (manageability);

suitability of the land for management by another federal agency;

significance of the decision in stabilizing business, social and economic conditions, and/or lifestyles;

encumbrances, including but not limited to:  
R&PP and small tract leases,  
withdrawals, or  
other leases or permits

consistency of the decision with cooperative agreements and plans or policies of other agencies; and

suitability and need for change in land ownership or use for purposes including but not limited to: community expansion or economic development, such as industrial, residential, or agricultural (other than grazing) development.

The land ownership adjustment criteria identified above will be considered in land reports and environmental analyses prepared for specific adjustment proposals.

Public land within retention areas (see the Management Units map and Appendix A) generally will remain in public ownership and be managed by the BLM. Transfers to other public agencies will be

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*determined tract-by-tract using criteria established by the State Director (see Appendix T).*

considered where improved management efficiency would result. Minor adjustments involving sales or exchanges or both may be permitted based on site-specific application of the land ownership adjustment criteria.

Public land within disposal areas generally will be made available for disposal through sales or exchanges or both. Some land may be retained in public ownership based on site-specific application of the land ownership adjustment criteria.

Public land within further study areas has not been prioritized for retention or disposal. Site-specific adjustment decisions will be based on application of the land ownership adjustment criteria.

Land to be acquired by the BLM through exchanges generally must be located in retention areas. In addition, acquisition of such land should:

facilitate access to public land and resources, maintain or enhance important public values and uses,

maintain or enhance local social and economic values, or

facilitate implementation of other aspects of the Headwaters RMP.

Public land to be sold must meet the disposal criteria identified in State Director Guidance and the following criteria derived from the Federal Land Policy and Management Act:

such land must be difficult and uneconomic to manage as part of the public lands, and must not be suitable for management by another federal department or agency;

such land must have been acquired for a specific purpose and must no longer be required for that or any other federal purpose; or

disposal of such land will serve important public objectives that can only be achieved prudently or feasibly if the land is removed from public ownership, and if these objectives outweigh other public objectives and values that would be served by maintaining such land in federal ownership.

Sale will be ~~the preferred~~ <sup>used as</sup> method of disposal when:

it is required by national policy;

it is required to achieve disposal objectives on a timely basis, and where disposal through exchange would cause unacceptable delays;

the level of interest in a specific tract indicates that competitive bidding is desirable for reasons of fairness; or

disposal through exchange is not feasible.

The preferred method of selling public land will be ~~by competitive bidding at public auction to qualifying purchasers. However, modified competitive bidding procedures may be used when there is not legal public access to a tract, when necessary to avoid jeopardizing an existing use on adjacent land, or to avoid dislocation of existing public land users.~~

Public land may be sold by direct sale at fair market value when:

such land is needed by state or local governments;

direct sale is needed to protect equities arising from authorized use;

direct sale is needed to protect equities resulting from inadvertent, unauthorized use that was caused by surveying errors or title defects; or

there is only one adjacent land owner and no legal public access.

### Trespass Abatement

Existing unauthorized uses of public land will be resolved either through termination, authorization by lease or permit, or sale. Decisions will be based on consideration of the following criteria:

the type and significance of improvements involved;

conflicts with other resource values and uses, including potential values and uses; and

whether the unauthorized use is intentional or unintentional.

New cases of unauthorized use generally will be terminated immediately. Temporary permits may be issued to provide short-term authorization, unless the situation warrants immediate cessation of the use and restoration of the land. Highest priority will be given to abatement of the following unauthorized uses:

new unauthorized activities or uses where prompt action can minimize damage to public resources and associated costs;

cases where delay may be detrimental to authorized users;

cases involving special areas, sensitive ecosystems, and resources of national significance; and

cases involving malicious or criminal activities.

### Withdrawal Review

Review of other agency withdrawals will be completed by 1991. These withdrawals will be continued, modified, or revoked. Upon revocation or

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modification, part or all of the withdrawn land will revert to BLM management. Current BLM policy is to minimize the acreage of public land withdrawn from mining and mineral leasing, and, where applicable, to replace existing withdrawals with rights-of-way, leases, permits, or cooperative agreements.

### **Utility and Transportation Corridors**

Public land within identified exclusion areas will not be available for utility and transportation corridor development.

Public land along the Rocky Mountain Front will continue to be managed as an avoidance area. Public land within avoidance areas generally will not be available for utility and transportation corridor development. Exceptions may be permitted based on consideration of the following criteria:

- type of and need for facility proposed;
- conflicts with other resource values and uses, including potential values and uses; and
- availability of alternatives and/or mitigation measures.

Public land within identified windows is available for utility and transportation corridor development. All other public land generally is available for utility and transportation corridor development. Exceptions will be based on consideration of the criteria identified above. Applicants will be encouraged to locate new facilities within existing corridors to the extent possible.

### **Recreation Program**

#### **General**

A broad range of outdoor recreation opportunities will continue to be provided for all segments of the public, commensurate with demand. Trails and other means of public access will continue to be maintained and developed where necessary to enhance recreation opportunities and allow public use. Developed recreation facilities receiving the heaviest use will receive first priority for operation and maintenance funds. Sites that cannot be maintained to acceptable health and safety standards will be closed until deficiencies are corrected. Investment of public funds for new recreation developments will be permitted only on land identified for retention in public ownership.

Recreation resources will continue to be evaluated on a case-by-case basis as a part of project level planning. Such evaluation will consider the significance of the proposed project and the sensitivity of recreation resources in the affected area. Stipulations will be attached as appropriate to

assure compatibility of projects with recreation management objectives.

### **Travel Planning and Motorized Vehicle Use**

Travel planning, including the designation of areas open, restricted, and closed to motorized vehicle access, will remain a high priority for public land in the following areas: the Rocky Mountain Front; the Jefferson, Missouri, and Smith river corridors; the Holter Lake area; Sleeping Giant; Marysville; the Spokane Hills; the Elkhorns; Black Sage; the Toston/Lombard area; and other seasonally important wildlife use areas. Public land within areas identified as open to motorized vehicle use generally will remain available for such use without restrictions. Exceptions to this general rule may be authorized after consideration of the following criteria:

- the need to promote user enjoyment and minimize use conflicts;
- the need to minimize damage to soil, watershed, vegetation, or other resource values;
- the need to minimize harassment of wildlife or significant degradation of wildlife habitats; and
- the need to promote user safety.

Public land within areas identified as restricted to motorized vehicle use generally will receive priority attention during travel planning. Specific roads, trails, or portions of such areas may be closed seasonally or yearlong to all or specified types of motorized vehicle use.

Public land within areas identified as closed to motorized vehicle use will be closed yearlong to all forms of motorized vehicle use. Exceptions may be allowed in Wilderness Study Areas based on application of the Interim Management Policy.

Restrictions and closures will be established for specific roads, trails, or areas only where problems have been identified. Areas not designated as restricted or closed will remain open for motorized vehicle use.

### **Organized Motorcycle Events**

The Montana City use area will remain available for organized motorcycle events. Public land along the RMF and the Jefferson, Missouri, and Smith rivers, and within the Beartooth Game Range, the Holter Lake/Sleeping Giant area, the Elkhorns, and the Toston/Lombard area will not be available for organized events. Applications for events on public land within areas identified as available for further consideration will be evaluated on a case-by-case basis. The criteria for travel planning and motorized vehicle use (listed above) will be used in this evaluation.

**Visual Resources**

Visual resources will continue to be evaluated as a part of activity and project planning. Such evaluation will consider the significance of the proposed project and the visual sensitivity of the affected area. Stipulations will be attached as appropriate to assure compatibility of projects with management objectives for visual resources.

**Cultural Resources**

Cultural resources will continue to be inventoried and evaluated as part of project level planning. Such evaluation will consider the significance of the proposed project and the sensitivity of cultural resources in the affected area. Stipulations will be attached as appropriate to assure compatibility of projects with management objectives for cultural resources.

The objective of the BLM Cultural Resource program is to manage culture resources in a stewardship role for public benefit. The Department of the Interior has issued instructions setting forth this management structure through a use evaluation system. The purposes of the system are to analyze the scientific and sociocultural values of cultural resources, to provide a basis for allocation of cultural resources, to make cultural resources an important part of the planning system, and to identify information needed when existing documentation is inadequate to support a reasonable cultural resource-based land use allocation.

The evaluation of cultural resources requires the consideration of actual or potential use of individual sites or properties within the following categories:

1. **Sociocultural Use.** This category refers to the use of an object (including flora and fauna), structure, or place based on a social or cultural group's perception that the item has utility in maintaining the group's heritage or existence.
2. **Current Scientific Use.** This category refers to a study or project in progress at the time of evaluation for which scientists or historians are using a cultural resource as a source of information that will contribute to the understanding of human behavior.
3. **Management Use.** This category refers to the use of a cultural resource by the BLM, or other entities interested in the management of cultural resources, to obtain specific information that is needed for the reasonable allocation of cultural resources or for the development of effective preservation measures.

4. **Conservation for Future Use.** This category refers to the management of cultural resources by segregating them from other forms of appropriation until specific conditions are met in the future. Such conditions may include the development of research techniques that are presently not available or the exhaustion of all other resources similar to those represented in the protected sample. The category is intended to provide long-term, onsite preservation and protection of select cultural resources.

5. **Potential Scientific Use.** This category refers to the potential use (utilizing research techniques currently available) of a cultural resource as a source of information that will contribute to the understanding of human behavior.

**Wilderness Resources**

Wilderness Study Areas will continue to be managed in compliance with the Interim Management Policy until they are reviewed and acted upon by Congress. Other areas being studied for wilderness will be managed to prevent unnecessary and undue degradation of the land, and, when it does not conflict with valid existing rights, they will be managed to meet the nonimpairment standard as well.

Public land within areas added by Congress to the National Wilderness Preservation System will be managed in compliance with the Wilderness Management Policy. Site-specific wilderness management plans will be developed for such areas.

Areas reviewed by Congress but not added to the National Wilderness Preservation System will be managed in accordance with other applicable guidance provided by this Resource Management Plan.

**Forestry Program****General**

Public land within high priority forest management areas will be available for a full range of forest management activities. Major forest activity plans (also known as compartment management plans, or CMPs) generally will be required prior to initiating forest management activities in such areas. Exceptions will be allowed for small sawlog, or commercial thinning sales. Exceptions will also be allowed for post and pole sales sold on a public demand basis, and for emergency salvage sales of insect, weather, or fire killed timber of less than 250,000 board feet. These sales will be covered by an environmental assessment and a checklist of contract stipulations that conform with the guide-



lines developed in the Dillon Sustained Yield Unit EA.

Public land within low priority forest management areas will also be available for a full range of forest management activities. However, forest activity plans will be abbreviated to fit the intensity of management.

Public land within set aside areas will not be available for the harvest of forest products.

Firewood gathering by individuals for home use will be permitted on most accessible forestland that is available for the harvest of forest products. Permits will cost \$10 each and are good for a maximum of ten cords. Occasional free use may be authorized to clean up specific concentrations of debris.

### **Silvicultural Guidelines and Harvesting Techniques**

Roads will be constructed to the minimum standards necessary to remove the timber, unless the roads will be needed for other public purposes requiring a higher standard.

Silvicultural prescriptions will be consistent with accepted methods related to site, species, habitat types, and the individual requirements of the forest stand. Tractor logging generally will be limited to slopes with average gradients of less than 50%, and the season of logging will be limited to avoid soil compaction and rutting.

Road locations will be determined on the basis of topography, drainage, soils, and other natural features to minimize erosion. Skid roads will be rehabilitated by seeding and/or scarification. Spurroads will be left in a condition that will minimize erosion and encourage stabilization.

Slash disposal will be done in a manner conducive to revegetation and advantageous to the passage of big game. Slash will be burned when necessary and such burning will be in conformance with state air pollution regulations. Logging methods in riparian areas will be designed to minimize the amount of sediment-laden overland flow that reaches stream channels.

Logging units will be laid out in a manner that will mitigate the risk of windthrow, and the selection of trees in shelterwoods will be made in a manner that will improve the genetic composition of the regenerated stand. Disturbed areas will be artificially revegetated when natural forest regeneration cannot be reasonably expected in five to fifteen years.

Guidelines from the *Montana Cooperative Elk Logging Study* (USDA, FS 1982) will be utilized where applicable in the formulation of forest activ-

ity plans. In concert with the timber management program, a snag management program will be implemented to enhance habitat for cavity-nesting birds.

These are all general guidelines. More detailed discussions of measures that can be applied are found in the environmental assessments for the Dillon and Missoula Sustained Yield Units.

## **Range Program**

### **Allotment Categorization**

All grazing allotments in the resource area have been assigned to one of three management categories based on present resource conditions and the potential for improvement (see Appendix D). The M allotments generally will be managed to maintain current satisfactory resource conditions; I allotments generally will be managed to improve resource conditions; and C allotments will receive custodial management to prevent resource deterioration.

### **Allotment-Specific Objectives for the Improvement Category**

Multiple-use management objectives have been developed for each allotment in the I category (see Appendix E). Future management actions, including approval of allotment management plans, will be tailored to meet these objectives. However, the priorities assigned to achieving objectives for wildlife habitat, watershed, vegetation condition, and livestock forage production differ between alternatives.

### **Implementing Changes in Allotment Management**

Activity plans are commonly used to present, in detail, the types of changes required in an allotment, and to establish a schedule for implementation. Actions set forth under the plan that affect the environment will be analyzed and compared to alternative actions. During the analysis, the proposal may be altered or completely revamped to mitigate adverse impacts. The following sections contain discussions of the types of changes likely to be recommended in an activity plan and the guidance that applies to these administrative actions.

**Livestock Use Adjustments.** Livestock use adjustments are most often made by changing one or more of the following: the kind or class of livestock grazing an allotment, the season of use, the stocking rate, or the pattern of grazing. For each of the four alternatives presented in this RMP, target stocking rates have been set for each allotment in the Improve category (refer to



Appendix N). Appendix N also notes where adjustments in the season of use and the class or kind of livestock may be needed. While most livestock use adjustments will occur in the I allotments, use adjustments are permitted for allotments in categories C and M.

In reviewing the target stocking rate figures and other recommended changes, it is emphasized that the target AUM figures are not final stocking rates. Rather, all livestock use adjustments will be implemented through documented mutual agreement or by decision. When adjustments are made through mutual agreement, they may be implemented once the Rangeland Program Summary has been through a public review period. When livestock use adjustments are implemented by decision, the decision will be based on operator consultation, range survey data, and monitoring of resource conditions. Current BLM policy emphasizes the use of a systematic monitoring program to verify the need for livestock adjustments proposed on the basis of one-time inventory data.

