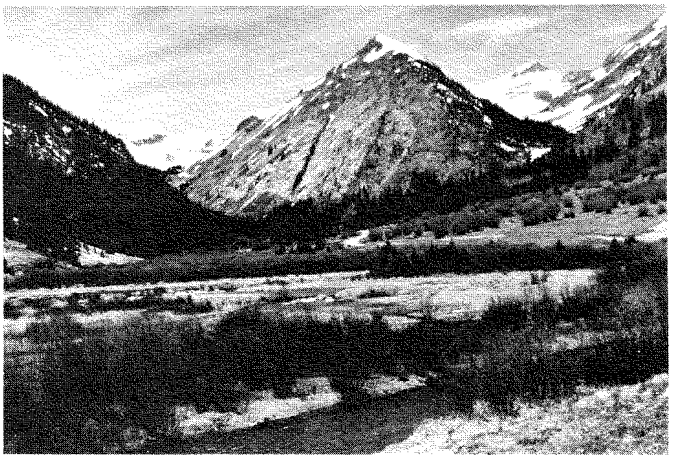
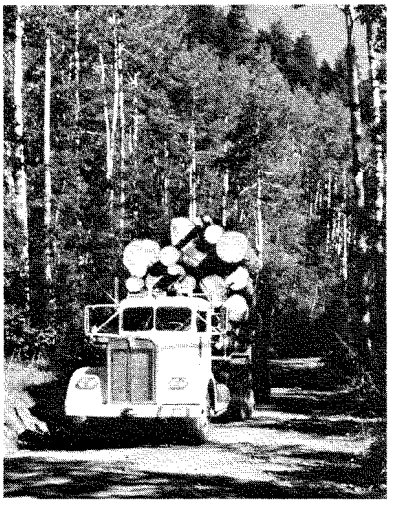
United States Department of the Interior
Bureau of Land Management
Montrose District
Colorado

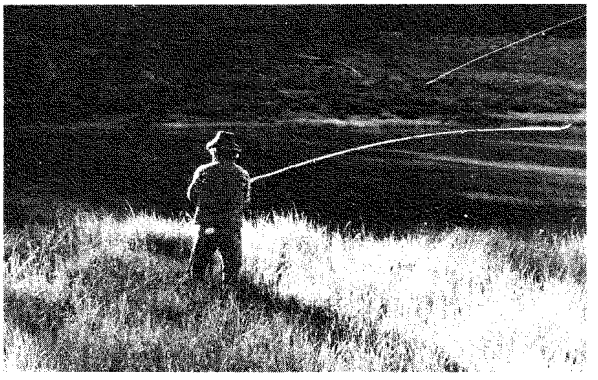
DRAFT
March 1991

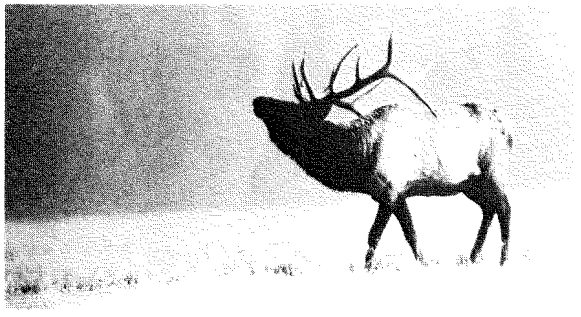
GUNNISON RESOURCE AREA

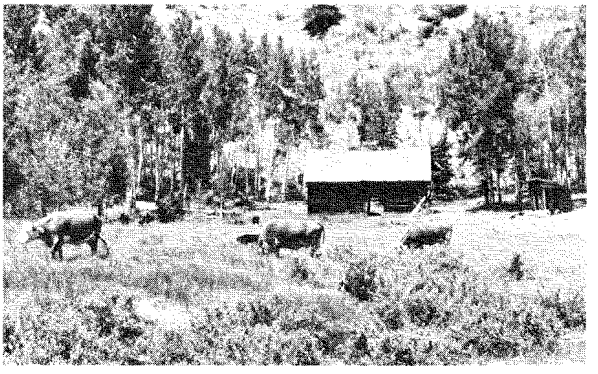
Resource Management Plan and Environmental Impact Statement











United States Department of the Interior

BUREAU OF LAND MANAGEMENT
MONTROSE DISTRICT OFFICE
2465 SOUTH TOWNSEND
MONTROSE, COLORADO 81401

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
1616 (130)

Dear Reader:

Enclosed for your review and comment is the Draft Gunnison Resource Management Plan/Environmental Impact Statement (RMP/EIS). Included in Appendix I is the Wild and Scenic River Study Report for the Lake Fork of the Gunnison River.

The Draft RMP/EIS presents multiple-use management alternatives for the public lands within the Gunnison Planning Area, and analyzes the environmental impacts of implementing each alternative. Related documents are available for review at the Gunnison Resource Area Office in Gunnison, the Montrose District Office in Montrose, Colorado, or the Colorado State Office, Denver, Colorado.

You are invited to make written or oral comments on these documents. Public hearings to receive oral comments on the Draft RMP/EIS are scheduled as follows:

Date and Time	City	Location
April 17, 1991 7:30 p.m.	Gunnison, Colorado	County Commissioners' meeting room, Gunnison County Courthouse, 200 East Virginia Avenue
April 18, 1991 7:30 p.m.	Lake City, Colorado	County Commissioners' meeting room, Hinsdale County Courthouse, 317 North Henson Street

An informal Open House session will be held prior to each hearing to give you an opportunity to meet with BLM representatives to discuss and ask questions about the Draft RMP/EIS. Open House sessions will run from 6:30 p.m. to 7:30 p.m.

In order to be considered, your written comments must be received by close of business (4:30 p.m.) on May 31, 1991. Your name and complete mailing address should be on all written comments, including copies that you may make available to us at the public hearings.

Please address your written comments or questions to Bill Bottomly, RMP Team Leader, Bureau of Land Management, 2505 South Townsend Avenue, Montrose, Colorado 81401 (303/249-6047).

Sincerely yours,

Alan L. Kesterke

Alan L. Kesterke
Montrose District Manager

DRAFT
RESOURCE MANAGEMENT PLAN
AND
ENVIRONMENTAL IMPACT STATEMENT
MARCH, 1991

Prepared by:
United States Department of the Interior
Bureau of Land Management
Colorado State Office
Montrose District
Gunnison Resource Area

District Manager, Montrose

State Director, Colorado

GUNNISON
RESOURCE MANAGEMENT PLAN
AND
ENVIRONMENTAL IMPACT STATEMENT

Draft (X) Final ( )

Lead Agency: The United States Department of the Interior, Bureau of Land Management.

1. Type of Action: Administrative (X) Legislative ( )

2. Abstract: This Draft Resource Management Plan and Environmental Impact Statement describes and analyzes five alternatives for managing the public lands and resources within the Gunnison Planning Area in Colorado. These alternatives are: Alternative A (the Continuation of Current Management, or No Action Alternative), Alternatives B, C, D, And Alternative E (the Preferred Alternative). Included also in Appendix I is the Wild and Scenic River Study Report for the Lake Fork of the Gunnison River.

3. Comments have been requested from the following: See Chapter Five for partial distribution list.

4. For further information, contact: Bill Bottomly, RMP Team Leader, Bureau of Land Management, Gunnison Resource Area, 2505 South Townsend Avenue, Montrose, Colorado 81401; telephone commercial 303/249-6047, or FTS 322-7327.

5. Comments on the Draft Resource Management Plan and Environmental Impact Statement must be received no later than: May 31, 1991.

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SUMMARY

SUMMARY

This Draft Resource Management Plan and Environmental Impact Statement (RMP/EIS) identifies and analyzes the options for management of the public lands for the next 10-12 years in the Gunnison planning area in the Gunnison Resource Area in west-central Colorado. The planning area encompasses a total of approximately 960,730 acres in the Bureau of Land Management's (BLM) Montrose District. The BLM has administrative responsibility for the public lands and resources on 585,012 surface acres and 728,600 acres of mineral estate within the planning area.

This resource management plan is being prepared using the BLM's planning regulations issued under the authority of the Federal Land Policy and Management Act of 1976.

ISSUE IDENTIFICATION

The planning process for this RMP/EIS began in September 1988, with issue identification. Public meetings to determine the scope of the document and to identify public concerns that should be addressed were held in Gunnison, Lake City, and Montrose, Colorado. Written comments were also solicited. The issues identified by the public and the BLM during this initial scoping process, and which are addressed in the RMP, are detailed in Table 1-2.

MANAGEMENT ALTERNATIVES

Five multiple-use alternatives were developed in this RMP/EIS. Under Alternative A, Continuation of Current Management, multiple use management would continue in much the same manner as currently exists, using available inventory data, existing activity or project plans for a variety of resource programs, existing planning or environmental documents, and established land use allocations. In Alternative B, management of resources would focus on developing and maintaining recreational opportunities that increase tourism and promote economic stability and quality of life within the planning area. Under Alternative C, objectives call for a high degree of production and economic return of "commodity" oriented resources. In Alternative D, a high degree of protection, enhancement, and maintenance of natural values, over and above that required by protective laws or policy is called for. Alternative E, the Preferred Alternative, balances competing demands by providing products and services while protecting important and sensitive environmental issues. Each alternative proposes different solutions to the identified issues and describes the different management options available to the BLM for the planning area. Each of the alternatives is a complete, reasonable, and implementable plan which provides a framework for public land management and resource allocation specific to the alternative's management objectives.

Initially four alternatives were analyzed. They are Alternatives A (Continuation of Current Management Alternative), B, C, and D. Each alternative was described, and the potential impacts of its management on the environment were analyzed. Based on this analysis, the BLM's policy and goals, and the varying levels of responsiveness to the issues identified during the scoping process, Alternative E, the Preferred Alternative, was developed and its environmental consequences were identified.

The alternatives are described in Chapter Three and the anticipated environmental consequences of each alternative are described in Chapter Four. Table S-1 summarizes the key points of each alternative.

Table S-1

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
	OBJECTIVES: Continue the present levels, methods, and mix of multiple use resource management, maintaining existing uses, outputs, and protection activities.	**OBJECTIVES:** To emphasize or be compatible with those resources which promote outdoor recreation opportunities, tourism, economic stability, and the quality of life.	**OBJECTIVES:** To emphasize a high degree of economic return and resource production, while maintaining, or protecting, or enhancing the natural environment at a compatible and non-restricting level.	**OBJECTIVES:** To emphasize a high degree of protection,enhancement, and maintenance for natural values, while sustaining a compatible level of production for renewable and non-renewable resources.	**OBJECTIVES:** To emphasize the mix and variety of actions that best resolves the issues and management concerns of this RMP/EIS; to achieve a balance between competing demands on uses of public land.
LOCATABLE MINERALS	Allow mineral entry and location on 683,285 acres; currently 45,282 acres are withdrawn from mineral entry and location.	670,198 acres would be open to mineral entry and location; 58,369 acres would be withdrawn from entry and location (includes Powderhorn SRMA, Slumgullion Slide, American Basin drainage, Alpine Loop National Backcountry Byway, Red Bridge Campground, Gate recreation area, Cochetopa SRMA, Cebolla Creek isolated withdrawal, and miscellaneous other agency withdrawals).	Allow mineral entry and location on the entire federal mineral estate, 728,567 acres. Recommend revocation of all withdrawals that segregate lands from mineral entry and location on public land, and no new withdrawals would be approved.	Allow mineral entry and location on 649,645 acres; 78,922 acres would be withdrawn from entry and location (includes S. Beaver Creek and Red Cloud Peak RNA/ACECs and Haystack Cave, Cebolla Creek, Slumgullion Slide, American Basin, Lake Fork, and Dillon Pinnacles ACECs, units D-13, D-19, D-22 (262 acres), plus miscellaneous existing withdrawals).	Allow mineral entry and location on 674,490 acres; 54,077 acres would be withdrawn from entry and location. Includes Alpine Loop National Backcountry Byway, Red Bridge and The Gate campgrounds,Powderhorn Primitive Area and Cochetopa Canyon SRMAs, Slumgullion Earthflow National Natural Landmark, American Basin, and Dillon Pinnacles ACECs, Cebolla Creek isolated withdrawal, plus BLM and other agencies' miscellaneous existing withdrawals.
OIL, GAS, AND GEOTHERMAL RESOURCES	Open to leasing: (a) 616,911 acres; (b) with a seasonal stipulation, 288,640 acres; (c) with standard terms, 328,271 acres. Closed to leasing, 110,007 acres (includes federal oil and gas estate in WSAs).	Open to leasing: (a) 679,381 acres; (b) with a no surface occupancy stipulation, 30,856 acres; (c) with seasonal stipulations, 177,311 acres; (d) with standard terms, 471,214 acres. Closed to leasing: 47,537 acres (includes Powderhorn ACEC, American Basin drainage, Red Bridge campground).	Allow leasing on 726,918 acres of federal oil, gas, and geothermal estate with standard terms.	Open to leasing: (a) 674,164 acres, (b) with a no surface occupancy stipulation, 114,430 acres; (c) with seasonal stipulations, 202,678 acres; (d) with standard terms, 357,056 acres. Closed to leasing, 52,754 acres (includes Slumgullion Slide ACEC, Lake Fork ACEC, Dillon Pinnacles ACEC, and Powderhorn SRMA).	Open to leasing: (a) 680,911 acres; (b) with a no surface occupancy stipulation, 35,605 acres; (c) with seasonal stipulations, 47,545 acres; (d) with controlled surface use stipulation, 2,417 acres; (e) with standard terms, 595,344 acres. Closed to leasing, 46,007 acres (includes the Powderhorn Primitive Area SRMA).

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
SALEABLE MINERALS	683,275 acres available for disposal; disposal on 45,282 acres currently withdrawn from mineral entry and location would require approval of withdrawing agency; disposal would also not be permitted on 10 acres withdrawn from mineral leasing.	Available for disposal with federal mineral estate: 670,065 acres; disposal on 179,063 of these acres would be subject to seasonal restrictions; disposal on lands withdrawn would require the approval of the withdrawing agency; disposal would not be permitted on 58,502 acres.	720,881 acres available for disposal; disposal on the remainder of federal mineral estate would not be permitted for a variety of reasons (7,686 acres)	Available for disposal with federal mineral estate: 579,309 acres; disposal on 199,054 of these acres would be subject to seasonal restrictions; disposal on lands withdrawn would require approval of withdrawing agency; disposal not permitted on 149,258 acres.	Available for disposal with federal mineral estate: 666,530 acres; disposal on 188,970 of these acres would be subject to seasonal restrictions; disposal on lands withdrawn would require approval of withdrawing agency; disposal not permitted on 62,037 acres.
SOIL AND WATER RESOURCES	Continue implementation and intensive management of Long Gulch Sediment Control and Riparian Habitat Improvement Plan. Require mitigation to minimize accelerated soil erosion and water quality deterioration in all plans involving surface disturbance. Pursue, through state water court, water rights where necessary and identified in Montrose District water use assessment, including on 113 miles of fisheries. Manage 320 acres in Wildcat Creek drainage to help protect Crested Butte's water supply.	Continue implementation and intensive management of Long Gulch Sediment Control and Riparian Habitat Improvement Plan. Measures for erosion reduction and increasing plant basal cover incorporated into vegetation treatments on soils with moderate to severe erosion potential. Water rights applied for where appropriate, including along 113 miles of fishery streams. Measures designed to reduce soil erosion and water quality deterioration required in all plans involving surface disturbance.	Continue implementation and intensive management of Long Gulch Sediment Control and Riparian Habitat Improvement Plan. Increased plant basal cover would be accomplished on soils with a moderate to severe erosion potential during vegetation treatment implementation to reduce erosion. Water rights would be applied for where appropriate. Manage 320 acres in Wildcat Creek drainage in unit C-2 to help protect Crested Butte's water supply.	Continue implementation and intensive management of Long Gulch Sediment Control and Riparian Habitat Improvement Plan. Erosion reduction and increasing plant basal cover incorporated into vegetation treatments on soil with moderate to severe erosion potential. Water rights applied for where appropriate, including along 113 miles of fishery streams. Compatible measures designed to reduce soil erosion and water quality deterioration required in all plans involving surface disturbance.	Continue implementation and intensive management of Long Gulch Sediment Control and Riparian Habitat Improvement Plan. Measures for erosion reduction and increasing plant basal cover incorporated into vegetation treatments on soils with moderate to severe erosion potential. Water rights applied for where appropriate, including along 113 miles of fishery streams. Measures designed to reduce soil erosion and water quality deterioration required in all plans involving surface disturbance.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
SOIL AND WATER RESOURCES (Cont'd)	Maintain watershed improvement developments in good physical condition. Maintain roads as scheduled, with poorly located roads receiving first priority.	Manage 320 acres in Wildcat Creek drainage to help protect Crested Butte's water supply. Erosion control and watershed improvement projects on 4,625 acres would be developed if compatible with T&E species management; soil and water improvement projects would be developed on 29,060 acres of big game crucial winter range; measures to improve overall hydrologic conditions on 21,870 acres of sage grouse habitat in riparian areas would be implemented.	New available forage from wildlife treatments on 351,837 acres would be used for watershed protection in units C-4 through C-12. No public lands, other than those mentioned above, would be intensively managed for soil or watershed management.	Manage 320 acres in Wildcat Creek drainage to help protect Crested Butte's water supply. Water source developments would be maintained, improved, or reclaimed. Erosion control projects restricted to prevent accidental destruction in unit D-1 on 9,562 acres to prevent accidental destruction of T&E species.	Manage 320 acres in Wildcat Creek drainage to help protect Crested Butte's water supply. New water sources developed would consider riparian values. Existing developments would be maintained, improved, or reclaimed. Soils and watershed projects permitted on 28,215 acres in West Antelope ACEC if compatible with crucial big game winter range management. Erosion control and watershed improvement projects on 4,565 acres would be developed if compatible with T&E species management.
RIPARIAN ZONES	Continue intensive management in Long Gulch riparian zone as per management plan. Require measures to minimize deterioration in riparian areas for all plans involving surface disturbance. Determine high priority riparian ares where improvement strategies and projects would be implemented.	Continue intensive management in Long Gulch riparian zone as per management plan. Riparian improvement projects designed and required in high priority areas and would be included in other resource activity plans. New permanent roads excluded in North Willow Creek and Stevens Creek riparian zones.	Continue intensive management in Long Gulch riparian zone as per management plan. Modify existing water source developments in riparian zones if hydrologic condition is being impacted. Nonconflicting riparian projects incorporated into activity plans or CRMAPS and implemented in high priority riparian areas.	Continue intensive management in Long Gulch riparian zone as per management plan. Riparian improvement projects designed and required in high priority areas and included in other resource activity plans.	Continue intensive management in Long Gulch riparian zone as per management plan. Riparian improvement projects designed and required in high priority areas and included in other resource activity plans.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RE-SOURCE/ RE-SOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
RIPARIAN ZONES (Cont'd)	Accomplish riparian management objectives in current Resource Area Habitat Management Plan at current rate.	Timber harvests excluded in all riparian areas. Existing water source developments modified, if riparian zones are being negatively impacted. Projects implemented in some riparian areas on 21,870 acres of sage grouse riparian habitat for improved riparian vegetation. Improve overall riparian conditions on 14,933 acres of riparian areas, and in riparian areas in unit B-11. Rehabilitate riparian zones where ecological or hydrological condition is deteriorated and require measures to reduce deterioration of riparian ecosystems in surface disturbing plans on 7,298 acres of an sage grouse habitat. Area wide HMP revised to include riparian zone management.	Riparian improvement projects permitted in unit C-9 (1,117 acres). Area-wide HMP revised to include riparian zone management from units C-9, C-10, C-11. Improve overall riparian conditions on 1,839 acres in units C-9, C-10, and C-11 and rehabilitate zones in unit C-10 where hydrologic condition is below potential. Compatible projects designed to achieve abundant vegetative cover, an increase in diversity of herbaceous plants and in X the proportion of native bunchgrasses for sage grouse on 5 miles in unit C-10 (602 acres) are permitted; vegetation production and diversity would be increased for big game and other wildlife on 10 miles of riparian zones in unit C-9. In unit C-11 (120 acres), compatible improvement strategies and projects would be permitted.	Measures to minimize riparian/aquatic zone deterioration required in all plans involving surface disturbance. Timber harvests excluded in all riparian areas. Existing water sources in riparian areas modified or relocated if riparian zones are being negatively impacted. Improve overall riparian conditions on 14,933 acres of riparian areas, including in riparian zones in unit D-14 (76,752 acres of sage grouse habitat) and D-22 (108,335 acres of "I" allotments). Compatible projects designed to achieve abundant vegetative cover, an increase in diversity of herbaceous plants and in the proportion of native bunchgrasses for sage grouse in high priority areas on 99 miles in unit D-12 (9,657 acres) would be permitted. Vegetation production and diversity would be increased for big game and wildlife on 76 miles of crucial big game riparian zones in unit D-11 (12,462 acres).	Measures to minimize riparian/aquatic zone deterioration required in all plans involving surface disturbance. Special road construction objectives adhered to. Timber harvests permitted in riparian areas if riparian and wildlife values improved. Existing water sources and roads in riparian areas modified or relocated if riparian zones are being negatively impacted. Manage about 56 miles of riparian zones in units E-11 and E-14 to improve and maintain vegetation to optimize sage grouse populations. About 99 miles of riparian zones in 91,547 acres of big game crucial winter range in unit E-12 would be managed to increase production and diversity of vegetation to help support wintering big game; a HMP for E-12 would include riparian zone management.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RE-SOURCE/ RE-SOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
RIPARIAN ZONES (Cont'd)				Revise area-wide HMP to include riparian zone management.	Compatible riparian improvement projects permitted along 58 miles of riparian zones containing fisheries or potential fisheries in unit E-15. Revise area-wide HMP to include riparian zones management for unit E-15.
SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT	Requires measures to protect T&E species, individuals, and habitats in plans for all surface disturbing activities.	Require measures to protect T&E species, individuals, and habitats in plans for all surface disturbing activities.	Require measures to protect T&E species, individuals, and habitats in plans for all surface disturbing activities.	Require measures to protect T&E species, individuals, and habitats in plans for all surface disturbing activities.	Require measures to protect T&E species, individuals, and habitats in plans for all surface disturbing activities.
	Continue to inventory and monitor T&E plant and animal habitats. Continue T&E clearances and Section 7 consultations with the USF&WS.	Continue to inventory and monitor T&E plant and animal habitats. Continue T&E clearances and Section 7 consultations with the USF&WS.	Continue to inventory and monitor T&E plant and animal habitats. Continue T&E clearances and Section 7 consultations with the USF&WS.	Continue to inventory and monitor T&E plant and animal habitats. Continue T&E clearances and Section 7 consultations with the USF&WS.	Continue to inventory and monitor T&E plant and animal habitats. Continue T&E clearances and Section 7 consultations with the USFWS.
		Require measures to protect classified or listed T&E species and habitat and potential habitat, from mineral leasing and disposal activities and disturbance, and other surface disturbance.	Require measures to protect classified or listed T&E species and habitat, and potential habitat from mineral leasing, mining and mineral material disposal activity and other surface disturbance.	Require measures to protect classified or listed T&E species and habitat, and potential habitat from mineral leasing, mining and mineral material disposal activity and other surface disturbance.	Require measures to protect classified or listed T&E species and habitat, and potential habitat from mining, mineral leasing and mineral material disposal activity and other surface disturbance.
		Designate South Beaver Creek ACEC/RNA (4,625 acres) to protect and enhance skiff milkvetch populations.	Designate South Beaver Creek and Redcloud Peak RNA/ACECs (15,512 acres) to protect and enhance skiff milkvetch and Uncompahgre fritillary butterfly populations and habitat.	Designate South Beaver Creek and Redcloud Peak RNA/ACECs (15,512 acres) to protect and enhance skiff milkvetch and Uncompahgre fritillary butterfly populations and habitat.	Designate South Beaver Creek and Redcloud Peak ACECs (10,512 acres) to protect and enhance skiff milkvetch and Uncompahgre fritillary butterfly populations and habitat.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

	MANAGEMENT UNDER EACH ALTERNATIVE				
RESOURCE/ RESOURCE USE	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
WILDLIFE HABITAT MANAGEMENT	Continue management of habitat according to HMP for Resource Area, at current rate of implementation. Maintain big game forage allocations at present levels; future increases/decreases would be divided evenly between big game and livestock. Initiate shrub-seedling planting program to improve crucial winter range. Planning Area open to habitat treatments. Maintain existing facilities and treatments. Modify 10 miles of fence to facilitate antelope access to habitat. Wildlife forage allocations would be adjusted to allocate more for antelope as needed. Existing projects and facilities in riparian zones for sage grouse brood-rearing habitat would be maintained; planning area open to additional sage grouse habitat improvement projects.	Revise HMP for Resource Area. Generally maintain wildlife forage allocations at current levels, including for big game. All future additional forage would be allocated in priority order, for watershed needs, wildlife habitat, and livestock grazing. Minimize, or exclude disturbance at raptor nest sites, and on crucial big winter game ranges, elk calving areas, and at sage grouse leks and on sage grouse habitat, by seasonal or other stipulations, OHV designations, and rights-of-way avoidance and exclusion areas. Temporary long-range herd goal reductions in certain GMUs recommended to increase vigor and production on crucial big game winter range to help support CDOW long range herd goals of 9.000 elk and 16,600 deer. Measures (treatments) would also be implemented through activity plans on uplands and riparian areas to help achieve CDOW long-range herd goals for elk and deer. Maintain existing treatments, generally.	Revise HMP for Resource Area. New, additional available forage to livestock, then watershed. Elk calving areas would not be intensively managed and except for rights-of-way avoidance and seasonal rights-of-way related construction stipulations, no land use restrictions apply. Long-range herd goal reductions in certain GMUs recommended temporarily to increase vigor production of crucial big game winter range in order to help support CDOW long-range herd goals of 9,000 elk and 16,600 deer. Compatible treatments also designed and implemented, on uplands and riparian areas, through activity plans to help achieve CDOW herd goals for elk and deer. New, available forage developed from wildlife treatments in units C-4 (326,735 acres) and C-12 (25,102 acres crucial winter range) would be used for watershed needs, then allocated for wildlife.	Revise HMP for Resource Area and emphasize crucial winter range management. Maintain wildlife forage allocations at current levels. All future additional forage would be allocated to watershed needs. Disturbance would be seasonally restricted on all elk-calving areas. Measures to prevent raptor disturbance required in all plans involving surface disturbance. Temporary reductions in CDOW long-range herd goals in certain GMUs recommended to help support herd sizes of 9,000 elk and 16,600 deer. Measures (treatments) would also be implemented through activity plans on uplands and riparian zones to help achieve these herd goals. On crucial big game winter range, intensively manage riparian zones in unit D-11 for increased production and diversity of vegetation for big game and non-game wildlife.	Revise RA HMP and implement consistent with BLM's Fish and Wildlife Plan for Colorado - Program for the Decade. Maintain wildlife forage allocations at current levels, including for big game. All future additional forage would be allocated for watershed needs, then for wildlife habitat or livestock grazing. Minimize, or exclude disturbance at raptor nest sites, and on crucial big game winter ranges, elk calving areas, and at sage grouse leks and on sage grouse habitat, by seasonal or other stipulations, OHV designations, and rights-of-way avoidance and exclusion areas. Temporary, long-range herd goal reductions in certain GMUs recommended, to increase vigor and production on crucial big game winter range to help support CDOW long-range herd goals of 9,000 elk and 16,600 deer. Measures would also be implemented (treatments) through activity plans on uplands and riparian areas to help achieve CDOW long-range herd goals for elk and deer.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
WILDLIFE HABITAT MANAGEMENT (Cont'd)		Wildlife would be allocated use on 198,526 acres of wildlife funded treatments to increase quality and/or quantity of forage. In GMU 64 south and east of Cimarron, permanent reductions in elk and deer numbers would be implemented. Designate West Antelope (29,060 acres) and East Gunnison (37,503 acres) ACECs to improve capability of habitat to support wintering deer, elk, and bighorn sheep. Land uses would be permitted that do not remove or damage elk and deer crucial winter range. A site-specific activity plan (HMP) would be developed for 60,715 acres of crucial elk and deer winter range in unit B-11. Compatible treatments and management permitted on crucial big game winter range in unit B-11. Maintain or improve habitat to support 500 pronghorn antelope, 500 bighorn sheep, to harvest 1,000 sage grouse, and for various non-game species, including raptors.	In unit C-12, manage resources in GMU 54 and 55 for benefit of elk and deer crucial winter range. In GMU 64, east and south of Cimarron, permanent reductions in elk and deer numbers would be implemented to achieve 50% utilization rate of current year's growth of mountain mahogany. Maintain/improve habitat to support 500 pronghorn antelope, 50 bighorn sheep, 500 sage grouse, and various non-game species. No measures to prevent disturbance to raptors or nest sites are required. Wildlife would be allocated new forage in unit C-14, from wildlife treatments for pronghorn antelope. Fence modification (10 miles) within pronghorn antelope ranges permitted to facilitate access to yearlong habitat. Non-conflicting sage grouse habitat improvements and treatments permitted in unit C-12.	Minimize disturbance to wintering elk and deer in unit D-11, 38,315 acres in unit D-14, 40,812 acres in Unit D-15, and on 1,900 acres in Unit D-22. Intensively manage and minimize disturbance on big game crucial winter range in unit D-16 and prepare a HMP or CRMAP (101,507 acres). In GMU 64 south and east of Cimarron, permanent reductions in elk and deer numbers would be implemented. Additional forage to be allocated to wildlife from wildlife habitat treatments in unit D-16. Pronghorn antelope forb production would be increased in unit D-15 (42,560 acres). Maintain or improve habitat to support self sustaining populations of bighorn sheep and pronghorn antelope, to harvest 1,000 sage grouse, and to support various non-game species. Improve or maintain non-game habitat as timber harvests are implemented.	Maintain existing treatments. In GMU 64 south and east of Cimarron, permanent reductions in elk and deer numbers would be implemented. Designate West Antelope ACEC (unit E-7, 28,215 acres) to improve capability of habitat to support wintering elk, deer, and bighorn sheep. Land uses would be permitted that do not remove or damage elk and deer crucial winter range. A site-specific activity plan (HMP) would be developed for 76,192 acres of crucial elk and deer winter range in unit E-12. Compatible wildlife treatments and management actions permitted. Maintain or improve habitat to support 500 pronghorn habitat, 500 bighorn sheep, to harvest 1,000 sage grouse annually and for various non-game species, including raptors. Improve or maintain non-game habitat as timber harvests are implemented.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
WILDLIFE HABITAT MANAGEMENT (Cont'd)		Improve or maintain non-game habitat as timber harvests are implemented. Implement treatments and other measures to increase forb species, and shrub species on elk and deer crucial winter ranges, as activity plans are implemented. Manage sage grouse broodrearing habitat in riparian areas to improve or provide forage and hiding/cover for young chicks. Consider moose introduction in Powderhorn ACEC.	Sagebrush treatments for sage grouse habitat maintenance and improvement to be considered in all activity plans or CRMAPs. All leks would be protected and seasonal surface disturbance restrictions apply within 1/4 mile of all leks. New, compatible wildlife treatments permitted, and existing treatments maintained, if the timber base or livestock forage is not decreased on 457,692 acres in units C-1, C-4, C-5, and C-7. Vegetation improvement projects permitted in riparian zones for wildlife and bald eagle habitat in units C-9, C-10, and C-11 (1,839 acres).	Unit D-17 (22,365 acres) would be managed to minimize disturbance to bighorn sheep habitat, and lambing bighorn sheep seasonally, and to prevent disease transfer from domestic sheep to bighorn sheep. Forage would be allocated to wildlife. Sage grouse lek areas protected from surface disturbance seasonally for mating grouse. Intensively manage and minimize disturbance to sage grouse brood-rearing habitat and minimize disturbance to sage grouse in riparian areas in unit D-12 (9,657 acres); intensively manage unit D-14 (76,752 acres) for sage grouse nesting/high production areas, minimize disturbance to grouse, and protect all leks. Designate Bighorn-A, Bighorn-B, and Cebolla Creek ACECs (18,486 acres) and manage to minimize disturbance to bighorn sheep, to protect lambing bighorn sheep, and to prevent disease transfer from domestic sheep to bighorn sheep. Cooperative livestock grazing pursued on Forest Service lands adjacent to Bighorn-A/B ACECs.	Implement treatments and other measures to increase forb and shrub species, on elk and deer crucial winter ranges, as activity plans are implemented. About 7,122 acres of habitat in unit E-10 would be managed to minimize disturbance to bighorn sheep and potential lambing areas along Cebolla Creek and Cochetopa Creek. A HMP would be prepared for the unit. Manage sage grouse broodrearing habitat in riparian areas (about 35 miles in E-14) to improve or provide forage and hiding cover for young chicks. Improve and maintain sagebrush to optimize grouse populations in unit E-11, and incorporate sagebrush treatments and other habitat improvements in AMPs, CRMAPs, etc. Consider moose introduction in Powderhorn Primitive Area SRMA.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
WILDLIFE HABITAT MANAGEMENT (Cont'd)				Lake Fork ACEC (4,800 acres) managed to prevent disturbance to wintering elk and deer, and seasonal disturbance to lambing bighorn sheep.	
FISHERY RESOURCES (AQUATIC HABITAT)	Revise area-wide HMP to include site specific fishery improvement projects or strategies developed from inventory information to first prioritize, then restore and enhance fisheries.	Intensively manage 74 miles of fishery streams on public land in Management unit B-9 to improve conditions. North Willow Creek in allotment 6202 allowed to recover by eliminating livestock grazing. Require measures to prevent deterioration and damage to fishery streams in all plans involving surface disturbance.	Same as under Alternative A, and in unit C-9, conditions in and along 10 miles of streams within 1,117 acres of big game riparian zones would be improved.	Same as under Alternative A, and within Lake Fork ACEC, emphasize with other resources, the fishing recreation opportunity. Intensively manage and improve conditions along fishery streams in unit D-11 and D-13 containing 116 miles of riparian zones (12,654 acres). Install compatible fishery improvement projects in unit D-19. Require measures to prevent deterioration and damage to fishery streams in all plans involving surface disturbance.	Same as under Alternative A, and fishery streams and associated riparian areas managed to improve overall conditions and to enhance fisheries. Projects for fishery improvement to be included in activity plans as they are prepared or revised. Intensively manage 58 miles of fishery streams on public land in Management Unit E-15 to improve conditions. North Willow Creek in allotment 6202 would be allowed to recover by eliminating livestock grazing. Compatible projects permitted in unit E-2, Powderhorn Primitive area SRMA. Require measures to prevent deterioration and damage to fishery streams in all plans involving surface disturbance.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
LIVESTOCK GRAZING MANAGEMENT	About 474,600 suitable acres would be available for grazing in existing allotments and 47,256 AUMs would be available for allocation. About 46,200 suitable acres would not be available for grazing (2,585 acres would be disposed of). About 64,192 acres throughout the Planning Area are not suitable for grazing, in all alternatives. Livestock grazing use and allocations to be generally as per 1987 RPS and updates. Riparian areas consistently utilized in heavy range would be examined and adjustments made to less-than-heavy utilization until AMPs are revised or developed. 28 AMPs to be revised; 10-20 new AMPs or CRMAPs to be developed. A cooperative noxious weed control program would be initiated. Existing treatments and facilities maintained; new treatments and facilities developed if needed to achieve AMP objective. No livestock grazing would continue on 320 acres in Wildcat Creek Drainage to maintain Crested Butte's water supply.	About 445,912 suitable acres would be available for grazing in existing allotments and about 41,948 AUMs would be available for allocation. About 31,273 suitable acres would not be available for grazing, in addition to suitable unavailable acres in Alternative A. Livestock management to be generally as per 1987 RPS and updates. Some Management units modify existing allocations to resolve resource conflicts. Livestock allocations could be modified further if studies or data indicate changes are necessary, then for wildlife or livestock grazing. New or additional available forage would be allocated or used to meet watershed objectives. A cooperative noxious weed control program would be initiated. IGMCs would be implemented [range readiness on all lands grazed, minimum stubble height in riparian areas (6", 4", and 2-1/2"), maximum total forage utilization rate 40-60% on uplands] on entire planning area.	About 519,146 suitable acres would be available for grazing in existing allotments and on lands not currently allotted or grazed. About 51,684 AUMs would be available for allocation. Only 1,674 suitable acres would not be available for grazing. Livestock grazing generally managed as per 1987 RPS and updates. Future forage allocations generally would be for livestock grazing management, then for watershed resources. A cooperative noxious weed control program would be initiated. IGMCs would be implemented (range readiness on all lands grazed, and total forage utilization on all lands grazed of 40-60%) in the Planning Area. AMPs or CRMAPs would be developed or revised for "I" allotments as scheduled in 1987 RPS and updates. Existing categorization to be reviewed and changes made if necessary. Existing livestock treatments would be maintained, and new facilities would be developed according to AMPs and CRMAPs.	About 443,120 suitable acres would be available for grazing in existing allotments, and about 35,022 AUMs would be available for allocation. About 34,065 suitable acres would not be available for grazing, in addition to suitable unavailable acres in Alternative A. Livestock management to be generally as per 1987 RPS and updates. Some Management Units modify existing allocations to resolve resource conflicts. Livestock allocations could be modified further if studies or data indicate changes are necessary. New or additional available forage would be allocated or used to meet watershed objectives. A cooperative noxious weed control program would be initiated. IGMCs (20-40% total forage utilization levels on uplands, 4" minimum stubble height in riparians, and range readiness) would be implemented on all allotments. AMPs would be developed or revised based on the objectives of this alternative and the schedule in the 1987 RPS and updates.	About 470,828 suitable acres would be available for grazing in existing allotments, and about 46,501 AUMs would be available for allocation. About 6,757 suitable acres would not be available for grazing, in addition to suitable unavailable acres in Alternative A. Livestock management to be generally as per 1987 RPS and updates. Some Management units modify existing allocations to resolve resource conflicts. Livestock allocations could be modified further if studies or data indicate changes are necessary. New or additional available forage would be allocated or used to meet watershed objectives. A cooperative noxious weed control program would be initiated. Implement a total forage utilization level of 40-60% on all uplands; 4" minimum stubble heights in riparian zones units E-14 and E-15, and about 92 miles of riparian zones in units E-1, E-2, and E-13; 2-1/2" stubble heights in all other riparian zones, and range readiness would be implemented on all allotments.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

	MANAGEMENT UNDER EACH ALTERNATIVE				
RE-SOURCE/ RE-SOURCE USE	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
LIVESTOCK GRAZING MANAGE-MENT (Cont'd)		AMPs or CRMAPs would be developed on "I" allotments according to schedules in the 1987 RPS and updates. Existing categorization to be reviewed and changes to categorization made if necessary. No livestock grazing would continue on 320 acres in Wildcat Creek drainage to maintain Crested Butte's water supply. Existing livestock facilities would be maintained, and new facilities and treatments developed according to AMPs or CRMAPs. Land treatments, maintenance, and facility developments would be restricted on about 229,585 suitable acres in various management units. Treatments and facilities would be excluded on 3,242 acres. Livestock use would be restricted, in addition to that from IGMCs, on about 112,395 acres (80,918 acres seasonally, 31,077 acres for ROS setting maintenance; and on 400 acres for reforestation in unit B-16.	6,909 acres (about 1,100 suitable acres) in Unit C-7 would be made available for livestock grazing (that are not now available). No livestock grazing would continue on 320 acres in Wildcat Creek drainage to maintain Crested Butte's water supply. Domestic sheep bedding would not be permitted in unit C-10. A fenced tact of public land along the Slate River in allotment 6401 would be unavailable for livestock grazing in order to maintain recreation resources (about 320 suitable acres).	Existing allotment categorization would be reviewed for possible recategorization. Existing livestock facilities would be maintained. No livestock grazing would continue on 320 acres in Wildcat Creek drainage to maintain Crested Butte's water supply. Land treatments and facility developments would be restricted on 362,320 acres. Treatments and facilities would be excluded on 69,634 acres. Livestock use would be restricted, in addition to that use restricted from IGMCs on about 148,710 suitable acres of public lands. Cooperative U.S.F.S. management on Forest Service lands adjacent to units D-4, D-5, and D-17 would be pursued for enhanced bighorn sheep management.	AMPs or CRMAPs would be revised or developed at the rate of about 1-2 plans annually. Existing categorization to be reviewed and changes in categorization made if necessary. Existing livestock facilities would be maintained, and new facilities and treatments developed according to AMPs or CRMAPs. No livestock grazing would continue on 320 acres in Wildcat Creek drainage to maintain Crested Butte's water supply. Land treatments and facility developments would be restricted on 201,644 acres. Treatments and facilities would be excluded on 4,294 acres. Livestock use would be restricted, in addition to that use restricted from forage utilization limits on about 207,951 acres of suitable public lands.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RE-SOURCE/ RE-SOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
FOREST MANAGE-MENT (Onsustained yield basis)	About 44,062 acres of suitable commercial forest lands and 19,262 acres of suitable woodlands would be available for harvest, resulting in a possible annual harvest of 1,200 MBF of commercial timber; 400 cords of fuelwood, 400 wildings, and several hundred Christmas trees; 50 acres of site preparation and 50 acres of reforestation completed annually. One FMP would be written. Seasonal restrictions apply in elk calving areas; harvest in riparian areas restricted or excluded on a case-by case basis.	About 39,442 acres of suitable commercial forest lands and 24,405 acres of suitable woodlands would be available for harvest, resulting in a possible annual harvest of 1,180 MBF of commercial timber, 505 cords of fuelwood; 250 acres of reforestation completed annually. Other forest products (wildings, Christmas trees) would be available. One FMP would be written. Restrictions apply on crucial elk and deer winter range (seasonal) and elk calving areas (seasonal and leave areas).	About 58,959 acres of suitable commercial forest lands and 19,262 acres of suitable woodlands would be available for harvest, resulting in a possible annual harvest of 1,770 MBF of commercial timber, approximately 400 cords of fuelwood, and several hundred wildings and Christmas trees.	About 34,679 acres of suitable commercial forest lands and 27,352 acres of suitable woodlands would be available for harvest resulting in a possible annual harvest of 1,040 MBF of commercial timber. 565 cords of fuelwood, and several hundred wildings and Christmas trees would be available annually. 500 acres of reforestation would be accomplished in unit D-21. Timber harvests would be designed to be compatible with these alternative objectives. One FMP would be prepared. Harvest or design restrictions apply in riparian zones, Slumgullion slide, erosive soils, crucial big game winter range, within SRMAs, or for nongame wildlife habitat and other recreation resources (harvest restrictions are seasonal or exclusion).	About 41,347 acres of suitable commercial forest lands and 23,615 acres of suitable woodlands would be available for harvest, resulting in a possible annual harvest of 1,200 MBF of commercial timber. 490 cords of fuelwood and several hundred wildings and Christmas trees would be available annually. Reforestation would be accomplished as funds become available. Timber harvests would be designed to be compatible with these alternative objectives. One FMP would be prepared. Harvest restrictions (total exclusions, design requirements or seasonal restrictions) apply in riparian zones, existing WSAs, Slumgullion Earthflow, erosive soils, crucial big game winter range, elk calving areas, within SRMAs, or for nongame wildlife habitat and other recreation resources.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
RECREATION MANAGEMENT	Continue within limits of Alternative A, implementation and management of San Juan Triangle and Cochetopa Canyon SRMAs according to activity plans for a diversity of opportunities. A joint BLM/USFS visitor center in Lake City would be pursued. Powderhorn SRMA would be managed for non-motorized primitive recreation experiences. Develop activity plan if not designated as wilderness, and continue Primitive Area status. Remainder of planning area, in the Gunnison ERMA, to be managed for extensive recreation use and a variety of opportunities. Off-highway vehicle (OHV) designations (373,916 acres open, 92,927 acres limited to designated routes year-long, 74,707 acres limited seasonally to designated routes if necessary for wintering elk and deer, and 43,462 acres closed) would continue with minor changes to be made. No eligible segments of the Lake Fork of the Gunnison River would be recommended as being suitable for inclusion into the National Wild and Scenic Rivers system.	Fully implement activity plans for San Juan Triangle and Cochetopa Canyon SRMAs according to activity plans, and manage for a diversity of opportunities, motorized/non-motorized. Designate Powderhorn SRMA as an ACEC and manage for primitive non-motorized recreation opportunities and experiences. Restrict use to designated sites. Pursue acquisition and eventual withdrawal of state-owned minerals. Drop "primitive" title upon designation. Trails would be constructed and maintained. The Gunnison ERMA would be managed for a diversity of recreation opportunities. Prepare an activity plan and determine ROS settings. Designate Alpine ACEC (88,663 acres) and manage for a diversity of motorized/non-motorized recreation uses; Emphasize facility development and intensive recreation management. Designate Lake Fork ACEC (4,685 acres) and manage for recreation, scenic, and historic resources. Emphasize fishing, float-boating, and historic site stabilization and interpretation.	RAMPs for San Juan Triangle and Cochetopa SRMAs would be revised to reflect this alternative. Non-conflicting facilities would be developed. ROS settings would be revised, if needed, to reflect revised RAMPs. San Juan Triangle SRMA: Maintain a variety of ROS settings; compatible small scale recreation developments would be permitted; floatboating, sightseeing, fishing, and some historic site stabilization would be emphasized. Cochetopa SRMA: A Roaded natural ROS setting would be maintained, emphasizing fishing and camping along Colorado Highway 114. Signing would be installed, as well as non-conflicting facilities for camping, parking, sanitation, and picnicking. Powderhorn SRMA: Emphasize compatible backcountry and scenic, semi-primitive, recreation opportunities (hiking, camping, fishing, hunting, mountain biking, sightseeing, and backpacking). Prepare RAMP. Patrols would be conducted periodically, and facilities would be maintained in SRMAs.	Existing RAMPs for Cochetopa and San Juan Triangle SRMA would be revised. Actions in RAMPs would be implemented to minimize conflicts of recreation use and facility development with natural values. ROS settings to be re-determined for SRMAs if needed. Patrols are to be conducted and signing is to be installed. Powderhorn SRMA Unit D-19 (44,767 acres) managed to enhance natural values and primitive recreation opportunities in Primitive and Semi-Primitive Non-Motorized ROS settings. Commercial use levels would be established. A private recreation permit system, with use levels, would be initiated if recreation activities result in adverse impacts to natural values. Camping limited to designated sites. Prepare RAMP for the SRMA. Conduct patrols. Designate Slumgullion Slide ACEC (1,270 acres) and restrictively manage for natural value protection, including scenic resources and water quality, and interpretation of geologic phenomena. No surface disturbance permitted. Designate the 4,800 acre Lake Fork ACEC and manage for fishing,	Cochetopa Canyon SRMA would be managed to continue to provide and improve the existing diversity of recreation opportunities emphasizing fishing and overnight camping in a Roaded Natural ROS setting. A CRMAP would be prepared. Alpine Triangle SRMA would be managed for a variety of ROS settings and opportunities, including interpretation, historic, scenic, and natural values, and hiking, sightseeing, motorized recreation, camping, winter recreation, hunting, fishing and floatboating. A CRMAP would be prepared for this SRMA. A joint BLM/FS visitor center in Lake City would be pursued. Facilities at Red Bridge and The Gate campgrounds would be upgraded and fees charged. Powderhorn Primitive Area SRMA would be managed for enhancement of natural values and primitive recreation opportunities in Primitive and Semi-Primitive ROS settings. Commercial recreation permitting would continue, and use levels established if necessary. If necessary, use levels and a permit system for private recreation use would be established.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

	MANAGEMENT UNDER EACH ALTERNATIVE				
RE-SOURCE/ RE-SOURCE USE	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
RECRE-ATION MANAGE-MENT (Cont'd)		Develop and manage a 400 acre tract site along the Slate River for day-use and overnight use. Develop an overnight campground on High Mesa. Construct a hiking trail into the Rock Creek area. Continue to manage OHV use as in Current Management with these exceptions: close the Powderhorn ACEC (48,033 acres), and close 600 acres adjacent to Sapinero State Wildlife Area. Approximately 368,745 acres would be designated open to OHV use; OHV use on 92,927 acres would be limited to designated routes year-long; OHV use on 74,707 acres would be limited seasonally, if necessary, in crucial winter range, and 48,633 acres would be closed to OHV use.	Remainder of public lands would be managed for extensive, dispersed rec-reation uses. Public lands would be designated, regarding OHV use, as closed (600 acres), limited seasonally to designated routes, if necessary for wintering elk and deer (74,707 acres) and open (509,705 acres).	floatboating, and historic site stabilization and interpretation. Manage historic sites cooperatively with the NPS. The remainder of the Planning Area would be managed for extensive recreation use, within the Gunnison ERMA. Small scale day use and overnight facilities would be developed at High Mesa and on a tract on the Slate River. Public lands would be designated, regarding OHV use, as closed (57,851 acres), limited seasonally, if necessary, for wintering elk and deer, (79,995 acres), limited to designated routes yearlong (127,870 acres) and open (319,296 acres).	Primitive Area Boundary would be adjusted to include all public lands in unit E-2. Pursue acquisition of 40 acres of non-federal lands, and state-owned minerals. Designate and manage American Basin ACEC (1,595 acres) and Dillon Pinnacles ACEC (532 acres) for scenic and recreation values; designate and manage Slumgullion Earthflow National Natural Land-mark ACEC (1,407 acres) for interpretation. The remainder of the Planning Area would be managed for extensive recreation use, within the Gunnison ERMA. A RAMP would be prepared and ROS settings determined. Small scale overnight facilities would be developed at High Mesa and considered for a tract on the Slate River. Public Lands would be designated regarding OHV use, as closed (48,877 acres), limited seasonally, if necessary, for wintering elk and deer, (74,428 acres), limited to designated routes yearlong (97,714 acres) and open (363,993 acres. The Powderhorn Primitive Area SRMA would also be closed to mountain bike use.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RE-SOURCE/ RE-SOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
WILD AND SCENIC RIVER STUDY SEGMENTS	13.3 mile Segment A of Lake Fork of the Gunnison River not recommended as being suitable for inclusion into National Wild and Scenic Rivers System.	13.3 mile Segment A of Lake Fork of the Gunnison River recommended as being suitable for inclusion into National Wild and Scenic Rivers System under the "Recreation" classification.	Same as Alternative A.	Same as Alternative B.	Same as Alternative A.
VISUAL RE-SOURCES	Visual resources would be managed according to existing VRM classes: VRM Class I - 43,590 acres VRM Class II - 173,510 acres VRM Class III - 126,645 acres VRM Class IV - 236,845 acres VRM Class IIR, IIIR, and IVR - 4,422 acres	Public lands would be managed according to the following VRM classes: VRM Class I - 48,033 acres VRM Class II - 170,567 acres VRM Class III - 132,560 acres VRM Class IV - 229,610 acres VRM Class IIR, IIIR, and IVR - 4,242 acres Mitigation required in all plans for surface disturbance in 88,663-acre Alpine ACEC. Designate Lake Fork ACEC (4,685 acres) and manage for visual resources, recreation opportunities, historic site stabilization and interpretation.	Public lands would be managed according to the following VRM classes. VRM Class I - 7,840 acres VRM Class II - 37,877 acres VRM Class III - 10,811 acres. VRM Class IV - 528,309 acres VRM Class IIR, IIIR, and IVR - 175 acres.	Public lands would be managed according to the following VRM classes. VRM Class I - 47,904 acres VRM Class II - 341,598 acres VRM Class III - 219,964 acres VRM Class IV - 1,200 acres VRM Class IIR, IIIR, and IVR - 4,346 acres Designate American Basin ACEC (1,577 acres) and manage to protect and enhance visual and other natural resources. Surface disturbance not permitted. Designate Lake Fork ACEC (4,800 acres) and manage for visual resources, recreation opportunities, historic site stabilization and interpretation. Designate Dillon Pinnacles ACEC (190 acres) and manage to protect scenic resources and recreation opportunities. Surface disturbing activities not permitted.	Visual resources would be managed according to VRM classes: VRM Class I - 49,872 acres VRM Class II - 169,614 acres VRM Class III - 135,738 acres VRM Class IV - 225,776 acres VRM Class IIR, IIIR, IVR - 4,012 acres Designate American Basin ACEC (1,595 acres) and Dillon Pinnacle ACEC (532 acres) and manage for scenic and recreation opportunities. Federal mineral estate in these ACECs would be withdrawn from mineral entry and location.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
WILDERNESS STUDY AREAS (WSAs)	Six WSAs (114,247 acres) managed according to BLM's IMP; 84,552 acres are recommended as being suitable for wilderness designation in four WSAs. Areas acted on and not designated wilderness would be managed according to existing laws, policy and regulations. Areas designated as wilderness would be managed as such, and a management plan written.	Managed as per Alternative A.	Managed as per Alternative A.	Managed as per Alternative A.	Managed as per Alternative A.
		MANAGEMENT OF LANDS IN WSAs IN ALTERNATIVES B, C, D & E AND THE IMPACTS OF THESE ALTERNATIVES ON LANDS WITHIN EXISTING WSAs ARE PRESENTED AND ANALYZED IN CHAPTERS THREE AND FOUR OF THIS RMP/EIS IN THE EVENT CONGRESS ACTS UPON AND DOES NOT DESIGNATE PARTS OR ALL OF WSAs AS WILDERNESS. UNTIL CONGRESS ACTS, IMPACTS IN WSAs WOULD BE LIMITED TO THOSE THAT COULD OCCUR UNDER BLM's INTERIM MANAGEMENT POLICY FOR LANDS UNDER WILDERNESS REVIEW (IMP).			
ARCHAEOLOGICAL RESOURCES	Managed according to existing legislation and policies that require measures to protect significant resources in all plans involving surface-disturbing activities. Class I and III inventories and clearances conducted prior to disturbance.	Managed as per Alternative A and inventory for site information to build archeological data base for management.	Managed as per Alternative A.	Managed as per Alternative A.	Managed as per Alternative B.
HISTORICAL RESOURCES	Managed according to existing legislation and policies that require measures to protect significant resources in all plans involving surface disturbing activity. Class I and III inventories and clearances conducted prior to disturbance. Stabilization would continue on significant sites or to eliminate public safety hazards. Historic site inventories would continue.	Managed as in Alternative A and appropriate sites intensively managed and stabilized, inventory to determine new sites conducted, interpretation emphasized, and mitigation for historic sites required in all plans involving surface disturbance.	Managed as per Alternative A.	Managed as per Alternative A. In general, historic sites would be allowed to become subject to the forces of nature. Designation of Lake Fork ACEC (4,800 acres) and management for special attention would be same as for Alternative B.	Managed as per Alternative B, except no ACECs designated specifically for historic resource management.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

	MANAGEMENT UNDER EACH ALTERNATIVE				
RE-SOURCE/ RE-SOURCE USE	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
HISTOR-ICAL RE-SOURCES (Cont'd)		Designate Alpine ACEC (88,663 acres); special management attention to be given to historic sites, interpretation, and recre-ation. Inventory additional sites. Designate Lake Fork ACEC(4,685 acres). Manage historic sites with NPS and inventory for additional sites. A Cultural Resource Management Plan would be prepared for Alpine ACEC.			
PALEONT-OLOGICAL RE-SOURCES	Protective measures would be taken and site specific inventories made before surface-disturbing activity occurs in areas containing potential for the occur-rence of paleontological resources.	Managed as per Alter-native A.	Managed as per Alter-native A.	Managed as per Alter-native A, plus inventories and eventual monitoring conducted to identify and protect paleontological resources in areas containing potential for their existence.	Managed as per Alter-native A.
TRANSPOR-TATION AND ACCESS	Continue to provide 333 miles of road access, 110 miles of trails, and 32 easements. Acquire access into 10 new areas on a priority basis within limits of alternative.	Manage and provide roads, trails, and ease-ments as in Alternative A, except acquire access into 14 areas for road and trail access.	Manage and provide roads, trails, and ease-ments as in Alternative A, except acquire access into 12 new areas for road and trail access.	Manage as per Alter-native A, with priority given to access to facilitate and enhance management and protection of natural values, except acquire access into 13 areas. Road density would be limited to 1.5 linear miles/sq. mile in elk calving areas.	Managed as per Alter-native A, except acquire access into 12 areas for road and trail access.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
DISPOSAL OF PUBLIC LAND	27 tracts (2,585 acres) identified in MFPs for potential disposal by any method; 3 or 4 tracts (1,500 acres) potentially could be disposed through exchange, though none specifically proposed.	41 tracts (3,049 acres) considered for disposal via public sale (other means not precluded). Prepare disposal activity plan. Remainder of lands are Category II lands. Disposal of public lands with T&E plants (skiff milkvetch) only if overall population not jeopardized.	63 tracts (7,986 acres) considered for disposal via public sale (other means not precluded). Prepare disposal activity plan. Remainder of public lands are Category II lands.	All public lands classified as Category II lands. Disposal of public lands with T&E plants (skiff milkvetch) only if overall population not jeopardized.	Managed as per Alternative B.
ACQUISITION OF NON-FEDERAL LANDS	No tracts identified; acquisition would be accomplished as opportunities arise through exchange, or willing seller-willing buyer basis; FLPMA criteria and BLM criteria to be followed.	If available, acquire non-federal lands adjacent to Category II or unavailable lands, according to BLM and FLPMA criteria or to enhance management effectiveness. Pursue acquisition of: 40 acres of private land and 1,980 acres of state-owned mineral estate in Powderhorn ACEC; non-federal lands: in Alpine ACEC (scenic quality and historic sites); with T&E species; with crucial elk and deer winter range; for fishing recreation access, and crucial big game winter range along Lake Fork of the Gunnison River (6,500 acres); with elk-calving areas; and with bighorn sheep ranges or habitat.	If available, acquire non-federal lands adjacent to Category II lands, according to BLM and FLPMA criteria, or to enhance management effectiveness.	All non-federal lands considered suitable for acquisition on a case-by-case, willing seller/willing buyer basis with emphasis placed on lands to enhance, maintain or improve management of soils, T&E plant and animal habitat, riparian vegetation, paleontological resources, visual resources, and wildlife habitat. Acquisition would meet BLM and FLPMA criteria. If available, acquire: 40 acres in Unit D-8, and 40 acres in Unit D-10, to facilitate management effectiveness of visual and recreational resources on public land; and 40 acres of surface estate in Unit D-19 to facilitate primitive recreation opportunities on public land, and 1,920 acres of state-owned mineral estate for the same purpose.	Managed as per Alternative B; if available, pursue acquisition of 40 acres of private land and state-owned minerals in Powderhorn Primitive SRMA (E-2), private land in Alpine Triangle SRMA (E-1), 40 acres of private land in American Basin ACEC (E-4), private lands in South Beaver Creek ACEC (E-8), and 270 acres of private lands in Dillon Pinnacles ACEC (E-9). 270 acres of private lands in Dillon Pinnacles ACEC (E-9).

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
RIGHTS-OF-WAY AND RIGHTS-OF-WAY CORRIDORS	Planning Area would be open to rights-of-way, including for major utilities and transportation; no corridors would be designated.	Public lands on 369,705 acres would be open to the location of rights-of-way, subject to case-by-case analysis; 134,970 acres contain rights-of-way related seasonal construction restrictions; 161,283 acres would be designated rights-of-way avoidance and 54,024 acres would be rights-of-way exclusion areas.	Public lands on 573,801 acres would be open to the location of rights-of-way, subject to case-by-case analysis; 8,322 acres contain rights-of-way seasonal construction restrictions; 1,150 acres would be designated rights-of-way avoidance and 120 acres would be rights-of-way exclusion areas.	Public lands on 392,005 acres would be open to the location of rights-of-way, subject to case-by-case analysis; 195,751 acres would contain rights-of-way related seasonal construction restrictions; and 129,144 acres would be designated rights-of-way avoidance and 63,863 acres would be rights-of-way exclusion areas.	Public lands on 448,219 acres would be open to the location of rights-of-way, subject to case-by-case analysis; 155,870 acres contain rights-of-way seasonal construction restrictions, 85,387 acres would be designated rights-of-way avoidance areas, and 51,406 acres would be rights-of-way exclusion areas.
		Designate a 1-mile wide rights-of-way corridor within or across all or parts of units B-9, B-10, B-11, B-14, B-15, and B-20 along WAPA's east-west 230 Kv line. Designate a 1,000-foot wide rights-of-way window across Unit B-3 and B-4 along same route.	Designate four 1-mile wide rights-of-way corridors wihtin or across: units C-3, C-4, C-9, C-10, C-12, C-15, and C-16 (WAPA 230 Kv Curecanti-Salida line); units C-3, C-4, C-9, C-10, C-12 and C-16 (WAPA 115 Kv Blue Mesa-Gunnison-Salida line); Unit C-12 (CUEA 115 Kv Gunnison-Crested Butte line); and Units C-3, C-4, C-5, C-7, C-12, and C-16 (CUEA 115 Kv Blue Mesa-Lake City line). All corridors would be along existing electrical transmission lines. Designate two rights-of-way windows 1,000 feet wide across units C-9 and C-10 for the WAPA lines.	No rights-of-way corridors designated.	Designate two 1-mile wide rights-of-way corridors within or across: units E-8, E-11, E-12, E-13, and E-17 (WAPA 230 Kv Curecanti-Salida line), and units E-1, E-13, and E-17 (CUEA 115 Kv Blue Mesa-Lake City line), along existing electrical transmission lines. Designate a rights-of-way window 1,000-foot wide across unit E-8 for the WAPA line.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RESOURCE/ RESOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
FIRE MANAGEMENT	Public lands managed under full (177,335 acres) or conditional suppression (407,677 acres) policy. Some land in conditional areas to receive full suppression to protect property, life, safety, or BLM investments.	Public lands managed under full suppression (97,121 acres) or conditional suppression (575,891 acres) policy. Some lands in conditional areas to receive full suppression to protect life, safety, or BLM investments. Prescribed fires could occur.	Public lands managed under full suppression (60,760 acres) or conditional suppression (524,252 acres). Some lands in conditional suppression areas to receive full suppression to protect life, safety, or BLM invest-ments.	Public lands managed under full suppression (59,581 acres) or conditional suppression (525,431 acres). Some lands in conditional suppression areas to receive full suppression to protect life, safety, or BLM invest-ments.	Public lands managed under full suppression (76,624 acres) or conditional suppression (508,388 acres). Some lands in conditional areas to receive full suppression to protect life, safety, or BLM investments. Prescribed fires could occur.
WITHDRAWALS AND CLASSIFICATIONS	Retain existing withdrawals, continue periodic withdrawal review; relinquished withdrawals managed according to adjacent public lands, current laws, policy, or regulations.	Manage as per Alternative A. Additional protective withdrawals recommended in certain management units.	Revoke withdrawals that segregate public lands from mineral entry and location, and from appropriation under the land laws (unless prohibited).	Manage as per Alternative B.	Manage as per Alternative B.
WATER POWER AND STORAGE RESERVOIR SITES	Inventoried and potential sites managed to consider future water power purposes unless higher priority resources/resource uses are implemented. Lands withdrawn for these purposes would be managed for potential water power and storage purposes.	Managed as per Alternative A, except management units B-1 through B-12 recommended to be closed to Water Power and Storage Reservoir sites. Before uses occur or facilities are developed that could be jeopardized by water power development on withdrawn lands for water power purposes, FERC would be consulted regarding withdrawal status and need for the withdrawal and site.	The Planning Area would be open to the location of water power and storage facilities. Inventoried and potential sites would be restrictively managed for these purposes. FERC would be contacted for withdrawal status and need before uses occur on water power withdrawals that would be jeopardized by water power development.	Managed as per Alternative A; Planning Area recommended to be closed to water power and storage reservoir sites.	Manage as per Alternative B, except management units E-1, E-3, E-10, E-14, and E-15 recommended to be closed to water power and storage reservoir sites.

Table S-1 (Continued)

SUMMARIZED COMPARISON OF THE MANAGEMENT ALTERNATIVES

RE-SOURCE/ RE-SOURCE USE	MANAGEMENT UNDER EACH ALTERNATIVE				
	ALTERNATIVE A (Continuation of Current Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D	ALTERNATIVE E (Preferred Alternative)
AREAS OF CRITICAL ENVIRON-MENTAL CONCERN	None proposed.	Public land totalling 207,944 acres designated and managed as ACECs; (Powderhorn, Alpine, Lake Fork, South Beaver Creek, West Antelope Creek, and East Gunnison ACECs); 4,625 acres designated as South Beaver Creek RNA/ACEC.	None proposed.	Public lands totalling 26,428 acres designated as ACECs; (Haystack Cave, Bighorn Sheep-A and B, Cebolla Creek, Slumgullion Slide, American Basin, Lake Fork, and Dillon Pinnacles ACECs); public lands totalling 15,512 acres would be designated RNA/ACECs: (South Beaver Creek and Redcloud Peak RNA/-ACECs).	Public lands totalling 42,261 acres designated and managed as ACECs (units E-4 through E-9: American Basin, Redcloud Peak, Slumgullion Earthflow National Natural Landmark, West Antelope Creek, South Beaver Creek, and Dillon Pinnacles ACECs).

CHAPTER ONE

INTRODUCTION

CHAPTER ONE
INTRODUCTION

This document consists of a draft resource management plan (RMP) and environmental impact statement (EIS) analyzing the effects of the preferred and four other alternatives. The draft RMP/EIS has been prepared in accordance with the Bureau of Land Management's (BLM's) planning regulations (43 CFR 1600) and regulations implementing the National Environmental Policy Act (NEPA) of 1969 (40 CFR 1500).

Acreage and analysis figures in this document were calculated using BLM's computerized Geographic Information System (GIS) unless noted. Acreages in this document are approximate.

PURPOSE AND NEED

The purpose of the RMP/EIS is to update and integrate the BLM's land use planning for the area into a single, comprehensive land use plan providing the overall framework for managing and allocating public land resources in the Gunnison Planning Area for the next 10 to 12 years.

The EIS analyzes the preferred and four other alternatives. The approved RMP will meet BLM statutory requirement for a master land use plan as mandated by Section 202 of the *Federal Land Policy and Management Act* (FLPMA) of 1976 and the requirements of the *Wild and Scenic River Act* (16 U.S.C. 1271). The RMP will update and supersede all land use planning in the American Flats/Silverton, and Gunnison Basin Management Framework Plans (MFPs) MFP decisions are re-analyzed in Alternative A (Continuation of Current Management Alternative) in Chapters 3 and 4.

In addition to identifying management direction within the planning area, the RMP/EIS meets other specific objectives. It (1), identifies public lands to be designated as open, closed, or limited to off-highway vehicles (OHV) and, (2), analyzes the suitability of a segment of the Lake Fork of the Gunnison River for inclusion into the National Wild and Scenic Rivers System (NWSRS).

IMPLEMENTATION/MONITORING OF THE PLAN

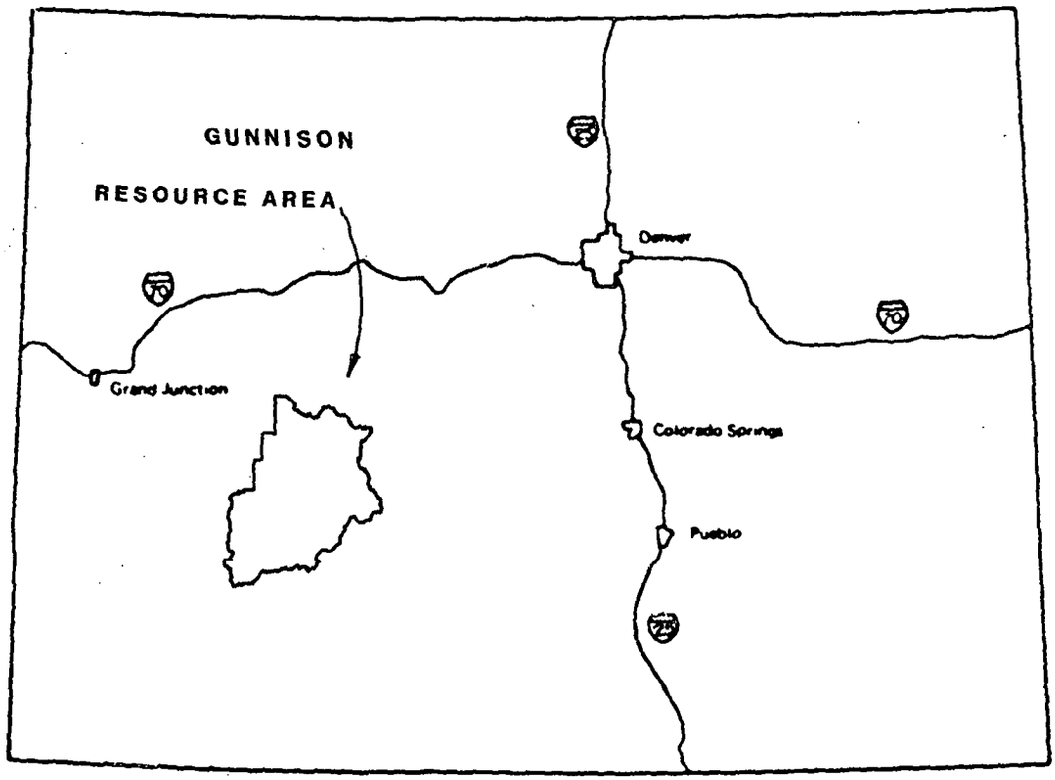
Implementation of the RMP will begin when the Colorado BLM State Director signs the Record of Decision (ROD). This implementation will be accomplished as described in the Colorado Resource Management Plan User's Handbook.

During implementation of the approved plan, if additional NEPA documentation is required, environmental assessments (EAs) will be prepared. EAs can vary from a simple statement of conformance to the RMP/ROD, to complex documents that analyze several alternatives. An EA documents NEPA requirements for site-specific actions. Implementation of the RMP will be monitored, and the plan will be evaluated periodically. Revisions or amendments to the approved plan may be necessary to accommodate changes in resource needs, policies, or regulations.

LOCATION OF PLANNING AREA AND LAND OWNERSHIP

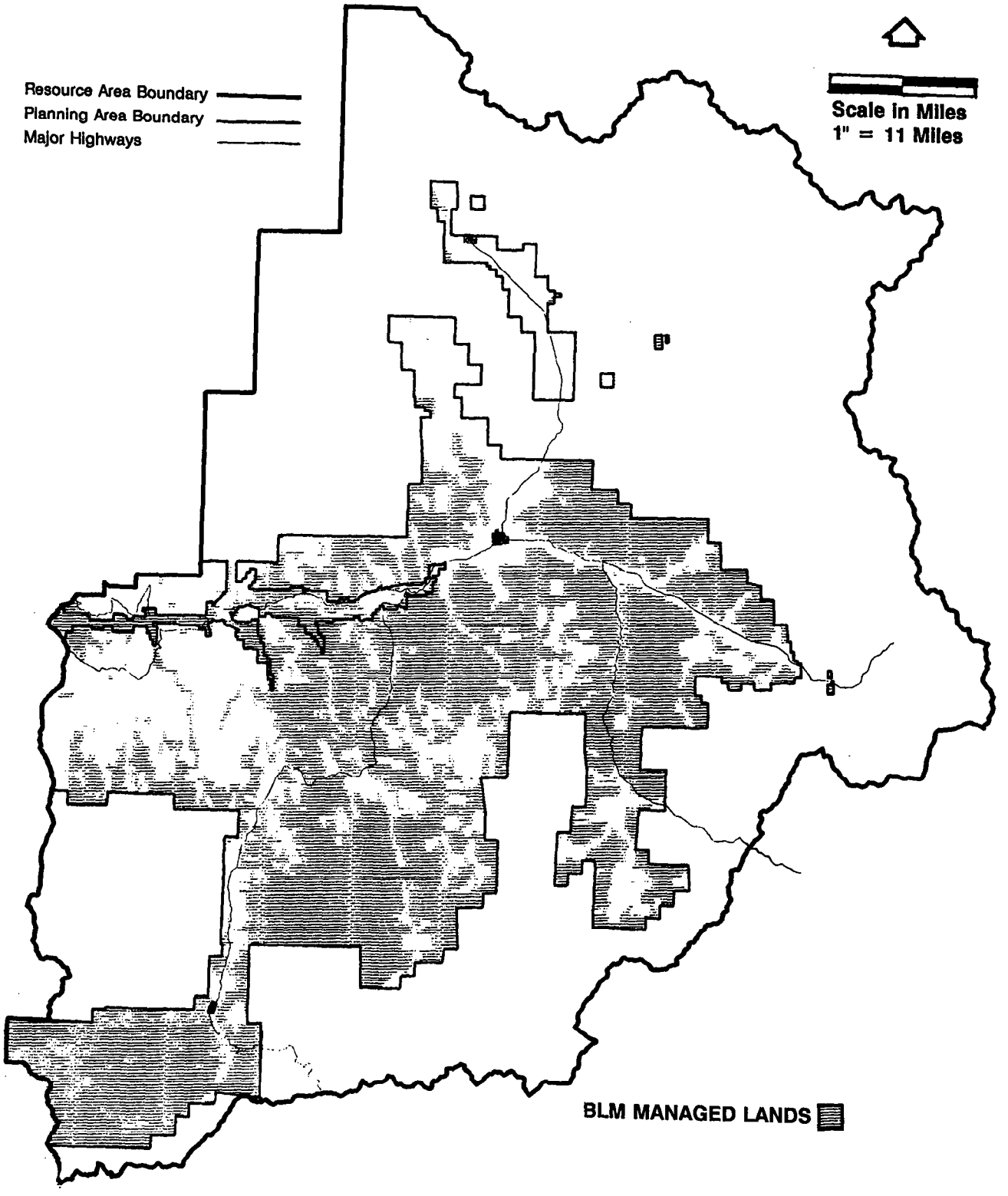
The planning area (see maps 1-1 and 1-2) is within Hinsdale, Gunnison, Saguache, Montrose, and Ouray counties. The Gunnison and Uncompahgre National Forests and the BLM's San Juan Resource Area surround the planning area, except along the west-central boundary which is defined by the Cimarron River and the BLM's Uncompahgre Basin Resource Area boundary. Total acreage in the planning area is about 960,730 acres; of this, about 61 percent (585,012 acres) is administered by the BLM, and about 37 percent (355,702 acres) is private land; about 20,015 acres are state administered. In addition, BLM has administrative responsibility for approximately 728,500 acres of federal mineral estate within the planning area, and 17,000 acres of mineral estate in the Gunnison Resource Area that are located outside of the planning area. Table 1-1 details surface and mineral ownership within the planning area by county.

COLORADO



General Location of the Gunnison Resource Area

Map 1-1
General Location Map



Map 1-2
Resource Area and Planning Area Detail

Table 1-1

LAND STATUS IN THE PLANNING AREA IN ACRES
OF SURFACE AND SUBSURFACE ESTATE BY COUNTY

	COUNTY					
	Gunnison	Hinsdale	Saguache	Montrose	Ouray	TOTAL
(1) SURFACE ESTATE						
FEDERAL LAND						
BLM[1]	355,350[2]	126,488	117,326[3]	3,660	2,188	585,012
STATE LAND						
CDOW[1]	10,985	1,703	195	6,122	0	19,006
SLB[1]	773	0	237	0	0	1,010
PRIVATE LAND[4]	280,028	17,275	51,842	6,655	102	355,702
TOTAL SURFACE ACRES	627,136	145,466	169,601	16,237	2,290	960,730
(2) MINERAL ESTATE[4]						
FEDERAL MINERALS RESERVED:						
ALL MINERALS	449,866	125,319	135,017	6,777	2,187	719,166
COAL ONLY	3,680	0	0	0	0	3,680
OIL, GAS & COAL	0	0	0	0	0	0
OIL & GAS	1,010	0	0	0	0	1,010
OTHER	3,062	0	0	0	0	3,062
TOTAL MINERAL ESTATE	457,618	125,319	135,017	6,777	2,187	726,918

1 - BLM = Bureau of Land Management, CDOW = Colorado Division of Wildlife, SLB = Colorado State Land Board

2 - Includes 60 acres withdrawn to the United States Forest Service

3 - Includes 40 acres withdrawn to the United States Forest Service for an Administrative Site

4 - Approximately 160,000 acres of non-federal surface estate over federal mineral estate within the planning area. About 17,222 acres of non-federal surface estate overlie BLM-managed federal mineral estate within the remainder of the Gunnison Resource Area. The BLM does not administer the private surface overlying federal mineral estate except where federal laws are applicable.

PLANNING ISSUES, CRITERIA, AND MANAGEMENT CONCERNS

The planning process for this RMP/EIS began in September of 1988 with the identification of issues, planning criteria, and management concerns. An issue, relative to this RMP/EIS, is a matter of controversy or dispute regarding a resource management activity or land uses that is well-defined, discrete, and involves alternative solutions. Planning criteria are legal, policy, or regulatory constraints that direct or limit the BLM's ability to resolve issues, as well as responses to public input or coordination efforts with other agencies. The planning criteria were used to establish limits for proposed resource uses and to develop alternatives. Management concerns are resource activities or opportunities that are addressed and resolved in the RMP/EIS in order to ensure consideration of all multiple uses in the planning area. These are usually BLM internal concerns.