Monitoring will also be used to measure the changes brought about by new livestock management practices and to evaluate the effectiveness of management changes in meeting stated objectives.

Instruction Memorandums WO-82-292, WO-82-650, and MT-82-89 discuss the applications of rangeland monitoring in more detail.

The federal regulations that govern changes in allocation of livestock forage provide specific direction for livestock use adjustments implemented by decision (43 CFR 4110.3-1 and 43 CFR 4110.3-2). The regulations specify that permanent increases in livestock forage "shall be implemented over a period not to exceed five years. . . ." and that decreases in livestock forage "shall be implemented over a five year period. . . ." The regulations do provide for decreases to be implemented in less than five years when: (1) the downward adjustment is 15% or less of the "authorized active grazing use for the previous year;" (2) an agreement is reached to implement the adjustment in less than five years; or (3) a shorter implementation period is needed to sustain resource productivity.

**Range Improvements and Treatments.** Range improvements and treatments will be implemented under all alternatives. Typical range improvements and treatments and the general procedures to be followed in implementing them are described in Appendix F. The extent, location, and timing of such actions will be based on the allotment-specific management objectives adopted through the resource management planning pro-

cess; interdisciplinary development and review of proposed actions; operator contributions; and BLM funding capability.

All allotments in which range improvement funds are to be spent will be subjected to an economic analysis. The analysis will be used to develop a final priority ranking of allotments for the commitment of the range improvement funds that are needed to implement activity plans. The highest priority for implementation generally will be assigned to those improvements for which the total anticipated benefits exceed costs.

**Grazing Systems.** Grazing systems will be implemented under all alternatives. The type of system to be implemented will be based on consideration of the following factors:

- allotment-specific management objectives (see Appendix E);
- resource characteristics, including vegetation potential and water availability;
- operator needs; and
- implementation costs.

Typical grazing systems available for consideration are described in Appendix G.

**Unleased Tracts.** Unleased tracts generally will remain available for further consideration for authorized grazing, as provided for in the BLM grazing regulations (43 CFR 4110 and 4130). However, certain tracts not currently authorized for grazing use will remain unleased. These tracts which total approximately ~~45,787~~ acres, are identified in Table 2-1.

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## **Wildlife and Fisheries Program**

### **General**

Fish and wildlife habitat will continue to be evaluated on a case-by-case basis as a part of project level planning. Such evaluation will consider the significance of the proposed project and the sensitivity of fish and wildlife habitat in the affected area. Stipulations will be attached as appropriate to assure compatibility of projects with management objectives for fish and wildlife habitat. Habitat improvement projects will be implemented where necessary to stabilize and/or improve unsatisfactory or declining wildlife habitat condition. Such projects will be identified through habitat management plans or coordinated resource management activity plans.

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**TABLE 2-1  
UNLEASED TRACTS TO REMAIN UNLEASED**

<b>Name and Number</b>	<b>Legal Description</b>	<b>Acres</b>	<b>Rationale</b>
Scratchgravel (1007)	T10N, R4W Sec. 5 Lot 1 NE of Road Sec. 4, Lot 4, 1, 2 S $\frac{1}{2}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 3, Lots 3, 4 S $\frac{1}{2}$ NW $\frac{1}{4}$ N $\frac{1}{2}$ SW $\frac{1}{4}$ T11N, R4W Sec. 27, N $\frac{1}{2}$ SE $\frac{1}{4}$ S and W of Fence S $\frac{1}{2}$ S $\frac{1}{2}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ S of Fence Sec. 28, SW $\frac{1}{4}$ Unlotted PD in SE $\frac{1}{4}$ S and W of Fence Sec. 29, SE $\frac{1}{4}$ ; N $\frac{1}{2}$ Sec. 33, E $\frac{1}{2}$ ; NW $\frac{1}{4}$ ; W $\frac{1}{2}$ SW $\frac{1}{4}$ Sec. 34, NW $\frac{1}{4}$ ; W $\frac{1}{2}$ SW $\frac{1}{4}$ W $\frac{1}{2}$ E $\frac{1}{2}$ SW $\frac{1}{4}$ W $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ E $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 20, SW $\frac{1}{4}$ Sec. 19, SE $\frac{1}{4}$ NE $\frac{1}{4}$	2,469	Conflicts with recreational use and expanding suburban development
South Knob (1008)	T10N, R4W Sec. 1, Lots 11, 14, 15, 18, 13, 12	110	Conflicts with recreational use and expanding suburban development
Green Meadow (1009)	T10N, R4W Sec. 2, Lots 7, 8, 9 Unlotted PD in NW $\frac{1}{4}$	124.2	Conflicts with recreational use and expanding suburban development
Orchard (1015)	T10N, R1W Sec. 27, N $\frac{1}{2}$ NE $\frac{1}{4}$	80	Recreational conflicts
Silver Creek (1023)	T11N, R4W Sec. 23, Lying N and E of BN tracks	20	Riparian habitat protection
Dog Hair (1032)	T12N, R3W Sec. 25, Lot 6 S $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ ; SW $\frac{1}{4}$ Sec. 26, S $\frac{1}{2}$ ; SW $\frac{1}{4}$ NE $\frac{1}{4}$ ; S $\frac{1}{2}$ NW $\frac{1}{4}$ Sec. 27, S $\frac{1}{2}$ NE $\frac{1}{4}$ ; SE $\frac{1}{4}$ Sec. 34, N $\frac{1}{2}$ NW $\frac{1}{4}$ ; E $\frac{1}{2}$ Sec. 35, All	2,040	Forage reservation needed for elk and Mule deer habitat protection
Silver Creek (1033)	T12N, R5W Sec. 31, Lots 9, 10, 11 Sec. 32, Lot 8 Unlotted PD Lot 12 Sec. 33, Lot 4	141	Reservation needed for riparian habitat protection
Beartooth Ranch (1037)	T13N, R3W Sec. 2, Lots 6 and 7 Sec. 12, Lots 3, 4, 5 Sec. 14, Lots 1, 2, 3	200	Forage reservation needed for bighorn sheep habitat protection

MGMT. GUIDANCE COMMON TO ALL ALT.

Cottonwood (1041)	T14N, R2W Sec. 12, S½	320	Forage reservation needed for elk winter habitat
South Fork (1044)	T15N, R2W Sec. 2, NE¼, NE¼NW¼ Sec. 12, E½, E½W½ Sec. 13, All	1,320	Forage reservation needed for riparian habitat and big game habitat protection
Smith Creek (1051)	T19N, R8W Sec. 30, S½SW¼ Sec. 32, W½W½	240	Land and forage reservation needed for grizzly bear habitat protection
Roost Hill (1052)	T20N, R8W Sec. 6, NE¼, NE¼NW¼ N½SE¼ Sec. 5, NW¼, N½SW¼	520	Land and forage reservation needed for grizzly bear, bighorn sheep, and elk habitat protection
Shed Creek (1054)	T21N, R8W Sec. 34, SW¼SW¼	40	Forage reservation needed for elk winter habitat
Dutchman Creek (1058)	T8N, R3W Sec. 34, SE¼SE¼	40	Forage reservation needed for riparian, deer, and elk habitat protection
Antelope Butte (1093)	<sup>T4S</sup> <del>T2S</del> R8E Sec. 14, E½NE¼ SW¼, SW¼NE¼	280	Reservation of forage required for mule deer and elk winter/spring habitat
Dailey Lake (1100)	T7S, R7E Sec. 2, NW¼NW¼	40	Reservation needed for wetland habitat protection at Dailey Lake
Pamburn (1127)	T25N, R8W Sec. 19, Lot 4 Sec. 30, Lots 1, 2, 3	192.25	Land and forage reserved for bighorn sheep habitat (previously set aside by District Manager's decision dated May 22, 1975).
Ear Mountain (1134)	T24N, R8W Sec. 18, Lots 1, 2, 3, 4 E½SW¼ Sec. 19, Lots 1, 2, 3 E½NW¼, W½NE¼ NE¼SW¼, NE¼SE¼	550.2	Land and forage needed for threatened and endangered species protection and bighorn sheep, mountain goat, and mule deer winter/spring forage (reserved previously by District Manager's decision dated November 4, 1977).
Devils Kitchen (1137)	T16N, R2W Sec. 24, S½	320	Reservation needed for the protection of fragile and unstable watershed conditions and wildlife habitat
Chisolm Mountain (1138)	T16N, R2W Sec. 10, N½NW¼, SW¼NW¼	120	Reservation required for mule deer and riparian habitat protection
Harris Mountain (1139)	T16N, R1W Sec. 2, N½	327	Forage reservation required for the protection of fragile and unstable watershed conditions and wildlife habitat
Sawtooth (1140)	T16N, R1W Sec. 28, All Sec. 30, All Sec. 32, All Sec. 34, Lots 1, 2, 3 NW¼, W½NE¼, NW¼SE¼, N½SW¼	2,286	Forage reservation required for the protection of fragile and unstable watershed conditions and wildlife habitat
Black Butte (1142)	T16N, R4E Sec. 28, S½	320	Reservation required for elk and mule deer habitat

## 2 — ALTERNATIVES

Finnegan Mountain (1145)	T17N, R2W Sec. 12, W $\frac{1}{2}$ W $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ , SE $\frac{1}{4}$ SW $\frac{1}{4}$ S $\frac{1}{2}$ SE $\frac{1}{4}$	318	Reservation of forage required for deer and elk winter habitat
Sawmill Peak (1146)	T17N, R2W Sec. 18, E $\frac{1}{2}$ E $\frac{1}{2}$ , SW $\frac{1}{4}$ NE $\frac{1}{4}$	200	Reservation of forage required for deer and elk winter habitat
Hardy Creek (1147)	T17N, R2W Sec. 24, SW $\frac{1}{4}$ , S $\frac{1}{2}$ NW $\frac{1}{4}$	240	Reservation of forage required for deer and elk winter habitat
Bull Mountain Game Range (1168)	T3N, R4W Sec. 18, All Sec. 20, W $\frac{1}{2}$ Sec. 30, All	1,599	To provide winter forage for elk and mule deer (previously reserved by the Dept. of the Interior for use by the Montana Dept. of Fish, Wildlife, & Parks as part of the Bull Mountain Game Range, dated July 26, 1955).
Jefferson Hot Springs (1172)	T1N, R4W Sec. 32, that portion of the SE $\frac{1}{4}$ west of the river	15	Reservation needed for riparian and wetland habitat protection
Kilborn Gulch (1177)	T8N, R5W Sec. 25, All land in Sec. 25 lying south of the Boulder River	372	To provide winter forage for elk, moose, and mule deer (previously set aside for wildlife habitat by District Manager's decision on August 7, 1969).
Chicken (1187)	T16N, R4E Sec. 8, S $\frac{1}{2}$ NE $\frac{1}{4}$	80	Reservation required for elk and mule deer habitat
Finker Creek (6301)	T26N, R8W Sec. 29, NW $\frac{1}{4}$ SW $\frac{1}{4}$ , Sec. 30, S $\frac{1}{2}$ NW $\frac{1}{4}$ , SW $\frac{1}{4}$ , W $\frac{1}{2}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ , SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 31, NW $\frac{1}{4}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ Sec. 32, NW $\frac{1}{4}$ SW $\frac{1}{4}$	680	Reservation required for grizzly bear habitat protection
Blackleaf (6302)	T26N, R8W Sec. 18, Lot 3	37	Reservation required for grizzly bear habitat protection
Unnamed	T1N, R1W Sec. 24, SW $\frac{1}{4}$ NE $\frac{1}{4}$	40	Reservation needed for riparian and wetland habitat protection

### Seasonal Restrictions

Seasonal restrictions will continue to be applied where they are needed to mitigate the impacts of human activities on important seasonal wildlife habitat. The major types of seasonal wildlife habitat and the time periods which restrictions may be needed are shown in Table 2-2.

### Threatened, Endangered, and Sensitive Species Habitat

No activities will be permitted in habitat for threatened and endangered species that would jeopardize the continued existence of such species.

Whenever possible, management activities in habitat for threatened, endangered, or sensitive species will be designed to benefit those species through habitat improvement.

The Montana Department of Fish, Wildlife, and Parks and the U.S. Fish and Wildlife Service will be consulted prior to implementing projects that may affect habitat for threatened and endangered species. If a may affect situation is determined through the BLM biological assessment process then consultation with the USFWS will be initiated as per section 7 of the Endangered Species Act of 1973, as amended.

**TABLE 2-2  
SEASONAL WILDLIFE RESTRICTIONS**

Habitat	Restricted Period
Elk and mule deer winter range	12/1-4/30
Elk and mule deer spring range (including calving and fawning)	4/15-6/30
Bighorn sheep winter range	12/1-4/30
Bighorn sheep spring range (including lambing)	4/15-6/30
Mountain goat winter range	12/1-4/30
Mountain goat spring range (including kidding)	5/1-6/30
Moose winter range	12/1-4/30
Raptor nest sites	dates vary by species
Grizzly bear spring and summer range	4/1-9/1
Grizzly bear denning habitat	10/1-4/30

To the extent practicable, management actions within occupied grizzly bear habitat will be consistent with the goals and objectives contained in the Grizzly Bear Recovery Plan (USDI, FWS 1982), and the guidelines developed through the Interagency Wildlife Monitoring Program for mineral exploration and development.

**Terrestrial Wildlife Habitat**

Sufficient forage and cover will be provided for wildlife on seasonal habitat. Forage and cover requirements will be incorporated into allotment management plans and will be specific to areas of primary wildlife use.

Range improvements generally will be designed to achieve both wildlife and range objectives. Existing fences may be modified and new fences will be built so as to allow wildlife passage. Water developments generally will not be established for livestock where significant conflicts over vegetation would result. Water will be provided in allotments (including rested pastures) during seasonal periods of need for wildlife.

Vegetative manipulation projects will be designed to minimize impact on wildlife habitat and to improve it whenever possible. The MDFW&P will be consulted in advance on all vegetative manipulation projects ~~(excluding timber harvesting)~~. Animal control programs will be coordinated with the U.S. Fish & Wildlife Service and, in the case of aerial gunning requests, with the Montana Department of Livestock

Management actions within floodplains and wetlands will include measures to preserve, pro-

tect, and if necessary, restore their natural functions (as required by Executive Orders 11988 and 11990). Management techniques will be used to minimize the degradation of stream banks and the loss of riparian vegetation. Bridges and culverts will be designed and installed to maintain adequate fish passage.

Riparian habitat needs will be taken into consideration in developing livestock grazing systems and pasture designs. Some of the techniques that can be used to lessen impacts are:

- changing class of stock from cow/calf pairs to herded sheep or yearlings;

- either eliminating hot season grazing or scheduling hot season grazing for only one year out of every three;

- locating salt away from riparian zones;

- laying out pasture fences so that each pasture has as much riparian habitat as possible;

- locating fences so that they do not confine or concentrate livestock near the riparian zone;

- developing alternative sources of water to lessen the grazing pressure on the riparian habitat; and

- as a last resort, excluding livestock completely from riparian habitat by protective fencing.

Where applicable, the elk management guidelines contained in the Montana Cooperative Elk-Logging Study (USDA, FS 1982) will be followed. These include:

- managing public vehicle access to maintain the habitat effectiveness of security cover and key seasonal habitat (such as winter range and calving/nursery areas) for deer and elk;

- maintaining adequate untreated peripheral zones around important moist-sites (i.e. wet-sedge meadows, springs, riparian zones);

- maintaining adequate thermal and security cover on deer and elk habitat, particularly within timber stands adjacent to primary winter foraging areas;

- ensuring that slash depth inside clear cuts does not exceed one and one-half feet; and

- generally discouraging thinning immediately adjacent to clear cuts;

Wildlife reintroductions and fish stocking proposals will be evaluated and recommendations will be made to the Montana Department of Fish, Wildlife, & Parks. BLM policy requires that a Habitat Management Plan (HMP) be prepared prior to any wildlife reintroduction.

### **Cadastral Survey Program**

Cadastral surveys will continue to be conducted in support of resource management programs. Survey requirements and priorities will be determined on a yearly basis as a part of the annual work planning process.

### **Fire Program**

Until the 1978 Normal Year Fire Plan is updated, the primary fire protection objective will continue to be the control, during the first burning period, of all wildfires on or threatening public land.

Modified suppression areas may be established when the Normal Year Fire Plan is reviewed, based on the consideration of the following criteria:

- values at risk;
- fire behavior;
- fire occurrence;
- beneficial fire effects, including but not limited to a reduction in fuel loading;
- fire suppression costs; and
- consistency with other agency plans and policies.

Prescribed burning will continue to be used in support of resource management objectives.

### **Road and Trail Construction and Maintenance Program**

Road and trail construction and maintenance will continue to be conducted in support of resource management objectives. Construction and maintenance requirements and priorities will be determined on a yearly basis as a part of the annual work planning process.

Investment of public funds for road and trail construction generally will be permitted only on land identified for retention in public ownership. Exceptions may be allowed where investment costs can be recovered as a part of land disposal actions.

Specific road and trail construction standards will be determined based on consideration of the following criteria:

- resource management needs;
- user safety;
- impacts to environmental values, including but not limited to wildlife and fisheries habitat, soil stability, recreation, and scenery; and
- construction and maintenance costs.

## **ALTERNATIVES CONSIDERED IN DETAIL**

### **Introduction**

Four alternatives are considered in detail in this chapter. Three of them—no action, environmental protection, and resource production—were developed to explore a reasonable range of issue resolution scenarios as required by CEG and BLM planning regulations. The fourth alternative—the preferred alternative, or proposed RMP—incorporates portions of the no action, protection, and production alternatives, and generally represents a middle ground approach to issue resolution.

In order to highlight the BLM's preferred alternative for the Headwaters RMP, it is the first alternative discussed in this chapter and all subsequent chapters. It is followed by the no action, protection, and production alternatives in that order. No priority or preference is implied by the order of the latter three alternatives.

### **Alternative A: Preferred Alternative**

#### **Theme**

The preferred alternative balances competing demands by providing for the production of needed goods and services, while protecting important and sensitive environmental values. The goal of this alternative is to change present management to the extent necessary to meet statutory requirements, policy commitments, and to resolve identified issues in a balanced, cost-effective manner.

#### **Issue Resolution Guidelines**

**Issue 1: Oil and Gas Leasing and Development.** Seasonal stipulations on oil and gas exploration and/or production would be required in bighorn sheep, elk, and mule deer winter/spring range and mountain goat kidding areas. No surface occupancy would be permitted in key grizzly bear spring/summer use areas and within proposed outstanding natural areas. No leasing would be permitted within the core of areas identified for no surface occupancy, if reservoir drainage would not be feasible. Guidelines are displayed on the Oil and Gas Leasing Stipulations: Alternative A map, and are summarized in Table 2-3.

**TABLE 2-3**  
**SUMMARY OF OIL AND GAS LEASING AND DEVELOPMENT GUIDELINES**  
 (In acres)<sup>1</sup>

**ROCKY MOUNTAIN FRONT ONLY**

Allocation	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Standard Stipulations	86,050	36,160	36,160	34,740	36,480
Special Stipulations	17,700	49,500	59,460	3,700	70,820
No Surface Occupancy	3,550	14,040	7,200	39,020	0
No Leasing	10,950	18,550	15,430	40,790	10,950

**HEADWATERS RESOURCE AREA**

Allocation	Current Status <sup>2</sup>	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Standard Stipulations	450,154	272,449	272,449	271,324	272,703
Special Stipulations	163,333	339,208	347,103	302,903	356,107
No Surface Occupancy	23,550	22,950	17,528	42,751	11,821
No Leasing	12,918	20,898	18,425	38,527	14,874

<sup>1</sup> Acreage estimates for the Rocky Mountain Front include all lands with oil and gas rights reserved to the United States. Acreage estimates for the Headwaters Resource Area include only those lands with all minerals reserved to the United States.

<sup>2</sup> Not shown are approximately 5,550 acres within the resource area which currently are unleased but available for lease.

**Issue 2: Grazing Allotment and Riparian Habitat Management.** Reductions in authorized livestock use would be proposed for nineteen allotments, while increases would be proposed for seven allotments. Target levels of adjusted livestock use have been developed (see Appendix N) based on range condition ratings and the Soil Conservation Service's *Montana Grazing Guides* (USDA, SCS n.d.). These target livestock use levels may be adjusted in the future to reflect new resource information gathered by monitoring or other studies. Consultation with livestock operators before final decisions are issued will determine whether individual adjustments need to be phased in over a five year period or whether such adjustments can be fully implemented in the first year. All 1 allotments would be assigned either a high or low priority ranking so that future investments in range improvements, treatments, and monitoring would be directed to allotments with the greatest potential for improvement of wildlife, watershed, and vegetation conditions and livestock forage production (see Appendix E). Adjustments proposed under this alternative are summarized in Table 2-4. Estimated range improvement requirements are summarized in Table 2-5.

**Issue 3: Wilderness Study Recommendations.** All areas being studied for wilderness would be recommended as nonsuitable for wilderness management. Individual area boundaries are displayed on the alternative maps for Blind Horse Creek, Chute Mountain, Deep Creek/Battle Creek, Black Sage, and the Yellowstone River Island. Recommendations are summarized in Table 2-6.

**Issue 4: Forest Management.** All public land would be available for forest management except for the Blind Horse Creek, Ear Mountain, Chute Mountain, Deep Creek/Battle Creek, Sleeping Giant, and Scratchgravel Hills areas. Commercial forest land in the Eightmile Creek, ~~Elkhorn~~, Boulder-Clancy, Marysville, and Rogers Pass areas would receive high priority for forest management. Special harvest restrictions would be applied in key elk seasonal use areas. Forest management guidelines are summarized in Table 2-7.

**Issue 5: Land Ownership Adjustments.** Priority areas would be established for retention and acquisition, disposal, and further study. Land ownership adjustment guidelines are summarized in Table 2-8.



2 — ALTERNATIVES

**TABLE 2-4**  
**SUMMARY OF GRAZING ALLOTMENT AND RIPARIAN HABITAT MANAGEMENT GUIDELINES**

Allocation	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Initial Livestock Forage Target (AUMs)	31,501	29,297	31,501	27,036	33,954
Net Change From Current Use (AUMs)	0	-2,204	0	-4,465	+2,453
Downward Adjustments (allotments)	0	19	0	34	9
Upward Adjustments (allotments)	0	7	0	0	34
Satisfactory Riparian Habitat Condition (miles)	104	<del>123</del>	123	135.5	105

130

**TABLE 2-5**  
**SUMMARY OF ESTIMATED RANGE IMPROVEMENTS**

Type of Treatment	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Acres to be Reseeded	2,560	2,560	440	3,140
Acres to be Burned	300	300	240	4,640
Miles of Fence to be Built (Removed or Altered)	82.2	82.2	75.9 (13)	45.3
Number of Springs to be Developed	21	21	0	26
Miles of Pipeline to be Built	23.5	23.5	0	23.5
Number of Stock Tanks to be Installed	20	20	0	20
Acres of Weeds to be Controlled	467.5	467.5	0	467.5
Number of Cattleguards to be Installed	11	11	10	8
Number of Other Water Developments to be Built	5	5	0	5
Total Initial Cost For All Improvements	\$449,331	\$449,331	\$247,659	\$442,020
25 Year Maintenance and Replacement Cost	\$637,997	\$637,997	\$322,907	\$746,913

**Blind Horse Cr.  
Alternatives**



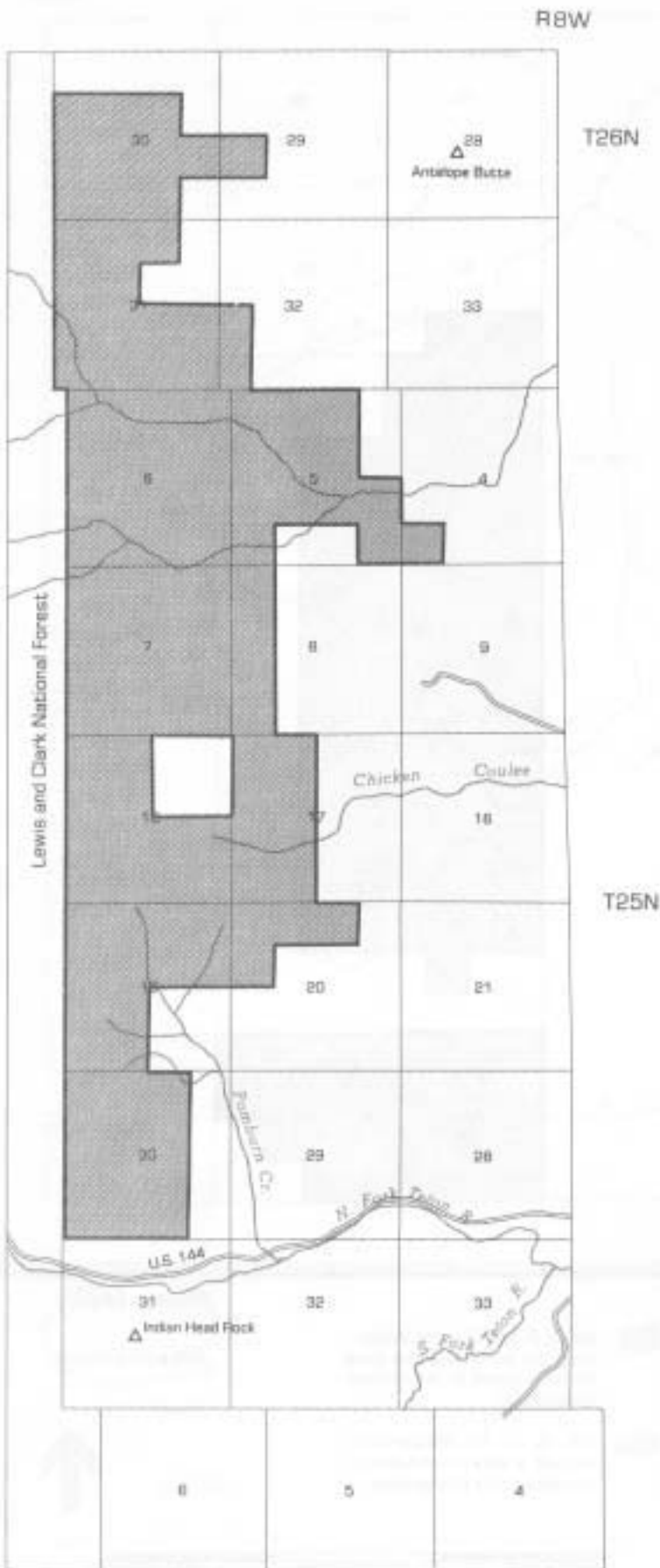
— WSA Boundary

Alt. A, B, and D — No Wilderness (no portion of the area recommended for wilderness designation)

Alt. C — All Wilderness (entire area recommended for wilderness designation)