Public open houses were held in Gunnison, Lake City, and Montrose to help determine the scope of the document and to receive input on, or additions to BLM's preliminary issues, criteria, and management concerns. Written comments were also solicited and received. As a result, BLM's preliminary issues, criteria, and concerns were finalized, and are addressed, resolved and analyzed in the alternatives in this RMP/EIS. Table 1-2 and 1-3 identify the planning issues and criteria, and management concerns, respectively, for this RMP/EIS.

WILDERNESS STUDY PROCESS AND THE RMP/EIS

Within the Gunnison Planning Area there are six Wilderness Study Areas (WSAs) totalling approximately 114,427 acres: Powderhorn Instant Study Area, Redcloud Peak, Handies Peak, American Flats, Larson Creek, and Bill Hare Gulch WSAs.

The BLM study process has been completed for all the WSAs in the Planning Area. The Powderhorn Wilderness Final Environmental Impact Statement and Wilderness Suitability Report (1984) recommended 43,311 acres as being suitable for wilderness designation; the Gunnison Basin and the American Flats/Silverton Wilderness Final Environmental Impact Statement (1987) recommended 39,790 acres in three WSAs as being suitable for wilderness designation: Redcloud Peak, Handies Peak, and American Flats WSAs.

The Slumgullion Slide, Friends Creek, and Sparling Gulch WSAs were deleted from wilderness study and WSA status on March 12, 1990 because the adjacent Forest Service lands on which they relied for their wilderness values are no longer under consideration for wilderness. These areas are no longer subject to the Bureau's Interim Management Policy for Lands Under Wilderness Review.

Since the study process has been completed for all WSAs in the Planning Area, this RMP/EIS does not re-analyze those areas, but does address, in various alternatives, management of lands within these WSAs in the event all, portions, or none of the WSAs are designated as wilderness by Congress during the life of this plan.

Until Congress acts on, and either designates or does not designate all or part of any WSA as wilderness, the WSAs in the Planning Area would be managed under BLM's Interim Management Policy for Lands Under Wilderness Review (IMP). If Congress designates public lands in any part of any WSA in the Planning Area as wilderness, those lands would be managed as wilderness and a wilderness management plan would be prepared for the area (s). If, during the life of this plan, Congress acts on and decides to not designate any part of any WSA in the Planning Area as wilderness, effectively removing it from WSA status, those public lands would be managed according to the alternatives in this draft RMP/EIS.

TOPICS NOT ADDRESSED IN THE RMP/EIS

Several topics identified during the preparation/scoping processes are not addressed in the RMP/EIS, and are identified below, along with rationale for not addressing them.

Table 1-2

PLANNING ISSUES AND CRITERIA

ISSUE	PLANNING CRITERIA
1. How should existing livestock and other uses be managed in riparian areas for protection and enhancement of riparian values?	A. Comply with all public land laws. B. Consider impacts to watershed conditions (upland, riparian, channels), watershed vulnerability, and watershed responsiveness. C. Maintain erosion condition class of slight/moderate as described in Montrose District Office Soil Erosion Monitoring Program. D. Comply with criteria for minimum acceptable vegetation and watershed conditions that must be met through management activities. E. Consider changing livestock numbers, livestock classes, seasons of use, and distribution of livestock to improve plant vigor and frequency. F. Consider use of vegetative treatments to increase plant basal cover and perennial plant species.
2. What management should occur to maintain or improve forage conditions in allotments not covered by current Allotment Management Plans (AMPs) or outdated management plans?	
3. How and where should sagebrush community types be managed for wildlife and livestock?	A. Comply with all public land laws. B. Consider impacts to watershed conditions (upland, riparian, channels), watershed vulnerability, and watershed responsiveness. C. Maintain erosion condition class of slight/moderate as described in Montrose District Office Soil Erosion Monitoring Program. D. Comply with criteria for minimum acceptable vegetation and watershed conditions that must be met through management activities. E. Consider providing for the maintenance of a healthy viable breeding population of elk and deer. F. Provide sagebrush habitat to maintain the existing Sage Grouse population in the Razor Creek drainage, North and South Parlin Flats, and Chance Gulch area; consider providing sagebrush habitat to increase the Sage Grouse populations where feasible. G. Consider managing the sagebrush communities for ecological site potential or increased production of wildlife habitat or livestock forage.
4. In view of the importance of recreation and tourism for local economies, what steps can be taken to improve recreation diversity and opportunities, while preserving the resources necessary for desirable recreation settings?	A. Comply with all public land laws. B. Consider public lands in extensive recreation areas needing special management for development or protection of recreation resources. C. Consider needed changes to current off-highway vehicle designations. D. Consider measures to maintain or reduce resource impacts caused by recreation activities and improve recreation management in the Resource Area, especially in the Lake Fork and Powderhorn areas. E. Consider measures to improve the quality and availability of public recreation resources where possible. F. Identify problems occurring to recreation and tourism caused by other land uses and recommend possible solutions.

WILDERNESS - See Wilderness Study Process and the RMP/EIS, in this chapter.

COAL PLANNING - The unleased federal coal estate in the planning area, consisting of 2,982 acres under federal surface and 6,812 split-estate acres, would not be available for leasing without amendment to the approved resource management plan. The remaining federal mineral estate within the planning area has very little or no potential for the occurrence of coal resources. A RMP amendment for coal leasing would be prepared after a coal lease application was filed by an individual or company interested in developing and mining the area. The amendment would consist of an identification of areas with potential for development, application of 20 criteria to identify those areas which are unsuitable for mining, an analysis of the tradeoffs necessary to protect other resources and uses that are unique or important, and consultation with effected surface owners. The amendment would be accompanied by an environmental analysis of the impacts of the mining and development, including the social and economic impacts to local communities. The one existing coal lease in the planning area would be continued in all alternatives, and approximately 5,000 tons of coal annually would be produced from the lease.

SOLID, NON-ENERGY LEASABLE MINERALS - The federal mineral estate in the Gunnison Planning Area would not be available for the leasing of solid, non-energy leasable minerals, subject to valid existing rights, without amending the approved resource management plan (RMP). Available data indicates no known deposits of these minerals, and to determine at this time which lands would be open or closed to the leasing of these minerals would be premature. A RMP amendment would be prepared after an expression of interest in the leasing of these minerals is received from an individual or company interested in developing and mining solid, non-energy minerals. The amendment would result in a decision that would identify the lands in the expression of interest that would be open or closed to the leasing of these minerals. The amendment would be accompanied by the appropriate environmental assessment of the impacts of the mining and development, including the social and economic impacts to the local communities, based on the best available data. The only known valid existing right in the Planning Area pertaining to these minerals is a Preference Right Lease Application (PRLA) involving 1,667 acres of public land for the purpose of developing a deposit of alunite (potassium aluminum sulfate) in sections, 17, 18, 19, and 20, Township 43 North, Range 4 West, N.M.P.M. The lands in the PRLA are situated in Hinsdale County approximately three miles south of Lake City, Colorado, in the vicinity of Red Mountain.

U.S. FOREST SERVICE AND NATIONAL PARK SERVICE LANDS OVERLYING FEDERAL MINERAL ESTATE - The BLM will actually issue oil and gas leases within lands administered by the Department of Agriculture, U.S. Forest Service (USFS). BLM only administers subsurface or down-hole activities occurring on oil and gas leases on USFS surface estate. Lands administered by the USFS will have leasing decisions made in a USFS Land and Resource Management Plan/EIS, or revision. The BLM is a cooperating agency providing oil and gas expertise to the team preparing these plans. BLM provides the USFS with projections of future oil and gas activity and impact analysis of subsurface construction. The USFS plans analyze impacts from oil and gas leasing and development to National Forest System Lands and describe where the USFS will or will not consent to lease.

The specific and cumulative impacts that would occur from potential leasing and development on National Forest Lands would be analyzed in the USFS plan.

The cumulative impacts on USFS lands within the Gunnison Resource Area from potential oil and gas leasing and development occurring on adjacent BLM-managed lands in the planning area would be insignificant.

The BLM is responsible for the leasing and development of lands administered by the National Park Service that are eligible for that purpose. National Recreation Areas are withdrawn from mineral leasing by regulation. Lands within the Gunnison Resource Area in the proposed Curecanti National Recreation Area are considered to be National Park System Lands, and are thus withdrawn from mineral leasing. The cumulative impact on these lands from potential oil and gas leasing and

development within the adjacent planning area is insignificant.

SPLIT ESTATE LANDS IN THE GUNNISON RESOURCE AREA LOCATED OUTSIDE THE PLANNING AREA - Split-estate lands in the Resource Area, that is, Federal mineral estate, under non-federal surface located outside the planning area boundary totalling 17,222 acres would be administered according to current laws, regulations, and policies. These lands are within the boundary of the Gunnison National Forest (USFS) and the BLM's Gunnison Resource Area, but are outside the planning area. This federal mineral estate will have leasing decisions made in the revision or update of the appropriate USFS Land and Resource Management Plan/EIS. The BLM also provides the USFS with oil and gas expertise for these lands, including projections of future oil and gas activity, and impact analysis of subsurface construction. The USFS plan revision or update will analyze impacts on these split-estate lands from oil and gas leasing and development, and describe where leasing will or will not occur, and what mitigation would be specified as a result of specific impact analysis on these lands. The cumulative impacts on these lands from potential oil and gas leasing and activity occurring on adjacent BLM-managed lands in the Planning Area would be insignificant.

On-site inspection and consultation with the surface owner and operator may reveal that (1) the impacts addressed by the stipulation would be avoided or mitigated to an acceptable level,or (2) the resources of concern are not present. Upon either of these determinations by the BLM Authorized Officer, the stipulations could be applied, waived, modified, or excepted without public notice other than that provided for the APD. If, after on-site inspection and consultation with the non-federal surface landowner, it is determined by the Authorized Officer that conditions necessary to avoid impacts to non-federal resources would adversely impact the public resources addressed by these stipulations, the impacts would be assessed. If, based upon such assessment, the Authorized Officer makes a decision to substantially change or waive one or more stipulations, a 30-day public review period would be provided in addition to the public notice period for receipt of the APD (these two 30-day notice and review periods may overlap).

Impacts from leasing, exploration, and drilling on these split-estate lands are not expected to be significantly different than on similar federal surface overlying federal oil and gas estate.

RELATIONSHIP TO OTHER PLANNING DOCUMENTS

EXISTING BLM PLANNING AND ENVIRONMENTAL DOCUMENTS

There are currently two land use management plans, called Management Framework Plans (MFPs), covering public lands in the Gunnison Planning Area: The American Flats/Silverton and the Gunnison Basin MFPs (see Table 1-4). These MFPs provide decisions and direction for most activities and resources that BLM manages. The objectives, decisions, and direction in these MFPs and their existing amendments are incorporated into Alternative A (Continuation of Existing Management) of this RMP/EIS.

In addition to the MFPs, several major BLM EAs and EISs for various program activities in the planning area have been completed. These documents are listed in Table 1-4, and the directions in these documents are also incorporated into Alternative A of this RMP/EIS.

When completed, the ROD/RMP will replace existing MFPs and may alter decisions or directions contained in existing BLM EISs, EAs, or resource program activity plans.

MANAGEMENT SITUATION ANALYSIS

The Management Situation Analysis (MSA), which is available at the Gunnison Resource Area, Montrose District, or Colorado State Offices was prepared by the interdisciplinary team and consists of three parts: the Resource Area Profile (RAP), the Existing Management Situation (EMS), and the Resource Capability Analysis (RCA). The MSA summarizes existing inventory data for most resources in the planning area (RAP), describes existing management of the resources (EMS), and details three levels of management for each resource (RCA). The MSA

provides most of the background information for the RMP/EIS.

WILD AND SCENIC RIVER STUDY REPORT

The Lake Fork of the Gunnison River Wild and Scenic River Study Report (see Appendix I) provides the background information and compiled resource data regarding the eligibility, classification, and suitability or non-suitability of the segments of the river for potential inclusion into the National Wild and Scenic Rivers System.

The information in the study report is extracted from the various chapters and sections of this RMP/EIS and from other sources. The study report includes maps and other data regarding the setting of the river corridor as required by the Wild and Scenic Rivers Act, and BLM regulations and policy.

In reviewing other streams in the planning area to determine which, if any, should be studied in accordance with the Wild and Scenic Rivers Act, Cebolla and Cochetopa Creeks were examined by the team. These streams were analyzed to determine if the wild and scenic rivers eligibility criteria would be met. Both are free-flowing, but neither possesses outstandingly remarkable values. These two streams therefore are not studied further in this document. Table 1-6 shows the mileage and study termini for these two streams.

OTHER AGENCY DOCUMENTS

To reduce or avoid conflicts between other agencies, the planning documents for adjoining lands have been reviewed and, where appropriate, that information has been used in the development of all alternatives in this RMP/EIS. In addition, BLM land use plans for adjacent Resource Areas have also been reviewed and analyzed to avoid conflicts in land management. These other agency documents are listed in Table 1-5.

Table 1-3

MANAGEMENT CONCERNS

RESOURCE	MANAGEMENT CONCERN
SPECIAL AREA DESIGNATIONS	1. What areas should be identified for special management and designation (i.e. Areas of Critical Environmental Concern, Research Natural Areas)?
ACCESS AND TRANSPORTATION	2. What road and trail easements should be acquired to provide reasonable public and administrative access to public land? 3. What roads and trails on public land should be closed and/or rehabilitated to protect resources, or eliminate or reduce use conflicts?
WATER POWER AND STORAGE RESERVOIR SITES	4. How should areas with potential for water power development and generation be managed?
LAND TENURE ADJUSTMENT	5. What public lands should be identified for sale, exchange, or other disposal, and what lands should remain in public ownership? 6. What criteria should be applied when considering acquisition of non-federal lands?
RIGHTS-OF-WAY CORRIDORS	7. What lands should be identified as being unsuitable for rights-of-way routes for major utilities and roads, and what mitigation measures would be appropriate?
HISTORICAL AND ARCHAEOLOGICAL RESOURCE MANAGEMENT	8. What important archaeological and historical resources should receive management emphasis?
NON-DESIGNATED WILDERNESS STUDY AREA (WSA) MANAGEMENT	9. How should WSAs not designated as Wilderness be managed when and if legislation or other action "releases" them from the WSA status?
MINERALS	10. What mitigation measures should be applied in areas that have high mineral development potential, and would most likely be developed? 11. What areas are unsuitable for mineral material disposal?
FOREST MANAGEMENT	12. Identify those commercial forest lands that will be available for a full range of forest management practices. 13. Identify those commercial forest lands where timber harvesting is restricted due to an emphasis on other resource values. 14. Identify those commercial forest lands that are set aside (withdrawn) due to other resource values.
WITHDRAWN AND CLASSIFIED LANDS	15. Which public lands should have current withdrawals or classifications revoked, continued, or modified? 16. Which public lands should be newly withdrawn to protect a resource or feature?
LAW ENFORCEMENT	17. How should BLM law enforcement personnel interface with on-the-ground resource management in the Planning Area?

Table 1-4

EXISTING PLANNING AND ENVIRONMENTAL DOCUMENTS IN THE PLANNING AREA

TITLE	DOCUMENT COVERAGE
American Flats/Silverton Management Framework Plan and Gunnison Basin Management Framework Plan, as Amended	BLM's overall land use plans for Gunnison Resource Area
Gunnison Basin and the American Flats/Silverton Wilderness Final Environmental Impact Statement	BLM's analysis and recommendations for eight Wilderness Study Areas in the planning area
Gunnison Basin Livestock Grazing Final Environmental Impact Statement	BLM's program direction for grazing on public land in the planning area
Powderhorn Wilderness Final Environmental Impact Statement and Wilderness Suitability Report	BLM's analysis and recommendation for Powderhorn Instant Study Area (Wilderness Study Area)
Gunnison River Basin Oil and Gas Umbrella EA	Identifies resources requiring protection and stipulations on oil and gas activity throughout the planning area.
Blue Mesa and High Mesa/Horse Mesa Forest Management Plans	Describes management prescriptions for forest resources.
Gunnison Basin Habitat Management Plan	Identifies habitat improvement opportunities in the Gunnison Basin Planning Unit.
Gunnison Basin Resource Area ORV Designation Order No. CO-030-8101, and Map, and Amendment	Identifies roads as being either limited or closed to off-highway vehicular (OHV). Identifies areas with seasonal closures. Amendment changed seasonal closures.
American Flats/Silverton - Lower Lake Fork Recreation Area Management Plan (RAMP) and EA, and Cochetopa RAMP/EA	Identifies intensive recreation management actions for the subject areas.
Rangeland Monitoring Plan for the Gunnison Resource Area	Establishes procedures for conducting studies for a variety of resource programs on public land in the planning area
Long Gulch Sediment Control and Riparian Habitat Improvement Plan	Prescribes measures and procedures and monitoring steps within a riparian area on public land in the planning area.

Table 1-5

OTHER BUREAU OF LAND MANAGEMENT AND AGENCY DOCUMENTS

AGENCY	TYPE OF DOCUMENT	TITLE
Bureau of Land Management	Land Use	San Juan/San Miguel Resource Management Plan (Final)
Bureau of Land Management	Land Use	Uncompahgre Basin Resource Management Plan (Final)
United States Forest Service	Land Use	Land and Resource Management Plan for the Grand Mesa-Uncompahgre-Gunnison National Forests
National Park Service	Development and Land Use	Curecanti National Recreation Area General Management Plan
Various County governments	Master Plans	Gunnison, Ouray, Montrose, Saguache, and Hinsdale County Master Plans or General Land Use Plans

Table 1-6

COCHETOPA AND CEBOLLA CREEK STUDY SEGMENTS

STREAM	MILES ON BLM LANDS	MILES ON PRIVATE LANDS	MILES ON CDOW LANDS	TOTAL MILES	STUDY TERMINI
Cochetopa Creek	8.4	34.0	0	42.4	BLM-FS boundary downstream to Tomichi Creek
Cebolla Creek	7.6	33.0	0.8	41.4	BLM-FS boundary downstream to Curecanti NRA boundary

CHAPTER TWO

AFFECTED ENVIRONMENT

CHAPTER TWO

AFFECTED ENVIRONMENT

Chapter Two provides a general description of the physical environment of the planning area and the resources which would be affected by the proposed resource management plan.

The information in this chapter is summarized from the Management Situation Analysis (MSA). The MSA and additional information and data are available for review at the BLM's Gunnison Resource Area Office at 216 North Colorado Street in Gunnison, Colorado 81320, or the Montrose District Office, 2505 South Townsend Avenue, Montrose, Colorado 81401.

Although not affected by alternatives in this RMP/EIS, BLM's Wilderness Study Areas (WSAs) are briefly described in this chapter. The purpose of this chapter is to serve as base line data for identifying and analyzing the environmental consequences that would occur from implementing each of the five alternatives considered in this RMP/EIS. These impacts are described in Chapter Four.

SOCIAL AND ECONOMIC CONDITIONS/CONCERNS

The planning area is comprised of substantial portions of four Colorado counties; the counties are Montrose, Gunnison, Saguache, and Hinsdale, and these make up the Economic Study Area (ESA). Although a small portion of Ouray County is in the planning area, data in this component for Ouray County is not included because of the minimal resultant economic impacts to the entire planning area.

The residents within and immediately adjacent to the ESA, along with the users and potential users of the area constitute the groups that would be affected by the proposed action and alternatives. Population trends and social attitudes of these groups are described in this section.

POPULATION TRENDS

The total population for the ESA has increased about 37 percent over the 15-year period from 1970-1985. Gunnison and Hinsdale counties have experienced the largest increases in population. Montrose has continued to have the largest population of the four counties in the ESA.

The ESA population is projected to increase to 53,345 (77 percent) from 1970 to 2010. For the same period, Hinsdale County is projected to have a 222 percent increase, the largest in the ESA; Gunnison County's population is expected to increase 140 percent, and Saguache County's population is expected to decline 20 percent over this same forty-year period. Table 2-1 shows population changes expected in the ESA for the period 1970 to 2010.

SOCIAL ATTITUDES

Lifestyles in the ESA and planning area are primarily rural with a high value placed on quality of life, independence, open space, and outdoor recreational opportunities. The people in the ESA are diverse in their attitudes and beliefs. The majority of the work force is employed in retail trade, government, tourist related business, agriculture, ranching and education. Interest and concerns regarding Federal land and resource management is high, especially for water use and water rights, grazing and wildlife management, recreation opportunities, and preservation of the area in its natural state. Residents of some communities whose economy is seasonal, such as Lake City, believe new growth is needed to enhance community growth and stability. Other residents involved in ranching value their rural lifestyle and available open space and may not place a high value on economic growth in other areas, especially if growth impacts their quality of life or other values.

Table 2-1

ESA POPULATION, 1970-2010

ESA COUNTY	1970	1975	1980	1985	PER CENT CHANGE 1970-1985	1990	1995	2000	2005	2010	PER CENT CHANGE 1970-2010
Gunnison	7,714	9,396	10,720	11,173	45%	12,788	14,119	15,512	16,984	18,541	140%
Hinsdale	203	353	414	412	103%	455	503	551	600	654	222%
Montrose	18,357	20,468	24,546	25,595	39%	26,261	27,534	28,723	29,896	31,070	69%
Saguache	3,833	4,098	3,947	3,950	3%	4,055	3,846	3,593	3,337	3,080	-20%
TOTALS	30,107	34,315	39,627	41,130	37%	43,559	46,002	48,379	50,817	53,345	77%

Source: Colorado Division of Local Government Demography Section

A general, Planning Area wide concern is that of actions resulting in vandalism to or removal of facilities or resources from public land. Another concern is the violation of occupancy and use regulations on public lands.

EMPLOYMENT AND INCOME

Employment in the ESA from 1982 through 1986 increased about one percent. Gunnison County's employment increased three percent, employment in Hinsdale County decreased 9 percent, Montrose County's increased one percent, and Saguache County employment increased less than one percent during the period 1982-1986.

The unemployment rates for the ESA have generally exceeded the 7.7 percent unemployment rate for Colorado from 1982-1986. Unemployment rates for the ESA counties during 1986 were: Montrose, 15 percent; Hinsdale, four percent; Gunnison, six percent; and Saguache, 22 percent. The rate for the ESA during 1986 was 13 percent. See Appendix E for more information on employment and unemployment.

During 1986 over 71 percent of the employment in the ESA occurred in the four sectors of services (26 percent), retail trade (18 percent), Government (18 percent), and finance insurance and real estate (9 percent). The smallest sector of employment in the ESA in 1986, miscellaneous agricultural services, accounted for two percent of the work force. During 1986, the sectors accounting for the largest numbers of employment in the individual ESA counties were similar to the entire ESA. In Gunnison County 28 percent of the workforce was engaged in services and 23 percent were in retail trade. In Hinsdale County, 31 percent of all workers were in the retail trade sector, 24 percent were in government, and 18 percent worked in services. In Montrose County 25 percent of the workers were in the services sector, 18 percent were in government, and 16 percent were in retail trades. Saguache County's employment in government was 31 percent, 23 percent were in services, and 13 percent worked in retail trades. See Appendix E for more information regarding employment and employment sectors in the ESA.

RETAIL SALES

Retail sales for the ESA counties increased 15 percent during 1980-1986. Hinsdale County had a 42 percent increase, the largest in the ESA, while Saguache County had an increase of less than one percent during 1980-1986. Table 2-2 depicts retail sales in millions of dollars for the ESA.

HOUSING

Housing vacancy rates in all ESA counties were over 10 percent for 1980 and 1986. Vacancy rates less than 10 percent are indicative of a housing shortage. Although Table 2-3 figures appear to show that all four counties could absorb light and perhaps heavy growth with existing housing, the vacancy rates shown may not take into account the large number of seasonal residents in Crested Butte, Lake City, and other communities in the ESA, or building conditions.

ECONOMIC SECTORS POTENTIALLY AFFECTED BY RESOURCE MANAGEMENT DECISIONS

Over 60 percent of the ESA workforce is in the service, Government, and trade sectors. Most potential effects on these sectors from BLM resource management decisions are indirect and immeasurable. Thus is it unlikely that any of the RMP/EIS alternatives will significantly impact these sectors representing well over the majority of economic earners.

Changes in recreation management could have localized economic impacts in the ESA, however, The planning area derives benefits from expenditures made for recreational activities, many of which are not presently quantified.

Tourism, or travel, economic impacts in the ESA for 1984 are quantified and shown in Table 2-4. Travel generated employment represents about 9 percent of the total ESA employment; In 1984 Gunnison County travel related employment was 15 percent of the total county workforce; Hinsdale County had 28 percent of its employment related to travel, Montrose County had four percent related to travel, and Saguache County had six percent of its employment related to travel. All ESA Counties are dependent on various tourism related income sectors for their socio-economic well being, especially Hinsdale County, with the least amount of private land tax base in the ESA. Population in Hinsdale County expands from approximately 400 during winter and spring months to 4600 during peak summer and autumn months.

Table 2-2

TOTAL RETAIL SALES
(IN MILLIONS OF DOLLARS)

COUNTY	1980	1982	1986
Gunnison	192.625	97.097	109.567
Hinsdale	3.898	5.304	5.548
Montrose	165.138	178.935	189.558
Saguache	19.232	18.223	19.341
ESA TOTALS	280.893	299.559	324.014

Source: Colorado Department of Revenue

Table 2-3

HOUSING UNITS AND VACANCY RATES BY COUNTY AND THE ESA

	GUNNISON		HINSDALE		MONTROSE		SAGUACHE		ESA	
	1980	1986	1980	1986	1980	1986	1980	1986	1980	1986
Total Housing Units	5,823	7,099	701	854	9,423	10,252	1,885	1,918	17,832	20,123
Vacant Housing Units	2,039	2,727	538	689	995	1,164	525	464	4,097	5,044
Housing Unit Rate	35.02	38.41	76.75	80.68	10.56	11.35	27.85	24.19	22.98	25.07

Source: Division of Local Government, Demography Section, Local Government Survey

Table 2-4

IMPACT OF TRAVEL ON ESA COUNTIES, 1984

COUNTY	TOTAL TRAVEL EXPENDITURES ($1,000)	TRAVEL GENERATED PAYROLL ($1,000)	TRAVEL GENERATED EMPLOYMENT (JOBS)	STATE TAX RECEIPTS ($1,000)	LOCAL TAX RECEIPTS
Gunnison	31,936	7,382	822	1040	460
Hinsdale	6,721	1,498	188	238	141
Montrose	15,628	3,493	430	557	200
Saguache	3,181	684	84	104	25
ESA TOTALS	57,466	13,057	1,524	1,939	826

Source: Colorado Tourism Board, U.S. Travel Data Center, County Travel Economic Impact Model (CTEIM)

CLIMATE

The planning area is located in a high valley/mountainous, continental climate regime characterized by dry air, sunny days, clear nights, variable precipitation, moderate evaporation, and large diurnal temperature changes. The Elk and West Elk Mountains to the north, the Collegiate Peaks and Sawatch Range to the east, and the Cochetopa Hills, La Garita and San Juan Mountains to the south, surround the high and wide Gunnison River Valley. Extremely frigid conditions and blizzards can occur, but severe weather conditions such as tornadoes, floods, and damaging hail are very rare. The region's complex topography causes considerable variation in site-specific temperature, precipitation, and surface winds. Because of this diversity, prolonged onsite monitoring is necessary to specify local conditions. Monitored values for temperature, precipitation and frost-free periods are summarized in Appendix O.

Temperatures (in degrees Fahrenheit) vary mostly with elevation, and to a lesser extent, local micro-climate. Summer temperatures usually range from lows in the 40's to highs in the 70's (mountains) and 80's (valleys). In winter, cold air often sinks down from the mountains, filling the Gunnison River Valley, making it as cold as, or colder than, the mountains. Winter temperatures typically range between zero degrees and the 30's. Extreme temperatures have been as low as -60 degrees (Taylor Park in 1951) and as high as 98 degrees (Cimarron in 1961). At higher elevations, freezing temperatures and snowfall are possible year around, with snow accumulation likely from October to May.

Annual precipitation is highly variable, due primarily to the orographic effect of the San Juan and La Garita Mountains. Within the resource area, precipitation varies from 10-12 inches along the Gunnison River to over 40 inches in the surrounding mountains. Except for areas with high snowpack, most precipitation comes from summer thunderstorms. Snowfall amounts vary from around 50 inches at the lower elevations to over 220 inches at Crested Butte; mountainous snow accumulation varies from 40 to 50 inches.

Upper-level winds prevail from the southwest, but the diverse and rugged terrain of the surrounding mountains results in complex wind flows and surface winds. Synoptic, or pressure gradient winds, may be channeled or forced around hills, but without strong gradient flows, diurnal upslope or downslope winds predominate. Upslope winds usually occur on sunny mornings when the air at higher elevations heats rapidly and rises. Downslope winds occur when the air near the ground cools, becomes dense and sinks downward along drainages. Similar light diurnal winds will occur along the Gunnison River drainages.

The extent vertical and horizontal mixing takes place is related to the atmospheric stability and mixing depth. Although specific data are not collected in the resource area, conditions may be similar to those found in Alamosa (Table O-3, Appendix O). Because of the complex terrain throughout the resource area, dispersion is normally good in spring and summer, but limited in winter. Inversions are formed under stable conditions, trapping pollutants within a layer of air, and are enhanced by weak pressure gradients, cold clear nights, snowcover and lower elevations. Moderate summer inversions are typical during the evening and dissipate at dawn. Winter inversions are stronger and may last several days.

Climatic conditions affect all management activities, but are most pronounced regarding vegetative conditions related to agriculture, grazing, fire potential, and recreation opportunities. The generally dry and seasonally frigid conditions of the planning area restrict both the growing season and diversity of plant life. Mountain areas are also cold, but increased moisture assists plant growth. Special considerations are included for vegetation rehabilitation after or during project development.

AIR QUALITY

Although monitoring data for most pollutants is not available, the air quality in the planning area is believed to be typical of undeveloped regions in the western United States. Ambient pollutant levels are usually near or below measurable limits. Locations vulnerable to decreasing air quality from extensive development include immediate operation areas, such as surface mining and milling operations, and local population centers that produce wood and coal smoke.

AIR QUALITY REGULATIONS

National ambient air quality standards set limits on the total amounts of specific pollutants allowed in the atmosphere. State standards address the same parameters, but may also be more stringent (e.g., Colorado's three-hour sulfur dioxide standard).
Federal and State air quality standards for carbon monoxide, lead, nitrogen oxide, oxidants, sulfur dioxide (SO2), total suspended particulates (TSP), and inhalable particulates (PM-10) are shown in Table 2-5.

Areas which consistently violate minimum federal standards because of man-caused activities are classified as "nonattainment" areas, and a plan to reduce ambient levels to below the maximum pollution standards must be implemented in these areas. Under the EPA's "Fugitive Dust Policy," areas which violate the TSP Ambient Air Quality Standards but lack any significant industrial particulate sources and have a population less than 25,000 are designated as "unclassified", i.e., neither "attainment" nor "nonattainment".

"Unclassified" areas are generally exempt from offset provisions, retrofitting controls, and meeting new source control requirements that were established for "nonattainment" areas by the Clean Air Act.

To protect areas not classified as "nonattainment," Congress established a system for the Prevention of Significant Deterioration (PSD) through the Clean Air Act Amendments of 1977. Areas were classified by the additional amounts of TSP and SO2 degradation which would be allowed. PSD Class I areas, predominately National Parks and certain Wilderness Areas, have the greatest limitations; virtually any degradation would be significant. Areas where moderate, controlled growth can take place were designated as PSD Class II areas. Those areas where the greatest degree of impact is allowed are PSD III areas. The State of Colorado established a similar program that limits additional amounts of sulfur dioxide and classifies areas as Category I, II, or III (corresponding to greater permissible levels of sulfur dioxide).

PSD Class I regulations also address the potential for impacts to Air Quality Related Values (AQRV's). These AQRV's include visibility, odors, and impacts to flora, fauna, soils, water, geologic and cultural structures. A possible source of impact to AQRV's is acid precipitation ("acid rain"). No acid precipitation data has been collected in the planning area, but average and extreme data (wet deposition pH) measured at Alamosa, Engineer Mountain Guard Station, and Molas Pass are presented in the Appendix O.

Table 2-5

STATE AND FEDERAL AIR QUALITY STANDARDS
(micrograms per cubic meter)

		AMBIENT[2]				INCREMENT[2]					
		FEDERAL		COLORADO		FEDERAL			COLORADO		
Pollutant	Averaging[1] Time	Primary	Secondary	Primary	Secondary	Class I	Class II	Class III	Cate-gory I	Cate-gory II	Cate-gory III
Carbon Monoxide[2]	8 hours	10,000	10,000	10,000	--	--	--	--	--	--	--
	1 hour	40,000	40,000	40,000							
Lead	Quarterly	1.5	1.5	--	--	--	--	--	--	--	--
Nitrogen Dioxide	Annual (Arith.)	100	100	100	--	--	--	--	--	--	--
Oxidants (ozone)	1 hour	235	235	160	--	--	--	--	--	--	--
Sulfur dioxide	Annual (Arith.)	80	--	--	--	2	20	40	2	10	15
	24 hours	365	--	--	--	5	91	182	5	50	100
	3 hours	--	1,300	700	--	25	512	700	25	300	700
Total suspended particulates	Annual (Geom.)	75[4]	60[4]	75	60[5]	5	19	37	--	--	--
	24 hours	260[4]	150[4]	260	150	10	37	75	--	--	--
Inhalable Particulates (PM-10)[6]	Annual (Arith.)	50	50	6	6	--	--	--	--	--	--
	24 hours	150	150	--	--	--	--	--	--	--	--

Sources: National Primary and Secondary Ambient Air Quality Standards (40 CFR 50 *et. seq.*, as revised July 1, 1987). Requirements for Preparation, Adoption and Submittal of Implementation Plans (40 CFR 51.156, as revised July 1, 1985). Code of Colorado Regulations (Volume 5, Part 14, as amended May 27, 1980).

Notes:

[1] Short-term standards (those other than Annual or Quarterly) are not to be exceeded more than once each year, except the Federal ozone and PM-10 levels above the standard is not to be exceeded more than once per calendar year.

[2] Ambient standards are the absolute maximum level allowed to protect either public health (primary) or welfare (secondary)>

[3] Incremental (Prevention of Significant Deterioration) standards are the maximum incremental amounts of pollutants allowed above the base line in regions of clean air.

[4] Federal TSP standards were superseded by the Federal PM-10 standards, effective July 31, 1987.

[5] The Colorado annual secondary TSP standard was established as a guide in assessing implementation plans to achieve the 24-hour standards.

[6] Colorado is developing PM-10 standards at least as stringent as the Federal standards.

EXISTING AIR QUALITY

The entire planning area has been designated as either "attainment" or "unclassified" for all pollutants; most of the planning area has been designated as PSD Class II. The nearby Black Canyon of the Gunnison National Monument and La Garita, and West Elk Wilderness Areas are PSD Class I/Colorado Category I Areas. The Curecanti National Recreation Area and the former Uncompahgre Primitive Area are PSD Class II/Colorado Category 1 areas. These areas could be influenced by activities in the planning area.

Although there is no gaseous pollutant monitoring in the planning area, levels are estimated to be low and within standards. Ozone levels in the Rocky Mountain West are relatively high but of unknown origin. Occasional peak concentrations of carbon monoxide and nitrogen dioxide may be found in the immediate vicinity of combustion equipment. Higher particulate concentrations are likely near towns due to local combustion sources (PM10) and unpaved roads (TSP) [(Colorado Department of Health, n.d.)]; significant regional TSP levels are probably due primarily to windblown fugitive dust.

Air quality conditions in the planning area are generally good due to the limited number of emission sources. Inversions that trap locally generated air pollution are common due to the complex terrain and high elevations in the planning area. Selected monitoring data and a map of air quality management areas are in Appendix O.

Surface disturbing and other management activities on public lands which generate air pollution include vegetative manipulation, controlled burning, mineral development and off-highway vehicle use. Air quality degradation is limited in the planning area by assuring land management activities comply with Federal, state and local air quality regulations. For example, prescribed burns must comply with BLM Manual Section 7723 - Air Quality Maintenance Requirements to minimize air quality impacts from resulting particulates (smoke).

TOPOGRAPHY

The topography of the planning area is generally divided into two distinct areas - the American Flats and Gunnison Basin areas.

The American Flats area, south and west of Lake City, is generally considered to have the most striking topography and associated natural features. Elevations range from 8,600 to 14,301 feet. Two major drainages, Henson Creek and the Lake Fork of the Gunnison River bisect a volcanic plateau in a generally east-west direction. Tributaries feeding these streams have helped carve a range of abrupt mountain peaks and alpine table lands; the latter feature gives the area its name. The actual American Flats (the area between American Lake and Engineer Pass) slopes 10 percent and is relatively flat compared to the average of 40 percent for slopes within the planning area. Three peaks (Sunshine, Redcloud, and Handies) are over 14,000 feet in elevation, and several over 13,000 feet occur in the area. Lakes are numerous and tributaries are short, deep, and steep. Lake San Cristobal, Colorado's second largest natural lake, was created by the Slumgullion earthflow some 700 years ago, damming the Lake Fork of the Gunnison River near Lake City. A portion of the earthflow is still active.

The Gunnison Basin comprises the remainder of the planning area. Elevations range from 7,500 to 12,600 feet. All major streams are tributaries of the Gunnison River, which flows in an east-to-west direction, and then into Blue Mesa Reservoir. The area north of the Gunnison River and Tomichi Creek consists mostly of broken hills and valleys of various widths south of the West Elk Mountains. Major north-south drainages are Curecanti, Soap, West Elk, Red, East Elk, Willow, Stevens, Steuben, Antelope, Ohio, Cabin, Alder, Quartz, and Hot Springs Creeks, and the Slate and Taylor Rivers. A striking topographic feature is the exposed rock outcrops known as Dillon Pinnacles along Blue Mesa Reservoir near Dillon Mesa.

The planning area south of the Gunnison River and Tomichi Creek is characterized by the dissected tablelands of Sapinero and Blue Mesas and Carpenter Ridge, the higher-elevation mountainous and alpine

tundra terrain of the Powderhorn Primitive Area, the lower valley and canyon of the Lake Fork of the Gunnison River, the narrow Cebolla Creek valley, and the Cochetopa Creek upper valley and lower canyon. Major tributaries flow northerly to the Gunnison River and include the Cimarron, Little Cimarron Rivers, Blue, Willow, South Beaver, Gold Basin, Razor, and Needle Creeks.

MINERAL RESOURCES

The Bureau of Land Management administers approximately 726,918 acres of federal mineral estate within the planning area (585,012 acres are BLM administered surface estate). Within the remainder of the Gunnison Resource Area BLM manages an additional 1,443,797 acres of federal mineral estate, 17,222 acres of which are overlain by non-federal surface estate. Within the planning area 45,282 acres of federal mineral estate are withdrawn from entry and location under the general mining laws and 10 acres are withdrawn from leasing under the mineral leasing laws.

LOCATABLE MINERALS

Historically, the planning area has produced metallic mineral resources from the Gunnison Gold Belt and the Lake City Caldera complex. Historic production has consisted of precious metals (gold and silver) and associated base metals (copper, lead, and zinc). Uranium was produced from one location during the uranium boom of the 1950's. The intrusive alkaline rock complex at Iron Hill near Powderhorn contains mineral deposits with a good potential for production of titanium, niobium, the rare earth metals, and several other associated minerals.

In recent years exploration by individual prospectors and large mining companies has not resulted in any new discoveries or any significant production of locatable mineral resources. There has been some minor production of placer gold from federal land within the Gunnison Gold Belt, and several gold recovery operations produce sporadically from patented claim groups in the same area.

Lands totalling 110,528 acres in the Planning Area have a high likelihood for the occurrence of locatable minerals. About 191,819 acres have a moderate potential, and the remainder of lands in the Planning Area have either a low or no potential.

LEASABLE MINERALS

There is one coal lease located in the planning area that consists of 200 acres of privately owned surface with reserved federal mineral estate. Production from this lease has been approximately 5,000 tons annually during the last several years.

There are no other producing mineral leases within the planning area, nor any leases on which exploration is taking place. There is one oil and gas lease containing 105 acres. This lease is on private surface estate. The Bureau of Land Management administers oil, gas, and geothermal resources on approximately 726,908 acres within the planning area (585,012 acres are BLM surface lands) and on an additional 1,129,453 acres within the remainder of the Gunnison Resource Area. To date, no holes have been drilled on a federal lease in the Planning Area or the Gunnison Resource Area. A total of seven exploratory holes have been drilled on non-federal mineral estate within the Planning Area. None disclosed any showing of petroleum hydrocarbons and all were abandoned as dry holes. At least two holes bottomed in igneous rock at very shallow depths.

There is a potassium PRLA (preference right lease application) covering 1,667 acres of public land on Red Mountain. Exploration of this area for alunite took place prior to 1976, and application for lease was made in 1979. The PRLA is located inside the boundary of the Redcloud Peak Wilderness Study Area (WSA). Processing of this PRLA was begun in 1980, but was ceased in 1982 because of legislation prohibiting funds being expended for processing mineral leases within WSAs.

Areas surrounding known hot springs at Powderhorn, Waunita Hot Springs, and Ranger-Cement Hot Springs have been assessed as having geothermal potential. No serious geothermal exploration has been done in the planning area.

REASONABLE AND FORESEEABLE DEVELOPMENT

Based on the potential within the Planning Area for the occurrence of oil and gas resources, and the history of exploration, the scenario for reasonable foreseeable development is that a maximum of two Applications for Permit to Drill (APDs) may be received during the life of this plan. It is anticipated that a maximum of two wells could be drilled over the life of the plan.

SALEABLE MINERAL RESOURCES

Within the planning area there are currently five BLM authorized sites from which mineral material disposals are made. Two are community pits from which individuals may purchase small quantities of decomposed granite (gravel). The other three sites are authorized by Free Use Permits to Gunnison and Hinsdale counties for county road maintenance material. Two other planning area-wide authorizations permit users to purchase and gather small quantities of decorative stone (moss rock, building stone, etc.) and riprap on public lands. Annually about 5,000 cubic yards of all these materials are sold to the public and about 7,500 cubic yards of these materials are used by two planning area counties under the terms of Free Use Permits.

There is a dependence on the coal from the Ohio Creek Mine by local consumers. Counties and gravel contractors depend on gravel from public lands in remote areas when impractical to transport gravel from other sources.

See Table 1-1, Lands and Realty component, for statistics regarding the Federal mineral Estate within the planning area.

SOILS

The soils throughout the planning area are quite variable due to differences in geologic parent material, topographic relief and climate.

Intensive soil surveys have been completed for the entire planning area by the Soil Conservation Service (SCS). These are the Gunnison (1975), Ridgway (draft), and Ouray (draft) soil surveys. Data from these surveys is summarized below, and are available for review at the Montrose District Office.

Soils occurring within the planning area on 231,798 acres of mountain loam and dry mountain loam range sites are characterized by sagebrush covered slopes commonly found on the eastern two-thirds of the planning area. These soils have loamy textures with a high rock or stone content and are highly erodible where steep slopes (30-40%) occur. In many locations on these ranges sites, accelerated man-caused erosion has resulted in surface layers that are thinner with higher rock contents than soils not impacted by accelerated erosion.

Soils in the high elevations of the Lake Fork and Henson Creek drainages are typically deep, well-drained soils with loamy-skeletal surface textures. The erosion potential of these soils is very high due to the steep topography.

Deep soils with silty loam textures occur on steep terrain in the Cimarron River drainage in the western portion of the planning area. These soils have high erosion and mass wasting potential due to high silt content and topography. Table 2-6 shows acres by erosion potential class within the Planning Area. There are no saline soils within the Planning Area.

Soil erosion monitoring data gathered since 1983, expressed by measured basal vegetation cover, is available on three range sites totalling 266,797 acres of public land within the planning area. Soil erosion is dependent on the inherent erosion capability of soils, topography, climate, and the type and intensity of lands uses occurring. Data collected shows that plant basal cover (area of ground surface covered by perennial plant stems measured one-inch above the soil surface) on these surveyed lands is considerably below potential Table 2-7 summarizes existing soil erosion monitoring data within the planning area. Within the planning area the lower elevation range sites (range sites 1-5, table 2-7) are more arid than the range sites found in higher elevations, and the potential plant basal cover is lower. Relative to the higher elevation range sites, the more arid lower elevation sites can tolerate less reduction of plant basal cover before significant increases in surface runoff and peak flow rates occur. Ultimately, this

Table 2-6

SOIL EROSION POTENTIAL WITHIN THE PLANNING AREA

EROSION POTENTIAL CLASS[1]	ACRES OF PUBLIC LAND[2]
Slight	2,460
Slight-moderate	3,792
Moderate	160,022
Moderate-high	271,312
High	17,448
High-very high	240
Very high	38,366

Notes:
[1] The erosion potential class is determined on bare soil (i.e., no vegetation cover) and is rated from a combination of the inherent erodibility of the soil and slope.
[2] Excluded are acres such as rock outcrops, etc.

results in increased erosion of the soil surface and stream channels.

There is a direct relationship between the aridity of a range site and it's potential plant basal cover (i.e., the more arid a range site, the lower the potential plant basal cover). Consequently, on the more arid sites, both surface runoff and peak flow rates are naturally higher which produces the energy available to erode the soil surface and stream channels. It also takes less of a plant basal cover reduction on these sites to increase the risk of accelerated erosion.

On areas where accelerated erosion has removed all or a part of the top soil (the organically enriched surface layer) the potential plant cover has been permanently reduced.

Soil erosion is accelerated by various land uses such as livestock grazing, timber harvesting and off-road vehicle use, by either reducing vegetation cover or physically disturbing the soil. Soils are often compacted along drainageways, near watering facilities and on stock trails where heavy livestock traffic occurs. Soils are most prone to physical damage in the spring when the moisture content is high. Developments such as poorly located or unmaintained roads also accelerates erosion by collecting and channeling surface runoff waters.

Incised stream channels are common in the planning area and are a source of accelerated erosion that can be several times that of upland erosion. Incised channels can result from natural events such as flooding but are often aggravated or initiated by various land uses or developments such as livestock grazing, poor road placement, and in-channel water structures.

WATER RESOURCES

SURFACE WATER

The planning area lies within the Upper Gunnison River drainage. The major tributaries of the Gunnison River within the planning area include Tomichi Creek, the Lake Fork of the Gunnison River, the Taylor River, and Cebolla Creek.

Peak flows on these river systems and their tributaries typically occur between April and the end of June as a result of high elevation snowmelt. Low flows originating primarily from ground water discharge occur during fall and winter. The majority of the lower elevation drainages receive little precipitation (less than 15 inches annually) and, consequently, have intermittent or ephemeral flows. High intensity summer thunderstorms are common in the planning area, often producing high streamflows of short duration.

SURFACE WATER QUANTITY

Water yields from public land in the planning area are quite variable. Factors influencing water yields include soil type, vegetation type and density, watershed aspect and slope, and the amount of precipitation. Table 2-8 lists estimated water yields in selected vegetation zones in the planning area.

Water yields from public land are used off-site (downstream) for supporting water-based recreational

Table 2-7

SOIL EROSION MONITORING SUMMARY

RANGE SITE	PUBLIC LAND ACRES	POTENTIAL PLANT BASAL COVER[1]	MEAN MEASURED BASAL COVER[2]	STANDARD DEVIATION[3]	NUMBER OF TRANSECTS
1. Mountain Loam	160,187	25	8	5	20
2. Dry Mountain Loam	71,611	15	7	3	58
3. Subalpine Loam	34,999	40	13	10	13
4. Mountain Outwash	13,193				
5. Deep Clay Loam	2,687	30			
6. Alpine Slopes	11,369	40			
7. Shallow Subalpine Loam	9,326	20			
8. Shallow Alpine	8,081	35			
9. Mountain Swale	5,390	35			
10. Mountain Meadow	3,777	45			
11. Shrubby Alpine	1,225	45			
12. Alpine Meadow	405	70			
13. Shallow Loam	351	70			

Notes:
1 Basal cover densities that could be expected under optimal natural conditions.
2 The mean is calculated by adding all basal cover values and dividing by the number of transects.
3 The standard deviation indicates that approximately 68 percent of all the observations (basal cover measurements) lie within (plus or minus) the indicated value from the mean.

activities (rafting, fishing, etc.), satisfying adjudicated water rights, and is used as a portion of the water needed to meet the terms of the Colorado River Compact. Most municipal and domestic water sources within the planning area use groundwater from private land. The city of Crested Butte diverts surface water from the Wildcat Creek drainage for municipal use. There are approximately 340 acres of public land in this drainage. According to Crested Butte officials, there are no water quality problems with this water source (personal communication with Crested Butte city government, 1988). Colorado law allows water right owners of municipal surface water diversions to control land use actions, that may affect the water quality of their appropriation, for a distance of 5 miles upstream from the diversion. This could affect BLM's future management of the 340 acres of public land in the Wildcat Creek drainage. There are 1,568 inventoried water sources (springs, seeps, lakes, wells, and water developments such as stock tanks and reservoirs), within the planning area. These waters are important for recreation uses and for satisfying livestock and wildlife (terrestrial and aquatic) needs on public land. The BLM has secured water rights on 113 water sources and has claimed reserved rights on 441 water sources. Water sources within the planning area and their condition and development status are depicted in Table 2-9. At present, only 74 miles of the total 187 miles of identified fisheries have instream flow appropriations sufficient to maintain the fishery resources and adjacent riparian habitat.

Table 2-8

WATER YIELD ESTIMATES
FROM SELECTED VEGETATION ZONES IN THE PLANNING AREA

VEGETATION ZONE	PUBLIC LAND[1] (ACRES)	ESTIMATED ANNUAL PRECIPITATION (INCHES)	ESTIMATED ANNUAL WATER YIELD PER ACRE (INCHES)
Alpine zone	21,487	30-50	25-45
Subalpine forests	63,285	20-40	5-25
Aspen forests	39,747	20-40	5-20
Ponderosa pine forests	69,922	15-25	2-6
Sagebrush/Mixed mountain shrub	292,859	8-20	1-4

Sources: Hibbert 1979, Johnston et.al. 1979
[1] Does not include all public land in the planning area.

Table 2-9

WATER SOURCE SUMMARY

WATER SOURCE CONDITION AND DEVELOPMENT STATUS	TOTAL WATER SOURCES	SOURCES WITH WATER RIGHTS	PUBLIC WATER RESERVES	SPRINGS WITHOUT WATER RIGHTS	STOCK TANKS AND RESERVOIRS	WELLS	OTHER
Not developed	803	5	60	716			27
Developed							
Excellent	99	22	38	47	11	2	1
Good	389	61	193	131	56	1	8
Fair	173	19	103	49	19		2
Poor	89	6	43	30	15		1
Abandon	15	0	4	2	8		1
TOTAL	1,568	113	441	975	109	3	40

SURFACE WATER QUALITY

The BLM coordinates with the State of Colorado in the location and identification of non-point water pollutant sources and in maintaining the established water quality reporting process pursuant to section 305b of the Clean Water Act.

Surface water quality varies throughout the planning area and depends primarily on local geology and the types and intensities of land uses. The chemical water quality of streams in the planning area is good, except in the upper Lake Fork of The Gunnison and Slate Rivers. Waters in other Planning Area streams are

usually a mildly calcium-bicarbonate type, and total dissolved solids rarely exceed 200 parts per million.

The Slate and upper Lake Fork of the Gunnison Rivers, and several of their tributaries receive metals pollution (lead, zinc, cadmium, copper, and manganese) from historic mining and natural factors. Metals pollution can negatively impact aquatic life and limit human uses of the water supply. The Colorado Water Quality Control Division has recognized these nonpoint pollution sources and has ranked them either low, medium, or high indicating the severity of the cumulative water quality impacts (see Table 2-10).

Generally, sediment yields within the planning area vary from less than 0.35 tons per acre annually in higher elevations, to 0.70 tons per acre annually in lower elevations. Sediment yields are accelerated in many upland areas by surface-disturbing land uses such as grazing, mining, timber harvesting and off-road vehicle use. Poorly located and unmaintained roads and water developments also produce sediment (see Appendix N). Incised channels (gullies) are also common in the planning area and are a major sediment source. Gullies can form naturally but are often aggravated or initiated by upland land uses, roads that increase or concentrate surface runoff, or from direct physical disturbance to the stream channel or adjacent riparian zone. Channels in this condition increase peak flood flows and drain alluvial aquifers, often reducing the quality and areal extent of the riparian zone.

Riparian zones within the planning area are hydrologically important. Riparian areas intercept sediment from uplands and attenuate flood flows. Riparian areas and stream channels are the principal ground water recharge areas for alluvial aquifers, and dense, vigorous riparian vegetation is crucial for maintaining stable stream channels and high water quality.

Riparian habitat within the planning area is commonly overgrazed and the resulting excessive vegetation utilization and physical damage to soils and stream channels is a management concern. These areas are generally over-utilized by livestock in the spring and fall when riparian areas are sensitive to damage, thereby exacerbating the concern.

There is no data quantifying the biological quality of the area's surface waters. However, cases of giardiasis (a disease caused by the ingestion of the protozoan *Giardica lamblia*) have been reported (personal communication - Gunnison County Public Hospital, 1988). Generally watersheds with big game or livestock use, and/or high recreational use have the greatest potential for biological water pollutants. Most natural surface waters are probably biologically contaminated and could pose a threat to human health if consumed untreated.

GROUND WATER

The principal ground water aquifers in the planning area consist of valley fill deposits, various crystalline rock units and the following sedimentary formations: Dakota Sandstone, Mancos Shale, Burro Canyon, Morrison, Entrada, and the Mesa Verde group. Water yields are greatest from valley fill deposits along the Gunnison River and its major tributaries. Wells in these deposits can yield over 100 gallons per minute (gpm). Wells in the sedimentary bedrock aquifers generally yield less than 20 gpm except in a few artesian situations where water yields have reached 40 gpm. The crystalline rock aquifers rely on

Table 2-10

SEVERITY OF NON-POINT SOURCE METALS POLLUTION

STREAM NAME	SEVERITY OF POLLUTION
Upper Slate River	Medium
Lower Slate River	Low
Oh-Be-Joyful Creek	High
Coal Creek	Low
North Fork Henson Creek	Medium
Henson Creek	Medium
Cooper Creek	Medium
Silver Creek	Medium
Cottonwood Creek	Low
Lake Fork of the Gunnison River	Low

Source: Colorado Non-point Assessment Report, 1988.

fracturing for this water storing capacity. As a result, water well yields can be quite variable but are generally less than 15 gpm. Waters discharging from the above-mentioned aquifers and smaller localized aquifers constitutes the low flow fraction of the planning area's streams and rivers.

Except for the acidic discharge sources mentioned in the surface water quality section, the ground water quality is generally good. In all of the principal aquifers the water is mildly calcium-bicarbonate. Out of a total of 1,384 springs (points of ground water discharge) inventoried in the planning area, 25 had total dissolved solids (TDS) concentrations greater than 500 parts per million (ppm) and only 10 of those exceeded 1,000 ppm. The U.S. Environmental Protection Agency's Primary Drinking Water Standards recommends TDS concentrations less than 500 ppm; however, concentrations up to 1,000 ppm are acceptable.

GENERAL WATER DEPENDENCY, SUPPLY, AND DEMAND

Water is necessary for almost all resources and uses on public land. Water is needed to produce vegetation (i.e., timber, forage, and wildlife habitat). Wildlife, livestock, and several recreational activities on public land require either consumptive or non-consumptive use of the water resource. Riparian areas, the most productive and diverse public lands, are dependent on the water resource. Water yields, from public land, help satisfy downstream water users and may be used for future trans-basin diversions to the East Slope.

Generally, water demand in the Upper Colorado River Basin is high. Several sub-basins are presently fully appropriated. Overall, in the Colorado River Basin water demand has exceeded the supply.

VEGETATION

The natural vegetation in the planning area consists of a mosaic of ten dominant plant species/vegetative types. Table 2-11 lists the acreage and percentage of public land in each vegetation type.

SAGEBRUSH/MIXED MOUNTAIN SHRUB

Mountain big sagebrush (*Artemisia tridentata vaseyana*) is the dominant sagebrush species within the planning area. There are, however, small areas dominated by blacksage (*Artemisia nova*) which are typically on shallow, rocky soils and silver sagebrush (*Artemisia cana*) can be dominant in moist, higher elevation sites.

The composition of understory grasses and forbs varies with soil type, elevation, aspect and the land use history. Common grasses associated with big sagebrush at lower elevations on drier slopes, and that are generally south and east facing include: needlegrasses (*Stipa* spp.), Sandberg bluegrass (*Poa sandbergii*), wheatgrasses (*Agropyron* spp.), and bottlebrush squirreltail (*Sitanion hystrix*). At the higher elevation areas with more moist, north and east facing; fescues (*Festuca* spp.) are often the dominant grasses. Other grasses in these areas include bromegrasses (*Bromus* spp.), mountain muhly (*Muhlenbergia montana*), Parry oatgrass (*Danthonia parryi*), needlegrasses, Sandberg bluegrass, and wheatgrasses. Common forbs found throughout the sagebrush type include: penstemon (*Penstemon* spp.), phlox (*Phlox* spp.), pussytoes (*Antennaria* spp.), lupine (*Lupinus* spp.), aster (*Aster* spp.), fleabane (*Erigeron* spp.), peavine (*Astragulus* spp.), and buckwheat (*Eriogonum* spp.). Sagebrush is a major component of the Dry Mountain Loam, Mountain Loam, Shallow Subalpine Loam, Subalpine Loam, Mountain Outwash, Mountain Swale, Deep Clay Loam and the Loamy Slopes ecological (range) sites.

The mixed mountain shrub type is found within or adjacent to the sagebrush type, and typically occurs as inclusions of serviceberry (*Amelanchier* spp.), mountain mahogany (*Cerocarpus montanus*), Gambel oak (*Quercus gambeli*), antelope bitterbrush (*Purshia tridentata*), choke cherry (*Prunus virginiana*), or Douglas rabbitbrush (*Chrysothamnus viscidiflorus*). This type may also be composed of a single species or a mixture of several. Gambel oak occurs as a dominant species in this type in the western section of the Gunnison Basin.

The sagebrush type comprises the largest area of all vegetation types grazed by livestock in the planning

area. This vegetation type is also critical big game winter range for elk (*Cervus elaphus)* and mule deer *(Odocoileus hemionus)*. Sage grouse (*Centrocercus urophasianus)* are dependent on sagebrush for breeding, nesting, roosting, and feeding habitat. A variety of birds, small mammals and insects also are dependent on the sagebrush vegetation type for at least part of their habitat requirements.

PONDEROSA PINE-DOUGLAS FIR

The ponderosa pine (*Pinus ponderosa*), Douglas fir (*Pseudotsuga menziesii*), vegetation type is actually composed of two rather distinct subtypes that occur at the same altitude, but occupy areas with different environmental conditions. Ponderosa pine grows at approximately 7,000 to 9,000 feet, on relatively dry ridges and south-facing slopes. The Douglas fir subtype is well developed at this same elevation, and occupies more moist, usually protected north-facing slopes. Bristlecone pine (*Pinus aristata*), may also occur near the upper limit of the Ponderosa pine-Douglas fir type, and usually on dry, south-facing slopes.

LODGEPOLE PINE

The Gunnison Basin is near the southernmost geographical distribution of lodgepole pine (*Pinus contorta)* and consequently lodgepole pine is not very abundant in the planning area. Lodgepole pine typically is scattered throughout subalpine areas between 8,500 and 11,000 feet, largely in old burns, where it is a subclimax tree and may eventually be replaced by spruce-fir. Very little lodgepole pine occurs in the south half of the Gunnison Basin, where the bulk of public land is located.

Table 2-11

VEGETATIVE TYPES ON PUBLIC LANDS
IN THE PLANNING AREA

VEGETATION TYPE	ACRES	PERCENT BLM LAND
Sagebrush/Mixed mountain shrub	292,859	50.0
Ponderosa pine-Douglas fir	69,922	12.0
Lodgepole pine	9,377	1.6
Aspen	39,747	6.8
Blue spruce	620	0.1
Spruce-fir	63,285	10.8
Meadow	8,587	1.5
Riparian	14,933	2.6
Alpine	21,487	3.7
Rock outcrops	64,195	10.9
TOTALS	585,012	100.0

ASPEN

Quaking aspen *(Populas tremuloides)* occurs as a stable, rather continuous forest belt between 9,500 and 10,500 feet elevations, although it occurs at 8,500 feet and as high as 11,200 feet. Understory vegetation beneath aspen is typically very lush and consists of a large diversity of grasses and forbs.

The aspen type is sometimes a successional stage, invading areas that have been burned or logged. Aspen may also occasionally invade mountain meadows dominated by fescue.

In the planning area, aspen may grow from north-facing slopes down into the sagebrush or ponderosa pine vegetation zones. Aspen is often associated with Douglas fir on the north slopes.

BLUE SPRUCE

The blue spruce *(Picea pungens)* type occurs throughout the planning area, in small pure stands from one to two acres in size ranging in elevation from 7,000 to 11,000 feet.

The 600+ total acreage represents the smallest described vegetation type found within the planning area.

This species is unique because it is the only conifer which is confined primarily to narrow bottomlands, usually on north slopes along stream banks or other wet sites.

SPRUCE-FIR

The spruce-fir type consists of Engelmann spruce *(Picea engelmann)* and subalpine fir *(Abies lasiocarpa)* in rather dense stands. Engelmann spruce is the dominant tree of this type, with subalpine fir of lesser abundance (largely due to Engelmann spruce's longevity). The spruce-fir forest is characterized by an uneven aged trees, along with numerous standing dead trees, and the forest floor is littered with dead trunks of all sizes and in varying degrees of decomposition.

Spruce-fir is present at elevations between 8,500 to 12,000 feet. It occupies only the north slopes at its lower altitudinal limit, and at the upper limit, which is timberline, the trees become dwarfed and contorted. Spruce-fir is the dominant vegetation type between 10,000 and 11,500 feet. Within this type there are scattered subalpine meadows.

MEADOWS

Meadows are common in the woodlands of the lower mountains and subalpine areas in the planning area. The plant composition of the meadows varies with elevation, associated vegetation types, and relative moisture content of the soil. Dry meadows in the lower mountains (with or near ponderosa pine-Douglas fir) often include Arizona fescue (*Festuca arizonica*), needle and thread (*Stipa comata)*, Parry oatgrass, mountain muhly, junegrass *(Koeleria cristata*), pine dropseed *(Blepharoneuron tricholepsis*), western yarrow (*Achillea lanulosa)*, and harebell (*Campanula rotundifolia)*. In subalpine areas (among spruce-fir or aspen) Thurber's fescue *(Festuca thurberi*), Idaho fescue (*Festuca idahoensis)*, rough bentgrass *(Agrostis scabra)*, alpine timothy *(Phlem alpinum*), spike trisetum (*Trisetum specatum)*, orange sneezeweed (*Helenium hoopesii*), and cinquefoil (*Potentilla* spp.), may also be present.

RIPARIAN ZONES

Riparian zones are those areas that are adjacent to intermittent and perennial streams, rivers, springs, bogs, ponds, lakes, reservoirs and other bodies of water. These areas have visible vegetation or physical characteristics reflective of permanent ground or surface water influence. The soil moisture regime typical of riparian areas is responsible for the much higher plant production compared to surrounding sites.

The functions of a healthy riparian system are to filter and purify water as it moves through the vegetation be removing sediment and acting like a sponge by retaining water along instream banks, and supplying ground water aquifers. Riparian vegetation along upper watershed streams can enhance soil stability, provide micro-climate moderation when contrasted to extremes in adjacent areas, and can absorb and

dissipate the energy of flood waters before they reach high value agricultural lands in lower valleys.

Riparian areas within the planning area can generally be distinguished from the upland sites by the existance of riparian dependent plants such as willows (*Salix* spp.), alder (*Alnus tenuiflora)* and narrowleaf cottonwood *(Populus angustifolia)*, although some riparian areas may be dominated by other species such as quaking aspen or spruces, or various shrubs, grasses or sedges *(Carex* spp.).

Riparian areas are typically comprised of a wide variety of plant species ranging from hydrophytic plants (plants that grow in wet or moist soil) to upland plants at the periphery. A transitional edge or ecotone is created in the zone where the upland site joins the riparian site. This edge exhibits more diversity in plant species composition and structure than either of these sites individually. Another edge is created where the vegetation along the stream channel is structurally different that the riparian vegetation away from the stream channel. This diversity in plant species and structure provides many different types of habitat or niches for a variety of mammals, birds, reptiles, amphibians and insects. The cover provided by woody vegetation along stream courses also provides important travel corridors for wildlife.

The abundance of insects and lush herbaceous vegetation important to sage grouse chicks makes riparian areas within sage grouse range critical habitat for this species. Riparian trees and shrubs are valuable to wintering elk and mule deer for forage and thermal cover. The beaver *(Castor canadensis)* is totally dependent on riparian vegetation for food and cover needs. Fish habitat, which is closely related to the type and quality of the riparian can be considered a riparian dependent resource. Vegetation along streams affects the physical structure of the stream channel, water temperature and quality and siltation of the stream bottom. Streamside vegetation also provides food for aquatic and terrestrial insects and creates instream cover, all of which is needed to maintain a high quality trout fishery.

Although riparian areas represent a small fraction of the available public rangeland, cattle spend a disproportionate amount of time in these areas. The gentle topography, lush forage, water and shade typical of many riparian areas are factors that attract cattle.

The unique and diverse characteristics of the riparian zones within the planning area provide recreational opportunities such as fishing, hunting, camping, hiking and wildlife viewing.

Overuse by livestock and physical damage associated with roads has lowered both the vegetative and hydrologic condition of many of the riparian areas in the planning area. This utilization and road damage has significantly lowered the value of these riparian areas in terms of livestock forage and wildlife habitat, including fisheries, and has affected the flood controlling ability of many of the smaller headwater streams.

ALPINE

The alpine type begins at timberline, where twisted, contorted Engelmann spruce and subalpine fir, collectively called Krummholz, are present. It extends from approximately 11,000 feet to the summits of high peaks, above 14,000 feet. The vegetation of the alpine type is typically dense.

The lower 1,000 to 2,000 feet of the alpine zone is characterized by tall grasses, sedges, and forbs. In the higher portions of the alpine zone, above approximately 12,000 feet, an abundance of cushion, rossete, mat, and low-tufted plants occur.

Kobresia, a sedge-like plant, covers large areas above timberline, mainly on windswept ridges.

Boulder fields and talus slopes are common within the alpine type. Vegetation is very sparse on these substrates.

ROCK OUTCROPS

These areas are dominated by rock formations consisting of bare exposures of bedrock along canyon walls, escarpments surrounding mesa tops, deposits of loose stones and boulders, and rock slides usually found below escarpments and canyon walls.

The areas may also have thin layers of shallow soils overlying the rock outcrops. Some areas may include sparse vegetation ranging from grass and shrubs to trees. These areas are usually characterized as being so rough or inaccessible as to make future utilization of vegetation unrealistic.

SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

The planning area contains a variety of threatened, endangered, or sensitive animal, plant, and invertebrates, species. Threatened or Endangered species are those species that have been recognized by the U.S. Fish and Wildlife Service (U.S.F.&W.S.) that were listed under the guidelines of the Endangered Species Act of 1972, as amended. Sensitive species include those animals and plants that are candidate species that are being considered for listing by the U.S.F.&W.S. and/or a concern to the State of Colorado. Appendix J contains descriptions for U.S.F.&W.S. status categories relative to species on these lists. Federal agencies are directed by the Endangered Species Act not to take actions that would further jeopardize listed and sensitive species and to enhance them whenever possible. Table 2-12 describes threatened, endangered or sensitive species in the planning area.

ANIMALS

Presently there are three endangered animals species within the planning area. The bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*) and whooping crane (*Grus americana*). The planning area also contains historical habitat for other threatened and endangered species such as the black-footed ferret (*Mustela nigripes*), grey wolf (*Canis lupus*), and the grizzly bear (*Ursus horribilis*). Bald eagles occur in the planning throughout the winter arriving around November first and remaining until May. The 1978-79 BLM's bald eagle survey showed that the majority of birds are concentrated throughout the Blue Mesa Reservoir area. Other areas where sightings occur include the Lake Fork of the Gunnison and along the Gunnison River from Gunnison to Almont.

Peregrine falcons are currently nesting in the planning area. Historically the birds nested along canyons and cliffs in the Dillon Pinnacles, Black Canyon of the Gunnison, west Elk Creek, and cliff areas around Blue Mesa Reservoir.

Whooping cranes are not permanent residents of the planning area and are only observed as they migrate through during spring and fall. On occasion whoopers have been observed landing in hay fields along Tomichi Creek.

The Colorado River cutthroat trout (*Oncorhynchus clarkii pleuriticus*) is the only trout native to the Gunnison River and its tributaries. This subspecies of cutthroat trout is listed as a category 2 status species by the U.S.F.&W.S. This true native trout has been displaced following the massive introductions of brook, brown, rainbow, and different subspecies of cutthroat trout. The subspecies is found in three places within the planning area as a result of stocking. In 1985, Colorado River cutthroat were stocked into the Lake Fork of the Gunnison River above the Sherman townsite and into Sloan and Cooper Lakes. Table 2-12 identifies the above species and their status.

PLANTS

There are no known federally threatened or endangered plants in the planning area. There are ten species of plants with a variety of federal classifications or state concerns within the planning area (see table 2-13). Out of the ten mentioned above, only five are known to occur on BLM lands within the planning area. These include the Gunnison rockcress (*Arabis gunnisoniana*), Skiff milkvetch (*Astragalus microlcymbus*), Weber's cateye (*Cryptantha weberi*), and Porter groundsel (*Senecio porteri*). Although the other five are not known to be on public lands, several occur in close proximity on U.S. Forest or private land.

Gunnison rockcress is a member of the mustard family with slender stems and small pink to purplish flowers. Historical range of this plant is within the sagebrush zone of the planning area. Field inventories completed in 1978 and 1979 found Gunnison rockcress to be widespread and abundant

and occur within the sagebrush types from 10 miles east of Parlin to Cochetopa Creek and north to Sapinero Mesa.

INVERTEBRATES

In 1978 the Uncompahgre fritillary butterfly (*Boloria acrocnema*) was first discovered in a high alpine meadow above Lake City. A second population was discovered in 1982 in a similar habitat on BLM lands. At present, there are only two known, viable breeding populations in existence with the largest being on public lands. In 1979, the U.S. Fish and Wildlife Service was petitioned to list this species as threatened or endangered. It is currently classified as a "category one" species.

Table 2-12

SPECIAL STATUS ANIMALS

COMMON NAME	SCIENTIFIC NAME	STATUS	COMMENTS
Whooping crane	*Grus americana*	Endangered	Migrant
Bald eagle	*Haliaeetus leucocophalus*	Endangered	Migrant/Winter Resident
Peregrine falcon	*Falco peregrinis anatum*	Endangered	Migrant
Ferruginous hawk	*Buteo regalis*	Federal candidate	Migrant
Greater sandhill crane	*Grus canadensis*	State endangered	Fall and spring Migrant
Long-billed curlew	*Numenius americanus*	Federal candidate	Migrant
White-faced ibis	*Plegadis chihi*	Federal candidate	Migrant/Likely Breeder
River otter	*Lutra canadensis*	State endangered	Historical range
Wolverine	*Gulo luscus*	Federal Candidate/State endangered	Historical range
Lynx	*Lynx canadensis*	Federal Candidate/State endangered	Historical range
Least tern	*Sterna albifrons*	State endangered	Migrant
Black-footed ferret	*Mustela nigripes*	Endangered	Historical range
Colorado cutthroat trout	*Oncorhynchus clarkii pheuriticus*	Federal candidate	Historical range/Yearlong

Table 2-13

SPECIAL STATUS PLANTS

COMMON NAME	SCIENTIFIC NAME	STATUS[1]	COMMENTS
Gunnison rockcress	*Arabis gunnisoniana*	3C	Twenty-one sites occur on BLM lands
Rockcress	*Arabis oxylobula*	3C	Not known to occur on BLM lands at this time.
Skiff milkvetch	*Astragalus microcymbus*	2/State concern	Occurs on BLM lands in S. Beaver Creek area
Weber's cateye	*Cryptantha weberi*	3C	On Forest Service lands. Not known to occur on BLM lands
--	*Gilia pentstemonoldes*	3C/State concern	Not known to occur on BLM lands.
Intermountain bitterweed	*Hymenoxkys helenioides*	3C/State Concern	On Forest Service Lands; not known to occur on BLM lands
--	*Lomatium concinnum*	2	Not known to occur on BLM lands.
Porter's groundsel	*Senecio porteri*	3C	Occurs on BLM lands, Engineer Pass area
Chickweed (starwort)	*Stellaria irrigua*	3C	Occurs on BLM lands, above Lake City
Gunnison milkvetch	*Astragalus anisus*	State concern BLM sensitive	Information is 20+ years old, indicates species commonly occurs.
--	*Aquilegia barnebyi*	BLM sensitive	Information is 25+ years old, only known location is in Gunnison County.
Crandall rockcress	*Arabis Crandallii*	BLM sensitive State concern	No new information
Brandegee milkvetch	*Astragalus brandegei*	BLM sensitive State concern	No recent information on species' distribution or location.
--	*Eriogonum coloraden*		

NOTE: [1] The definitions under status can be found in Appendix J.

Table 2-14

SPECIAL STATUS INVERTEBRATES

COMMON NAME	SCIENTIFIC NAME	STATUS	COMMENTS
Uncompahgre fritillary butterfly	*Boloria improba acrocnema*	1	Occurs on BLM and Forest Service lands above Lake City. Being proposed as Endangered by USF&WS.

NOTE: [1] The definition of status can be found in Appendix J.

WILDLIFE HABITAT MANAGEMENT

TERRESTRIAL WILDLIFE AND HABITAT

The Bureau of Land Management has responsibility for managing wildlife habitat (land, vegetation, etc.) on public lands and the Colorado Division of Wildlife (CDOW) has the responsibility to manage the wildlife species. Table 2-15 identifies the more common wildlife species, their occurrence, and the habitat types where they are more commonly found.

The planning area is essential habitat for numerous terrestrial wildlife species. Most prominent of these are the four big game animals: elk *(Cervus elaphus)*, muledeer (*Odocoileus hemionus)*, bighorn sheep *(Ovis canadensis),* and pronghorn antelope *(Antilocapra americana)*. Besides being an important location for large animals, the Planning Area also supports populations of sage grouse *(Centrocercus europhsianus)*, blue grouse *(Dendragrapus obscurus),* waterfowl, and a variety of small mammals. Wildlife habitat used by various species in the Planning Area occurs within all vegetation types. Each type provides a variety of habitat components for many wildlife species. Refer to the discussion of Vegetation in this chapter for more information. Riparian areas are the most limited habitat in the planning area but are considered the most critical, supporting the largest diversity of wildlife. Woody species in riparian areas are a valuable source of food and cover for wintering elk and deer, and mature trees provide habitat for cavity-nesting and stick nesting birds. These areas are crucial to the survival of young sage grouse.

Mixed mountain shrub and sagebrush types and the woody species associated with them provide important winter forage and cover for elk and deer. Sage grouse are dependent, throughout their life cycle, on sagebrush communities. These types are also important for shrub-nesting birds such as sage grouse, night hawk *(Chordeiles minor)*, and sage sparrows *(Amphispiza belli)*.

The woodland habitat type is composed of several vegetation types that include aspen, ponderosa pine, douglas fir, lodgepole pine, and spruce-fir. These areas provide important summer habitat and fawning and calving areas for elk and deer. This type also provides yearlong habitat for blue grouse, black bear *(Ursus americanus),* snowshoe hare *(Lepus americanus)*, pine martin *(Martes americanus),* accipiter hawks and cavity-dwelling mammals.

The alpine type occurs above timberline and is dominated by low-growing herbaceous vegetation. Several wildlife species dependent on this type include bighorn sheep, white-tailed ptarmigan *(Lagopus leucurus)*, and the endangered Uncompahgre fritillary butterfly *(Boloria acrocnema)*.

See Appendix A for maps of elk and deer crucial winter range, bighorn sheep range, and pronghorn antelope range.

Table 2-15

COMMON WILDLIFE SPECIES, HABITAT TYPE, AND OCCURRENCE WITHIN THE PLANNING AREA

SPECIES	HABITAT TYPE	OCCURRENCE
Mule deer	All major types	Abundant/Yearlong/More abundant in winter
Elk	Aspen, mixed mountain shrub, conifer forest, riparian	Abundant/Yearlong/More abundant in winter
Bighorn sheep	Alpine to sagebrush	Common/Yearlong
Pronghorn antelope	Sagebrush grass, riparian	Common/Yearlong
Black bear	Aspen, conifer forest, riparian	Uncommon/Yearlong
Coyote	All	Abundant/Yearlong
Bobcat	Rocky areas in sagebrush grass in mixed mountain shrub, riparian	Uncommon/Yearlong
Beaver	Riparian	Common/Yearlong
Blue grouse	Conifer forest, aspen, riparian	Common/Yearlong
Sage grouse	Sagebrush grass, riparian	Common/Yearlong
Cottontail rabbit	Rocky sagebrush grass	Common/Yearlong
Porcupine	Conifer forest, mixed mountain shrub	Common/Yearlong
Pine martin	Conifer forest, aspen	Uncommon/Yearlong
Abert squirrel	Conifer forest, aspen	Uncommon/Yearlong
Prairie dog	Sagebrush grass	Uncommon/Yearlong
Waterfowl	Riparian	Abundant/Spring & Fall
Morning dove	Sagebrush grass, riparian	Common/Spring & Fall
Raptors	Canyon rims and ledges	Common/Yearlong
Goshawk	Conifer forest, aspen, riparian	Uncommon/Yearlong
Amphibians	Riparian	Uncommon/Yearlong

ELK/DEER

Since the mid 1950's, Elk and Deer populations in the Resource Area have fluctuated. Elk numbers have slowly increased to an estimated 10,000 animals. Deer numbers (which were estimated in the mid-60's to be 25,000 animals) dropped sharply during severe winters in the early 1970's and in 1983 and 1984, and numbers are now estimated to be 17,000 animals as of 1989.