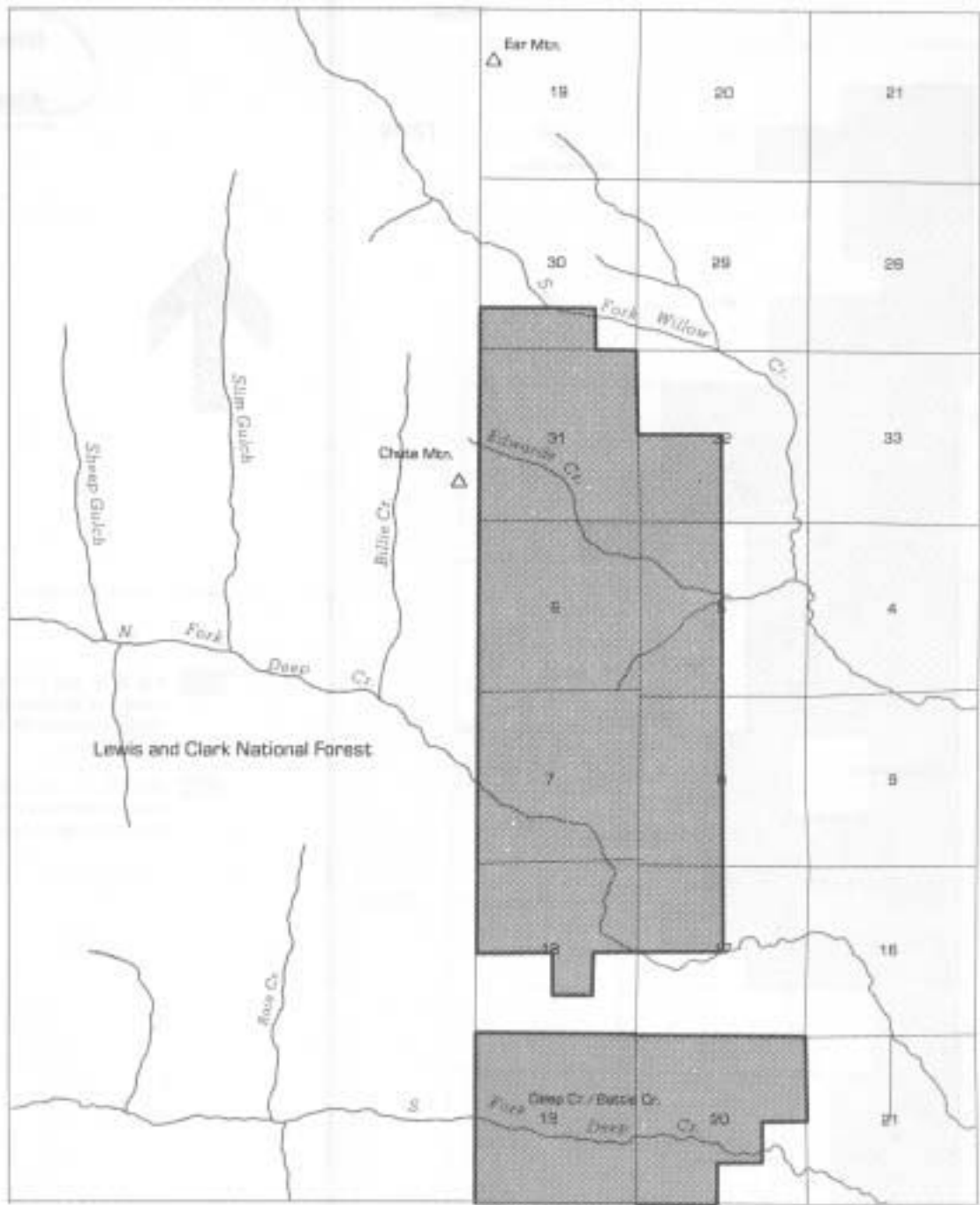


1:63,360



T24N

RBW



T23N

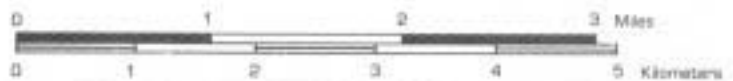
— WSA Boundary

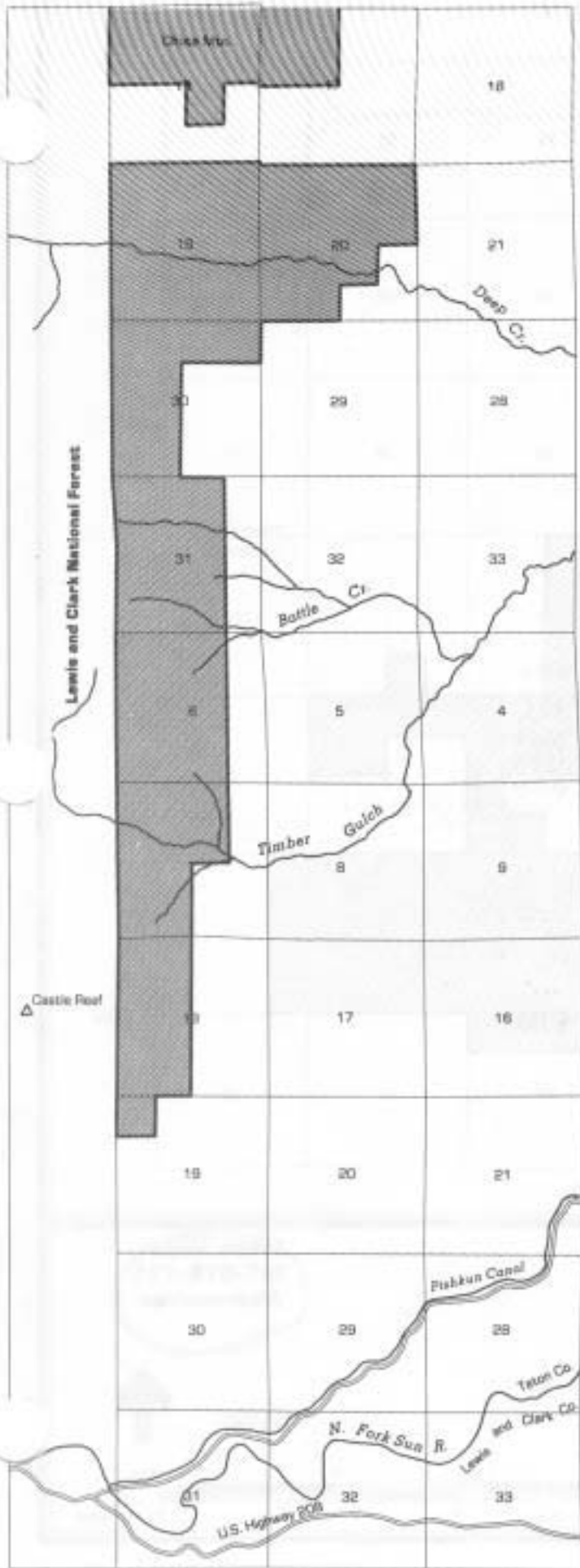
Alt. A, B, and D — No Wilderness (no portion of the area recommended for wilderness designation)

Alt. C — All Wilderness (entire area recommended for wilderness designation)



**Chute Mtn.  
Alternatives**

1:63,360





**Deep Cr./Battle Cr.  
Alternatives**

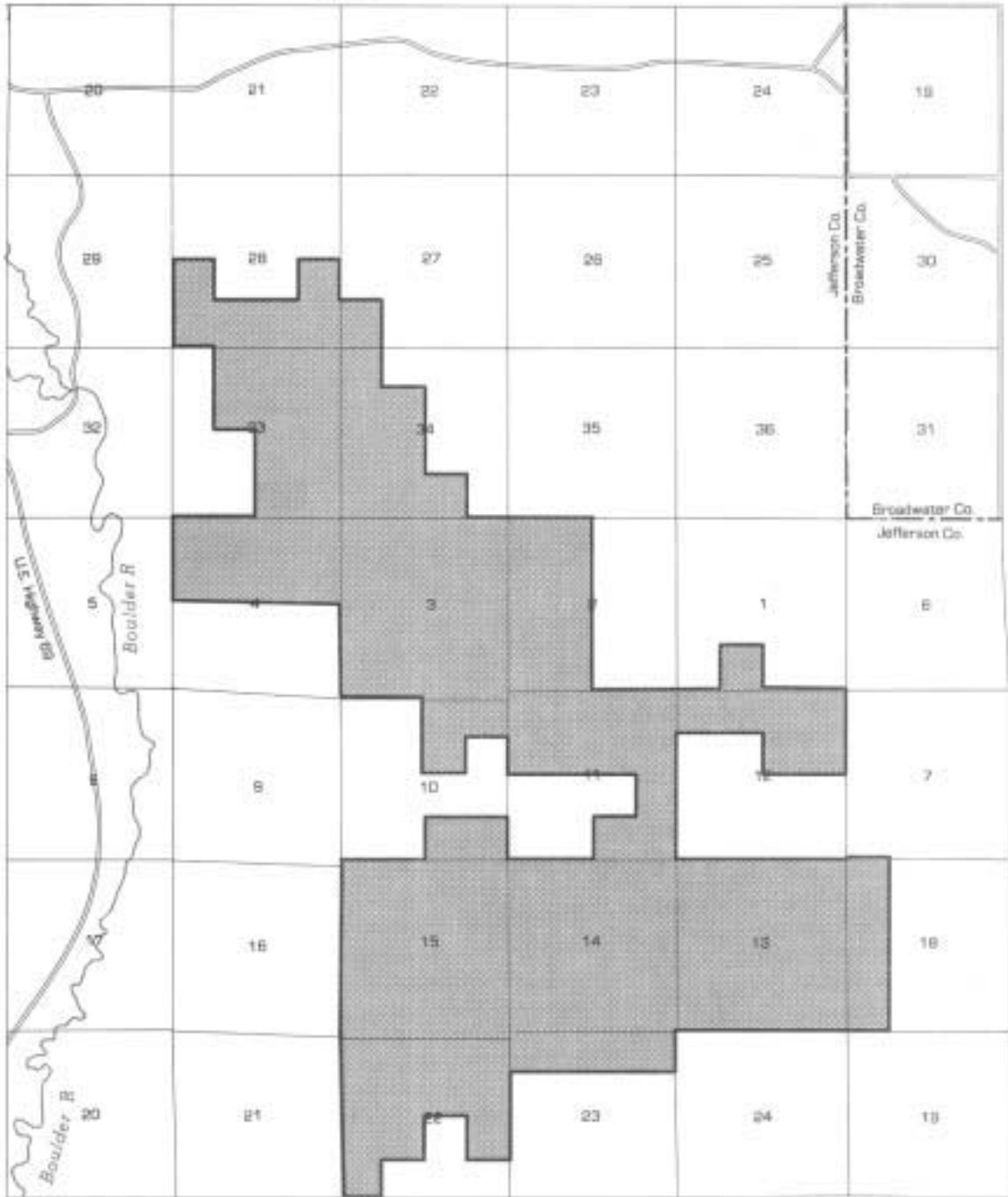
- WSA Boundary
-  Alt. A, B, and D — No Wilderness (no portion of the area recommended for wilderness designation)
-  Alt. C — All Wilderness (entire area recommended for wilderness designation)





1:63,360

R2W

T4N



- WSA Boundary
-  Alt. A, B, and D — No Wilderness (no portion of the area recommended for wilderness designation)
-  Alt. C — All Wilderness (entire area recommended for wilderness designation)

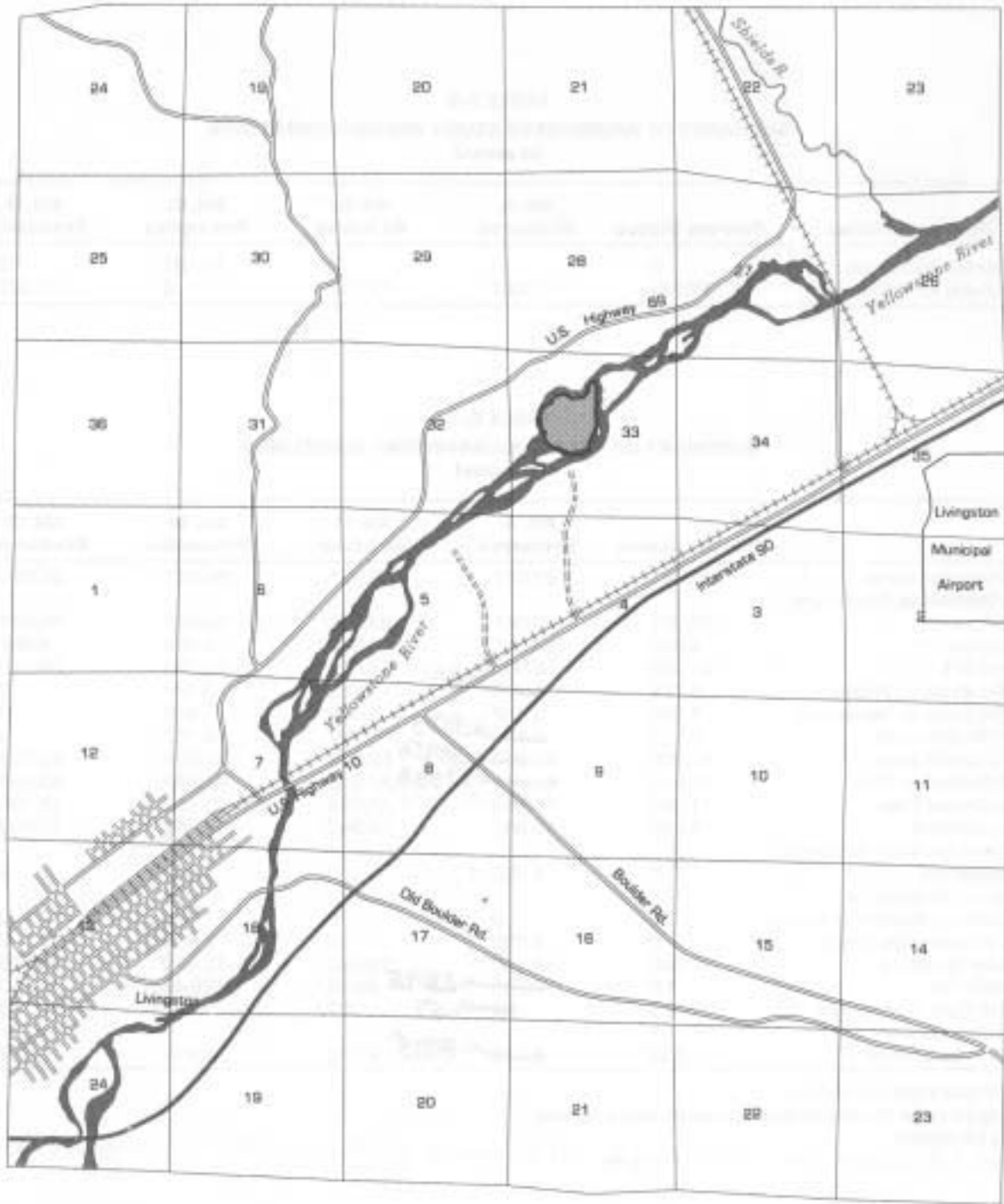
**Black Sage  
MT-075-115  
Alternatives**

1:63,360





R10E

T1S



**Yellowstone R. Island  
MT-075-133  
Alternatives**

- WSA Boundary
-  Alt. A, B, and D — No Wilderness (no portion of the area recommended for wilderness designation)
-  Alt. C — All Wilderness (entire area recommended for wilderness designation)

1:63,360



2 — ALTERNATIVES

**TABLE 2-6**  
**SUMMARY OF WILDERNESS STUDY RECOMMENDATIONS**  
(in acres)

Recommendation	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Suitable for Wilderness	0	0	0	17,197	0
Nonsuitable for Wilderness	17,197	17,197	17,197	0	17,197

**TABLE 2-7**  
**SUMMARY OF FOREST MANAGEMENT GUIDELINES**  
(in acres)

	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Total Forested Acres	82,021	82,021	82,021	82,021	82,021
Total Commercial Forest Land (CFL)	63,081	63,081	63,081	63,081	63,081
Nonsuitable CFL	4,982	4,982	4,982	4,982	4,982
Suitable CFL	58,099	58,099	58,099	58,099	58,099
CFL Set Aside for Wildlife	3,729	<del>3,729</del> 2,803 <sup>5</sup>	3,729	3,729	0
CFL Set Aside for Recreation	1,468	1,468	1,468	1,468	0
Total CFL Set Aside	5,197	<del>5,197</del> 4,271	5,197	5,197	0
Total Available Base	52,902	<del>52,902</del> 48,156	52,902	52,902	58,099
TPCC Restricted Base	41,849	<del>41,849</del> 37,588	41,849	41,849	45,947
Nonrestricted Base	11,053	<del>11,053</del> 10,708	11,053	11,053	12,152
Total Woodland	18,940	18,940	18,940	18,940	18,940
Woodland Set Aside for Special Designations	0	2,650 ?	0	1,000	0
Woodland Set Aside for Wilderness Recommendations	0	0	0	1,950	0
Total Woodland Set Aside	0	2,650 ?	0	2,950	0
Available Woodland	18,940	16,290	18,940	15,990	18,940
Allowable Cut	1.0 <sup>1,2</sup>	<del>26.45</del> 23.95	26.45 <sup>1</sup>	26.45 <sup>1</sup>	29.0 <sup>1</sup>
Miles of Road Construction	2.5 <sup>3</sup>	<del>53</del> 48	53 <sup>3</sup>	53 <sup>3</sup>	58 <sup>3</sup>
Acres Cut/Decade (@ 3 m bd ft/acre)	333	<del>8,816</del> 7,983 <sup>4</sup>	8,816	8,816	9,667

<sup>1</sup>Million board feet per decade

<sup>2</sup>The figure under Current Status represents actual harvest

<sup>3</sup>Miles per decade

<sup>4</sup> Does not include acres which may be cut to improve wildlife habitat in Management Unit 36.