For the purpose of managing big game populations, the Colorado Division of Wildlife has divided the Gunnison watershed into Data Analysis Units (DAU) and Game Management Units (GMU). A DAU is an area of land that game populations depend upon for year-round needs. The GMU is a smaller area within a DAU and aids administration of the state's hunting license program. The GMU boundaries are also based on geographical and biological needs of game herds. The majority of the planning area is made up of three DAUs (21, 22, 25) and five GMUs (54, 55, 551, 66, 67), which are the same for both elk and deer. Small portions of GMU 65 and 64 extend into the planning area.

Table 2-16 shows herd goals for each DAU/GMU established by CDOW in April 1985.

The planning area is divided into winter and summer use areas. Winter use areas are generally below 9,000 feet in elevation in sagebrush and mixed mountains shrub communities. Riparian areas and the lower portions of the forested areas are also utilized in winter. South-facing slopes and ridgetops that are blown free of snow are heavily used during periods of deep snow. Winter range encompasses BLM, National Forest, State, and National Park Service and private lands. Almost the entire planning area falls within the winter range for elk and deer. Conversely, only a small portion of summer range lies within the planning area.

The planning area provides some of the most critical wintering areas in the entire Gunnison Resource Area. The number of elk and deer that winter on winter ranges is greatly influenced by the amount of snowfall. Actual use figures submitted by the Division of Wildlife show that 45-70% of the elk and 30-60% of the deer populations in the Resource Area will winter in the planning area.

The higher percentage figure represents the severe winter of 1983-1984 while the lower percentages represent average winters. Winter areas north of Highway 50 are from West Elk Creek on the west, to Horn Gulch on the east. Winter areas south of U.S. Highway 50 include Razor Creek Dome, Cochetopa Canyon, portions of South Parlin Flats, Cebolla Creek and the Lake Fork of the Gunnison river and portions of Kezar Basin.

Elk and deer generally occupy similar habitat types, but elk prefer those of higher elevations. Winter use periods generally occur from December 15 to April 15. Winter ranges overlap mixed ownership lands which can complicate management. Table 2-17 outlines wintering areas by surface owner.

Summer use occurs at higher elevations, generally above 9,000 feet elevation. This type of habitat is

Table 2-16

COLORADO DIVISION OF WILDLIFE HERD GOALS

DEER DAU	DEER GMU	CDOW DEER HERD OBJECTIVES	DEER HERD NUMBERS AS OF 1989 POST-HUNT	ELK DAU	ELK GMU	CDOW ELK HERD OBJECTIVES	CDOW ELK HERD NUMBERS AS OF 1989 POST-HUNT
21	54	4,800	5,360	41	54	3,000	3,490
22	55 & 551	5,000	5,760	43	55 & 551	3,000	3,660
25	66 & 67	6,800	5,390	25	66 & 67	3,000	2,990

usually the forested areas, and to a lesser degree, the alpine type. Important summer areas are located primarily in the Powderhorn Primitive Area, Rock Creek west of Sawtooth Mountain, and Blue Mesa and High Mesa. Although summer use occurs at higher elevations, deer can be found throughout the planning area year around, but numbers found below 9,000 feet elevation are few. Summer use occurs from April 16 to December 16. There are sufficient summer ranges to meet elk and deer requirements.

The condition of elk and deer habitat varies within the planning area and within GMUs. Table 2-18 shows general conditions of important winter browse

Table 2-17

WINTERING HABITAT IN THE PLANNING AREA BY SURFACE OWNER

SPECIES	SURFACE OWNER	ACRES OF WINTER RANGE	%	ACRES OF CRUCIAL WINTER RANGE	%
Mule Deer	BLM	361,842	61	140,872	57
	Private	216,237	36	99,595	40
	CDOW	13,597	2	8,082	3
	State	785	1	0	0
Elk	BLM	366,507	61	148,650	71
	Private	223,860	36	51,850	25
	CDOW	13,597	2	10,095	4
	State	785	1	0	0

Table 2-18

GENERAL CONDITION OF IMPORTANT ELK AND DEER WINTER BROWSE SPECIES IN GMUs

GMU	GENERAL CONDITION
54	Fair, low plant vigor; little reproduction occurring; below potential production; many evenaged stands.
55	Fair; mountain mahogany and serviceberry scattered in small pockets in GMU; production on uplands and in riparian zones is below potential.
551	Heavy deer use of sagebrush in areas along Cochetopa Canyon.
64	Trend is declining with poor vigor; northeast of Cimarron severe overuse of mahogany and other species occurs, primarily by deer.
66 & 67	High concentration of use in areas along Cebolla and Goose Creeks, Lake Fork drainage, and in Cochetopa Canyon; sagebrush decreasing in some locations from overuse.

species by GMU. A shortage of herbaceous vegetation exists along many riparian areas in the winter and spring because of heavy livestock grazing. The general condition of summer habitat is good; however, wildlife habitat condition in riparian areas is poor.

Concerns in the planning area regarding elk and deer and their habitat are private land development within crucial winter ranges, the extent and distribution of palatable shrub browse species, vegetative/land treatments that remove winter browse, and animal numbers versus habitat condition in uplands condition of riparian areas. The planning area offers some of the best elk hunting in the state, and deer hunting is good. The national and local demand for elk and deer hunting increases each year, and in 1988 license sales increased in the Planning Area 13% over 1987 sales. Demand for antlerless elk tags has generally exceeded supply. Guides and outfitters, some ranchers, and all local communities depend on revenues from elk and deer hunters.

BIGHORN SHEEP

Four Rocky Mountain bighorn sheep herds in the planning area are located in the Cebolla Creek area, Dillon Mesa, Lake Fork Canyon and the headwaters along the Lake Fork of the Gunnison and Henson Creek above Lake City. All four herds or portions of them remain on BLM lands year round.

Table 2-19 identifies bighorn sheep locations and status in the planning area. The Cebolla Creek herd was steadily increasing until the winter of 1990, when a severe outbreak of Pasteurella virtually eliminated the entire herd. Based on CDOW's best estimates, there may be only 10 survivors in the herd. The habitat in the Cebolla Creek area remains important bighorn sheep habitat, and eventually the herd should recover and grow in numbers.

During the winter of 1990-1991, the CDOW is planning to re-introduce 25-50 bighorn sheep in the Cochetopa Canyon area. It is anticipated the sheep population will reach a manageable size of about 150 animals.

Each herd occupies a variety of habitat types, ranging from alpine to sagebrush dominated areas.

Concerns in the planning area regarding bighorn sheep are limited winter range, forage availability during winter months, domestic sheep grazing, road encroachment, and increased human activity.

The demand for bighorn sheep hunting far exceeds available opportunities. In 1988, 2,715 applications were received by the CDOW for 390 licenses, only 15 of which were issued within the Planning Area. The relatively small number of bighorn sheep hunters in the Planning Area has not resulted in any local or regional economic dependency centered around bighorn sheep.

PRONGHORN ANTELOPE

Antelope have ranged within the planning area since pristine times but were vertically eliminated by the late 1800's. Numerous re-introductions, in cooperation with the CDOW, have increased the population to about 200 animals. The goal of the

Table 2-19

BIGHORN SHEEP HERDS AND POPULATIONS IN THE PLANNING AREA

HERD	POPULATION	STATUS
Cebolla Creek	10	Unknown
Dillon Mesa	10-15	Static/declining
Lake Fork Canyon	10	Declining
Above Lake City	30	Declining

CDOW is to build the herd into a huntable population and maintain it at approximately 500 animals.

The existing antelope herd ranges from South Parlin Flats south to Cochetopa Park and west to Gold Basin. This area is bordered on the west by Cebolla Creek and the Gunnison National Forest on the east, and provides winter and summer habitat needs for antelope. Plant communities within the area are dominated by sagebrush *(Artemisia* spp.), rabbitbrush *(Chrysothamnus spp.)*, and an assortment of grasses and forbs. Sagebrush, rabbitbrush and forbs are considered the key plants used by antelope in this area.

Habitat occupied by Pronghorn antelope is characterized as being in fair to poor condition, with a static to downward trend, based on 1978 range survey data. Forbs appear to be lacking on antelope ranges within the Planning Area.

Concerns regarding pronghorn antelope are roads, fences that restrict or limit antelope mobility, and poor range conditions.

Applications for antelope licenses always exceed the supply. In 1990, five licenses were issued. None were issued prior to 1990.

SAGE GROUSE

Sage Grouse can be found widely distributed throughout the planning area within the sagebrush grass habitat type. According to CDOW, grouse populations were much higher prior to the mid-1960's. From then until the mid-1970's, populations were at their lowest recorded level. Although the current population has increased somewhat above the 1960's and 1970's levels, numbers still remain well below their potential.

Sage Grouse are dependent on suitable sagebrush communities and riparian areas. These areas provide nesting habitat, cover, food and brood rearing habitat. As brood survival increases overall population will also increase.

The planning area contains one of three huntable sage grouse populations in the state. The area has regional notoriety for sage grouse, and receives moderate hunting pressure. Several research studies are taking place to help understand the ecology of sage grouse. About 500 birds are harvested annually by hunters.

The planning area has the potential to support more sage grouse than it does presently. A theory regarding the major sage grouse decreases is the large sagebrush treatments of the past, along with deteriorated habitat conditions.

The production of grasses and forbs is below potential in sagebrush treatments that receive concentrated livestock use, even after sagebrush reinvasion.

Concerns in the Planning Area regarding sage grouse are vegetative/land treatments, treatments in drainage bottoms, and alterations in the quality and condition of brood rearing habitat in riparian areas and along springs, ponds, and wet upland meadows.

The demand for sage grouse hunting in the Planning Area is fair to good, and of regional importance. The supply is fair. There is interest for continued sage grouse research in the Planning Area. Ongoing research is apt to continue.

NON-GAME SPECIES

Many non-game species are dependent upon the broad spectrum of vegetative types found throughout the planning area for their habitat. Some of these non-game species can be found listed in Table 2-15.

FISHERY RESOURCES (AQUATIC HABITAT)

Within the planning area the fishery resources on public lands consist of 58 streams totalling approximately 187 miles. These are primarily small streams with flows from 1 to 10 cubic feet per second (CFS). The most abundant game fish species are brook trout *(Salvelinus fontanalis)* and brown trout *(Salmo trutta)*. Rainbow trout *(Oncorhynchus mykiss)* and cutthroat trout *(Oncorhynchus clarkii)* are found in several streams and these populations are supplemented through stocking programs carried out by the Colorado Division of Wildlife (CDOW).

Non-game species such as dace and suckers are less common. Table 2-20 lists the miles of fishery streams in the planning area.

Lakes within the planning area which support a fishery and are accessible by public lands include:

Lake San Cristobal, Powderhorn Lakes, Hidden Lake, Devil's Lake, Cooper Lake, Sloan Lake, Snare Basin Lake No. 1, McDonough Reservoir, and Upper Dome Lakes. Blue Mesa Reservoir, located entirely within the proposed National Park Services' Curecanti National Recreation Area, supports a large fishery.

Results of stream surveys on public land in the planning area conducted in 1978 and in 1985 and 1986 show that the habitat condition of surveyed streams is below their potential.

Table 2-20

FISHERY STREAMS IN THE PLANNING AREA

STREAM NAME	MILES	STREAM NAME	MILES
Alder Cr.	2.94	Indian Cr.	5.58
Alkali Cr.	0.41	Los Pinos Cr.	0.77
Alpine Gl.	1.59	Mill Cr.	0.15
Antelope Cr.	2.31	Monu. Rock Cr.	1.49
Antelope, West	3.59	Oh Be Joyful Cr.	0.69
Archuletta Cr.	0.50	Pauline Cr.	1.71
Beaver Cr.	1.00	Pine Cr.	2.35
Beaver, East Cr.	0.57	Powderhorn Cr.	1.75
Beaver, South	7.88	Powderhorn, E. Fk.	10.16
Blue, Big Cr.	3.59	Powderhorn, Mid. Fk.	8.31
Blue Cr.	4.07	Powderhorn, W. Fk.	8.70
Blue, E. Fk. Cr.	2.01	Quartz Cr.	0.09
Blue, Ltl.	1.20	Razor Cr.	0.71
Blue, Mid. Fk.	0.55	Red Cr.	2.38
Blue, West Fk.	1.16	Road Beaver Cr.	2.00
Cebolla Cr.	11.08	Rock Cr.	4.69
Cimarron, E. Fk. Ltl.	1.34	Slate R.	1.73
Cimarron, Ltl.	1.43	Spring Cr.	0.52
Cochetopa Cr.	8.36	Steuben Cr.	0.38
Cooper Cr.	3.38	Sugar Cr.	5.39
Cottonwood Cr.	3.38	Tomichi Cr.	0.48
Deer Beaver Cr.	1.00	Townsite Gl.	0.52
Elk, East Cr.	1.32	Trout Cr.	1.12
Four. of July Cr.	2.20	Van Boxel Cr.	3.85
Gunnison, R.	0.36	Van Tassel Cr.	1.61
Gunnison, Lk. Fk.	24.58	Willow Cr.	0.38
Henson Cr.	12.79	Willow Cr. (main)	4.05
Henson, N. Fk.	1.20	Willow, North	3.21
Hot Spring Cr.	0.93	Willow, South	5.53
Total Miles			187.02

LIVESTOCK GRAZING MANAGEMENT

A total of 548,293 acres or 90 percent, of the public land within the planning area is grazed by domestic livestock. These allocated lands are divided into 146 grazing allotments with 120 livestock operators. Within the planning area there are 47,438 Animal Unit Months of forage currently allocated for domestic livestock use. An average of 38,676 AUM's have been used annually from 1979 through 1987, compared to an average of 53,407 AUM's being available for allocation annually. Appendix B depicts AUM's available and actually used, and the percent of available AUM's actually used annually from 1979 through 1987.

All grazing allotments have use (AUMs) licensed in accordance with the decisions issued from the Gunnison Basin Livestock Grazing Environmental Impact Statement (issued June 1981). Currently, 28 allotments have Allotment Management Plans (AMP) implemented. These AMPs encompass 324,695 acres or 59% of the public lands allocated for grazing in the planning area.

The BLM has a Memorandum Of Understanding (MOU) with the U.S. Forest Service (USFS) and the National Park Service (NPS) for the coordinated management of BLM, National Forest, and Bureau of Reclamation lands. In the agreement with the USFS, management of eleven BLM allotments has been assigned to the FS and six USFS allotments to the BLM. Table 2-21 shows those allotments involved in the MOUs.

In the MOU with the NPS, lands in the Curecanti National Recreation Area that are within the boundaries of BLM grazing allotments, are administered and managed by the BLM. Those allotments involved are shown in Table 2-22.

Table 2-21

BUREAU OF LAND MANAGEMENT AND FOREST SERVICE ALLOTMENTS COOPERATIVELY MANAGED

MANAGING AGENCY	BLM ALLOTMENT AND NUMBER	MGT. CATEGORY	ACRES	AUMs	USFS ALLOTMENT MANAGED WITH BLM ALLOTMENT AT LEFT	ACRES	AUMs	EXISTING AMP
BLM	Powderhorn 6104	I	28,199	1,250	Powderhorn C&H	2,033	104	Yes
BLM	Iola-Powderhorn 6107	I	109,851	10,843	South Beaver C&H	8,635	2,488	Yes
BLM	Monument 6109	M	6,908	498	Rock Creek C&H	456	57	No
BLM	Cathedral 6111	I	4,220	250	Cathedral C&H	11,048	64	No
USFS	Campbell Creek 6130	C	140	9	Alpine Plateau C&H		1,099	No
USFS	Mill Creek 6213	M	621	166	Beckwith C&H	36,204	4,121	Yes
USFS	Pleasant View 6310	I	1,094	62	Tomichi Dome C&H		152	No
BLM	Gold Basin 6311	I	17,395	3,553	East Beaver C&H	8,501	700	Yes
USFS	Muddy-Poison 6338	M	1,581	120	Bead C&H	6,389	681	Yes
USFS	Trail Creek 6344	M	2,032	332	Los Pinos C&H	39,140	3,204	Yes
USFS	Monchego 6347	M	1,828	216	Monchego C&H	16,606	848	Yes
USFS	Black Sage 6358	C	483	21	Black Sage C&H	3,696	648	Yes
USFS	Cold Springs 6362	I	1,645	138	Cold Springs C&H	19,163	1,660	Yes
	and Poison Spring 6343	I	3,693	369				
USFS	Oh-Be-Joyful	C	713	27	Slate River C&H		3,400	No
USFS	Ranbouillet Park 6501	I	1,093	43	Rambouillet S&G	9,846	2,667	No
BLM	American Flats 6507	I	1,294	236	Bear Creek S&G		693	Yes

The purpose of these agreements is to promote efficient management of these lands. The lead agency is responsible for assuring that the lands are managed in accordance with the laws, regulations, and land use plans that apply to those lands.

Allotments in the planning area are managed and categorized as "M" (maintain), "I" (improve), or "C" (custodial). Definitions for these categories are in the Glossary. Acres, currently authorized AUM's, and the number of allotments by allotment management category are summarized in Table 2-23. See Table B-4 in Appendix B for allotment specific data.

Approximately 84 percent of the total grazing use occurring in the planning area is by cattle with the remaining 16% by sheep. Cow/calf operations make up the majority of the cattle use although there are a few yearling operations. Almost all sheep use is from ewe/lamb operations.

Table 2-22

BUREAU OF LAND MANAGEMENT ALLOTMENTS CONTAINING LANDS IN CURECANTI NATIONAL RECREATION AREA

			ALLOTMENT ACREAGE		
ALLOTMENTS	MANAGE-MENT CATEGORY	EXISTING AMP	BLM Lands	Curecanti NRA Lands	Total
6003 Round Corral Creek	C	No	539		
6006 Blue Creek	C	No	478		
6007 Round Corral Spring	M	No	462		
6016 North Cimarron	C	No	80	527	607
6037 Windy Point	C	No	491		
6056 Highway	I	No	2,512		
6101 Sapinero Mesa	M	No	8,101		
6107 Iola-Powderhorn	I	Yes	106,767	3,084	109,851
6200 Dillon Mesa	I	No	2,358		
6202 Stevens Creek Com.	I	No	9,267		
6203 Beaver Creek	I	Yes	9,270		
6028 Pine Mesa	C	No	---	80	

Table 2-23

ALLOTMENT MANAGEMENT CATEGORY SUMMARY

		CURRENTLY AUTHORIZED AUMs			
Allotment Management Category	Number of Allotments	Active	Suspended (Non-Use)	Total	Total Acres
M	31	6,765	1,363	8,128	68,365
I	69	39,781	12,954	52,735	465,205
C	46	892	627	1,514	14,723
TOTALS	146	47,438	14,944	62,382	548,293

Cattle operations use the public land in the spring (May 15 to July 1) enroute to National Forest lands and again in the fall (September 15 to November 1) enroute to base lands.

Cattle use occurs season-long (May 15 to November 15) on public land. Some isolated tracts of public land are used during various times in conjunction with large private tracts. See Appendix B for more detail on seasons of use.

Sheep operations use the public land in planning area allotments south of Lake City in the summer (July 10 to September 10). Cimarron area allotments are generally used in the spring (May 15 to July 15) enroute to summer ranges. Appendix B contains allotment - specific data on the livestock grazing program in the planning area.

FOREST MANAGEMENT

The planning area contains a total of 159,961 acres of forested public lands. Suitable commercial forest lands, or lands determined to be capable of sustaining long-term timber production cover 59,112 acres, 19,262 acres are suitable woodlands, and 81,587 acres are nonsuitable woodlands. (See Table 2-24).

COMMERCIAL FOREST LANDS

The majority of the forested lands in the planning area are in a natural condition. The more productive High Mesa/Horse Mesa, Indian Creek and Blue Mesa FMUs are intensively managed and have existing vehicular access. Overmature and forest pest-killed stands are harvested and being reforested in these FMUs.

Commercial species in the planning area include Engelmann spruce, Douglas-fir, ponderosa pine, subalpine fir, lodgepole pine, and aspen. Most of the commercial forest lands are located southwest of Gunnison in the High Mesa/Horse Mesa, Blue Mesa, Indian Creek, and Cebolla/Rock Creek Forest Management Units (FMUs).

The annual allowable timber harvest within the planning area is estimated at 1.2 thousand board feet (MBF). This harvest level is based on a statewide forest inventory and assumes a 120-year rotation. Natural reproduction is the basic method of regeneration with limited hand or mechanical planting when needed.

The majority of the commercial timber taken from the planning area goes to three mills in the Montrose area: Blue Mesa Forest Products, Inc. (Blue Mesa), Louisiana Pacific Corporation, and Ray Lumber. Blue Mesa and Ray Lumber utilize conifers for production of construction material, while Louisiana-Pacific Corporation utilizes mostly aspen for the production of waferboard. These buyers are totally dependent upon federal lands for their raw material. Other sawmills in the San Luis Valley at Alamosa, Saguache, and South Fork are dependent upon federal lands for sawtimber.Blue Mesa annually demands about 1,000 MBF per year of coniferous timber from the planning area. Ray Lumber requires Engelmann spruce and ponderosa pine from public lands. Louisiana-Pacific depends upon the U.S. Forest Service for 33 percent to 90 percent of their raw material (aspen). Their remaining needs are provided by private landowners and BLM.

WOODLANDS

Woodlands, characterized by fragile gradients and reforestation problems, are scattered throughout the planning area.

Suitable woodlands have stocking densities of greater than 40 percent crown closure with net growth rates often exceeding 20 cubic feet per acre per year, and slope gradients of less than 35 percent. Nonsuitable woodlands have stocking densities of less than 40 percent crown closure and slope gradients greater than 35 percent.

Table 2-24

FORESTED ACRES ON PUBLIC LANDS
WITHIN THE PLANNING AREA

TYPE OF FORESTED PUBLIC LAND	COMMERCIAL FOREST LAND (CFL)	WOODLANDS
1. Total acres of forested public land	126,500	33,461
2. Acres of CFL placed in Woodland category due to:		
fragile sites	26,955	
problem reforestation	40,433	
3. Total acres removed from CFL to Woodland category	67,388	67,388
4. Suitable CFL (1-3)	59,112	
5. Total Woodlands		100,849

RECREATION MANAGEMENT

The planning area encompasses some of the most diverse and heavily used recreation resources on public lands in Colorado. Ranging in elevation from 7,000 to over 14,000 feet, the area offers a wide variety of recreation activities, settings, and experiences. An estimated 500,000 to 700,000 recreation user days (RUD's) occur each year on public lands in the planning area.

OFF-HIGHWAY VEHICLE MANAGEMENT AND DESIGNATIONS

As a result of the 1980 Gunnison Basin and American Flats/Silverton MFP Amendments, an Off-Highway Vehicle (OHV) plan was completed for the entire Gunnison Resource Area in 1981. This plan classified all BLM lands in the planning area as either open, limited or closed to motorized recreation. Open classifications permit motorized recreation, both on and off-roads, as long as resource damage does not occur. Limited classifications permit motorized recreation with some limitations, i.e., restricting traffic to designated roads or seasonal closures to protect resources. Closed areas are not available for any motorized recreation. Table 2-25 shows the acreage for each of these categories within the planning area.

RECREATION MANAGEMENT AREAS

In response to issues raised by the public or to resource management concerns, distinct portions of the public lands within the planning area may be managed as a Special Recreation Management Area (SRMA). Special Recreation Management Areas are subunits of the resource area that require special recreation management. Delineation is based on similar or interdependent recreation values, homogeneous or interrelated recreation uses, or administrative efficiency. These lands include areas which require greater recreation investment, where more intensive recreation management is needed, and recreation is a principal management objective. Specific management direction is formulated by the BLM for administration, utilization, and protection of SRMAs through the preparation of Recreation Area Management Plans (RAMPs).

The planning area contains three SRMAs which have heavy visitor use and/or outstanding recreation opportunities. The remainder of the planning area is an Extensive Recreation Management Area (ERMA) which offers more widely dispersed recreation opportunities. Extensive Recreation Management Areas are lands where recreation is unstructured and dispersed and where minimal recreation related

investments are required. These areas, which constitute the bulk of the public land, give recreation visitors the freedom of recreational choice with minimal regulatory constraints. Acres and estimated RUDs for the four recreation management areas are shown in Table 2-26.

ALPINE TRIANGLE SRMA

The Alpine Triangle SRMA is generally located between Lake City, Silverton and Ouray, in the scenic San Juan Mountains, and includes lands along the Lake Fork of the Gunnison River north of Lake City. The majority of the SRMA is located west and north of the Continental Divide, and is characterized by 13,000 foot peaks dissected by deep, glaciated valleys. Three peaks over 14,000 feet are within the SRMA boundary. Approximately 57 miles of the Lake Fork of the Gunnison River, and the 18-mile long Henson Creek are located within the SRMA. Lake San Cristobal, formed by the Slumgullian Earthflow is located south of Lake City. The 65-mile long Alpine Loop National Back Country Byway, designated in 1989, is located in the SRMA. Within the SRMA are five of the six Wilderness Study Areas (WSAs) found in the planning area: Red Cloud Peak, Handies Peak, American Flats, Larson Creek, and Bill Hare Gulch.

About 70% of the SRMA is located within the Gunnison Resource Area (RA) and the remainder is within the San Juan Resource Area. Both resource areas manage the SRMA according to the 1986 Recreation Area Management Plan.

A 1984 recreation use survey showed heavy visitor use in 93 different recreation activities. Activities most popular with those surveyed were motorized recreation, backcountry recreation, sightseeing, fishing, camping and photography. The survey showed that visitors come from all over the United States and several foreign countries to enjoy this unique area.

The SRMA provides a rare combination of easy accessibility to the high scenic reaches of the Rocky Mountains and relatively undisturbed natural environment. Many recreation activities, settings and experiences, including the opportunity to view and appreciate the numerous historic sites in the area, are offered. As a result, the demand for recreation resources on public lands within the SRMA is high and national in scope.

All but a small portion of this SRMA has a "limited" designation which allows OHV use only on designated routes. Currently about 150 miles of roads are designated for use in the SRMA. A small portion of the SRMA, along the lower Lake Fork of the Gunnison River has an "Open" classification which allows widespread OHV use.

POWDERHORN SRMA

The Powderhorn SRMA is located northeast of Lake City. Elevations range from 8,500 to 12,000 feet. The SRMA was designated a primitive area in 1973 by the U.S. Department of Interior and became an "Instant Wilderness Study Area" when BLM's wilderness review process began. The entire SRMA was recommended to Congress in 1986 as being suitable for wilderness designation. The SRMA is currently managed according to BLM's Wilderness Interim Management Policy (IMP) and is closed to motor vehicular use.

During the summer and fall, day and overnight use by fishers, hikers, and hunters accounts for approximately 6,000 RUDs. Three main trailheads (Indian Creek, 10-mile Springs and Powderhorn Park), and the Crystal Spring Road provide vehicular access to the edge of the SRMA.

Summer use within the SRMA is concentrated on the five-mile long Indian Creek Trail and the Powderhorn Lakes. The SRMA contains about 25 miles of hiking and horse trails. Approximately five special recreation use permits are issued annually for this SRMA, mainly to commercial hunting outfitters for the fall hunting seasons. During the fall, hunting use is more dispersed and horse use increases.

COCHETOPA CANYON SRMA

The Cochetopa Canyon SRMA contains approximately 2,500 acres of public land along Cochetopa Creek and State Highway 114, and is characterized by a steep, scenic canyon that restricts recreation use to the narrow riparian corridor along the creek. The entire SRMA is open to OHV use. Fishing, day use, sight-seeing, picnicking, and

overnight camping occur within the SRMA in three BLM-maintained, semi-developed sites and three undeveloped sites. Use is estimated at 8,000 RUDs annually. A recreation activity plan has been developed to guide recreation management in the area.

GUNNISON EXTENSIVE RECREATION MANAGEMENT AREA (ERMA)

The Gunnison Extensive Recreation Management Area (ERMA) consists of all public lands within the planning area not located within any of the three SRMAs. The ERMA receives about 200,000 widely dispersed RUDs annually. Hiking, fishing, hunting, camping, jeeping, mountain biking, rock climbing, hang gliding, winter sports, and numerous other activities take place within the ERMA. Elevations range from 7,000 to 11,000 feet.

The majority of the ERMA is classified as "open" to OHV use. A total of 600 acres within the Sapinero Wildlife Area is closed to OHVs. Seasonal closures of critical wildlife winter range north of U.S. Highway 50, both east and west of Gunnison, may be declared by the area manager to avoid harassment of wintering wildlife. In this case several access roads to higher elevations remain available for the public.

A few directional signs have been constructed in the ERMA. Facilities and resources in the ERMA that receive more use than others and have good recreation potential include Hartman Rocks (used for motorized recreation, mountain biking and rock climbing); Big Mesa (a regionally significant hang gliding site); Slate River Recreation Site (popular with campers and fishers); Cebolla Creek Campground (four sites used by campers, fishers and hunters); and High Mesa (outstanding scenery and good potential for camping).

Table 2-25

EXISTING OHV ACREAGES WITHIN THE PLANNING AREA

OHV DESIGNATION	ACRES OF PUBLIC LAND	% OF PUBLIC LAND IN PLANNING AREA
Open	373,916	63.9
Limited-possible winter wildlife closure	74,707	12.8
Limited-designated roads	92,927	15.9
Closed	43,462	7.4

Table 2-26

PUBLIC LAND ACRES AND RECREATION USER DAYS FOR SPECIAL AND EXTENSIVE RECREATION MANAGEMENT AREAS WITHIN THE PLANNING AREA

RECREATION MANAGEMENT AREA	ACRES OF PUBLIC LAND	TOTAL ESTIMATED VISITOR USE (RUDs)[1]
Alpine Triangle SRMA[2]	107,110	550,000
Powderhorn SRMA	43,311	6,000
Cochetopa Canyon SRMA	2,560	8,000
Gunnison ERMA[3]	460,000	200,000

Notes:
[1] RUD = Recreation User Ray A RUD occurs when a person recreates on public land for all or any part of a day.
[2] SRMA = Special Recreation Management Area; [3] ERMA = Extensive Recreation Management Area

Table 2-27 depicts supply and demand estimates for recreation activities within the ERMA.

Table 2-27

ESTIMATED SUPPLY AND DEMAND FOR RECREATION ACTIVITIES IN THE GUNNISON ERMA

ACTIVITY	SUPPLY	DEMAND
OHV Recreation	high	low to moderate
Hiking & backpacking	moderate	low
Camping (developed sites)	low	low to moderate
Camping (undeveloped sites)	high	low
Fishing	low	moderate to high
Hunting	moderate	moderate to high
Mountain Biking	high	low
Winter Recreation	moderate	low to moderate

WILD AND SCENIC RIVER STUDY SEGMENTS

Three segments of The Lake Fork of the Gunnison River were studied in this RMP/EIS for their potential inclusion into the National Wild and Scenic Rivers System. The Lake Fork of the Gunnison River Wild and Scenic River Study Report in Appendix I documents this process and describes the segments. The 13.3 mile-long Segment A, from Sloan Lake to Wager Gulch was determined to be eligible for further study and potential inclusion into the system, in that it is free-flowing and possesses at least one outstandingly remarkable value. Segment B, a 38.5 mile segment from Wager Gulch to the Red Bridge Campground, was determined to be noneligible, as was the 5.2 mile-long Segment C, from the Red Bridge Campground to Blue Mesa Reservoir. Maps I-1 through I-4 (Appendix I) show the study corridor and Segments A, B, and C. Segments B and C are not considered further in this RMP/EIS or the study report. The eligibility determinations can be found in the study report in Appendix I.

Segment A was also assessed for its potential classification as either "wild", "scenic", or "recreation", based on existing river conditions and adjacent lands within the segment. The assessment determined that Segment A met the "Recreation" classification criteria. The classification determination is also in the study report in Appendix I.

Segment A was evaluated by BLM for its suitability for inclusion into the System, using a set of eight criteria. The evaluation, found in Appendix I, resulted in a determination that the segment is not suitable for inclusion into the System.

The various management alternatives in Chapter Three recommend segment A as either being preliminarily suitable (Alternatives B and D), or not preliminarily suitable (Alternatives A, B, and E) for designation and inclusion into the System.

Chapter Four analyzes, within alternatives, the impacts from potential designation of the segment and the impacts to Wild and Scenic River values from actions proposed in alternatives in which Segment A is not recommended for designation.

VISUAL RESOURCES

The scenery and landscapes on public land in the planning area have been inventoried and classified according to BLM's Visual Resource Management (VRM) process. This process considers the existing scenic quality and public sensitivity regarding this resource and ranks the visual resources on public lands from VRM Class I to IV. Generally the lower the class number the more scenic and sensitive an area is. See Appendix C for VRM Class descriptions

and a brief explanation of the VRM process. Table 2-28 summarizes acreages for the various VRM classes in the planning area.

Table 2-28

VRM CLASSES IN THE PLANNING AREA

VRM CLASS	ACREAGE	% OF PA[1]
I	43,642	7.2
II	192,170	31.5
III	131,262	21.6
IV	239,440	39.5

Note: [1] PA = Planning Area

The supply of quality visual resources (VRM Class I and II) in the planning area is high compared to other BLM planning areas and moderate when compared with adjacent lands managed by the U.S. Forest Service. The demand for undisturbed or minimally disturbed visual resources in the planning area is moderate to high. Most recreationists come to the planning area to experience the natural settings and scenery of the southern Rockies.

WILDERNESS STUDY AREAS

There are six Wilderness Study Areas (WSA's) containing approximately 114,247 acres of public land in the planning area: the Powderhorn Instant Study Area (ISA) (54,059 acres), the Red Cloud Peak WSA (37,579 acres), the Handies Peak WSA (16,742 acres), the American Flats WSA (4,617 acres), the Larson Creek WSA (880 acres), and the Bill Hare Gulch WSA (370 acres). Three WSAs (Slumgullion Slide, Friends Creek, and Sparling Gulch) were deleted from Wilderness Study and WSA status on March 12, 1990, because the adjacent Forest Service lands from which they relied on for their wilderness values are no longer under consideration for wilderness. These lands are no longer subject to the Bureau's Interim Management Policy for Lands Under Wilderness Review (IMP). These public lands would be managed as part of the Alpine Triangle SRMA.

Acreage figures for these WSA's were revised for this RMP/EIS effort using a computerized mapping system; they vary from the totals used in the final WSA Inventory Reports.

The Powderhorn ISA was studied in the Powderhorn Wilderness Final Environmental Impact Statement (EIS) and Wilderness Suitability Report (BLM 1984). The EIS recommended 43,311 acres as being suitable for wilderness designation. The President has recommended to Congress that the suitable area be included in the National Wilderness System.

The Red Cloud Peak, Handies Peak, American Flats, Bill Hare Gulch, and Larson Creek WSA, were studied in the Gunnison Basin and the American Flats/Silverton Wilderness Final Environmental Impact Statement (BLM 1987) and associated study report. These environmental documents and reports recommended acreage in three WSA's as being suitable for designation as wilderness: the Red Cloud Peak WSA (27,969 acres), the Handies Peak WSA (7,167 acres), and the American Flats WSA (1,494 acres). See Appendix F for maps of these areas.

WSA DESCRIPTIONS

A brief description of the six WSA's in the planning area is included. All alternatives will address management of all WSA's in the event Congress drops them from further consideration as WSA's and from being managed according to the IMP. More detailed descriptions are contained in the study reports and environmental documents for the WSA's.

RED CLOUD PEAK WSA (CO-030-208)

The Red Cloud Peak WSA is located in Hinsdale County, from one to ten miles west of Lake City. The WSA is very steep and mountainous with elevations ranging from 8,800 feet to over 14,000 feet. Vegetation consists of aspen and spruce/fir at lower elevations, with willows in some riparian areas. Vegetation above timberline consists of alpine tundra ecosystems dominated by grasses, sedges, and forbs. Steep mountain streams, some originating from high alpine lakes, radiate toward the WSA boundary from a central ridge of mountain peaks. Redcloud Peak (14,034 feet) and Sunshine Peak (14,001 feet) are in this WSA.

HANDIES PEAK WSA (CO-030-291)

The Handies Peak WSA is located ten miles southwest of Lake City in Hinsdale County. The WSA is steep and mountainous with elevations ranging from 9,500 feet to over 14,000 feet. Lower elevations in the WSA are characterized by many open, rocky slopes, and vegetation consists of mixed spruce, fir, and aspen. Vegetation above timberline consists of an alpine tundra ecosystem dominated by grasses, sedges, and forbs. Three major canyons and numerous small streams radiate toward the boundary from a central ridge of mountain peaks. Located within the WSA are twelve peaks above 13,000 feet, Handies Peak (14,048 feet) and several alpine lakes.

AMERICAN FLATS WSA (CO-030-217)

The American Flats WSA is located five miles east of Ouray and 11 miles west of Lake City, in Ouray and Hinsdale Counties. The northern and western borders of the portion of the WSA recommended for wilderness designation are contiguous to the Big Blue Wilderness within the Uncompahgre National Forest. Elevations in the WSA range from 11,200 feet to 13,300 feet and vegetation consists of alpine tundra dominated by grasses, sedges, and forbs. A small stand of spruce/fir is located along the North Fork of Henson Creek in the north-central portion of the WSA. The western half of the WSA consists of gently rolling hills surrounding American Flats, and the remainder of the WSA is characterized by steeper alpine mountain ridges with associated drainages.

POWDERHORN INSTANT WILDERNESS STUDY AREA (ISA) (CO-030-089)

The Powderhorn ISA is located ten miles northeast of Lake City in Gunnison and Hinsdale Counties. Elevations range from 8,600 feet to 12,600 feet. Lower elevations in the ISA are characterized by intermingled aspen, sagebrush, mountain meadow, spruce/fir and riparian vegetation. In the higher elevations large areas of exposed volcanic rock occur and the vegetation consists largely of the alpine tundra type. The ISA is dissected by the three forks of Powderhorn Creek. There are four major and many smaller lakes within the ISA. The ISA is accessed by several roads and trailheads that serve the many hiking trails.

BILL HARE GULCH WSA (CO-030-085)

The Bill Hare Gulch WSA is located four miles north of Lake City in Hinsdale County. Most of the western boundary of the WSA is contiguous with the Big Blue Wilderness Area in the Uncompahgre National Forest. Elevations in the WSA range from 8,600 feet to 9,400 feet. The topography is steep and is characterized by narrow, rugged drainages originating in the Big Blue Wilderness Area. Vegetation in the WSA consists of aspen and spruce/fir intermingled with open meadows dominated by sagebrush, grasses and forbs.

LARSON CREEK WSA (CO-030-086)

The Larson Creek WSA is located two miles north of Lake City in Hinsdale County. The area is comprised of relatively steep terrain and elevations range from 8,500 feet to 10,500 feet. The vegetation consists of open rocky slopes, aspen and conifer woodlands and open parks dominated by sagebrush grass and forbs. Portions of the north and west boundaries are contiguous to the Big Blue Wilderness area in the Uncompahgre National Forest. Several drainages originating in the Big Blue dissect the WSA.

The condition of the WSA's is good. The values that qualified them for WSA status have remained relatively unchanged. There is some past unauthorized vehicle use in the Handies Peak, American Flats, and Red Cloud Peak WSA, where a recurring problem exists along Cooper Creek. Unauthorized road maintenance has occurred on small portions of the Red Cloud WSA and authorized road construction has occurred in Silver Creek in the Red Cloud Peak WSA. In 1988, a backhoe was authorized to be taken into the Powderhorn ISA to maintain several spring developments. Prior to a ranger (BLM law enforcement specialist) being hired in 1990, the lack of local BLM law enforcement capability has made the resolution of unauthorized uses difficult.

The trends for the planning area indicate increasing use of the WSA's for non-vehicular recreational purposes. Vehicle recreation is also increasing and more effort will be needed to prevent degradation of wilderness values in some WSA's.

The local economies in Lake City, Silverton, and Ouray are heavily dependent on recreation and tourism, and some of this dependency is directly related to hiking and backcountry use in WSA's Much of the recreation use in the planning area is indirectly dependent on the scenery within WSA's.

The Colorado Outward Bound School is dependent on the planning area for their wilderness survival courses. The majority of their time on BLM is spent in the WSA's.

Trails to three of the State's 14,000 foot peaks are located in WSA's in the planning area. Hikers and climbers depend on these popular access routes in the WSA's.

The supply of designated wilderness and the associated recreation opportunities is high in Southwest Colorado. The U.S. Forest Service manages 837,917 acres of existing wilderness near the planning area: the Big Blue (98,235 acres), West Elk (176,092 acres), LaGarita (103,986 acres), and the Weminuche (459,604 acres) Wilderness Areas. A moderate demand exists for wilderness resources within the planning area, due to the extent of these resources within and near the planning area and the location of the planning area relative to major population centers. Users tend to come from the local area and other parts of Colorado.

ARCHAEOLOGICAL RESOURCES

ARCHAEOLOGICAL PERIODS

Class I data (existing information) places human occupation of the general geographic region encompassing the planning area extends back nearly 12,000 years. This time spectrum is represented by the Paleo-Indian (10,000 to 5,500 B.C.), Archaic (5,500 B.C. to A.D. 500, Formative (500 to 1,300 A.D.), and Proto-Historic/Historic (1,300 to 1,900 A.D.) archaeological periods.

The Paleo-Indian period is characterized by a nomadic lifestyle primarily dependent upon hunting of now extinct megafauna. Projectile points associated with Paleo-Indian occupation have been found in the planning area. Paleo-Indian points (including Folson) are identified with five lithic scatters recorded on public lands within the planning area.

The Archaic period was an era of nomadic dependence upon resource procurement and processing, evidenced in the planning area by numerous lithic scatters and campsites on public lands.

The Formative period is characterized by a predominately sedentary lifestyle with hunting/gathering activities supplemented by agriculture. This semi-permanence is usually associated with pithouses and surface dwellings. Evidence of the Formative period is negligible in the area.

The Proto-Historic/Historic period is also represented by a nomadic hunting/gathering lifestyle. Evidence of Ute occupation within the planning area includes campsites with an occasional standing wickiup. Three sites with evidence of wickiups are located on public lands.

CULTURAL INVENTORIES

Class III (100 percent field surveys) cultural resource inventories have been completed on approximately 8,833 acres, or 3.2 percent of the public lands within the planning area. At the present time, inventories and information is very limited. Most inventories have been confined to project specific, surface disturbing activities. Site variability and distribution within the planning area is unpredictable due to limited data. Research in other regions shows that complete inventory data would reveal a higher density and diversity of sites within favored hunting/gathering and agricultural zones. Due to the limits of the data in the planning area, however, the significance of the existing site information is unknown. Excavations are primarily limited to sites within the Curecanti National Recreation Area.

ARCHAEOLOGICAL SITES

A total of 1,132 sites and/or isolated finds have been officially recorded within the planning area. An archaeological site is defined as a discrete locus of aboriginal activity of a presumingly interpretive nature spanning prehistoric to modern times (about 1,900). Approximately 823 are identified as archaeological, 297 are historic, and 12 are of an unknown nature. There are 301 prehistoric and 12 historic isolated finds within the planning area.

Approximately 507 of the recorded sites within the planning area are located on public lands. (for statistical convenience sites and isolated finds are combined as sites) Of these sites, 219 are isolated finds; 225 are limited activity sites; 49 are campsites; 13 are habitation sites; and one is a rock art locality.

No BLM sites in the planning area are officially listed on the National Register of Historic Places (NRHP). Haystack cave is being nominated to the NRHP. Although the Cave contains some archaeological resources, its primary value is paleontological. Of the total sites on public land, 26 are identified as potentially eligible to the NRHP, based upon field evaluations; one site has received a formal determination of eligibility, and seven sites have been officially determined not to be eligible; 293 sites were determined not eligible based upon field evaluations and 180 sites need further evaluation.

HISTORICAL RESOURCES

The Planning Area contains a total of 90 recorded historic resources. A historic site is any evidence of Euro-American occupation since 1776 to present. These sites represent all phases of the region's history including settlement, mining, farming, transportation, and town development (O'Rourke, 1981). These themes are consistent with the Colorado Historical Society's RP-3 Historic Context Themes (Mehls, 1984 and Mehls and Carter, 1984). Twenty-six of these sites are on public land. Table 2-29 lists the sites on public lands and the condition of each. Two other important sites on public land that have not been inventoried, recorded or evaluated are also listed.

There are many historic structures on public land in the planning area that have not yet been located or inventoried. There remains a need to identify and inventory these sites, particularly in the historic mining country around Lake City.

Table 2-29

HISTORIC SITES

SITE NUMBER	SITE NAME	CONDITION		
		FAIR-GOOD	POOR	STABILIZED
5GN 1764	Spence, Colorado Townsite[3]	x		
5Gn 1944	Sillsville Cabin[3]	x		
5GN 1943	Valdez Spring Site		x	
5GN 1945	Wolf Spring Mine[3]	x		
5GN 1947	Little Camp Creek Dugout		x	
5GN 1954	Willow Creek Cabin	x		
5GN 1955	Arden's Cabin	x		
5GN 1966	Biebel Springs Cabin	x		
5GN 1961	Wildcat Creek Mine[3]	x		
5GN 1977	Big Spring Cabin[3]	x		
5HN 300	Cooper Creek Cabin		x	
5HN 311	Henson Creek Dam		x	
5HN 337	Pike Snowden Cabin			x[1]
5HN 299	Burrows Park Cabin			x[1]
5HN 298	Sherman Suspension Bridge		x	
5GN 1664	Lower Lake Fork Canyon Railroad Work Camps (nine)[2]		x	
5GN 1692	"		x	
5GN 1693	"		x	
5GN 1694	"		x	
5GN 1695	"		x	
5GN 1696	"		x	
5GN 1698	"		x	
5GN 1699	"		x	
5GN 1725	"		x	
Unassigned	Robber's Roost Cabin		x	
Unassigned	Red Bridge Homestead		x	

Notes:[1] Restored by BLM and Hinsdale County Historical Society;[2] Interpretation by NPS NRA under Cooperative Agreement
[3] Subject to land status verification

PALEONTOLOGICAL RESOURCES

In the planning area significant fossiliferous deposits could be found in the Morrison, Dakota, Mancos, and Mesa Verde formations, and in some volcanic ash deposits. No inventories have been completed in the study area, however, scientific studies demonstrate that the Morrison formation has the highest potential for significant fossils. Locatable fossils would include marine and land based plant and animal remains and megafauna such as the dinosaur.

Two fossil localities are documented in the planning area. Haystack Cave, near the Curecanti National Recreation Area, was documented for its archaeological values first in 1939. The Cave is presently under study for its potential for archaeological/paleontological relationships. Excavations by David Nash have yielded over 60,000 faunal specimens that analyses show reflect nearly 40 animals including horse and two species of musk ox. Two radiocarbon dates were obtained from the top two-thirds of the deposits (14,935± 610 and 12,154± 1,700 years B.P., before present). The Cabin Creek site, excavated in 1970 and analyzed in 1985, represents the only known major recovery of a dinosaur (Brontosaurus) between the Uncompahgre Uplift near Delta and Canon City.

TRANSPORTATION AND ACCESS

The planning area contains 935 miles of roads and trails that are identified on the Montrose District Transportation plan. Roads and trails found within Gunnison, Hinsdale, Montrose, Saguache, and Ouray Counties provide access to public lands. Only the roads that provide important access routes to and through public lands are included as part of the transportation plan. These roads are maintained on a routine schedule and as funding allows. There are many unmaintained inventory roads that are located on public lands throughout the planning area.

Table 2-30 lists the miles of roads and trails found within the planning area.

Table 2-30

PLANNING AREA ROADS AND TRAILS

TYPE OF ACCESS	MILEAGE
Federal and State Highways	186
County Roads	306
BLM Roads	333
Foot and Horse Trails	110

Many of the transportation roads within the planning area are in poor condition due to limited maintenance, unsuitable road locations, and use during saturated soil conditions when they are most susceptible to damage. The majority of the major BLM roads in Gunnison County are maintained under a road maintenance agreement between the Gunnison County Commissioners and the BLM. Most of the major transportation roads across BLM in Hinsdale and Saguache counties are claimed as County jurisdiction roads.

Not all BLM roads have legal access for public use. There are presently 32 easements allowing access across private land to public land. These easements provide for either public use or administrative access.

Several areas of public land within the planning area do not presently have adequate legal access. The lack of legal access and poor road conditions are factors limiting access to public lands.

Demands for transportation needs in the planning area are directly related to resources found on public lands. This includes demands for commercial activities, such as, livestock grazing, forestry, minerals, and noncommercial type activities, such as using OHVs, hunting, camping, fuelwood gathering, and other recreational uses.

The road system on public lands within the planning area is inadequate in many cases. Adequate funding and support have not been available to correct this situation. Legal public access is needed in many identified areas to allow the BLM to carry out multiple use management.

The transportation system within the planning area is relied upon by governmental agencies and the general public for a variety of purposes.

REALTY AND LANDS MANAGEMENT

LAND STATUS

Land status within the planning area is identified in Table 1-1 by surface mineral ownership, county delineation and agency administration. A total of 585,012 surface acres of federal land and a total of 728,567 acres of federal mineral estate under BLM's jurisdiction is located in the planning area. Federal surface land ownership accounts for 61 percent of the planning area while private ownership accounts for 37 percent. The remaining 2 percent is state owned land.

Within the planning area, the Colorado Division of Wildlife (CDOW) owns and manages lands in the Gunnison Wildlife Habitat Management Area, the Sapinero Wildlife Area, the Cimarron Wildlife Area, the Cebolla Creek Wildlife Area, and the Dome Lakes Recreation Area. The State Land Board (SLB) also owns and manages scattered school section parcels throughout the planning area.

Portions of Gunnison, Saguache, Hinsdale, Montrose, and Ouray counties are located within the planning area and the Gunnison Resource Area (GRA). The GRA boundary encompasses a large amount of National Forest land and is delineated by the Continental Divide on the south and east, by the Gunnison County line on the north, and by the Uncompahgre Resource Area, Gunnison and Hinsdale County lines on the west. Within the GRA boundary there are 2,496,165 total surface acres.

LAND USE AUTHORIZATIONS

There are approximately 220 active land use authorizations in the planning area. These authorizations include two Recreation and Public Purposes Act (R&PP) leases and one Section 302 Land Use Permit. The remaining authorizations are rights-of-way (R/W) issued under a variety of authorities. The majority of these R/W's authorize utility systems and transportation systems.

Utility system R/W's are occupied by major electrical transmission and distribution lines, telephone lines, water or petroleum product pipelines, and three multi-user electronic communication sites. Transportation system authorizations include reservations made for state and federal highways, R/W's granted to counties and other governmental agencies, and many individual private access roads to residences and developments.

R/W authorizations are spread across the entire planning area but become more concentrated around the population centers of Lake City and Gunnison.

From 15 to 20 R/W applications for utility and access needs are processed annually. This demand occurs in areas experiencing growth for recreational homesites, i.e., the Lake City area. Individuals purchasing private inholdings often have no alternative except to apply for access or utility R/W's over public land.

There is a need in the planning area to identify R/W avoidance areas (where future authorizations may only be allowed if no alternative exists), R/W exclusion areas (where R/W's may only be authorized where mandated by law), and major utility and transportation corridors, in order to streamline the review and processing of applications for these uses in the planning area. The Western Utility Group Corridor Study in 1980 identified two utility corridors in the planning area, one along the Western Area Power Administration's (WAPA's) Curecanti-Midway 230 kv transmission line and the other along the Colorado Ute Electrical Association's (CUEA's) Blue Mesa-Lake City 115 kv transmission line.

Future development of a 115 kv loop into Crested Butte is anticipated by CUEA.

Existing land use plans for the area did not designate any corridors.

LAND DISPOSAL AND ACQUISITION

Since the completion of the Gunnison Basin and American-Flats MFP's in 1980, three public land tracts totalling 215 acres have been sold in the planning area. Since 1980 three exchange actions have resulted in the disposal of 774 acres of public land and acquisition of 920 acres.

No tracts have been specifically recommended for acquisition in the current MFPs.

The two MFP's for the Gunnison Resource Area do not contain detailed recommendations for potential land tenure tracts, making the evaluation of disposal, exchange, and other land tenure proposals difficult and time consuming.

Land tenure actions, particularly private or other exchanges, can be an important tool to satisfy local dependencies on public land for a variety of needs, and to facilitate better overall land management for the Bureau.

Although the number of exchanges and sales completed in the planning area in the last decade is low, up to a dozen proposals are made for land exchanges each year. There are ongoing negotiations in several land exchanges across the planning area.

WITHDRAWALS AND CLASSIFICATIONS

There are numerous withdrawals within the planning area that set aside land for use by other agencies and BLM. Most of these withdrawals prohibit (segregate) certain land uses or mineral uses that would conflict with the purpose of the withdrawal. Table 2-31 contains a list of withdrawals by agency with the affected acreage.

As required by the Federal Land Policy and Management Act (FLPMA), all withdrawals within the planning area are to be reviewed by 1991 to determine if the statutory objectives of the withdrawals are being met. In addition to this review, all withdrawals held by an agency of the U.S. Department of the Interior (USDI) are subject to continual review. All withdrawals will be examined in this RMP/EIS and recommendations will be made as to their continuation, revocation, or modification.

1. BLM PROTECTIVE WITHDRAWALS

There are 26,063 acres of land withdrawn for Public Water Reserves (PWR) within the planning area that set aside springs and other water sources and developments for public use and segregate the affected public land from mineral entry under the non-metalliferous mining laws. All PWR withdrawals in the planning area were reviewed in 1982; a subsequent Supreme Court decision and the Coldiron opinion will require BLM to review these again and quantify existing water resources put to beneficial use in order to be granted a 1926 priority date by the Colorado water court.

A 395-acre withdrawal along four different segments of Cebolla Creek segregates these lands from all forms of appropriation under the general land laws and from mineral entry and location under the mining laws.

The BLM holds a protective withdrawal for the Powderhorn Primitive Area. This protective withdrawal segregates the affected lands from all forms of appropriation under the public land laws, including the general mining laws (PLO 5386).

A 2,318 acre BLM withdrawal along the Lake Fork and Henson Creek drainages segregates those lands from mineral entry and actions that would impair visual qualities. This withdrawal is commonly referred to as the Loop Road withdrawal.

2. BUREAU OF RECLAMATION WITHDRAWALS

The Bureau of Reclamation (Reclamation) has two major reclamation project withdrawals in close proximity to the planning area and within the Wayne N. Aspinall Storage Project (for the Colorado River Storage Project and the Gunnison-Arkansas Project). Both withdrawals affect public lands under and around Blue Mesa Reservoir, and within the National Park Service Administered Curecanti National Recreation Area (NRA). Portions of the Gunnison-Arkansas withdrawal have been relinquished along the Lake Fork of the Gunnison.

The Colorado River Storage withdrawal has been reviewed and some portions were relinquished by Reclamation. A Public Land Order terminating the withdrawals has not been published. Reclamation withdrawals effect 2,573 acres of federal land within the planning area. The withdrawals segregate the lands from mineral entry under the general mining law. BLM must consult with Reclamation prior to granting any land use authorization on these lands.

Table 2-31

WITHDRAWAL STATUS

AGENCY[1]	CASE NO.	ORDER[2]	ACRES	DESCRIPTION[3]	BLM MANAGEMENT AUTHORITY
USFS	C-0101309	PLO 3167	10	Admin. Site - 9-Mile Hill	mineral leasing and grazing
USFS	C-380,2495	PLO 4408	453	Wdl. in Aid of Legislation	mineral leasing
USFS		EO 1405	65	Admin Site - Soap Ck. Station	none
USFS	C-28325	SO 1/16/1909	40	Admin. Site - Old Agency	none
BuRec	C-028255	SO 5/23/1946	19,348	Gunnison-Arkansas Project	mineral leasing, grazing
BuRec[4]	C-014843	BLM 0 6/19/1958	4,453	Colorado River Storage Project	pursuant to agreements between BuRec, NPS and BLM
BuRec[4]	C-021956	BLM 0 12/18/1958	4,852	Colorado River Storage Project	same as above
BuRec[4]	C0124366	PLO 4253	165	Colorado River Storage Project	same as above
FAA	C0922844	PLO 1899	66	Air Navigation Site	grazing, mineral leasing
FAA	C-12613	PLO 5097	186	Air Navigation Site	grazing, mineral leasing
BLM	C-17286	PLO 5386	40,760	Powderhorn Primitive Area	all
BLM	C-0125423	PLO 3982	2,318	Loop Road Withdrawal	all
BLM	C-014711	PLO 5309	395	Cebolla Ck. Wildlife Area	all
BLM	C-28630		1,948	Power Site Classification 102	all
BLM	C-28588		2,148	Power Site Reserve 50	all
BLM	C-28590		111	Power Site Reserve 27	all
BLM	C-17807	SO 3/22/1973	10	PWR107	all
BLM	C-19376	SO 10/19/1973	2,875	PWR 107	all
BLM	C-19377	SO 10/19/1973	22,140	PWR 107	all
BLM	C-28514	SO 2/25/1919	1,008	PWR 107	all

Notes:
[1] Agency abbreviations: USFS = United States Forest Service; BuRec = Bureau of Reclamation; FERC = Federal Energy Regulatory Commission; FAA = Federal Aviation Administration; BLM = Bureau of Land Management
[2] Order abbreviation: PLO = Public Land Order; EO = Executive Order; SO = Secretarial Order
[3] Description abbreviations: Admin. Site = Administration Site; Wdl. = withdrawal; PWR = Public Water Reserve
[4] These withdrawals are all combined into the file for C-28255.

3. FEDERAL ENERGY REGULATORY COMMISSION WITHDRAWALS

Two Federal Energy Regulatory Commission (FERC) withdrawals for water power projects totalling 2,008 acres are recorded on BLM's Master Title Plats. These two withdrawals are near Lake San Cristobal.

4. FEDERAL AVIATION ADMINISTRATION

The Federal Aviation Administration (FAA) has a 252 acre withdrawal on Big Mesa southwest of Gunnison for an existing radar air facility. This withdrawal segregates the affected lands from all forms of appropriation under the public land laws and from mineral entry under the mining leasing laws.

5. UNITED STATES FOREST SERVICE WITHDRAWALS

The United States Forest Service (USFS) has two administrative site withdrawals in the planning area. The Soap Creek Ranger Station north of Blue Mesa Reservoir is a 60-acre site. The Old Agency Ranger Station site, located along Los Pinos Creek in Cochetopa Park, contains 40 acres. These withdrawals segregate the affected lands from all forms of appropriation under the public land laws and the mining and mineral leasing laws.

There are two parcels of public land located in Taylor Canyon that were withdrawn in aid of legislative action by Congress to transfer them to the USFS. This withdrawal affects 400 acres. To date, no legislation has been proposed to include these lands in the National Forest System. These lands are withdrawn from settlement, mineral location, sale and entry, but not from mineral leasing.

6. POWERSITE WITHDRAWALS

The BLM has withdrawn three potential powersites totalling 11,560 acres in the planning area. The bulk of these withdrawals overlap Reclamation withdrawals for Blue Mesa and Morrow Point Reservoirs. These BLM withdrawals segregate the affected lands from disposal or permanent land use authorizations that would interfere with or preclude development of the water power potential.

7. CLASSIFICATIONS

Four areas of public land are currently classified under the Recreation and Public Purposes (R&PP) Act. Two of these areas are under R&PP leases to Gunnison and Hinsdale Counties. The remaining classifications are on public lands within the Slumgullion Earthflow (a National Natural Landmark) and at The Gate recreation site. The classifications segregate the affected lands from mineral entry.

Two recreation sites in the planning area are classified for multiple use management (C-2367) and are segregated from operation of the general mining laws. These areas are Mill Creek Campground and the Lake Shore Day Use Site. This classification was reviewed and the mineral segregation was continued until 1991.

There are numerous scattered tracts of public land in the planning area totalling 328 acres that are classified as suitable for disposal under the Unintentional Trespass Act (UTA). The UTA was repealed by the passage of the Federal Land Policy and Management Act of 1976. The classifications are therefore not valid.

Other agencies often consider public lands in order to accomplish their missions (FAA, USFS, etc.). Withdrawal actions often become a demand and need in order to completely satisfy other agencies' requests, along with authority to use the land.

The Department of Energy has applied for a withdrawal on approximately 300 acres of public land for the Uranium Mill Tailings Remedial Action (UMTRA) project for the Gunnison mill tailings. One DOE alternative is to relocate the tailings pile to public lands southeast of Gunnison near the 6-Mile Lane Landfill. DOE is currently preparing an Environmental Assessment and the BLM is a cooperating agency in the preparation of that document. This alternative will also likely involve numerous R/W authorizations for access routes and utilities necessary to service the facility. The application had the immediate effect of segregating the affected lands from operation of the public land laws, including location and entry under the mining laws for up to two years. The land is open to mineral leasing.

TRESPASS

There are currently 31 suspected or verified trespass cases that are serialized and pending. There are six agricultural cases that range in size from one to 10 acres. Occupancy and residential situations account for 10 cases where valuable improvements are, or may be located on public land and include substantial summer homes, remote cabins, barns, corrals and a swimming pool. The other cases include miscellaneous fences, illegal dumps, access roads, utility lines and water systems. A complete on-the-ground inventory of suspected trespass activity would facilitate the resolution of many existing, unauthorized situations in the planning area.

Trespass activity is most obviously a concern when it interferes with lawful users, or when the activity results in adverse environmental impacts on public land. Trespasses such as unauthorized locked access, illegal fences, illegal dumps, and personal or structural occupancies can conflict with lawful users. Trespass is a concern because of the expenditure of funds and manpower necessary to resolve cases that could have been directed to other Bureau programs.

FIRE MANAGEMENT

The BLM is responsible for protecting public resources from fire and for suppressing fires on public lands. Between 1976 and 1985, there were 41 fires (an average of 4 fires per year) on public lands within the planning area.

Forty-six percent of the fires on public lands were man-caused. The largest fire during this period was man-caused and occurred near Blue Mesa Reservoir. Only 10 percent of the total fires were over 10 acres. Most of these man-caused fires occurred in late spring or late fall, and were generally caused from private land burning escaping onto public land.

WATER POWER AND STORAGE RESERVOIR SITES

Within the planning area there are three existing reservoirs, two of which are used for electrical power generation. Inventoried potential sites consist of 25 undeveloped sites larger than 5,000 acre-feet of storage, 12 undeveloped diversion sites, and one pumped-storage site. Two existing potential sites have been withdrawn in the planning area (PSC 392 and PSC 404). A map of these inventoried potential sites is located in the Gunnison Resource Area Office.

The overall trend in waterpower and reservoir development indicates that these sites are constructed as demands and/or the market necessitates.

Before management actions take place on withdrawn sites that could interfere or conflict with future development, the Federal Energy Regulatory Commission (FERC) is consulted to determine that agency's willingness to request a relinquishment of the withdrawal. No consultation is required before implementing management actions on potential sites that area not withdrawn.

Local demands have not shown a need for development of potential water power and reservoir sites on public land within the planning area at this time.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

There are no areas of public land within the planning area that have been designated as Areas of Critical Environmental Concern (ACECs). The Federal Land Policy and Management Act, Section 202 (c)(3) provides for the consideration and designation of potential ACECs in the development of BLM land use plans. The BLM's planning regulations (43 CFR 1610.7.2) establish the process and procedural requirements for the designation of ACECs in RMP/EISs and plan amendments. This RMP/EIS will analyze, within alternatives, recommended ACECs that could be ultimately designated by the issuance of the Record of Decision for the approved RMP.

ACEC NOMINATIONS

Twenty-four nominations were received from the public, BLM personnel, and other agencies during the development of the Management Situation Analysis (MSA). After the multi-discipline, internal screening on May 31, 1989, 16 of these nominations were determined to have met BLM's importance and relevance criteria, and are available for consideration as "potential" ACECs for analysis in the RMP/EIS alternatives. Appendix H lists these 16 potential ACECs.

The Sapinero and Loop Road potential ACECs were, for analysis purposes, combined with the larger West Antelope Creek to Dillon Mesa (West Antelope) and American Flats potential ACECs. The values found within the two smaller areas were identical to, and overlap with the larger areas. American Flats potential historical and recreation ACEC is renamed the Alpine Potential ACEC.

Those eight nominations that did not meet the screening criteria were determined not to be potential ACECs and have been eliminated from further consideration in this RMP/EIS. Appendix H contains information on BLM's ACEC screening and designation process, and rationale for eliminating from further consideration the eight nominated ACECs that did not meet the relevance and importance criteria.

HAZARDS MANAGEMENT

Man-made hazards are located throughout the planning area, and consist of abandoned mines, shafts, and tunnels, and other areas with surface disturbance or structures that present safety concerns. Many of these sites have been identified by the Colorado Mined Land Reclamation Board; some posting of warning signs has been accomplished by the board.

The degree of the safety concern and hazard at each site varies; a more detailed inventory is needed to determine the extent and nature of hazard areas, and reclamation action prescribed to make these sites safer and less hazardous.

CHAPTER THREE

MANAGEMENT ALTERNATIVES

CHAPTER THREE

MANAGEMENT ALTERNATIVES

This chapter describes five land use management alternatives that were developed and analyzed in this Resource Management Plan/Environmental Impact Statement (RMP/EIS) for the public lands in the Gunnison Planning Area: Alternatives A (Continuation of Current Management or no Action Alternative), B, C, D, and E (the Preferred Alternative). Each alternative resolves the issues and concerns presented in Tables 1-2 and 1-3 in a different manner. Maps illustrating alternatives B, C, D, and E are in envelopes at the back of this document. Separate maps are included in the description of Alternative A to illustrate management of certain resources. Each of these alternatives describes a logical, realistic, and achievable mix of multiple use management actions, resource condition objectives, and land use allocations that can be followed by BLM within the planning area. It is assumed, therefore, that all the alternatives would be fully and completely executed within the 10 to 12-year life of the plan. Table 1-2 compares the highlights of these proposed actions, objectives, and allocations relative to each alternative.

Under Alternative A (Continuation of Current Management or No Action), multiple use management would continue in much the same manner as currently exists with current levels of funding and staffing being available. Implementation of the current rate of accomplishment of these activities and decisions was considered in the development of the description of Alternative A; policies and decisions in existing land use plans would continue to be implemented over the life of the plan at the existing rates. In addition, new policy directions developed over the life of the plan would be followed.

In resolving the issues and concerns in Alternative B, management of resources would focus on developing and maintaining recreational opportunities that increase tourism and promote economic stability and quality of life within the planning area. Resource uses would not be permitted to diminish recreation or tourism qualities. In resolving the issues and concerns under Alternative C, objectives call for a high degree of production and economic return of "commodity" oriented resources. Opportunities to harvest, produce, and extract renewable/non-renewable resources would not be unduly restricted as other resources are managed.

In resolving the issues and concerns in Alternative D, a high degree of protection, enhancement, and maintenance of natural values, over and above that required by protective laws or policy is called for.

In resolving issues and concerns in Alternative E, the Preferred Alternative, public land resources would be managed to provide for both production or development and conservation or protection. Where production/development is proposed, other resources would be protected as much as possible by placing stipulations and limitations on uses such as mineral leasing, off-highway vehicle (OHV) use, and livestock grazing. Where conservation/protection is proposed, production and development could sometimes be allowed, although stringent measures would be taken to protect sensitive resources.

ALTERNATIVE DEVELOPMENT

Alternative A, the Continuation of Current Management, or No Action Alternative, was developed using available inventory data, existing activity or project plans for a variety of resource programs, existing planning documents, and established land use allocations. The Existing Management Situation (EMS) portion of the Management Situation Analysis (MSA), and current management policies were also used to develop Alternative A. The current rate of accomplishment of these activities and decisions was considered in the development of the description of Alternative A.

Alternative objectives for Alternative B, C, and D were developed by using the objectives that were developed for the Resource Capability Analysis (RCA) portion of the MSA. The information regarding each affected resource in the RCA was then used to rank BLM-managed resources/resource uses according to their ability to meet, or contribute to, the objectives for Alternatives B, C, and D. During the writing of these alternatives, the resource that was ranked highest generally took precedence over all other resources for management priority, the second-ranked resource took next precedence, and so on. Resource program functions which are of a support nature were considered in alternative formulation, but they did not effect resource ranking.

Where conflicts between resources in Alternative B, C, or D could potentially occur, priority was given to the higher ranking resource under that particular management alternative. Certain resources received overriding priority in conflict resolution in situations where, by law or regulation, management of other resources could not result in violations of these laws or policies.

The potential for multiple-use was also considered in conflict resolution. For example, timber management and harvest in an area could under certain circumstances, be compatible with management of crucial elk and deer winter range if stipulations or other management practices were followed. Because of this potential compatibility, management described for a particular resource may differ from alternative to alternative.

The Preferred Alternative was developed based on an examination of the environmental impacts of the other alternatives, issues raised throughout the planning process, specific environmental values and resources/resource uses, conflict resolution, public input, and laws and regulations. This alternative was developed by the Area Manager and planning team members and represents the mix and variety of actions that, in the opinion of the Area Manager, best resolves the issues and management concerns that drove the preparation of the RMP/EIS. Therefore, no ranking order of resources was developed.

MANAGEMENT UNITS

According to the BLM's basic legislation, any particular land area and its resources may have the potential for a variety of uses, some of them mutually exclusive. The BLM's major objective is to manage the public lands under a multiple-use philosophy and to provide maximum public benefits through the best combination of uses for which an area is capable.

Under management alternatives B, C, D, and E in this RMP/EIS, the planning area has been divided into management units based on the resources, uses, and values of the public lands within a particular geographic area and relative to the goals and objectives of each alternative. Management Unit prescriptions were then prepared for each management unit within Alternatives B, C, D, and E. The size, number, and configuration of management units varies by alternative. Units were not developed for Alternative A.

Although each management unit would be managed under the multiple-use concept, its most outstanding resources,uses, or values would be given significant consideration in that improper management could impair or cause loss of those specific qualities. In recognition of this potential for loss or impact, the management unit prescriptions may place constraints on opposing/competing resources, uses, or values within the unit. In most cases, these other resources would be managed to the extent that such management would be compatible with the unit's more significant resources, uses, or values. In addition, future proposals would be evaluated in the context of the unit's management prescription.

Public lands within the planning area where no particular resource, use, or value is outstanding, and where management would be minimal, are considered to be general resource management units.

STANDARD MANAGEMENT

In the form of guidance, Standard Management was prepared for Alternatives B, C, D, and E that serves as general management direction for each affected resource in the event the resource is not

specifically mentioned in a management unit prescription. This Standard Management is located immediately before the management unit prescriptions in these alternatives, and differs in some resources among alternatives. This Standard Management is a vital part of the description of these management alternatives, and, where applicable, was analyzed in Chapter 4, Environmental Consequences.

Standard Management was not developed for Alternative A because current policies, decisions, and procedures are, in effect, standard management for that alternative.

ALTERNATIVES CONSIDERED BUT NOT ANALYZED

Eleven alternatives were considered within this RMP/EIS; however, the six alternatives discussed below were rejected after analysis. Portions of all six may be developed within one of the four alternatives analyzed within this plan.

Maximum Resource Enhancement Alternative and Maximum Production Enhancement Alternative

The extremes of the spectrum for natural resource enhancement and production resource enhancement were considered, and each extreme, with little or no constraints, was considered in these two alternatives. Neither of these was considered feasible nor could the management be implemented for the resources in the planning area. Both were considered to be in violation of the mandate to prepare comprehensive land-use plans or manage BLM land resources on a multiple use, sustained-yield basis.

Increased Budget Alternative and Decreased Budget Alternative

These two alternatives considered higher and lower potential levels of resource management in the planning area based on variable funding. It was decided, however, that the topics to be addressed in the plan could not be thoroughly analyzed using this approach, in that it is not practical to develop land use decisions and allocations based on what funds might or might not be available. This approach also did not appear to meet the mandate of multiple use, sustained-yield management of BLM land resources.

Moderate Natural Resource Enhancement Alternative and Moderate Resource Production Alternative

Alternatives representing moderate points between the alternatives chosen for detailed analysis was considered in this alternative, but were rejected because in many ways the analysis would have been duplicated within other alternatives and did not provide additional information to use in developing the Preferred Alternative. Also, the Preferred Alternative would likely present a very similar analysis.

COST OF IMPLEMENTING ALTERNATIVES

The fiscal year 1989 budget for the Gunnison Resource Area was about $433,000. Funding support from the District Office in Montrose increases this amount to $610.000. The split between labor and expenditures for operation and maintenance is about 75 percent for labor and 25 percent for other.

Government personnel would be employed to implement the various alternatives. Each alternative would require the purchase of goods and services from the local economy and government employees would also spend a portion of their income in the local area. A 15 percent increase over the base budget (in real dollars) for the life of the plan would be needed to implement any of the alternatives. This increase would benefit local employment and earnings.

ALTERNATIVE A (CONTINUATION OF CURRENT MANAGEMENT)

OBJECTIVES FOR ALTERNATIVE A

The objective of the Continuation of Current Management Alternative is to continue the present

levels, methods, and mix of multiple use resource management of the public lands within the planning area. It generally describes the present management, utilization, outputs, and protection activities that are now taking place. Management direction would be based on current policies and decisions in existing land use plans and amendments, and resource activity plans.

All actions proposed would comply with state and federal regulations, standards, and policies. It is assumed that existing funding levels and apportionment of funds for resource programs would continue at the current level with no major policy changes.

A ranking table showing relative rankings of resources was not produced for this alternative, contrasted with Alternatives B, C, and D, because to do so would not reflect the management direction and priorities within the existing management framework plans and other existing plans. Some standard management practices for this alternative are included in the Management Of Each Resource or Program section.

EXISTING MANAGEMENT PLANS AND DOCUMENTS

A partial list of existing plans and documents that Alternative A is based upon follows. Under this alternative these plans and other documents would continue to be in effect and would be implemented to the extend possible, unless modified by new laws or BLM policies, procedures, or regulations.

MANAGEMENT FRAMEWORK PLANS (MFPs)

1. The American Flats/Silverton MFP (1973)
2. The Gunnison Basin MFP (1976)
   These MFPs were amended in 1978 and 1979.

ENVIRONMENTAL IMPACT STATEMENTS (EISs)

1. Gunnison Basin Livestock Grazing Final EIS (1980)
2. Gunnison Basin and the American Flats/Silverton Wilderness Final EIS (1987)

ENVIRONMENTAL ASSESSMENTS (EAs) AND ACTIVITY PLANS

1. Gunnison River Basin Oil and Gas Umbrella EA (1982)
2. Gunnison Basin Rangeland Monitoring Plan (1987)
3. Blue Mesa (1982) and High Mesa/Horse Mesa Forest Management Plans (1980) (FMPs)
4. Gunnison Basin Habitat Management Plan (1982) (HMP)
5. Gunnison Basin Resource Area OHV Designation Order No. CO-030-8101, with Amendment (1981)
6. American Flats/Silverton-Lower Lake Fork Recreation Area Management Plan (RAMP) and 1986 EA. Area now is the San Juan Triangle Special Recreation Management Area (SRMA).
7. Cochetopa Special Recreation Management Area RAMP/EIS (1988)
8. Long Gulch Sediment Control and Riparian Habitat Improvement Plan (1985)
9. Programmatic agreement among Bureau of Land Management, Colorado, and State Historic Preservation Officer, Colorado, and Advisory Council on Historic Preservation

ADJACENT RESOURCE MANAGEMENT PLANS/EISs

1. Uncompahgre Basin Resource Management Plan (1989)
2. San Juan/San Miguel Resource Management Plan (1985)

OTHER AGENCIES' PLANS

1. Grand Mesa-Uncompahgre-Gunnison National Forest (GMUG NF) Land and Resource Management Plan with Amendments.
2. National Park Services (NPS) Curecanti National Recreational Area (NRA) General Management Plan
3. Gunnison, Ouray, Montrose, Saguache, and Hinsdale County Master Plans or General Land Use Plans as published

COOPERATIVE AND OTHER AGREEMENTS

CO-030-CA8-10 (MOU); South Beaver Creek Proposed Research Natural Area

CO-030-84 (MOU); Management of Livestock Grazing within Curecanti National Recreation Area

CO-030-80 (CO-OP); Lake City Information Center

CO-030-IA-6-2 (CO-OP) Bureau of Land Management; BLM/United States Forest Service (USFS) Antelope Timber Sale

CO-030-83 (CO-OP); BLM/NPS Recreation and Interpretive Facilities along the Lake Fork of the Gunnison River

CO-030-86 (CO-OP); Colorado Division of Wildlife (CDOW), BLM and USFS for improvement of Homestead Road #854

(COOP); Management Agreement between U.S. Department of Interior and Conrad Wygant

CO-030-MOU-S-106 (MOU); Use Agreement with BLM and U.S. Department of Interior (DOE)

(MOU); BLM and United States Fish and Wildlife Service (USFWS)

(MOU); BLM and NPS, for Planning and Program Coordination

CO-030-79 (CO-OP); USFS/BLM Seasonal Range Tech-Lake City

(CO-OP); Interagency Fire Control Operating Plan-Colorado State Forest Service, BLM, USFS, NPS, Gunnison County CB Fire District

CO-910-IA8-005 (CO-OP); USFS and BLM Solid and Liquid Waste disposal

CO-030-CA9-03 (CO-OP); USFS and BLM for Grazing Administration

(MOU); CDOW AND BLM

CO-030-82 (CO-OP); NPS, BLM, USFS and Gunnison County Chamber of Commerce

CO-910-MA7-007 (CO-OP); BLM and Hinsdale County Sheriff's Department for Law Enforcement

(MOU); CDOW, BLM and USFS for Sage Grouse Management

(MOU); Colorado Mined Land Reclamation Division and BLM

CO-030-85 (CO-OP); BLM, USFS and NPS for Cooperative Travel Map

CO-030-87 (CO-OP); Colorado Department of Natural Resources and BLM for Aquatic Habitat Improvement

AA851-IA2-40 Interagency Agreement; Federal Highway Administration and BLM

AA852-CA6-0002 (CO-OP); Student Conservation Association and BLM

CO-030-81 (CO-OP); CDOW, Colorado State F.S., BLM, SCS Deno and Iva Piloni, Fred and Mary Field and Ted Kimberly and USFS - Tomichi Dome Forage Improvement Project

MANAGEMENT OF EACH RESOURCE OR RESOURCE USE - ALTERNATIVE A

Air Quality. Activities and projects on public land would comply with applicable local, state, and federal air quality regulations. Mitigation to minimize air quality degradation would be incorporated into project proposals as necessary. Additional air quality monitoring may be implemented by the BLM when necessary.