**TABLE 2-8**  
**SUMMARY OF LAND OWNERSHIP ADJUSTMENT GUIDELINES**  
(in acres)

Allocation	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Retention	311,337 <sup>1</sup>	282,283	311,337 <sup>1</sup>	282,283	282,283
Disposal	0	25,637	0	25,637	25,637
Further Study	0	3,417	0	3,417	3,417

<sup>1</sup>For purposes of analysis, all public land in the resource area is shown in the retention category under Current Status and Alternative B (No Action). In actual practice, some public land could be sold or exchanged as a result of tract-specific land use plan amendments. Approximately 400 acres of public land have been sold or exchanged since the Headwaters Resource Area was established in 1976



**Issue 6: Mineral Exploration and Development.** All public land in the Scratchgravel Hills would remain open to mineral entry and development. All other public land in the resource area would remain open unless previously withdrawn from mineral entry. Mineral exploration and development guidelines are summarized in Table 2-9.

**Issue 7: Motorcycle Use Areas.** The Scratchgravel Hills and Limestone Hills would be closed to organized motorcycle events. The Hilger Hills, Spokane Hills, and Marysville areas would remain available for further consideration. All other public land in the resource area would be managed as outlined in Management Guidance Common to All Alternatives. Motorcycle use area allocations are summarized in Table 2-10.

**Issue 8: Motorized Vehicle Access.** The Scratchgravel Hills and Limestone Hills would be identified for motorized vehicle restrictions. The Blind Horse Creek, Ear Mountain, Chute Mountain, and Deep Creek/Battle Creek areas would be closed to motorized vehicle access. The Hilger Hills would remain open to motorized vehicles. All other public land in the resource area would be managed as outlined in Management Guidance Common to All Alternatives. Motorized vehicle access allocations are summarized in Table 2-11.

**Issue 9: Utility and Transportation Corridors.** Avoidance areas would be established in the Scratchgravel Hills, Limestone Hills, and Sleeping Giant areas, and along the Smith River, Jefferson River and the Missouri River from Three Forks to Holter Dam. Windows would be established where major facilities cross avoidance areas. All other public land in the resource area would be managed as outlined in Management Guidance Common to All Alternatives. Utility and transportation corridor allocations are summarized in Table 2-12.

**Issue 10: Coal Leasing.** All federal coal within the Great Falls Coal Field would be available for further consideration for coal leasing, pending further study. Surface occupancy generally would be prohibited within public road corridors, rights-of-way, and key wildlife use areas. For analysis purposes, it is assumed that three underground mines would be developed in the Stockett area to supply enough coal (approximately 1.2 million short-tons annually) for Montana Power Company's proposed 350 MW Salem Project near Great Falls. It is also assumed that mine development would begin in 1993 and production would begin in 1996. These assumptions are made primarily to allow for projection of social and economic impacts. The acreage to be disturbed by such

**TABLE 2-9**  
**SUMMARY OF MINERAL EXPLORATION AND DEVELOPMENT GUIDELINES**  
(In acres of federal minerals)<sup>1</sup>

Allocation	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Withdrawn From Entry <sup>1</sup>	53,606	42,019	42,019	44,978	42,019
Available For Entry	601,899	613,486	613,486	610,526	613,486

<sup>1</sup>The acreage withdrawn from mineral entry is expected to decrease under all alternatives as a result of the withdrawal review process. The acreage estimates shown above are based on recommendations that have been developed for approximately 50% of the withdrawn land in the resource area.

**TABLE 2-10**  
**SUMMARY OF MOTORCYCLE USE AREA GUIDELINES**  
(In acres)

Allocation	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Available For Further Consideration	311,337	234,134	266,149	208,824	266,149
Consideration Closed to Organized Events	0	77,203	45,188 <sup>1</sup>	102,513	45,188

<sup>1</sup>Current land use planning guidance for the resource area does not preclude consideration of any public land for organized motorcycle events. However, approximately 45,188 acres appear to be unsuitable for such use based on existing wildlife, watershed, and other guidance not directed specifically to the issue of organized motorcycle events. For analysis purposes, these acres are shown as closed to organized events under the No Action alternative.

**TABLE 2-11**  
**SUMMARY OF MOTORIZED VEHICLE ACCESS GUIDELINES**  
 (in acres)

Allocation	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Open	311,337	79,875	111,890	76,472	111,890
Prioritized For Restrictions	0	219,404	199,447 <sup>1</sup>	216,828	199,447
Closed	0	12,058	0	18,037	0

<sup>1</sup>Current land use planning guidance for the resource area does not identify any public land as priority areas for restrictions. However, approximately 199,447 acres appear to qualify for seasonal or other restrictions based on existing wildlife, watershed, and other guidance not directed specifically to the issue of motorized vehicle access. For analysis purposes, these acres are shown as prioritized for restrictions under the No Action alternative.

**TABLE 2-12**  
**SUMMARY OF UTILITY AND TRANSPORTATION CORRIDOR GUIDELINES**  
 (in acres)

Allocation	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Exclusion Area	0	0	0	17,197	0
Avoidance Area	0	74,489	22,171 <sup>1</sup>	63,271	22,171
Window	0	952	0	952	0
Available For Further Consideration	311,337	235,896	289,116	229,917	289,166

<sup>1</sup>Current land use planning guidance for the resource area does not identify any public land as avoidance areas. However, approximately 22,171 acres appear to be unsuitable for utility and transportation corridor development based on existing wildlife, watershed, and other guidance not directed specifically to this issue. For analysis purposes, these acres are shown as avoidance areas under the No Action alternative.

operations for surface facilities cannot be estimated at this time. To date, no proposals for mining coal in the Great Falls Coal Field have been received by the BLM. Details regarding application of the coal unsuitability criteria are included in Appendix H. Coal leasing allocations are summarized in Table 2-13.

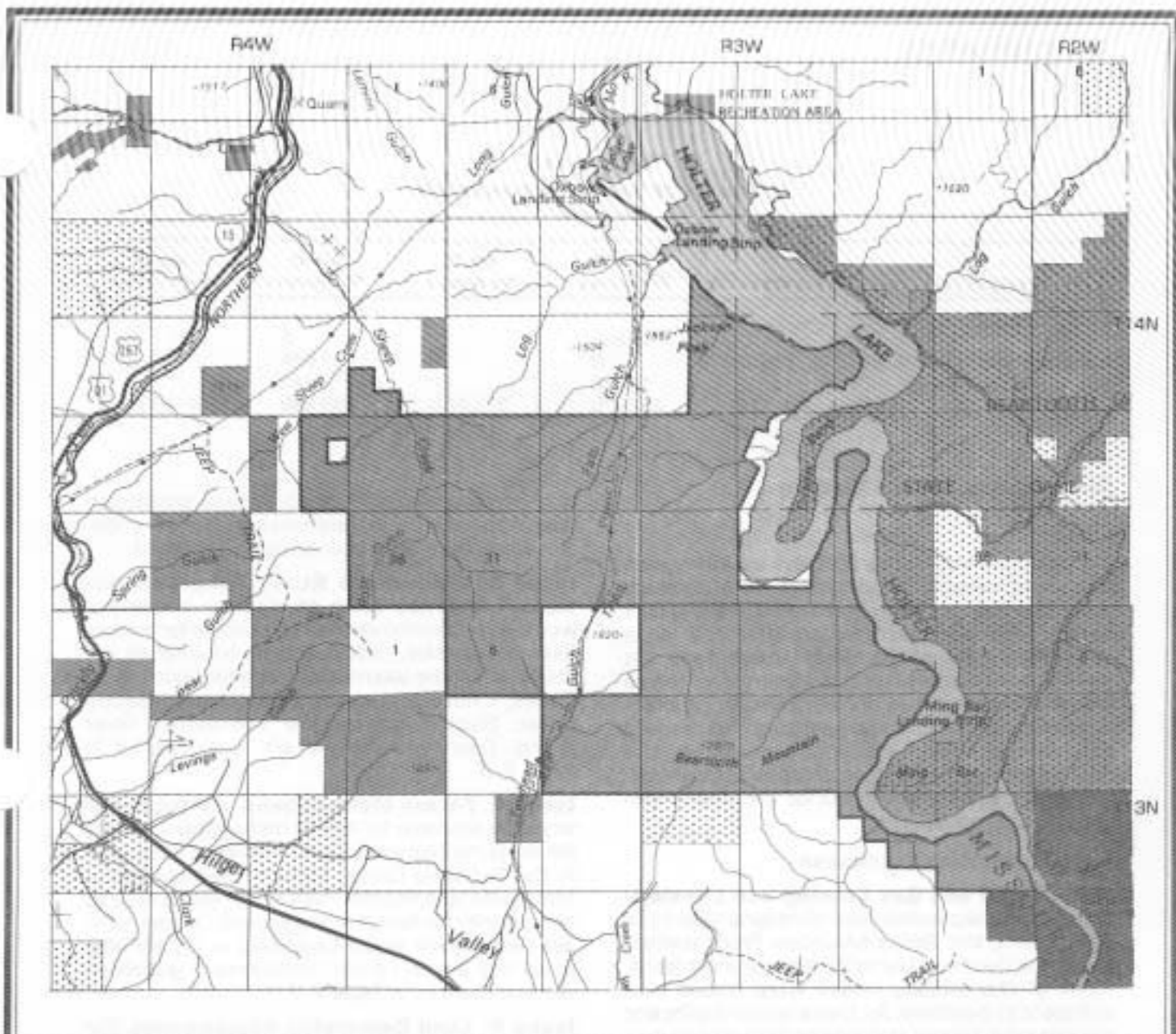
Area of Critical Environmental Concern as illustrated on the Sleeping Giant ACEC map. Special designations are summarized in Table 2-14.

**Issue 11: Special Designations.** The Blind Horse Creek, Ear Mountain, Chute Mountain, and Deep Creek/Battle Creek areas would be designated as Outstanding Natural Areas as illustrated on the Special Designations: Alternative A map. The Sleeping Giant area would be designated as an

**TABLE 2-13**  
**SUMMARY OF COAL LEASING GUIDELINES**  
 (in acres of federal coal)


Allocation	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Available For Further Consideration	0 <sup>1</sup>	25,452	0 <sup>1</sup>	0	25,452
Available For Surface Occupancy	0	23,697	0	0	23,697

<sup>1</sup>For purposes of analysis, no federal coal is considered available for leasing under Current Status and Alternative B (No Action). In actual practice, federal coal could be leased as a result of tract-specific land use plan amendments.



— ACEC Boundary

 State Game Range

 Public

 State

 Forest Service

 Private

**Sleeping Giant  
Area of Critical  
Environmental Concern**



**TABLE 2-14**  
**SUMMARY OF SPECIAL DESIGNATIONS**  
 (in acres)

Designation	Current Status	Alt. A: Preferred	Alt. B: No Action	Alt. C: Protection	Alt. D: Production
Area Of Critical Environmental Concern	0	11,609	0	0	0
Recreation Lands	0	0	0	11,609	0
Outstanding Natural Area	0	12,058	0	840	0
Undesignated	311,337	287,670	311,337	298,888	311,337

## Alternative B: No Action

### Theme

The no action alternative portrays a continuation of present management direction. Because much of the Headwaters Resource Area currently lacks formal management direction that has been established through approved land use plans, the management direction that is assumed for the no action alternative was derived through an interdisciplinary process of extrapolating or projecting past management actions throughout the resource area. The purpose of the no action alternative is to provide a baseline for the comparison of other alternatives.

### Issue Resolution Guidelines

**Issue 1: Oil and Gas Leasing and Development.** At the present time, all federal oil and gas rights along the Rocky Mountain Front (except within the Sun River Game Range) are under lease. Most of the existing leases were issued with standard stipulations. As these leases expire and are reissued, special stipulations (including no surface occupancy) are attached as needed, based on the application of guidelines contained in the Butte District Oil and Gas Leasing Environmental Assessment. Application of these guidelines would result in the leasing and lease development decisions shown on the Oil and Gas Leasing Stipulations: Alternative B map, and summarized in Table 2-3.

**Issue 2: Grazing Allotment and Riparian Habitat Management.** The no action alternative, which constitutes the existing management direction, is considered to be the initial proposed action for livestock grazing in all allotments. Therefore, no short-term adjustments in livestock use would be proposed. However, all allotments would be assigned either a high or low priority ranking so that future investments in range improvements, treatments, and monitoring would be directed to allotments with the greatest potential for improvement of wildlife, watershed, and vegeta-

tion conditions and livestock forage production (see Appendix E). Adjustments proposed under this alternative are summarized in Table 2-4.

**Issue 3: Wilderness Study Recommendations.** All areas being studied for wilderness would be recommended as nonsuitable for wilderness designation. Individual area boundaries are displayed on the alternative maps for Blind Horse Creek, Chute Mountain, Deep Creek/Battle Creek, Black Sage, and the Yellowstone River Island. Recommendations are summarized in Table 2-6.