Locatable Minerals. The federal mineral estate on approximately 683,285 acres would be open to entry and location. Mineral entry and location would be precluded on 45,282 acres currently withdrawn for these activities.

Monitoring of exploration and development operations would continue, in order to prevent unnecessary or undue degradation of other surface resources, and to ensure reasonable reclamation.

Public lands within any part(s) of any Wilderness Study Area (WSA) that are designated wilderness by Congress would be segregated from mineral entry and location under the general mining laws and from appropriation under the general land laws, and would be closed to mineral leasing under the mineral leasing laws, subject to valid existing rights.

Oil, Gas, and Geothermal Resources. A total of 616,911 acres of federal oil, gas, and geothermal lands would be open for leasing within the planning area. Approximately 328,271 acres would be available with standard leasing terms and the remaining 288,640 acres would have seasonal restrictions. Seasonal stipulations would preclude oil and gas development, including exploration on federal and gas estate (268,160 acres) from December 1 through April 30 to prevent disturbance to big game on crucial winter range; from April 15 through July 15 on elk calving areas (4,480 acres) to prevent disturbance to calving elk; and from April 1 through May 15 on sage grouse strutting grounds, or leks (16,000 acres), to prevent disturbance to strutting grouse. These special stipulations and conditions would also apply to federal surface and split-estate lands. See Appendix K for special stipulations and conditions for leasing on both federal surface and split-estate lands, and for an explanation of how stipulations would be applied, reviewed, waived, modified, or excepted, based on verification of surface and mineral estate resource information by BLM during review of Applications for Permit to Drill (APDs). The most reasonable foreseeable level of oil, gas, and geothermal development throughout the planning would involve a maximum of one or two APDs during the life of the plan, with an estimated total of ten acres of surface disturbance.

Leasing of about 110,007 acres of federal oil, gas, and geothermal estate within existing WSAs would be prohibited according to Section 43 of the Federal On-shore Oil and Gas Leasing Reform Act of 1987 until either WSAs are released by Congress by non-designation, or until leasing is no longer prohibited by legislation.

Saleable Minerals. Monitoring of mineral material disposal sites would continue. Disposal of mineral materials would be permitted on approximately 683,285 acres of federal mineral estate. Disposal of mineral materials would not be permitted on approximately 45,282 acres of federal mineral estate that are currently withdrawn from mineral entry and location unless approval for disposal is obtained from the agency reserving the withdrawal. Mineral materials would continue to be sold to purchasers or permitted to local governments as needed on a case-by-case basis.

Soil and Water Resources. Efforts would continue to be made to minimize sources of accelerated erosion throughout the planning area. The Long Gulch sediment control and Riparian Habitat Improvement Plan would continue to be implemented. Roads either in need of maintenance or poorly located and causing erosion would continue to be treated to correct problems. All public utility and other rights-of-way (ROW) requests would continue to be reviewed to ensure soil disturbance is minimized. Efforts to maintain watershed developments, i.e., in-channel structures and springs, in good physical condition to reduce accelerated erosion would continue. Soil erosion monitoring would be continued using the methodology described in the Montrose District Soil Erosion Monitoring Plan. Best management practices would be employed to minimize accelerated soil erosion and water quality deterioration from sediment and would be required in all plans that included surface disturbing activities. The 10-20 scheduled Allotment Management Plans (AMPs) anticipated to be completed over the life of the plan would include an objective to achieve a slight to moderate erosion class.

Water rights adjudicated by the State of Colorado would be pursued for the priorities identified in the Montrose District water use assessment. Instream flow appropriations would be pursued on 113 miles of fisheries streams, ensuring the adequate quantities of water for the protection of both fisheries and adjacent riparian zones.

The surface water quality monitoring program would continue to ensure that the waters on public lands are in compliance with the standards established by the State of Colorado. Approximately 320 acres of public land in the Wildcat Creek drainage would be managed to help protect the quality of Crested Butte's water supply.

Vegetation. Intensively manage vegetation resources through objectives and actions developed and implemented through new and reviewed Allotment Management Plans (AMPs), the Gunnison Resource Area Habitat Management Plan (HMP), and other activity plans. BLM's riparian management policy would be implemented.

Riparian Zones. Approximately eight hundred fifty miles of riparian areas would be inventoried. Information gathered from these inventories would be used to prioritize these areas and to develop site-specific management and project needs. Management strategies and improvement projects would be implemented on high priority areas first. Those high priority riparian areas located in the 10-20 grazing allotments where AMPs are scheduled for preparation or revision during the life of the plan would be monitored. Riparian zones that are being, or would potentially be impacted from other land uses and areas where changes in management or improvement projects have been implemented would be monitored. Measures designed to minimize riparian area deterioration would be required in plans for surface-disturbing land use activities. The Long Gulch riparian demonstration area would continue to be managed to meet the objectives of the management plan for that area. Objectives and management actions within the existing HMP for the Gunnison Resource Area would be accomplished at the current rate.

Special Status Plant and Animal Species and Habitat. Threatened and endangered species and unique plant associations would be inventoried and monitored where necessary to provide information for proper management. Clearances would be conducted on all proposed surface-disturbing activities and the USFWS would be consulted as required. Measures designed to protect threatened and endangered species and their habitat would be required in all land use activity plans. Supplemental releases and reintroduction of federal and state listed endangered, threatened, and candidate species could be authorized following environmental analysis and consultation with the USFWS, the CDOW, and other affected parties.

Wildlife Habitat Management. Wildlife forage allocations would continue to be managed at current use levels based on the two Gunnison Resource Area Livestock Grazing EIS, and the Gunnison Resource Area Rangeland Monitoring Plan until studies determine adjustments are needed to achieve management objectives. The current Resource Area-wide Habitat Management Plan would be implemented consistent with BLM's Fish and Wildlife Plan for Colorado - Program for the Decade. Additional wildlife habitat monitoring studies would be established and those currently in place would continue. Vegetation utilization studies and inventories would be conducted within riparian and upland habitats. The planning area would be open to land treatments and project facility development. Existing wildlife facilities and treatments would be maintained. Supplemental releases and reintroduction of native or naturalized fish and wildlife species (excluding federal or state listed endangered, threatened, or candidate species) could be authorized. The objectives and goals contained within the BLM and Forest Service Recreational Fisheries Policy, 1990, or as amended, would be implemented to the degree that meets the objectives of this alternative.

Terrestrial Wildlife and Habitat

Elk and Deer Habitat. Existing OHV travel restrictions that reduce stress on wintering big game on crucial winter ranges would continue. Management of elk and deer habitat on public land would be facilitated by the continued collection of actual use numbers, the determination of use of grasses by big game. The collection of utilization of key browse species, the determination of utilization by, and impacts from, elk and deer on riparian vegetation, the monitoring of elk and deer distribution on winter ranges, and the monitoring of snowmobile activity on crucial winter ranges. Studies would continue to be conducted to monitor utilization, trend, and actual use on approximately

50,000 acres of crucial elk and deer winter range per year. Monitoring elk and deer use within crucial winter ranges along a total of 90 miles of riparian habitat, or about 2,180 acres, would be conducted annually for three years at the rate of 30 miles per year. Trend studies would be increased from three to approximately thirty over the life of the plan. Aerial flights would continue to be conducted every three years to monitor big game herd distribution. Four existing vegetation treatments to improve elk and deer habitat would be monitored on a two-per-year schedule, and any future improvements would also be monitored.

Up to 5,000 acres of important shrub communities which contain mountain mahogany, serviceberry, bitterbrush, and aspen would be monitored annually. No additional AUMs above those presently allocated for elk and deer would be anticipated. In the event that new or additional forage becomes available, it would be divided between livestock and wildlife.

A shrub-seedling planting program would be initiated to improve crucial winter ranges. Wildlife habitat treatments in evenage stands of aspen, such as burnings or cuttings, would be increased from 30 acres to 300 acres over the life of the plan, and riparian treatments to improve, modify, and provide a higher quality winter elk and deer forage would be increased. A habitat improvement program would be initiated to improve crucial winter ranges.

Pronghorn Antelope Habitat. Studies and inventories would be conducted within existing habitat areas to determine their condition and trend, identify critical fawning areas, and to evaluate the relative success of the Chance Gulch and South Parlin Flats pronghorn reintroduction. Total forage allocated to wildlife would be adjusted to provide more AUMs for pronghorn antelope if the need arises.

Bighorn Sheep Habitat. Inventories would be conducted on 2,000 acres annually over the next four years to identify lambing areas, lambing dates, and important wintering and summer concentration areas. At the completion of the inventories, monitoring studies would be established. A recent transplant within Cochetopa Canyon would require additional monitoring studies to analyze the success of the reintroduction.

Sage Grouse Habitat. Twelve miles of riparian habitat would be inventoried annually within sage grouse high use areas to determine brood use. Vegetative types on approximately 60,000 acres of sagebrush areas would be inventoried and mapped during the life of the plan. Cooperation would continue with CDOW on monitoring 10-15 strutting grounds annually. Existing enclosures and gabion projects designed to enhance riparian zones for sage-grouse brood-rearing habitat would be maintained at a rate of three per year. Additional projects would occur if riparian inventories indicate a need.

Habitat for Non-game Wildlife. Increased consideration would be given to non-game species and habitat during the development of Coordinated Resource Management Activity Plans (CRMAPs), AMPs, HMPs, Forest Management Plans (FMPs), and project and treatment plans. Raptor inventories would be updated throughout the planning area.

Fishery Resources (Aquatic Habitat)

One hundred eighty seven miles of fishery streams would be inventoried and prioritized and information gathered during the inventories would be used to develop site-specific management and project needs. Management strategies and projects to improve fisheries habitat would be implemented on high priority streams first. Fishery streams and their associated riparian zones that are, or would potentially be, impacted from other land uses and streams where changes in management or habitat improvement projects have been implemented would be monitored. Fishery objectives within the existing HMP for the Gunnison Resource Area would be accomplished at the current rate.

Livestock Grazing Management. Management of livestock grazing would follow direction in the 1987 Rangeland Program Summary (RPS) and future updates. A total of 548,293 acres would initially be available for livestock grazing use in three management categories: "M" allotments containing 68,365 acres, "I" allotments containing 465,205 acres,

and "C" allotments containing 14,723 acres. Current active preference is 47,428 AUMs. New or additional available forage would be divided between livestock and wildlife. Existing livestock facilities and land treatments would be maintained. New facilities or land treatments would be constructed or implemented if needed to achieve AMP objectives within the limits of this alternative. Existing allotment categorization or re-categorization would determine management and monitoring intensity. Monitoring studies would continue to be conducted according to Gunnison Resource Area's monitoring plan and the 1987 RPS update.

Existing annual livestock/forage utilization monitoring results would be evaluated to determine areas in riparian zones that are consistently being grazed in the heavy range. Factors resulting in these conditions, and the existing condition of these areas would be determined, and adjustments would be made in grazing systems, seasons of use, classes of use, allotment categorization, and possibly to local improvements, such as water source developments, in order to achieve a proper utilization level or range. Temporary decreases in forage allocations would be made if necessary in order to achieve a proper range of utilization. These changes and possible adjustments would remain in effect until new AMPs or CRMAPs are developed and implemented, or revised AMPs are implemented. These new or revised plans would consider the above changes or adjustments, the existing conditions when AMPs or other plans are updated or developed, and the circumstances that initiated the changes or adjustments. The changes or adjustments could be continued, modified, or revoked, depending upon the circumstances listed above. It is anticipated that approximately 28 AMPs would be revised and approximately 10-20 new AMPs or CRMAPs would be developed.

In addition to the above management, livestock grazing on public lands would continue to be managed to improve or maintain the condition of the following 20 miles of riparian areas:

Spring Creek (0.25 miles) - within an 80-acre pasture which is managed with fall grazing restrictions and limits on utilization levels.

Middle and East Forks of Powderhorn Creek (18.5 miles) - managed with limits on utilization levels and season of use.

Razor Creek (0.5 miles) - managed with limits on utilization levels and season of use.

Los Pinos Creek (0.5 miles) - 40-acre pasture being rested; decision on management is forthcoming.

Additionally, public Lands within and along the following nine miles of riparian zones would continue to be unavailable for livestock grazing.

Trout Creek in the Powderhorn Wilderness Study Area (WSA) (3.25 miles) - The area known as the Elk Pasture

Red Creek (1.5 miles) - below the Sapinero State Wildlife Area

East Elk Creek (1.5 miles) - below the Sapinero Wildlife Area

North Beaver Creek (0.75 miles) - above the Gunnison State Wildlife Area

Slate River (approximately 0.75 miles)

West Antelope Creek (1.0 miles)

Public lands would continue to be unavailable for livestock grazing on 320 acres of public land in the Wildcat Gulch drainage to help maintain and protect the quality of Crested Butte's water supply.

Approximately 600 acres of public land within the Sapinero State Wildlife Area, approximately 1,900 acres along and west of North Beaver Creek, and 3,496 acres known as Elk Pasture in the Yeager Gulch area would continue to be unavailable for livestock grazing in order to protect elk and deer crucial winter ranges.

Ten miles of livestock fences would be modified over the life of the plan in order to facilitate pronghorn antelope movement. Grazing system development would include measures that improve pronghorn antelope habitat. A cooperative noxious weed control program would be initiated with county governments within the planning area.

Forest Management. Suitable commercial forest lands containing 44,062 acres, and 19,262 acres classified as suitable woodlands would be managed on a sustained yield basis as determined by the Timber Production Capability Classification (TPCC). The annual harvest of commercial timber and other forest products would be approximately 1.2 MMBF of saw timber, 400 cords of fuelwood, 400 wildings, and several hundred Christmas trees. Additionally, 15,000 acres would be inventoried for TPCC and 50 acres of reforestation, and 50 acres of site preparation work would be completed annually. A Forest Management Plan would be completed.

No timber harvesting would be allowed from May 1 to June 30 in all elk calving areas to prevent disturbance to calving elk. The harvesting of timber or timber products within existing WSA boundaries would not be permitted. Special emphasis would be placed on the harvest of over-mature, pest, and disease-killed trees. Commercial timber harvests would be restricted or precluded within or adjacent to riparian areas or live streams on a case-by-case basis.

Recreation Management. Recreation resources would be managed for a diversity of recreation opportunities in highly desirable settings within three SRMAs: Alpine SRMA (107,110 acres), the Powderhorn Primitive Area SRMA (43,311 acres), and the Cochetopa Canyon SRMA (2,560 acres). See Appendix F for SRMA boundaries. The public lands not within SRMAs (approximately 432,031 acres) are within the Gunnison Resource Area Extensive Recreation Management Area (ERMA) and would be managed for a diversity of recreation opportunities in a variety of settings. The levels of use and associated recreation management would be more extensive than in the SRMAs.

The number of recreation visitors to the Planning Area is expected to increase by about 30% under this alternative.

Some new recreation sites or facilities proposed in existing RAMPs would be developed, existing sites would be maintained, and recreation use would be monitored. All developments and facility construction would conform to guidance and direction within the existing RAMPs or activity plans. Recreational resources within the planning area would also be managed according to the goals of BLM's Recreation 2000 program and existing RAMPs would be updated to accommodate these goals. Motorized vehicular use would be managed and permitted according to existing Off-Highway Vehicle (OHV) designations on public land within the planning area. Some minor changes would be made to existing designations by amending the existing MFPs. Refer to Appendix F for a map showing OHV designations within the planning area.

Table 3-1

OFF-HIGHWAY VEHICLE DESIGNATIONS

OHV DESIGNATIONS	ACRES OF PUBLIC LAND AFFECTED[2]
Open	373,916 (64%)
Limited Seasonally (Dec. 1 - March 31)[1]	74,707 (13%)
Limited Yearlong	92,927 (16%)
Closed (Powderhorn Primitive Area)	43,462 (7%)

Notes: [1] Public lands within the McIntosh, Signal Peak, Tomichi, South Parlin Flats, and the Sapinero Mesa wildlife wintering areas contain seasonal OHV limitations that would be implemented if necessary to prevent disturbance to elk and deer within big game crucial winter range.

[2] Percent figures are the percentage of the public land in the Planning Area.

The Alpine Loop within the Alpine Triangle SRMA would continue as a National Backcountry Byway. The area would continue to be managed for motorized recreation; management goals for the byway would not change significantly from those of the SRMA and would compliment BLM's Recreation 2000 goals.

Wild and Scenic River Study Segment. The 13.3 mile long Segment A of the Lake Fork of the Gunnison River would not be recommended as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System (see map in Appendix I). Until a final decision on designation or non-designation is made, BLM would not initiate or authorize actions within the study segment that would impact any outstandingly remarkable values or the free-flowing condition of the river. Motorized vehicle use would be limited to designated roads. Public lands in the segment would be managed for a combination of Semi-Primitive Non-Motorized, Semi-Primitive Motorized, and Roaded Natural ROS settings, as per the existing RAMP for the SRMA. About 330 acres within the "Loop Road" withdrawal (C-0125423) would continue to be withdrawn. The federal oil, gas, and geothermal estate would be open to leasing with standard terms except where prohibited. Mineral materials would be available for disposal on a case-by-case basis. About 3,105 acres in "I" category allotments would continue to be available for grazing. Public lands would be managed according to VRM Class II objectives. About 2,727 acres in Handies Peak WSA and 582 acres in Redcloud Peak WSA in the segment would be managed according to BLM's IMP for lands under wilderness review. Other resources and values in the segment would be managed according to the resource management in this alternative.

Visual Resources. The visual resources within the planning area would be managed according to existing Visual Resource Management (VRM) class objectives and guidelines. (VRM Class I - 43,590 acres; VRM Class II - 173,510 acres; VRM Class III - 126,645 acres; VRM Class IV -236,845 acres; VRM IIR, IIIR, and IVR - 4,422 acres). The 2,318 acre "Loop Road" scenic withdrawal in the Alpine Triangle SRMA would be continued. Appendix C contains definitions of BLM's VRM class objectives and a brief description of the VRM system.

Wilderness Study Areas. Approximately 114,257 acres of Public land within the six BLM WSAs, including approximately 84,552 acres within four WSAs that have been recommended to Congress for wilderness designation, would be managed under BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review (IMP) until Congress makes a decision on wilderness recommendations within the planning area. Those grazing, mining, and mineral leasing uses existing when FLPMA was approved on October 21, 1976, may continue in the same manner and degree as on that date, even if the use would impair wilderness suitability.

Mineral leasing in WSAs would be prohibited by existing legislation until the legislation no longer prohibits leasing, or Congress formally releases lands within WSAs from further consideration for wilderness designation.

Mining operations occurring within WSAs as of October 21, 1976, may continue in the same manner and degree as long as they do not cause unnecessary or undue degradation. Mining locations proposed after this date, however, are subject to the non-impairment requirements for all operations proposed. If, during the life of the plan, Congress designates public lands in any part of any WSA in the planning area as wilderness, those lands would be managed as wilderness and a management plan would be prepared. If, during the life of the plan, Congress acts on and decides to not designate any part of any WSA in the planning area as wilderness (effectively removing it from WSA status), those public lands would be managed according to existing and future regulations, laws, and policies applicable to public lands. Public lands in the Powderhorn Instant Wilderness Study Area would be managed according to objectives for the Powderhorn SRMA and Primitive Area guidelines. Public land in the remaining five WSAs would be managed as part of the Alpine SRMA.

See Chapter Two, Affected Environment, for information about the WSAs in the planning area,

and for information on lands recommended to Congress for wilderness designation.

Archaeological Resources. Archaeological resources would be managed according to existing legislation and BLM policy. Measures designed to protect significant resources would be required in all land use activity plans. Class I and III inventories and clearances would continue to be consulted and conducted prior to all surface disturbing impacts.

Historical Resources. The Resource Area would continue to maintain and monitor 26 known BLM historic sites within the planning area. The opportunity exists for continued inventory and the identification of historic values to ensure their future protection in accordance with Section 106 of the National Historic Protection Act of 1966 (as amended) and other appropriate legislation. Stabilization projects for significant and unique sites, or where safety is a concern to the public would continue. Measures designed to protect significant resources would be required in all land use activity plans. Class I and III inventories, and clearances, would continue to be consulted and conducted prior to all surface disturbing impacts.

Paleontological Resources. No surface disturbing activities would be allowed in any area where potential for paleontological values exist until inventories are conducted and appropriate protective measures developed to protect any significant fossils.

Transportation and Access. The existing transportation system would continue to be managed to provide 935 miles of roads and 110 miles of hiking and horse trails within the planning area. The BLM would continue to provide 333 miles of road access and 110 miles of trail access under its jurisdiction. The 32 BLM easements allowing access across private land to public land would be continued. Efforts to acquire easements into additional areas would continue. See Table 3-2 for a priority listing of easements that would be acquired.

Table 3-2

EASEMENT PRIORITIES

PRIORITY	GENERAL LOCATION	BENEFITTING RESOURCES/RESOURCE USES
1	Fourth of July Creek (foot access only)	Grazing management, recreation management
2	Little Willow Creek	Forest management, grazing management, recreation management
3	Sandy Draw	Forest management, grazing management
4	Alpine Gulch (foot access only)	Recreation management
5	Bead Creek Road	Recreation management
6	Rock Creek Park	Forest management, grazing management, recreation management
7	Vulcan - Big Mud Pond	Forest management, grazing management, recreation management
8	Poison Draw - through Ute Mountain	Forest management, grazing management, recreation management
9	Huntsman Mesa to 9-Mile Hill	Grazing management, recreation management
10	Deer Beaver	Forest management, grazing management, recreation management

Disposal of Public Lands. Disposal of public lands by competitive bid sale would not be proposed until exchange opportunities have been exhausted for 27 isolated tracts identified as potentially available for disposal in the two existing MFPs. Refer to Appendix D for a listing of the legal descriptions of potential disposal tracts and the disposal criteria. Land exchanges would continue in the planning area on a case-by-case basis, based upon the public benefit and other merits of the exchange. No specific tracts are proposed for disposal through exchange, but it is estimated that 3 or 4 tracts totalling approximately 1,500 acres could be disposed of over the life of the plan. Prior to disposal of any tract identified in an exchange or sale proposal, all resources would be managed at current levels. A site specific, case by case analysis would be required prior to disposal of any of the 26 tracts. Minimal funds, if any, would be spent for improvements on these lands. Federal mineral estate would be conveyed with surface estate where it is feasible and in the public interest.

Direct sales of public lands could be conducted to resolve specific management problems provided the public sale criteria in Section 203 of Federal Land Policy and Management Act (FLPMA) could be met.

Acquisition of Non-Federal Lands. No specific tracts of non-federal lands have been identified for acquisition. When opportunities arise, criteria in the Federal Land Policy and Management Act (FLPMA) and in Appendix M would be utilized, whether through exchange or purchase on a willing seller-willing buyer basis.

Rights-of-Way. Public lands within the planning area would be open to the location of rights-of-way, subject to standard terms and conditions, and any special mitigation or stipulations contained in records of decision issued for each authorization.

Rights-of-Way Corridors. There would be no rights-of-way corridors designated in this alternative.

Fire Management. Wildfires on public land would be managed under the "conditional suppression" policy unless located within a "full suppression" area. Within conditional suppression areas there are public lands on which wildfires would be managed under a full suppression policy in order to protect non-federal property, life, and safety, and to protect valuable public investments on public lands. Prescribed fires for resource management would occur according to approved fire management plans and National Environmental Protection Act (NEPA) documentation. Refer to Appendix I for a map showing fire suppression areas within the planning area for this alternative.

Withdrawals and Classifications. All existing withdrawals would continue to be reviewed on a periodic basis to ensure their consistency with current management objectives. Lands segregated from appropriation under the public land laws would not be disposed of prior to the modification, termination or revocation of the withdrawal. Public Water Reserves (PWRs) would also be reviewed to quantify water resources present. If public lands under withdrawal to another agency are relinquished, these lands would be managed according to the management for adjacent public lands.

Water Power and Storage Reservoir Sites. Public lands in the Planning Area withdrawn for water power purposes would be managed according to any constraints contained in the orders or segregations that withdrew these lands. These lands would not be subject to further consideration for disposal unless the lands are no longer needed by the agency holding the withdrawals. Those inventoried and potential waterpower/storage sites would be restrictively managed for these purposes unless higher priority resource uses would occur.

Areas of Critical Environmental Concern. No areas of public land within the planning area would be designated as Areas of Critical Environmental Concern (ACECs) in this alternative.

Hazards Management. Hazard sites/areas would be reviewed on a case-by-case basis. Management of other resources would include any needed reclamation of known hazard sites/areas as part of fulfilling objectives for management of that resource. On completion of this RMP, a hazard reclamation activity plan for known sites/areas would be developed. If the known hazard site is in or adjacent to an area where a coordinated resource management activity plan (CRMAP) is to be done, the reclamation activity plan would be combined with that CRMAP.

Existing sites/areas from past mineral development, which are considered to be potentially hazardous because of high side walls, deep pits, etc., would very likely continue until the Colorado Mined Land Reclamation Hazard abatement project is completed. The goal of this long-term project is to eliminate the hazards of these sites/areas, and BLM would continue to fully cooperate with this agency in this effort.

The Bureau would continue to control trespass dumping on BLM lands through increasing public awareness, signing, and monitoring these site/areas.

Law Enforcement. Bureau patrols and law enforcement activities would be conducted by authorized personnel on a priority order and basis, as needed. Information dissemination and education regarding BLM resource management and regulations would be carried out during visitor or public contacts by BLM ranger(s).

ALTERNATIVE B

OBJECTIVES AND RESOURCE RANKINGS

The objectives of alternative B are to emphasize and/or be compatible with those resources which promote recreational opportunities and increase tourism as well as to promote economic stability and quality of life within the planning area. Any resource use or activity would not be limited or restricted so long as it did not impair or diminish the recreational and/or tourism qualities. Modifications to existing management levels could include increases or decreases, depending on the resource and its compatibility with this alternative objective.

Since resources have been ranked according to their ability to meet the objectives of this alternative, management actions proposed within this alternative for higher-ranked resources could result in conflicts or incompatible situations with lower-ranked resources. Thus, in this alternative, recreation, visual resource management objectives, and soils and water resource management objectives would generally take precedence in the planning area wherever conflicts could occur. Conflicts among other ranked resources were usually resolved with higher-ranking resources taking precedence throughout the planning area. In certain instances, however, laws, regulations, or policy required that some management actions would receive overriding priority in conflict resolution regardless of ranking, i.e., protection of threatened or endangered species and historical/archaeological resources, according to applicable legislation.

All actions proposed under this alternative would comply with current applicable state and federal regulations, standards, and policies.

Table B-1 lists the relative ranking of resources, uses, and programs within this alternative. The non-ranked resources and/or program support functions which were considered in this alternative are also listed.

MANAGEMENT UNIT SUMMARY

Table B-2 lists the management units in this alternative by numbers corresponding to the management units shown on map 1, Alternative B. Acres of public land and important values within each management unit are also shown.

STANDARD MANAGEMENT FOR ALTERNATIVE B

Some resource management programs would be implemented according to standard management directions throughout the planning area under this alternative. Management of resources identified as a result of future inventories or discoveries would generally be the same as for resources discussed and identified in this RMP/EIS. Unless changes in or additions to standard management directions are specifically addressed in the prescription for each Management Unit, these resources, programs and activities would be managed as follows:

Air Quality. Activities and projects on public land would comply with applicable local, state, and federal air quality regulations. Mitigation to minimize air quality degradation would be incorporated into project proposals as necessary. Additional air quality monitoring may be implemented by BLM when necessary.

Table B-1

RELATIVE RANKING OF RESOURCES FOR ALTERNATIVE B

RANKING OF RESOURCES OR RESOURCE USES	NON-RANKED RESOURCES AND/OR PROGRAM SUPPORT FUNCTIONS
1. Recreation	Withdrawal review
2. Visual resources	Fire management
3. Soils and water resources	Archaeological resources
4. Riparian zones	Access needs
5. Wildlife habitat	ROW exclusion and avoidance areas
6. Historic resources	Non-game wildlife habitat
7. Special status plant & animal species\habitat	No surface occupancy restrictions
8. Livestock grazing management	Other restrictions
9. Forest management	Land tenure (acquisition/disposal)
10. Water power & storage reservoir sites	Social & economic conditions/concerns
11. Minerals (leaseables, locatables, saleables)	Off-highway vehicle designations
12. Rights-of-way corridors	Air quality
	Paleontological resources
	Hazards management

Table B-2

MANAGEMENT UNIT ACRES AND VALUES IN ALTERNATIVE B

MANAGE-MENT UNIT	ACRES OF PUBLIC LAND	PERCENTAGE OF THE PLANNING AREA[1]	IMPORTANT VALUES, RESOURCES OR LAND USES
B-1	48,033	8%	Visual resources, recreation
B-2	88,663	15%	Recreation, historic resources, visual resources
B-3	4,685	Less than 1%	Recreation, visual resources, historic resources
B-4	4,625	Less than 1%	Threatened and endangered species
B-5	29,060	5%	Wildlife, livestock grazing
B-6	37,503	6%	Wildlife, livestock grazing
B-7	15,758	3%	Recreation, wildlife
B-8	2,560	Less than 1%	Recreation, visual resources
B-9	7,635	1%	Riparian, wildlife, fisheries, livestock, grazing
B-10	7,298	1%	Riparian, wildlife, fisheries, livestock, grazing
B-11	118,186	20%	Wildlife, livestock grazing
B-12	6,878	1%	Wildlife, livestock grazing
B-13	13,777	2%	Wildlife, livestock grazing, forestry
B-14	21,870	4%	Wildlife, soils, livestock grazing
B-15	145,417	25%	Livestock grazing, recreation, forestry
B-16	6,900	1%	Forestry
B-17	3,540	Less than 1%	Minerals-geothermal
B-18	1,830	Less than 1%	Minerals-coal
B-19	1,193	Less than 1%	Minerals-locatables
B-20	19,601	3%	General land uses, recreation, wildlife

Notes: [1] Rounded to whole numbers; % of public land (surface estate) in the Planning Area that is located in each management unit in this alternative.

Locatable Minerals. Federal mineral estate in areas not under withdrawal would be open to entry and location under the general mining laws. Within designated Areas of Critical Environmental Concern (ACECs) plans of operation would be required to be submitted for proposed locatable mineral activity regulated and authorized by BLM's surface management regulations.

Oil, Gas, and Geothermal Resources. Federal oil, gas, and geothermal estate on both federal surface and split-estate lands (private or other non-federal surface estate overlying federal mineral estate) would be open to leasing with standard lease terms. Other special stipulations and conditions for leasing such as no surface occupancy and seasonal restrictions are assigned or specified in each management unit prescription and as deemed necessary; these special stipulations and conditions would also apply to federal surface and split-estate lands. Any special conditions and stipulations (i.e., seasonal closures) prescribed for a management unit would also apply to seismic and drilling activities. See Appendix K for special stipulations and conditions for leasing on both federal surface and split-estate lands, and for an explanation of how stipulations assigned to split-estate lands would be applied, reviewed, waived, modified, or excepted, based on verification of surface and mineral estate resource information by BLM during review of Applications for Permit to Drill (APDs). The most reasonable foreseeable level of oil, gas, and geothermal development throughout the planning area would involve a maximum of one APD during the life of the plan, with an estimated total of ten acres of surface disturbance. Leasing of any federal minerals within existing Wilderness Study Areas (WSAs) would be prohibited according to existing legislation until either WSAs are released by Congress by non-designation or other Congressional action, or until leasing is no longer prohibited by legislation.

Saleable Minerals. Disposal of mineral material on federal mineral estate would be permitted. Disposal of mineral materials from specific areas is discretionary with the authorizing official and would be determined on a case-by-case basis. Disposal of mineral materials within power site reserves or within other agency withdrawn lands would require approval of the agency reserving the withdrawal.

Soils and Water Resources. Soil and water resources would continue to be monitored to define problem areas, develop management strategies, and to determine effectiveness of solutions. Vegetation treatments on soils having a moderate to severe erosion potential, and lacking adequate plant basal cover (see Montrose District Soil Erosion Monitoring Guidelines), would be designed and managed to increase plant basal cover, therefore reducing erosion. Vegetation treatments would be designed and implemented in accordance with the Montrose District Rangeland Treatment Handbook. The sediment control plan for Long Gulch, and other similar plans, would continue to be implemented. Water rights would be applied for where appropriate. Best management practices would be employed to reduce soil erosion and water quality deterioration, and would be required in all plans involving surface disturbance.

Vegetation. Manage vegetation resources to maintain or achieve at least a late seral ecological status. This would be accomplished by maintaining or improving the vigor, production and diversity of desirable plants within alpine, sagebrush/mixed mountain shrub, and woodland types at a level to support a variety of resource uses, including, but not limited to livestock grazing, wildlife habitat and recreation.

Specific, desired plant communities would be identified in activity plans. Exceptions to a late seral ecological status needed to meet objectives would be identified in activity plans.

In riparian areas, maintain, restore, or improve riparian values, including the diversity, vigor, and quantity of herbaceous and woody plants necessary for the 1) hydrological functioning of riparian systems, 2) the control of accelerated soil erosion, and 3) sustained high quality livestock forage and wildlife habitat.

Riparian Zones. Riparian areas would be managed to maintain, restore, or improve overall conditions in order to provide quality recreation opportunities.

Riparian areas would be inventoried and prioritized where necessary to determine site-specific management strategies. Strategies, projects, or improvements would be included in activity plans or Coordinated Resource Management Activity Plans (CRMAPs) and would be implemented first in higher priority areas. New water sources would be developed with concern for the protection of riparian areas. Existing water source developments within riparian areas would be modified, or the water would be conveyed outside of riparian areas, if inventories and studies indicate the hydrologic condition is being negatively impacted. Existing riparian demonstration areas and improvements would be maintained.

Road construction would occur in riparian areas only when a feasible alternative route cannot be found; in riparian zones, roads would cross at an angle as close to 90 degrees as possible, would not be located parallel to drainages or streams, and would adhere to BLM standard designs and widths. Existing roads could be relocated or modified if degradation of the aquatic or riparian system is occurring. No commercial timber harvesting or associated activities would occur in riparian areas other than that necessary in implementing other actions. Trees cut adjacent to riparian areas would be felled in a direction away from the riparian area, or in such a manner as to minimize riparian area disturbance. Tracts of land which would enhance the recreational opportunity or ecological value of existing riparian areas would be identified for acquisition during the riparian inventory. Measures designed to minimize site-specific riparian deterioration would be required in plans for surface-disturbing activities.

Special Status Plant and Animal Species and Habitat. Habitat supporting existing populations of threatened and endangered species (T&E sp.) including candidate and BLM sensitive species would be maintained and protected to ensure suitable habitat conditions and viable populations. T&E sp. would continue to be inventoried and monitored to provide information for future management. Measures to protect T&E sp. and associated habitat would be required in all plans for surface-disturbing activities. Supplemental releases and/or reintroduction of T&E sp. and candidate or BLM sensitive species could be authorized following preparation of a release or reintroduction plan and environmental analysis, and consultation with the United States Fish and Wildlife Service (USFWS), Colorado Division of Wildlife (CDOW), and other affected parties.

Wildlife Habitat Management.

Terrestrial Wildlife and Habitat

Elk and Deer Habitat: The Habitat Management Plan (HMP) for the planning area would be revised and implemented consistent with BLM's Fish and Wildlife Plan for Colorado - Program for the Decade. Measures to increase important deer and elk winter forage shrub species on uplands and riparian areas within crucial winter ranges would be determined and treatments implemented through activity plans to help achieve CDOW long-range herd goals of 9,000 elk and 16,600 deer. Forage allocations would not be reduced and new or additional available forage would be allocated, in priority order, 1) to protect and enhance watershed resources, 2) for wildlife habitat, and 3) for livestock grazing. Crucial winter range and commercial forest lands would be inventoried for condition, and monitored for utilization and trend relative to big game habitat. Public lands would be inventoried to identify elk calving areas. Acquisition of non-federal lands to increase or enhance management of big game crucial winter range would be emphasized. Reductions in CDOW's elk and deer long-range herd goals would be recommended for an interim period in certain Game Management Units (GMUs) until the vigor and production of the important forage shrubs on crucial winter ranges increases such that habitat would support long-range herd numbers. See Appendix A for long-range herd goals, and interim numbers to be recommended.

Pronghorn Antelope and Bighorn Sheep Habitat: Inventories would be completed to identify suitable areas in which to establish new populations of bighorn sheep and pronghorn antelope; supplemental releases and reintroduction could be authorized by the District Manager following environmental analysis. Pronghorn antelope and bighorn sheep habitat on public lands would be managed for 500 animals of each species. Inventories would be conducted to identify bighorn sheep lambing areas and suitable winter range.

Monitoring studies would be established within pronghorn antelope ranges.

Sage Grouse Habitat: Identified sage grouse brood-rearing habitat and nesting areas, and winter habitat would be maintained or improved. Sagebrush and riparian vegetation would be managed to achieve a harvest goal of 1000 grouse annually. All sage grouse strutting grounds (leks) would be protected from destruction. No surface-disturbing activities would be permitted within 1/4 mile of all leks during the April 1 through May 31 strutting season to prevent disturbance to mating sage grouse.

Non-game Wildlife Habitat: The quality of endemic non-game animal species habitat would be enhanced by 1) improving and/or maintaining a variety of native plant species and vegetative structure in upland and riparian areas, 2) improving the ecological condition of sagebrush communities, and 3) improving or maintaining non-game habitat within commercial forest lands. Raptor nesting inventories and monitoring studies would be updated to identify nesting areas and establish population trends. Measures and stipulations in Appendix A, designed to prevent disturbance to raptors through their post-fledgling period, would be considered in all plans involving surface disturbance.

Fishery Resources (Aquatic Habitat)

Fishery streams with riparian areas would be managed to improve or maintain fishery habitat and associated riparian conditions (hydrological, soil and vegetation) in order to provide quality recreation opportunities. Fishery streams and aquatic habitat would be inventoried and monitored to determine site-specific management strategies to restore and enhance fishery resources for quality recreation opportunities. Inventory information would be used to determine strategies, projects, or improvements to be included in a revised Resource Area Wildlife HMP, CRMAPs, and other activity plans as they are prepared or revised. The objectives and goals contained within the BLM and Forest Service Recreational Fisheries Policy, 1990, or as amended, would be implemented to the degree that meets the objectives of this alternative.

Instream flow appropriations would be pursued on 113 miles of fisheries streams to ensure a sufficient amount of water for fisheries and adjacent riparian areas.

Surface disturbing activities would be designed with measures to prevent degradation to fishery stream channels and associated riparian habitat.

Livestock Grazing Management. Suitable public lands would be available for livestock grazing use. Livestock grazing would be authorized and managed with the goal of improving the conditions of forage and rangeland resources. Livestock grazing would be managed at current forage allocation levels based on the 1987 Rangeland Program Summary (RPS) for the Gunnison Resource area and updates until studies and/or monitoring indicates adjustments are needed. Some Management Unit prescriptions modify these levels in order to reduce conflicts with recreation and visual resource management goals, and soils, water, and riparian area management.

The following Interim Grazing Management Criteria (IGMC) would be implemented within the noted areas to correct uneven utilization patterns and premature turnout dates until CRMAPs or Allotment Management Plans (AMPs) are developed or revised.

1. Range readiness criteria (soil condition and the phenological stage of key forage species as described in the Rangeland Monitoring Plan for the Gunnison Resource Area) would determine when grazing would begin in the spring throughout the planning area. Range conditions in allotments would be monitored for three years following any newly established turnout dates in order to establish average turnout dates. Range readiness would remain the deciding factor in modifying average turnout dates. Earlier turnout dates could be established for allotments managed under an AMP.

2. Total forage utilization, including that by livestock, would be managed as follows: a) A minimum stubble height of 6 inches would be maintained for key herbaceous forage species within riparian zones containing important sage grouse brood habitat (59

miles in Management Unit B-10), to provide cover for sage grouse chicks, to improve general riparian ecosystem conditions, and to help increase the proportion of native bunch grasses. b) A minimum stubble height of 4 inches for key forage species would be maintained within riparian zones containing a fishery stream in order to improve stream and streamside conditions, including soils and vegetation in these associated riparian zones. c) A minimum stubble height of 2-1/2 inches would be maintained for key forage species within all other riparian zones in order to provide protection for plants and soils, quality wildlife forage and cover, and to allow soil moisture recharge during spring runoff. d) Livestock utilization would not exceed the moderate level (40-60% of the current year's growth by weight of key forage species on uplands in the "I", "M", and "C" allotments in order to protect plants and soils, provide for quality wildlife forage and cover, and to allow soil moisture recharge during spring runoff.

Lands unavailable for livestock grazing would continue to be unavailable.

Allotment Management Plans within all "I" category livestock grazing allotments would be developed or revised based on objectives in the Gunnison Resource Area's 1987 Rangeland Program Summary and updates.

New or additional available forage would be allocated in priority order, 1) to protect and manage watershed resources, 2) for wildlife habitat, and 3) for livestock grazing. Existing livestock facilities would be maintained. New livestock facilities and land treatments would be developed according to existing, new, or revised Allotment Management Plans. Rangeland vegetation monitoring and inventory for condition, trend, and utilization patterns would continue, in order of priority, to develop Allotment Management Plans and within "I" category allotments. Existing categorization of allotments would continue.

A cooperative noxious weed control program would be initiated with county governments within the planning area.

Forest Management. Suitable commercial forest lands and woodlands would be managed for sustained yield production within the allowable cut restrictions and guidelines determined by the Timber Production Capability Classification (TPCC) inventory. Special emphasis would be placed on the harvest of over-mature and pest-killed trees. Harvest of commercial timber on slopes greater than 35% would be restricted to cable or helicopter methods only. Timber sales would be designed to allow sufficient elk cover along logging roads. Commercial timber harvests or associated harvest activities, such as logging decks, would not be permitted in riparian areas, other than that necessary in implementing other actions or activities.

Recreation Management. Recreation resources within The Alpine Triangle and Cochetopa Canyon Special Recreation Management Areas (SRMAs) would be managed according to the existing RAMP and activity plan. The Powderhorn SRMA would be managed for primitive recreation opportunities and experiences. Public lands in the Alpine Triangle SRMA would be managed according to a range of Recreation Opportunity Spectrum (ROS) settings from Primitive to Rural, as shown on maps in the RAMP for the SRMA. Public lands in the Cochetopa Canyon SRMA would be managed for a Roaded Natural ROS setting. The Powderhorn Primitive Area SRMA would be managed according to Primitive and Semi-Primitive non-motorized ROS settings. The Gunnison Extensive Recreation Management Area (ERMA) would be managed for a diversity of recreation opportunities and non-conflicting, small-scale recreation facilities would be developed. An activity plan would be prepared and Recreation Opportunity Spectrum (ROS) settings determined for the ERMA. Recreation priorities and goals within BLM's Recreation 2000 program would serve as general direction for recreation development and management.

The number of recreation visitors to the Planning Area is expected to increase by about 50% under this alternative.

Unless otherwise mentioned in management unit prescriptions, the public lands would be open to motorized vehicular traffic in the planning area. See map in Appendix F for Off-Highway Vehicle (OHV) designations for this alternative.

Wild and Scenic River Study Segment. The 13.3 mile-long, 1/2 mile wide Study Segment A of the Lake Fork of the Gunnison River (see map in Appendix I) would be recommended as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System, under the "Recreation" classification. The study segment in this alternative is located entirely in Management Unit B-2. Until a final decision on designation or non-designation is made, BLM would not initiate or authorize actions within the segment that would impact any outstandingly remarkable values or the free-flowing condition of the segment. Upon recommendation of the segment for designation by the President to Congress, public lands in the segment would be, for three years, withdrawn from mineral entry and location under the general mining laws and, for the same period, would be segregated from all forms of appropriation under the general land laws. Mineral leasing would occur according to management objectives under minerals in Management Unit B-2. Motorized vehicle use within Study Segment A in unit B-2 would be limited to designated roads. A management plan would be prepared for the segment and would include objectives and actions for the period prior to and after designation. Resources in the segment would be managed according to a combination of semi-primitive non-motorized and semi-primitive motorized ROS settings. See the prescription for Unit B-2 for management of resources in Segment A not mentioned here.

Visual Resource Management. Public lands would be managed to comply with the Visual Resource Management (VRM) classes and objectives (VRM I through VRM IV) contained in each Management Unit prescription. See Appendix F for a description of the management objectives for each VRM class.

Rehabilitation would be considered for VRM Class II R, III R, and IV R areas that contain existing man-made visual intrusions. Any public lands designated wilderness would be classified as VRM I lands.

Wilderness Study Areas. Wilderness Study Areas would be managed according to BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review, including all areas currently recommended to Congress for wilderness designation, until Congress decides on designation regarding each area. Any area(s) acted on by Congress and not designated as wilderness would be managed according to the applicable management unit prescription(s) in this alternative. Wilderness Management Plans would be prepared for any area(s) designated and the area would be managed as wilderness. See Appendix F for maps of WSAs and acreage tables of WSAs in each Management Unit in this alternative.

Archaeological and Historical Resources (Cultural Resources). Protection of cultural resource values would be considered in all land use activity plans. Class I inventory data would be consulted prior to all proposed surface disturbing activities to determine the need for inventories. Prior to surface disturbing activities occurring, Class III inventories would be conducted. Cultural resources identified or discovered would be evaluated according to BLM's Cultural Resource Use Categories and/or considered for mitigation as required by statute. Where appropriate, historic resources would be inventoried, stabilized, and interpreted to increase understanding and enjoyment for the recreating public. Measures would be designed to protect, interpret, or otherwise enhance cultural resource values in all plans for surface-disturbing activities. Inventories would also be conducted to determine archaeological site density, diversity, and distribution in order to build a data base for management of archaeological resources.

Paleontological Resources. Inventories would be completed in areas containing potential for the occurrence of paleontological resources prior to any surface disturbing activity, and measures to protect known or discovered fossil values would be implemented.

Transportation and Access. In addition to the specific access needs identified in the management unit prescriptions, the access needs identified in the resource area's transportation plan would be acquired as opportunities arise.

Disposal of Public Lands. Public lands in the planning area would be categorized as follows in this alternative for disposal and multiple use management purposes.

Category I lands: A total of 41 tracts of public land totalling approximately 3,129 acres would be identified for consideration for disposal through public sale under criteria in Section 203 of FLPMA. These tracts are shown on Map 1, the map of Alternative B. Federal mineral estate would be conveyed with surface estate where feasible and in the public interest. See Appendix D for descriptions of tracts and the sale criteria met. Disposal determination would be contingent on these lands meeting NEPA and other statutory requirements. Other means of disposal for these tracts would not be precluded. A land sale/disposal activity plan would be prepared for these tracts indicating disposal techniques, priorities, and implementation timing.

Category II lands: These are public lands exclusive of public land in Category I. These category II lands would be identified to be managed by BLM for multiple use management purposes. The lands in this category would also be identified for consideration for disposal on a case-by-case basis through exchange, boundary adjustments, state indemnity selection, Recreation and Public Purpose Act applications, or other appropriate statute or authority, if disposal serves the public interest. These lands would not be identified for consideration for disposal through public sale as covered in Section 203 of FLPMA. These lands would be available for consideration for disposal through exchange if the exchange would result in 1) consolidated land patterns, 2) improved manageability of lands and resources, especially recreation resources, or 3) if the exchange would otherwise be in the public interest, within the context of the provisions of Section 206 of FLPMA. Disposal would be contingent on actions meeting NEPA requirements. These lands are not identified on the map of Alternative B.

Acquisition of non-Federal Lands: Non-federal lands surrounded by or adjacent to Category II lands or lands categorized as being unavailable for disposal, would be considered as being suitable for acquisition on a case-by-case, willing seller-willing buyer basis in order to enhance Bureau management. Acquisition would be contingent on these lands meeting 1) NEPA requirements and 2) one or more of the criteria for acquisition found in Appendix D.

Rights-of-Way. Public lands within the planning area would be open to the location of rights-of-way, subject to stipulations in Management Unit prescriptions and standard terms, conditions, and stipulations contained in records of decision issued for each application. Right-of-way avoidance areas (where future rights-of-way may be granted only when no feasible alternative route or designated right-of-way corridor is available) and right-of-way exclusion areas (where future rights-of-way may be granted only when mandated by law) are described in each management unit prescription, if applicable.

Rights-of-Way Corridors. Public lands in Management Units B-9, B-10, B-11, B-14, B-15, and B-20, within one-half mile on either side of the centerline of the existing Western Area Power Administration's east-west 230 kv electrical transmission line (one mile total width) would be designated a Right-of-Way Corridor. Right-of-Way Windows 1000 feet in width would be designated in Management Units B-3 and B-4 along this same route. Refer to the map in Appendix D for the general location of this corridor and window. No other right-of-way corridors would be designated in this alternative.

Fire Management. Wildfires on public land would be suppressed according to a "conditional suppression" policy unless located within a "full suppression" area. Refer to Appendix L for maps showing these suppression areas within the planning area for this alternative. Within conditional suppression areas there are isolated areas (i.e., public lands adjacent to private lands, in recreation areas) where full suppression of wildfires would occur in order to protect valuable resources, investments, facilities, and property, life, and safety. Prescribed fires for resource management could occur according to approved fire management plans.

Withdrawals. Public lands currently under withdrawal would continue to be withdrawn. Modification, terminations or revocations could be recommended in Management Unit prescriptions in order to better manage resources on public lands. Management activities on withdrawn land would continue at current levels. Water sources on Public Water Reserves would be evaluated and quantified. Pending a determination of actual potential, existing Power Site

Withdrawals would be maintained. No significant long-term investments would be made on these lands unless the investment could be recovered prior to development. If public lands under withdrawal to another agency are relinquished, these lands would be managed according to the management unit prescription in which the lands are located. Periodic review of existing withdrawals would continue in order to determine if the need for each continues to exist.

Water Power and Storage Reservoir Sites. Management Units B-1 through B-12 would be recommended to be closed to water power and storage reservoir sites. Inventoried and identified potential waterpower and storage reservoir sites would be restrictively managed for these uses, especially those contributing to the achievement of water-related recreation objectives. Before any uses occur, or facilities are developed on lands withdrawn for water power purposes, that would preclude or conflict with waterpower or storage development, the Federal Energy Regulatory Commission would be contacted regarding withdrawal status and need for the site.

Areas of Critical Environmental Concern. In this alternative public lands in five Management Units (B-1, B-2, B-3, B-5, and B-6) totalling 207,944 acres would be designated as Areas of Critical Environmental Concern (ACECs), and 4,625 acres of public land in Management Unit B-4 would be designated the South Beaver Creek Research Natural Area/Area of Critical Environmental Concern (RNA/ACEC). Refer to Chapter Two, Affected Environment, and Appendix H for descriptions and maps of these areas and the ACEC designation process. These six areas would be managed according to the Management Unit prescriptions and any ACEC Management Plan(s) that would be prepared.

Hazards Management. Hazard sites/areas would be reviewed on a case-by-case basis. Management of other resources would always involve the needed reclamation of known hazard sites/areas as part of fulfilling objectives for management of that resource. On completion of this plan, a hazard reclamation activity plan for known sites/areas would be developed. If the known hazard site is in or adjacent to an area where a coordinated resource management activity plan (CRMAP) is to be done, the reclamation activity plan would be combined with that CRMAP. Existing sites/areas from past mineral development, which are considered to be potentially hazardous because of high side walls, deep pits, etc., would very likely continue until the Colorado Mined Land Reclamation Hazard abatement project is completed. The goal of this long-term project is to eliminate the hazards of these sites/areas, and BLM would continue to fully cooperate with this agency in this effort.

The Bureau would continue to control trespass dumping on BLM lands through increasing public awareness, signing, and monitoring these site/areas. A planning area reclamation activity plan would provide the details as to on-site closures, signing, site reclamation needs, etc., to implement hazard abatement.

Law Enforcement. Bureau patrols and law enforcement activities by authorized personnel would be conducted on a priority or demand basis as needed. Information dissemination and education regarding BLM resource management and regulations would be carried out during visitor or public contacts by BLM rangers.

MANAGEMENT UNIT PRESCRIPTIONS FOR ALTERNATIVE B (B-1 THROUGH B-20)

The following management unit prescriptions comprise Alternative B. Acreage figures used are approximations. Table B-2 and map 1 identify the management units that were delineated for this alternative. One Management Unit (B-4) totalling 4,625 acres of public land would be designated and managed as a Research Natural Area/Area of Critical Environmental Concern (RNA/ACEC), and five units totalling 207,944 acres of public land (B-1, B-2, B-3, B-5, and B-6) would be designated and managed as Areas of Critical Environmental Concern (ACECs) in this alternative. If not specifically mentioned, and unless modified within the following Management Unit prescriptions, resources, and programs on public lands in this alternative would be managed according to guidance in the Standard Management section above.

In all alternatives in this RMP/EIS, all Wilderness Study Areas (WSAs) in the Planning Area would be

managed under BLM's Wilderness Interim Management Policy for Lands Under Wilderness Review (IMP), including those lands that have been recommended for wilderness designation through the Gunnison Basin and the American Flats/Silverton wilderness final environmental impact statement (August 7, 1987) and the Powderhorn Wilderness final environmental impact statement. If Congress designates public lands in any part of any WSA in the Planning Area as wilderness, those lands would be managed as wilderness, and a wilderness management plan would be prepared for the areas(s). If, during the life of this plan, Congress acts on and decides to not designate any part of any WSA in the Planning Area as wilderness (effectively removing it from WSA status), those public lands would be managed according to the actions in the Management Unit prescriptions below for this alternative. Appendix F shows which WSAs occur in the various Management Units in this alternative, and WSA maps.

MANAGEMENT UNIT B-1 (Powderhorn ACEC)

Land Ownership: 48,033 acres of Public Surface; 8% of the Planning Area.

This management unit is managed as the existing Powderhorn Special Recreation Management Area (SRMA). The existing 43,582 acre Powderhorn Primitive Area is located within the unit. Few obvious human influences are apparent. The unit contains the popular Powderhorn Lakes and is characterized by a diversity of landscapes, high value/heavily visited recreation resources, and scenic natural values. The BLM surface estate within the existing primitive area is withdrawn from all forms of appropriation under the general land laws (C-17286) and from mineral entry and location under the general mining laws. A concern for resources within the unit is that concentrated recreation use occurring along existing trails and at the lakes area could potentially result in unacceptable impacts to scenic and other resources. The need to protect both the high quality and diversity of scenic and recreation values and to facilitate recreation use would be recognized as important during the formulation of management decisions affecting the area.

The unit would be designated and managed as the Powderhorn Area of Critical Environmental Concern (ACEC). An ACEC Management Plan designed to maintain or enhance visual resources and a diversity of recreational activities in a combination of Primitive and Semi-Primitive Non-Motorized ROS settings would be prepared. The outstanding visual resources and diversity of recreation values would be maintained and enhanced. Human influences would be minimized and natural processes would be allowed to occur. Hiking and horseback trails would receive periodic maintenance.

Public lands in the unit would be closed to motorized vehicular and mountain bicycle traffic, except as otherwise authorized.

Overnight camping could be restricted to designated sites within areas of concentrated use in order to isolate impacts. Maps, brochures, and interpretive documents would be made available to help educate recreation users in low-impact use. Patrols and visitor contacts would be increased to help educate users and protect scenic and recreation opportunities. Acquisition, and later, withdrawal of the state-owned mineral estate (approximately 1,980 acres) would be pursued. The Powderhorn Primitive Area title would be dropped upon designation of this unit as an ACEC.

The entire federal mineral estate in the unit would be withdrawn from mineral entry and location under the general mining laws in order to protect high quality scenic and recreation resources.

The entire federal oil, gas, and geothermal estate would be closed to future leasing in order to protect scenic and recreational resources in this unit. Disposal of mineral materials would not be permitted in the unit.

Wildlife Habitat Management. The unit would be evaluated and considered for moose introductions, which may be authorized by the District Manager following environmental analysis. Low-impact fishery and wildlife improvement projects would be permitted. Inventories would be conducted to determine elk-calving areas and to determine where, and if, conflicts occur between elk and livestock.

Livestock Grazing Management. Cattle grazing would continue to be authorized within the unit and would be administered such that ROS settings and recreation resources and experiences would not be adversely impacted. Authorized grazing improvements would be maintained using motorized access as authorized in a manner that minimizes impacts. Domestic sheep grazing including trailing would be eliminated in allotment 6112 located within the unit.

Visual Resource Management. The unit would be managed according to VRM Class I objectives.

Forest Management. Harvest of forest products would not be permitted in the unit.

Acquisition of non-Federal Lands. If available, 40 acres of private land within the unit would be acquired. State-owned mineral estate (1,980 acres) underlying Federal surface estate would be acquired as opportunities arise.

Rights-of-Way. Public land in the unit would be classified an exclusion area for rights-of-way.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

Withdrawals. The entire public surface estate within the unit would be withdrawn from all forms of appropriation under the public land laws.

Water Power and Storage Reservoir Sites. The unit would be closed to development of potential water power and storage reservoir sites.

MANAGEMENT UNIT B-2 (Alpine ACEC)

Land Ownership: 88,663 acres of Public Surface; 15% of the Planning Area

This management unit, currently managed as part of the Alpine Triangle Special Recreation Management Area, is located south and west of Lake City. The unit is characterized by 13,000-14,000 foot peaks, fragile high-country tundra, important mining-era historical resources, heavy recreation visitation, and high-quality scenic values. This unit is the most popular and heavily visited area BLM manages in Colorado, and this part of the San Juan Mountains is among the most scenic areas in the nation. Features contained within the unit include 30 inventoried historical structures associated with the recent mining period; one of two known viable breeding populations of the Uncompahgre Fritillary butterfly; 14,000 foot plus Redcloud Peak, Handies Peak, and Sunshine Peak; the Alpine Loop National Back Country Byway and adjacent public lands withdrawn to protect scenic resources; Slumgullion National Natural Landmark; the 13.3 mile-long Study Segment A of the Lake Fork of the Gunnison River, a segment eligible for inclusion into the National Wild and Scenic Rivers System; and extensive bighorn sheep habitat. Concerns within the unit include fragile tundra receiving heavy recreation use; visitor safety concerning high altitudes, open mine shafts, and vehicle use; degraded visual quality; incompatible recreation, mining, and livestock grazing land use mixes; motorized vehicle access and management; law enforcement and patrol; and vandalism, survey and inventory/recordation deficiencies, and other concerns associated with fragile historic structures. Most of the unit has a moderate to high potential for the occurrence of locatable minerals.

The unit would be designated and managed as the Alpine Area of Critical Environmental Concern (ACEC). Maintaining a diversity of recreation opportunities, including interpretation, while protecting important historic, scenic, and natural values would be emphasized within the unit. Motorized recreational sightseeing, hiking, camping, winter recreation, hunting, fishing and other recreation opportunities would be emphasized.

Motorized vehicular traffic in the unit would continue to be limited to designated routes yearlong and snowmobile operation would be permitted on snow on all public lands in the unit. These limitations on uncontrolled OHV use are necessary in order to protect and maintain Wild and Scenic River values and recreation and visual resources, and to minimize user conflicts and promote user safety.

An ACEC management plan would be prepared that would address recreation management and facility development, the anticipated 50% increase in visitor use as a result of the byway designation, historic site

management, visual resource management, and other management actions in this prescription.

The following recreation actions would be implemented (from the Recreation Area Management Plan for the Alpine Triangle SRMA), and would be included in the ACEC plan.

a) Manage public lands in the unit to provide a combination of Primitive, Semi-Primitive Non-Motorized, Semi-Primitive Motorized, and Roaded Natural Recreation Opportunity Spectrum (ROS) settings (see map in the RAMP for the American Flats/Silverton and Lower Lake Fork SRMA).

b) Include approximately two miles of the Hurricane Basin road and approximately 3.4 miles of the Red Mountain Gulch road as designated routes for motorized vehicular use.

c) Close and rehabilitate one of two parallel roads in the American Basin area that resulted from a detour. Retain the best located road for recreation use and access and conduct maintenance to prevent resource impacts.

d) Utilize signing and enforcement of OHV regulations to maintain the condition of meadows on public land in Capitol City, Burrow's Park, Sherman Townsite, and Nellie Creek areas.

e) Provide a seasonal campground host and evening interpretive services at Mill Creek Campground.

f) Implement a coniferous planting program at Mill Creek Campground.

g) Construct a small parking area adjacent to Highway 149 at the fishing access point to the Lake Fork between Lake City and Lake San Cristobal, located at T. 43 N., R. 4 W., Sec. 10 NESW.

h) Construct a toilet facility at the Silver Creek trail-head and delineate vehicle parking with appropriate barriers.

i) Give consideration to the acquisition of non-federal lands through purchase or exchange within the Silver Creek and Cooper Creek drainages.

j) Maintain the Slumgullion Slide interpretive pullout to provide interpretation, parking, and adequate room for unloading snowmobiles for the Lake City Snowmobile trail.

k) Develop and maintain primitive trails in the following areas:

(1) Silver Creek from Burrow's Park to the summits of Redcloud and Sunshine peaks.
(2) Cooper Creek from Burrow's Park to Cooper Lake.
(3) Cataract Gulch from Cottonwood Creek to the USFS boundary.
(4) The Waterdog Lake trail from Lake City to Waterdog Lake.
(5) Alpine Gulch from Henson Creek to the Grassy Mountain Saddle. This project includes a foot bridge across Henson Creek.
(6) Grizzly Gulch from Burrow's Park to Handies Peak.
(7) The Handies Peak trail from American Basin past Sloan Lake to Handies Peak.
(8) The Williams Creek Trail from Williams Creek to the Grassy Mountain Saddle.

l) Continue to contract with the Forest Service for the disposal of solid and liquid wastes from developed sites in the unit.

m) Maintain existing and planned recreation facilities.

n) Conduct backcountry patrols.

o) A joint BLM/USFS visitor and administrative center in Lake City would be pursued. Continue to provide visitor use supervision, visitor contact and the supervision of seasonal employees and volunteers. Also provide hunter contact and use supervision of commercial guides and outfitters in the fall.

p) Overnight camping would be excluded within 50 feet of historic resources on public land. A follow up visitor-use survey would be conducted in approximately 1994 to reassess the activities, settings, and experiences favored by the recreating public.

The following historic resource management actions would be implemented and would be included in the ACEC plan.

a) Historic sites would be inventoried, recorded, and evaluated within the unit, and determinations of eligibility prepared.

b) Appropriate management actions from cultural resource management plans covering this unit would be incorporated into the ACEC. Development, maintenance, and interpretation of appropriate historic resources would be managed for passive, non-consumptive recreation opportunities. Interpretation would emphasize the protection of historic sites, buildings, and facilities in order to help prevent vandalism. Appropriate sites would be stabilized.

c) Cadastral surveys would be made if necessary to determine their public land locations.

Mitigation would be included in all plans involving surface-disturbance in the unit in order to maintain and enhance recreation, historical, and visual resources.

Federal mineral estate in the following areas in the unit would be withdrawn from mineral entry and location under the general mining laws (see maps in Appendix D).

a) Approximately 1,405 acres at the Slumgullion Slide National Natural Landmark in order to protect the natural and visual integrity of the slide from potential mining activities (see map in Appendix D.

b) Approximately 1,577 acres in the American Basin drainage to protect high-quality visual resources.

c) Approximately 2,318 acres along the Alpine Loop National Back Country Byway (known as the "Loop Road") in order to protect visual resources and wild and scenic river values. This withdrawal is partially within Segment A, Lake Fork of the Gunnison River, a river segment that is eligible for inclusion into the National Wild and Scenic Rivers System.

Federal oil, gas, and geothermal estate totalling 1,577 acres would be closed to leasing in the American Basin drainage in order to protect high quality scenic resources.

Disposal of mineral materials would not be permitted on federal mineral estate in the following areas.

a) Approximately 1,577 acres in the American Basin drainage to protect high quality scenic resources.

b) Approximately 1,405 acres at the Slumgullion Slide National Natural Landmark to protect the slides natural and visual integrity.

c) Approximately 2,318 acres along the Alpine Loop National Back Country Byway (known as the "Loop Road") in order to protect high quality scenic resources.

Special Status Plant and Animal Species and Habitat. Approximately 3,645 acres of federal oil, gas, and geothermal estate under federal surface in the unit containing potential and occupied habitat of the USF&WS classified Uncompahgre fritillary butterfly would be open to leasing with a no surface occupancy stipulation in order to protect this habitat and species. Disposal of mineral material would not be permitted on these same lands, for the same reason.

Livestock Grazing Management. Domestic sheep grazing would be eliminated within bighorn sheep habitat in order to prevent diseases being transferred to bighorn sheep from domestic sheep and increase bighorn herd numbers and vigor.

Forest Management. The unit would be closed to the sale or harvest of commercial forest products.

Wild and Scenic River Study Segment. The 13.3 mile-long, 1/2 mile wide Segment A of the Lake Fork of the Gunnison River (see map in Appendix I) would be recommended as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System, under the "Recreation" classification. See this prescription and the Wild and Scenic River Study Segment in STANDARD MANAGEMENT for management of public lands in Segment A.

Visual Resources. The unit would be managed according to VRM Class II objectives.

Transportation and Access. Public hiking access would be acquired into the Alpine Gulch drainage.

Acquisition of non-Federal Lands. If available, non-federal lands necessary for the management, protection and/or enhancement of recreation and visual resources on public lands would be acquired; if available, non-federal lands containing representative examples of historic mining era or other historic sites, structures, or resources would be acquired through exchange or purchase.

Rights-of-Way. Public land in the unit would be classified an avoidance area for rights-of-way.

Fire Management. Wildfires in the unit would be managed under the full suppression category.

Withdrawals and Classifications. The R&PP classification C-012620 would be terminated or revoked (near Slumgullion Slide) upon withdrawal recommendations being implemented. The R&PP classification (approximately 40 acres) and the current R&PP lease of these lands to Hinsdale County for a small ski facility would continue.

Water Power and Storage Reservoir Sites. The unit would be closed to development of potential water power and storage reservoir sites.

MANAGEMENT UNIT B-3 (Lake Fork ACEC)

Land Ownership: 4,685 acres of Public Surface; less than 1% of the Planning Area.

This unit parallels the Lake Fork of The Gunnison River (Lake Fork) and is adjacent to the National Park Service (NPS) administered Curecanti National Recreation Area (proposed). The majority of the unit is located within the Alpine Triangle Special Recreation Management Area (SRMA). Resources within the unit are managed according to the 1986 management plan for the SRMA. The unit is characterized by a steep walled, narrow canyon, and a meandering river valley with a variety of vegetation types. Features within the unit include: high quality visual resources; nine recorded historic railroad construction camp sites, three of which have been developed and are managed cooperatively with the National Park Service; various other historic sites; Red Bridge recreation site and several minor wayside and fishing access improvements managed by BLM; crucial big game winter range; and a bighorn sheep herd. Concerns within the unit include protecting scenic resources while other developments occur, the potential for mineral development at Red Bridge campground, and undeveloped and unprotected historic site deterioration.

The unit would be designated and managed as the Lake Fork Area of Critical Environmental Concern (ACEC). An ACEC Management plan would be prepared. The unit would be managed to maintain, protect and enhance recreation resources and opportunities, and scenic and historic resources. Fishing, floatboating, and historic site stabilization and interpretation would be emphasized. An ACEC management plan would be prepared that would include the objectives for this unit. The following actions would be implemented and included in the ACEC plan.

a) Public lands and fishing easements would be signed to increase fishing opportunities; small parking areas would be built along Colorado Highway 149 for day fishers; additional public fishing easements would be acquired if possible.

b) Public access would be acquired to public lands between Lake City and Trout Creek and east of Colorado Highway 149, for recreation access to lands within and adjacent to Management Unit B-1.

c) Provide an informational brochure for rafters and kayakers.

d) Develop potable drinking water facilities at Red Bridge Campground, and operate the site as a fee area.

e) If non-federal lands are acquired adjacent to the Gate Recreation Area, develop a campground and permit fishing and hunting access.

f) Continue cooperative management with the NPS on lands along the Lake Fork of the Gunnison River

from Red Bridge to Blue Mesa Reservoir covering recreation facility and road maintenance, and the interpretation and protection of three historic railroad camp/construction sites. If appropriate, cooperative management of other sites would be considered.

A Roaded Natural ROS setting would be maintained in the unit. An historical stage stop would be evaluated to determine the historical significance of the site, and, if appropriate, a cadastral survey would be conducted to determine the location of the site, relative to public land. An inventory and evaluation would be conducted in the unit for other historic resources.

A total of 5 acres of federal mineral estate under federal surface at Red Bridge campground would be withdrawn from mineral entry and location under the general mining laws in order to protect the campground from disturbance from mining activity.

Approximately 5 acres of federal oil and gas estate under federal surface would be closed to leasing at Red Bridge Campground, and disposal of mineral materials on federal mineral estate would not be authorized, in order to protect these recreation facilities.

Wildlife Habitat Management. Federal oil, gas, and geothermal estate within crucial elk and deer winter range (2,625 acres under federal surface and 440 acres of split estate) would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from December 1 through March 31 to prevent disturbance to wintering deer and elk. Variances to these stipulations may be granted (see Appendix K). Disposal of mineral materials on crucial big game winter range would not be authorized on 3,065 acres of federal mineral estate from December 1 through March 31 to prevent disturbance to wintering deer and elk.

Visual Resource Management. The unit would be managed according to VRM Class II (3,338 acres), VRM Class III (75 acres) and VRM Class IV (1,272 acres) objectives.

Rights-of-Way. Public land in the unit, outside the right-of-way window, would be classified an avoidance area for future rights-of-way.

Rights-of-Way Corridors. Public land within 500 feet on either side of the center line of the existing WAPA 230 kv electrical transmission line would be designated a right-of-way window.

Fire Management. All wildfires in the unit would be managed under the conditional suppression category.

Withdrawals. Approximately 5 acres of public land at Red Bridge campground would be withdrawn from all forms of appropriation under the general land laws for management and protection of recreation resources and BLM investments.

Water Power and Storage Reservoir Sites. The unit would be closed to development of potential water power and storage reservoir sites.

MANAGEMENT UNIT B-4 (South Beaver Creek ACEC)

Land ownership: 4,625 acres of Public Surface; less than 1% of the Planning Area

This unit is located between the Gold Basin Creek Road (Gunnison County Road 38) and South Beaver Creek immediately southwest of Gunnison. The unit is characterized by sagebrush-covered rolling hills with many benches and intermittent drainages. A 230 kv electrical transmission line crosses the southern end of the unit; several roads are located within the unit. Crucial big game winter range occurs in the unit. The public lands north and east of the unit receive heavy OHV use. The unit contains scattered populations of skiff milkvetch (Astragalus microcymbus), a USF&WS and Colorado sensitive plant species. The unit contains the 880-acre BLM proposed South Beaver Creek Research Natural Area (RNA) where high concentrations of skiff milkvetch occur. The proposed RNA consists of three tracts of public land and is managed cooperatively with the Colorado Natural Areas Program.

The entire unit would be designated and managed as the South Beaver Creek Research Natural Area/Area of Critical Environmental Concern (RNA/ACEC). A management plan would be prepared. The unit would be managed to protect and enhance the existing populations and habitat, and potential habitat, of skiff

milkvetch. Plant monitoring studies would be designed and conducted cooperatively with the Colorado Natural Areas Program and The Nature Conservatory to determine population trends; actions designed to improve habitat conditions would be initiated. Surface disturbing activities would be restricted to protect the species and potential habitat. No chemical spraying would occur on public lands within the unit. Research activities would be authorized only by BLM.

Forage allocations would remain at current levels, with no additional forage allocations being made to either livestock or wildlife.

To protect skiff milkvetch populations and potential habitat, no surface disturbing improvement projects would be developed or maintained within the unit. The Federal oil, gas, and geothermal estate in the unit would be open to leasing with a no surface occupancy stipulation in order to protect populations of skiff milkvetch. Disposal of mineral materials on federal mineral estate within the unit (4,565 acres) would not be authorized for the same reason.

Soils. Non-conflicting erosion control measures that do not alter existing skiff milkvetch habitat would be permitted.

Recreation. To prevent accidental destruction of skiff milkvetch populations and existing and potential habitat, motorized vehicular use would be limited to designated routes yearlong.

Visual Resources. The unit would be managed according to VRM Class III (2,800 acres) and VRM Class IV (1,825 acres) objectives.

Disposal of Public Lands. Public lands in the unit containing colonies of skiff milkvetch would not be available for disposal until future inventories show that sufficient colonies occur throughout the Planning Area such that disposal would not jeopardize the overall population.

Acquisition of non-Federal Lands. If available, non-federal lands containing colonies of skiff milkvetch would be acquired if necessary for the enhancement, management, or protection of the species, or to increase the number of colonies on public lands.

Rights-of-Way. Public land in the unit containing existing populations or habitat of skiff milkvetch would be classified an avoidance area for rights-of-way.

Rights-of-Way Corridors. Public land within 500 feet on either side of the centerline of the existing WAPA 230 kv electrical transmission line would be designated a right-of-way window. All construction activity would avoid populations and habitat of skiff milkvetch.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

Water Power and Storage Reservoir Sites. The unit would be closed to the development of potential water power and storage reservoirs.

MANAGEMENT UNIT B-5 (West Antelope ACEC)

Land Ownership: 29,060 acres of Public Surface; 5% of the Planning Area.

This management unit is generally bounded on the south and west by the National Park Service (NPS) managed Curecanti National Recreation Area (proposed), on the north by the Gunnison National Forest, and on the east by West Antelope Creek. The unit contains the greatest concentration of wintering elk and deer in the planning area, bald eagle habitat, the Dillon Mesa bighorn sheep herd, and the Colorado Division of Wildlife Sapinero State Wildlife Area (the first tract of land purchased under the Pittman-Robertson Act in Colorado). Most of the unit receives extensive recreational hunting use, and contains crucial big game winter range (approximately 26,600 acres on public land) important in maintaining huntable populations in the planning area. An elk-calving area occurs in the unit. A 115 kv electrical transmission line is located in the southern part of the unit.

A major concern within the unit is that CDOW long-range elk and deer herd goals have reached or are beyond the carrying capacity, and attaining lower

numbers of each in the next five years would be in the best interest of the habitat. The bighorn sheep herd appears to be static and below herd goal numbers. Improper livestock grazing along North Willow Creek is a concern within that riparian area, along with the lack of administrative access into that watershed.

The unit would be designated and managed as the West Antelope Creek Area of Critical Environmental Concern (ACEC). An ACEC management plan would be prepared. The area would be managed for multiple use, with importance given to implementing actions that improve the unit's capabilities to support wintering deer, elk, and bighorn sheep. Wildlife would have first priority for all additional available forage from BLM wildlife habitat improvement projects. All other land uses, except as specified below, would be permitted if they would not degrade the quality of the unit's winter range. Surface-disturbing activities on public lands would not be permitted from December 1 through March 31 on crucial deer and elk winter range. Within the first five years following designation, recommendations would be made to CDOW to manage total numbers of deer and elk on crucial winter range so as to improve the production and vigor of important browse species and to increase the winter range carrying capacity. Thereafter the habitat would be managed to achieve CDOW's long-range herd goals.

Federal oil and gas estate (26,540 acres under federal surface and 8,368 acres of split estate) on crucial big game winter range would be available for leasing with a seasonal stipulation on drilling and seismic activities to be in effect from December 1 through March 31 to prevent disturbance to wintering deer and elk. Federal oil and gas estate (15 acres under federal surface and 138 acres of split estate) within elk calving areas would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from May 1 through June 30 to prevent disturbance to calving elk. Variances to these stipulations may be granted (see Appendix K).