**Issue 4: Forest Management.** All public land would be available for forest management except for the Scratchgravel Hills. Commercial forestland in the Eightmile Creek, Elkhorn, Boulder-Clancy, Marysville, and Rogers Pass areas would receive high priority for forest management. Special harvest restrictions would be applied in key elk seasonal use areas. Forest management guidelines are summarized in Table 2-7.

**Issue 5: Land Ownership Adjustments.** For purposes of analysis, all public land would be retained in public ownership and there would be no adjustments in the land ownership pattern. In actual practice, some public land could be sold or exchanged as a result of tract-specific land use plan amendments. Land ownership adjustment guidelines are summarized in Table 2-8.

**Issue 6: Mineral Exploration and Development.** All public land in the Scratchgravel Hills would remain open to mineral entry and development. All other public land in the resource area would remain open unless previously withdrawn from mineral entry. Mineral exploration and development guidelines are summarized in Table 2-9.

**Issue 7: Motorcycle Use Areas.** The Scratchgravel Hills, Limestone Hills, Hilger Hills, Spokane Hills, and Marysville areas would remain available for further consideration. All other public land in the resource area would be managed as outlined in Management Guidance Common to all

Alternatives. Motorcycle use area allocations are summarized in Table 2-10.

**Issue 8: Motorized Vehicle Access.** The Scratchgravel Hills, Limestone Hills, and Hilger Hills would remain open to motorized vehicle access. All other public land in the resource area would be managed as outlined in Management Guidance Common to all Alternatives. Motorized vehicle access allocations are summarized in Table 2-11.

**Issue 9: Utility and Transportation Corridors.** Avoidance areas would not be established in the Scratchgravel Hills, Limestone Hills, and Sleeping Giant areas, or along the Smith River, Jefferson River and the Missouri River from Three Forks to Holter Dam. No windows would be established. The above lands would continue to be managed as available for further consideration. All other public land in the resource area would be managed as outlined under Management Guidance Common to all Alternatives. Utility and transportation corridor allocations are summarized in Table 2-12.

**Issue 10: Coal Leasing.** No federal coal would be made available for further consideration for coal leasing. Coal leasing allocations are summarized in Table 2-13.

**Issue 11: Special Designations.** No special designations would be established. Special designations are summarized in Table 2-14.

## **Alternative C: Protection Alternative**

### **Theme**

The protection alternative places primary emphasis on maintaining or improving important environmental values. Resource use and development would be permitted to the extent compatible with the environmental protection emphasis. The goal of this alternative is to change present management direction so that the identified issues are resolved in a manner that generally places highest priority on the maintenance or improvement of the condition of key wildlife and riparian habitats, wilderness quality, and nonmotorized recreation opportunities.

### **Issue Resolution Guidelines**

**Issue 1: Oil and Gas Leasing and Development.** All seasonally important big game and threatened and endangered species habitat on the Rocky Mountain Front would be identified for no surface occupancy. No leasing would be permitted within the core of the area identified for no surface occupancy, if reservoir drainage would not be fea-

ible. Guidelines are displayed on the Oil and Gas Leasing Stipulations: Alternative C map, and are summarized in Table 2-3.

**Issue 2: Grazing Allotment and Riparian Habitat Management.** Short-term downward adjustments in livestock use would be proposed for thirty-four I allotments, where inventory and monitoring data indicate changes could be made to improve wildlife, watershed, and/or vegetation condition. Adjustments in allotment management practices would be prioritized to achieve wildlife, watershed, and vegetation condition objectives before achieving livestock forage production objectives (see Appendix E). Adjustments proposed under this alternative are summarized in Table 2-4.

**Issue 3: Wilderness Study Recommendations.** All areas being studied would be recommended for wilderness designation. Recommendations for the Chute Mountain and Deep Creek/Battle Creek areas would be contingent on the results of the Forest Service's RARE II study of the Deep Creek/Reservoir North area. Individual area boundaries are displayed on the alternative maps for Blind Horse Creek, Chute Mountain, Deep Creek/Battle Creek, Black Sage, and the Yellowstone River Island. Recommendations are summarized in Table 2-6.

**Issue 4: Forest Management.** Commercial forestland in the Scratchgravel Hills, areas being studied for wilderness, and the Sleeping Giant area would be set aside from the harvestable base. Key elk seasonal use areas also would be set aside or restricted. All remaining public land would be available for harvest, and commercial forest land in the Eightmile Creek, Elkhorn, Boulder-Clancy, Marysville, and Rogers Pass areas would receive high priority for forest management. Forest management objectives would place special emphasis on the protection or enhancement of key mule deer and elk habitat. Forest management guidelines are summarized in Table 2-7.

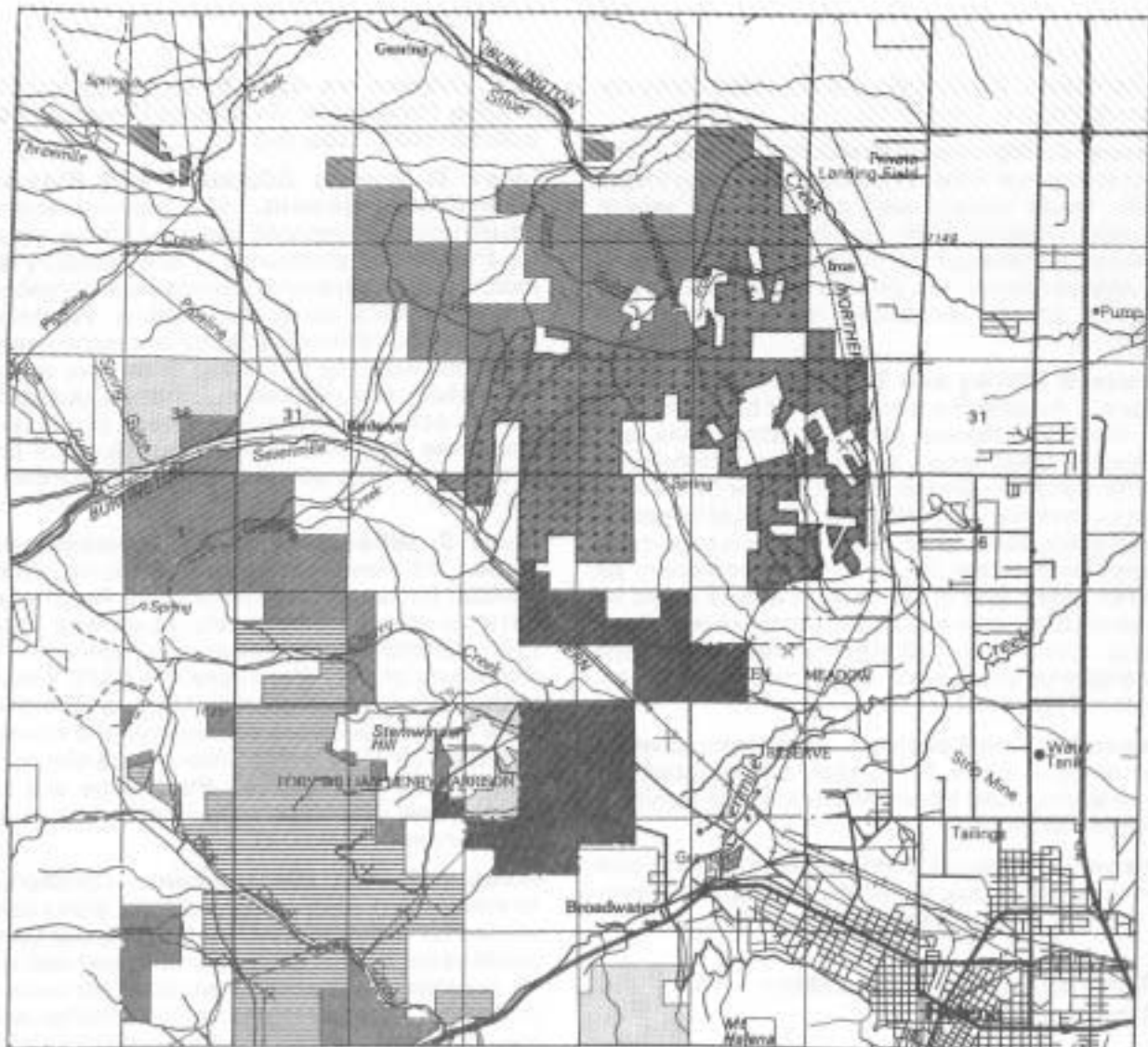
**Issue 5: Land Ownership Adjustments.** Priority areas would be established for retention and acquisition, disposal, and further study. Land ownership adjustment guidelines are summarized in Table 2-8.







**Issue 6: Mineral Exploration and Development.** Approximately 2,960 acres of public land in the Scratchgravel Hills would be withdrawn from mineral entry in an effort to protect the groundwater recharge area for adjacent rural subdivisions (see the Scratchgravel Hills Proposed Mineral Withdrawal map). All other public land in the resource area would remain available unless previously withdrawn from mineral entry.

R4W

T11N

T10N



-  Public Surface/Subsurface
-  Public Subsurface
-  Private
-  Proposed Mineral Withdrawal Area
-  Military Reservation
-  State

**Scratchgravel Hills  
Proposed Mineral  
Withdrawal  
Alternative C Only**



1:100,000





Mineral exploration and development guidelines are summarized in Table 2-9.

**Issue 7: Motorcycle Use Areas.** The Scratchgravel Hills, Limestone Hills, Hilger Hills, Spokane Hills, and Marysville areas would be closed to organized motorcycle events. All other public land in the resource area would be managed as outlined in Management Guidance Common to all Alternatives. Motorcycle use area allocations are summarized in Table 2-10.

**Issue 8: Motorized Vehicle Access.** All areas being studied for wilderness would be closed to motorized vehicle access. The Scratchgravel Hills, Limestone Hills, and Hilger Hills would be identified for motorized vehicle restrictions. All other public land in the resource area would be managed as outlined in Management Guidance Common to all Alternatives. Motorized vehicle access allocations are summarized in Table 2-11.

**Issue 9: Utility and Transportation Corridors.** All areas being recommended for wilderness designation would be identified as exclusion areas. Avoidance areas would be established in the Scratchgravel Hills, Limestone Hills, and Sleeping Giant Areas, and along the Smith River, Jefferson River, and the Missouri River from Three Forks to Holter Dam. Windows would be established where major facilities cross avoidance areas. All other public land in the resource area would be managed as outlined in Management Guidance Common to all Alternatives. Utility and transportation corridor allocations are summarized in Table 2-12.

**Issue 10: Coal Leasing.** No federal coal in the Great Falls Coal Field would be made available for further consideration for coal leasing. Coal leasing allocations are summarized in Table 2-13.

**Issue 11: Special Designations.** The Ear Mountain area would be designated as an Outstanding Natural Area, and the Sleeping Giant area would be designated as Recreation Lands. Proposed boundaries for the Ear Mountain ONA and recommended wilderness areas along the Rocky Mountain Front are illustrated on the Special Designations and Wilderness Recommendations: Alternative C map. The Sleeping Giant Recreation Lands boundary would be identical to the boundary shown in Alternative A for the proposed Sleeping Giant ACEC (see the Sleeping Giant ACEC map). Special designations are summarized in Table 2-14.

## **Alternative D: Production Alternative**

### **Theme**

The production alternative places primary emphasis on making public land and resources available for use and development. Environmental values would be protected to the extent required by applicable laws, regulations, and policies. The goal of this alternative is to change present management direction so that the identified issues are resolved in a manner that generally places highest priority on the production of oil and gas, coal, livestock forage, and timber.

### **Issue Resolution Guidelines**

**Issue 1: Oil and Gas Leasing and Development.** No areas outside of the Sun River Game Range would be identified for no surface occupancy or no leasing. Seasonal exploration stipulations would be required in bighorn sheep, elk, and mule deer winter/spring range, and mountain goat kidding areas. Seasonal exploration and production stipulations would be required in key grizzly bear spring/summer use areas. Guidelines are displayed on the Oil and Gas Leasing Stipulations: Alternative D map, and are summarized in Table 2-3.

**Issue 2: Grazing Allotment and Riparian Habitat Management.** Increases in authorized livestock use would be proposed for thirty-four I allotments, where inventory or monitoring data indicate additional forage is available. Reductions would be proposed for nine I allotments where inventory or monitoring data indicate that current authorized use is not sustainable. Adjustments in allotment management practices would be prioritized to achieve livestock forage production objectives before achieving wildlife, watershed, and vegetation condition objectives (see Appendix E). Adjustments proposed under this alternative are summarized in Table 2-4.

**Issue 3: Wilderness Study Recommendations.** All areas being studied would be recommended as nonsuitable for wilderness designation. Individual area boundaries are displayed on the alternative maps for Blind Horse Creek, Chute Mountain, Deep Creek/Battle Creek, Black Sage, and the Yellowstone River Island. Recommendations are summarized in Table 2-6.



**Issue 4: Forest Management.** All public land would be available for forest management. Commercial forestland in the Eightmile Creek, Elkhorn, Boulder-Clancy, Marysville, and Rogers Pass areas would receive high priority for forest management. Harvest restrictions would be based primarily on consideration of forest productivity, operability, and silvicultural or regeneration requirements. Forest management guidelines are summarized in Table 2-7.

**Issue 5: Land Ownership Adjustments.** Priority areas would be established for retention and acquisition, disposal, and further study. Land ownership adjustment guidelines are summarized in Table 2-8.

**Issue 6: Mineral Exploration and Development.** All public land in the Scratchgravel Hills would remain open to mineral entry and development. All other public land in the resource area would remain open unless previously withdrawn from mineral entry. Mineral exploration and development guidelines are summarized in Table 2-9.

**Issue 7: Motorcycle Use Areas.** The Scratchgravel Hills, Limestone Hills, Hilger Hills, Spokane Hills, and Marysville areas would remain available for further consideration. All other public land in the resource area would be managed as outlined in Management Guidance Common to all Alternatives. Motorcycle use area allocations are summarized in Table 2-10.

**Issue 8: Motorized Vehicle Access.** The Scratchgravel Hills, Limestone Hills, and Hilger Hills would remain open to motorized vehicle access. All other public land in the resource area would be managed as outlined in Management Guidance Common to all Alternatives. Motorized vehicle access allocations are summarized in Table 2-11.