Disposal of mineral materials would not be authorized on 34,908 acres of federal mineral estate from December 1 through March 31 on crucial big game winter range to prevent disturbance to wintering deer and elk. Disposal would not be permitted on 153 acres of federal mineral estate from May 1 through June 30 within elk-calving areas to prevent disturbance to calving elk.

Soils and Water. Non-conflicting soils and watershed improvement projects would be permitted.

Livestock Grazing Management. Livestock grazing would be eliminated from the North Willow Creek riparian area in allotment 6202 to allow that ecosystem to recover and to enhance the fishery resource and big game habitat. Non-conflicting and compatible livestock management objectives, projects, and mitigating measures would be incorporated into new wildlife Habitat Management Plans (HMPs) or CRMAPs before being implemented. Livestock grazing would be eliminated within allotment 6200 in order to remedy conflicts involving wildlife habitat.

Forest Management. Commercial logging operations would be designed and implemented to benefit the crucial big game winter range, and vegetation in general.

Recreation. Approximately 600 acres of public land within or adjacent to the Sapinero State Wildlife Area would be closed to motorized vehicular use in order to be compatible with CDOW management on adjacent state-owned lands. Motorized vehicular use on the remainder of public lands in the unit (28,460 acres) would be limited to designated routes, if necessary, from December 1 through March 31, to prevent disturbance to wintering deer and elk in the event of excessive snow depths or big game herd concentrations.

Visual Resource Management. The unit would be managed according to VRM Class II (8,121 acres), VRM Class III (9,852 acres), and VRM Class IV (11,087 acres) objectives.

Transportation and Access. Public access would be acquired into the North Willow Creek and Stevens Creek areas for wildlife habitat and riparian area management. Other than potential construction for these access routes, no new permanent roads on public lands would be constructed.

Acquisition of non-Federal Lands. If available, non-federal lands would be acquired if they would

enhance or increase the effectiveness of management of crucial deer and elk winter range.

Rights-of-Way. Public land in the unit would be classified an avoidance area for road rights-of-way. Rights-of-way related construction activities would not be permitted on crucial big game winter range from December 1 through March 31 to prevent disturbance to wintering deer and elk.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

Withdrawals. Public lands totalling approximately 40 acres within a Bureau of Reclamation withdrawal (BLM Order 12/18/58) would be recommended for revocation or relinquishment in order to preclude reservoir-related development within the unit. Approximately 40 acres of public land within a FERC withdrawal (BLM Order 12/18/58) would be recommended for revocation/termination for the same purpose.

Water Power and Storage Reservoir Sites. The unit would be closed to the development of potential water power and storage reservoirs.

MANAGEMENT UNIT B-6 (East Gunnison ACEC)

Land Ownership: 37,503 acres of Public Surface; 6% of the Planning area.

This unit consists mainly of BLM administered public lands immediately east of Gunnison and bounded on the north by the Gunnison National Forest, on the west by Gunnison County Road No. 10, on the south by U.S. Highway 50, and on the east by Quartz Creek. The majority of public lands in the unit are considered to be crucial deer and elk winter range (30,140 acres). Several public access routes traverse the area and extend onto the Gunnison National Forest. A 115 kv electrical transmission line paralleling U.S. Highway 50 is located in the southern part of the unit. The unit receives extensive recreational hunting use. Sage grouse leks are located in the unit. Major concerns within the unit are the poor condition of riparian areas and vegetative treatments being improperly grazed by livestock.

The unit would be designated and managed as the East Gunnison Area of Critical Environmental Concern (ACEC). An ACEC management plan and CRMAP would be prepared in order to improve the area's capabilities to support wintering deer and elk populations. Wildlife habitat treatment projects and other facilities designed to improve the quality and quantity of big game winter habitat would be developed in the plans, and implemented. Wildlife would have first priority for all available additional forage resulting from wildlife habitat improvement projects. All other non-conflicting land uses would be allowed unless stipulated or precluded in this prescription. Surface-disturbing activities would not be permitted between December 1 and March 31 on crucial deer and elk winter range, nor from April 1 to May 31 at sage grouse lek areas.

Federal oil and gas estate (29,085 acres under federal surface and 260 acres of split estate) on deer and elk crucial winter range in the unit would be open to leasing with seasonal stipulations on drilling and seismic activities being in effect from December 1 through March 31 to prevent disturbance to wintering deer and elk. Federal oil and gas estate under 698 acres of federal surface within 1/4 mile radius of leks would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from April 1 to May 31 to prevent disturbance to strutting sage grouse. Variances to these stipulations may be granted (see Appendix K).

Disposal of mineral materials on 29,345 acres of federal mineral estate within crucial big game winter range would not be permitted from December 1 through March 31 to prevent disturbance to wintering elk and deer, and on 698 acres of federal mineral estate at sage grouse lek areas from April 1 to May 31 to prevent disturbance to strutting sage grouse.

Recreation Management. Motorized vehicular traffic in the unit would be limited to designated routes from December 1 through March 31, if necessary due to excessive snow depths or elk and deer concentrations, in order to prevent disturbance to wintering big game.

Visual Resource Management. The unit would be managed according to VRM Class II (505 acres), VRM Class III (29,233 acres and VRM Class IV (7,765 acres) objectives.

Acquisition of non-Federal Lands. If available, non-federal lands would be acquired if they would enhance or increase the effectiveness of management of crucial deer and elk winter range.

Rights-of-Way. Rights-of-way related construction activities on crucial big game winter range would not be permitted between December 1 and March 31 to prevent disturbance to wintering elk and deer, and from April 1 to May 31 at sage grouse lek areas to prevent disturbance to strutting sage grouse.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

Withdrawals. Approximately five acres of public land in a FERC Withdrawal (E.O. 7/2/1910, Res. #50) would be recommended for revocation/termination to preclude reservoir-related development on elk and deer crucial winter range.

Water Power and Storage Reservoir Sites. The unit would be closed to the development of potential water power and storage reservoir sites.

MANAGEMENT UNIT B-7

Land Ownership: 15,758 acres of Public Surface; 3% of the Planning Area

This unit is part of the Alpine Triangle Special Recreation Management Area.

This management unit generally parallels the canyon along the Lake Fork of the Gunnison River from Lake City to the Red Bridge Campground. Large tracts of public and private lands are intermingled on both sides of the river. The unit is located within the Alpine Triangle Special Recreation management Area (SRMA) and recreation resources within the unit are managed according to the 1986 SRMA management plan (RAMP). The unit is characterized by a steep, narrow canyon and a meandering river valley with a variety of vegetation types. Features within the unit include the BLM-managed Gate recreation area; important, moderately used, and relatively scarce public fishing and white water boating access to the lake Fork; historic resources; crucial big game winter range (5,550 acres); and scenic resources. A 69 kv electrical transmission line is located within the unit. A concern within the unit is conflict that sometimes occurs between boaters and fishers and private land owners, due somewhat to the scarcity of public access along the Lake Fork. Another concern is the increasing public recreation use and growing demand for access along the Lake Fork.

This unit, and the recreation land uses within it would be managed according to the RAMP for the Alpine Triangle SRMA. The objectives would be to provide for a diversity of recreation opportunities, with emphasis on fishing and river-related activities in a rural setting, and for access to adjacent BLM and Forest Service managed lands. Periodic patrols would be conducted. Low-scale facilities would be constructed to meet public demand for recreation, safety, and sanitation. Facilities at the Gate recreation area would be upgraded and added such that entrance fees could be charged. Public lands in the unit would be managed for Semi-Primitive Non-Motorized, Semi-Primitive Motorized, Roaded Natural, and Rural ROS settings. Public land boundaries along the Lake Fork of the Gunnison River would continue to be signed to help eliminate unintentional trespassing by recreationists and others. Brochures would be developed for public information and safety. Plans for surface-disturbing activities and other land uses, including recreation use and development, would contain measures designed to minimize negative effects to resources, especially those that could impact recreation resources, fisheries and adjacent riparian habitat. The existing 113 acre R&PP classification at the Gate recreation area would be revoked, concurrently with a withdrawal being approved that would 1) segregate the federal mineral estate from location and entry under the general mining laws, 2) close the public lands to disposal of mineral materials; and, 3) segregate the land from all forms of appropriation under the general land laws, in order to protect valuable recreation and riparian habitat from disturbance.

Motorized vehicular traffic (4,863 acres) on the public lands within, and south, of Section 12, T. 45 N., R. 4 W., N.M.P.M., would be limited to designated routes, and snowmobile use would be limited to travel on snow. The remainder of the public lands in the unit (15,758 acres) would be open to motorized vehicular traffic.

Federal mineral estate totalling 113 acres would be withdrawn from mineral entry and location under the mining laws to protect recreation resources at the Gate Recreation Area.

The entire Federal oil, gas, and geothermal estate (15,757 acres under federal surface and 7,973 acres of split estate) in the unit would remain open to leasing with a no surface occupancy stipulation in order to protect recreation, scenic, historic, and wildlife resources.

Wildlife Habitat Management. Disposal of mineral materials on 8,013 acres of federal mineral estate would not be permitted on crucial deer and elk winter range from December 1 through March 31 to prevent disturbance to wintering deer and elk.

Visual Resource Management. The unit would be managed according to VRM Class II (14,365 acres), VRM Class III (47 acres), and VRM Class IV (1,345 acres) objectives.

Historic Resources. Historic resources would be inventoried, properly recorded, and evaluated within the unit, interpreted if appropriate, and Determinations of Eligibility would be prepared.

Acquisition of Non-Federal Lands. If available, approximately 6,500 acres of non-federal lands would be acquired if they would enhance or increase management of crucial big game winter range, and to provide public fishing and water-related recreation access to the Lake Fork of the Gunnison River. Acquisitions would be made on a willing seller-willing buyer basis.

Transportation and Access. Administrative access would be acquired into the Devil's Creek area for recreation management and into the east-central part of the unit that includes Yeager Gulch and Skunk and Trout Creeks for commercial forest management.

Fire Management. Wildfires within 113 acres of public lands at the Gate recreation area, and at all other recreation facilities would be managed under the full suppression category. All other wildfires in the unit would be managed under the conditional suppression category.

Withdrawals and Classifications. Approximately 113 acres of public land at The Gate Recreation Area would continue to be segregated from all forms of appropriation under the general land laws. The existing R&PP classification (C-083991) at The Gate would be revoked/terminated upon withdrawal recommendations being implemented. The 1,180 Bureau of Reclamation withdrawal (S.O. 5/23/46) in the unit would be recommended to be relinquished in order to prevent any reservoir-related development from occurring on these high-value recreation lands and waters.

Water Power and Storage Reservoir Sites. The unit would be closed to development of potential water power and storage reservoir sites.

MANAGEMENT UNIT B-8

Land Ownership: 2,560 acres of Public Surface; less than 1% of the Planning Area.

This unit is the Cochetopa Special Recreation Management Area.

This management unit is managed as the Cochetopa Special Recreation Management Area (SRMA). Resources and land uses are managed according to an existing activity plan for the unit. Colorado State Highway 114 traverses the unit, which is characterized by a steep, scenic canyon that restricts recreation use to the narrow riparian corridor along Cochetopa Creek. Day-use recreation (i.e., sight-seeing, fishing, and picnicking) and camping occur within the unit. Features within the unit include high-quality scenic resources and three semi-developed and three undeveloped recreation sites. An elk calving area and crucial big game winter range occur within the unit. Concerns within the unit include a lack of recreation signing, general vandalism, and adverse impacts from recreation use to soils and vegetation and perhaps water quality, and deteriorating facility conditions.

The unit would continue to be managed according to the existing SRMA activity plan. The management objectives for the unit would be to continue to provide for, and improve the existing diversity of recreation opportunities, with fishing and overnight camping adjacent to Highway 114 being emphasized.

Recreation facilities at three semi-developed and three undeveloped recreation areas would be constructed and maintained to provide approximately 32 family campsites, 6 toilets, twenty parking spaces, and informational signing. Existing recreation facilities in the unit would be maintained. Periodic patrols would be conducted. Recreation use would be monitored and possibly restricted as necessary to protect natural features and recreation opportunities. Informational and interpretive signs would be installed. Public lands would be managed for a Roaded Natural ROS setting.

The federal mineral estate within the unit (2,498 acres) would be withdrawn from mineral entry and location under the general mining laws in order to provide protection for visual and recreation resources.

The entire Federal oil, gas, and geothermal estate in the unit (2,498 acres under federal surface) would remain open to leasing with a no surface occupancy stipulation in order to protect scenic and recreation resources in the narrow canyon in this unit.

Wildlife Habitat Management. Disposal of mineral materials on 1,322 acres of federal mineral estate in the unit within elk-calving areas would not be authorized in order to prevent disturbance to calving elk from May 1 through June 30. Disposal would not be permitted on 430 acres of federal mineral estate from December 1 through March 31 within big game crucial winter range in order to prevent disturbance to wintering deer and elk.

Livestock Grazing Management. Livestock grazing and watering would not be permitted in the riparian area along Cochetopa Creek.

Visual Resource Management. The unit would be managed according to VRM Class II (2,098 acres) and VRM Class IV (462 acres) objectives.

Rights-of-Way. Public land in the unit would be classified an exclusion area for above-ground rights-of-way, and an avoidance area for all other rights-of-way.

Fire Management. Wildfires within public lands at all recreation sites and facilities would be managed under the full suppression category. All other wildfires would be managed under the conditional suppression category.

Withdrawals and Classifications. Public lands in the unit (2,560 acres of surface estate) would be withdrawn from all forms of appropriation under the general land laws.

Water Power and Storage Reservoir Sites. The unit would be closed to development of potential water power and storage reservoir sites.

MANAGEMENT UNIT B-9

Land Ownership: 7,635 acres of Public Surface; 1% of the Planning Area

This unit consists of riparian areas generally associated with or adjacent to crucial big game winter range.

This management unit consists of public lands containing riparian areas located within designated crucial big game winter range. These lands are generally located south of the Gunnison River and east of the Lake Fork of the Gunnison River and are associated with perennial or intermittent streams. Some portions of the unit also contain fishery/aquatic habitat. These areas are highly productive ecosystems important in sustaining elk and deer populations. Some of these riparian areas are located within elk-calving areas. Resources within this unit are also important for the maintenance and enhancement of the quality of general riparian vegetation, aquatic/fishery habitat, stream channels, and water quality. Concerns within the unit are winter and springtime shortages of herbaceous vegetation; the below-potential condition of riparian vegetation and the total riparian/aquatic ecosystems as evidenced by a lack of streamside cover and quality pool areas; competition of big game and livestock for winter forage; long-term modification of riparian vegetation resulting in the dominance of livestock-grazing tolerant grass species, and the invasion of noxious weeds and upland plant species; and roads that effect the riparian areas.

The unit would be managed to protect, restore, and enhance riparian/aquatic areas along approximately 74

miles of public land in order to 1) increase the production and diversity of vegetation for big game and other wildlife including non-game wildlife, 2) improve overall riparian conditions in and along streams, especially those with fishery potential, and 3) create riparian systems that can adequately accommodate a mix of multiple uses. Riparian improvement strategies and/or projects, including treating vegetation by burning or mechanical means, would be permitted and included in all Coordinated Resource Management Activity Plans (CRMAPs), and other activity plans, and implemented. Resources within the unit would continue to be inventoried and evaluated for condition, potential and trend and monitoring studies would be conducted. Adjustments in forage utilization would be made or other management actions would be taken, based upon monitoring results. Surface disturbance would be limited to two acres per disturbance and measures to reduce impacts to the riparian vegetation and associated stream channels would be included in all surface-disturbing plans. The existing Resource Area-wide HMP would be revised to include these recommendations.

A total of 395 acres of federal mineral estate in withdrawal C-014711 along Cebolla Creek would continue to be withdrawn from mineral entry and location.

Federal oil, gas, and geothermal estate on crucial big game winter range (3,795 acres under federal surface and 915 acres of split estate) would remain open to leasing with seasonal stipulations on drilling and seismic activities being in effect from December 1 to March 31 to prevent disturbance to wintering big game. Federal oil and gas estate (290 acres under federal surface) within elk-calving areas would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from May 1 through June 30 to prevent disturbance to calving elk. Variations to these stipulations may be granted (see Appendix K).

Disposal of mineral materials on 4,710 acres of big game crucial winter range over federal mineral estate in the unit would not be authorized from December 1 through March 31 to prevent disturbance to wintering big game. Disposal would not be permitted on 290 acres within an elk-calving area over federal mineral estate from May 1 through June 30 to prevent disturbance to calving elk.

Livestock Grazing Management. Livestock improvements and treatments would be permitted if compatible with the objectives for this unit. Livestock use would not be permitted until June 1, or range readiness, whichever happens first. Fall trailing, not to exceed four days, would be permitted in those portions of Game Management Unit 551 within the unit to reduce livestock utilization of regrowth. Continuous spring, summer and fall grazing would be eliminated within Game Management Unit 551 in order to improve big game winter forage.

Recreation Management. Motorized vehicular traffic in the unit on public lands in the area north of U.S. Highway 50, south of Sections 17 and 18, T. 51 N., R. 1 W., NMPM, east of West Antelope Creek, and west of the Gunnison River would be limited to designated routes from December 1 through March 31, if necessary due to big game herd concentrations or excessive snow depths in order to prevent disturbance to wintering big game.

Visual Resource Management. The unit would be managed according to VRM Class II (1,093 acres), VRM Class III (1,927 acres), and VRM Class IV (4,615 acres) objectives.

Rights-of-Way. Public land in the unit would be classified an avoidance area for road rights-of-way. Rights-of-way related construction would not be permitted on crucial big game winter range in the unit from December 1 through March 31 to prevent disturbance to wintering deer and elk.

Rights-of-Way Corridors. Public lands within one-half mile on either side of the centerline of the existing WAPA 230 kv electrical transmission line (one-mile total width) would be designated a right-of-way corridor.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

Water Power and Storage Reservoir Sites. The unit would be closed to development of water power and storage reservoir sites.

MANAGEMENT UNIT B-10

Land Ownership: 7,298 acres of Public Surface; 1% of the Planning Area

This unit consists of riparian areas generally located in important sage grouse broodrearing areas.

This management unit consists of public lands containing riparian areas within important sage grouse broodrearing areas. These lands are generally located east of the Lake Fork of the Gunnison River and are associated with perennial or intermittent streams. Some of the public lands within this unit are designated big game crucial winter range. Some portions of the unit also contain fishery/aquatic habitat. The abundance of insects and lush herbaceous vegetation found in riparian areas is crucial for the survival of sage grouse chicks during the first twelve weeks after hatching. Resources within this unit are also important for the maintenance and enhancement of the quality of general riparian vegetation, aquatic/fishery habitat, stream channels, and water quality. Concerns within this unit are that riparian ecosystems in general are below their ecological potential and have been reduced in size due to water regimes being modified by improper livestock grazing and road locations. Downcutting or channel incision, and accompanying lowering of water tables has resulted in a reduction in riparian plant species and an invasion of upland plants.

The unit would be managed to protect, restore and enhance approximately 59 miles of riparian areas on public lands in order to optimize sage grouse populations. Management objectives would be to provide high quality brood-rearing habitat with a diversity of plant species composition and structure, aimed at improving overall conditions in the unit. Abundant vegetative cover necessary to avoid predation of foraging chicks would be another desired condition to be achieved. Riparian improvement strategies and/or projects would be included in all CRMAPs and other activity plans and implemented.

Emphasis would be placed on rehabilitating riparian areas where the ecological or hydrological condition is degraded. The herbaceous plant species would be increased to improve forage plants and insects for sage grouse. The proportion of native bunchgrasses would be increased to help meet escape and hiding cover requirements of sage grouse chicks. Measures to reduce impacts to the riparian ecosystems and associated stream channels, and to prevent unnecessary removal of sage grouse brood habitat would be included in all surface-disturbing plans. Resources within this unit would continue to be inventoried and evaluated for potential, condition, and trend, and monitoring studies would be conducted. Vegetation treatments compatible with the objectives of this unit would be permitted. Additional forage made available would go to watershed, then wildlife.

The federal oil and gas estate in the unit (6,850 acres under federal surface and 1,250 acres of split estate) would be open to mineral leasing with a seasonal stipulation on seismic and drilling activities being in effect from July 1 through September 15 to prevent disturbance to sage grouse during the brood-rearing period. Federal oil and gas estate within a 1/4 mile radius of sage grouse leks (55 acres under federal surface and 28 acres of split-estate) would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from April 1 through May 31 to prevent disturbance to strutting sage grouse. Federal oil, gas, and geothermal estate within crucial big game winter range (993 acres under federal surface and 70 acres of split estate) would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from December 1 through March 31 to prevent disturbance to wintering deer and elk. Variances to these seasonal stipulations may be granted (see Appendix K).

Disposal of mineral materials throughout the unit on federal mineral estate (8,110 acres) would not be authorized from July 1 through September 15 to prevent disturbance to sage grouse during the brooding period. Disposal would not be permitted at sage grouse leks on 83 acres of federal mineral estate from April 1 through May 31 to prevent disturbance to strutting sage grouse, and from December 1 through March 31 on 1,063 acres of federal mineral estate within crucial big game winter range to prevent disturbance to wintering deer and elk.

Livestock Grazing Management. From July 1 through September 15 livestock utilization would be managed such that herbaceous stubble would be maintained at a six-inch height to provide cover for sage grouse chicks, to improve general riparian ecosystem conditions, and to help increase the proportion of native bunch grasses.

Recreation Management. Motorized vehicular traffic in the unit on public lands in the area north of U.S. Highway 50, south of Sections 17 and 18, T. 51 N., R. 1 W., NMPM, east of West Antelope Creek, and west of the Gunnison River would be limited to designated routes from December 1 through March 31, if necessary due to big game herd concentrations or excessive snow depths in order to prevent disturbance to wintering big game.

Visual Resource Management. The unit would be managed according to VRM Class II (163 acres), VRM Class III (1,635 acres), and VRM Class IV (5,500 acres) objectives.

Rights-of-Way. Public land in the unit would be classified as an avoidance area for road rights-of-way in order to prevent unnecessary removal of sage grouse brood habitat.. Mitigating measures would be included in rights-of-way authorizations to prevent disturbance to brooding sage grouse from July 15 through September 15 and from December 1 through March 31 on crucial big game winter range to prevent disturbance to wintering deer and elk.

Rights-of-Way Corridors. Public lands within one-half mile on either side of the centerline of the existing WAPA 230 kv electrical transmission line (one-mile total width) would be designated a right-of-way corridor.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

Water Power and Storage Reservoir Sites. The unit would be closed to the development of water power and storage reservoir sites.

MANAGEMENT UNIT B-11

Land Ownership: 118,186 acres of Public Surface; 20% of the Planning Area

This unit contains elk and deer crucial winter range and pronghorn antelope habitat.

This management unit is located generally at lower elevations and throughout the planning area except in the main drainage of the Lake Fork of the Gunnison River. Public lands totalling approximately 60,715 acres are crucial deer and elk winter range. Livestock grazing management and other land uses occur on most of the public lands in the unit. A variety of vegetation types occurs within the unit, including some riparian areas. The unit also contains yearlong pronghorn antelope herds and habitat (48,210 acres); sage grouse leks, nesting areas, and brood areas; and a 1,180-acre elk calving area. Concerns within the unit include winter range occurring on mixed land ownership; large numbers of deer congregating along U.S. Highway 50; heavy to severe utilization of mountain mahogany by deer and elk and the lowering vigor of sagebrush in GMU 64 northeast of Cimarron; existing elk numbers being above CDOW long-range herd objectives in GMU 55 and 551; and vegetative treatments that have resulted in the removal of browse species, and long-range CDOW big game herd goals possibly being too high in GMU 54 and in portions of GMU 551 to maintain healthy browse stands under the current condition of the browse species in these GMUs.

The unit would be managed to improve habitat conditions and increase the production and diversity of shrub species in upland and riparian vegetative types to help meet CDOW long-range herd goals. An additional objective would be to improve and maintain important pronghorn antelope habitat within the unit to support a 150 animal herd. Compatible management for sage grouse habitat, including treatments, would be permitted (see Standard Management for sage grouse). Wildlife would have first priority for all additional forage made available as a result of BLM wildlife habitat improvement projects.

A HMP would be developed focusing on overall habitat improvement and intensive habitat management. The plans would include treatments and projects in uplands and riparian ecosystems to increase the production and composition of bitterbrush, serviceberry, mountain mahogany, willows, and cottonwoods. Methods would include shrub plantings, burning, and techniques to convert decadent sagebrush stands to stands dominated by young sagebrush plants in the uplands. Wildlife habitat treatments would be maintained. Monitoring of habitat conditions, utilization, trend, and other existing land uses would be continued.

In the portions of GMUs 54 and 55 within the unit, resources and land uses would be managed for the benefit of elk and deer winter habitat. In the portions of GMU 64 south and east of Cimarron in the unit big game utilization would be limited to 50% of the current year's growth of mountain mahogany. To help achieve this lower rate, a recommendation would be made to the CDOW to implement measures to reduce big game numbers in the GMU.

Interim elk and deer herd goal numbers in portions of certain other GMUs within the unit would be recommended to CDOW in order to permit the production and vigor of important browse species to increase such that winter habitat necessary to support CDOW's long-range herd numbers would be available. See Appendix A for interim numbers to be recommended and CDOW's long-range herd goals for GMUs within the unit.

Activities in the unit that could result in disturbances to big game would be minimized from December 1 through March 31. Activities that would disturb elk during calving periods, (May 1 through June 30) would be excluded within the elk-calving area.

Treatments, including small sagebrush burns and interseeding of forbs into existing sagebrush vegetation within pronghorn antelope summering areas would be conducted to increase forb production. Treatments would be managed to ensure success.

Activity plans prepared for resources in the unit would include methods to improve big game habitat and cover within riparian ecosystems and would consider more intensive livestock utilization management, seasons of use, and allotment boundary design and categorization.

Federal oil, gas, and geothermal estate on crucial big game winter range (60,715 acres under federal surface and 7,372 acres of split-estate) would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from December 1 through March 31 to prevent disturbance to wintering deer and elk. To prevent disturbance to calving elk, seasonal stipulations on seismic and drilling activities would be in effect on federal oil, gas, and geothermal estate (1,180 acres under federal surface) from May 1 through June 30 within elk-calving area in the unit. Federal oil, gas, and geothermal estate under 685 acres of federal surface and 10 acres of split estate within a 1/4 mile radius of sage grouse lek areas would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from April 1 through May 31 to prevent disturbance to strutting sage grouse. Variances to these stipulations may be granted (see Appendix K).

Disposal of mineral material within elk-calving areas would not be authorized on 1,180 acres of federal mineral estate from May 1 through June 30 to prevent disturbance to calving elk. Disposal would not be authorized on 68,087 acres of federal mineral estate from December 1 through March 31 within crucial big game winter range to prevent disturbance to wintering deer and elk. Disposal would not be authorized on 695 acres of federal mineral estate from April 1 through May 31 within sage grouse strutting areas to prevent disturbance to strutting sage grouse.

Special Status Plant and Animal Species and Habitat. Federal oil, gas, and geothermal estate containing populations of Astragalus microcymbus (8 acres) would be open to leasing with a no surface occupancy stipulation to protect this species. Disposal of mineral materials on approximately 8 acres of federal mineral estate would not be permitted in order to protect existing populations of skiff milkvetch.

Livestock Grazing Management. All additional forage made available as a result of vegetation treatments and projects to increase livestock forage would be allocated, in priority order to watershed needs and then to livestock. Livestock management

objectives, projects, treatments and mitigating measures would be incorporated into CRMAPs, and implemented such that wildlife habitat management objectives would be met. Continuous spring-through-fall grazing would be excluded within that portion of GMU 551 in the unit, and an alternate grazing system developed to improve crucial deer and elk winter habitat. The two week fall period for trailing livestock would be eliminated in the portions of GMUs 55 and 551 in the unit so that the majority of vegetative regrowth would be available for big game use during the winter and spring in riparian areas. Trailing permits, not to exceed four days, would be authorized. Domestic sheep grazing and trailing would be excluded within the portion of GMU 64 in the unit. On 48,210 acres of yearlong pronghorn antelope habitat in the unit, sheep grazing would be excluded, and existing fences would be modified to facilitate antelope movement.

Forest Management. Suitable commercial forest lands and woodlands would be available for harvest, with a seasonal stipulation on harvesting from December 1 through March 31 to reduce stress on wintering big game. Logging operations in a 1,180 acre elk-calving area would be excluded from May 1 through June 30 to prevent disturbance to calving elk. Aspen stands in all "I" allotments in the unit would have a high priority for commercial sales, and harvests would be designed to increase and maintain young vigorous aspen for a higher quantity and quality of big game forage. Inventories of all forest lands and woodlands would be conducted to determine associated big game habitat conditions and habitat improvements needs. Spur roads and temporary roads used for logging would be kept to a minimum and would be physically blocked and revegetated after completion of operations.

Recreation Management. Motorized vehicular traffic in the unit on public lands in the area north of U.S. Highway 50, south of Sections 17 and 18, T. 51 N., R. 1 W., NMPM, east of West Antelope Creek, and west of the Gunnison River would be limited to designated routes from December 1 through March 31, if necessary, due to big game herd concentrations or excessive snow depths in order to prevent disturbance to wintering big game. The remainder of public lands in the unit would be open to motorized vehicular traffic. An evaluation of motorized vehicular use within the 1,180 acre elk calving area in the unit would be conducted to determine if disturbances to calving elk are occurring. If disturbance is occurring, the "open" motorized vehicle use designation in the unit would be modified to prevent the disturbance from occurring. Until any changes are implemented as a result of the evaluation, the elk-calving area would be open to motorized vehicular use yearlong.

Visual Resource Management. The unit would be managed according to VRM Class II (11,376 acres), VRM Class III (41,651 acres) and VRM Class IV (65,159 acres) objectives.

Rights-of-Way. Rights-of-way related construction activities would be excluded from December 1 through March 31 in the unit to reduce stress on wintering big game, and May 1 through June 30 within a 1,180 acre elk calving area to prevent disturbance to calving elk.

Rights-of-Way Corridors. Public lands within one-half mile on either side of the centerline of the existing WAPA 230 kv electrical transmission line (one-mile total width) would be designated a right-of-way corridor.

Fire Management. Wildfires within the unit would be managed under the conditional suppression category, except within a 1,180 acre elk calving area, where full suppression of wildfires would occur.

Water Power and Storage Reservoir Sites. The unit would be closed to the development of water power or storage reservoir sites.

MANAGEMENT UNIT B-12

Land Ownership: 6,878 acres of Public Surface; 1% of the Planning Area

This unit contains elk-calving areas.

This management unit consists of two important elk calving areas, the larger of which is located on Blue Mesa adjacent to the Uncompahgre National Forest and contains headwaters of Little Blue, East Fork of Little Blue, Pine, and Willow Creeks. The second area is located adjacent to the Gunnison National

Forest and contains headwaters of Rock Creek. These areas, and smaller areas in other management units are the only known elk calving areas in the planning area, and are used by elk during the May 1 through June 30 calving periods. Both areas contain suitable commercial forest lands and are grazed by livestock. A concern within the unit is any activity that could disturb calving elk during the critical calving periods.

The management unit would be managed to enhance these areas as elk calving areas.

The entire Federal oil, gas, and geothermal estate in the unit (6,878 acres under federal surface and 5,130 acres of split estate) would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from May 1 through June 30 to prevent disturbance to calving elk. Variances to this stipulation may be granted (see Appendix K). Disposal of mineral materials on the federal mineral estate in the unit (12,008 acres) would not be authorized from May 1 through June 30 to prevent disturbance to calving elk.

Forest Management. Suitable commercial forest lands would be available for harvest, with a seasonal stipulation on harvesting from May 1 through June 30, to prevent disturbance to calving elk. All plans for timber harvesting would include the conditions and standards in Appendix A in order to help improve or maintain non-game wildlife habitat.

Recreation Management. The unit would be open to motorized vehicular traffic. An evaluation would be conducted to determine if disturbances to calving elk from motorized vehicular traffic are occurring within the unit. If disturbance is occurring, motorized vehicular use designations in the unit would be modified to prevent the disturbance from occurring.

Visual Resource Management. The unit would be managed according to VRM Class II (1,352 acres), VRM Class III (707 acres), and VRM Class IV (3,557 acres). If feasible, rehabilitation measures would be conducted on 1,262 acres of public lands classified as VRM Class II R, III R, and IV R (lands with existing man-made visual intrusions) in order to improve scenic quality.

Transportation and Access. Roads would be limited to no more than 1.5 linear miles per square mile within the unit. Public access would be acquired in the Blue Mesa part of the unit into Poison Draw for livestock grazing management and into the Willow Creek area for livestock grazing management, commercial forest management, and recreation management; administrative access would be acquired into the Sandy Mesa area for commercial forest and livestock grazing management.

Acquisition of non-Federal Lands. If they are available, non-federal lands used for elk calving would be acquired in order to expand existing areas located on public land.

Rights-of-Way. Public land in the unit would be classified an avoidance area for rights-of-way. A seasonal restrictions on construction from May 1 through June 30 to prevent disturbance to calving elk would be included in all BLM land-use authorizations.

Fire Management. Wildfires on public lands in the unit would be managed under the full suppression category in order to protect commercial forest lands and woodlands.

Water Power and Storage Reservoir Sites. The unit would be closed to the development of potential water power and large reservoir sites.

MANAGEMENT UNIT B-13

Land Ownership: 13,777 acres of Public Surface; 2% of the Planning Area.

This unit contains yearlong pronghorn antelope habitat.

This management unit is located in the upstream reaches of the Cochetopa Creek Valley and the unit boundary joins the Gunnison National Forest on the east and west. Lands within the unit contain resident pronghorn antelope and yearlong habitat, and are grazed by livestock. Crucial big game winter range also occurs in this unit. Concerns within the unit are the lack of forbs; numerous fences for livestock management that hinder antelope movement onto historical habitat; potential degradation of antelope

habitat as a result of proposed sagebrush treatments; and riparian areas being below potential.

The unit would be managed to improve and maintain pronghorn antelope habitat to support a 100-animal herd. Treatments, including sagebrush burns and interseeding of forbs into existing sagebrush vegetation within pronghorn summering areas would be conducted to increase the quantity of forbs. Treatments would be managed to ensure success. Wildlife would have first priority for all additional forage made available as a result of BLM habitat improvement projects. Monitoring would be conducted to determine fawning area locations, habitat condition and trend, forage utilization, and other land uses.

Forty acres of federal mineral estate would continue to be withdrawn from entry and location under the general mining laws for a U.S.F.S. administrative site.

Federal oil, gas, and geothermal estate (1,878 acres under federal surface and 18 acres of split-estate) would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect on crucial big game winter range on December 1 through March 31 to prevent disturbance to wintering deer and elk. Variances to this seasonal stipulation may be granted (see Appendix K).

On crucial big game winter range disposal of mineral materials on 1,896 acres of federal mineral estate would not be authorized from December 1 through March 31 to prevent disturbance to wintering deer and elk.

Livestock Grazing Management. Grazing of domestic sheep within the unit would be excluded. Fences would be modified to facilitate pronghorn antelope movement onto historical ranges. Non-conflicting livestock management objectives, projects and mitigating measures would be incorporated into new CRMAPs or other activity plans. Facility development, treatments, and projects would be permitted if compatible with wildlife habitat management objectives. All additional forage made available as a result of vegetative treatments would be allocated, in priority order, to watershed needs and then to livestock.

Visual Resource Management. The unit would be managed according to VRM Class III (2,320 acres) and VRM Class IV (11,457 acres) objectives.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT B-14

Land Ownership: 21,870 acres of Public Surface; 4% of the Planning Area

This unit contains sage grouse nesting and high production areas.

This management unit is located in six different areas, generally on sagebrush-covered rolling-terrain in the eastern and central part of the planning area. The unit contains important sage grouse nesting and high production areas. Lands within this unit support part of the third largest sage grouse population in Colorado. Most of the public lands in the unit are available for livestock grazing. The unit surrounds or contains riparian areas. The sage grouse vegetative communities within this unit provide important sage grouse nesting habitat, year-round food sources, cover for young birds (brood areas), and mating/strutting habitat (leks). Concerns within the unit include disturbances to nesting or strutting sage grouse, poor quality and below-potential sage grouse nesting habitat; large-scale sagebrush removal treatments within or near nesting habitat and leks; utilization within treated areas that has resulted in sagebrush reinvasion and a subsequent lack of grasses and forbs within nesting and lek areas; and removal of sage grouse winter habitat (tall, dense sagebrush in drainages as a result of treatments) is another concern.

This management unit would be managed to improve and maintain sagebrush vegetative communities in order to optimize sage grouse populations, such that the existing number of birds could be doubled. Sagebrush treatments to improve sage grouse habitat would be incorporated into all CRMAPs and their design, implementation, and management would include as a minimum the standards and techniques in Appendix A.

Proposed habitat improvements within sage grouse high production areas in the unit would be implemented and managed to maintain and improve these areas crucial to sage grouse populations. All leks would be protected from destruction. No surface disturbing activity would be permitted within 1/4 mile of all lek locations during the April 1 through May 31 strutting season to prevent disturbance to sage grouse while mating.

Federal oil and gas estate at all sage grouse leks in the unit (45 acres under federal surface) would be open to leasing with a no surface occupancy stipulation to prevent lek destruction. Federal oil and gas estate within a 1/4 mile radius of all sage grouse leks in the unit (465 acres under federal surface and 445 acres of split estate) would be open to leasing with seasonal stipulations on drilling and seismic activities being in effect from April 1 through May 31 to prevent disturbance to strutting sage grouse. Variances to these stipulations could be granted (see Appendix K).

Disposal of mineral materials on 910 acres of federal mineral estate within a 1/4 mile radius of all leks in the unit would not be authorized from April 1 through May 31 to prevent disturbance to strutting sage grouse. Disposal of mineral materials on federal mineral estate at all lek locations in the sage grouse unit (45 acres) would not be authorized in order to prevent destruction of leks.

Soils. Sagebrush or other vegetative treatments on soils with a moderate to severe erosion condition would be designed and implemented to improve plant basal cover and erosion conditions according to the Montrose District Rangeland Treatment Handbook.

Riparian Zones. Improvement strategies would be implemented in drainages and riparian ecosystems and included in CRMAPs or other activity plans in order to improve sage grouse winter and brood-rearing habitat, and to improve overall hydrologic conditions.

Livestock Grazing Management. Treatments and projects meeting sage grouse habitat management objectives for this unit would be permitted. Additional forage made available would be allocated, in priority order, to watershed needs and then to livestock. Domestic sheep would be permitted to utilize the portions of allotments 6100 and 6101 in the unit only after June 1 to prevent disturbance to nesting sage grouse and nest destruction during nesting periods.

Visual Resource Management. The unit would be managed according to VRM Class II (43 acres), VRM Class III (1,205 acres), and VRM Class IV (20,622 acres) objectives.

Rights-of-Way. Public land in the unit within 1/4 mile of all leks would be classified an exclusion area for rights-of-way.

Rights-of-Way Corridors. Public lands within one-half mile on either side of the centerline of the existing WAPA 230 kv electrical transmission line (one-mile total width) would be designated a 33 rights-of-way corridor.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT B-15

Land Ownership: 145,417 acres of Public Surface; 25% of the Planning Area

This unit generally contains "I" category livestock grazing allotments.

This management unit is located throughout the planning area except in the extreme eastern, northeastern, and northwestern portions. The unit consists of intensively managed BLM "I" category grazing allotments. The unit also contains sage grouse nesting areas and stands of suitable commercial forest lands. The unit also contains approximately 6,125 acres of crucial big game winter range (on public lands). Public lands in the unit are located within the Gunnison Extensive Recreation Management Area and provide a variety of recreation resources and opportunities. A popular hang-gliding site is located on Big Mesa. Concerns within the unit are a lack of up-to-date vegetation trend data; a heavy-to-severe utilization of riparian vegetation by livestock (and a comparatively slight-to-moderate percentage utilization of vegetation in areas outside riparian

ecosystems) resulting in below-potential forage production, undesirable plant compositions, stream channel and stream bank erosion and instability and other hydrological problems within riparian ecosystems; total forage production being far below potential; utilization of forage on public lands within a portion of the unit before range readiness criteria are met; sagebrush treatment location, design, and their later management; recreation users causing livestock control and management problems by leaving gates open; an unchecked increase in noxious weeds and their potential to reduce forage production and danger to livestock; and the shortage of AMPs.

The unit would be managed to increase livestock forage production and productivity, and improve or maintain soil and riparian ecosystem conditions. Coordinated Resource Management Activity Plans or AMPs would be developed and existing AMPs would be updated as needed using CRMAP standards and procedures. Existing livestock facilities and land treatments would be maintained and new facilities and treatments would be developed according to updated or new AMPs or CRMAPs. New or additional available forage would be allocated, in priority order, 1), for watershed needs, 2) for wildlife habitat, and 3), then for livestock grazing. Rangeland vegetation monitoring and inventory for condition, trend, and utilization patterns would continue. Interim Grazing Management Criteria would be implemented according to Standard Management for Livestock Grazing Management to correct livestock utilization patterns and premature turnout dates until new or revised CRMAPs, AMPs, or other activity plans are prepared and implemented. Recreation management objectives would be included in CRMAPs or AMPs developed for allotment 6018 on High Mesa.

Federal mineral estate totalling 262 acres would continue to be withdrawn from mineral entry and location under the mining laws at the Big Mesa electronic communication site. Ten acres of federal oil and gas estate under federal surface would not be available for leasing at a U.S. Forest Service administrative site. Mineral material disposal would not be permitted on ten acres at the administrative site.

Special Status Plant and Animal Species. Ten acres of federal oil and gas estate under federal surface would be open to leasing with a no surface occupancy stipulation to protect populations of skiff milkvetch. Disposal of mineral materials would not be authorized on these same lands to prevent possible destruction of these plants.

Wildlife Habitat Management. Federal oil, gas, and geothermal estate (6,125 acres under federal surface and 515 acres of split estate) would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect on crucial big game winter range from December 1 through March 31 to prevent disturbance to wintering deer and elk. Disposal of mineral materials would not be permitted on 6,640 acres of federal mineral estate from December 1 through March 31 within crucial big game winter range to prevent disturbance to wintering elk and deer.

Forest Management. In order to increase the production and growth of young, vigorous aspen for big game forage, harvesting of aspen stands would have a high priority for commercial sales and the planned harvests would be designed and conducted to accomplish this objective.

Recreation Management. One area on High Mesa would be developed for overnight camping (approximately 10 campsites). A hiking trail would be constructed into the Rock Creek area (T. 45 N., R. 1 W., Section 16). Motorized vehicular traffic in the unit on public lands in the area north of U.S. Highway 50, south of Sections 17 and 18, T. 51 N., R. 1 W., NMPM, east of West Antelope Creek, and west of the Gunnison River would be limited to designated routes from December 1 through March 31, if necessary due to big game herd concentrations or excessive snow depths in order to prevent disturbance to wintering big game. The remainder of public lands in the unit would be open to motorized vehicular use.

Visual Resource Management. The unit would be managed according to VRM Class II (27,508 acres), VRM Class III (35,106 acres), and VRM Class IV (81,366 acres) objectives. If feasible, rehabilitation measures would be conducted on 1,437 acres of public lands classified as VRM II R and IV R (lands with existing man-made visual intrusions) in order to improve scenic quality.

Transportation and Access. Administrative access would be acquired into the Huntsman Mesa area from Colorado Highway 149 for livestock grazing management and public access would be acquired into the Vulcan/Big Mud Pond area and into public lands east of Deer Beaver Creek for recreation and livestock grazing management and into Willow Creek in the Blue Mesa area for commercial forest, livestock grazing, and recreation management.

Rights-of-Way Corridors. Public lands within one-half mile on either side of the centerline of the existing WAPA 230 kv electrical transmission line (one-mile total width) would be designated a right-of-way corridor.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT B-16

Land Ownership: 6,900 acres of Public Surface; 1% of the Planning Area.

This unit generally contains suitable commercial forest lands.

This management unit consists of many areas of suitable commercial forest lands of various sizes, and is generally located in the southwestern portion of the planning area at higher elevations on High Mesa, Horse Mesa, and Blue Mesa. Two areas of this unit are adjacent to the north boundary of the Powderhorn Primitive Area (management unit B-2). The unit contains commercial quantities of sawtimber, poles, wildings, and posts. Concerns within the unit are conflicts of timber harvesting with wildlife habitat management goals and recreation uses. Concerns also arise from logging truck traffic and new access provided by logging roads. Livestock browsing and grazing in reforested areas, resulting in less-than-desired potential growth is also a concern.

This unit would be managed to enhance, maintain and harvest suitable commercial forest products for sustained yield production within allowable cut restrictions. Approximately 200 thousand board feed (MBF) of commercial timber would be available for sale/harvest annually on a sustained yield basis, approximately 26 percent (52 MBF) being aspen. Emphasis would be placed on the harvest of over-mature and pest-killed trees. Selective cutting practices would apply to most harvesting, except for aspen and lodgepole stands in which small clear-cuts would occur. Approximate annual outputs for other forest products would be 50 cords of fuelwood, 50 Christmas trees, and 200 wildings. Approximately 250 acres would be reforested, (backlog reforestation). All plans for timber harvest would include the conditions and standards in Appendix A in order to help improve or maintain non-game wildlife habitat. Site preparation (mechanical/burning) would occur where appropriate. A Forest Management Plan (FMP) would be written, or would be incorporated into new CRMAPs. Timber harvest would be designed and implemented to be compatible with the objectives of this alternative and management unit prescription. Skid trails, logging, decking/staging areas, and temporary roads would be closed and rehabilitated, and main haul roads would remain open as specified in FMPs or CRMAPs.

Soils and Water Resources. Erosion control objectives, projects, and mitigating measures would be incorporated into new FMPs or CRMAPs that include timber harvest plans.

Livestock Grazing Management. Livestock would be temporarily excluded within reforested/treated areas in order to permit successful reforestation and regrowth.

Visual Resource Management. The unit would be managed according to VRM Class II (1,991 acres, VRM Class III (1,775 acres), and VRM Class IV (1,660 acres) objectives. If feasible, rehabilitation measures would be conducted on 1,474 acres of public land classified as VRM II R, III R, and IV R (lands with existing man-made intrusions) in order to improve scenic quality.

Transportation and Access. Administrative access would be acquired into T. 47 N., R. 5 W., Sections 9 and 10, and into commercial forest stands on the north side of the northwest quarter of the Powderhorn Primitive Area (Management Unit B-1) for commercial forest management.

Fire Management. Wildfires in the unit would be suppressed under the conditional suppression category.

MANAGEMENT UNIT B-17

Land Ownership: 3,540 acres of Public Surface; less than 1% of the Planning Area

This unit contains lands generally prospectively valuable for geothermal resources.

This management unit consists of lands that are considered prospectively valuable for geothermal resources based on available minerals data. Grazing allotments in the unit are categorized as either "M" or "C". Federal oil, gas, and geothermal estate occurs under 3,540 acres of federal surface and under 9,160 acres of split-estate. The likelihood for occurrence of oil and gas resources in the unit is classified as low or none. The unit is located within the Gunnison Extensive Recreation Management Area (ERMA).

The unit would be managed for potential geothermal and oil and gas development. All federal oil, gas, and geothermal estate within the unit (3,540 acres under federal surface and 9.160 acres of split estate) would be open to leasing with stipulations applicable according to Standard Management for Oil, Gas and Geothermal Resources. The most reasonable, foreseeable development scenario for oil, gas, and geothermal resources in the unit (and the entire Resource Area) is that a maximum of one Application for Permit to Drill would be received, and total approximate disturbance would be five acres. All activities and land uses that are consistent with maintaining the geothermal, oil, and gas development potential would be permitted.

Recreation Management. Public lands within the unit would be managed and/or developed according to the objectives for the ERMA in Standard Management for Recreation.

Visual Resource Management. The unit would be managed according to VRM Class II (1,695 acres), VRM Class III (1,385 acres), and VRM Class IV (460 acres) objectives.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT B-18

Land Ownership: 1,830 acres of Public Surface; less than 1% of the Planning Area

This unit contains lands generally having a high likelihood for the occurrence of Coal resources.

This management unit is located in the extreme north and west areas of the planning area. Lands within the unit possess a high likelihood for the occurrence of coal resources, based on available information and one existing 200-acre coal lease (private surface). Federal coal estate occurs under 1,830 acres of federal surface and under 6,945 acres of split-estate lands. All grazing allotments in the unit are categorized as either "M" or "C". The unit is located within the Gunnison Extensive Recreation Management Area (ERMA). Part of the popular High Mesa area, which is used by a variety of the public, is within the unit and contains important recreation and visual resources and forest products.

This unit would be managed for both existing and potential coal development. The federal unleased coal estate in the unit (1,830 acres under federal surface and 6,945 acres under non-federal surface) would not be available for leasing without amendment to the approved resource management plan. A RMP amendment for coal leasing would be prepared after a coal lease application was filed by an individual or company interested in developing and mining the area. The amendment would consist of an identification of areas with potential for development, application of 20 criteria to identify those areas which are unsuitable for mining, an analysis of the tradeoffs necessary to protect other resources and uses that are unique or important, and consultation with effected surface owners. The amendment would be accompanied by an environmental analysis of the impacts of the mining and development, including the social and economic impacts to local communities. The existing 200-acre coal lease in the unit would be continued and approximately 5,000 tons of coal annually would be produced from the lease.

Visual Resource Management. The unit would be managed according to VRM Class II (1,518 acres), VRM Class III (265 acres), and VRM Class IV (47 acres) objectives.

Livestock Grazing Management. Public lands totalling 320 acres would continue to be unavailable for grazing in the Wildcat Creek drainage to help maintain and protect the quality of Crested Butte's water supply, and along the Slate River recreation tract to avoid incompatible land uses on the tract.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT B-19

Land Ownership: 1,193 acres of Public Surface; less than 1% of the Planning Area.

This unit contains lands generally having a high potential for the occurrence of locatable minerals.

This management unit occurs in two areas within the planning area (near Iris and Midway) and contains lands with a high potential for the occurrence of locatable minerals, based on available minerals data. Grazing allotments in the unit are categorized as either "M" or "C". The unit is located within the Gunnison Extensive Recreation Management Area (ERMA). Federal mineral estate consists of 1,193 acres under federal surface and 1,075 acres of split-estate lands. There are 510 acres of non-federal minerals under non-federal surface in the unit.

The unit would be managed to provide for the development of locatable minerals, leasable minerals, and saleable mineral materials (sand, gravel, and other saleable mineral material), on 1,193 acres of federal mineral estate under federal surface and 1,075 acres under private surface. Non-federal mineral estate (510 acres) under non-federal surface would not be effected in this unit.

Visual Resource Management. The unit would be managed according to VRM Class IV (1,193 acres) objectives.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT B-20

Land Ownership: 19,601 acres of Public Surface; 3 % of the Planning Area.

This unit consists generally of general resource lands.

This management unit is located throughout the planning area. The unit contains public lands within "M" (11,015 acres) or "C" (1,040 acres) category grazing allotments. Crucial big game winter range (925 acres) and bighorn sheep habitat (442 acres) occurs in the unit. Federal mineral estate occurs under 20,652 acres of federal surface and under 64,023 acres of non-federal surface. The unit is located within the Gunnison Extensive Recreation Management Area (ERMA). Concentrated public recreation use occurs on an approximately 400 acre tract of public land on the Slate River (camping, picnicking). Suitable commercial forest lands in the unit (3,320 acres) are available for sustained yield harvest.

In general, the public lands would be managed according to the policy assumptions in this alternative and Standard Management. No major BLM funded projects or facilities would be developed. Habitat, vegetation, and other resource studies would be minimal. Specific resource management in this area would be prescribed as follows. Measures would be included in all plans for surface disturbing activities to prevent disturbance to wintering big game.

Federal mineral estate totalling 83,842 acres would be open to mineral entry and location under the general mining laws. Federal mineral estate currently withdrawn from mineral entry and location would continue to be withdrawn.

Federal Oil, gas, and geothermal estate (980 acres under federal surface and 2,500 acres split-estate) would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from December 1 through March 31 within crucial big game winter range to prevent disturbance to wintering

elk and deer. Variances to this seasonal stipulation may be granted (see Appendix K).

Disposal of mineral materials on 3,480 acres of federal mineral estate would not be permitted from December 1 through March 31 within big game crucial winter range to prevent disturbance to wintering deer and elk.

Livestock Grazing Management. Livestock grazing would be excluded along the Slate River recreation tract to avoid incompatible land uses on the tract.

Forest Management. Approximately 200 thousand board feet (MBF) of commercial timber would be vailable for sustained yield harvest annually. Forest Management Plans (FMPs) would be written.

Recreation Management. Motorized vehicular traffic in the unit on public lands in the area north of U.S. Highway 50, south of Sections 17 and 18, T. 51 N., R. 1 W., NMPM, east of West Antelope Creek, and west of the Gunnison River would be limited to designated routes from December 1 through March 31, if necessary, due to big game herd concentrations or excessive snow depths in order to prevent disturbance to wintering big game. The remainder of the public lands in the unit would be open to motorized vehicular traffic. The tract of public land along the Slate River would be developed for day-use and overnight recreation.

Visual Resource Management. The unit would be managed according to VRM Class II (6,787 acres), VRM Class III (4,217 acres), and VRM Class IV (8,428 acres) objectives. If feasible, rehabilitation measures would be conducted on 169 acres of public land classified as VRM III R and IV R (lands with existing man-made visual intrusions) in order to improve scenic quality.

Transportation and Access. Public access would be acquired into the Rock Creek Park Area for recreation and livestock grazing management.

Acquisition of non-Federal Lands. If available, non-federal lands would be acquired if they would enhance or increase management of crucial big game winter range and bighorn sheep habitat.

Rights-of-Way. Rights-of-way related construction activities would be excluded from December 1 through March 31 on 925 acres of public land on crucial big game winter range to prevent disturbance to wintering big game.

Rights-of-Way Corridors. Public lands within one-half mile on either side of the centerline of the existing WAPA 230 kv electrical transmission line (one-mile total width) would be designated a right-of-way corridor.

Recreation Management. Public lands within the unit would be managed and/or developed according to the objectives for the ERMA in Standard Management for Recreation.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

Withdrawals and Classifications. Lands in the NE 1/4 of Section 34, T. 49 N., R. 5 W. totalling approximately 160 acres currently withdrawn to the Bureau of Reclamation would be recommended for revocation; the lands would be made available for entry under the mineral leasing and general mining and land laws.

ALTERNATIVE C

OBJECTIVES AND RESOURCE RANKINGS

The objectives of Alternative C call for a high degree of resource production and economic return. The natural environment would be maintained, protected, and/or enhanced at a level that is compatible with and not unreasonably restrictive of, the production, harvest, or extraction or use of renewable/non-renewable resources. Legislative mandates would be met.

Since resources have been ranked according to their ability to meet the objectives of this alternative, management actions proposed within this alternative for higher-ranked resources could result in conflicts or incompatible situations with lower-ranked

resources. Thus, in this alternative, all mineral activity, livestock grazing management, and commercial forest management would generally take precedence in the planning area wherever conflicts could occur. In certain instances, however, laws, regulations, or policy required that some management actions would receive overriding priority in conflict resolution regardless of ranking, for example, protection of threatened or endangered species and historical/archaeological resources, according to applicable legislation. Conflicts among other ranked resources were generally resolved with higher-ranking resources taking precedence throughout the planning area.

All actions proposed under this alternative would comply with current applicable state and federal regulations, standards, and policies.

Table C-1 lists the relative ranking of resources, uses, and programs within this alternative. The non-ranked resources and/or program support functions which were considered in this alternative are also listed.

MANAGEMENT UNIT SUMMARY

Table C-2 lists the management units in this alternative by numbers corresponding to the management units shown on map 2, Alternative C.

Acres of public land and important values within each management unit are also shown.

STANDARD MANAGEMENT FOR ALTERNATIVE C

Some resource management programs would be implemented according to standard management directions throughout the planning area under this alternative. Management of resources identified as a result of future inventories or discoveries would generally be the same as for resources discussed and identified in this RMP/EIS. Unless changes in or additions to standard management directions are specifically addressed in the prescription for each Management Unit, these resources, programs and activities would be managed as follows:

Air Quality. Activities and projects on public land would comply with applicable local, state, and federal air quality regulations. Mitigation to minimize air quality degradation would be incorporated into project proposals as necessary. Additional air quality monitoring may be implemented by BLM when necessary.

Locatable Minerals. All existing withdrawals that segregate federal mineral estate from location and entry under the general mining laws would be recommended for revocation, and no new withdrawals would be approved. All other federal mineral estate would be open to entry and location under the general mining laws.

Oil, Gas, and Geothermal Resources. Federal oil, gas, and geothermal estate on both federal surface and split-estate lands (private or other non-federal surface estate overlying federal mineral estate) would be open to leasing with standard lease terms. Other special stipulations and conditions for leasing such as no surface occupancy and seasonal restrictions are assigned or specified in each management unit prescription and as deemed necessary; these special stipulations and conditions would also apply to federal surface and split-estate lands. Any special conditions and stipulations (i.e., seasonal closures) prescribed for a management unit would also apply to seismic and drilling activities. See Appendix K for special stipulations and conditions for leasing on both federal surface and split-estate lands, and for an explanation of how stipulations assigned to split-estate lands would be applied, reviewed, waived, modified, or excepted, based on verification of surface and mineral estate resource information by BLM during review of Applications for Permit to Drill (APDs). The most reasonable foreseeable level of oil, gas, and geothermal development throughout the planning area would involve one or two APDs during the life of the plan, with an estimated total of ten acres of surface disturbance. Leasing of any federal minerals within existing Wilderness Study Areas (WSAs) would be prohibited according to existing legislation until either WSAs are released by Congress by non-designation or other Congressional action, or until leasing is no longer prohibited by legislation.

Table C-1

RELATIVE RANKING OF RESOURCES FOR ALTERNATIVE C

RANKING OF RESOURCES OR RESOURCE USES	NON-RANKED RESOURCES AND/OR PROGRAM SUPPORT FUNCTIONS
1. Minerals-locatable	Withdrawal review
2. Minerals-leasable	Fire management
3. Livestock grazing management	Archaeological resources
4. Forest management	Access needs
5. Water power and storage reservoir sites	ROW exclusion and avoidance Areas
6. Minerals-saleable	Non-game wildlife habitat
7. Recreation	No surface occupancy restrictions
8. Soils and water resources	Other restrictions
9. Riparian zones	Land tenure (acquisition/disposal)
10. Wildlife habitat	Social and economic conditions (concerns)
11. Special status plant and animal species and habitat	Off-highway vehicle designations
12. Historic resources	Air quality
13. Rights-of-way corridors	Hazards management
14. Visual resources	

Table C-2

MANAGEMENT UNIT ACRES AND VALUES IN ALTERNATIVE C

MANAGE-MENT UNIT	ACRES OF PUBLIC LAND	PERCENTAGE OF THE PLANNING AREA[1]	IMPORTANT VALUES RESOURCES OR LAND USES
C-1	91,772	16%	Minerals - locatable
C-2	2,875	Less than 1%	Minerals - coal
C-3	56,195	10%	Minerals - geothermal
C-4	326,735	56%	Livestock grazing
C-5	17,880	3%	Forestry
C-6	7,927	1%	Recreation
C-7	21,305	4%	Recreation
C-8	1,727	Less than 1%	Recreation
C-9	1,117	Less than 1%	Riparian
C-10	602	Less than 1%	Riparian
C-11	120	Less than 1%	Riparian
C-12	25,102	4%	Wildlife
C-13	1,050	Less than 1%	Wildlife
C-14	3,435	Less than 1%	Wildlife
C-15	7,272	1%	Wildlife
C-16	19,898	3%	General land uses

[1] NOTE: Rounded to whole numbers; % of Public Land (surface estate) in the planning area that is located in each Management Unit in this alternative.

Saleable Minerals. Disposal of mineral material on federal mineral estate would be permitted. Disposal of mineral materials from specific areas is discretionary with the authorizing official and would be determined on a case-by-case basis.

Soils and Water Resources. Soil and water resources would continue to be monitored to define problem areas, develop management strategies, and to determine effectiveness of solutions. The sediment control plan for Long Gulch and other plans would continue to be implemented. Vegetation treatments on soils having a moderate to severe erosion potential, and lacking adequate plant basal cover (see Montrose District Soil Erosion Monitoring Guidelines), would be designed and managed to increase plant basal cover, therefore reducing erosion. Vegetation treatments would be designed and implemented in accordance with the Montrose District Rangeland Treatment Handbook. Best management practices would be employed to help reduce soil erosion. Water rights would be applied for where appropriate.

Vegetation. Manage vegetation resources for a high level of commodity production and economic return. Maintain or increase production of those plants that contribute to this objective.

Desired plant communities would be described and developed in activity plans to meet specific activity plan objectives.

In riparian areas, maintain, restore, or improve riparian values, including herbaceous and woody plants, to achieve the diversity and vigor necessary for 1) the hydrological functioning of riparian systems, 2) the control of accelerated soil erosion and, 3) sustained high quality livestock forage.

Riparian Zones. Riparian areas would be managed to maintain, restore, or improve overall conditions (hydrological, soil and vegetation) and to increase forage production. Riparian areas would be inventoried and prioritized where necessary to determine site-specific management strategies. Existing riparian improvements would be maintained. Strategies, projects, or improvements would be included in activity plans or Coordinated Resource Management Activity Plans (CRMAPs) and would be implemented first in higher priority areas. New water sources would be developed with concern for the protection of riparian areas. Existing water source developments within riparian areas would be modified or relocated, if inventories and studies indicate the hydrologic condition is being negatively impacted.

Special Status Plant and Animal Species and Habitat. Habitat supporting existing populations of threatened and endangered species (T&E sp.) including candidate and BLM sensitive species would be maintained and protected to ensure suitable habitat conditions and viable populations. T&E sp. would continue to be inventoried and monitored to provide information for future management. Measures to protect T&E sp. and associated habitat would be required in all plans for surface-disturbing activities. Supplemental releases and reintroduction of T&E sp. and candidate or BLM sensitive species could be authorized following preparation of a release or reintroduction plan and environmental analysis, and consultation with the United States Fish and Wildlife Service (USFWS), Colorado Division of Wildlife (CDOW), and other affected parties.

Wildlife Habitat Management.

Terrestrial Wildlife and Habitat

Elk and Deer Habitat: The Habitat Management Plan (HMP) for the planning area would be revised and implemented consistent with BLM's Fish and Wildlife Plan for Colorado - Program for the Decade. Measures to increase important deer and elk winter forage shrub species on uplands and riparian areas within crucial winter ranges would be determined and treatments implemented through activity plans to help achieve CDOW long-range herd goals (CDOW, April 1985) of 9,000 elk and 16,600 deer. Crucial elk and deer winter range and forest lands would be inventoried for condition, and monitored for utilization and trend relative to big game habitat. Public lands would be inventoried to identify elk calving areas. Reductions in CDOW's elk and deer long-range herd goals would be recommended for an interim period in certain Game Management Units (GMUs) until the vigor

and production of the important forage shrubs on crucial winter ranges increases such that habitat would support long-range herd numbers. See Appendix A for long-range herd goals, and interim numbers to be recommended.

Pronghorn Antelope and Bighorn Sheep Habitat: Inventories would be conducted to identify suitable areas in which to establish new populations of bighorn sheep and pronghorn antelope; supplemental releases and reintroduction could be authorized by the District Manager following environmental analysis. Pronghorn antelope and bighorn sheep habitat on public lands would be managed for 500 and 50 animals respectively. Inventories would be conducted to identify bighorn sheep lambing areas and suitable winter range. Monitoring studies would be established within pronghorn antelope ranges.

Sage grouse Habitat: Identified sage grouse brood-rearing habitat and nesting areas, and winter habitat would be maintained. Sagebrush and riparian vegetation would be managed to achieve a harvest goal of 500 grouse annually.

Non-game Wildlife Habitat: Endemic non-game animal species habitat would be maintained by 1) providing a variety of native plant species and vegetative structure in upland and riparian areas, 2) maintaining the ecological condition of sagebrush communities, and 3) increasing non-game habitat within forest lands if the commercial timber base would not be decreased. Raptor nesting inventories and monitoring studies would be updated to identify nesting areas and establish population trends.

Fishery Resources (Aquatic Habitat)

Fishery streams and associated riparian zones would be managed to maintain or improve overall conditions (hydrological, soil and vegetation). Fishery streams and aquatic habitat would be inventoried and monitored to determine site-specific management strategies to restore and enhance fishery resources. Inventory information would be used to determine strategies, projects, or improvements to be included in a revised Resource Area Wildlife HMP, CRMAPs, and other activity plans as they are prepared or revised. The objectives and goals contained within the BLM and Forest Service Recreational Fisheries Policy, 1990, or as amended, would be implemented to the degree that meets the objectives of this alternative.

Livestock Grazing Management. All suitable public lands would be available for grazing. Livestock grazing would be authorized and managed to increase forage production and improve the conditions of forage and rangeland resources. Livestock grazing on all "I", "M" and "C" category allotments would be generally managed at current forage allocation levels based on objectives in the Gunnison Resource Area's 1987 Rangeland Program Summary (RPS) and updates, until studies and/or monitoring indicates adjustments are needed.

The following Interim Grazing Management Criteria (IGMC) would be implemented on all livestock grazing allotments to correct uneven utilization patterns and premature turnout dates until CRMAPs or Allotment Management Plans (AMPs) are developed or revised. These criteria would apply to all upland and riparian areas.

1. Range readiness criteria (soil condition and the phenological stage of key forage species as described in the Rangeland Monitoring Plan for the Gunnison Resource Area) would determine when grazing would begin in the spring. Range conditions in allotments would be monitored for three years following any newly established turnout dates in order to establish average turnout dates. Range readiness would remain the deciding factor in modifying average turnout dates. Earlier turnout dates could be established for allotments managed under an AMP.

2. Total forage utilization, including that by livestock, would not exceed the moderate level (40-60% of the current year's growth by weight of key forage species in order to provide a grass stubble, or residual cover) for protection of plants and soil, to provide quality wildlife forage and cover, and to allow soil moisture recharge during spring runoff.

Allotment Management Plans would be developed or revised for all "I" allotments, based on objectives

in the Gunnison Resource Area's 1987 RPS and updates.

New or additional available forage would be allocated to livestock then to protect and manage watershed resources. Existing livestock facilities would be maintained. New livestock facilities and land treatments would be developed according to existing, new, or revised AMPs. Rangeland vegetation monitoring and inventory for condition, trend, and utilization patterns would continue, in order to provide information to prepare AMPs and manage livestock grazing within "I" category allotments. Existing categorization of all allotments would be continued.

A cooperative noxious weed control program would be initiated with county governments within the planning area.

Forest Management. All suitable commercial forest lands and woodlands would be managed for sustained yield production within the allowable cut restrictions and guidelines determined by the Timber Production Capability Classification (TPCC) inventory. Special emphasis would be placed on the harvest of over-mature and pest-killed trees.

Recreation Management. Recreation resources within the Alpine Triangle, Cochetopa Canyon, and the Powderhorn Primitive Area Special Recreation Management Areas (SRMAs) would be managed and developed as long as the activities are non-conflicting with higher-ranked resources in this alternative. Existing Recreation Area Management Plans (RAMPs) or activity plans would be revised to accommodate prescriptions for the management units that occur within the boundaries of the three SRMAs. A RAMP, for the Powderhorn SRMA , would be prepared. The remaining public lands within the planning area would be managed as an Extensive Recreation Management Area (ERMA) for a diversity of dispersed recreation opportunities. Non-conflicting, small-scale recreation facilities would be developed. Public lands would be open for OHV use. Recreation priorities and goals within BLM's Recreation 2000 Program would serve as general direction for compatible recreation development and management. Recreation Opportunity Spectrum (ROS) settings would be re-examined in three SRMAs and modified if necessary. See maps in Appendix F for SRMA boundaries,and for a map of OHV designations for this alternative.

The number of recreation visitors to the Planning Area is expected to decrease by an unknown percentage under this alternative.

Wild and Scenic River Segment. No portion of the Lake Fork of the Gunnison River would be recommended in this alternative as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System. Values and resources on public lands within Study Segment A would be managed according to the prescriptions for Management Units C-1 and C-7 and STANDARD MANAGEMENT for this alternative.

Visual Resources. Visual Resource Management (VRM) class objectives would be considered in all plans for surface disturbing activities. The authorized officer would have the discretion to authorize the implementation of activities that result in visual impacts that do not meet VRM class objectives. Public lands would be managed under current Visual Resource Management (VRM) classifications and guidelines except in Management Units C-1, C-2, C-3, C-4, and C-5. See individual management unit prescriptions for VRM classes.

Wilderness Study Areas. Wilderness Study Areas would be managed according to BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review (IMP), including all areas currently recommended to Congress for wilderness designation, until Congress decides on designation regarding each area. Any area(s) acted on by Congress and not designated as wilderness would be managed according to the applicable management unit prescriptions in this alternative. Wilderness Management Plans would be prepared for any area(s) designated and the area would be managed as wilderness. See Appendix F for WSA maps and acres in each Management Unit in this alternative.

Archaeological and Historical Resources. Protection of cultural resource values would be

considered in all land use activity plans. Class I inventory data would be consulted prior to all proposed surface disturbing activities to determine the need for inventories. Prior to surface disturbing activities occurring, Class III inventories would be conducted. Cultural resources identified or discovered would be evaluated according to BLM's Cultural Resource Use Categories and/or considered for mitigation as required by statute. Significant cultural resources would be interpreted to increase understanding and enjoyment for the recreating public. Measures designed to protect cultural resource values would be required in all plans for surface-disturbing activities.

Paleontological Resources. Inventories would be completed in areas containing the potential for the occurrence of paleontological resources prior to any surface disturbing activity, and measures to protect known or discovered fossil values would be implemented.

Transportation and Access. In addition to the specific access needs identified in the management unit prescriptions, the access needs identified in the resource area's transportation plan would be acquired as opportunities arise.

Disposal of Public Lands. Public lands in the planning area would be categorized as follows in this alternative for disposal and multiple use management purposes.

Category I lands: A total of 63 tracts of public land totalling approximately 7,986 acres would be identified for consideration for disposal through public sale under criteria in Section 203 of FLPMA. These tracts are shown on Map 2, the map of Alternative C. Federal mineral estate would be conveyed with surface estate where feasible and in the public interest. See Appendix D for descriptions of tracts and the sale criteria met. Disposal determination would be contingent on these lands meeting NEPA and other statutory requirements. Other means of disposal for these tracts would not be precluded. A land sale/disposal activity plan would be prepared for these tracts indicating disposal techniques, priorities, and implementation timing.

Category II lands: These are public lands exclusive of public land in Category I. These category II lands would be identified to be managed by BLM for multiple use management purposes. The lands in this category would also be identified for consideration for disposal on a case-by-case basis through exchange, boundary adjustments, state indemnity selection, Recreation and Public Purpose Act applications, or other appropriate statute or authority, if disposal serves the public interest. These lands would not be identified for consideration for disposal through public sale as covered in Section 203 of FLPMA. These lands would be available for consideration for disposal through exchange if the exchange would result in 1) consolidated land patterns, 2) improved manageability of lands and resources, or 3) if the exchange would otherwise be in the public interest, within the context of the provisions of Section 206 of FLPMA. These lands are not identified on the map of Alternative C.

Acquisition of Non-Federal Lands: Non-federal lands surrounded by or adjacent to Category II lands would be considered as being suitable for acquisition on a case-by-case, willing seller-willing buyer basis in order to enhance Bureau management and production of resources. Acquisition would be contingent on these lands meeting 1) NEPA requirements and 2) one or more of the criteria for acquisition found in Appendix D.

Rights-of-Way. Public lands within the planning area would be open to the location of rights-of-way, subject to stipulations in Management Unit prescriptions and standard terms, conditions, and stipulations contained in records of decision issued for each application.

Rights-of-Way Corridors. Four existing electrical transmission lines 69 kv or larger would be designated as utility rights-of-way (R/W) corridors (See Table C-3). These corridors would be priority areas for location of major utilities in the planning area. Alternative routes would not have to be analyzed in environmental assessments for utilities proposed within these corridors. Proposals for new, major utilities would be subject to stipulations contained in management unit prescriptions. Table

C-3 notes management units crossed by each corridor. All corridors would be one mile wide (1/2 mile each side of the centerline). A 1000-foot wide R/W window would be designated across management units C-9 and C-10. All other public lands would be considered open for consideration of major utilities.

Fire Management. Wildfires on public land would be suppressed according to a "conditional suppression" policy unless located within a "full suppression" area. Refer to Appendix L for maps showing these suppression areas within the planning area for this alternative. Within conditional suppression areas, there are isolated parcels (i.e., public lands adjacent to private lands within recreation areas) where full suppression of wildfires would occur in order to protect valuable resources, investments, facilities, life, property and safety. Prescribed fires for resource management could occur according to approved fire management plans.

Withdrawals. Public lands currently under withdrawal that segregate the land from mineral entry and location under the general mining laws and from appropriation under the general land laws would be recommended for revocation. If public lands under withdrawal to another agency are relinquished, these lands would be managed according to the management unit prescription in which the lands are located. Periodic review of existing withdrawals to other agencies would continue in order to determine if the need for each continues to exist.

Water Power and Storage Reservoir Sites. The planning area would be open to the location of water power and storage reservoirs. Inventoried and identified potential waterpower and storage reservoir sites would be restrictively managed for these uses. Before any uses occur, or facilities are developed, on lands withdrawn for power purposes, that would preclude or conflict with waterpower or storage development, the Federal Energy Regulatory Commission would be contacted regarding withdrawal status and need for the site.

Hazards Management. Hazard sites/areas would be reviewed on a case-by-case basis. Management of other resources would always involve the needed reclamation of known hazard sites/areas as part of fulfilling objectives for management of that resource. On completion of this plan, a hazard reclamation activity plan for known sites/areas would be developed. If the known hazard site is in or adjacent to an area where a coordinated resource management activity plan (CRMAP) is to be done, the reclamation activity plan would be combined with that CRMAP.

Existing sites/areas from past mineral development, which are considered to be potentially hazardous because of high side walls, deep pits, etc., would very likely continue until the Colorado Mined Land Reclamation Hazard abatement project is completed. The goal of this long-term project is to eliminate the hazards of these sites/areas, and BLM would continue to fully cooperate with this agency in this effort.

The Bureau would continue to control trespass dumping on BLM lands through increasing public awareness, signing, and monitoring these site/areas. A planning area reclamation activity plan would provide the details as to on-site closures, signing, site reclamation needs, etc., to implement hazard abatement.

Law Enforcement. Bureau patrols and law enforcement activities by authorized personnel would be conducted on a priority or demand basis as needed. Information dissemination and education regarding BLM resource management and regulations would be carried out during visitor or public contacts by BLM rangers.

Table C-3

UTILITY R/W CORRIDORS

CORRIDOR	MANAGEMENT UNITS CROSSED
Western Area Power Administration 230 Kv Curecanti - Salida	C-3, C-4, C-9[1], C-10[1], C-12, C-15
Western Area Power Administration 115 Kv Blue Mesa, Gunnison, Salida	C-3, C-4, C-9[1], C-10[1], C-16
Colorado Ute Electric Association 115 Kv Gunnison - Crested Butte	C-12
Colorado Ute Electric Association 115 Kv Blue Mesa - Lake City	C-3, C-4, C-5, C-7, C-12, C-16

[1] NOTE: A 1,000-foot wide window would be designated across these units.

MANAGEMENT UNIT PRESCRIPTIONS FOR ALTERNATIVE C (C-1 THROUGH C-16)

The following management unit prescriptions comprise Alternative C. Acreage figures used are approximate. Table C-2 and map 2 identify the management units that were delineated. Unless modified within the following Management Unit prescriptions C-1 through C-16, resources or programs in this alternative would be managed according to the Standard Management above. If not specifically mentioned in a prescription, resources and programs would be managed according to direction contained in the Standard Management section.

In all alternatives in this RMP/EIS, all WSAs in the planning area would be managed under BLM's IMP, including those lands that have been recommended for wilderness designation through the Gunnison Basin and the American Flats/Silverton Wilderness Final Environmental Impact Statement (August 7, 1987) and the Powderhorn Wilderness Final Environmental Impact Statement and Wilderness Suitability Report (1984). If Congress designates public lands in any part of any WSA in the planning area as wilderness, those lands would be managed as wilderness. If, during the life of the plan, Congress acts on and decides to not designate any part of any WSA in the planning area as wilderness (effectively removing it from WSA status), those public lands would be managed according to the actions in the Management Unit prescriptions below for this alternative. Appendix F shows which WSAs occur in the various Management Units in this alternative, and WSA maps.

MANAGEMENT UNIT C-1

Land Ownership: 91,772 acres of Public Surface; 16% of the Planning Area

This unit contains areas with a high probability for the occurrence of locatable minerals.