**Issue 9: Utility and Transportation Corridors.** The Blind Horse Creek, Chute Mountain, and Deep Creek/Battle Creek areas would continue to be managed as avoidance areas. Avoidance areas would not be established in the Scratchgravel Hills, Limestone Hills, and Sleeping Giant areas, or along the Smith River, Jefferson River, and the Missouri River from Three Forks to Holter Dam. No windows would be established. The above lands would continue to be managed as available for further consideration. All other public land in the resource area would be managed as outlined under Management Guidance Common to all Alternatives. Utility and transportation corridor allocations are summarized in Table 2-12.

**Issue 10: Coal Leasing.** All federal coal in the Great Falls coal field would be available for further consideration for coal leasing, pending further study. Surface occupancy generally would be prohibited within public road corridors, rights-of-way, and key wildlife use areas. For analysis purposes, it is assumed that three underground mines would be developed in the Stockett area to supply enough coal (approximately 1.2 million short-tons annually) for Montana Power Company's proposed 350 MW Salem Project near Great Falls. It is also assumed that mine development would begin in 1993 and production would begin in 1996. These assumptions are made primarily to allow for projection of social and economic impacts. The acreage to be disturbed by such operations for surface facilities cannot be estimated at this time. To date, no proposals for mining coal in the Great Falls Coal Field have been received by the BLM. Details regarding applications of the coal unsuitability criteria are included in Appendix H. Coal leasing allocations are summarized in Table 2-13.

**Issue 11: Special Designations.** No special designations would be established. Special designations are summarized in Table 2-14.

## COMPARISON OF ALTERNATIVES

Table 2-15 summarizes the major land allocations and resource outputs that would occur under each alternative. Table 2-16 summarizes the environmental consequences expected under each alternative. For additional information regarding the environmental effects of each alternative, refer to the Environmental Consequences chapter.

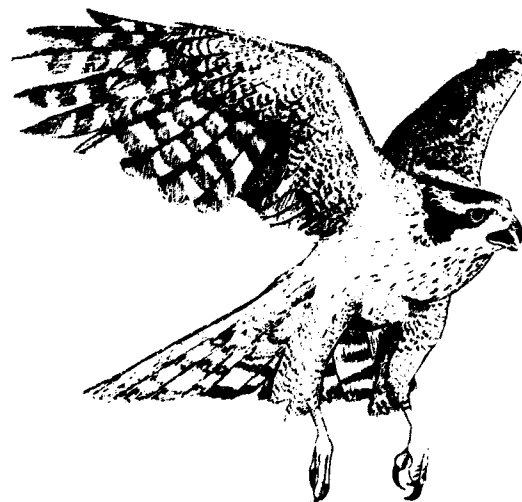


TABLE 2-13  
COMPARISON OF ALTERNATIVES: SUMMARY OF ALLOCATIONS/OUTPUTS BY ISSUE

Issue	Allocation or Output <sup>1</sup>	Unit of Measure	Alt. A Preferred	Alt. B No Action	Alt. C Protection	Alt. D Production
Oil and Gas Leasing & Development	Standard Stipulations	acres fed. min.	272,448	272,448	271,324	272,703
	Special Stipulations	acres fed. min.	339,208	347,103	302,903	356,107
	No Surface Occupancy <sup>2</sup>	acres fed. min.	22,950	17,528	42,751	11,821
	No Leasing	acres fed. min.	20,898	18,425	38,527	14,874
	Standard Stipulations-RMF <sup>3</sup>	acres fed. O&G	36,160	36,160	34,740	36,480
	Special Stipulations-RMF	acres fed. O&G	49,500	59,480	3,700	70,820
	No Surface Occupancy-RMF No Leasing-RMF	acres fed. O&G	14,040	7,200	39,020	0
		acres fed. O&G	18,550	15,430	40,780	10,950
Grazing Allotment & Riparian Habitat Management	Initial Livestock Forage Target	AUMs	29,297	31,501	27,036	33,954
	Livestock Forage Prod. <sup>4</sup> Satisfactory Riparian Habitat <sup>4</sup>	AUMs	33,417	33,417	28,217	38,618
Wilderness Study	Proposed Wilderness Recommendations	acres fed. surface	0	0	17,197	0
Forest Management	Total Commercial Forest Set Aside	acres fed. surface	5,197	5,197	5,197	0
	Yield	mmbf/decade <sup>5</sup>	<del>28.0</del> 24.0	26.5	26.5	29.0
Land Owner- ship Adjust- ments	Retention Category	acres fed. surface	<del>282,000</del> 282,000	311,337	282,283	282,283
	Disposal Category	acres fed. surface	<del>25,000</del> 25,567	0	25,637	25,637
	Further study	acres fed. surface	<del>2,299</del> 0,117	0	3,417	3,417
Mineral Exploration & Development	Withdrawn from entry	acres fed. min.	42,019	42,019	44,979	42,019
	Available for entry	acres fed. min.	613,486	613,486	610,526	613,486
Motorcycle Use Areas	Available for further consideration	acres fed. surface	234,134	266,149	208,824	266,149
	Closed to organized events	acres fed. surface	77,203	45,188	102,513	45,188
Motorized Vehicle Access	Open	acres fed. surface	79,875	111,890	76,472	111,890
	Prioritized for restrictions	acres fed. surface	219,404	199,447	216,826	199,447
	Closed	acres fed. surface	12,058	0	18,037	0
Utility and Transporta- tion Corri- dors	Exclusion Areas	acres fed. surface	0	0	17,197	0
	Avoidance Areas	acres fed. surface	74,489	22,171	63,271	22,171
	Windows	acres fed. surface	952	0	952	0
	Available for further consideration	acres fed. surface	235,896	289,166	229,917	289,166
Coal Leasing consideration	Available for further consideration	acres fed. coal	25,452	0	0	25,452
	Available for surface occupancy	acres fed. coal	<del>23,607</del> 19,149	0	0	23,697
Special Designations	Area of Critical Envir- mental Concern	acres fed. surface	23,672	0	0	0
	Recreation Lands	acres fed. surface	11,809	0	11,609	0
	Outstanding Natural Areas	acres fed. surface	12,058	0	840	0
	Undesignated	acres fed. surface	287,870	311,337	298,888	311,337

<sup>1</sup>All allocations or output estimates are for the entire Headwaters Resource Area unless otherwise indicated. All outputs assume adequate funding and manpower.

<sup>2</sup>Acres identified for no surface occupancy do not include areas which normally are not occupied under standard stipulations, e.g. slopes exceeding 30% and streamside buffer strips.

<sup>3</sup>RMF: Rocky Mountain Front

<sup>4</sup>Long-term estimate; assumes adequate funding to implement plan over 20-year period

<sup>5</sup>HRA: Headwaters Resource Area

<sup>6</sup>mmbf: million board feet

TABLE 2-16  
COMPARISON OF ALTERNATIVES: SUMMARY OF ENVIRONMENTAL CONSEQUENCES

ENVIRONMENTAL COMPONENT	EXISTING SITUATION	ALTERNATIVE A: PREFERRED			ALTERNATIVE B: NO ACTION			ALTERNATIVE C: PROTECTION			ALTERNATIVE D: PRODUCTION		
		SHORT TERM	LONG TERM	SHORT TERM	LONG TERM	SHORT TERM	LONG TERM	SHORT TERM	LONG TERM	SHORT TERM	LONG TERM	SHORT TERM	LONG TERM
AIR QUALITY													
Air quality would not be significantly affected under any alternative.													
SOIL AND WATER RESOURCES													
Watershed Condition	—	minor	moderate	minor	moderate	minor	moderate-high	minor	moderate-high	minor	moderate-high	minor	moderate-high
Water Quality	generally good to excellent	improvement	improvement	improvement	improvement	improvement	improvement	improvement	improvement	improvement	improvement	improvement	improvement
		no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
		decreasing	36,160	decreasing	36,160	decreasing	36,160	decreasing	36,160	decreasing	36,160	decreasing	36,160
		increasing	49,500	increasing	59,460	increasing	3,700	increasing	3,700	increasing	3,700	increasing	3,700
		increasing	14,040	increasing	7,200	increasing	39,020	increasing	39,020	increasing	39,020	increasing	39,020
		increasing	18,550	increasing	15,430	increasing	40,790	increasing	40,790	increasing	40,790	increasing	40,790
ENERGY AND MINERALS													
Oil and Gas—Rocky Mountain Front (in acres)		decreasing	272,449	decreasing	272,449	decreasing	271,324	decreasing	271,324	decreasing	271,324	decreasing	271,324
Leased with standard stipulations	86,050	increasing	339,208	increasing	347,103	increasing	302,903	increasing	302,903	increasing	302,903	increasing	302,903
Leased with special stipulations	17,700	increasing	22,950	decreasing	17,528	increasing	42,751	increasing	42,751	increasing	42,751	increasing	42,751
Leased with no surface occupancy	3,550	increasing	20,898	increasing	18,425	increasing	38,527	increasing	38,527	increasing	38,527	increasing	38,527
Unleased	10,950	decreasing	42,019	decreasing	42,019	decreasing	44,979	decreasing	44,979	decreasing	44,979	decreasing	44,979
Oil and Gas—Headwaters Resource Area (in acres)		increasing	613,486	increasing	613,486	increasing	610,526	increasing	610,526	increasing	610,526	increasing	610,526
Leased with standard stipulations	450,154	increasing	125.6	0	0	0	0	0	0	0	0	0	0
Leased with special stipulations	163,333	no significant change	minor	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Leased with no surface occupancy	23,550	no significant change	improvement	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Unleased	12,918	no significant change	minor	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Locatable Minerals (in acres)		no significant change	improvement	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Withdrawn from mineral entry	53,606	no significant change	improvement	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Available for entry	601,899	no significant change	minor	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Coal (in millions of short tons)		increasing	125.6	0	0	0	0	0	0	0	0	0	0
Available for further consideration for leasing	0	no significant change	improvement	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
LANDS													
Land Ownership Pattern	highly fragmented	no significant change	minor	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Legal Accessibility	generally poor	no significant change	improvement	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
RECREATION													
Developed Recreation Opportunities		no significant change	minor	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Dispersed Recreation Opportunities	—	no significant change	increase	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Nonmotorized		minor	decrease	minor	decrease	minor	decrease	minor	decrease	minor	decrease	minor	decrease
Motorized		minor	decrease	minor	decrease	minor	decrease	minor	decrease	minor	decrease	minor	decrease
VISUAL QUALITY													
Visual quality would not be significantly affected under any alternative.													
CULTURAL RESOURCES													
Cultural resources would not be significantly affected under any alternative.													

TABLE 2-16 (cont.)  
COMPARISON OF ALTERNATIVES: SUMMARY OF ENVIRONMENTAL CONSEQUENCES

ENVIRONMENTAL COMPONENT	EXISTING SITUATION	ALTERNATIVE A: PREFERRED		ALTERNATIVE B: NO ACTION		ALTERNATIVE C: PROTECTION		ALTERNATIVE D: PRODUCTION	
		SHORT TERM	LONG TERM	SHORT TERM	LONG TERM	SHORT TERM	LONG TERM	SHORT TERM	LONG TERM
WILDERNESS RESOURCES	Five areas containing 17,197 acres under wilderness study	Potential loss of wilderness values, primarily because of oil and gas exploration and development on pre-FLPMA leases	Maintenance of wilderness values on 11,218 acres designated as Outstanding Natural Areas; potential loss of wilderness values on remaining 5,979 acres	Potential loss of wilderness values, primarily because of oil and gas exploration and development on pre-FLPMA leases	Potential loss of wilderness values in all areas	Potential loss of wilderness values, primarily because of oil and gas exploration and development on pre-FLPMA leases	Preservation of wilderness values in all areas through wilderness designation	Potential loss of wilderness values, primarily because of oil and gas exploration and development on pre-FLPMA leases	Potential loss of wilderness values in all areas
TIMBER RESOURCES									
Allowable Cut (million board feet per decade)	1.0 (actual cut)	increasing	26.45	increasing	26.45	increasing	26.45	increasing	29.0
Acres Cut per decade	333 (actual cut)	increasing	8,816	increasing	8,816	increasing	8,816	increasing	9,667
RANGE RESOURCES									
Ecological range condition (% of rangeland in HRA)									
Excellent		no change	8%	no change	8%	increasing	15%	increasing	37%
Good		increasing	67%	increasing	67%	decreasing	42%	no change	49%
Fair		decreasing	24%	decreasing	24%	decreasing	39%	decreasing	13%
Poor		decreasing	1%	decreasing	1%	increasing	4%	decreasing	1%
Livestock AUMs	31,501	29,297	33,417	31,501	33,417	27,036	28,217	33,954	38,618
FISH AND WILDLIFE HABITAT (unsatisfactory acres)									
Big Game—winter/spring habitat		minor decrease	moderate decrease	no significant change	moderate decrease	minor decrease	major decrease	minor increase	moderate increase
Elk	14,925 (23%)	minor decrease	moderate decrease	no significant change	moderate decrease	minor decrease	major decrease	minor increase	moderate increase
Mule Deer	27,763 (25%)	minor decrease	minor decrease	minor decrease	minor decrease	minor decrease	major decrease	moderate increase	moderate increase
Bighorn Sheep	1,035 (17%)	minor decrease	moderate decrease	no significant change	moderate decrease	minor decrease	moderate decrease	minor increase	moderate increase
Moose	3,888 (40%)	minor decrease	minor decrease	minor decrease	minor decrease	minor decrease	major decrease	moderate increase	moderate increase
Antelope	3,072 (22%)	minor decrease	minor decrease	minor decrease	minor decrease	minor decrease	moderate decrease	moderate increase	moderate increase
Big Game—summer/fall habitat		minor decrease	moderate decrease	no significant change	moderate decrease	minor decrease	major decrease	minor increase	moderate increase
Elk	5,922 (23%)	minor decrease	moderate decrease	no significant change	moderate decrease	minor decrease	major decrease	minor increase	moderate increase
Mule Deer	1,015 (10%)	minor decrease	minor decrease	minor decrease	minor decrease	minor decrease	moderate decrease	moderate increase	moderate increase
Bighorn Sheep	783 (8%)	minor decrease	minor decrease	no significant change	minor decrease	minor decrease	moderate decrease	moderate increase	moderate increase