This management unit occurs within the southern half of the planning area and consists of lands having a high potential for the occurrence of locatable minerals based on available mineral data. Extensive mineral exploration has occurred in the past and currently is taking place in the Gold Basin, Vulcan, Hensen Creek, and Lake San Cristobal areas. The unit contains a wide variety of resources including high quality scenic values; numerous

14,000-foot mountain peaks; heavy recreation visitation; one of two known breeding populations of the Uncompahgre fritillary butterfly; extensive bighorn sheep habitat; important mining-era historical resources; high country tundra in the Lake City area; crucial elk and deer winter range; intensively managed livestock grazing allotments; commercial forest lands; 10 miles of the Segment A of the Lake Fork of the Gunnison River, a segment eligible for inclusion into the National Wild and Scenic Rivers System; and important sage grouse habitat in the rolling sagebrush and arroyo pockets of the Gold Basin/Vulcan areas. A general concern is that these lands could become unavailable for mineral entry and location due to withdrawals.

The unit would be managed to provide for the development of locatable and leasable minerals, and saleable mineral materials (sand, gravel, and other saleable mineral material). No new withdrawals excluding mineral exploration, development, and operation would be recommended. All existing withdrawals that segregate the land from mineral entry would be revoked. Activities and land uses that are consistent with maintaining existing mineral material operations and the overall development potential of the area would be permitted.

Wildlife Habitat Management. Non-conflicting wildlife management objectives, mitigating measures, and projects would be permitted and incorporated into new and existing activity plans.

Recreation Management. Public lands in the unit would be managed for non-conflicting intensive and extensive recreation use.

Wild and Scenic River Segment. The 10-mile long portion of Study Segment A of the Lake Fork of the Gunnison River would be managed according to this prescription and STANDARD MANAGEMENT for this alternative.

Visual Resources. All public lands in the unit would be managed according to VRM class IV objectives to allow for maximum production possibilities.

Transportation and Access. Administrative vehicular access would be acquired into the Deer Beaver Creek area for livestock grazing management and commercial forest management; public access would be acquired into the Bead Creek, Alpine Gulch, and Huntsman Mesa areas for recreation management and livestock grazing management. Other access needs may be acquired.

Fire Management. All commercial forest lands would be managed under the full suppression category. The remaining lands would be managed under the conditional suppression category.

MANAGEMENT UNIT C-2

Land Ownership: 2,875 acres of Public Surface; less than 1% of the Planning Area

This unit contains areas having a high probability for the occurrence of coal resources.

This management unit is located in nine different areas, generally found in the north and west portions of the planning area. The unit contains land with a high potential for coal occurrence; but there is little potential for development based on available mineral data and the current coal interests within the area. Federal coal estate occurs under 2,875 acres of federal surface and under 7,307 acres of split-estate lands. Other resources within the unit include: crucial elk and deer winter range; commercial forest lands; intensively managed livestock grazing allotments; and extensive recreation opportunities found primarily in the western portion of the unit where the mineral estate includes both federal surface and sub-surface. A concern within the unit is the possibility of the coal reserves being unavailable for leasing due to a withdrawal.

The federal unleased coal estate would not be available for leasing without amendment to the approved resource management plan. A RMP amendment for coal leasing would be prepared after a coal lease application was filed by an individual or company interested in developing and mining the area. The amendment would consist of an identification of areas with potential for development, application of 20 criteria to identify those areas which are unsuitable for mining, an

analysis of the tradeoffs necessary to protect other resources and uses that are unique or important, and consultation with effected surface owners. The amendment would be accompanied by an environmental analysis of the impacts of the mining and development, including the social and economic impacts to local communities. The existing 200 acre coal lease in a the unit would be continue and approximately 5,000 tons of coal annually would be produced from the lease.

Livestock Grazing Management. Livestock grazing would continue not to be authorized on 320 acres in Wildcat Creek drainage to help maintain Crested Butte's water supply.

Recreation Management. The unit would be managed as part of the Gunnison ERMA with a planned developed site consisting of a 10-15 unit campground being built on High Mesa.

Visual Resources. All public lands in the unit would be managed according to VRM class IV objectives to allow for maximum production possibilities.

Fire Management. All commercial forest lands would be managed under the full suppression category. The remaining lands would be managed under the conditional suppression category.

MANAGEMENT UNIT C-3

Land Ownership: 56,195 acres of Public Surface; 10% of the Planning Area

This unit contains lands prospectively valuable for geothermal resources.

This management unit consists of three large areas with potential for the development of geothermal resources. These areas are located in the south-central, the far eastern, and the northeastern portions of the planning area. Although the potential for development is present throughout these three areas, available information indicates that the likelihood of this happening during the life of the plan is minimal. The unit contains a number of intensively managed livestock grazing allotments; crucial elk and deer winter range; sage grouse, nest and brood rearing habitat; and commercial forest lands. The unit also offers dispersed recreational opportunities. The only concern within the unit is the potential for lands to be withdrawn from leasing.

The management unit would be managed for oil, gas, and geothermal development. All federal oil, gas, and geothermal estate (55,740 acres under federal surface and 19,690 acres of split-estate) would be open to leasing with standard lease terms.

Visual Resources. All public lands in the unit would be managed according to VRM class IV objectives to allow for maximum production possibilities.

Fire Management. All commercial forest lands would be managed under the full suppression category. The remaining lands would be managed under the conditional suppression category.

MANAGEMENT UNIT C-4

Land Ownership: 326,735 acres of Public Surface; 56% of the Planning Area

This unit contains "I" category livestock grazing allotments.

This management unit is located throughout the planning area except in the northern portion where there is little public surface. Other resources within the unit are: crucial elk and deer winter range, stands of commercial forest lands, and extensive open space which provides a variety of dispersed recreation opportunities. Concerns within the unit are a lack of up-to-date vegetation trend data; heavy-to-severe utilization within riparian vegetation (and a comparatively slight-to-moderate utilization of vegetation in areas outside riparian ecosystems) resulting in below-potential forage production, undesirable plant compositions, stream channel and stream bank erosion and instability and other hydrological problems within riparian ecosystems; total forage production is far below potential for livestock; utilization of forage on public lands before range readiness conditions exist; sagebrush

treatment location, design, and their later management; increased recreation use causing livestock control and management problems; an unchecked increase in noxious weeds and their potential to reduce forage production and danger to livestock; and the shortage of existing allotment management plans.

The unit would be managed to improve vegetative conditions and increase forage availability for livestock grazing on "I" category allotments. As additional forage becomes available, livestock would have priority for allocation. If not needed for livestock, forage would be allocated to protect and manage watershed resources. All "I" category allotments that do not have new AMPs developed, (those developed after the Final 1981 Gunnison Grazing Statement) would be managed according to the IGMCs in Standard Management for Livestock Grazing Management until AMPs can be developed. Rangeland vegetation monitoring and inventory for condition, trend, and utilization patterns would continue with an emphasis placed on those allotments that are being grazed according to IGMCs to assure conformance. A cooperative noxious weed control program for the unit would be initiated with county governments.

Wildlife Habitat Management. Non-conflicting wildlife management objectives, mitigating measures, and projects would be permitted and incorporated into new and existing activity plans. New wildlife treatments that do not decrease livestock forage would be developed. Any additional forage resulting from these treatments would go to watershed needs, then wildlife. Fence modifications would be allowed within antelope ranges to facilitate movement of these animals onto yearlong habitat.

Recreation Management. All non-conflicting recreational activities would be permitted throughout the management unit. The entire unit would be managed as the Gunnison ERMA. The management unit would be open to OHV use except on public lands north of Highway 50 to the USFS boundary, east of Soap Creek, and west of Quartz Creek, which would be limited to designated roads from December 1 through March 31, if necessary, due to herd concentrations or excessive snow depths in order to prevent disturbance to wintering elk and deer.

Visual Resources. All public lands in the unit would be managed according to VRM class IV objectives to allow for maximum flexibility in range land treatments.

Acquisition of Non-Federal Lands. If available, non-federal lands in the unit would be acquired in order to expand existing bald eagle habitat located on public lands along Stevens and South Beaver Creeks.

Transportation and Access. Administrative access would be acquired into Sandy Mesa, Poison Draw, and the Rock Creek areas for commercial forest management and livestock grazing management. Public access would be acquired into Willow Creek and the Big Mud Pond areas for recreation management and commercial forest management.

Fire Management. All commercial forest lands would be managed under the full suppression category. The remaining lands would be managed under the conditional suppression category.

MANAGEMENT UNIT C-5

Land Ownership: 17,880 acres of Public Surface; 3% of the Planning Area.

This unit contains suitable commercial forest lands.

This management unit consists of numerous areas of commercial forest lands of various sizes. These areas are generally located in the southern half of the planning area at the higher elevations on High Mesa/Horse Mesa, Blue Mesa, Indian Creek, and Cebolla/Rock Creek. Several other areas have small pockets of merchantable timber also. The unit contains commercial quantities of merchantable saw-timber, post and poles, and wildings. Concerns within the unit are conflicts of timber harvesting with wildlife habitat management goals and recreation uses. Concerns also arise from logging truck traffic and new access provided by logging roads. Livestock browsing and grazing in reforested

areas, resulting in less-than-desired potential regrowth is also a concern.

The unit would be managed to enhance, maintain and harvest suitable commercial forest products for sustained yield production as determined by TPCC within allowable cut restrictions. Approximately 450 thousand board feet (MBF) of commercial timber would be available for sale/harvest annually, approximately 26 percent (117 MBF) being aspen. Emphasis would be placed on the harvest of over-mature and pest-killed trees. Selective cutting practices would apply to most harvesting, except for aspen and lodge-pole stands in which clear-cuts not larger than 40 acres would occur. Approximate outputs for other forest products would be 500 cords of fuelwood. 500 Christmas trees, and 1000 wildings, also on an annual basis.

Approximately 300 acres of backlog reforestation would be reforested. Site preparation (mechanical/burning) would occur where appropriate. Forest inventories would be completed. A Forest Management Plan (FMP) would be written or would be incorporated into new CRMAPs.

Wildlife Management. Wildlife habitat management objectives, treatments, mitigating measures, and projects that do not decrease the woodland or timber base would be incorporated into new FMPs. Existing wildlife habitat treatments and projects would be maintained if the woodland or timber base would not be decreased. Seasonal closures within elk calving areas would not be considered in this alternative.

Visual Resources. All public lands in the unit would be managed according to VRM class IV objectives to allow for unrestricted forest management and harvest.

Transportation and Access. Administrative vehicular access would be acquired into Middle Blue Creek, Alkali Creek, and the Yeager/Trout Creek areas for commercial forest management.

Fire Management. Wildfires in this management unit would be managed under the full suppression category.

MANAGEMENT UNIT C-6

Land Ownership: 7,927 acres of Public Surface; 1% of the Planning Area

This unit contains back country recreational values.

This management unit consists of three distinct fragmented areas within close proximity of each other. The unit contains a wide diversity of landscapes, high value/heavily visited recreation resources, and scenic natural values. Other resources found within the unit are commercial forest stands and crucial elk and deer winter range. Concerns within the unit include concentrated recreation use which is occurring along existing trails could potentially result in unacceptable impacts to scenic and other resources; conflicts between recreationists; and a general lack of enforcement capabilities to protect the recreation values. The need to protect these recreational values and to facilitate recreation use would be recognized as important during the formulation of management decisions affecting the area.

The unit would be managed for back country and scenic recreational values. The outstanding visual resources and diversity of recreation values would be maintained and enhanced. Human influences would be minimized and natural processes would be allowed to occur. The trail system throughout the unit would receive periodic maintenance. All actions proposed would be non-impairing to those resources ranked higher in this alternative.

Visual Resource Management. The unit would be managed according to VRM Class II objectives.

Fire Management. Wildfires in this management unit would be managed under the conditional suppression category.

MANAGEMENT UNIT C-7

Land Ownership: 21,305 acres of Public Surface; 4% of the Planning Area

This unit contains a variety of recreational opportunities.

This management unit is located in the southwest portion of the planning area paralleling the Lake Fork of the Gunnison River and south to Lake City. A portion of the management unit also lies south of Lake City bordering National Forest lands. The unit is characterized by a steep walled narrow canyon, and a meandering river valley with a variety of vegetation types. Features within the unit include high quality visual resources; several recreational sites, both developed and semi-primitive; fishing access improvements; wildlife interests; 3.3 miles of Segment A of the Lake Fork of the Gunnison River, a study segment eligible for inclusion into the National Wild and Scenic Rivers System; and commercial forest stands. Concerns within the unit include protecting the scenic resources from development happening on private land adjacent to the public land, conflicts regarding recreation users and private land owners, and a general lack of public access.

The unit would be managed to promote the potential development of the recreational opportunities in Semi-Primitive Non-Motorized and Semi-Primitive Motorized ROS settings while maintaining the quality of the recreation resource presently there. Maintenance and protection of the scenic integrity and recreational opportunities, including fishing, floatboating, and some historic site stabilization and interpretation would be emphasized.

Wildlife Management. Non-conflicting wildlife treatments would be permitted in order to improve forage within crucial elk and deer winter range.

Livestock Grazing Management. Lands totalling 6,909 acres that were unavailable for grazing in former "M" and "C" allotments, would be available for grazing.

Wild and Scenic River Study Segment. The 3.3 mile long portion of Study Segment A of the Lake Fork of the Gunnison River in this unit would be managed according to this prescription and STANDARD MANAGEMENT for this alternative.

Visual Resource Management. The unit would be managed according to VRM Class II objectives.

Acquisition of Non-Federal Lands. If available, non-federal lands would be acquired through purchase or exchange along the Lake Fork of the Gunnison River drainage for crucial elk and deer winter range.

Fire Management. Wildfires in this management unit would be managed under the conditional suppression category.

MANAGEMENT UNIT C-8

Land Ownership: 1,727 acres of Public Surface; less than 1% of the Planning Area

This unit contains a variety of recreational opportunities.

This unit is managed as the Cochetopa Special Recreation Management Area (SRMA). Colorado State Highway 114 traverse the unit, which is characterized by a steep, scenic canyon that restricts recreation use to the narrow riparian corridor along Cochetopa Creek. Features within the unit include high-quality scenic resources and three semi-developed and three undeveloped recreation sites. Day-use recreation such as sight-seeing, fishing, and picnicking and camping occur within the unit. An elk calving area and crucial big game winter range occur within the unit. Concerns within the unit include a lack of recreation signing, general vandalism, and adverse impacts from recreation use to soils and vegetation and perhaps water quality, and deteriorating recreation facility conditions.

The unit would continue to be managed as the Cochetopa Canyon SRMA, according to the revised activity plan for the area. The existing diversity of recreation opportunities, with fishing and overnight camping adjacent to Highway 114 being emphasized. Public lands would be managed for a Roaded Natural ROS setting. Existing recreation facilities would be maintained. No major recreation facilities would be developed, but facilities for sanitation, parking, camping, and picnicking would be installed at existing semi-developed and undeveloped sites. Periodic patrols would be conducted. Recreation use would be monitored to protect natural features and recreation

opportunities. Informational and interpretive signs would be installed.

Visual Resource Management. The unit would be managed according to VRM Class II objectives.

Fire Management. Wildfires in this management unit would be managed under the full suppression category.

MANAGEMENT UNIT C-9

Land Ownership: 1,117 acres of Public Surface; less than 1% of the Planning Area

This unit contains riparian/aquatic areas within crucial elk and deer winter range.

These lands are generally located south of the Gunnison River and east of the Lake Fork of the Gunnison River and are associated with perennial or intermittent streams. Some portions of the unit also contain fishery/aquatic habitat. These areas have a high productive capability or are highly productive ecosystems important in sustaining elk and deer populations. Resources within this unit are also important for the maintenance and enhancement of the quality of general riparian vegetation, aquatic/fishery habitat, stream channels, and water quality. Concerns regarding big game are winter and springtime shortages of herbaceous vegetation; the below-potential condition of desirable riparian vegetation and the total riparian/aquatic ecosystems as evidenced by a lack of streamside cover and quality pool areas; competition of big game and livestock for wintertime forage; long-term modification of riparian vegetation resulting in the dominance of livestock-grazing tolerant grass species, and the invasion of noxious weeds and upland plant species; and roads that affect the riparian areas in the unit.

The unit would be managed to protect, restore, and enhance riparian/aquatic areas along 10 miles of public land in order to, 1) increase the production and diversity of vegetation for big game and other wildlife, including non-game wildlife, 2) enable overall riparian conditions in and along streams, especially those with fishery potential, to be improved, and 3) create riparian systems that can adequately accommodate a mix of multiple uses. Riparian improvement strategies and projects, including treating vegetation by burning or mechanical means, would be permitted and included in all CRMAPs and other activity plans. Resources within the unit would continue to be inventoried and evaluated for condition, potential and trend, and monitoring studies would be conducted. Adjustments in forage utilization would be made or other management actions would be taken to favor the riparian vegetation, based upon monitoring results. The existing Resource Area-wide HMP would be revised to include these recommendations.

Recreation Management. Public lands in the unit north of Highway 50 to the USFS boundary, east of Soap Creek, and west of Quartz Creek would be limited to designated roads, if necessary,a due to excessive snow depths or herd concentrations from December 1 through March 31 in order to prevent disturbance to wintering elk and deer.

Visual Resource Management. The unit would be managed according to VRM Class II (245 acres), VRM Class III (212 acres), and VRM Class IV (660 acres) objectives.

Rights-of-Way. Public lands in the unit, outside the right-of-way window, would be classified an avoidance area for rights-of-way to prevent removal of big game crucial winter range.

Rights-of-Way Windows. Public lands within 500 feet on either side of the center line of the existing WAPA 230 and 115 kv electrical transmission lines would be designated rights-of-way windows.

Fire Management. Wildfire in this management unit would be managed under the conditional suppression category.

MANAGEMENT UNIT C-10

Land Ownership: 602 acres of Public Surface; less than 1% of the Planning Area

This unit contains riparian/aquatic areas within important sage grouse broodrearing areas.

These lands are generally located east of the Lake Fork of the Gunnison and are associated with perennial or intermittent streams. Some of the public lands within this unit are designated big game crucial winter range. Some portions of the unit also contain fishery/aquatic habitat. The abundance of insects and lush herbaceous vegetation found in riparian areas is crucial for the survival of sage grouse chicks during the first twelve weeks after hatching. Resources within this unit are also important for the maintenance and enhancement of the quality of general riparian vegetation, aquatic/fishery habitat, stream channels, and water quality. Concerns within this unit are that riparian ecosystems in general are below their ecological potential and have been reduced in size due to water regimes being modified by surface disturbance, principally improper livestock grazing. Downcutting or channel incision, and accompanying lowering of water tables has resulted in a reduction in riparian plant species and an invasion of upland plants.

The unit would be managed to protect, restore and enhance approximately five miles of riparian ecosystems on public lands in order to help optimize sage grouse populations. Management objectives would be to provide high quality brood-rearing habitat with a diversity of plant species composition and structure, aimed at improving overall conditions in the unit. Abundant vegetative cover necessary to avoid predation of foraging chicks would be another desired condition to be achieved. Riparian improvement strategies and/or projects would be included in all CRMAPs and other activity plans and implemented.

Emphasis would be placed on rehabilitating riparian areas where the ecological or hydrological condition is degraded. The diversity of herbaceous plant species would be increased to improve forage plants and insects for sage grouse broods. The proportion of native bunch-grasses would be increased to help meet escape and hiding cover requirements of sage grouse chicks. Resources within this unit would continue to be inventoried and evaluated for potential, condition, and trend, and monitoring studies would be conducted. Vegetation treatments compatible with the objectives of this unit would be permitted.

Livestock Grazing Management. There would be no sheep bedding allowed within the management unit.

Recreation Management. Motorized vehicular traffic on public lands, in the unit, would be limited to designated roads, if necessary due to excessive snow depths or herd concentrations from December 1 through March 31 to prevent disturbance to wintering elk and deer.

Visual Resource Management. The unit would be managed according to VRM Class II (67 acres), VRM Class III (113 acres), and VRM Class IV (422 acres) objectives.

Rights-of-Way. Public lands in this unit, outside the ROW windows, would be classified an avoidance area for rights-of-way to prevent removal of sage grouse habitat.

Rights-of-Way Windows. Public lands within 500 feet on either side of the center line of the existing WAPA 230 and 115 kv electrical transmission lines would be designated rights-of-way windows.

Fire Management. Wildfires in this management unit would be managed under the conditional suppression category.

MANAGEMENT UNIT C-11

Land Ownership: 120 acres of Public Surface; less than 1% of the Planning Area

This unit contains raptor perch trees and riparian/aquatic habitat.

This management unit consists of riparian/aquatic areas frequented by bald eagles along three miles of public land adjacent to Red and East Elk Creeks north of U.S. Highway 50 and Blue Mesa Reservoir. These areas are within bald eagle wintering habitat and contain cottonwood and standing dead trees favored by eagles. Public land in the unit is also

crucial big game winter range. Concerns in the unit are disturbance by humans and removal of the standing dead trees by firewood cutters. This unit would be managed to protect, restore, and enhance the riparian/aquatic habitat ecosystem along three miles of public land. Livestock grazing would not be permitted in the unit. Inventories would be conducted for new eagle nesting sites. Patrols would be conducted to ensure that no fuelwood cutting occurs.

Forest Management. There would be no fuelwood cutting permitted in the unit.

Recreation Management. Motorized vehicular traffic on public lands, in the unit, would be limited to designated roads, if necessary due to excessive snow depths or herd concentrations from December 1 through March 31 in order to prevent disturbance to wintering elk and deer.

Visual Resource Management. The unit would be managed according to VRM Class II (105 acres), and VRM Class IV (15 acres) objectives.

Rights-of-Way. Public lands in this unit would be classified an exclusion area for surface disturbing rights-of-way in order to protect perch trees and bald eagle habitat.

Fire Management. Wildfires in this management unit would be managed under the full suppression category to protect bald eagle perch trees.

MANAGEMENT UNIT C-12

Land Ownership: 25,102 acres of Public Surface; 4% of the Planning Area

This unit generally contains crucial elk and deer winter range.

This management unit is located generally at lower elevations throughout the planning area. Lands within the unit have been identified as crucial elk and deer winter range for planning purposes. Livestock grazing and other land uses occur on most of the public lands in the unit. A variety of vegetation types occurs within the unit, including some riparian areas. These areas are highly productive ecosystems important in sustaining elk and deer populations. The area also contains yearlong pronghorn antelope habitat. Concerns within the unit include winter range occurring on mixed land ownership; large numbers of deer congregating along U.S. Highway 50, east of Gunnison; heavy to severe utilization of mountain mahogany by elk and deer and lower vigor of sagebrush in Game Management Unit (GMU) 64 east of Cimarron; existing elk numbers being above Colorado DOW's (CDOW) long-range big game herd objectives in GMU 55 and 551 north and east of Gunnison, while deer numbers are below CDOW's goals; lack of sufficient forage in GMU 54 and portions of GMUs 55 and 551 to support CDOW's long-range herd goals and maintain healthy browse stands; generally stagnant conditions, low potential and insufficient quantity of key forage species west of Gunnison; and vegetative treatments resulting in the removal of winter browse species.

The unit would be managed to improve habitat condition and potential and increase the production and diversity of shrub species in upland and riparian vegetative types to support wintering populations of elk and deer, and to maintain important pronghorn antelope habitat within the unit to support a 50 animal herd. Non-conflicting sage grouse habitat management would be permitted. Watershed, then wildlife would have first priority for all additional forage made available as a result of BLM wildlife habitat improvement projects.

In the portions of GMUs 54 and 55 within the unit, resources and land uses would be managed for the benefit of elk and deer winter habitat. In the portions of GMU 64 south and east of Cimarron, Big Game utilization would be limited to 50% of the current years growth of mountain mahogany. To help achieve this lower rate, a recommendation would be made to the CDOW to implement measures to reduce big game numbers in the GMU.

Interim elk and deer herd goal numbers would also be recommended to CDOW in other GMUs within this unit, to improve the production and vigor of important browse species. This action would allow

the increase of browse species on winter range to support CDOW's long-range herd numbers. See Appendix A for interim numbers to be recommended and CDOW's long-range herd goals for GMUs within the unit.

Recreation Management. Approximately 520 acres of public lands within or adjacent to the Sapinero State Wildlife Area would be closed to motorized vehicular traffic in order to be compatible with CDOW management on adjacent state-owned lands, and to prevent disturbance to big game and big game habitat. Public lands in the unit north of Highway 50 to the USFS boundary east of Soap Creek, and west of Quartz Creek would be limited to designated routes, if necessary due to excessive snow depths or herd concentrations from December 1 through March 31 in order to prevent disturbance to wintering elk and deer.

Visual Resource Management. The unit would be managed according to VRM Class II (8,097 acres), VRM Class III (6,395 acres), and VRM Class IV (10,610 acres) objectives.

Acquisition of Non-Federal Lands. If available, non-federal lands would be acquired within the unit to increase management effectiveness of crucial elk and deer winter range.

Fire Management. Wildfires in this management unit would be managed under the conditional suppression category.

MANAGEMENT UNIT C-13

Land Ownership: 1,050 acres of Public Surface; less than 1% of the Planning Area

This unit contains elk calving areas.

This management area consists of three important elk calving areas; the largest of the three is located on Blue Mesa adjacent to the Uncompahgre National Forest and contains headwaters of Little Blue, East Fork of Little Blue, Pine, and Willow Creeks. A second area is located on the eastern side of the Cebolla Creek drainage, is adjacent to the Gunnison National Forest and contains headwaters of Rock Creek. The third and smallest area is located north of Blue Mesa Reservoir, and adjacent to a larger elk calving area in the Gunnison National Forest. The area contains tributaries of East Elk Creek and East and West Red Creeks. These areas, and smaller areas in other management units are the only known elk calving areas in the planning area, and are used by elk during the May 1 through July 15 calving periods. Two areas contain suitable commercial forest lands and are grazed by livestock. A concern within the unit is any activity that could disturb calving and young elk during the critical calving period.

Public lands within the management unit would be managed to maintain these areas as elk calving areas.

Forest Management. Public lands within the unit would be open to the harvesting of all forest products yearlong.

Visual Resource Management. The unit would be managed according to VRM Class II (330 acres), VRM Class III (245 acres), and VRM Class IV (475 acres) objectives.

Rights-of-Way. Public lands in the unit would be classified an avoidance area for rights-of-way. A seasonal restriction on construction from May 1 through June 30 to prevent disturbance to calving elk would be included in all authorizations.

Fire Management. All commercial forest lands would be managed under the full suppression category. The remaining lands would be managed under the conditional suppression category.

MANAGEMENT UNIT C-14

Land Ownership: 3,435 acres of Public Surface; less than 1% of the Planning Area

This unit contains yearlong pronghorn antelope habitat.

This management unit is located in the upstream reaches of the Cochetopa Creek Valley. Lands

within the unit contain resident pronghorn antelope and yearlong habitat, and are grazed by livestock. Concern within the unit are the lack of forbs and numerous fences for livestock management that hinder antelope movement onto historical habitat, the potential removal of antelope habitat as a result of proposed sagebrush treatments, and riparian ecosystems being below potential in providing antelope forage.

The unit would be managed to improve and maintain important pronghorn antelope habitat to support a 50 animal herd. Treatments, including sagebrush burns and interseeding of forbs into existing sagebrush vegetation within pronghorn summering areas would be conducted to increase the quantity and forbs for year-round antelope habitat. Land uses in vegetative treatments would be managed to ensure treatment success. Wildlife would have first priority for all additional forage made available as a result of BLM wildlife habitat improvement projects. Monitoring to determine fawning area locations, habitat conditions, utilization, trend and other existing land uses would be conducted.

Visual Resource Management. The unit would be managed according to VRM Class III (60 acres), and VRM Class IV (3,362 acres) objectives.

Fire Management. Wildfires in this management unit would be managed under the conditional suppression category.

MANAGEMENT UNIT C-15

Land Ownership: 7,272 acres of Public Surface; 1% of the Planning Area

This unit contains sage grouse nesting areas.

This management unit is located in three different areas, generally on sagebrush-covered rolling-terrain in the eastern and central part of the planning area. The largest area is located along Sapinero Mesa with the other two areas found between Stubbs Gulch and Cochetopa Canyon. Lands within this unit support part of the third largest sage grouse population in Colorado. Most of the public lands in the unit are available for livestock grazing. The unit surrounds or contains riparian ecosystems. Resources in or near the unit provide important sage grouse nesting habitat, year-round food sources, cover for young birds (brood areas), and mating/strutting habitat (leks). Concerns within the unit include disturbances to nesting or strutting sage grouse, poor quality and below-potential sage grouse nesting habitat and associated under-story ground covers; large-scale sagebrush removal treatments within or near nesting habitat and leks, and grazing of treated areas, resulting sagebrush re-invasion and a subsequent lack of grasses and forbs within nesting and lek areas. Removal of winter habitat (tall, dense sagebrush in drainage as a result of treatments) is another concern.

This unit would be managed to improve and maintain sagebrush vegetative communities in order to optimize sage grouse populations. Sagebrush treatments to benefit the entire life cycle of sage grouse would be considered in all CRMAPs or other activity plans and their design, implementation, and management could include the standards and techniques in Appendix A.

All leks would be protected from destruction. No surface disturbing activity would be permitted within 1/4 mile of all lek locations during the April 1 through May 30 strutting season to prevent disturbance to sage grouse while mating.

Visual Resource Management. The unit would be managed according to VRM Class II (585 acres), VRM Class III (360 acres), and VRM Class IV (6,327 acres) objectives.

Rights-of-Way. Rights-of-way related construction would not be permitted within one-quarter mile of sage grouse leks from April 1 through May 31 to protect sage grouse leks.

Fire Management. Wildfires in this management unit would be managed under the full suppression category.

MANAGEMENT UNIT C-16

Land Ownership: 19,898 acres of Public Surface; 3% of the Planning Area.

This unit contains general multiple use opportunities.

This management unit is located throughout the planning area. The public lands in the unit are within "M" or "C" category grazing allotments, or are not allotted. Crucial big game winter range (5,945 acres) and 357 acres of bighorn sheep habitat occur in the unit. Federal mineral estate exists under 18,102 acres of federal surface and under 61,909 acres of non-federal surface. The unit is located within the Gunnison ERMA. Concentrated public recreation use occurs on an approximately 400-acre tract of public land on the Slate River. There are 1,195 acres of suitable commercial forest lands in this unit available for sustained yield harvest.

In general, the public lands would be managed according to the policy assumptions in this alternative and Standard Management. No major BLM funded projects or facilities would be developed. Habitat, vegetation, and other resource studies would be minimal. Specific resource Management in this area would be prescribed as follows.

Livestock Grazing Management. The portion of the lands currently enclosed by fencing along the Slate River in grazing allotment 6402 would be unavailable for livestock grazing in order to protect the recreational resources and riparian area within the enclosure.

Recreation Management. Approximately 80 acres of public lands within or adjacent to the Sapinero State Wildlife Area would be closed to motorized vehicular traffic in order to be compatible with CDOW management on adjacent state-owned lands, and to prevent disturbance to big game and big game habitat. Public land in the unit north of U.S. Highway 50, east of Soap Creek, west of Quartz Creek, and south of Sections 17 and 18, T. 51 N., R 1 W., NMPM would be limited to designated routes, if necessary due to excessive snow depths or herd concentrations from December 1 through March 31 in order to prevent disturbance to wintering elk and deer.

Visual Resource Management. The unit would be managed according to VRM Class I (182 acres), VRM Class II (5,615 acres), VRM Class III (3,498 acres) and VRM Class IV (10,603 acres) objectives.

ALTERNATIVE D

OBJECTIVES AND RESOURCE RANKINGS

The objectives of Alternative D call for a degree of resource management that provides a high degree of protection, enhancement, and maintenance for natural values, over and above that which is required by legislation, and the existing management situation. Renewable and non-renewable production levels would be sustained at a level appropriate to natural values management, but would not necessarily be limited or unreasonably restricted.

Since resources have been ranked according to their ability to meet the objectives of this alternative, management actions proposed within this alternative for high-ranked resources could result in conflicts or incompatible situations with lower-ranked resources. Thus, in this alternative soils, special status plant and animal species and habitat, riparian vegetation and visual resource management objectives would generally take precedence in the planning area wherever conflicts could occur.

Conflicts among other ranked resources were resolved with higher-ranking resources taking precedence throughout the planning area. In certain instances, however, laws, regulations, or policy required that some management actions would receive overriding priority in conflict resolution regardless of ranking, i.e., protection of threatened or endangered species and historical/archaeological resources, according to applicable legislation.

All actions proposed under this alternative would comply with applicable current state and federal regulations, standards, and policies.

Table D-1 lists the relative ranking of resources, uses, and programs within this alternative. The non-ranked resources and/or program support functions which were considered in this alternative are also listed.

Table D-1

RELATIVE RANKING OF RESOURCES FOR ALTERNATIVE D

RANKING OF RESOURCES OR RESOURCE USES	NON-RANKED RESOURCES AND/OR PROGRAM SUPPORT FUNCTIONS
1. Soils and water resources	Withdrawal review
2. Special status plant and animal species and habitat	Fire management
3. Riparian zones	Archaeological resources
4. Visual resources	Access needs
5. Wildlife habitat	ROW exclusion and avoidance areas
6. Non-motorized recreation	Non-game wildlife habitat
7. Motorized recreation	No surface occupancy restrictions
8. Historic resources	Other restrictions
9. Forest management	Land tenure (acquisition, disposal)
10. Livestock grazing management	Social & economic conditions/concerns
11. Rights-of-way corridors	Off-highway vehicle designations
12. Water power and reservoir sites	Air quality
13. Minerals - saleable	Paleontological resources
14. Minerals - leasable	Hazards management
15. Minerals - locatable	

MANAGEMENT UNIT SUMMARY

Table D-2 lists the management units in this alternative by numbers corresponding to the management units shown on map 3, Alternative D. Acres of public land and important values within each management unit are also shown.

Table D-2

MANAGEMENT UNIT ACRES AND VALUES IN ALTERNATIVE D

UNIT	ACRES OF PUBLIC LAND	PERCENTAGE OF THE PLANNING AREA[1]	IMPORTANT VALUES, RESOURCES OR LAND USES
D-1	9,562	2%	Threatened & endangered species
D-2	5,950	1%	Threatened & endangered species
D-3	5	Less than 1%	Paleontological & Archaeological resources
D-4	3,912	1%	Wildlife
D-5	4,762	1%	Wildlife
D-6	9,812	2%	Wildlife
D-7	1,370	Less than 1%	Geologic phenomena, interpretation
D-8	1,577	Less than 1%	Visual resources, recreation
D-9	4,800	1%	Recreation, visual resources, historic resources
D-10	190	Less than 1%	Visual resources, recreation
D-11	12,462	2%	Riparian, wildlife, fisheries, livestock grazing
D-12	9,657	2%	Riparian, wildlife, fisheries, livestock grazing
D-13	192	Less than 1%	Riparian, threatened & endangered species, fisheries
D-14	76,752	12%	Wildlife, soils, livestock grazing
D-15	42,560	7%	Wildlife, soils, livestock grazing
D-16	105,737	17%	Wildlife, livestock grazing
D-17	23,365	4%	Wildlife, recreation, visual resources, livestock grazing
D-18	6,667	1%	Wildlife, forestry, livestock grazing
D-19	44,767	7%	Recreation, visual resources
D-20	53,957	9%	Recreation, visual resources
D-21	34,725	6%	Forestry, grazing
D-22	108,335	17%	Livestock grazing, recreation
D-23	1,735	Less than 1%	Minerals - coal
D-24	2,952	Less than 1%	Minerals - geothermal
D-25	1,200	Less than 1%	Minerals - locatable
D-26	18,009	3%	General land uses, recreation, wildlife

Notes:
[1] Rounded to whole numbers; this column shows the percentage of the public land (surface estate) in the planning area that is located in each Management Unit in this alternative.

STANDARD MANAGEMENT FOR ALTERNATIVE D

Some resource management programs would be implemented according to standard management directions throughout the planning area under this alternative. Management of resources identified as a result of future inventories or discoveries would generally be the same as for resources discussed and identified in this RMP/EIS. Unless changes in or additions to standard management directions are specifically addressed in the prescription for each Management Unit, these resources, programs and activities would be managed as follows:

Air Quality. Activities and projects on public land would comply with applicable local, state, and federal air quality regulations. Mitigation to minimize air quality degradation would be incorporated into project proposals as necessary. Additional air quality monitoring may be implemented by BLM when necessary.

Locatable Minerals. Federal mineral estate in areas not under withdrawal would be open to entry and location under the general mining laws. Within designated Areas of Critical Environmental Concern (ACECs) plans of operation would be required to be submitted for proposed locatable mineral activity regulated and authorized by BLM's surface management regulations.

Oil, Gas, and Geothermal Resources. Federal oil, gas, and geothermal estate on both federal surface and split-estate lands (private or other non-federal surface estate overlying federal mineral estate) would be open to leasing with standard lease terms. Other special stipulations and conditions for leasing such as no surface occupancy and seasonal restrictions are assigned or specified in each management unit prescription and as deemed necessary; these special stipulations and conditions would also apply to federal surface and split-estate lands. Any special conditions and stipulations (i.e., seasonal closures) prescribed for a management unit would also apply to seismic and drilling activities. See Appendix K for special stipulations and conditions for leasing on both federal surface and split-estate lands, and for an explanation of how stipulations assigned to split-estate lands would be applied, reviewed, waived, modified, or excepted, based on verification of surface and mineral estate resource information by BLM during review of Applications for Permit to Drill (APDs). The most reasonable foreseeable level of oil, gas, and geothermal development throughout the planning area would involve a maximum of one or two APDs during the life of the plan, with an estimated total of ten acres of surface disturbance. Leasing of any federal minerals within existing Wilderness Study Areas (WSAs) would be prohibited according to existing legislation until either WSAs are released by Congress by non-designation or other Congressional action, or until leasing is no longer prohibited by legislation.

Saleable Minerals. Disposal of mineral material on federal mineral estate would be permitted. Disposal of mineral materials from specific areas is discretionary with the authorizing official and would be determined on a case-by-case basis. Disposal of mineral materials within power site reserves or within other agency withdrawn lands would require approval of the agency reserving the withdrawal.

Soils and Water Resources. Soil and water resources would continue to be monitored to define problem areas, develop management strategies, and to determine effectiveness of solutions. The sediment control plan for Long Gulch, and other plans, would continue to be implemented. Vegetation treatments on soils having a moderate to severe erosion potential, and lacking adequate plant basal cover would be designed and managed to increase plant basal cover, therefore reducing erosion. Vegetation treatments would be designed and implemented in accordance with the Montrose District Rangeland Treatment Handbook. Where appropriate, water rights would be applied for on surface water sources and instream flows would be pursued, where appropriate. Best management practices would be employed to minimize soil erosion and water quality deterioration, and would be required in all plans for surface-disturbing activities. Water source developments in fair, poor, or abandoned condition (see Appendix N) would be maintained, improved, or reclaimed.

Vegetation. Manage vegetation resources to maintain or achieve at least a late seral-to-potential natural community ecological status. This would be accomplished by maintaining or improving the vigor, production and diversity of desirable plants within alpine, sagebrush/mixed mountain shrub, and woodland types at a level to support a variety of resource uses, including, but not limited to livestock grazing, wildlife habitat and recreation.

Specific, desired plant communities would be identified in activity plans. Exceptions to the aforementioned ecological status needed to meet objectives would be identified in activity plans.

In riparian areas, maintain, restore, or improve riparian values, including the diversity, vigor, and quantity of herbaceous and woody plants necessary for the 1) hydrological functioning of riparian systems, 1) the control of accelerated soil erosion, and 3) sustained high quality livestock forage and wildlife habitat.

Riparian Zones. Riparian areas would be managed to improve, maintain, or restore overall conditions (hydrological, soil and vegetation) and to enhance the natural values of riparian areas. Riparian zones would be inventoried and prioritized where necessary to determine site-specific management strategies. Strategies, projects, or improvements would be included in activity plans or Coordinated Resource Management Activity Plans (CRMAPs) and would be implemented first in higher priority areas. New water sources would be developed with concern for the protection of riparian areas. Existing water source developments within riparian areas would be modified or relocated, if inventories and studies indicate the hydrologic condition is being negatively impacted. Existing riparian demonstration areas and improvements would be maintained.

Road construction would occur in riparian area only when a feasible alternative route cannot be found; roads would cross perpendicular to drainages, would be no more than 450 feet in length, and would adhere to BLM standard designs and widths. Existing roads would be relocated or modified if degradation of the aquatic or riparian system is occurring. No commercial timber harvesting, other than that necessary in implementing other actions, would occur in riparian areas. Trees cut adjacent to riparian areas would be felled in a direction away from the riparian area, or in such a manner as to minimize riparian area disturbance. Tracts of land which would enhance natural or ecological values of existing riparian areas would be identified for acquisition during the riparian inventory. Measures designed to minimize site-specific riparian/aquatic deterioration would be required in all plans for surface-disturbing activities.

Special Status Plant and Animal Species and Habitat. Habitat supporting existing populations of threatened and endangered species (T&E sp.) including candidate and BLM sensitive species would be maintained and protected to ensure suitable habitat conditions and viable populations. T&E sp. would continue to be inventoried and monitored to provide information for future management. Measures to protect T&E sp. and associated habitat would be required in all plans for surface-disturbing activities. Supplemental releases and/or reintroduction of T&E sp. and candidate or BLM sensitive species could be authorized following preparation of a release or reintroduction plan and environmental analysis, and consultation with the United States Fish and Wildlife Service (USFWS), Colorado Division of Wildlife (CDOW), and other affected parties.

Wildlife Habitat Management

Terrestrial Wildlife and Habitat

Elk and Deer Habitat: The Habitat Management Plan (HMP) for the planning area would be revised and implemented consistent with BLM's Fish and Wildlife Plan for Colorado - Program for the Decade and would emphasize crucial winter ranges. Measures to increase important deer and elk winter forage shrub production species on uplands and riparian areas within crucial winter ranges would be determined and implemented through activity plans to help achieve CDOW long-range herd goals (CDOW, April 1985) of 9,000 elk and 16,600 deer. Forage allocations would not be reduced and new or additional available forage would be allocated to protect and enhance watershed resources. Crucial winter range would be inventoried for condition,

and monitored for utilization and trend relative to big game habitat. Public lands would be inventoried to identify elk calving areas. Acquisition of non-federal lands to increase or enhance management of big game crucial winter range would be emphasized. Reductions in CDOW's elk and deer long-range herd goals would be recommended for an interim period in certain Game Management Units (GMUs) until the vigor and production of the important forage shrubs on crucial winter ranges increases such that habitat would support long-range herd numbers. See Appendix A for long-range herd goals, and interim numbers to be recommended.

Pronghorn Antelope and Bighorn Sheep Habitat: Pronghorn antelope and bighorn sheep habitat on public lands would be managed to support self-sustaining populations of animals based on the carrying capacity of the habitat. Inventories would be conducted to identify suitable areas in which to establish new populations of bighorn sheep and pronghorn antelope; supplemental releases and reintroductions that do not result in the carrying capacity of the habitat being exceeded could be authorized by the District Manager following an environmental analysis. Inventories would be conducted to identify bighorn sheep lambing areas and suitable winter range. Monitoring studies would be established within bighorn sheep and pronghorn antelope ranges.

Sage grouse Habitat: Identified sage grouse brood-rearing habitat and nesting areas, and winter habitat would be maintained or improved. Sagebrush and riparian habitat would be managed to achieve a harvest goal of 1000 grouse annually. All sage grouse strutting grounds (leks) would be protected from destruction. No surface-disturbing activities would be permitted within 1/4 mile of all leks during the April 1 through May 31 strutting season to prevent disturbance to mating sage grouse.

Non-game Wildlife Habitat: The quality of endemic non-game animal species habitat would be enhanced by 1) improving and/or maintaining a variety of native plant species and vegetative structure in upland and riparian areas, 2) improving the ecological condition of sagebrush communities, and 3) improving or maintaining non-game habitat within commercial forest lands. Raptor nesting inventories and monitoring studies would be updated to identify nesting areas and establish population trends. Measures and stipulations in Appendix A, designed to prevent disturbance to raptors through their post-fledgling period, would be required in all plans involving surface disturbance.

Fishery Resources (Aquatic Habitat)

Perennial streams and aquatic habitat would be inventoried and monitored where necessary to determine condition, potential, compatibility with other land uses, and site specific management strategies to restore and enhance fishery resources for the conservation of natural values. Strategies, projects, or improvements would be included in a revised Resource Area Wildlife HMP, CRMAPs, and other activity plans as they are prepared or revised. The objectives and goals contained within the BLM and Forest Service Recreational Fisheries Policy, 1990, or as amended, would be implemented to the degree that meets the objectives of this alternative.

Instream flow appropriations would be pursued on 113 miles of fisheries streams to ensure a sufficient amount of water for fisheries and adjacent riparian areas.

Fishery streams with riparian areas would be managed to improve or maintain the fishery habitat and associated riparian area(s) (hydrological, soil and vegetation) and to improve stream and streamside conditions. Surface-disturbing activities would be designed with measures to prevent deterioration of fishery stream channels and associated riparian habitat.

Livestock Grazing Management. Livestock grazing would be authorized and managed in all "I", "M", and "C" allotments with the goal of maintaining or achieving good soil, vegetative and watershed conditions. Livestock grazing would be managed at forage allocation levels based on the 1987 Rangeland Program Summary (RPS) for the

Gunnison Resource Area, and updates. Some management units contain modifications to these allocations in order to reduce conflict with soil, watershed, and other natural resource management.

Livestock numbers would be adjusted in allotments when forage utilization studies indicate changes are necessary to meet AMP or CRMAP objectives, or when management unit prescriptions require a change in numbers in order to meet those objectives.

New or additional available forage would be allocated to protect and manage watershed resources. Existing livestock facilities would be maintained. Rangeland vegetation monitoring and inventories for condition, trend, and utilization patterns would continue, in order to provide information to prepare Allotment Management Plans and for use in managing livestock grazing. Existing categorization of all allotments would continue.

The following Interim Grazing Management Criteria (IGMC) would be implemented on uplands within all "M", "C", and "I" Category allotments to correct uneven utilization patterns and premature turnout dates until CRMAPs or AMPs are developed or revised.

1. Range readiness criteria (soil condition and the phenological stage of key forage species as described in the Rangeland Monitoring Plan for the Gunnison Resource Area) would determine when grazing would begin in the spring. Range conditions in these allotments would be monitored for three years following any newly established turnout dates in order to establish average turnout dates. Range readiness would remain the deciding factor in modifying average turnout dates. Earlier turnout dates could be established for allotments managed under an AMP.

2. Total forage utilization on uplands, including that from livestock grazing, would not exceed the light level (20-40% of the current year's growth by weight of key forage species) in order to provide a grass stubble (residual cover) for protection of plants and soil, to provide quality wildlife forage and cover, and to allow soil moisture recharge during spring runoff.

3. Total forage utilization within riparian areas, including that from livestock grazing, would be managed to maintain a minimum stubble height of 4" for key forage species in these areas, in order to help improve stream and streamside conditions and associated riparian areas.

Allotment Management Plans would be developed or revised based on the objectives of this alternative and those in the Resource Area's 1987 Rangeland Program Summary and updates. Lands unavailable for livestock grazing would continue to be unavailable. A cooperative noxious weed control program would be initiated with county governments within the planning area.

Forest Management. Suitable commercial forest lands and woodlands would be managed for sustained yield production within the allowable cut restrictions and guidelines determined by the Timber Production Capability Classification (TPCC) inventory. Special emphasis would be placed on the harvest of pest-killed trees. Harvest of commercial timber on slopes greater than 35% would be restricted to cable or helicopter methods only. Timber sales would be designed to allow sufficient elk hiding cover along logging roads and all clearcuts. Emphasis would be given to the maintenance and protection of watershed, soil, and vegetative resources in all timber sales and FMPs. Timber harvests would be designed and implemented to help improve or maintain non-game wildlife habitat, and the conditions and standards in Appendix A would be incorporated into all plans for timber harvests in order to improve non-game habitat. Sale area design and layout would include measures to blend harvest areas into the surrounding landscape and increase scenic variety.

Recreation. Recreation resources within the Alpine Triangle, Cochetopa Canyon, and Powderhorn Primitive Area Special Recreation Management Areas (SRMAs) would be managed and developed with emphasis placed on minimizing conflicts with the natural resources that are higher-ranked in this alternative. Existing Recreation Area Management Plans (RAMPs) or activity plans would be revised

to accommodate prescriptions for the management units that occur within the boundaries of the three SRMAs. An activity plan (RAMP) for the Powderhorn SRMA would be prepared. Periodic patrols would be conducted. Directional and interpretive signing would be emphasized. The Gunnison Extensive Recreation Management Area (ERMA) would be managed for a diversity of recreation opportunities and non-conflicting, small-scale facilities would be developed. An activity plan would be prepared and Recreation Opportunity Spectrum (ROS) settings determined for the ERMA. Recreation priorities and goals within BLM's Recreation 2000 program would serve as general direction for compatible recreation development and management. Recreation Opportunity Spectrum (ROS) settings would be re-examined in the three SRMAs and modified if necessary to accommodate management actions in the revised RAMPs. See maps in Appendix F for SRMA boundaries.

The number of recreation visitors to the Planning Area is expected to increase by about 30% under this alternative.

The planning area would be open to motorized vehicular travel unless noted otherwise in a management unit prescription. See map in Appendix F for off-highway vehicle (OHV) designations for this alternative.

Wild and Scenic River Study Segment. The 13.3 mile long, 1/2 mile wide Study Segment A of the Lake Fork of the Gunnison River (see map in Appendix I) would be recommended as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System, under the "Recreation" classification. The segment in this alternative is located in Management Units D-5, D-8, D-17, and D-20. Until a final decision on designation or non-designation is made, BLM would not initiate or authorize actions within the segment that would impact any outstandingly remarkable values or the free-flowing condition of the segment. Upon recommendation of the segment for designation by the President to Congress, public lands in the segment would be, for three years, withdrawn from mineral entry and location under the general mining laws and, for the same period, would be segregated from all forms of appropriation under the general land laws. Mineral leasing would occur according to management objectives under minerals in the applicable management unit prescription. Motorized vehicle use would be limited to designated roads, unless noted otherwise in prescriptions for units D-5, D-8, D-17, and D-20. A management plan would be prepared for the segment and would include objectives and actions for the period prior to and after designation. Resources in the segment would be managed according to a combination of semi-primitive non-motorized and semi-primitive motorized ROS settings. See specific Management Unit prescriptions (D-5, D-8, D-17, and D-20) for management of resources in Segment A not mentioned here.

Visual Resources. All management actions would be designed to meet objectives for Visual Resource Management classes (VRM I through IV) contained in each management unit prescription. See Appendix C for a description of the management objectives for each VRM class. Rehabilitation measures would be considered for VRM IIR, IIIR, and IVR areas that contain existing man-made intrusions in order to improve scenic quality. Any public lands designated as wilderness would be managed under VRM I objectives.

Wilderness Study Areas. Wilderness Study Areas would be managed according to BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review, including all areas currently recommended to Congress for wilderness designation, until Congress decides on designation regarding each area. Any area(s) acted on by Congress and not designated as wilderness would be managed according to the applicable management unit prescription(s) in this alternative. Wilderness Management Plans would be prepared for any area(s) designated and the area would be managed as wilderness. Designated wilderness areas would be classified as VRM Class I areas. Appendix F shows which WSAs occur in the various Management Units in this alternative, and maps of WSAs.

Archaeological Resources. Archaeological resources would be managed according to existing

legislation and BLM policy. Measures designed to protect significant resources would be included in plans for surface disturbance. Class I and III inventories, and clearances would continue to be conducted prior to surface disturbing impacts.

Historical Resources. In most instances historic sites and resources would be allowed to become subject to the forces of nature, while being managed according to existing legislation and policy. Measures designed to comply with legislation and to protect significant resources would be included in plans for surface disturbance affecting historic resources. Class I inventories would be consulted and Class III clearances conducted if necessary prior to surface disturbance.

Paleontological Resources. No surface disturbing activities would be allowed in any area where potential for paleontological values exist until inventories are conducted and appropriate protective measures are developed to protect any significant fossils. Inventories, and eventual monitoring, would be conducted to identify and protect paleontological resources in the areas containing potential for their existence. Measures to protect and interpret, where appropriate, known or discovered fossil values would be implemented.

Transportation and Access. Access needs identified in Management Unit Prescriptions and the Resource Area's transportation plan would be acquired as opportunities arise. Access needs that facilitate and enhance management and protection of natural values would receive emphasis and priority for acquisition.

Disposal of Public Lands. All public lands in the planning area would be identified as Category II lands in this alternative regarding disposal and multiple use management purposes. These category II lands would be identified to be managed by BLM for multiple use management purposes. These lands would also be identified for consideration for disposal on a case-by-case basis through exchange, boundary adjustments, state indemnity selection, Recreation and Public Purpose Act applications, or other appropriate statute or authority, if disposal serves the public interest. These lands would not be identified for consideration for disposal through public sale as covered in Section 203 of FLPMA. These lands would be available for consideration for disposal through exchange if the exchange would result in 1) consolidated land patterns, 2) improved manageability of lands and resources, especially recreation resources, or 3) if the exchange would otherwise by in the public interest, within the context of the provisions of Section 206 of FLPMA. Disposal would be contingent on actions meeting NEPA requirements.

Some public lands within management units would be unavailable for disposal because of management unit prescriptions or existing restrictions contained in statutes, BLM policy, or regulations. If a change in the status of these lands results in prohibitions to disposal being removed, they would be considered for classification as Category II lands.

Acquisition of Non-Federal Lands. Non-federal lands would be considered as being suitable for acquisition on a case-by-case, willing seller-willing buyer basis in order to enhance Bureau management. Emphasis would be placed on acquiring lands to enhance, maintain, or improve management of soils, special status plant and animal habitat, riparian vegetation or ecosystems, paleontological resources, visual resources, and wildlife habitat. Acquisition would be contingent on these lands meeting 1) NEPA requirements and 2), one or more of the criteria for acquisition found in Appendix D.

Rights-of-Way. Public lands within the planning area would be open to the location of rights-of-way, subject to stipulations in Management Unit prescriptions and standard terms, conditions, and stipulations contained in records of decision issued for each application. Rights-of-way avoidance areas (where future rights-of-way may be granted only when no feasible alternative route or designated right-of-way corridor is available) and rights-of-way exclusion areas (where future rights-of-way may be granted only when mandated by law) are described in each management unit prescription, if applicable. Planning for, and development and construction of rights-of-way on public lands would include emphasizing the protection and consideration of natural values, i.e., soils, special status plant and

animal habitat, riparian vegetation and ecosystems, visual resources, and wildlife habitat.

Rights-of-Way Corridors. No rights-of-way corridors or windows would be designated in this alternative.

Fire Management. Wildfires on public land would be suppressed according to either a "conditional suppression" or a "full suppression" policy. Within conditional suppression areas there are isolated areas (i.e. public lands adjacent to private lands, and lands within recreation areas) where full suppression of wildfires would occur in order to protect valuable investments, facilities, life, property, and safety. Refer to each management unit prescription and Appendix L for maps and descriptions showing these suppression areas within the planning area for this alternative. Prescribed fires for resource management could occur in "fire use areas" according to approved fire management plans. No fire use areas are identified in this alternative. The Montrose District fire management plan would be revised to reflect the fire management actions in this alternative.

Withdrawals. Public lands currently under a "protective" withdrawal would continue to be withdrawn. Modification, terminations or revocations could be recommended in Management Unit prescriptions in order to better manage resources on public lands. Management activities on withdrawn land would continue at current levels. Water sources on Public Water Reserves would be evaluated and quantified. Power Site Reserves and withdrawals to other agencies for hydroelectrical, storage reservoir, or other water-related purposes would be recommended for termination, revocation, or relinquishment, in order to ensure that natural values would not be inundated or removed if these sites were to be considered for development. No significant long-term BLM investments would be made on these power-site related withdrawn lands until the recommended modification actions in this alternative are implemented. If public lands under withdrawal to another agency are relinquished, these lands would be managed according to the management unit prescription in which the lands are located. Periodic review of withdrawals would continue in order to determine if the need for each continues to exist.

Water Power and Storage Reservoir Sites. The Planning Area would be recommended to be closed to the development of water power and storage reservoir sites. Lands that are withdrawn for powersite or storage reservoir purposes would be recommended to be relinquished, terminated, or revoked to ensure the protection of natural values from inundation or removal. Pending the implementation of these withdrawal termination recommendations, and before any uses occur or facilities are developed on lands withdrawn for water power purposes, that would preclude or conflict with waterpower or storage development, the Federal Energy Regulatory Commission would be contacted regarding withdrawal status and need for the site.

Areas of Critical Environmental Concern. In this alternative public lands in eight Management Units (D-3 through D-10) totalling 26,428 acres would be designated as Areas of Critical Environmental Concern (ACECs). Public lands in two Management Units (D-1 and D-2) would be designated as the South Beaver Creek Research Natural Area/Area of Critical Environmental Concern (RNA/ACEC) and the Redcloud Peak RNA/ACEC (9,562 and 5,950 acres, respectively). Refer to Chapter Two, Affected Environment, and Appendix H for descriptions and maps of these areas and the ACEC designation process. These 10 areas would be managed according to their Management Unit prescriptions and any management plan(s) that would be prepared.

Hazards Management. Hazard sites/areas would be reviewed on a case-by-case basis. Management of other resources would always involve the needed reclamation of known hazard sites/areas as part of fulfilling objectives for management of that resource. On completion of this plan, a hazard reclamation activity plan for known sites/areas would be developed. If the known hazard site is in or adjacent to an area where a coordinated resource management activity plan (CRMAP) is to be done, the reclamation activity plan would be combined with that CRMAP.

Existing sites/areas from past mineral development, which are considered to be potentially hazardous because of high side walls, deep pits, etc., would very likely continue until the Colorado Mined Land Reclamation Hazard abatement project is completed. The goal of this long-term project is to eliminate the hazards of these sites/areas, and BLM would continue to fully cooperate with this agency in this effort.

The Bureau would continue to control trespass dumping on BLM lands through increasing public awareness, signing, and monitoring these site/areas. A planning area reclamation activity plan would provide the details as to onsite closures, signing, site reclamation needs, etc., to implement hazard abatement.

Law Enforcement. Bureau patrols and law enforcement activities by authorized personnel would be conducted on a priority or demand basis as needed. Information dissemination and education regarding BLM resource management and regulations would be carried out during visitor or public contacts by BLM rangers.

MANAGEMENT UNIT PRESCRIPTIONS FOR ALTERNATIVE D (D-1 THROUGH D-26)

The following Management Unit prescriptions comprise Alternative D. Acreage figures used are approximations. Table D-2 and map 3 identify the Management Units that were delineated for this alternative. Two Management Units (D-1 and D-2) totalling 15,512 acres would be designated and managed as RNA/ACECs, and eight units (D-3 through D-10) totalling 26,428 acres would be designated and managed as ACECs. If not specifically mentioned, and unless modified within the following Management Unit prescriptions, resources, and programs on public lands in this alternative would be managed according to guidance in the Standard Management section above.

In all alternatives in this RMP/EIS, all Wilderness Study Areas (WSAs) in the Planning Area would be managed under BLM's Wilderness Interim Management Policy for Lands Under Wilderness Review (IMP), including those lands that have been recommended for wilderness designation through the Gunnison Basin and the American Flats/Silverton Wilderness Final Environmental Impact Statement (August 7, 1987) and the Powderhorn Wilderness Final Environmental Impact Statement and Wilderness Suitability Report (1984). If Congress designates public lands in any part of any WSA in the Planning Area as wilderness, those lands would be managed as wilderness and a wilderness management plan would be prepared for the area(s). If, during the life of this plan, Congress acts on and decides to not designate any part of any WSA in the Planning Area as wilderness (effectively removing it from WSA status), those public lands would be managed according to the actions in the Management Unit prescriptions below for this alternative. Appendix F shows WSA maps and which WSAs occur in the various Management Units in this alternative.

MANAGEMENT UNIT D-1 (South Beaver Creek RNA/ACEC)

Land ownership: 9,562 acres of Public Surface; 2% of the Planning Area

This unit is located between the Gold Basin Creek Road (Gunnison County Road 38) and South Beaver Creek immediately southwest of Gunnison. The unit is characterized by sagebrush-covered rolling hills with many benches and intermittent drainages. A 230 kv electrical transmission line crosses the southern end of the unit; several roads are located within the unit. About 7,882 acres of crucial big game winter range occur in the unit. The public lands in the north and east of the unit receive heavy OHV use. The unit contains scattered populations of skiff milkvetch (Astragalus microcymbus), a USF&WS and Colorado sensitive plant species. The unit contains the 880-acre BLM proposed South Beaver Creek Research Natural Area (RNA) where high concentrations of skiff milkvetch occur. The proposed RNA consists of three tracts of public land and is managed cooperatively with the Colorado Natural Areas Program.

The unit would be designated and managed as the South Beaver Creek Research Natural Area/Area of Critical Environmental Concern (RNA/ACEC). The unit would be managed to protect and enhance the existing populations and habitat, and potential habitat, of skiff milkvetch. Plant monitoring studies would be designed and conducted cooperatively with the Colorado Natural Areas Program and The Nature Conservancy to determine population trends; actions designed to improve habitat conditions would be initiated. Surface disturbing activities would be restricted to protect the species and potential habitat. An ACEC management plan would be prepared. No chemical spraying would occur on public lands within the unit. Research activities would be authorized only by BLM.

The entire Federal oil, gas, and geothermal estate in the unit would be open to leasing with a no surface occupancy stipulation in order to protect populations of skiff milkvetch. Disposal of mineral materials on 8,984 acres of federal mineral estate within the unit would not be authorized.

Wildlife Habitat and Livestock Grazing Management. No additional forage allocations would be made to either livestock or wildlife. To protect skiff milkvetch populations and existing and potential habitat, no surface disturbing improvement projects or maintenance of existing treatments would be permitted within the unit. Domestic sheep grazing would not be authorized in the unit. The entire federal mineral estate in the unit would be withdrawn from mineral entry and location under the general mining laws in order to protect skiff milkvetch populations.

Soils. Non-conflicting erosion control measures that do not alter existing skiff milkvetch habitat would be permitted.

Recreation. To prevent accidental destruction of skiff milkvetch populations, and existing and potential habitat, motorized vehicular traffic in the unit would be limited to designated routes.

Visual Resources. The unit would be managed according to VRM Class II (618 acres) and VRM Class III (8,944 acres) objectives.

Disposal of Public Lands. Public lands in the unit containing colonies of skiff milkvetch would not be available for disposal until future inventories show that sufficient colonies occur throughout the Planning Area such that disposal would not jeopardize the overall population.

Acquisition of Non-Federal Lands. If available, non-federal lands containing colonies of skiff milkvetch *(Astragalus microcymbus)* would be acquired if necessary for the enhancement, management, or protection of the species, or to increase the number of colonies on public lands.

Rights-of-Way. Public land in the unit would be classified an avoidance area for rights-of-way.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-2 (Redcloud Peak RNA/ACEC)

Land Ownership: 5,950 acres of Public Surface; 1% of the Planning Area

This unit is located southwest of Lake City, within the existing boundary of the Alpine Triangle SRMA. The unit contains one of two known viable breeding populations of the Uncompahgre Fritillary butterfly, a USF&WS "Category One" listed species. A research effort by a national university is on-going regarding the butterfly. The 14,000 foot-plus Redcloud Peak is within this unit characterized by fragile high-country tundra. Other features within the unit are highly scenic visual resources and bighorn sheep habitat. Concerns within the unit include fragile tundra that receives moderate recreation use; trampling of habitat of the Uncompahgre fritillary butterfly by domestic sheep; transferring of diseases from domestic sheep to bighorn sheep; and law enforcement and patrol. The unit has a moderate to high potential for the occurrence of locatable minerals.

The unit would be designated and managed as the Redcloud Peak Research Natural Area/Area of Environmental Concern (RNA/ACEC). Protection

and enhancement of existing and potential habitat of the Uncompahgre Fritillary butterfly and the species, would be emphasized. An RNA/ACEC Management plan would be prepared. On going efforts in research, monitoring, and inventory would continue and be expanded as needed. Surface disturbing activities would be restricted to protect the listed species and existing and potential habitat. Research or collecting would be authorized by BLM.

The entire federal mineral estate in the unit, approximately 5,950 acres, would be withdrawn from mineral entry and location under the general mining laws in order to provide protection for the Uncompahgre Fritillary butterfly and habitat of the species.

The entire federal oil, gas, and geothermal estate in the unit, totalling 5,950 acres, would be open to leasing with a no surface occupancy stipulation, and mineral material disposal would not be permitted in the unit in order to protect habitat of the Uncompahgre Fritillary butterfly and the species.

Livestock Grazing Management. On public lands within the unit, domestic sheep grazing would not be authorized on 1,440 acres of bighorn sheep habitat that are suitable for grazing in order to help prevent diseases being transferred to bighorn sheep from domestic sheep.

Recreation Management. The RAMP for the Alpine Triangle SRMA would be revised to include management of this unit. Motorized vehicular travel would be prohibited, unless authorized, in order to protect habitat of the Uncompahgre Fritillary butterfly. Public lands would be managed for Semi-Primitive Non-Motorized and Primitive ROS settings.

Visual Resources. Visual resources on public lands would be managed according to VRM Class I objectives in order to maintain the natural setting in the unit.

Rights-of-Way. Public lands in the unit would be classified an avoidance area for rights-of-way.

Fire Management. Wildfires in the unit would be managed under the full suppression category.

MANAGEMENT UNIT D-3 (Haystack Cave ACEC)

Land Ownership: 5 Acres of Public Surface; less than 1% of the Planning Area

This small unit is located on a steep hill near Haystack Gulch on the north side of Blue Mesa Reservoir. This is a significant paleontological site, having produced 14,000 year-old pleistocene remains. Archaeological artifacts have also been recovered. The site is being considered for nomination to the National Register of Historic Places. This is the only known site that has produced both shrub ox and Woodland musk ox remains. The site is potentially threatened from vandalism.

The unit would be designated and managed as the Haystack Cave Area of Critical Environmental Concern (ACEC). Studies would continue under authorization from BLM.

The entire federal mineral estate in the unit (five acres) would be recommended to be withdrawn from mineral entry and location under the general mining laws.

The federal oil and gas estate (five acres) would be open to leasing with a no surface occupancy stipulation. Disposal of mineral material on federal mineral estate in the unit would not be permitted.

Recreation Management. The entire unit would be closed to motorized vehicular traffic in order to prevent possible destruction of or access to paleontological values.

Visual Resource Management. Visual resources would be managed according to VRM Class II objectives.

Rights-of-Way. The public lands in the unit would be classified an exclusion area for rights-of-way.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-4 (Bighorn Sheep-A ACEC)

Land Status: 3,912 acres of Public Surface; 1% of the Planning Area

MANAGEMENT UNIT D-5 (Bighorn Sheep-B ACEC)

Land Status: 4,762 acres of Public Surface; 1% of the Planning Area

The description and management for these two units totalling 8,717 acres of public land are combined below.

Unit D-4 contains about 3,630 acres of bighorn sheep summer habitat, consisting mainly of high alpine meadows in the American Lake and Dolly Varden Mountain areas within the Henson Creek drainage. Unit D-5 contains the same type of bighorn sheep summer habitat, totalling about 4,747 acres, located on the east side of Handies Peak in the headwaters of the Lake Fork of the Gunnison River. A herd totalling about 30 to 45 bighorn sheep summer in these two units. The herd is static or declining in numbers. Both units are grazed by domestic sheep from approximately July 10 to September 10. Unit D-5 contains about 25 acres within Segment A of the Lake Fork of the Gunnison River, a segment eligible for inclusion into the National Wild and Scenic Rivers System. Concerns in these two units are the competition with domestic sheep for forage, forage conditions, increased human activity and the potential for diseases to be transferred to bighorn sheep from domestic sheep.

Management units D-4 and D-5 would be designated and managed as the Bighorn Sheep-A and Bighorn Sheep-B Areas of Critical Environmental Concern, respectively. Livestock grazing would not be authorized, and cooperative livestock grazing management on adjacent Forest Service lands would be pursued in order to increase and facilitate the improvement of bighorn sheep habitat, to prevent diseases being transferred to bighorn sheep from domestic sheep, and to increase herd numbers.

The entire federal oil and gas estate, totalling about 8,469 acres, in the units would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from April 15 through June 15 on identified lambing areas to prevent disturbance to lambing bighorn sheep. Disposal of mineral material on federal mineral estate would not be permitted from April 15 through June 15 on identified lambing areas within the units to prevent disturbance to lambing bighorn sheep.

Recreation Management. Both units would be closed to motorized vehicular traffic yearlong to eliminate vehicular-related human activity and road encroachment within bighorn sheep habitat, and to prevent damage to wild and scenic river values and scenic resources from uncontrolled vehicular traffic.

Wild and Scenic River Study Segment. Approximately 25 acres in this unit within Study Segment A of the Lake Fork of the Gunnison River in this unit would be recommended as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System, under the "Recreation" classification (see map in Appendix I). See this prescription and the Wild and Scenic River Study Segment component in STANDARD MANAGEMENT section, this alternative, for management of Segment A.

Visual Resource Management. The units would be managed according to VRM Class II objectives.

Rights-of-Way. Public lands in the unit would be classified an avoidance area for rights-of-way. Rights-of-way related construction would be excluded from April 15 through June 15 on identified lambing areas to prevent disturbance to lambing bighorn sheep.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-6 (Cebolla Creek ACEC)

Land Status: 9,812 acres of Public Surface; 2% of the Planning Area

This unit parallels Cebolla Creek and extends from the junction of Cebolla and Spring Creeks downstream to approximately Road Beaver Creek. The unit contains yearlong bighorn sheep habitat. The southeastern part of the unit contains lands in the existing Powderhorn Primitive Area. Best CDOW estimates are that a herd of 10 sheep use this unit, down from 80 as a result of an outbreak of Pasteurella in the winter of 1990. CDOW frequently trapped bighorn sheep in this unit for reintroduction and transplants into other areas. The unit is grazed by cattle; domestic sheep use could be authorized. The unit contains all or part of livestock grazing allotments 6104, 6107, 6108, 6110, 6111, 6112, 6113, 6114, 6119, and 6180. Diseases potentially being transferred from domestic sheep to bighorn sheep, and road construction and encroachment along the east side of the unit are concerns within the unit.

The unit would be designated and managed as the Cebolla Creek Area of Critical Environmental Concern (ACEC). An ACEC management plan would be prepared that would include measures to maintain a self-sustaining population of bighorn sheep based on the carrying capacity of existing habitat and to initiate efforts to recover the herd to a self-sustaining population. No fences would be constructed in the unit. Activities that would result in disturbance to lambing bighorn sheep would be restricted from April 15 through June 15. Monitoring would be conducted to determine habitat condition and trend, and forage utilization, including within existing treatment areas. Livestock grazing would be managed in a manner compatible with the objectives of this unit. Activities and land uses which would result in the deterioration of, or a decrease in, bighorn sheep habitat or herd numbers would not be permitted.

The entire federal mineral estate, totalling about 9,915 acres, would be withdrawn from mineral entry and location under the general mining laws in order to prevent disturbance to bighorn sheep and their habitat.

The entire federal oil and gas estate in the unit, totalling about 9,915 acres, would be open to leasing with a no surface occupancy stipulation to prevent disturbance to bighorn sheep and their habitat. Disposal of mineral material on federal mineral estate would not be permitted from April 15 through June 15 within the unit to prevent disturbance to bighorn sheep habitat and lambing bighorn sheep.

Livestock Grazing Management. Domestic sheep grazing would not be authorized in the unit to help prevent disease spreading from domestic sheep to bighorn sheep.

Recreation Management. Motorized vehicular traffic within the unit would be limited to designated routes to prevent disturbance to bighorn sheep and their habitat.

Visual Resource Management. The unit would be managed according to VRM Class II objectives.

Transportation and Access. Administrative access would be acquired along Rock Creek for livestock grazing and recreation management.

Rights-of-Way. Public lands within 100 feet on either side of County Road 27 would be open to the location of rights-of-way. The remainder of public lands in the unit would be classified an exclusion are for rights-of-way, in order to limit human activity and potential disturbance to bighorn sheep.

Fire Management. Wildfires in the unit would be managed under the conditional suppression policy.

MANAGEMENT UNIT D-7 (Slumgullion Slide ACEC)

Land Ownership: 1,370 acres of Public Surface; less than 1% of the Planning Area.

This unit is located approximately 2 miles southeast of Lake City and contains part of the Slumgullion Earthflow National Natural Landmark, a mass

wasting phenomenon. A Recreation and Public Purposes (R&PP) classification (C-0126201) applies to part of the public lands in the unit.

The unit is located within the Alpine Triangle Special Recreation Management Area (SRMA). The Colorado Natural Areas Program has designated most of the public lands in the unit as a Colorado Special Interest Area. The unit contains approximately 270 acres of crucial elk and deer winter range.

The unit would be designated and managed as the Slumgullion Slide Area of Critical Environmental Concern (ACEC). An ACEC management plan would be prepared. Surface disturbance within the unit would not be permitted in order to enhance and protect the earthflow's natural values, including visual resources and water quality. Recommendations for interpretation of the earthflow and other natural values in the unit would be included in the ACEC plan.

The entire federal mineral estate within the unit, about 1,405 acres, would be withdrawn from mineral entry and location under the general mining laws in order to protect the integrity of the earthflow from mineral development.

The entire federal oil and gas estate in the unit, totalling 1,405 acres, would be closed to future mineral leasing in order to protect values associated with the earthflow. Disposal of mineral material on federal mineral estate in the unit would not be permitted within the unit for the same reason.

Forest Management. Timber harvesting would not be permitted in the unit.

Recreation Management. Motorized vehicular traffic in the unit would be limited to designated routes in order to prevent surface disturbance within the slide area.

Visual Resource Management. The unit would be managed according to VRM Class II objectives.

Rights-of-Way. The public lands in the unit would be classified an exclusion area for surface-disturbing rights-of-way.

Fire Management. Wildfires in the unit would be managed according to a conditional suppression policy.

Withdrawals and Classifications. The R&PP classification C-0126201 would be recommended for termination/revocation upon the protective withdrawal recommendation being implemented.

MANAGEMENT UNIT D-8 (American Basin ACEC)

Land ownership: 1,577 acres of Public Surface; less than 1% of the Planning Area

This management unit is located in the American Basin area between the Continental Divide and Handies Peak, and is one of the most scenic basins in the San Juan Mountains because of its midsummer wildflowers and the high-quality visual resources. Sloan Lake and approximately 2.2 miles of the headwaters of Segment A of the Lake Fork of the Gunnison River (which is eligible for inclusion into the National Wild and Scenic Rivers System) are located within the unit. The unit is also a part of the Alpine Triangle SRMA. Concerns within the unit are conflicts regarding recreation users and domestic sheep grazing and the potential for mining to occur (there is a high to moderate likelihood for the occurrence of locatable minerals on public lands in the unit).

The unit would be designated and managed as the American Basin Area of Critical Environmental Concern (ACEC). An ACEC management plan would be prepared. The unit would be managed to protect and enhance visual and other natural resources and existing related recreation opportunities. Activities resulting in surface disturbances or visual impacts would not be permitted in order to prevent deterioration of visual impacts. Existing visual intrusions would be rehabilitated to the extent feasible. Acquisition of private lands in the unit would be pursued. Visual resources in the unit would be managed according to VRM class I objectives.

The entire federal mineral estate, totalling 1,577 acres, within the unit would be withdrawn from

mineral entry and location under the general mining laws in order to protect recreation and visual resources in the unit from disturbance from possible mineral development.

The entire federal oil and gas estate within the unit, totalling 1,577 acres, would be closed to future mineral leasing in order to protect visual and recreation resources from deterioration as a result of possible oil and gas exploration or development. Disposal of mineral materials on federal mineral estate would not be permitted within the unit in order to prevent possible deterioration of recreation and visual resources.

Livestock Grazing Management. Domestic livestock grazing would not be authorized in the unit in order to reduce conflicts with recreation users..

Recreation Management. The RAMP for the Alpine Triangle SRMA would be revised to include management of this unit. Motorized vehicular travel would be limited to designated routes within the unit in order to prevent destruction to wildflower concentrations and to protect and maintain wild and scenic river values and visual resources in general from OHV use. Public lands would be managed for Semi-Primitive Motorized and Semi-Primitive Non-Motorized ROS settings. The hiking trail to Handies Peak would be improved.

Wild and Scenic River Study Segments. Approximately 2.2 miles of Segment A of the Lake Fork of the Gunnison River in this unit would be recommended as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System, under the "recreational" classification (see map in Appendix I). See this prescription, and the Wild and Scenic River Study Segment component in STANDARD MANAGEMENT section, this alternative, for management of Segment A.

Visual Resources. Public lands would be managed according to VRM Class I objectives in order to maintain the natural setting in the unit.

Acquisition of Non-Federal Lands. If available, approximately 40 acres of non-federal lands would be acquired in the unit in order to enhance and facilitate the management of visual and recreation resources.

Rights-of-Way. Public lands in the unit would be classified an exclusion area for rights-of-way.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-9 (Lake Fork ACEC)

Land Ownership: 4,800 acres of Public Surface; 1% of the Planning Area.

This unit parallels the Lake Fork of The Gunnison River (Lake Fork) and is adjacent to the National Park Service (NPS) administered Curecanti National Recreation Area. The majority of the unit is located within the Alpine Triangle Special Recreation Management Area (SRMA). Resources within the unit are managed according to the 1986 management plan for the SRMA. The unit is characterized by a steep walled, narrow canyon, and a meandering river valley with a variety of vegetation types. Features within the unit include: high quality visual resources; nine recorded historic railroad construction camp sites, three of which have been developed and are managed cooperatively by the National Park Service; various other historic sites; Red Bridge recreation site and several minor wayside and fishing access improvements managed by BLM; crucial big game winter range (4,710 acres); and a bighorn sheep herd. Concerns within the unit include protecting scenic resources while other developments occur, the potential for mineral development at Red Bridge campground, and undeveloped and unprotected historic site deterioration.

The unit would be designated and managed as the Lake Fork Area of Critical Environmental Concern (ACEC). An ACEC Management plan would be prepared incorporating actions within the RAMP for the Alpine Triangle SRMA. No new overnight campsites would be developed in the unit.

Maintaining and protecting the scenic integrity and recreation opportunities, including fishing, floatboating, and historic site stabilization and interpretation would be emphasized. A roaded natural ROS setting would be maintained. The visual resources and associated recreation values would be maintained and enhanced. Informational materials would be developed for the use of float boaters and fishers. The Red Bridge homestead, an historic stage stop, would be evaluated to determine the historical significance and, if appropriate, a cadastral survey will be conducted to determine the location of the site relative to public land. An inventory and evaluation would be conducted for other historic resources. NPS cooperative management of three historic sites would continue. If appropriate, cooperative management of other sites would be considered.

Motorized vehicular use in the unit would be limited to designated routes from April 15 through June 15 on identified bighorn sheep lambing areas to prevent disturbance to lambing bighorn sheep.

The entire federal mineral estate in the unit, totalling 5,995 acres, would be withdrawn from mineral entry and location under the general mining laws, and the entire federal oil and gas estate in the unit (about 5,995 acres) would be closed to mineral leasing in order to prevent deterioration of recreation facilities and resources, visual resources and big game habitat, and to prevent disturbance to lambing bighorn sheep and wintering elk and deer. Disposal of mineral materials for federal mineral estate would not be authorized within the unit for the same reasons.

Visual Resource Management. The unit would be managed according to VRM Class II objectives.

Rights-of-Way. Public land in the unit would be classified an avoidance area for future rights-of-way. Rights-of-way related construction would not be permitted within the unit from December 1 through March 31 to prevent disturbance to wintering big game, or within bighorn sheep habitat from April 15 through June 15 on identified lambing areas to prevent disturbance to lambing bighorn sheep.

Fire Management. Wildfires in the unit, would be managed under the conditional suppression category.

MANAGEMENT UNIT D-10 (Dillon Pinnacles ACEC)

Land Ownership: 190 acres of Public Surface; less than 1% of the Planning Area

This unit is located near the edge of the planning area boundary on the north side of U.S. Highway 50 and the Blue Mesa Reservoir. The public lands are classified as crucial big game winter range. The unit contains portions of the steep, highly dissected cliffs (spires) that form a highly visible and scenic backdrop for Blue Mesa Reservoir. The National Park Service maintains a heavily used hiking trail to these spires. A concern within the unit is that private development could occur on approximately 40 acres of non-federal land.

The unit would be designated and managed as the Dillon Pinnacles Area of Critical Environmental Concern (ACEC). The unit would be managed to protect scenic and recreational opportunities. An ACEC management plan would be prepared. If available, the non-federal lands in the unit would be acquired in order to protect the integrity of the naturally appearing setting from potential development. Surface disturbing activities would not be permitted.

All the federal mineral estate in the unit would be withdrawn from mineral entry and location under the general mining laws in order to preclude potential mineral development and deterioration of scenic values.

The entire federal oil and gas estate in the unit would be closed to future mineral leasing in order to prevent potential deterioration of scenic, recreation, and other natural values. Disposal of mineral materials on federal mineral estate in the unit would not be permitted for the same reasons.

Livestock Grazing Management. Livestock grazing management would be eliminated within the unit.

Recreation Management. The unit would be closed to motorized vehicular travel to prevent deterioration of scenic values.

Visual Resource Management. The unit would be managed according to VRM Class I objectives.

Acquisition of Non-Federal Lands. If, available, approximately 40 acres of non-federal lands would be acquired in order to enhance and facilitate management of visual, recreation, and other natural values, and to prevent deterioration of visual resources from potential private development.

Rights-of-Way. Public lands in the unit would be classified an exclusion area for rights-of-way.

Fire Management. Wildfires in the unit would be managed under the full suppression category.

MANAGEMENT UNIT D-11

Land Ownership: 12,462 acres of Public Surface; 2% of the Planning Area

This unit consists of riparian/aquatic areas generally associated with or containing crucial big game winter range.

This management unit consists of approximately 113 miles of riparian areas along public land, of which 76 miles are within crucial big game winter range. These lands are located throughout the planning area, and are associated with perennial or intermittent streams. Some portions of the unit also contain fishery/aquatic habitat. These areas are highly productive ecosystems important in sustaining elk and deer populations. About 925 acres in this unit are located within elk-calving areas. Bald eagles use parts of those riparian areas north of Blue Mesa Reservoir. Resources within this unit are also important for the maintenance and enhancement of general riparian vegetation, aquatic/fishery habitat, stream channels, and water quality. Concerns regarding big game are winter and springtime shortages of herbaceous vegetation; the below-potential condition of riparian vegetation and the total riparian/aquatic ecosystems as evidenced by a lack of streamside cover and quality pool areas; competition of big game and livestock for forage; long-term modification of riparian vegetation resulting in the dominance of livestock-grazing tolerant grass species, and the invasion of noxious weeds and upland plant species; human disturbance to bald eagles and removal of bald eagle perch trees; and roads that effect the riparian areas.

The unit would be managed to protect, restore, and enhance riparian/aquatic areas along approximately 113 miles of public land in order to 1) increase the production and diversity of vegetation for big game and other wildlife including non-game wildlife, and 2) improve overall riparian conditions in and along streams, especially those with fishery potential. Riparian improvement strategies and/or projects, including treating vegetation by burning or mechanical means, would be permitted and included in all Coordinated Resource Management Plans (CRMAPs), and other activity plans, and implemented in a manner that meets the objectives of this alternative. Resources within the unit would continue to be inventoried and evaluated for condition, potential and trend and monitoring studies would be conducted. Adjustments in forage utilization would be made or other management actions would be taken, based upon monitoring results.

Surface disturbance would be limited to two acres per disturbance and measures would be included to prevent any adverse impacts to riparian vegetation and associated stream channels in this unit, including road construction. Existing roads would be maintained to decrease siltation and excessive water runoff. Any new available forage would be allocated to wildlife. The existing Resource Area-wide HMP would be revised to include the recommendations in this unit.

A total of 395 acres of federal mineral estate along Cebolla Creek would continue to be withdrawn from mineral entry and location to prevent deterioration of crucial big game winter range.

The federal oil and gas estate in the unit would be open to leasing with a no surface occupancy stipulation, and disposal of mineral materials on

federal mineral estate in the unit would not be permitted in order to prevent disturbance to crucial big game winter range.

Soil and Water Resources. Compatible measures designed to prevent and minimize soil erosion and water quality deterioration would be required in all plans for surface-disturbing land-use activities in the unit.

Livestock Grazing Management. Livestock use would not be permitted until June 1, or range readiness. Fall trailing, not to exceed four days, would be permitted in those portions of Game Management Units 55 and 551 within the unit to reduce livestock utilization of regrowth. Continuous spring, summer and fall grazing would be eliminated within Game Management unit 551 in order to improve big game winter forage.

Forest Management. Forest products would not be harvested within, or removed from, the unit.

Recreation Management. The RAMPs for the San Juan Triangle and Cochetopa Canyon SRMA would be amended to include the management prescription for the parts of this unit contained within those SRMAs. Motorized vehicular traffic would be limited to designated routes to prevent deterioration and destruction of riparian vegetation and to maintain water quality. Motorized vehicular traffic on public lands in the unit north of U.S. Highway 50, east of West Antelope Creek, and west of Quartz Creek only would be limited to designated routes from December 1 through March 31 if necessary due to excessive snow depths or herd concentrations in order to prevent disturbance to wintering elk and deer.

Visual Resource Management. The unit would be managed according to VRM Class II objectives.

Transportation and Access. Public access would be acquired into the Stevens Creek area for recreation.

Rights-of-Way. The public lands in the unit would be classified an avoidance area for all surface-disturbing rights-of-way. Rights-of-way related construction activities in the unit would not be permitted on 9,705 acres of crucial big game winter range from December 1 through March 31 to prevent disturbance to wintering big game, nor from May 1 through June 30 on 925 acres of elk calving area (in the Cochetopa Creek drainage) to prevent disturbance to calving elk.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-12

Land Ownership: 9,657 acres of Public Surface; 2% of the Planning Area

This unit contains riparian/aquatic areas of various widths, generally located in important sage grouse broodrearing areas.

This management unit consists of riparian areas along public land, of which 99 miles occur along or within important sage grouse broodrearing areas. These lands are generally located east of the Lake Fork of the Gunnison River and are associated with perennial or intermittent streams. Bald eagles use parts of those riparian areas in the unit along tributaries of Blue Mesa Reservoir. Public lands totalling 8,030 acres are designated big game crucial winter range and about 962 acres are pronghorn antelope year-long habitat. Some portions of the unit also contain fishery/aquatic habitat. With the exception of Tomichi, Quartz, and Razor Creeks, the majority of this unit is located within "I" category grazing allotments. The abundance of insects and lush herbaceous vegetation found in riparian areas is crucial for the survival of sage grouse chicks during the first twelve weeks after hatching. Resources within this unit are also important for the maintenance and enhancement of the quality of general riparian vegetation, aquatic/fishery habitat, stream channels, and water quality. Concerns within this unit are that riparian ecosystems in general are below their ecological potential and have been reduced in size due to water regimes being modified by improper livestock grazing and road locations. Downcutting or channel incision, and the accompanying lowering of water tables has resulted in a reduction in riparian plant species and an invasion of upland plants.

The unit would be managed to protect, restore and enhance riparian/aquatic areas on public lands in order to optimize sage grouse populations. Management objectives would be to provide high quality brood-rearing habitat with a diversity of plant species composition and structure, aimed at improving overall riparian conditions in the unit. Establishing adequate vegetative cover and increasing the proportion of native bunchgrasses to provide escape and hiding cover for foraging sage grouse chicks are conditions to be achieved in the unit. Riparian improvement strategies and/or projects would be included in all CRMAPs and other activity plans and implemented in order to achieve these conditions, in a manner that meets the objectives of this alternative. Emphasis would be placed on rehabilitating riparian areas where the ecological or hydrological condition is degraded. Measures to reduce impacts to the riparian ecosystems and associated stream channels, and to prevent unnecessary removal of sage grouse brood habitat would be included in all surface-disturbing plans. Surface disturbance would be limited to two acres per disturbance, and measures would be included to prevent any adverse impacts to riparian vegetation and associated stream channels in this unit, including road construction.

Existing roads would be relocated or maintained to decrease siltation and excessive runoff. Resources within this unit would continue to be inventoried and evaluated for potential, condition, and trend, and monitoring studies would be conducted. Projects or vegetation treatments compatible with the objectives of this unit would be permitted. Any new available forage would be allocated to wildlife. The existing Resource Area HMP would be revised to include the recommendations in this management unit.

Federal oil and gas estate in the unit would be open to leasing with a no surface occupancy stipulation in order to protect sage grouse brood rearing habitat and other vegetation. Disposal of mineral materials on federal mineral estate in the unit would not be permitted for the same reasons.

Soil and Water Resources. Compatible measures designed to minimize soil erosion and water quality deterioration would be required in all plans for surface-disturbing activities.

Forest Management. Forest products would not be harvested within or removed from the unit.

Recreation Management. Motorized vehicular traffic on public lands in the unit north of U.S. Highway 50, east of West Antelope Creek, and west of Quartz Creek only would be limited to designated routes from December 1 through March 31 if necessary due to excessive snow depths or herd concentrations in order to prevent disturbance to wintering elk and deer. Motorized vehicular traffic on the remainder of public lands in the unit would be limited to designated routes yearlong to prevent deterioration of riparian vegetation and water quality, and to prevent disturbance to sage grouse.

Visual Resource Management. The unit would be managed according to VRM Class II objectives.

Rights-of-Way. The public lands in the unit would be classified an avoidance area for surface-disturbing rights-of-way. Rights-of-way related construction would not be permitted in the unit from July 15 through September 15 to prevent disturbance to young sage grouse chicks, nor from December 1 through March 31 to prevent disturbance to wintering deer and elk on 4,925 acres of crucial big game winter range.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-13

Land Ownership: 192 acres of Public Surface; less than 1% of the Planning Area.

This unit contains bald eagle perch trees and riparian/aquatic habitat.

This unit consists of riparian/aquatic areas used by bald eagles along three miles of public land along Red and East Elk Creeks north of U.S. Highway 50 and Blue Mesa Reservoir. These areas are within

bald eagle wintering habitat and contain cottonwood and standing dead trees favored by bald eagles. Public land in the unit is also crucial big game winter range. A concern regarding this unit is that bald eagle perch trees are limited in the planning area. Concerns in the unit are disturbance by humans and removal of standing dead trees by firewood cutters.

The unit would be managed to protect and enhance habitat for resident and wintering bald eagles. Existing perch trees would be protected from destruction. The unit would also be managed to protect, restore, and enhance riparian/aquatic areas along public land in order to improve conditions in and along streams. Riparian improvement strategies and/or projects, including treating vegetation by burning or mechanical means, would be permitted and included in all Coordinated Resource Management Plans (CRMAPs), and other activity plans, and implemented in a manner that meets the objectives of this alternative. Resources within the unit would continue to be inventoried and evaluated for condition, potential and trend and monitored patrols would be conducted. No activities resulting in surface disturbance would be permitted. The Resource Area-wide HMP would be revised to include the recommendations in this unit.

The entire federal mineral estate in the unit would be withdrawn from mineral entry and location under the mining laws in order to prevent deterioration of bald eagle habitat.

The entire federal oil and gas estate in the unit would be open to leasing with a no surface occupancy stipulation to prevent disturbance to bald eagles. Disposal of mineral materials in the unit would not be permitted for the same reason.

Soil and Water Resources. Compatible measures designed to prevent and minimize soil erosion and water quality deterioration would be required in all plans for surface-disturbance.

Livestock Grazing Management. Livestock grazing would not be permitted in the unit.

Forest Management. Forest products would not be harvested within, or removed from the unit.

Recreation Management. Motorized vehicular traffic would be limited to designated routes to prevent disturbance to riparian vegetation and bald eagles, and to prevent deterioration of water quality.

Visual Resource Management. Public lands in the unit would be managed according to VRM Class II (148 acres) and VRM Class III (44 acres) objectives.

Rights-of-Way. The public lands in the unit would be classified an exclusion area for surface-disturbing rights-of-way.

Fire Management. Wildfires in the unit would be managed under a full suppression category to protect bald eagle perch trees.

MANAGEMENT UNIT D-14

Land ownership: 76,752 acres of Public Surface; 12% of the Planning Area

This unit consists of sage grouse nesting and high production areas.

This management unit is located generally on sagebrush-covered rolling-terrain in the eastern and central parts of the planning area. The unit contains important sage grouse nesting areas. Lands in the unit are also sage grouse high production areas, and support part of the third largest sage grouse population in Colorado. Most of the public lands in the unit are available for livestock grazing. The sagebrush vegetative communities within this unit provide important sage grouse nesting and winter habitat, year-round food sources, cover for young birds (brood areas), and mating/strutting habitat (leks). The unit also contains 66,420 acres of crucial elk and deer winter range and 20,295 acres of yearlong pronghorn antelope range. Concerns within the unit regarding sage grouse habitat include disturbances to nesting or strutting sage grouse, poor quality and below-potential sagebrush nesting habitat; sagebrush

removal treatments within or near nesting habitat and leks; improper utilization within treated areas that has resulted in sagebrush reinvasion and a subsequent lack of grasses and forbs within nesting and lek areas; and removal of sage grouse winter habitat (tall, dense sagebrush in drainages as a result of treatments).

This management unit would be managed to improve and maintain sagebrush vegetative communities in order to optimize sage grouse populations. Sagebrush treatments to improve sage grouse habitat would be incorporated into all CRMAPs, and their design, implementation, and management would include as a minimum the standards and techniques in Appendix A.

Proposed habitat improvements would be implemented and managed to maintain and improve these areas crucial to sage grouse populations. All leks would be protected from destruction. Activities occurring on 66,420 acres of crucial elk and deer winter range in the unit would be restricted to prevent disturbance to wintering elk and deer from December 1 through March 31.

Approximately 1,758 acres of federal oil and gas estate within a 1/4 mile radius of 14 sage grouse leks in the unit would be open to leasing with seasonal stipulations on drilling and seismic activities being in effect from April 1 through May 31 to prevent disturbance to strutting sage grouse. Federal oil and gas estate (36,920 acres under federal surface and 1,510 acres of split estate) within elk and deer crucial winter range would be open to leasing with a seasonal stipulation on drilling and seismic activities being in effect from December 1 through March 31 to prevent disturbance to wintering elk and deer. Variances to these seasonal stipulations may be granted. (See Appendix K).

Disposal of mineral materials would not be permitted on 1,758 acres of federal mineral estate within 1/4 mile of all leks in the unit from April 1 through May 31, and within 38,430 acres of federal mineral estate on crucial big game winter range from December 1 through March 31, in order to prevent disturbance to strutting sage grouse and wintering elk and deer, respectively.

Soils. Sagebrush or other vegetative treatments on soils with a moderate to severe erosion condition would be designed and implemented to improve plant basal cover and erosion conditions according to the Montrose District Rangeland Treatment Handbook.

Riparian Zones. Improvement strategies would be implemented in drainages and riparian ecosystems and included in CRMAPs or other activity plans in order to improve sage grouse winter and brood-rearing habitat, and to improve overall hydrologic conditions.

Livestock Grazing Management. Treatments and projects meeting sage grouse habitat management objectives for this unit would be permitted. Additional forage made available would be allocated to watershed needs. Domestic sheep grazing would be permitted in the unit only after June 1 to prevent disturbance to nesting sage grouse and nest destruction during nesting periods. Continuous spring-through-fall grazing would be excluded within that portion of GMU 551 in the unit to ensure adequate winter and fall forage for big game, and a compatible grazing system developed. The two-week fall livestock use period would be eliminated in the portions of GMUs 55 and 551 in the unit so that the majority of vegetative regrowth would be available for big game and sage grouse use in riparian areas. Fall use, not to exceed four days, would be authorized.

Recreation Management. Motorized vehicular traffic on public lands in the unit north of U.S. Highway 50, east of West Antelope Creek, and west of Quartz Creek only would be limited to designated routes from December 1 through march 31 if necessary due to excessive snow depths or herd concentrations in order to prevent disturbance to wintering elk and deer.

Visual Resource Management. The unit would be managed according to VRM Class II (33,959 acres) and VRM Class III (42,793 acres) objectives.

Rights-of-Way. Public land in the unit within 1/4 mile of all leks would be classified an exclusion area for rights-of-way. Rights-of-way related

construction within crucial winter range would not be authorized from December 1 through March 31 to prevent disturbance to wintering elk and deer.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-15

Land ownership: 42,560 acres of Public Surface; 7% of the Planning Area

This unit contains yearlong pronghorn antelope habitat.

This unit is located in the Cochetopa Creek valley and joins the boundaries of the Gunnison National Forest on the east and south.

Lands within the unit contain resident pronghorn antelope, 42,144 acres of pronghorn yearlong habitat, and 40,747 acres of suitable public lands are grazed by livestock. Crucial big game winter range totalling 39,895 acres also occurs in this unit. Concerns within the unit are the lack of forbs; numerous fences for livestock management that hinder antelope movement onto historical habitat; potential degradation of antelope habitat as a result of proposed sagebrush treatments; and riparian areas being below potential.

The unit would be managed to improve and maintain pronghorn antelope habitat to support approximately 250 animals. Treatments, including sagebrush burns and interseeding of forbs into existing sagebrush vegetation within pronghorn summering areas would be conducted to increase the quantity of forbs. Treatments would be a maximum of 20-30 acres in size, and would be managed to ensure success. Monitoring would be conducted to determine fawning area locations, habitat condition and trend, and forage utilization.

Forty acres of federal mineral estate would continue to be withdrawn from entry and location under the general mining laws for a U.S.F.S. administrative site.

Federal oil, gas, and geothermal estate on crucial big game winter range totalling 14,927 acres under federal surface and 130 acres of split-estate would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect on crucial big game winter range from December 1 through March 31 to prevent disturbance to wintering elk and deer. Variances to this seasonal stipulation may be granted (see Appendix K). Disposal of mineral material on 15,057 acres of federal mineral estate within crucial big game winter range would not be authorized during this period for the same reason.

Livestock Grazing Management. Grazing of domestic sheep within the unit would not be authorized. Fences would be modified to facilitate pronghorn antelope movement onto historical ranges. Non-conflicting livestock management objectives, projects and mitigating measures would be incorporated into new CRMAPs or other activity plans. Facility development, treatments, and projects would be permitted if compatible with wildlife habitat management objectives. All additional forage made available as a result of vegetative treatments would be allocated to watershed needs.

Forest Management. Suitable commercial forest lands and woodlands would be available for harvest, with a seasonal stipulation on harvesting from December 1 through March 31 to reduce stress on wintering big game. Spur roads and temporary roads used for logging would be kept to a minimum and would be physically blocked and revegetated after completion of operations.

Visual Resource Management. The unit would be managed according to VRM Class II, (7,065 acres) and VRM Class III (35,495 acres) objectives.

Rights-of-Way. Rights-of-way related construction activities on crucial big game winter range would be excluded from December 1 through March 31 in the unit to prevent disturbance to wintering elk and deer.

Fire Management. Wildfires within the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-16

Land ownership: 105,737 acres of public surface; 17% of the Planning Area.

This unit contains elk and deer crucial winter range.

This management unit is located generally at lower elevations and throughout the planning area. Public lands totalling approximately 88,810 acres are crucial deer and elk winter range. Livestock grazing and other land uses occur on most of the public lands in the unit. A variety of vegetation types occur within the unit, including some riparian zones. The unit also contains lands within parts of the Alpine Triangle and Cochetopa SRMAs and the Gunnison ERMA; elk calving areas totalling 1,815 acres; and sage grouse brood-rearing areas.

Concerns within the unit include winter range occurring on mixed land ownership; large numbers of deer congregating along U.S. Highway 50; heavy to severe utilization of mountain mahogany by deer and elk and the lowering vigor of sagebrush in GMU 64 northeast of Cimarron; existing elk numbers being above CDOW long-range herd objectives in GMU 55; vegetative treatments that have resulted in the removal of browse species; and long-range CDOW herd goals possibly being too high in GMU 54, and portions of others to maintain healthy stands of browse species

The unit would be managed to improve habitat conditions and increase the production and diversity of shrub species in upland and riparian vegetative types and to help meet CDOW long-range herd goals. Wildlife would have first priority for all additional forage made available as a result of BLM wildlife habitat improvement projects.

A HMP or CRMAP would be developed focusing on overall habitat improvement and intensive habitat management. The plan would include treatments and projects in uplands and riparian ecosystems to increase the production and composition of bitterbrush, serviceberry, mountain mahogany, willows, and cottonwoods. Methods would include shrub plantings, burning, and techniques to convert decadent sagebrush stands to stands dominated by young sagebrush plants in the uplands. Monitoring of habitat conditions, utilization, and trend would be continued.

In the portions of GMUs 54 and 55 within the unit, resources and land uses would be managed for the benefit of elk and deer winter habitat. In the portions of GMU 64 south and east of Cimarron in the unit big game utilization would be limited to 50% of the current year's growth of mountain mahogany. To help achieve this lower rate, a recommendation would be made to the CDOW to implement measures to reduce big game numbers in the GMU.

Interim elk and deer herd goal numbers in portions of certain other GMUs within the unit would be recommended to CDOW in order to permit the production and vigor of important browse species to increase such that winter habitat necessary to support CDOW's long-range herd numbers would be available. See Appendix A for interim numbers to be recommended and CDOW's long-range herd goals for GMUs within the unit.

Surface-disturbing activities in the unit on crucial elk and deer winter range that would result in disturbances to big game would be excluded from December 1 through March 31. Activities that would disturb elk within calving areas from May 1 through June 30 would be excluded.

Federal oil, gas, and geothermal estate on crucial big game winter range totalling 100,417 acres under federal surface and 28,842 acres of split-estate, would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from December 1 through March 31 to prevent disturbance to wintering deer and elk. To prevent disturbance to calving elk, seasonal stipulations on seismic and drilling activities would be in effect on approximately 1,815 acres of federal oil, gas, and geothermal estate under federal surface, from May 1 through June 30 within elk-calving areas in the unit. Variances to these stipulations may be granted (see Appendix K).

Disposal of mineral material within elk-calving areas would not be authorized on 1,815 acres of federal mineral estate from May 1 through June 30 to

prevent disturbance to calving elk, nor on 125,260 acres of federal mineral estate from December 1 through March 31 within crucial big game winter range, to prevent disturbance to wintering deer and elk.

Livestock Grazing Management. Continuous spring-through-fall grazing would be excluded within that portion of GMU 551 in the unit, and a compatible grazing system developed to improve crucial elk and deer winter habitat. The two-week fall period for trailing livestock would be eliminated in the portions of GMUs 55 and 551 in the unit so that the majority of vegetative regrowth would be available for big game use during the winter and spring in riparian areas. Trailing permits, not to exceed four days, would be authorized. Domestic sheep grazing and trailing would be excluded within the portion of GMU 64 in the unit in order to eliminate forage competition with big game. Livestock grazing would be eliminated within allotment 6200 in the unit to remedy several management conflicts involving wildlife habitat.

Forest Management. Suitable commercial forest lands and woodlands would be available for harvest, with a seasonal stipulation on harvesting from December 1 through March 31 to reduce stress on wintering big game. Logging operations in elk-calving areas (1,180 acres) would be excluded from May 1 through June 30 to prevent disturbance to calving elk. Aspen stands in all "I" allotments in the unit would have a high priority for commercial sales, and harvests would be designed to increase and maintain young vigorous aspen for a higher quantity and quality of big game forage. Inventories of all forest lands and woodlands would be conducted to determine associated big game habitat conditions and habitat improvements needs. Spur roads and temporary roads used for logging would be kept to a minimum and would be physically blocked and revegetated after completion of operations. Main haul roads that contribute to objectives in this alternative would be maintained to prevent soil erosion and water quality deterioration. Logging or timber harvesting would not be permitted within riparian zones.

Recreation. Motorized vehicular travel within elk-calving areas (1,815 acres) would be limited to designated routes from May 1 through June 30 to prevent disturbance to calving elk. Approximately 520 acres of public land containing crucial big game winter range adjacent to or within the Sapinero State Wildlife area would be closed to motorized vehicular traffic to complement the state's OHV management in the wildlife area. Motorized vehicular traffic on public lands in the unit north of U.S. Highway 50, east of Soap Creek, and west of Quartz Creek would be limited to designated routes from December 1 through March 31, if necessary due to big game herd concentrations or excessive snow depths, in order to prevent disturbance to wintering elk and deer. The remainder of the unit would be open to motorized vehicular traffic.

Visual Resource Management. Public lands in the unit would be managed according to VRM Class II (67,332 acres) and VRM Class III (38,405 acres) objectives.

Transportation and Access. Public access would be acquired into the Bead Creek area for recreation and livestock grazing management.

Rights-of-Way. Rights-of-way related construction activities on crucial big game winter range would not be permitted from December 1 through March 31 in the unit to reduce stress on wintering big game, and from May 1 through June 30 within elk calving areas to prevent disturbance to calving elk.

Fire Management. Wildfires within the unit would be managed under the conditional suppression category, except within elk calving areas (1,815 acres), where full suppression of wildfires would occur.

MANAGEMENT UNIT D-17

Land ownership: 23,365 acres of Public Surface; 4% of the Planning Area

This unit consists of bighorn sheep habitat.

The majority of this unit is located in the alpine tundra area of the American Flats area, and a small part of the unit is located near Dillon Gulch north of Blue Mesa Reservoir. The unit contains a total

of 22,630 acres of bighorn sheep habitat. Domestic sheep grazing occurs in the part of the unit in the American Flats area. This unit contains about five miles of Segment A of the Lake Fork of the Gunnison River, a study segment eligible for inclusion into the National Wild and Scenic Rivers System. Concerns in the unit are the potential for diseases being transferred to bighorn sheep from domestic sheep, increased human activity, and forage competition.

The unit would be managed to maintain and increase bighorn sheep numbers, enhance visual resources, and improve soil erosion conditions and water quality. Forage would be allocated to wildlife.

Activities which are consistent with objectives for the unit would be permitted.

Activities that would disturb bighorn sheep during lambing periods would be restricted. Monitoring would be conducted to determine habitat condition and trend, and forage utilization.

Federal oil and gas estate totalling 22,834 acres would be open to leasing with a seasonal stipulation on drilling and seismic activities to be in effect from April 15 to June 15 on identified lambing areas to prevent disturbance to lambing bighorn sheep.

Disposal of mineral material on all federal mineral estate, about 22,834 acres, would not be permitted from April 15 through June 15 on identified lambing areas to prevent disturbance to lambing bighorn sheep.

Livestock Grazing Management. Domestic sheep grazing, including trailing, would not be authorized in the unit, of which 12,485 acres are suitable grazing lands on bighorn sheep habitat. Cooperative livestock grazing management on adjacent Forest Service lands would be pursued in order to increase and facilitate the improvement of bighorn sheep herd numbers.

Recreation Management. Approximately 40 acres of public land adjacent to the Sapinero State Wildlife Area would be closed to motorized vehicle traffic to compliment the state's OHV management. To protect bighorn sheep habitat from damage or removal, to prevent deterioration of scenic values, and to maintain and protect wild and scenic river values from OHV use, motorized vehicular traffic on the remainder of public land in the unit would be limited to designated routes.

Wild and Scenic River Segment: Approximately 5 miles of Segment A of the Lake Fork of the Gunnison River would be recommended as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System, under the "recreational" classification (see map in Appendix I). See this prescription and the Wild and Scenic River Study Segment component in STANDARD MANAGEMENT section, this alternative, for management of Segment A.

Until a final decision on designation or non-designation is made, BLM would not initiate or authorize actions within the segment that would impact any outstandingly remarkable values or the free-flowing condition of the river. Upon recommendation of the segment for designation by the President to Congress, public lands in the segment would be for three years, withdrawn from mineral entry and location under the general mining laws and, for the same period, would be segregated from all forms of appropriation under the general land laws. Mineral leasing would occur according to management objectives under minerals in this management unit prescription. Motorized vehicle use would be limited to designated roads. A management plan would be prepared for the segment and would include objectives and actions for the period prior to and after designation. Resources in the segment would be managed according to a combination of Semi-Primitive Non-Motorized and Semi-Primitive Motorized ROS settings.

Visual Resource Management. The unit would be managed according to VRM class II objectives.

Rights-of-Way. Public lands in the unit would be classified an avoidance area for rights-of-way. Rights-of-way related construction would not be permitted from April 15 through June 15 to prevent disturbance to lambing bighorn sheep.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-18

Land ownership: 6,667 acres of Public Surface; 1% of the Planning Area

This unit consists of elk-calving areas.

This management unit consists of two important elk calving areas, the larger of which is located on Blue Mesa adjacent to the Uncompahgre National Forest and contains headwaters of Little Blue, East Fork of Little Blue, Pine, and Willow Creeks. The second area is located adjacent to the Gunnison National Forest and contains headwaters of Rock Creek. These calving areas, totalling 6,465 acres, and smaller areas in other management units are the only known elk calving areas in the planning area, and are used by elk during the May 1 through June 30 calving periods. Both areas contain suitable commercial forest lands and are grazed by livestock. A concern within the unit is activities that could disturb calving elk during the critical calving periods.

The management unit would be managed to enhance these areas as elk calving areas.

The entire Federal oil, gas, and geothermal estate in the unit, totalling 6,667 acres under federal surface and 5,220 acres of split estate, would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from May 1 through June 30 to prevent disturbance to calving elk. Disposal of federal mineral estate in the unit, totalling 11,887 acres, would not be authorized from May 1 through June 30 to prevent disturbance to calving elk.

Forest Management. The unit would be closed to the harvest of all forest products from May 1 through June 30 to prevent disturbance to calving elk. All plans for timber harvests would include the conditions and standards in Appendix A in order to help improve or maintain non-game wildlife habitat.

Recreation. Motorized vehicular travel in the unit would be limited to designated roads to prevent disturbance to calving elk.

Visual Resource Management. The unit would be managed according to VRM Class II (2,035 acres) and VRM Class III (3,370 acres) objectives. Rehabilitation measures would be conducted on 1,262 acres of public land classified as VRM IIR, IIIR, and IVR (lands with existing man-made visual intrusions) in order to improve scenic quality.

Transportation and Access. Administrative access would be acquired into Poison Draw for livestock grazing management and into the Sandy Mesa area for livestock grazing and forest management, and into the Rock Creek Park area for recreation management. Administrative access in Rock Creek Park only would be acquired in order to avoid disturbance to bighorn sheep that could occur with public access. Public access would be acquired into the Willow Creek area for recreation and forest management.

Rights-of-Way. Public land in the unit would be classified an avoidance area for rights-of-way. Rights-of-way related construction would not be permitted from May 1 through June 30 to prevent disturbance to calving elk.

Fire Management. Wildfires on public lands in the unit would be managed under the full suppression category.

MANAGEMENT UNIT D-19

Land Ownership: 44,767 acres of Public Surface; 7% of the Planning Area

This unit consists of lands containing a variety of natural values and primitive non-motorized recreation opportunities.

This management unit is managed as the existing Powderhorn Special Recreation Management Area (SRMA). Part of the existing Powderhorn Primitive Area is located within the unit. Few obvious human influences are apparent. The unit contains the popular Powderhorn Lakes and is characterized by

a diversity of landscapes, high value/heavily visited recreation resources, scenic, and natural values. Bighorn sheep habitat occurs within the unit. The BLM surface estate within the existing primitive area is withdrawn from all forms of appropriation under the general land laws (C-17286) and from mineral entry and location under the general mining laws. A concern for resources within the unit is that concentrated recreation use occurring along existing trails and at the lakes area could potentially result in unacceptable impacts to scenic and other resources. Another concern is the potential for diseases being transferred to bighorn sheep from domestic sheep. The need to protect both the high quality and diversity of scenic and other natural values, and reducing effects of recreation use would be recognized as important during the formulation of management decisions affecting the area.

The unit would be managed as the Powderhorn SRMA. The Primitive Area title and status would be dropped. A management plan would be prepared emphasizing the enhancement of natural values and primitive recreation opportunities. Public lands would be managed for Primitive and Semi-Primitive Non-Motorized ROS settings. Measures to prevent soil erosion and water quality deterioration processes would be allowed to occur and surface-disturbing activities would be minimized. Commercial recreation use would be permitted and use levels established to maintain natural values in the unit, and commercial permits would contain stipulations and mitigation for vegetation and surface disturbance. A permit system and recreation use levels for private, non-commercial recreation use would be established and implemented in the unit if adverse environmental impacts result from recreation activities. Maps and interpretive brochures would be distributed to help inform users in low-impact camping. Overnight camping would be restricted to designated sites in order to isolate impacts.

Public lands in the unit would be closed to motorized vehicular traffic to protect and maintain primitive recreation opportunities.

The entire federal mineral estate in the unit would be withdrawn from mineral entry and location under the general mining laws and federal oil and gas estate in the unit would be closed to future leasing in order to protect natural values. Disposal of mineral materials would not be authorized on federal mineral estate.

Wildlife Habitat Management. Low-impact fishery improvement projects would be permitted.

Livestock Grazing Management. Domestic sheep grazing in grazing allotment 6112 would not be authorized in the unit in order to help prevent the potential for diseases being transferred to bighorn sheep from domestic sheep. Cattle grazing would be authorized and administered in the unit such that recommended ROS settings would be maintained. Motorized vehicle use or equipment would not be permitted for grazing management administration or livestock improvement maintenance. No vegetation treatments or additional livestock improvements would be authorized.

Forest Management. The unit would be closed to the sale or harvest of forest products.

Visual Resource Management. Public lands would be managed according to VRM Class I objectives in order to maintain the scenic quality in the unit.

Acquisition of Non-Federal Lands. If available, 40 acres of private surface estate would be acquired. The acquisition of state-owned minerals in the unit would be pursued.

Rights-of-Way. Public lands in the unit would be classified an exclusion area for future rights-of-way.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

Withdrawals. Public surface estate in the unit would be withdrawn from all forms of appropriation under the general land laws in order to retain the lands in public ownership.

MANAGEMENT UNIT D-20

Land Ownership: 53,957 acres of Public Surface; 9% of the Planning Area

This management unit contains lands with a variety of recreation opportunities.

The majority of this unit occurs in the high country south and west of Lake City, and along the lower section of the Lake Fork of the Gunnison River. Recreation resources are managed according to the Recreation Area Management Plan for the Alpine Triangle SRMA. High-quality visual resources and recreation and historic resources are located along the headwaters and drainages of the Lake Fork of the Gunnison River and Henson Creeks. Alpine tundra is located in the south-eastern part of the unit adjacent to BLM's San Juan Resource Area. The unit contains 6.1 miles of Segment A of the Lake Fork of the Gunnison River, a study segment eligible for inclusion into the National Wild and Scenic Rivers System. Concerns in the area are; fragile tundra that receives heavy recreation use, visitor safety concerning open mine shafts and vehicle use, degraded visual quality, incompatible recreation, historic and livestock grazing land use mixes, motorized vehicle use and management, and historic site vandalism.

The unit would be managed to enhance visual resources and to maintain existing recreation facilities. The Alpine Triangle RAMP would be revised to reflect the actions in this prescription. Interpretational and directional signing would be installed. Plans for surface disturbing activities would include measures to meet VRM class II objectives, and to prevent soil erosion and water quality deterioration. Public lands would be managed for a combination of Primitive, Semi-PrimitiveNon-Motorized,Semi-PrimitiveMotorized, and Roaded Natural ROS settings.

Motorized vehicular traffic in the unit would be limited to designated routes yearlong on public lands to protect and maintain wild and scenic river values, scenic resources, and dispersed recreation resources.

The entire federal oil, gas, and geothermal estate in the unit would be open to leasing with a no surface occupancy stipulation, in order to prevent deterioration of scenic resources. Disposal of mineral material on the federal mineral estate would not be authorized.

Livestock Grazing Management. Domestic sheep grazing would be eliminated within the unit in order to help prevent the transfer of disease to bighorn sheep. The unit would be closed to vegetative treatments. Existing improvements and facilities for livestock would be maintained in a manner meeting the objectives in this management unit.

Forest Management. Public lands south of Lake City in the American Flats Forest Management Unit would be closed to commercial timber harvesting.

Wild and Scenic River Study Segment. Approximately 6.1 miles of Study Segment A of the Lake Fork of the Gunnison River would be recommended as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System, under the "recreational" classification (see map in Appendix I). See the Wild and Scenic River Study Segment component in STANDARD MANAGEMENT, this alternative, for management of Segment A.

Visual Resource Management. The unit would be managed according to VRM class II objectives.

Transportation and Access. Public hiking access would be acquired into the Alpine Gulch area for recreation management.

Rights-of-Way. Public lands in the unit would be classified an avoidance area for rights-of-way.

Fire Management. Wildfires on public lands would be managed under the conditional suppression category.

MANAGEMENT UNIT D-21

Land Ownership: 34,725 acres of Public Surface; 6% of the Planning Area

This unit generally contains suitable commercial forest lands.

This management unit consists of many areas of suitable commercial forest lands of various sizes, and is generally located in the southern portion of the planning area at higher elevations. The unit contains commercial quantities of sawtimber, poles, wildings, and posts. Concerns within the unit are conflicts of timber harvesting with wildlife habitat management goals, visual resource management, and recreation uses. Concerns also arise from logging truck traffic and new access provided by logging roads. Livestock browsing and grazing in reforested areas, resulting in less-than-desired potential growth is also a concern.

This unit would be managed to enhance, maintain and harvest suitable commercial forest products for sustained yield production within allowable cut restrictions. Approximately 500 thousand board feet (MBF) of commercial timber would be available for sale/harvest annually on a sustained yield basis, approximately 26 percent (130 MBF) being aspen. Emphasis would be placed on the harvest of pest-killed trees. Selective cutting practices would apply to most harvesting. Approximate annual outputs for other forest products would be 250 cords of fuelwood, 450 Christmas trees, and 100 wildings. Approximately 500 acres would be reforested (backlog reforestation) , site preparation (mechanical/ burning) would occur where appropriate. A Forest Management Plan (FMP) would be written.

Timber harvest would be designed and implemented to be compatible with the objectives of this alternative and management unit prescription. Skid trails, logging, decking/staging areas, and temporary roads would be closed and rehabilitated, and main haul roads would remain open as specified in FMPs or CRMAPs.

Soil and Water Resources. Erosion control objectives, projects, and mitigating measures would be incorporated into new FMPs or CRMAPs that include timber harvest plans to prevent soil erosion and water quality deterioration.

Livestock Grazing Management. Livestock would be temporarily excluded for five years within reforested/treated areas to permit successful reforestation and regrowth.

Recreation Management. Use areas (campsites and parking) on High Mesa would be defined by constructing barriers in order to contain and limit soil compaction and vegetation removal. Motorized vehicular traffic would be limited to designated routes on High Mesa in order to prevent deterioration of scenic resources. Motorized vehicular traffic on public lands in the unit north of U.S. Highway 50, east of West Antelope Creek, and west of Quartz Creek only would be limited to designated routes from December 1 through March 31 if necessary, due to excessive snow depths or herd concentrations in order to prevent disturbance to wintering elk and deer. The remainder of public lands in the unit would be open to motorized vehicular traffic.

Visual Resource Management. Rehabilitation measures would be conducted on 2,659 acres of public land classified as VRM IIR, IIIR, and IVR (lands with existing man-made visual intrusions) in order to improve scenic quality. Approximately 19,255 acres of public lands in the unit, including about 4,957 acres within the Blue Mesa FMU and 6,310 acres within two miles of the Powderhorn SRMA, would be managed under VRM class II objectives. About 12,811 acres would be managed under VRM class III objectives.

Transportation and Access. Administrative access would be acquired into T.47 N., R.5 W., and into commercial forest stands adjacent to the north side of the northwest quarter of Management Unit D-19 for commercial forest management.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-22

Land Ownership: 108,335 acres of Public Surface; 17% of the Planning Area

This unit generally contains "I" category livestock grazing allotments.

This management unit is located throughout the planning area except in the extreme eastern, northeastern, and northwestern portions. The unit consists of intensively managed BLM "I" category grazing allotments. The unit also contains approximately 72,307 acres of crucial elk and deer winter range (on public lands). Public lands in the unit are located within the Gunnison Extensive Recreation Management Area and provide a variety of recreation resources and opportunities. A popular hang-gliding site is located on Big Mesa. Concerns within the unit are a lack of up-to-date vegetation tend data; a heavy-to-severe utilization of riparian vegetation by livestock, (and a comparatively light-to-moderate percentage utilization of vegetation in areas outside riparian ecosystems) resulting in below-potential forage production, undesirable plant compositions, stream channel and stream bank erosion and instability and other hydrological problems within riparian ecosystems; total forage production being far below potential; utilization of forage on public lands within a portion of the unit before range readiness criteria are met; sagebrush treatment location, design, and their later management; recreation users causing livestock control and management problems by leaving gates open; an unchecked increase in noxious weeds and their potential to reduce forage production and danger to livestock; and the shortage of AMPs.

The unit would be managed to improved vegetation conditions and forage for livestock grazing, and to improve or maintain soil and riparian ecosystem conditions. Coordinated Resource Management Plans or AMPs would be developed and existing AMPs would be updated as needed using CRMAP standards and procedures. Existing livestock facilities and land treatments would maintained and new, non-conflicting facilities and treatments would be developed to improve livestock forage and distribution, according to updated or new AMPs or CRMAPs. New or additional forage made available as a result of livestock vegetative treatments would be allocated to watershed needs, then for livestock grazing. Intensive vegetation monitoring and inventory for condition, trend, and utilization patterns would be conducted.

Federal mineral estate totaling 262 acres would continue to be withdrawn from mineral entry and location under the mining laws at the Big Mesa electronic communication site.

Soils and Water. The design of treatments, improvements, and facilities to improve livestock forage and distribution would include measures or projects to prevent soil erosion and water quality deterioration.

Wildlife Habitat Management. Federal oil and gas geothermal estate totalling 1,847 acres under federal surface and 57 acres of split estate on big game crucial winter range would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from December 1 through March 31 to prevent disturbance to wintering elk and deer. Disposal of mineral materials would not be permitted on 1,904 acres of federal mineral estate from December 1 through March 31 within crucial big game winter range to prevent disturbance to wintering elk and deer.

Forest Management. Suitable commercial forest lands would be available for treatment and harvest if wildlife habitat is not decreased. In order to increase the production and growth of young vigorous aspen for big game forage, harvesting of aspen stands would have a high priority for commercial sales and the planned harvests would be designed and conducted to accomplish this objective.

Recreation Management. Recreation management objectives would be incorporated into CRMAPs or AMPs updated or developed for allotment 6018 on High Mesa. Use areas (campsites and parking) on High Mesa would be defined by constructing barriers in order to contain and limit soil compaction and vegetation removal. Motorized vehicular traffic on public lands in grazing

allotments 6051 and 6052 would be limited to designated routes yearlong to protect dispersed recreation opportunities and visual resources on High Mesa. Motorized vehicular traffic on public lands in the unit north of U. S. Highway 50, east of West Antelope Creek, and west of Quartz Creek only would be limited to designated routes from December 1 through March 31 if necessary, due to excessive snow depths or herd concentrations in order to prevent disturbance to wintering elk and deer. The remainder of public lands in the unit would be open to motorized vehicular traffic.

Visual Resource Management. Public lands in the unit would be managed according to VRM class II (43,267 acres) and VRM class III (64,823 acres) objectives. Rehabilitation measures would be conducted on 245 acres of public land classified as VRM IIR, IIIR, and IVR (lands with existing man-made visual intrusions) in order to improve scenic quality.

Transportation and Access. Administrative access would be acquired into the Huntsman Mesa area from Colorado Highway 149 for livestock grazing management; public access would be acquired into the Vulcan/Big Mud Pond area and into public lands east of Deer Beaver Creek for recreation and livestock grazing management.

Rights-of-Way. Rights-of-way related construction would be excluded on 1,900 acres of crucial big game winter range from December 1 through March 31 to prevent disturbance of wintering elk and deer.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-23

Land Ownership: 1,735 acres of Public Surface; less than 1% of the Planning Area

This unit contains lands generally having a high likelihood for the occurrence of coal resources.

This management unit is located in the extreme north and west areas of the planning area. Lands within the unit possess a high likelihood for the occurrence of coal resources, based on available minerals information. One existing 200-acre coal lease with private surface estate exists in the unit. Federal coal estate occurs under 1,735 acres of federal surface and under 6,957 acres of split-estate lands. All grazing allotments in the unit are categorized as either "M" or "C". The unit is located within the Gunnison Extensive Recreation Management Area (ERMA). Part of the High Mesa area, which is used by a variety of the public, is within the unit and contains important recreation and visual resources and forest products.

The unit would be managed for both existing and potential coal development. The federal unleased coal estate in the unit (1,735 acres under federal surface and 6,957 acres under non-federal surface) would not be available for leasing without amendment to the approved resource management plan. A RMP amendment to the approved for coal leasing would be prepared after a coal lease application was filed by an individual or company interested in developing and mining the area. The amendment would consist of an identification of areas with potential for development, application of 20 criteria to identify those areas which are unsuitable for mining, an analysis of the tradeoffs necessary to protect other resources and uses that are unique or important, and consultation with effected surface owners. This amendment would be accompanied by an environmental analysis of the impacts of the mining and development including the social and economic impacts to local communities. The existing 200-acre coal lease in the unit would be continued and approximately 5,000 tons of coal annually would be produced from the lease.

Livestock Grazing Management. Livestock grazing would continue not to be authorized on 320 acres in Wildcat Creek drainage to help maintain Crested Butte's water supply.

Recreation Management. A five-unit overnight campground would be developed on High Mesa.

Visual Resource Management. The unit would be managed according to VRM class II objectives.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-24

Land Ownership: 2,952 acres of Public Surface; less than 1% of the Planning Area

This unit contains lands generally prospectively valuable for geothermal resources.

This management unit consists of lands that are considered prospectively valuable for geothermal resources based on available minerals data. Grazing allotments in the unit are categorized as either "M" or "C". Federal Oil, Gas, and geothermal estate occurs under 2,952 acres of federal surface and under 9,185 acres of split-estate. The likelihood for the occurrence of oil and gas resources in the unit is classified as low or none The unit is located within the Gunnison Extensive Recreation Management Area (ERMA).

All federal oil, gas, and geothermal estate within the unit would be open to leasing with stipulations applicable according to Standard Management for Oil, Gas and Geothermal Resources. All activities and land uses that are consistent with maintaining the geothermal, oil and gas development potential would be permitted.

Soils and Water Resources. Measures to prevent soil erosion and water quality deterioration, and to comply with existing VRM class objectives would be included in all plans involving surface disturbance.

Recreation Management. Public lands within the unit would be managed and/or developed according to the objectives for the ERMA in Standards Management for Recreation and the Activity Plan to be developed for the ERMA.

Motorized vehicular traffic on public lands in the unit north of U.S. Highway 50, east of West Antelope Creek, and west of Quartz Creek only would be limited to designated routes from December 1 through March 31 if necessary, due to excessive snow depths or herd concentrations in order to prevent disturbance to wintering elk and deer.

Visual Resource Management. The unit would be managed according to VRM Class II (2,500 acres) and VRM Class III (452 acres) objectives.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-25

Land Ownership: 1,200 acres of Public Surface; less than 1% of the Planning Area

This unit contains lands generally having a high potential for the occurrence of locatable minerals.

This management unit occurs in two areas within the planning area (near Iris and Midway) and contains lands with a high potential for the occurrence of locatable minerals, based on available minerals data. Grazing allotments in the unit are categorized as either "M" or "C". The unit is located within the Gunnison Extensive Recreation Management Area (ERMA). Federal mineral estate consists of 1,200 acres under federal surface and 1,047 acres of split-estate lands. There are approximately 500 acres of non-federal surface that would not be effected in this unit.

All activities and land uses that are consistent with maintaining the locatable mineral development potential would be permitted.

Soils and Water Resources. Measures to prevent soil erosion and deterioration of water quality, and to comply with existing VRM class objectives and would be included in all plans involving surface disturbance.

Visual Resource Management. Public lands in the unit would be managed according to VRM Class IV objectives.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT D-26

Land Ownership: 18,009 acres of Public Surface; 3% of the Planning area

This unit consists generally of general resource lands.

This management unit is located throughout the planning area. The unit contains public lands within "M" (9,182 acres) or"C" (2,400 acres) category grazing allotments. Federal mineral estate occurs under 17,677 acres of federal surface and under 57,517 acres of non-federal surface. The unit is located within the Gunnison Extensive Recreation Management Area (ERMA). Concentrated public recreation use such as camping and picnicking, occurs on an approximately 400 acre tract of public land on the Slate River. Suitable commercial forest lands totalling about 1,420 acres are available for sustained yield harvest in the unit.

In general, the public lands would be managed according to the policy assumptions in this alternative and Standard Management. No major BLM funded projects or facilities would be developed. Habitat, vegetation, and other resource studies would be minimal.

Measures would be included in all plans for surface disturbing activities to prevent disturbance to wintering big game, soil erosion, and deterioration of visual resources and water quality.

Forest Management. Approximately 30 thousand board feet (MBF) of commercial timber would be available for sustained yield and harvest annually. Forest Management Plans (FMPs) would be written.

Recreation Management. A hiking trail would be constructed into the Rock Creek area (T. 45 N., R. 1 W., Section 16). Barriers would be constructed on public lands at the Slate River tract to define day-use and overnight use areas. Motorized vehicular traffic on approximately 40 acres of public land adjacent to the Sapinero State Wildlife area would be closed to OHV traffic to compliment OHV management on State lands. Motorized vehicular traffic on public lands in the unit north of U.S. Highway 50, south of sections 17 and 18 T. 51 N, R. 1 W. NMPM east of West Antelope Creek, and west of Quartz Creek only would be limited to designated routes from December 1 through March 31 if necessary, due to excessive snow depths or herd concentrations in order to prevent disturbance to wintering elk and deer.

Visual Resource Management. The unit would be managed according to VRM Class II (9,639 acres) and VRM Class III (8,190 acres) objectives. Rehabilitation measures would be conducted on 180 acres of public land classified as VRM IIR, IIIR, and IVR (lands with existing man-made visual intrusions) in order to improve scenic quality.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

ALTERNATIVE E (PREFERRED ALTERNATIVE)

OBJECTIVES FOR ALTERNATIVE E

The Preferred Alternative was developed based on an examination of the environmental impacts of the other alternatives, issues raised throughout the planning process, specific environmental values and resources/resource uses, conflict resolution, public input, and laws and regulations. This alternative was developed by the Area Manager and planning team members, and represents the mix and variety of actions that, in the opinion of the preparers, best resolves the issues and management concerns that drove the preparation of the RMP/EIS. Therefore, no ranking order of resources was developed. Under this alternative, resources/resource uses in the planning area would be managed under the multiple use concept and accordingly, to the Management Unit prescriptions.

In all instances, preliminary impacts as a result of selecting unit boundaries were considered. Conflict resolution was resolved as the alternative (units and prescriptions) was developed, since resources were not ranked in priority order. In certain instances, however, laws, regulations, or policies required that some management actions would receive overriding priority in conflict resolution, such as protection of threatened or endangered species and historical/archaeological resources, according to applicable legislation.

All actions proposed under this alternative would comply with current applicable state and federal regulations, standards, and policies.

Some, or parts of some management units and management of resources from Alternatives A, B, C, and D have been incorporated into this Alternative. Refer to Table E-1 for a list of management units and to map 4, Alternative E. Some unit boundaries have been simplified to make management more effective.

STANDARD MANAGEMENT FOR ALTERNATIVE E

Some resource management programs would be implemented according to standard management directions throughout the planning area under this alternative. Management of resources identified as a result of future inventories or discoveries would generally be the same as for resources discussed and identified in this RMP/EIS. Unless changes in or additions to standard management directions are specifically addressed in the prescription for each Management Unit, these resources/resource uses, programs and activities would be managed as follows:

Air Quality. Activities and projects on public land would comply with applicable local, state, and federal air quality regulations. Mitigation to minimize air quality degradation would be incorporated into project proposals as necessary. Additional air quality monitoring may be implemented by BLM when necessary.

Locatable Minerals. Federal mineral estate in areas not under withdrawal would be open to entry and location under the general mining laws. Within lands under wilderness review, lands closed to Off-Highway Vehicle (OHV) travel and within designated Areas of Critical Environmental Concern (ACECs), plans of operation would be required to be submitted for proposed locatable mineral activity regulated and authorized by BLM's surface management regulations.

Oil, Gas, and Geothermal Resources. Federal oil, gas, and geothermal estate on both federal surface and split-estate lands (private or other non-federal surface estate overlying federal mineral estate) would be open to leasing with standard lease terms. Other special stipulations and conditions for leasing such as no surface occupancy and seasonal restrictions are assigned or specified in each management unit prescription and as deemed necessary; these special stipulations and conditions would also apply to federal surface and split-estate lands. Any special conditions and stipulations (i.e., seasonal closures) prescribed for a management unit would also apply to seismic and drilling activities. See Appendix D for special stipulations and conditions for leasing on both federal surface and split-estate lands, and for an explanation of how stipulations assigned to split-estate lands would be applied, reviewed, waived, modified, or excepted, based on verification of surface and mineral estate resource information by BLM during review of Applications for Permit to Drill (APD). The most reasonable foreseeable level of oil, gas, and geothermal development throughout the planning area would involve a maximum of one or two APDs during the life of the plan, with an estimated total of ten acres of surface disturbance. Leasing of any federal minerals within existing Wilderness Study Areas (WSAs) would be prohibited according to existing legislation until either WSAs are released by Congress by non-designation or other Congressional action, or until leasing is no longer prohibited by legislation.

Table E-1

MANAGEMENT UNIT ACRES AND VALUES IN ALTERNATIVE E (Preferred Alternative)

MANAGE-MENT UNIT	ACRES OF PUBLIC LAND	PERCENTAGE OF THE PLANNING AREA[1]	IMPORTANT VALUES RESOURCES OR LAND USES
E-1	95,350	16%	Recreation, wildlife, visual, historic, and locatable mineral resources
E-2	47,745	8%	Recreation and visual resources
E-3	2,707	Less than 1%	Recreation, visual and mineral resources
E-4	1,595	Less than 1%	Recreation, visual and mineral resources
E-5	5,947	1%	Special status species and mineral resources
E-6	1,407	Less than 1%	Geologic phenomena, interpretation, and locatable mineral resources
E-7	28,215	5%	Wildlife and livestock grazing
E-8	4,565	Less than 1%	Special status species
E-9	532	Less than 1%	Visual resources and recreation
E-10	15,112	3%	Wildlife
E-11	57,537	10%	Wildlife, soils and livestock grazing
E-12	91,547	16%	Wildlife, livestock grazing, and locatable mineral resources
E-13	187,577	32%	Livestock, grazing, recreation, wildlife habitat, forestry and locatable mineral resources
E-14	2,605	Less than 1%	Riparian, wildlife, fisheries and livestock grazing
E-15	4,905	Less than 1%	Riparian, wildlife, fisheries and livestock grazing
E-16	37,616	6%	General land uses, recreation and wildlife

1. Rounded to whole numbers; this column shows the percentage of the public land (surface estate) in the planning area that is located in each Management Unit in this alternative.

Saleable Minerals. Disposal of mineral material on federal mineral estate would be permitted. Disposal of mineral materials from specific areas is discretionary with the authorizing official and would be determined on a case-by-case basis. Disposal of mineral materials within power site reserves or within other agency withdrawn lands would require approval of the agency reserving the withdrawal.

Soils and Water Resources. Soils and water resources would continue to be monitored to define problem areas, develop management strategies, and to determine effectiveness of solutions. Vegetation treatments on soils having a moderate to severe erosion potential, and lacking adequate plant basal cover (see Montrose District Soil Erosion Monitoring Guidelines), would be designed and managed to increase plant basal cover, therefore reducing erosion. Vegetation treatments would be designed and implemented in accordance with the Montrose District Rangeland Treatment Handbook. The sediment control plan plan for Long Gulch,

and other plans would continue to be implemented. Water rights would be applied for where appropriate. Best management practices would be employed to reduce soil erosion and water quality deterioration, and would be required in all plans involving surface disturbance. Roads and other developments would be maintained in good condition to minimize erosion.

Vegetation. Manage vegetation resources to maintain or achieve at least a late seral ecological status. This would be accomplished by maintaining or improving the vigor, production and diversity of desirable plants within alpine, sagebrush/mixed mountain shrub, and woodland types at a level to support a variety of resource uses, including, but not limited to livestock grazing, wildlife habitat and recreation.

Specific, desired plant communities would be identified in activity plans. Exceptions to a late seral ecological status needed to meet objectives would be identified in activity plans.

In riparian areas, maintain, restore, or improve riparian values, including the diversity, vigor, and quantity of herbaceous and woody plants necessary for the 1) hydrological functioning of riparian systems, 1) the control of accelerated soil erosion, and 3) sustained high quality livestock forage and wildlife habitat.

Riparian Zones. Riparian areas would be managed to maintain, restore, or improve riparian conditions (hydrological, soil and vegetation) and to enhance natural values. Riparian areas would be inventoried and prioritized where necessary to determine site-specific management strategies. Strategies, projects, or improvements would be included in activity plans or Coordinated Resource Management Activity Plans (CRMAPs) and would be implemented first in higher priority areas. New water sources would be developed with concern for the protection of riparian areas. Existing water source developments within riparian areas would be modified, or relocated, if inventories and studies indicate the hydrologic condition is being negatively impacted from use of the development. Existing riparian demonstration areas and improvements would be maintained. Road construction would occur in riparian areas only when a feasible alternative route cannot be found; roads would cross riparian zones as nearly perpendicular to the centerline of the riparian zone as is possible. Objectives are to limit road construction in riparian zones to an absolute minimum, in order to retain and protect as much riparian vegetation, soils, and water as is possible. Existing roads could be relocated or modified if degradation of the aquatic or riparian system is occurring. No commercial timber harvesting would occur in riparian areas , or in a 30-foot area either side of riparian areas, unless riparian or wildlife values would be improved. Logging decks or staging areas would not be permitted within riparian areas or in a 30-foot area either side of riparian areas. Trees cut adjacent to riparian areas would be felled in a direction away from the riparian area, or in such a manner as to minimize riparian area disturbance. Tracts of land which would enhance the recreational opportunity or ecological value of existing riparian areas would be identified for acquisition during the riparian inventory. Measures designed to minimize site-specific riparian deterioration would be required in all plans for surface-disturbing activities.

Special Status Plant and Animal Species and Habitat. Habitat supporting existing populations of threatened and endangered species (T&E sp.) including candidate and BLM sensitive species would be maintained and protected to ensure suitable habitat conditions and viable populations. T&E sp. would continue to be inventoried and monitored to provide information for future management. Measures to protect T&E sp. and associated habitat would be required in all plans for surface-disturbing activities. Supplemental releases and/or reintroduction of T&E sp. and candidate or BLM sensitive species could be authorized following preparation of a release or reintroduction plan and environmental analysis, and consultation with the United States Fish and Wildlife Service (USFWS), Colorado Division of Wildlife (CDOW), and other affected parties.

Wildlife Habitat Management. The Habitat Management Plan (HMP) for the Planning Area would be revised and implemented consistent with BLM's Fish and Wildlife Plan for Colorado - Program for the Decade. The HMP will prescribe

land use and species management guidance for the mutual benefit of wildlife, fish, special status plant and animal species and habitat, and other resources. Objectives of the revised HMP would include, but would not be limited to, methods to manage public lands to help meet CDOW long-range herd goals, maintain or improve vegetation communities to benefit both game and non-game wildlife, implement a program to increase the quantity and quality of crucial big game winter range, and implement cooperative plans and projects with CDOW and other organizations to maintain or enhance big game and/or upland game habitats.

Terrestrial Wildlife and Habitat

Elk and Deer Habitat: Measures to increase important deer and elk winter forage shrub species on uplands and riparian areas within crucial winter ranges would be determined and treatments implemented through activity plans to help achieve CDOW long-range herd goals (as established by CDOW in April, 1985) of 9,000 elk and 16,600 deer. Forage allocations would not be reduced. New or additional available forage would be used first to satisfy watershed objectives as defined in the Montrose District Soil Erosion Monitoring Guidelines. New or additional available forage that would be excess to achieving watershed objectives would be used to meet objectives of the individual livestock or wildlife projects. Crucial winter range and commercial forest lands would be inventoried for condition, and monitored for utilization and trend relative to big game habitat. Public lands would be inventoried to identify elk calving areas. Acquisition of non-federal lands to increase or enhance management of big game crucial winter range would be emphasized. Reductions in CDOW's elk and deer long-range herd goals would be recommended for an interim period in certain Game Management Units (GMUs) until the vigor and production of the important forage shrubs on crucial winter ranges increases such that habitat would support long-range herd numbers. See Appendix A for long-range herd goals, and interim numbers to be recommended.

Pronghorn Antelope and Bighorn Sheep Habitat: Inventories would be completed to identify suitable areas in which to establish new populations of bighorn sheep and pronghorn antelope; supplemental releases and reintroduction could be authorized by the District Manager following environmental analysis. Pronghorn antelope and bighorn sheep habitat on public lands would be managed for 500 animals of each species. Inventories would be conducted to identify bighorn sheep lambing areas and suitable winter range. Monitoring studies would be established within pronghorn antelope ranges.

Sage grouse Habitat: Identified sage grouse brood-rearing habitat and nesting areas, and winter habitat would be maintained or improved. Sagebrush and riparian vegetation would be managed to achieve a harvest goal of 1000 grouse annually. Sage grouse strutting grounds (leks) would be protected from destruction. No surface-disturbing activities would be permitted within 1/4 mile of all leks during the April 1 through May 31 strutting season to prevent disturbance to mating sage grouse.

Non-game Wildlife Habitat: The quality of endemic non-game animal species habitat would be enhanced by 1) improving and/or maintaining a variety of native plant species and vegetative structure in upland and riparian areas, 2) improving the ecological condition of sagebrush communities, and 3) improving or maintaining non-game habitat within commercial forest lands. Raptor nesting inventories and monitoring studies would be updated to identify nesting areas and establish population trends. Measures and stipulations in Appendix A, designed to prevent disturbance to raptors through their post-fledgling period, would be considered in all plans involving surface disturbance.

Fishery Resources (Aquatic Habitat)

Fishery streams and associated riparian areas would be managed to improve or maintain the ecological status (hydrological, soil and vegetation). Streams and aquatic habitat would be inventoried and monitored to determine site-specific management

strategies. Inventory information would be used to determine projects or improvements to be included in revised HMPs, CRMAPs, AMPs and other activity plans as they are prepared or revised. The objectives and goals contained within the BLM and Forest Service Recreational Fisheries Policy, 1990, or as amended, would be implemented to the degree that meets the objectives of this alternative.

Instream flow appropriations would be pursued on 113 miles of fishery streams to ensure a sufficient amount of water for fisheries protection.

Surface disturbing activities would be designed with measures to prevent or mitigate damage to or loss of fishery stream channels and associated riparian habitat.

Livestock Grazing Management. Suitable public lands would be available for livestock grazing use. Livestock utilization would be managed at current forage allocation levels (AUMs) unless adjustments are necessary in order to achieve the following forage utilization levels.

1. Total forage utilization in the Planning Area, including that from livestock use, would be limited to the moderate level, or 40-60% of the current year's growth by weight of key forage species in order to maintain plant health and vigor, and to provide for quality forage and wildlife cover.

2. Total utilization of key herbaceous forage species within all riparian zones in the planning area, except those in Management Units E-14 and E-15 would be limited to 40-60% of the current year's growth, with a 2-1/2 inch minimum stubble height maintained throughout the grazing season. These limits are needed to provide a minimum of plant residue to trap sediment during high flows, to buffer or reduce the energy of high flows and to protect stream banks.

Development of AMPs or CRMAPs would consider livestock grazing management as a tool to improve or maintain the conditions of the riparian system in the planning area. Strategies could include and require changes in turn-out dates, season of use, duration and frequency of grazing use and would be accomplished with grazing system prescriptions which involve deferment, rest or rotation. Other livestock management practices and techniques may be required to achieve the identified riparian area objectives.

3. Refer to Management Units E-14 and E-15 for forage utilization for those riparian zones.

4. Range readiness criteria would determine when grazing would begin in the spring. Range conditions in allotments would be monitored for three years following any newly established turnout dates. Earlier turnout dates could be established for allotments managed under an AMP. See Appendix B for range readiness criteria.

Existing and future annual livestock/forage utilization monitoring results would be evaluated to determine areas of riparian zones and uplands that are consistently being grazed in the heavy range. Factors resulting in this level of livestock grazing, and the existing condition of these areas would be determined, and adjustments would be made in grazing systems, seasons of use, classes of use, allotment categorization, and possibly to local improvements, such as water source developments, in order to achieve a proper forage utilization level or range. Temporary decreases in forage allocations would be made if necessary in order to achieve a proper range of utilization. These changes and possible adjustments could remain in effect until conditions are improved or until new or revised AMPs or CRMAPs are developed and implemented.

Existing AMPs would be revised and new AMPs or CRMAPs would be developed at the rate of about 1-2 plans/revisions per year.

New or additional available forage would be used first to satisfy watershed objectives as defined in the Montrose District Soil Erosion Monitoring Guidelines. New or additional available forage that would be excess to achieving watershed objectives would be used to meet objectives of the individual livestock or wildlife projects. Existing livestock facilities would be maintained. New livestock facilities and land treatments would be developed if needed to achieve AMP or CRMAP or other objectives, such as increasing forage quantity or

quality and improve rangeland vegetation. Monitoring and inventory for condition, trend, and utilization patterns would continue, in order of priority, to develop AMPs and within "I" category allotments. The existing categorizations would continue for all "I", "M", and "C" allotments.

Use supervision would be increased. A cooperative noxious weed control program would be initiated with county governments within the planning area.

Public lands currently unavailable for livestock grazing would remain unavailable.

Forest Management. Suitable commercial forest lands and woodlands would be managed for sustained yield production within the allowable cut restrictions and guidelines determined by the Timber Production Capability Classification (TPCC) inventory. Special emphasis would be placed on the harvest of over-mature and pest-killed trees.

Approximately 41,347 acres of suitable commercial forest lands, and 23,615 acres of suitable woodlands would be available for harvest. Approximately 1,200 MBF of commercial timber, 490 cords of fuelwood, 400 wildings, and several hundred Christmas trees would be available annually for harvest. About 10,000 acres would be inventoried for TPCC. Reforestation would be conducted as funds become available. Site preparation would be completed as needed, with emphasis given to backlog site preparation. A FMP would be completed.

Harvest of commercial timber on slopes greater than 35% would be restricted to cable or helicopter methods only. Timber sales would be designed to allow sufficient elk hiding cover along logging roads and all clearcuts. Emphasis would be given to the maintenance and protection of watershed, soil, and vegetative resources in all timber sales and FMPs. Timber harvests would be designed and implemented to help improve or maintain non-game wildlife habitat. The conditions and standards in Appendix A would be incorporated into all plans for timber harvests in order to improve non-game habitat. Plans for aspen stand harvest would include design measures to increase the production and growth of young, vigorous aspen for big game forage. Sale area design and layout would include measures to blend harvest areas into the surrounding landscape and increase scenic variety. Commercial timber harvests or associated harvest activities, such as logging decks, would not be permitted within riparian areas unless riparian values would be maintained.

No timber harvesting would be allowed from May 1 to June 30 in elk calving areas to prevent disturbance to calving elk. The harvesting of timber or timber products on lands within existing WSAs would not be permitted.

Recreation Management. The public lands within the Planning Area would be managed consistent with BLM's *Recreation 2000: A Strategic Plan* to ensure the continued availability and diversity of resource-dependent outdoor recreation opportunities. Management would focus on resource protection, visitor services and information, and the construction, operation and maintenance of recreation facilities. Emphasis would be placed on providing a variety of recreation opportunities and experiences through visitor awareness, information, interpretation, signing, and protection. Efforts would be made to expand and strengthen cooperative partnerships with Federal, State and local agencies, the private sector and volunteers to enhance recreation opportunities and tourism. Where appropriate, recreation opportunities would be enhanced through land ownership adjustments, improved access, easements, exchanges and other acquisitions. Tracts of land which would enhance the recreational opportunity or ecological value of existing riparian areas would be identified for acquisition during the riparian inventory.

The number of recreation visitors to the Planning Area is expected to increase by about 40% under this alternative.

Public lands in the Cochetopa Canyon and Alpine Triangle SRMAs, would be managed for a variety of recreation, scenic, and historical opportunities and settings at developed and dispersed sites. Coordinated Resource Management Activity Plans for these SRMAs would be prepared that incorporate the actions in the existing recreation activity plans and management unit prescriptions.

(Refer to maps in Appendix F for SRMA boundaries.

Public lands in the Powderhorn SRMA, unit E-2, would be managed for primitive and semi-primitive, non motorized recreation and scenic opportunities and for the maintenance and enhancement of natural values. A RAMP would be prepared and would include goals within BLM's *Recreation 2000: A Strategic Plan.*

The remainder of public lands, located in the Gunnison extensive recreation management area (ERMA), would be managed for diversity of recreation opportunities. A RAMP would be prepared for the ERMA and ROS settings would be determined.

Periodic cleanup and patrols would be conducted throughout the planning area. Commercial recreation use permits would be issued on a case-by-case basis in the planning area.

Unless otherwise specified in management unit prescriptions, public lands in the planning area would be open to motorized vehicular travel. A map in Appendix F displays Off-Highway Vehicle (OHV) designations for this alternative.

Wild and Scenic River Study Segment. No portion of the Lake Fork of the Gunnison River in this unit would be recommended as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System in this alternative. Values and resources within Study Segment A would be managed according to the prescription for Management Units E-1, E-4, and E-15 and STANDARD MANAGEMENT for this alternative.

Visual Resource Management. Public lands would be managed according to Visual Resource Management (VRM) classes and objectives (VRM I through VRM IV) contained in each Management Unit prescription. See Appendix C for VRM classes and management objectives for this alternative.

Rehabilitation would be considered for VRM Class II R, III R, and IV R areas that contain existing man-made visual intrusions. Any public lands designated wilderness would be classified as VRM I lands.

Wilderness Study Areas. The six WSAs in the Planning Area would be managed according to BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review until Congress decides on designation regarding each area. Any area(s) acted on by Congress and not designated as wilderness would be managed according to the applicable management unit prescription(s) in this alternative. Wilderness Management Plans would be prepared for any area(s) designated and the area would be managed as wilderness. See map in Appendix F for WSA boundaries and general locations. Appendix F shows also which WSAs occur in the various Management Units in this Alternative.

Archaeological and Historical Resources (Cultural Resources). Protection of cultural resource values would be considered in all land use activity plans. Class I inventory data would be consulted prior to all proposed surface disturbing activities to determine the need for inventories. Prior to surface disturbing activities occurring, Class III inventories would be conducted. Cultural resources identified or discovered would be evaluated according to BLM's Cultural Resource Use Categories and/or considered for mitigation as required by statute. Where appropriate, historic resources would be inventoried, stabilized, and interpreted to increase understanding and enjoyment for the recreating public. Measures would be designed to protect, interpret, or otherwise enhance cultural resource values in all plans for surface-disturbing activities. Inventories would also be conducted to determine archaeological site density, diversity, and distribution in order to build a data base for management of archaeological resources.

Paleontological Resources. Inventories would be completed in areas containing potential for the occurrence of paleontological resources (Morrison, Dakota, Mancos, and Mesa Verde geologic formation) prior to any surface disturbing activity.

Measures to protect known or discovered fossil values would be implemented.

Transportation and Access. In addition to the specific access needs identified in the management unit prescriptions, the access needs identified in the resource area's transportation plan would be acquired as opportunities arise. The transportation plan map would be updated.

Disposal of Public Lands. Public lands in the planning area would be categorized as follows in this alternative for disposal and multiple use management purposes.

Category I lands: A total of 41 tracts of public land totalling approximately 3,049 acres would be identified for consideration for disposal through public sale under criteria in Section 203 of FLPMA. These tracts are shown on Map 4, the map of Alternative E. Federal mineral estate would be conveyed with surface estate where feasible and in the public interest. See Appendix D for descriptions of tracts and the sale criteria met. Disposal determination would be contingent on these lands meeting NEPA and other statutory requirements. Other means of disposal for these tracts would not be precluded. A land sale/disposal activity plan would be prepared for these tracts indicating disposal techniques, priorities, and implementation timing.

Category II lands: These are public lands exclusive of public land in Category I. These category II lands would be identified to be managed by BLM for multiple use management purposes. The lands in this category would also be identified for consideration for disposal on a case-by-case basis through exchange, boundary adjustments, state indemnity selection, Recreation and Public Purpose Act applications, or other appropriate statute or authority, if disposal serves the public interest. These lands would not be identified for consideration for disposal through public sale as covered in Section 203 of FLPMA. These lands would be available for consideration for disposal through exchange if the exchange would result in 1) consolidated land patterns, 2) improved manageability of lands and resources, or 3) if the exchange would otherwise be in the public interest, within the context of the provisions of Section 206 of FLPMA. Disposal would be contingent on actions meeting NEPA requirements.

Acquisition of Non-Federal Lands: Non-federal lands surrounded by or adjacent to Category II lands or lands categorized as being unavailable for disposal, would be considered as being suitable for acquisition on a case-by-case, willing seller-willing buyer basis in order to enhance Bureau management. Acquisition would be contingent on these lands meeting 1) NEPA requirements and 2) one or more of the criteria for acquisition found in Appendix D. Specific tracts for acquisition are identified in management unit prescriptions.

Rights-of-Way. Public lands within the Planning Area would be open to the location of rights-of-way, subject to stipulations in Management Unit prescriptions and standard terms, conditions, and stipulations contained in records of decision issued for each application. Right-of-way avoidance areas (where future rights-of-way may be granted only when no feasible alternative route or designated right-of-way corridor is available) and right-of-way exclusion areas (where future rights-of-way may be granted only when mandated by law) are described in each management unit prescription, if applicable.