TABLE 2-16 (cont.)  
COMPARISON OF ALTERNATIVES: SUMMARY OF ENVIRONMENTAL CONSEQUENCES

ENVIRONMENTAL COMPONENT	EXISTING SITUATION	ALTERNATIVE A: PREFERRED		ALTERNATIVE B: NO ACTION		ALTERNATIVE C: PROTECTION		ALTERNATIVE D: PRODUCTION	
		SHORT TERM	LONG TERM	SHORT TERM	LONG TERM	SHORT TERM	LONG TERM	SHORT TERM	LONG TERM
Moose	748 (12%)	no significant change	minor decrease	no significant change	minor decrease	minor decrease	moderate decrease	minor increase	moderate increase
Antelope	3,259 (23%)	no significant change	minor decrease	minor decrease	minor decrease	minor decrease	moderate decrease	minor increase	moderate increase
Big Game—yearlong habitat	2,142 (25%)	minor decrease	moderate decrease	no significant change	moderate decrease	minor decrease	major decrease	moderate increase	moderate increase
Elk	10,521 (22%)	minor decrease	moderate decrease	no significant change	moderate decrease	minor decrease	major decrease	minor increase	moderate increase
Mule Deer	0 (0%)	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Bighorn Sheep	4,212 (21%)	no significant change	minor decrease	no significant change	minor decrease	minor decrease	moderate decrease	minor increase	major increase
Antelope		no significant change	decrease	no significant change	decrease	decrease	decrease	increase	increase
Threatened and Endangered Species habitat									
Grizzly Bear (yearlong)	8,588 (40%)	minor decrease	major decrease	no significant change	major decrease	moderate decrease	major decrease	minor decrease	minor decrease
Grey Wolf	1,035 (6%)	minor decrease	moderate decrease	no significant change	moderate decrease	minor decrease	major decrease	minor increase	minor increase
Bald Eagle (miles)	2 (10%)	minor decrease	moderate decrease	no significant change	moderate decrease	moderate decrease	moderate decrease	no significant change	no significant change
Peregrine Falcon	0	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change	no significant change
Riparian Habitat (miles) allotments	34 (49%)	no significant change	major decrease	no significant change	major decrease	minor decrease	major decrease	no significant change	minor decrease
M and C allotments	5 (7%)	no significant change	minor decrease	no significant change	minor decrease	minor decrease	moderate decrease	no significant change	decrease
Waterfowl Habitat (acres)	525 (21%)	minor decrease	major decrease	minor decrease	major decrease	moderate decrease	major decrease	minor increase	minor increase
Fisheries Habitat (miles)	36 (38%)	minor decrease	major decrease	minor decrease	major decrease	moderate decrease	major decrease	no significant change	minor decrease
Upland Game Bird Habitat	—	minor decrease	moderate decrease	no significant change	moderate decrease	minor decrease	moderate decrease	minor increase	minor increase
SOCIAL AND ECONOMICS CONDITIONS									
Economic impact to livestock operators caused by decreases in AUMs		moderately significant	insignificant	none	none	moderately significant	moderately significant	moderately significant	insignificant
Economic impact to livestock operators caused by increases in AUMs		moderately significant	moderately significant	none	moderately significant	none	none	moderately significant	moderately to highly significant
Overall impact to regional economy									
Overall impact on attitudes									

## SELECTION OF THE PREFERRED ALTERNATIVE

Each alternative considered in detail represents a comprehensive plan for managing all land and resources in the Headwaters Resource Area. However, what differentiates one alternative from another is the way each of the eleven issues would be resolved if that alternative were selected for implementation. Thus, selection of the preferred alternative was based largely on the effects of the alternative in resolving issues. Alternative A was selected as the preferred alternative, and the management direction for resolving each of the eleven issues under Alternative A is summarized below.

### Oil and Gas Leasing and Development

#### Management Direction

Oil and gas leasing and development on slightly more than 80% of the federal minerals within the Headwaters Resource Area would continue to be administered in accordance with the general guidance provided by the Butte District Oil and Gas Leasing Environmental Assessment. This represents no change from current management direction, and is a reflection of the low level of oil and gas activity anticipated in the future throughout most of the area.

Federal minerals located along the Rocky Mountain Front would be administered in accordance with more specific lease stipulation guidance provided by this plan. The preferred alternative represents a change from current management direction because of the need to establish additional no surface occupancy restrictions within the boundaries of proposed Outstanding Natural Areas. This alternative will result in approximately 72% of the federal minerals along the Rocky Mountain Front remaining available for occupancy leasing (a decrease of 9%, or 9,960 acres, from current direction).

#### Rationale

The Rocky Mountain Front is a nationally significant area because of its high wildlife, recreation, and scenic values. It is also an area of high potential for oil and gas production, although to date, exploration of the area has yielded inconclusive results. The preferred alternative will provide needed protection for grizzly bear and other important wildlife habitat, and will preserve future management options for the proposed Blind Horse Creek, Ear Mountain, Chute Mountain, and Deep Creek/Battle Creek Outstanding Natural Areas,

while still allowing oil and gas exploration and development to occur on most of the federal mineral estate within the Rocky Mountain Front area.

### Grazing Allotment and Riparian Habitat Management

#### Management Direction

The preferred alternative would result in minor changes from current management direction. Short-term adjustments in livestock forage allocations would be proposed for twenty-six allotments containing 88,596 acres of public land, and would result in a 2,204 AUM (7%) net decrease in licensed livestock use within the resource area. Livestock grazing on 301 allotments would remain at current levels. Future upward or downward adjustments in livestock use would be based on monitoring studies.

Range improvements, treatments, and grazing systems would be implemented in accordance with current BLM policy, and would be designed to achieve specific multiple use objectives identified in the RMP for each allotment. Riparian habitat condition would be improved from unsatisfactory to satisfactory on approximately twenty miles of stream bank.

#### Rationale

The preferred alternative provides for significant improvement of vegetation, wildlife habitat, and riparian habitat conditions, while causing minimal disruptions in livestock use. The proposed 2,204 AUM reduction in licensed livestock use includes 1,999 AUMs of nonuse licensed during 1980-1982; thus, the reduction in actual livestock use will be approximately 205 AUMs. Allotments where resource conditions are unsatisfactory have been targeted for corrective action. Other allotments with high potential for livestock forage production will be managed with the goal of increasing future livestock use. This alternative strikes a balance between the protection or enhancement of environmental values and the production of additional livestock forage.

### Wilderness Study Recommendations

#### Management Direction

None of the five areas under consideration would be recommended for wilderness designation. Three areas along the Rocky Mountain Front (Blind Horse Creek, Chute Mountain, and Deep Creek/Battle Creek) would be administratively protected as Outstanding Natural Areas, while the Black Sage and Yellowstone River Island Wilderness

Study Areas would be managed without any special designation.

**Rationale**

The Black Sage and Yellowstone River Island WSAs possess moderate to low wilderness values and would be difficult to manage as wilderness. The three areas along the Rocky Mountain Front generally are characterized by moderate to high wilderness values, but pose significant manageability problems and may be underlain by oil and gas. The use of Outstanding Natural Area designations is preferred in this case because of the management flexibility such designations would allow if significant oil and gas reserves are proven to exist beneath these areas in the future. During the interim, special designation will permit essentially the same level of protection for scenic, recreational, and other values that wilderness designation would provide.

**Forest Management**

**Management Direction**

The preferred alternative will result in essentially no change from current management direction. Forest products would continue to be harvested on a sustained yield basis on appropriate sites throughout the resource area. Intensive management, including investment of federal funds for forest management activities, would be focused in a few key areas with the highest potential for timber production and the lowest potential for conflicts with other resource values. Standard operating procedures developed for the protection of soils, water quality, scenic values, and wildlife habitat would continue to be applied. Minor amounts of forested land would be set aside from harvest in the Scratchgravel Hills, Sleeping Giant, and Rocky Mountain Front areas, and within key wildlife habitats.

**Rationale**

Current management direction is resulting in no significant conflicts between forest management activities and other resource uses and values. With adequate funding, the full 26.45 mmbf/decade of allowable harvest could be realized and would contribute to the economies of local communities.

**Land Ownership Adjustments**

**Management Direction**

Assuming that willing buyers and/or exchange proponents can be located, the preferred alternative would result in a significant change from the

current management direction of retaining essentially all BLM-administered land in public ownership. In the future, tracts that are generally small, isolated, inaccessible, and low in public resource values would be disposed of through sale or exchange. Some non-federal land with high public values would be acquired through exchange in order to consolidate public ownership within retention areas. Approximately 3,400 acres would require additional study prior to making retention/disposal decisions.

**Rationale**

The current land ownership pattern within the Headwaters Resource Area is characterized by numerous isolated parcels of BLM-administered land that are inaccessible to the public and relatively difficult to manage. The preferred alternative will allow land ownership adjustments to occur, and this will result in improved management efficiency, fewer conflicts between the public and private landowners, and greater public benefits through improved access opportunities and consolidation of public land in retention areas. It will also allow for some public land to be put to more productive use in private or local government ownership.

**Mineral Exploration and Development**

**Management Direction**

The preferred alternative will result in no change from current management direction. All public land within the resource area will remain available for mineral entry and development, unless previously withdrawn. Some existing withdrawals may be revoked in the future, based on application of current withdrawal review procedures.

**Rationale**

The Scratchgravel Hills were considered for a possible new withdrawal in order to protect the groundwater recharge area for nearby homeowners from possible cyanide contamination or other types of pollution. The preferred alternative would not establish any new withdrawal in the Scratchgravel Hills because there are numerous patented and unpatented mining claims within the groundwater recharge area that would be unaffected by the withdrawal. Current federal and state regulations affecting mining and water quality are considered adequate to protect groundwater in the area, if the enforcing agencies are funded adequately.



## Motorcycle Use Areas

### Management Direction

The preferred alternative will result in no change from current management direction on approximately 90% of the resource area. The Montana City motorcycle use area would remain available for organized events. Public land along the Rocky Mountain Front, in the Jefferson, Smith, and Missouri river corridors, in the Holter Lake/Sleeping Giant area, and near Toston Dam would remain closed to organized motorcycle events. New closures would be established in the Scratchgravel Hills and Limestone Hills. Approximately 234,134 acres, or 75% of the resource area, would remain available for future consideration. Applications for staging events would be reviewed on a case-by-case basis and future decisions would be based on criteria provided in the RMP.

### Rationale

The primary demand for organized events in the resource area appears to be in the Helena Valley and Limestone Hills areas. The preferred alternative would allow such use to continue on public land near Montana City, and would make other public land in the Hilger Hills, Spokane Hills, and Marysville areas available for future consideration. Public land in the Scratchgravel Hills would be closed to motorcycle races in order to protect open space, scenic, and other environmental values, while the Limestone Hills would be closed in order to avoid conflicts with National Guard activities, range users, and wildlife habitat.

## Motorized Vehicle Access

### Management Direction

Under the preferred alternative, motorized vehicle access would continue without restrictions on approximately 79,875 acres of public land. An additional 219,404 acres of public land would remain available for motorized access, but use may be restricted seasonally and/or to specific roads and trails. The proposed Blind Horse Creek, Ear Mountain, Chute Mountain, and Deep Creek/Battle Creek outstanding natural areas, comprising 12,058 acres, would be closed to motorized vehicle use. Future site-specific decisions regarding restrictions and closures would be based on criteria provided in the RMP.

### Rationale

The preferred alternative generally will allow motorized vehicle use to continue where it has already been established, but will permit appropriate restrictions to be applied where necessary

to protect important seasonal wildlife habitat, or to reduce conflicts with watershed values, non-motorized recreation users, and adjoining landowners. This alternative balances the need for public access to public land and resources with the protection of important amenity values, and will allow for flexibility to adjust future access decisions based on changing public demands and resource conditions.

## Utility and Transportation Corridors

### Management Direction

Under the preferred alternative, approximately 236,838 acres, or 77%, of the public land in the resource area generally would remain available for development of utility and transportation corridors. The remaining public land, located primarily in the Rocky Mountain Front, Holter Lake/Sleeping Giant area, Scratchgravel Hills, Limestone Hills, and along the Jefferson, Smith, and upper Missouri rivers, would be identified for avoidance, and thus would generally be unavailable for corridor development. Future site-specific corridor development decisions would be based on criteria provided in the RMP.

### Rationale

The preferred alternative reflects the need to make public land available for major utility and transportation corridor development, while avoiding, to the extent possible, the location of major facilities in areas of high public recreation use, high scenic and wildlife values, and residential areas. This alternative establishes general direction for corridor decisions, yet preserves flexibility for adapting future decisions to changing public demands and resource conditions.

## Coal Leasing

### Management Direction

The preferred alternative would make all federal coal within the Great Falls Coal Field available for further consideration for coal leasing, pending further study. Approximately 25,452 acres, containing about 125 million short-tons of federal coal, would be available for lease application. Individual lease applications and mining plans would be reviewed to assure protection of important social and environmental values.

### Rationale

The preferred alternative maximizes the availability of federal coal for further consideration, pending the results of further study. Since the Great

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Falls Coal Field is considered suitable for mining only by underground methods, surface impacts generally would be relatively minor and/or mitigatable. Important seasonal wildlife habitat and utility and transportation rights-of-way have been identified that would be unavailable for surface occupancy and use. Additional no occupancy areas may be identified in the future at the time of mine plan review.

### **Special Designations**

#### **Management Direction**

The preferred alternative would result in the designation of four Outstanding Natural Areas comprising 12,058 acres along the Rocky Mountain Front. These areas are Blind Horse Creek, Ear Mountain, Chute Mountain, and Deep Creek/Battle Creek. In addition, approximately 11,609 acres of public land would be designated as the Sleeping Giant Area of Critical Environmental Concern.

#### **Rationale**

The four proposed outstanding natural areas are considered nationally significant because of their high wildlife, recreation, and scenic values, and because of their association with the Bob Marshall ecosystem. They also are considered to have high potential for oil and gas production, although exploration in the area to date has yielded inconclusive results. The proposed designation of the areas, accompanied by a prohibition on surface occupancy, is intended to preserve future management options while providing full protection for surface values.

The proposed Area of Critical Environmental Concern designation for the Sleeping Giant area would provide added recognition of the high recreation and wildlife values in this area. The proximity of this area to the population centers of Great Falls and Helena, and its association with Holter Lake and the Gates of the Mountains Wilderness, suggests that future management emphasis should be directed primarily toward maintaining and enhancing the recreation, scenic, and wildlife values of the area.

### **MONITORING AND EVALUATION**

The effects of implementing the Headwaters RMP will be monitored and evaluated on a periodic basis to assure that the desired results are being achieved. The general purposes, priorities, and methods to be used in monitoring and evaluation are identified in Appendix I.