Rights-of-Way Corridors. Public lands within one-half mile on each side of the centerline of Western Area Power Administration's (WAPA) Curecanti to Salida 230 Kv electrical transmission line, and Colorado Ute Electric Association's (CUEA) Blue Mesa to Lake City 115 Kv electrical transmission line would be designated as rights-of-way corridors. The WAPA line crosses Management Units E-8, E-11, E-12, E-13, E-14, and E-16. A right-of-way window 1000 feet in width, or 500 feet either side of the centerline, would be designated where the WAPA line crosses Management Unit E-8. The CUEA corridor crosses Management Units E-1, E-13, and E-16. See map in Appendix D for the general locations of these corridors.

Fire Management. Wildfires on about 508,388 acres of public land would be suppressed according to a "conditional suppression" policy and about

76,624 acres of public land would be suppressed according to a "full suppression" policy. Refer to Appendix L for maps showing these suppression areas within the planning area for Management Units in this alternative. Within conditional suppression areas there are isolated areas (i.e., public lands adjacent to private lands, or in recreation areas) where full suppression of wildfires would occur in order to protect valuable resources, investments, facilities, and property, life, and safety on federal and non-federal lands. Prescribed fires for resource management could occur according to approved fire management plans.

Withdrawals. Public lands currently under withdrawal would continue to be withdrawn, unless modified in a management unit prescription, in order to better manage resources on public lands. Management activities on withdrawn land would continue at current levels. Public Water Reserves would continue, and would be evaluated and quantified. No significant long-term investments would be made on these lands unless the investment could be recovered prior to development. If public lands under withdrawal to another agency are relinquished, these lands would be managed according to the management unit prescription in which the lands are located. Periodic review of existing withdrawals would continue in order to determine if the need for each continues to exist. Water, power and storage related withdrawals (BLM, FERC, Bureau of Reclamation) are recommended for revocation or relinquishment in units E-1, E-6, E-9, E-12 and E-16. Before any uses occur or facilities are developed on lands withdrawn for water power purposes, that would preclude or conflict with waterpower or storage development, the Federal Energy Regulatory Commission would be contacted regarding withdrawal status and need for the site.

Waterpower and Storage Reservoir Sites. Management Units E-1, E-3, E-10, E-14 and E-15 would be recommended to be closed to the development of water power and storage reservoir sites. The remainder of the inventoried and potential sites would be managed to permit water and power site development unless another use is proposed for the site(s) in a Management Unit prescription.

Areas of Critical Environmental Concern. Public lands in six Management Units, E-4 through E-9, totalling about 42,261 acres, would be designated as Areas of Critical Environmental Concern (ACECs). Refer to Chapter Two, Affected Environment, and Appendix H for descriptions and maps of these areas and the ACEC designation process. These six areas would be managed according to their Management Unit prescriptions and any management plan(s) that would be prepared.

Hazards Management. Hazard sites/areas would be reviewed on a case-by case basis. Management of other resources would always involve the needed reclamation of known hazard sites/areas as part of fulfilling objectives for management of that resource. On completion of this plan, a hazard reclamation activity plan for known sites/areas would be developed. If the known hazard site is in or adjacent to an area where a coordinated resource management activity plan (CRMAP) is to be done, the reclamation activity plan would be combined with that CRMAP.

Existing sites/areas from past mineral development, which are considered to be potentially hazardous because of high side walls, deep pits, etc., would very likely continue until the Colorado Mined Land Reclamation Hazard abatement project is completed. The goal of this long-term project is to eliminate the hazards of these sites/areas, and BLM would continue to fully cooperate with this agency in this effort.

The Bureau would continue to control trespass dumping on BLM lands through increasing public awareness, signing, and monitoring these site/areas. A planning area reclamation activity plan would provide the details as to on-site closures, signing, site reclamation needs, etc., to implement hazard abatement.

Law Enforcement. Bureau patrols and law enforcement activities by authorized personnel would be conducted on a priority or demand basis as needed. Information dissemination and education regarding BLM resource management and regulations would be carried out during visitor or public contacts by BLM rangers.

MANAGEMENT UNIT PRESCRIPTIONS FOR ALTERNATIVE E, PREFERRED ALTERNATIVE (E-1 THROUGH E-16)

The following management unit prescriptions comprise Alternative E. Acreage figures used are approximations. Table E-1 and map 4 identify the management units that were delineated for this alternative. Six Management Units, E-4 through E-9, totalling 42,261 acres would be designated and managed as ACECs. If not specifically mentioned, and unless modified within the following Management Unit prescriptions, resources/resource uses and programs on public lands in this alternative would be managed according to guidance in the Standard Management section above.

In all alternatives in this RMP/EIS, all Wilderness Study Areas (WSAs) in the Planning Area would be managed under BLM's Wilderness Interim Management Policy for Lands Under Wilderness Review (IMP). If Congress designates public lands in any part of any WSA in the Planning Area as wilderness, those lands would be managed as wilderness and a wilderness management plan would be prepared for the area(s). If, during the life of this plan, Congress acts on and decides to not designate any part of any WSA in the Planning Area as wilderness (effectively removing it from WSA status), those public lands would be managed according to the actions in the Management Unit prescriptions below for this alternative. Appendix F shows WSA maps and tables depicting Management Unit locations of WSAs.

MANAGEMENT UNIT E-1 (Part of Alpine Triangle SRMA)

Land ownership: 95,350 acres of public surface; 16% of the Planning Area.

This management unit is currently managed as the Alpine Triangle Special Recreation Management Area (SRMA), and consists of the bulk of the SRMA. The unit extends south along the Lake Fork of the Gunnison River (Lake Fork) from the Curecanti National Recreation Area (NRA) and includes lands south and west of Lake City. This unit surrounds three recommended ACECs (E-4, E-5 and E-6) and important fisheries and riparian zones (parts of E-15).

The lands south and west of Lake City are characterized by 13,000-14,000 foot peaks, fragile high-country tundra, important mining-era historical resources, heavy recreation visitation, and high quality scenic values. This unit is the most popular and heavily visited area BLM manages in Colorado, and is among the most scenic areas in the nation. Features within or adjacent to the unit include structures associated with the historic mining period, an 8.9 mile-long portion of the Segment A of the Lake Fork of the Gunnison River, a study segment eligible for inclusion into the National Wild and Scenic Rivers System, populations of the rare Uncompahgre fritillary butterfly, the Alpine Loop National Backcountry Byway, Slumgullion Earthflow National Natural Landmark, and bighorn sheep habitat.

The lands along the Lake Fork from Lake City downstream to the NRA boundary are characterized by a steep-walled, narrow canyon and a meandering river valley with a variety of vegetation types. Intermingled land ownership occurs in this part of the unit. Features in this part of the unit include high quality visual resources, nine recorded historic railroad construction camp sites (three of which have been developed and are managed cooperatively by the National Park Service), various other historic sites, the Gate, Mill Creek, and Red Bridge recreation sites, several BLM minor wayside and fishing access improvements; crucial big game winter range; a bighorn sheep herd; and a 69 Kv electrical transmission line.

Concerns include potential impacts on fragile tundra ecosystems receiving heavy recreation use, visitor safety concerning high altitudes and open mine shafts, degraded visual quality, incompatible recreation, mining, and livestock grazing land use mixes, motorized vehicle use, access and management, vandalism, survey and inventory/recordation deficiencies, and other concerns associated with fragile historic structures. Concerns also exist regarding potential disease transfer to bighorn sheep from grazing domestic

sheep and a growing demand for public access to the Lake Fork.

The unit would continue to be managed as part of the existing Alpine Triangle SRMA. Providing a diversity of recreation opportunities, including interpretation, while protecting important historic, scenic, and natural values would be emphasized within the unit. Motorized recreation sightseeing, hiking, camping, winter recreation, hunting, fishing, floatboating, and other recreation opportunities would be emphasized. A CRMAP would be prepared for the unit and the SRMA, incorporating the management actions in the existing RAMP, Recreation 2000 goals and the back country byway, the Alpine Loop Cultural Resource Management Plan (CRMP), historic site management, visual resource management, and the resources in other management units in the Alpine Triangle SRMA. Plans for surface-disturbing activities, including recreation use and development, would contain measures designed to minimize negative effects to resources, especially those that could impact adjacent recreation resources and fisheries and riparian habitat. Public lands would be managed for a combination of Primitive, Semi-Primitive Motorized, Semi-Primitive Non-Motorized, Roaded Natural, and Rural ROS settings as contained in the existing RAMP for the SRMA.

Management actions contained in the existing RAMP for the unit would be implemented (facility and trail development, improvement, and maintenance, expanded recreation area administration and visitor services, additions to and maintenance of OHV routes, signing, patrols, and commercial recreation use supervision). Construction of a joint BLM/USFS visitor and administrative center in Lake City would be pursued. Overnight camping would be excluded within 50 feet of historic resources on public land. A follow-up visitor-use survey would be conducted in approximately 1994 to reassess the activities, settings, and experiences favored by the recreating public. Facilities at The Gate and Red Bridge Campgrounds would be upgraded and added such that entrance fees could be charged.

Historic sites would be inventoried, recorded, and evaluated within the unit, and determinations of eligibility prepared. The Alpine Loop CRMP would be prepared to direct the development, maintenance, stabilization, and interpretation of these appropriate historic resources for passive, non-consumptive recreation opportunities. This plan would be incorporated into the CRMAP for the unit. Interpretation would emphasize the protection of historic sites, buildings, and facilities in order to prevent vandalism. Cadastral surveys would be conducted, if necessary, for sites to determine public land locations for historic sites with potential for stabilization or interpretation.

Cooperative management with the NPS on lands along the Lake Fork of the Gunnison River from Red Bridge to Blue Mesa Reservoir would be continued for recreation facility and road maintenance, and the interpretation and protection of three historic railroad camp/construction sites. If appropriate, cooperative management of other sites would be considered.

Motorized vehicular traffic on public lands within the unit south of the north line of Section 12, T. 45 N., R. 4W., N. M. P. M., would be limited to designated routes, and snowmobile use would be limited to travel on snow. The remainder of the unit would be open to OHV traffic.

The part of the 11-mile long, 1/2 mile wide Segment A of the Lake Fork in the unit would not be recommended as being preliminarily suitable for designation and inclusion into the National Wild and Scenic Rivers System (see map in Appendix I for location and segment boundary).

Federal mineral estate in the following areas in the unit would be withdrawn from mineral entry and location under the general mining laws: (a) within 675 acres in the existing protective withdrawal (C-0125423) along the Alpine Loop National Backcountry Byway, in order to protect scenery within the byway from mining disturbance, (b) a total of five acres at Red Bridge Campground in order to prevent disturbance from mining activities occurring at the recreation site, (c) a total of 10 acres at The Gate campground to protect recreation facilities.

Federal oil, gas, and geothermal estate totalling 10 acres under federal surface at The Gate Campground, 5 acres at the Red Bridge Campground, and 675 acres within the existing protective withdrawal (C-0125423) along the byway would be open to leasing with a no surface occupancy stipulation in order to protect recreation facilities and visual resources from fluid minerals exploration and development. Mineral material disposal on federal mineral estate at these same areas would not be authorized for the same reasons.

Wildlife Habitat Management. Disposal of mineral materials on 10,620 acres of federal mineral estate within crucial big game winter range would not be authorized from December 1 through March 31 to prevent disturbance to wintering deer and elk.

Livestock Grazing Management. On public lands within the riparian area along Henson Creek, from the North fork of Henson Creek downstream to Lake City, livestock grazing in this important fishery would not be authorized in order to maintain stream and streamside conditions, including soils and vegetation.

Wild and Scenic River Study Segment. The 8.9 mile-long portion of Segment A of the Lake Fork of the Gunnison River would be managed according to this prescription and STANDARD MANAGEMENT for this alternative.

Visual Resource Management. The unit would be managed according to VRM Class II (93,848 acres), VRM Class III (165 acres) and VRM Class IV (1,337 acres) objectives.

Transportation and Access. Public access would be acquired into the Devil's Creek area for recreation management and administrative access would be acquired into the east-central part of the unit that includes Yaeger Gulch and Skunk and Trout Creeks for commercial forest management. Public hiking access would be acquired into the Alpine Gulch drainage. Public access would be acquired between Lake City and Trout Creek and east of Colorado Highway 149, for recreation access to public lands within and adjacent to Management Unit E-2. Public access would continue to be acquired, as opportunities arise, to BLM and USFS managed lands between Lake City and Red Bridge campground.

Acquisition of Non-Federal Lands. If available, non-federal lands necessary for the management, protection and/or enhancement of recreation and visual resources and wildlife habitat on public lands would be acquired. If available, non-federal lands containing representative examples of thematic historic period sites, structures, or resources would be acquired through exchange or purchase.

Rights-of-Way. About 3,840 acres in the rights-of-way corridor would be open to development of all rights-of-way. With the exception of public lands in the rights-of-way corridor, the entire unit would be closed to the development of above-ground utilities (91,510 acres). Public lands north of the south line of Sections 16 and 17, T. 47 N., R. 3 W., N.M.P.M., approximately 2,560 acres, and about 76,880 acres south and west of Lake City would be classified an avoidance area for all other rights-of-way. The remainder of public lands in the unit, about 12,070 acres, would be open to all other rights-of-way. See Appendix D for a map showing these areas.

Rights-of-Way Corridors. Approximately 3,840 acres of public land along CUEA's Blue Mesa to Lake City 115 Kv electrical transmission line would be designated a rights-of-way corridor (see Standard Management for more detail).

Fire Management. Full suppression of wildfires would occur on 9,577 acres of public land to protect private property, BLM recreation sites, and other facilities. Conditional suppression would occur on 85,773 acres.

Withdrawals and Classifications. The R&PP classification C-012620 would be terminated or revoked near the Slumgullion Earthflow, Unit E-6, upon withdrawal recommendations being implemented within that unit. The R&PP classification (approximately 40 acres) and the current R&PP lease held by Hinsdale County for a ski facility would continue. The 113 acre R&PP classification C-083991 would also be terminated or revoked at The Gate Recreation Area upon withdrawal recommendations being implemented. The Bureau of Reclamation withdrawal, under

Secretarial Order of May 12, 1946, surrounding The Gate Campground would be recommended for relinquishment to ensure recreation resources would not be inundated. The part of the BLM protective withdrawal C-0125423, 675 acres, along the back country byway in the unit would be continued. Approximately 113 acres of public land at The Gate Campground and, approximately 5 acres of public land at Red Bridge campground would be withdrawn from all forms of appropriation under the general land laws for protection of recreation resources and BLM investments.

Water Power and Storage Reservoir Sites. The unit would be closed to development of potential water power and storage reservoir sites.

MANAGEMENT UNIT E-2 (Powderhorn Primitive Area SRMA)

Land Ownership: 47,745 acres of Public Surface; 8% of the Planning Area.

This unit consists of lands managed for primitive, non-motorized recreational and natural values.

This management unit is managed as the existing Powderhorn Special Recreation Management Area (SRMA). The entire existing Powderhorn Primitive Area is located within the unit. Few obvious human influences are apparent. The unit contains the popular Powderhorn Lakes and is characterized by a diversity of landscapes, high valued recreation resources,important fishery and riparian resources, scenic, and natural values. Bighorn sheep habitat occurs within the unit. The BLM surface estate within the existing primitive area is withdrawn from all forms of appropriation under the general land laws (C-17286) and from mineral entry and location under the general mining laws. A concern for resources within the unit is that concentrated recreation use occurring along existing trails and at the lakes area could potentially result in unacceptable impacts to scenic and other resources. Another concern is the potential for diseases being transferred to bighorn sheep from domestic sheep. The need to protect both the high quality and diversity of scenic, recreation, and other natural values, while reducing effects of recreation use would be recognized as important during the formulation of management decisions affecting the area.

The unit would be managed as the Powderhorn Primitive Area SRMA. The Primitive Area would be expanded to include the remainder of public lands in the unit.

A RAMP would be prepared emphasizing the enhancement of natural values and primitive recreation opportunities. Public lands would be managed for Primitive and Semi-Primitive Non-Motorized ROS settings. Measures to prevent soil erosion and water quality deterioration processes would be allowed to occur and surface-disturbing activities would be minimized. Commercial recreation use would be permitted and use levels established, if necessary, to maintain natural values in the unit; and commercial permits would contain stipulations and mitigation for vegetation and surface disturbance. A permit system and recreation use levels for private, non-commercial recreation use would be established and implemented in the unit if adverse environmental impacts result from recreation activities. Maps and interpretive brochures would be distributed to help inform users of low-impact camping skills. Trails would be maintained periodically.

Public Lands in the unit would be closed to motorized vehicular traffic, unless otherwise authorized, to protect and maintain primitive recreation opportunities. The unit would also be closed to mountain bikes.

The entire federal mineral estate in the unit, 46,007 acres, would be withdrawn from mineral entry and location under the general mining laws, and federal oil and gas estate in the unit would be closed to future leasing in order to protect recreation and natural values. Disposal of mineral materials would not be authorized on federal mineral estate in the unit.

Wildlife Habitat Management. Fishery or other wildlife improvement projects or project maintenance, would be permitted only if compatible with the objectives of this unit. The unit would be evaluated and considered for moose introductions,

which could be authorized by the District Manager following environmental analysis.

Livestock Grazing Management. Domestic sheep grazing in grazing allotment 6112 would not be authorized in the unit in order to help prevent the potential for diseases being transferred to bighorn sheep from domestic sheep. Cattle grazing would be authorized and administered in the unit such that recommended ROS settings would be maintained. Livestock grazing, vegetation treatments, or improvements and treatment maintenance would be authorized only if compatible with the objectives of this unit. Livestock grazing would be managed to maintain a 4-inch minimum stubble height for key forage species in riparian zones containing important fisheries along the entire length of Fourth of July and Cebolla Creeks and the West, Middle, and East Forks of Powderhorn Creek in order to improve and maintain stream and streamside conditions, including soils and vegetation.

Forest Management. The unit would be closed to the sale or harvest of forest products in order to maintain scenic and recreation values.

Visual Resource Management. Public lands would be managed according to VRM Class I objectives in order to maintain the scenic quality of the unit.

Acquisition of Non-Federal Lands. If available, 40 acres of private surface estate would be acquired. The acquisition of state-owned minerals in the unit would be pursued.

Rights-of-Way. Public lands in the unit would be classified an exclusion area for future rights-of-way.

Fire Management. Public lands in the unit would be managed under the conditional suppression category.

Withdrawals. Public surface estate in the unit would be withdrawn from all forms of appropriation under the general land laws in order to retain the lands in public ownership. Bureau protective withdrawal C-17286 would be continued and expanded to include and affect about 47,745 surface acres and 46,007 acres of subsurface mineral estate in the unit.

MANAGEMENT UNIT E-3 (Cochetopa Canyon SRMA)

Land Ownership: 2,707 acres of Public Surface; less than 1% of the Planning Area.

This unit consists of lands managed for day-use and overnight recreation along Cochetopa Creek.

Most of the public lands in this management unit are currently managed as the Cochetopa Special Recreation Management Area (SRMA). Resources and land uses are managed according to an existing activity plan for the unit. Colorado State Highway 114 traverses the unit, which is characterized by a steep, scenic canyon that restricts recreation use to the narrow riparian corridor along Cochetopa Creek. Day-use recreation such as sight-seeing, fishing, and picnicking, and overnight camping occur within the unit. Features within the unit include high-quality scenic resources, three semi-developed, and three undeveloped recreation sites. An elk calving area, Cochetopa Creek--an important fishery--and crucial big game winter range and bighorn sheep habitat occur within the unit. Concerns within the unit include a lack of recreation signing, general vandalism, and adverse impacts from recreation use to soils, vegetation and water quality, and deteriorating recreation facility conditions.

The unit would continue to be managed according to the existing RAMP. The RAMP would be updated to include this expanded SRMA and prescription. The management objectives for the unit would be to continue to provide and improve the existing diversity of recreation opportunities, with fishing and overnight camping adjacent to Highway 114 being emphasized. Recreation facilities at three semi-developed and three undeveloped recreation areas would be constructed and maintained to provide approximately 32 family campsites, 6 toilets, twenty parking spaces, and informational signing. Existing recreation facilities in the unit would be maintained. Periodic patrols would be conducted. Recreation use would be

monitored and possibly restricted as necessary to protect natural features and recreation opportunities. Informational and interpretive signs would be installed. Public lands would be managed for a Roaded Natural ROS setting.

The federal mineral estate within the unit, 2,592 acres, would be withdrawn from mineral entry and location under the general mining laws in order to provide protection for visual and recreation resources. This area has a low to moderate potential for the occurrence of mineral resources.

The entire Federal oil, gas, and geothermal estate in the unit, 2,592 acres under federal surface, would remain open to leasing with a no-surface occupancy stipulation in order to protect scenic and recreation resources in the narrow canyon in this unit.

Wildlife Habitat Management. Disposal of mineral materials on 1,317 acres of federal mineral estate in the unit within elk-calving areas would not be authorized in order to prevent disturbance to calving elk from May 1 through June 30. Disposal would not be permitted on 2,302 acres of federal mineral estate from December 1 through March 31 within big game crucial winter range in order to prevent disturbance to wintering deer and elk.

Livestock Grazing Management. Livestock grazing and watering would not be permitted in the riparian area along Cochetopa Creek in order to maintain or improve riparian and/or fishery conditions. Domestic sheep grazing would not be authorized throughout the unit to prevent disease transfer to domestic sheep.

Visual Resource Management. The unit would be managed according to VRM Class II (2,220 acres) and VRM Class IV (487 acres) objectives.

Rights-of-Way. Public land in the unit would be classified an exclusion area for above-ground utility rights-of-way. Underground utility rights-of-way and development would be limited to disturbed areas associated with existing roads.

Fire Management. Wildfires would be managed under the full suppression category.

Withdrawals and Classifications. Public lands in the unit would be withdrawn from all forms of appropriation under the general land laws in order to retain scenic, riparian, and recreation values. This withdrawal would not affect the application of the public land laws governing the use of lands under discretionary leases, licenses or permits.

Water Power and Storage Reservoir Sites. The unit would be closed to development of potential water power and storage reservoir sites.

MANAGEMENT UNIT E-4 (American Basin ACEC)

Land Ownership: 1,595 acres of Public Surface; less than 1% of the Planning Area

This management unit is located south and west of Lake City between the Continental Divide and Handies Peak, and is one of the most scenic basins in the San Juan Mountains because of its midsummer wildflowers and the high-quality visual resources. Sloan Lake and approximately two and one-half miles of the headwaters of Segment A of the Lake Fork of the Gunnison River, a study segment eligible for inclusion into the National Wild and Scenic Rivers System, are located within the unit. The unit is also managed as part of the Alpine Triangle SRMA. Concerns within the unit are conflicts regarding recreation users and domestic sheep grazing and the potential for mining to occur (there is a high to moderate likelihood for the occurrence of locatable minerals on public lands in the unit).

The unit would be designated and managed as the American Basin Area of Critical Environmental Concern (ACEC) within the SRMA. The unit would be managed to protect and enhance visual and other natural resources and existing related recreation opportunities. Activities resulting in surface disturbances or visual impacts would not be permitted in order to prevent deterioration of scenic values. Specific and detailed management for this ACEC would be included as part of the CRMAP to be prepared for unit E-1.

The entire federal mineral estate within the unit, totalling about 1,590 acres, would be withdrawn from mineral entry and location under the general mining laws in order to protect recreation and visual resources in the unit from disturbance from possible mineral development.

The entire federal oil and gas estate within the unit, totalling 1,590 acres, would be open to future mineral leasing with a no surface occupancy stipulation in order to protect visual and recreation resources from deterioration as a result of possible oil and gas exploration or development. Disposal of mineral materials on federal mineral estate would not be permitted within the unit for the same reasons.

Livestock Grazing Management. Domestic livestock grazing, other than livestock trailing, would not be authorized in the unit in order to maintain and protect scenic resources.

Recreation Management. Motorized vehicular travel would be limited to designated routes within the unit in order to prevent destruction to wildflower concentrations and visual resources in general. Public lands would be managed for Semi-Primitive Motorized and Semi-Primitive Non-Motorized ROS settings. The hiking trail to Handies Peak would be improved.

Wild and Scenic River Study Segment. The 2.5 mile-long Segment A of the Lake Fork of the Gunnison River would be managed according to this prescription and STANDARD MANAGEMENT for this alternative.

Visual Resources. Public lands would be managed according to VRM Class I objectives in order to maintain the natural setting in the unit. Existing visual intrusions would be rehabilitated to the extent possible.

Transportation and Access. One of two parallel roads that resulted from a detour would be closed and rehabilitated; the best located road would be retained for recreation access and would be maintained periodically to prevent resource impacts.

Acquisition of Non-Federal Lands. If available, approximately 40 acres of non-federal lands would be acquired in the unit in order to enhance and facilitate the management of visual and recreation resources.

Rights-of-Way. Public lands in the unit would be classified an exclusion area for rights-of-way.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

Withdrawals and Classifications. The BLM protective withdrawal C-0125423 along the backcountry byway in the unit, about 2-1/2 acres, would be continued.

MANAGEMENT UNIT E-5 (Redcloud Peak ACEC)

Land Ownership: 5,947 acres of Public Surface; 1% of the Planning Area

This unit is located southwest of Lake City within the boundary of the Alpine Triangle SRMA. The unit contains one of two known viable breeding populations of the Uncompahgre fritillary butterfly, a USF&WS "Category One" listed species. A research effort by a national university is on-going regarding the butterfly. The 14,000 foot-plus Redcloud Peak is within this unit characterized by fragile high-country tundra. Other features within the unit are highly scenic visual resources and bighorn sheep habitat. The unit has a moderate to high potential for the occurrence of locatable materials. Concerns within the unit include fragile tundra that receives heavy recreation use and trampling of habitat of the Uncompahgre fritillary butterfly by domestic sheep.

The unit would be designated and managed as the Redcloud Peak Area of Critical Environmental Concern (ACEC). Protection and enhancement of habitat of the Uncompahgre fritillary butterfly and the species in the unit would be emphasized. Specific management of resources in the ACEC would be incorporated into the CRMAP to be prepared for the Alpine Triangle SRMA.

On-going efforts in research, monitoring, and inventory would continue and be expanded as

needed. Surface disturbing activities would be restricted to protect the listed species and existing and potential habitat. Research or collecting would require authorization by BLM.

The entire federal oil, gas, and geothermal estate in the unit, totalling 5,962 acres, would be open to leasing with a no surface occupancy stipulation, and mineral material disposal would not be permitted in the unit in order to protect habitat of the Uncompahgre fritillary butterfly and the species.

Livestock Grazing Management. On public lands within the unit, domestic sheep grazing would be controlled to prevent destruction of Uncompahgre fritillary butterfly habitat.

Recreation Management. Motorized vehicular travel would be limited to designated routes, unless otherwise authorized, in order to protect habitat of the Uncompahgre fritillary butterfly. Public lands would be managed for Semi-Primitive Non-Motorized and Primitive ROS settings.

Visual Resources. Visual resources on public lands would be managed according to VRM Class II objectives in order to maintain the natural setting in the unit.

Rights-of-Way. Public lands in the unit would be classified an avoidance area for rights-of-way.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT E-6 (Slumgullion Earthflow National Natural Landmark ACEC)

Land Ownership: 1,407 acres of Public Surface; less than 1% of the Planning Area

This unit is located approximately 2 miles southeast of Lake City and contains part of the Slumgullion Earthflow National Natural Landmark, a mass wasting phenomenon. A Recreation and Public Purposes (R&PP) classification (C-0126201) applies to part of the public lands in the unit.

The unit is located within the Alpine Triangle Special Recreation Management Area (SRMA). The Colorado Natural Areas Program has designated most of the public lands in the unit as a Colorado Special Interest Area. The unit contains approximately 270 acres of crucial elk and deer winter range.

The unit would be designated and managed as the Slumgullion Earthflow National Natural Landmark Area of Critical Environmental Concern (ACEC). Surface disturbance within the unit would not be permitted in order to enhance and protect the earthflow's natural values, including visual resources. Specific management for resources in the ACEC, including interpretation of the earthflow and other natural values in the unit would be included in the CRMAP to be prepared for the Alpine Triangle SRMA.

The entire federal mineral estate within the unit totalling 1,442 acres, would be withdrawn from mineral entry and location under the general mining laws in order to protect the integrity of the earthflow from mineral development. The area has a high to moderate potential for the occurrence of locatable mineral resources.

The entire federal, oil, gas, and geothermal mineral estate within the unit, 1,397 acres under federal surface and 45 acres of split estate, would be open to leasing with a no surface occupancy stipulation in order to protect values associated with the earthflow. Disposal of mineral material on federal mineral estate in the unit would not be permitted within the unit for the same reason.

Forest Management. Timber harvesting would not be permitted in the unit.

Recreation Management. Motorized vehicular traffic in the unit would be limited to designated routes in order to prevent surface disturbance within the slide area.

Visual Resource Management. The unit would be managed according to VRM class II objectives.

Rights-of-Way. Utility rights-of-way would not be allowed in the unit except for buried utilities along

an eight-acre corridor where Highway 149 crosses the unit.

Fire Management. Wildfires on about 1,060 acres of public lands would be managed according to a conditional suppression policy and about 347 acres would be managed according to a full suppression policy.

Withdrawals and Classifications. The R&PP classification C-0126201 would be recommended for termination/revocation upon the withdrawal recommendation being implemented.

MANAGEMENT UNIT E-7 (West Antelope Creek ACEC)

Land Ownership: 28,215 acres of Public Surface; 5% of the Planning Area.

This management unit is generally bounded on the south and west by the National Park Service (NPS) managed Curecanti National Recreation Area, on the north by the Gunnison National Forest, and on the east by West Antelope Creek. The unit contains the greatest concentration of wintering elk and deer in the planning area, bald eagle habitat, the Dillon Mesa bighorn sheep herd, and the Colorado Division of Wildlife Sapinero State Wildlife Area (the first tract of land purchased under the Pittman-Robertson Act in Colorado). The unit receives extensive recreational hunting use, and contains crucial big game winter range important in maintaining huntable populations in the planning area on 26,157 acres of public lands. An elk-calving area occurs in the unit. A 115 kv electrical transmission line is located in the southern part of the unit.

A major concern within the unit is that CDOW long-range elk and deer herd goals have reached or are beyond the carrying capacity, and attaining lower numbers in the next five years would be in the best interest of the habitat. The bighorn sheep herd appears to be static and below herd goal numbers. Improper livestock grazing along North Willow Creek is a concern within that riparian area, along with the lack of administrative access into that watershed.

The unit would be designated and managed as the West Antelope Creek Area of Critical Environmental Concern (ACEC). An ACEC management plan would be prepared. The area would be managed for multiple use, with importance given to implementing actions that improve the unit's capabilities to support wintering elk, deer, and bighorn sheep. All other land uses, except as specified below, would be permitted if they would not degrade the quality of the unit's winter range. Surface-disturbing activities on public lands would not be permitted from December 1 through March 31 on crucial elk and deer winter range. Within the first five years following designation, recommendations would be made, if necessary, to CDOW to manage total numbers of elk and deer on crucial winter range so as to improve the production and vigor of important browse species and to increase the winter range carrying capacity. Thereafter the habitat would be managed to achieve CDOW's long-range herd goals.

The area has low potential for the occurrence of leasable and locatable mineral resources.

Federal oil and gas estate totalling 126 acres under federal surface within 1/4 mile radius of sage grouse lek sites would be open to leasing with a no surface occupancy stipulation to prevent disturbance to lek sites and strutting sage grouse. Federal oil and gas estate (26,112 acres under federal surface and 8,365 acres of split estate) on crucial big game winter range would be available for leasing with a seasonal stipulation on drilling and seismic activities to be in effect from December 1 through March 31 to prevent disturbance to wintering elk and deer, and to help maintain herd viability in this ACEC. Federal oil and gas estate (17 acres under federal surface and 137 acres of split estate) within elk calving areas would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from May 1 through June 30 to prevent disturbance to calving elk. Variances to these stipulations may be granted (see Appendix K).

Disposal of mineral materials would not be authorized on 26,112 acres of federal mineral estate from December 1 through March 31 on crucial big game winter range to prevent disturbance to

wintering deer and elk. Disposal would not be permitted on 17 acres of federal mineral estate from May 1 through June 30 within elk-calving areas to prevent disturbance to calving elk.

Soils and Water. Non-conflicting soils and watershed improvement projects would be permitted.

Livestock Grazing Management. Livestock grazing would not be authorized in the North Willow Creek riparian area in allotment 6202 in this unit to allow that ecosystem to recover and to enhance the fishery resource and big game habitat. Non-conflicting and compatible livestock management objectives, projects, and mitigating measures would be incorporated into new AMPs, HMPs or CRMAPs before being implemented. Livestock grazing would not be authorized within allotment 6200 in this unit in order to remedy conflicts involving wildlife habitat.

Forest Management. Commercial logging operations would be designed to enhance the crucial big game winter range, and vegetation in general.

Recreation. Approximately 600 acres of public land within or adjacent to the Sapinero State Wildlife Area would be closed to motorized vehicular use in order to be compatible with CDOW management on adjacent state-owned lands. Motorized vehicular use on the remainder of public lands in the unit, 27,615 acres, would be limited to designated routes, if necessary, from December 1 through March 31, to prevent disturbance to wintering elk and deer in the event of excessive snow depths or big game herd concentrations.

Visual Resource Management. The unit would be managed according to VRM Class II (7,551 acres), VRM Class III (9,887 acres), and VRM Class IV (10,777 acres) objectives.

Rights-of-Way. Rights-of-way related construction activities would not be permitted on crucial big game winter range from December 1 through March 31 to prevent disturbance to wintering elk and deer.

Fire Management. Wildfires on about 20,365 acres of public lands would be managed according to a conditional suppression policy and about 7,850 acres would be managed according to a full suppression policy.

Withdrawals and Classifications. The 40-acre Bureau of Reclamation withdrawal and the 40-acre FERC withdrawal (BLM Order 12-15-58) would be continued in the unit until the boundary for the Curecanti NRA is finalized. These withdrawals would be reviewed periodically.

MANAGEMENT UNIT E-8 (South Beaver Creek ACEC)

Land ownership: 4,565 acres of Public Surface; Less than 1% of the Planning Area

This unit is located between the Gold Basin Creek Road (Gunnison County Road 38) and South Beaver Creek immediately southwest of Gunnison. The unit is characterized by sagebrush-covered rolling hills with many intermittent drainages and benches. A 230 kv electrical transmission line crosses the southern end of the unit; several roads are located within the unit. About 1,960 acres of crucial big game winter range occur in the unit. The public lands in the north and east portions of the unit receive heavy OHV use. The unit contains scattered populations of skiff milkvetch *(Astragalus microcymbus)*, a USF&WS and Colorado sensitive plant species.

The unit would be designated and managed as the South Beaver Creek Area of Critical Environmental Concern (ACEC). The unit would be managed to protect and enhance the existing populations and habitat of skiff milkvetch. Plant monitoring studies would be designed and conducted cooperatively with the Colorado Natural Areas Program and The Nature Conservatory to determine population trends; actions designed to improve habitat conditions would be initiated. Surface disturbing activities would be restricted to protect the species and potential habitat. An ACEC management plan would be prepared. No chemical spraying would occur on public lands within the unit. Research activities would be permitted only by BLM.

To protect skiff milkvetch populations and habitat, no large land or vegetative treatments, or treatment maintenance would be conducted in the unit.

No additional forage allocations would be made for either wildlife habitat or livestock grazing management.

The entire Federal oil, gas, and geothermal estate in the unit, 4,540 acres, would be open to leasing with a no surface occupancy stipulation in order to protect populations of skiff milkvetch. Disposal of mineral materials on 4,540 acres of federal mineral estate within the unit would not be authorized for the same reason.

Soils. Non-conflicting erosion control measures that do not alter existing skiff milkvetch habitat would be permitted.

Livestock Grazing Management. Domestic sheep grazing would not be authorized in the unit to avoid possible skiff milkvetch destruction.

Recreation. To prevent accidental destruction of skiff milkvetch populations, and existing habitat, motorized vehicular traffic in the unit would be limited to designated routes.

Visual Resources. The unit would be managed according to VRM Class III (2,800 acres) and VRM Class IV (1,765 acres) objectives.

Disposal of Public Lands. Public lands in the unit containing colonies of skiff milkvetch would not be available for disposal until future inventories show that sufficient colonies occur throughout the Planning Area such that disposal would not jeopardize the overall population.

Acquisition of Non-Federal Lands. If available, non-federal lands containing colonies of skiff milkvetch would be acquired if necessary for the enhancement, management, protection of the species, and to increase the number of colonies on public lands.

Rights-of-Way. Rights-of-way developments would be permitted throughout the unit, provided surface disturbance does not impair or degrade colonies of skiff milkvetch. An on-the-ground inventory and appropriate mitigation would be required on all rights-of-way involving surface disturbing activities.

Fire Management. Wildfires in the unit would be managed under the conditional suppression category.

MANAGEMENT UNIT E-9 (Dillon Pinnacles ACEC)

Land Ownership: 532 acres of Public Surface; less than 1% of the Planning Area.

This unit is located near the edge of the planning area boundary on the north side of U.S. Highway 50 and the Blue Mesa Reservoir, and is adjacent to unit E-5, West Antelope ACEC. The specific management for this unit would be included in the ACEC management plan for unit E-5. The public lands are classified as crucial big game winter range. The unit contains portions of the steep, highly dissected cliffs (spires) that form a highly visible and scenic backdrop for Blue Mesa Reservoir. The National Park Service maintains a heavily used hiking trail to these spires. A concern within the unit is that private development could occur on approximately 270 acres of non-federal land.

The unit would be designated and managed as the Dillon Pinnacles Area of Critical Environmental Concern (ACEC). The unit would be managed to protect scenic and recreational opportunities. Surface disturbing activities would not be permitted.

All the federal mineral estate in the unit, 552 acres, would be withdrawn from mineral entry and location under the general mining laws in order to preclude potential mineral development and deterioration of scenic values.

The entire federal oil and gas estate in the unit, totalling 530 acres under federal surface and 22 acres of split estate, would be open to future mineral leasing with a no surface occupancy stipulation in order to prevent potential deterioration of scenic, recreation, and other natural values. Disposal of mineral materials on

530 acres of the federal mineral estate in the unit would not be permitted for the same reason.

Livestock Grazing Management. Livestock grazing would not be authorized within the unit in order to enhance scenic values.

Recreation Management. The unit would be closed to motorized vehicular travel to prevent deterioration of scenic values.

Visual Resource Management. The unit would be managed according to VRM Class I objectives.

Acquisition of Non-Federal Lands. If available, approximately 270 acres of non-federal lands would be acquired in order to enhance and facilitate management of visual, recreation, and other natural values, and to prevent deterioration of visual resources from potential private development.

Rights-of-Way. Public lands in the unit would be classified an exclusion area for rights-of-way.

Fire Management. Wildfires in the unit would be managed under the full suppression category.

Withdrawals and Classifications. The 40-acre withdrawal to the Bureau of Reclamation would be recommended for relinquishment to preclude inundation of scenic resources.

MANAGEMENT UNIT E-10

Land Ownership: 15,112 acres of Public Surface; 3% of the Planning Area

This unit consists of lands containing yearlong bighorn sheep and other wildlife habitat.

This unit consists of areas along Cebolla and Cochetopa Creek that are important for the viability of bighorn sheep in the Planning Area. The CDOW has frequently trapped bighorn sheep in this unit for reintroduction and transplants into other areas. The unit is grazed by cattle; domestic sheep use could be authorized. Diseases potentially being transferred from domestic sheep to bighorn sheep, and road construction and encroachment along the east side of the Cebolla Creek area are concerns within the unit.

The unit would be managed to maintain or improve habitat capable of supporting a self-sustaining population of bighorn sheep, with herd sizes of about 100-150 animals in the Cochetopa Canyon and about 150 animals in the Cebolla Creek area. An HMP would be prepared. Activities that would result in disturbance to lambing bighorn sheep would be restricted from April 15 through June 15. Monitoring would be conducted to determine habitat condition and trend, and forage utilization, including within existing treatment areas. Activities and land uses that would result in the deterioration of, or decrease in, bighorn sheep habitat or herd numbers would not be permitted. Treatments recommended in the HMP as a result of monitoring would be permitted.

The entire federal oil and gas estate in the unit, totalling 14,817 acres under federal surface and 590 acres of split estate, would be open to leasing with a no-surface-occupancy stipulation to prevent disturbance to bighorn sheep and their habitat. Disposal of mineral material on 14,817 acres of federal mineral estate would not be permitted from April 15 through June 15 prevent disturbance to bighorn sheep habitat and lambing bighorn sheep. Disposal of mineral materials would not be permitted on 1,245 acres of federal mineral estate from May 1 through June 30 within elk-calving areas to prevent disturbance to calving elk.

Livestock Grazing Management. Domestic sheep grazing would not be authorized in the unit to help prevent disease spreading from domestic sheep to bighorn sheep. Livestock grazing would be managed in a manner compatible with the objectives of this unit. Vegetation treatments and improvements recommended in AMPs as a result of monitoring would be permitted if compatible with maintaining bighorn sheep habitat.

Visual Resource Management. The unit would be managed according to VRM Class II (7,367 acres), VRM Class III (540 acres) and VRM Class IV (7,205 acres) objectives.

Transportation and Access. Public access would be acquired along Rock Creek for recreation management.

Rights-of-Way. Public lands would be open to the location of rights-of-way with appropriate mitigation to insure compatibility with the management of bighorn sheep. Rights-of-way construction or maintenance that would result in disturbance to lambing bighorn sheep would not be permitted from April 15 through June 15.

Fire Management. Wildfires on about 8,687 acres of public lands would be managed according to a conditional suppression policy and about 6,425 acres would be managed according to a full suppression policy.

Waterpower and Storage Reservoir Sites. The unit would be closed to the development of waterpower and storage reservoir sites.

MANAGEMENT UNIT E-11

Land ownership: 57,537 acres of Public Surface; 10% of the Planning Area

This unit consists of sage grouse high production areas.

This management unit is located generally on sagebrush-covered rolling terrain in the eastern part of the planning area. The unit contains sage grouse high production areas, and supports part of the third largest sage grouse population in Colorado. Most of the public lands in the unit are available for livestock grazing. The unit surrounds or contains riparian areas. The sagebrush vegetative communities within this unit provide important sage grouse nesting habitat, year-round food sources, cover for young birds (brood areas), and mating/strutting habitat (leks). The unit also contains 29,130 acres of crucial elk and deer winter range and 28,147 acres of yearlong pronghorn antelope range. Concerns within the unit regarding sage grouse habitat include disturbances to nesting or strutting sage grouse, poor quality and below-potential sagebrush nesting habitat; large-scale sagebrush removal treatments within or near nesting habitat and leks; utilization within treated areas that has resulted in sagebrush re-invasion and a subsequent lack of grasses and forbs within nesting and lek areas; and removal of sage grouse winter habitat (tall, dense sagebrush in drainages as a result of treatments).

This management unit would be managed to improve and maintain sagebrush vegetative communities in order to optimize sage grouse populations. Sagebrush treatments and management to improve sage grouse habitat would be incorporated into all AMPs or CRMAPs, and their design, implementation, and management would include as a minimum the standards and techniques in Appendix A.

Proposed habitat improvements would be implemented and managed to maintain and improve these areas crucial to sage grouse populations. All leks would be protected from destruction. No surface disturbing activity would be permitted within 1/4 mile of all lek locations during the April 1 through May 31 strutting season to prevent disturbance to sage grouse while mating. Activities occurring on crucial elk and deer winter range in the unit would be restricted to prevent disturbance to wintering elk and deer from December 1 through March 31. Non-conflicting sagebrush treatments and projects would be permitted.

Approximately 1,134 acres of federal oil and gas estate within a one-fourth mile radius of nine sage grouse leks in the unit would be open to leasing with a no surface occupancy stipulation to prevent disturbance to strutting sage grouse.

Disposal of mineral materials would not be permitted on 1,134 acres of federal mineral estate within one-quarter mile of all leks in the unit from April 1 through May 31, and within 28,267 acres of federal mineral estate on crucial big game winter range from December 1 through March 31, in order to prevent disturbance to strutting sage grouse and wintering deer and elk, respectively.

Livestock Grazing Management. Treatments and projects meeting sage grouse habitat management objectives for this unit would be permitted. New or additional available forage would be used first to

satisfy watershed objectives as defined in the Montrose District Soil Erosion Monitoring Guidelines. New or additional available forage that would be excess to achieving watershed objectives would be used to meet objectives of the individual livestock or wildlife projects.

Visual Resource Management. The unit would be managed according to VRM Class II (1,080 acres), VRM Class III (18,995 acres), and VRM Class IV (37,462 acres) objectives.

Fire Management. Wildfires on about 57,170 acres of public lands would be managed according to a conditional suppression policy and about 367 acres would be managed according to a full suppression policy.

Withdrawals and Classifications. The 330 acre Department of Energy (DOE) withdrawal for a potential mine tailings site, and the 520 acre R&PP classification for a Gunnison County landfill site would be continued. When DOE actions are finalized, some lands may be transferred to that agency. The need for the withdrawal would be reviewed periodically.

MANAGEMENT UNIT E-12

Land ownership: 91,547 acres of public surface; 16% of the Planning Area.

This unit contains elk and deer crucial winter range.

This management unit is located generally at lower elevations and throughout the planning area. Public lands totalling approximately 76,192 acres are crucial elk and deer winter range. Livestock grazing and other land uses occur on most of the public lands in the unit. A variety of vegetation types occur within the unit, including some riparian zones. The unit also contains lands within the Gunnison ERMA; elk calving areas totalling 235 acres; and sage grouse brood-rearing areas.

Concerns within the unit include winter range occurring on mixed land ownership; large numbers of deer congregating along U.S. Highway 50; heavy to severe utilization of mountain mahogany by elk and deer and the lowering plant vigor in GMU 64 northeast of Cimarron; existing elk numbers being above CDOW long-range herd objectives in GMU 55; vegetative treatments that have resulted in the removal of browse species; and long-range CDOW herd goals possibly being too high in parts of the unit to maintain healthy browse stands under the current condition of the browse species in these GMUs.

The unit would be managed to improve habitat conditions and increase the production and diversity of shrub species in upland and riparian vegetative types to support wintering populations of deer and elk, and to help meet CDOW long-range herd goals. New or additional available forage would be used first to satisfy watershed objectives as defined in the Montrose District Soil Erosion Monitoring Guidelines. New or additional available forage that would be excess to achieving watershed objectives would be used to meet objectives of the individual livestock or wildlife projects.

An HMP or a CRMAP would be developed focusing on overall habitat improvement and intensive habitat management. The plan would include treatments and projects in uplands and riparian ecosystems to increase the production and composition of bitterbrush, serviceberry, mountain mahogany, willows, and cottonwoods. Methods would include shrub plantings, burning, and techniques to convert decadent sagebrush stands to stands dominated by young sagebrush plants in the uplands. Wildlife habitat treatments would be maintained to ensure success. Monitoring of habitat conditions, utilization, and trend would be continued.

In the portions of GMU 55, 551, 66, and 67 within the unit, resources and land uses would be managed for the benefit of elk and deer winter habitat. In the portions of GMU 64 south and east of Cimarron in the unit big game utilization would be limited to 50% of the current year's growth of mountain mahogany. To help achieve this lower rate, a recommendation would be made to the CDOW to implement measures to reduce big game numbers in the GMU.

Interim elk and deer herd goal numbers in portions of certain other GMUs within the unit would be recommended to CDOW in order to permit the production and vigor of important browse species to increase such that winter habitat necessary to support CDOW's long-range herd numbers would be available. See Appendix A for interim numbers to be recommended and CDOW's long-range herd goals for GMUs within the unit.

Surface-disturbing activities in the unit that could result in disturbances to big game would be excluded from December 1 through March 31. Activities that would disturb elk within calving areas from May 1 through June 30 would be excluded.

To prevent disturbance to calving elk, seasonal stipulations on seismic and drilling activities would be in effect on approximately 235 acres of federal oil, gas, and geothermal estate under federal surface, and 42 acres of split estate, from May 1 through June 30 within elk-calving areas in the unit. Federal oil and gas estate totalling 882 acres under federal surface within 1/4 mile radius of sage grouse lek sites would be open to leasing with a no surface occupancy stipulation to prevent disturbance to strutting sage grouse. Variances to these stipulations may be granted (see Appendix K).

Disposal of mineral material within elk-calving areas would not be authorized on 235 acres of federal mineral estate from May 1 through June 30 to prevent disturbance to calving elk, nor on 74,185 acres of federal mineral estate from December 1 through March 31 within crucial big game winter range to prevent disturbance to wintering elk and deer.

Livestock Grazing Management. Domestic sheep grazing and trailing would be excluded within the portion of GMU 64 from October 15 through April 15 in the unit to eliminate forage competition with big game.

Forest Management. Suitable commercial forest lands and woodlands would be available for harvest, with a seasonal stipulation on harvesting from December 1 through April 30 to reduce stress on wintering big game. Inventories of all forest lands and woodlands would be conducted to determine associated big game habitat conditions and habitat improvements needs. Spur roads and temporary roads used for logging would be kept to a minimum and would be physically blocked and re-vegetated after completion of operations.

Recreation. Motorized vehicular traffic on public lands in the unit north of U.S. Highway 50, east of the Gunnison River and west of Quartz Creek would be limited to designated routes from December 1 through March 31, if necessary, due to big game herd concentrations or excessive snow depth, to prevent disturbance to wintering deer and elk. The remainder of the unit would be open to motorized vehicular traffic.

Visual Resource Management. Public lands in the unit would be managed according to VRM Class II (7,747 acres) and VRM Class III (47,680 acres), and VRM Class IV (36,120 acres) objectives.

Transportation and Access. Public access would be acquired into the Bead Creek area for recreation and livestock grazing management.

Fire Management. Wildfires on about 83,012 acres of public lands would be managed according to a conditional suppression policy and about 8,535 acres would be managed according to al full suppression policy.

Withdrawals and Classifications. The Bureau of Reclamation withdrawals in GMU 64 near Cimarron, about 1,400 acres in the unit, would be recommended for relinquishment if not contained in the final Curecanti NRA boundary.

MANAGEMENT UNIT E-13

Land Ownership: 187,577 acres of Public Surface; 32% of the Planning Area

This unit generally contains "I" category livestock grazing allotments.

This management unit is located throughout the planning area except in the extreme eastern, northeastern, and northwestern portions. The unit consists of intensively managed BLM "I" category

grazing allotments. The unit also contains pronghorn antelope habitat, elk calving areas, sage grouse nesting areas, and stands of suitable commercial forest lands. The unit also contains approximately 20,970 acres of crucial big game winter range on public lands. Public lands in the unit are located within the Gunnison Extensive Recreation Management Area and provide a variety of recreation resources and opportunities, including a hang-gliding site on Big Mesa and an area of concentrated public recreation use on High Mesa. Concerns within the unit are a lack of up-to-date vegetation trend data, a heavy-to-severe utilization of some riparian vegetation, resulting in below-potential forage production, undesirable plant compositions, stream channel and stream bank erosion and instability and other hydrological problems within riparian ecosystems, total forage production being far below potential, utilization of forage on public lands within a portion of the unit before range readiness criteria are met, sagebrush treatment location, design, and their later management, recreation users causing livestock control and management problems by leaving gates open, an unchecked increase in noxious weeds and their potential to reduce forage production and danger to livestock, and the shortage of AMPs.

The unit would be managed to improve ecological conditions. Suitable commercial forest lands would be available for harvest. Suitable public lands would be available for livestock grazing. Coordinated Resource Management Activity Plans or AMPs would be developed and existing AMPs would be updated as needed using CRMAP standards and procedures. Existing livestock facilities and land treatments would be maintained and new facilities and treatments would be developed according to updated or new AMPs or CRMAPs. New or additional available forage would be used first to satisfy watershed objectives as defined in the Montrose District Soil Erosion Monitoring Guidelines. New or additional available forage that would be excess to achieving watershed objectives would be used to meet objectives of the individual livestock or wildlife projects. Livestock grazing in the riparian area along Pauline Creek, an important fishery in the unit, would be managed to maintain a 4-inch minimum stubble height for key forage species in order to improve and maintain stream and streamside conditions, including soils and vegetation. Rangeland vegetation monitoring and inventory for condition, trend, and utilization patterns would continue. Allotment or other activity plans developed that involve lands at High Mesa and Big Mesa would include recreation management objectives for these areas.

Federal mineral estate totalling 262 acres would continue to be withdrawn from mineral entry and location under the mining laws at the Big Mesa FAA radar communication site.

Wildlife Habitat Management. Federal oil and gas estate totalling 1,680 acres under federal surface and 42 acres of split estate on elk calving areas would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from May 1 through June 30 to prevent disturbance to calving elk. Federal oil and gas estate totalling 882 acres under federal surface within 1/4 mile radius of sage grouse lek sites would be open to leasing with a no surface occupancy stipulation to prevent disturbance to strutting sage grouse. Variances to these stipulations may be granted (see Appendix K). Disposal of mineral materials would not be permitted on federal mineral estate on these lands during these same time periods for the same reasons.

Recreation Management. One area on High Mesa would be considered for a campground. A hiking trail would be constructed into the Rock Creek area (T. 45 N., R. 1 W., Section 16, N.M.P.M.).

Motorized vehicular traffic in the unit on public lands in the area north of U.S. Highway 50, east of West Antelope Creek, and west of the Gunnison River would be limited to designated routes from December 1 through March 31, if necessary, due to big game herd concentrations or excessive snow depths in order to prevent disturbance to wintering big game. The remainder of public lands in the unit would be open to motorized vehicular use.

Visual Resource Management. The unit would be managed according to VRM Class II (26,312 acres), VRM Class III (47,680 acres) and VRM Class IV (11,718 acres) objectives. If feasible, rehabilitation measures would be conducted on 1,687 acres of

public lands classified as VRM II R and IV R (lands with existing man-made visual intrusions) in order to improve scenic quality.

Transportation and Access. Administrative access would be acquired into the Huntsman Mesa area from Colorado Highway 149 for livestock grazing management and public access would be acquired into the Vulcan/Big Mud Pond area and into public lands east of Deer Beaver Creek for recreation and livestock grazing management; into Willow Creek in the Blue Mesa area for commercial forest, livestock grazing, and recreation management, and into the Sandy Mesa area and Poison Draw areas on Blue Mesa for commercial forest and livestock grazing management.

Fire Management. Wildfires on about 160,110 acres of public lands would be managed according to a conditional suppression policy and about 27,467 acres would be managed according to a full suppression policy.

MANAGEMENT UNIT E-14

Land Ownership: 2,605 acres of Public Surface; less than 1% of the Planning Area

This unit consists of riparian areas containing important sage grouse broodrearing areas.

This management unit consists of public lands containing riparian areas within important sage grouse high production habitat. These lands are located east of Gunnison and are associated with perennial or intermittent streams. Some of the public lands within this unit are big game crucial winter range. The abundance of insects and lush herbaceous vegetation found in riparian areas is crucial for the survival of sage grouse chicks during the first twelve weeks after hatching. Resources within this unit are also important for the maintenance and enhancement of the quality of general riparian vegetation, aquatic/fishery habitat, stream channels, and water quality. Concerns within this unit are that riparian ecosystems in general are below their ecological potential and have been reduced in size due to water regimes being modified by improper livestock grazing and road locations. Downcutting or channel incision, and accompanying lowering of water tables has resulted in a reduction in riparian plant species and an invasion of upland plants.

The unit would be managed to protect, restore and enhance these riparian areas on public lands in order to optimize sage grouse populations. Management objectives would be to provide high quality brood-rearing habitat with a diversity of plant species composition and structure, aimed at achieving improved riparian conditions. Adequate vegetative cover necessary to avoid predation of foraging chicks would be another desired condition to be achieved. Riparian improvement strategies and/or projects would be included in all CRMAPs and other activity plans and implemented.

Emphasis would be placed on rehabilitating riparian areas where the riparian or hydrological condition is degraded. The herbaceous plant species would be increased to improve forage plants and insects for sage grouse. The proportion of native bunch grasses would be increased to help meet escape and hiding cover requirements of sage grouse chicks. Measures to reduce impacts to the riparian ecosystems and associated stream channels, and to prevent unnecessary removal of sage grouse brood habitat would be included in all surface-disturbing plans. No surface disturbing activities would be permitted from July 1 through September 15 in order to prevent disturbance to sage grouse during the brood-rearing period. All leks would be protected from surface disturbance. Resources within this unit would continue to be inventoried and evaluated for potential, condition and trend, and monitoring studies would be conducted. Vegetation treatments compatible with the objectives of this unit would be permitted.

The federal oil and gas estate in the unit, totalling 2,355 acres under federal surface and 62 acres of split estate would be open to mineral leasing with a controlled surface use stipulation being in effect that restricts oil and gas development, as well as related surface disturbance, to an area beyond 500 feet of the riparian vegetation in this unit in order to prevent damage to or removal of riparian vegetation and sage grouse brood-rearing habitat (see Appendix K for this stipulation and exception

language). Federal oil and gas estate within 1/4 mile of sage grouse leks totalling 126 acres under federal surface would be open to leasing with a no surface occupancy stipulation to prevent disturbance to strutting sage grouse. Variances to these seasonal stipulations may be granted (see Appendix K).

Disposal of mineral materials throughout the unit on about 2,417 acres of federal mineral estate would not be authorized from July 1 through September 15 to prevent disturbance to sage grouse during the brooding period, at sage grouse leks on 126 acres of federal mineral estate from April 1 through May 31 to prevent disturbance to strutting sage grouse, and from December 1 through March 31 on 905 acres of federal mineral estate within crucial big game winter range to prevent disturbance to wintering deer and elk.

Livestock Grazing Management. A minimum stubble height of 4 inches would be maintained for key herbaceous forage species during the grazing season within these riparian zones considered to be important sage grouse brood rearing habitat in order to improve and provide cover for sage grouse chicks, to improve general riparian ecosystem conditions, and to help increase the proportion of native bunch grasses. Where authorized, domestic sheep grazing would be permitted in the unit only after June 1 to prevent disturbance to nesting sage grouse and nests.

Visual Resource Management. The unit would be managed according to VRM Class II (21 acres), VRM Class III (482 acres), and VRM Class IV (2,102 acres) objectives.

Rights-of-Way. Mitigating measures would be included in rights-of-way authorizations to prevent disturbance within this unit to brooding sage grouse from July 15 through September 15 and from December 1 through March 31 on crucial big game winter range to prevent disturbance to wintering deer and elk.

Fire Management. Wildfires on about 72 acres of public lands would be managed according to a conditional suppression policy and about 2,533 acres would be managed according to a full suppression policy.

Water Power and Storage Reservoir Sites. The unit would be closed to the development of water power and storage reservoir sites.

MANAGEMENT UNIT E-15

Land Ownership: 4,955 acres of Public Surface; less than 1% of the Planning Area

This unit consists of riparian areas containing important fishery streams.

This unit consists of public land along 58 miles of streams and riparian zones containing a fishery or having the potential to support and maintain catchable populations of fish. Parts of the unit are located throughout the Planning Area, and are associated with a variety of riparian zones. Parts of some of the streams contain crucial big game winter range, elk calving areas, lands suitable for grazing, lands within two SRMAs, and sage grouse brood-rearing habitat. This unit contains a 1.9 mile-long portion of Segment A of the Lake Fork of the Gunnison River, a study segment eligible for inclusion into the National Wild and Scenic Rivers System. Concerns are streams being below their potential for providing aquatic habitat, forage utilization and physical damage from livestock grazing, roads, water quality, and a lack of fishery resource information to use to determine types and locations of habitat improvement projects.

The unit would be managed to restore and enhance the condition of fishery streams. Projects would be developed to stabilize and restore stream banks and improve instream conditions. Riparian vegetation and soil improvement projects would be permitted and included in all CRMAPs, AMPs, or other activity plans, and implemented to meet the objectives of this unit. The Resource Area HMP would be revised to include recommendations in this unit. Resources would continue to be inventoried and monitored for condition, potential, and trend.

Federal oil, gas, and geothermal estate, 445 acres under federal surface, would be open to leasing with a no surface occupancy stipulation within BLM protective withdrawal C-0125423 to protect scenery within the backcountry byway.

Federal oil, gas, and geothermal estate within elk calving areas, 247 acres under federal surface, would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from May through June 30 to prevent disturbance to calving elk. Variances to these stipulations may be granted. Disposal of mineral materials on the federal mineral estate in these areas would not be permitted during those same times for the same reasons.

Livestock Grazing Management. In order to permit riparian conditions and the fishery resource to improve, livestock grazing would not be authorized on public lands along approximately one-quarter mile of Los Pinos Creek in allotment 6340 and along approximately one-quarter mile of Tomichi Creek in allotment 6307. In addition to requirements in Standard Management for Livestock Grazing, a minimum stubble height of 4 inches would be maintained for key herbaceous forage species within riparian zones in the unit in order to improve stream and streamside conditions, including soils and vegetation in the associated riparian zones.

Recreation Management. Motorized vehicular traffic in the unit would be managed as follows: OHV traffic south of Lake City (1,680 acres) would be limited to designated routes yearlong, with snowmobile use permitted on snow; traffic in the unit on Alder Creek (235 acres) would be limited to designated routes, if necessary, from December 1 through March 31, in order to prevent disturbance to wintering elk and deer on crucial big game winter range. The remainder of the lands in the unit would be open to OHV traffic (3,040 acres).

Wild and Scenic River Study Segment. The 1.9 mile-long portion of Segment A of the Lake Fork of the Gunnison River would be managed according to this prescription and STANDARD MANAGEMENT for this alternative.

Visual Resource Management. The unit would be managed according to VRM Class II objectives.

Rights-of-Way. No surface-disturbing activities would be permitted along Alder, Willow (west of Gunnison), and Razor Creeks, and along the lower one-mile of South Beaver Creek in the unit from July 1 through September 15 in order to prevent disturbance to sage grouse during the brood rearing period. Mitigating measures would be included in rights-of-way authorizations in these areas of this unit to prevent disturbance to brooding sage grouse.

Fire Management. Wildfires on about 3,470 acres of public lands would be managed according to a conditional suppression policy and about 1,485 acres would be managed according to a full suppression policy.

Withdrawals and Classifications. The BLM protective withdrawal C-0125423 along the backcountry byway in the unit, about 445 acres, would be continued.

Water Power and Storage Reservoir Sites. The unit would be closed to development of water power and storage reservoir sites.

MANAGEMENT UNIT E-16

Land Ownership: 37,616 acres of Public Surface; 6% of the Planning Area

This unit consists generally of general resource lands.

This management unit is located throughout the planning area. The unit contains public lands within "M" (20,300 acres) or "C" (4,777 acres), or "I" (915 acres) category grazing allotments. The unit is located within the Gunnison Extensive Recreation Management Area (ERMA). Concentrated public recreation use, such as camping and picnicking, occurs on an approximately 400 acre tract of public land on the Slate River.

In general, the public lands would be managed according to the policy assumptions in this alternative and Standard Management. No major

BLM funded projects or facilities would be developed. Habitat, vegetation, and other resource studies would be minimal.

Measures would be included in all plans for surface disturbing activities to prevent disturbance to wintering big game, soil erosion, and deterioration of visual resources and water quality.

Federal oil and gas estate totalling 252 acres under federal surface within 1/4 mile radius of sage grouse lek sites would be open to leasing with a no surface occupancy stipulation to prevent disturbance to strutting sage grouse. The federal oil and gas estate at the 40-acre "old agency" and the 60-acre Soap Creek U.S. Forest Service administrative sites would be open to leasing with no surface occupancy in order to protect these uses and facilities from disturbance. Federal oil and gas estate, 4,580 acres under federal surface and 4,885 acres of split estate within elk calving areas would be open to leasing with a seasonal stipulation on seismic and drilling activities being in effect from May 1 through June 30 to prevent disturbance to calving elk. Variances to these stipulations may be granted (see Appendix K). Disposal of mineral materials would not be permitted on 4,580 acres of federal mineral estate from May 1 through June 30 within elk-calving areas.

Livestock Grazing Management. Livestock grazing would continue not to be authorized on 320 acres in Wildcat Creek drainage to help maintain Crested Butte's water supply.

Recreation Management. A hiking trail would be constructed into the Rock Creek area (T.45 N., R 1 W., Section 16, N.M.P.M.). The Slate River area would be considered for the development of a campground. Motorized vehicular traffic on public lands unit north of U.S. Highway 50, south of sections 17 and 18, T. 51 N, R. 1 W., N.M.P.M., east of West Antelope Creek, and west of the Gunnison River only (3,073 acres) would be limited to designated routes from December 1 through March 31 if necessary, due to excessive snow depths or herd concentrations in order to prevent disturbance to wintering elk and deer. The remainder of public lands in the unit open to OHV traffic (34,543 acres).

Visual Resource Management. The unit would be managed according to VRM Class II (11,159 acres), VRM Class III (6,892 acres) and VRM Class IV (14,882 acres) objectives. Rehabilitation measures would be conducted on 2,367 acres of public land classified as VRM IIR, IIIR, and IVR (lands with existing man-made visual intrusions) in order to improve scenic quality.

Fire Management. Wildfires on about 26,356 acres of public lands would be managed according to a conditional suppression policy and about 11,260 acres would be managed according to a full suppression policy.

Withdrawals and Classifications. The USFS withdrawals at Old Agency and Soap Creek, about 100 acres total, would be continued; a 160-acre Bureau of Reclamation withdrawal between Haypress and Corral Creeks would be continued until the boundary for the Curecanti NRA is finalized.

CHAPTER FOUR

ENVIRONMENTAL CONSEQUENCES

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Chapter Four describes the physical, biological, and economic consequences of implementing the resource management alternatives described in Chapter Three. The chapter discusses only those resources which would be impacted as a result of implementing the proposed management actions of each alternative.

Both adverse and beneficial impacts were analyzed, based on the effects that management actions in the proposed management alternatives would have upon the resources/resource uses within the affected environment in Chapter Two. Mitigating measures designed to avoid or reduce environmental impacts were incorporated into the management alternatives. Impacts identified in this chapter are thus considered unavoidable, and would result from implementing the management actions and mitigation.

ASSUMPTIONS FOR ANALYSIS OF ENVIRONMENTAL CONSEQUENCES

An interdisciplinary approach was used in developing and analyzing environmental consequences. The general assumptions used during the analysis included:

1. Only significant adverse and beneficial changes or impacts, which vary by resource and alternative, would be analyzed. Some less-than-significant impacts are presented to better illustrate the scope and effect of a management action in some cases, or to differentiate between significant and non-significant impacts.

2. Changes or impacts described are short-term unless otherwise stated, and would occur within the life of the plan (10 to 12 years); long-term impacts would occur over a 20-year period.

3. Proposed management actions would be analyzed under the assumption that the alternatives would be fully implemented and that adequate funding and staffing would be available for implementation.

4. No significant impacts would occur to prime and unique farmlands, topography, coal, air quality, climate, fire management, and waterpower and reservoir storage sites from management actions in any alternative, and are therefore not discussed in detail.

5. Effects, for the purpose of this analysis, would be the net unavoidable changes and impacts to a resource or resource use after mitigation.

The stated net unavoidable effects would be monitored and continually evaluated during the life of the plan. Where necessary, adjustments in the actions would be made to achieve the minimum level possible of consequential effects based on the data from plan action monitoring.

Effects from actions not covered in this plan or accompanying documents would be analyzed as needed through plan amendments/environmental assessments or environmental impact statements. This additional analysis would be done in accordance with Bureau planning/environmental guidance prior to BLM consideration for approval of that action.

CHAPTER FORMAT

Chapter Four is presented in sections, with the first five sections providing an analysis of the environmental consequences, or impacts, that would result from the implementation of management actions within each alternative. The final section, (Table 4-1) is a comparison of the alternative impacts.

Each section that describes environmental consequences from implementing an alternative is subdivided by the effected resources or resource uses. Impacts are then described as (1) Impacts from Proposed Management Actions, and (2) Cumulative Impacts. (Where cumulative impacts are not presented separately, they would be the same as the impacts from proposed management actions.)

The analyses of impacts are presented as *Impacts on* a resource/resource use that would *result from* a proposed management action or actions. For example, *impacts on* wildlife habitat management would *result from* proposed off-highway vehicle management.

At the conclusion of the discussion of the consequences of implementing each alternative, Short-Term Uses vs. Long-Term Productivity, and Irreversible or Irretrievable commitments of Resources are discussed, if they would occur.

IMPACTS OF ALTERNATIVE A (CONTINUATION OF CURRENT MANAGEMENT ALTERNATIVE)

IMPACTS ON SOCIAL AND ECONOMIC CONDITIONS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Oil, Gas, and Geothermal Management. The Planning Area would not experience measurable social or economic impact because of the low potential for occurrence of these resources.

Impacts from Wildlife Habitat Management. Anticipated improvements and increases in wildlife habitat are not expected to have any significant impact on social and economic conditions in the Planning Area.

Impacts from Forest Management. The potential sale of 1,200 MBF of commercial timber would support Planning Area income and employment and produce $30,000 in federal revenue annually. On the other hand, 451 MBF of potential harvest would not be available for production and would mean a potential loss of $11,000 in Federal Revenue annually.

Impacts from Livestock Grazing Management. Near-current trends and conditions associated with management of 47,255 AUMs would continue. No significant increases or decrease would occur as a result of a loss of 172 AUMs from disposal of public lands.

Impacts from Recreation Management. Economic benefits from recreation would be enhanced and would be concentrated on those businesses providing tourist and recreation sales and services. All Economic Study Area (ESA) counties are dependent on tourism related income sectors for their socio-economic well-being and would receive a positive impact to income and employment from a 30% increase in recreation activity.

CUMULATIVE IMPACTS ON SOCIAL AND ECONOMIC CONDITIONS

The cumulative impact on the local economy is likely to be beneficial. The actual impact is localized but not presently quantified.

IMPACTS ON LOCATABLE MINERALS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Identifying 683,285 acres of federal mineral estate, of which about 105,000 acres have a high likelihood for the occurrence of locatable minerals, as open to mineral entry and location would make these lands available for exploration and development under the general mining laws. Withdrawing 45,282 acres of federal mineral estate from mineral entry and location would preclude any possible mineral exploration or development of these lands. This is not a significant impact, since most of these lands are in areas that have low or no potential for the occurrence of locatable minerals.

CUMULATIVE IMPACTS ON LOCATABLE MINERALS

Identifying 683,285 acres of federal mineral estate as open to mineral entry and location would permit exploration and development of this resource.

Withdrawing 45,282 acres of federal mineral estate from mineral entry and location would preclude any

possible mineral exploration or development in these areas.

IMPACTS ON OIL, GAS, AND GEOTHERMAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Oil, Gas, and Geothermal Management. Managing 616,911 acres of federal oil and gas estate as open to leasing of fluid minerals would make these resources available. About 110,007 acres not available in WSAs would result in little impact to the oil and gas program because of little or no likelihood for the occurrence of these resources.

IMPACTS ON SOIL AND WATER RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Soil and Water Resources Management. The implementation of the "Long Gulch Sediment Control and Riparian Habitat Improvement Project" would reduce downstream sediment yields by up to 300 tons per year, increase vegetation production for watershed protection, improve the hydrologic functions of the riparian zone by raising the alluvial water table, and provide some downstream flood control benefits by reducing peak flows from runoff events.

Erosion control projects, that are primarily designed to increase plant basal cover on uplands would indirectly result in improved watershed conditions.

Securing minimum stream flows on fisheries streams would result in water quantity protection being provided within fisheries to existing fish populations, and inadvertently would improve or protect hydrologic functions within adjacent riparian zones.

Sediment yields would also be reduced by maintaining roads and watershed developments.

Impacts from Locatable Minerals Management. If mineral development occurs on 683,285 acres in the Planning Area identified as open to mineral entry and location, increased sedimentation and physical damage to stream beds or banks could potentially result. These impacts would most likely occur somewhere within the 105,000 acres that have a high likelihood for the occurrence of locatable minerals. Physical disturbance to stream channels and increases in sedimentation would be greatest from placer mining operations. Heavy metal contamination of surface water is possible from mine water discharges and spoil-pile runoff. Heavy metal pollution is usually associated with mine drainage resulting from the oxidation of pyrite. The area with the highest potential for this situation to occur is within about 1,200 acres near Iris and Midway, and south and west of Lake City. Underground mining operations could create the potential for ground water aquifer dewatering and mixing of water from different aquifers, diminishing both groundwater quantity and quality.

Impacts from Oil, Gas, and Geothermal Management. No significant environmental impacts are anticipated from one or two wells. If any development were to occur, surface-disturbing activities such as road and drill pad construction could result in increased sediment yields. Accidental fluid discharges such as produced water, during drilling operations, could contaminate surface waters and soils.

Impacts from Saleable Minerals Management. Mineral material disposal that results in surface disturbance, road construction, and vehicle use would increase erosion and sediment production, and decrease soil productivity. Operations in close proximity to perennial water courses would have the potential effect of destabilizing and altering natural stream channels and disrupting the beneficial values of floodplains.

Impacts from Riparian Zones Management. Projects designed to stabilize streambanks and increase vegetation cover would improve stream channel stability, water quality and increase flow periods.

Impacts from Wildlife Habitat Management. Vegetation treatments and seedings and plantings designed to increase shrub densities on uplands and riparian areas would result in improved hydrologic and soil erosion conditions on these areas.

The addition of more herbivores through reintroduction and supplemental releases of big game species, where the erosion condition is below the slight to moderate condition class, would result in additional accelerated erosion and increased sediment yields.

Impacts from Livestock Grazing Management. Restricting livestock use in some riparian areas to proper utilization levels would improve hydrologic conditions on these areas.

Vegetation treatments designed to increase basal ground cover, such that a slight to moderate erosion condition class is attained or maintained, would result in a decrease in sediment and soil erosion yields on these areas. On lands where the basal ground cover remains below that needed to achieve a slight to moderate class, accelerated erosion and sediment yields would continue.

Continuing to manage 320 acres of public land in the Wildcat Creek drainage as unavailable for livestock grazing would help maintain and protect the water quality of Crested Butte.

Impacts from Forest Management. Harvest of forest products and associated road construction would increase sediment production and soil compaction.

Impacts from Recreation Management. Designating 43,462 acres of public land as closed to OHV use and restricting OHV use to designated routes yearlong on 92,927 acres would reduce sediment yields and erosion rates.

Impacts from Fire Management. Wildfires tend to result in short-term increases in sediment production. However, in areas where existing vegetation conditions are poor for watershed protection, fire can allow for a natural vegetation type conversion that provides additional watershed cover/protection. Typical fire suppression activities, such as clearing fire lines, and the use of suppression vehicles and heavy equipment, could decrease watershed productivity by removing or damaging protective vegetation and increasing sediment production.

CUMULATIVE IMPACTS ON SOIL AND WATER RESOURCES

Hydrologic functions of riparian areas, water quality and stream channel stability would be expected to improve in the Long Gulch Demonstration Area, and riparian areas. Future water quantity protection would be provided where minimum stream flows are secured. Sediment and erosion rates would be expected to decrease where surface-disturbing activities are reduced, and where basal vegetation cover is increased.

On the remainder of the planning area, sediment and erosion rates would slightly increase.

IMPACTS ON RIPARIAN ZONES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Riparian Zones Management. Projects designed to stabilize streambanks and increase vegetation cover and conditions would improve overall riparian zone conditions.

Impacts from Locatable Minerals Management. Continuing withdrawals that segregate federal mineral estate from mineral entry and location would prevent the removal of vegetation and deterioration of other resources due to mining, road construction and associated activities on about 92 miles of identified riparian zones from potential vegetation loss and other disturbances associated with mining locatable minerals. About 27 of these miles are within areas having a high likelihood for the potential for the occurrence of locatable minerals. The remainder of identified riparian zones, about 642 miles, would be open to mineral entry and location, and if mining were to occur, some loss of vegetation and other mining-associated disturbances could occur. About 102 of these miles are within areas with a high potential for the occurrence of locatable minerals. Reclamation requirements would limit these impacts to the short-term.

Impacts from Saleable Minerals Management. Damage and removal of the riparian vegetation type as a result of surface disturbance associated with mineral material disposal would be minimized by mitigating measures that would limit disturbance to the short-term.

Impacts from Soil and Water Resources Management. Vegetation treatments designed to reduce accelerated soil erosion on uplands would enhance riparian areas by reducing the quantity and timing of water and sediment delivery. Acquisition of water rights, where appropriate, including instream flows, would improve the overall condition of riparian areas by improving the dependability of surface and sub-surface water.

Impacts from Livestock Grazing Management. Intensive livestock management in riparian zones and restricting livestock use to proper utilization levels would improve plant species diversity, cover, structure and production.

Impacts from Forest Management. Eliminating or mitigating commercial timber harvests within riparian areas would protect these areas from rutting, compaction, streambank deterioration and channelization.

Impacts from Recreation Management. The construction of recreation facilities and the subsequent increased visitor use in and adjacent to riparian areas would eliminate riparian vegetation on approximately 25 acres in the planning area.

Impacts from Disposal of Public Lands. Disposal of riparian vegetation included in the 27 tracts of public land identified for potential disposal would not result in a substantial loss of riparian zone management.

Impacts from Acquisition of Non-Federal Lands. Acquisition of non-federal lands containing riparian vegetation would enhance riparian management on public land and would prevent development of these areas.

CUMULATIVE IMPACTS ON RIPARIAN ZONES

Mineral withdrawals, analyzing and setting limits on livestock grazing, and timber harvesting restrictions would combine to stabilize or improve the condition of most of the riparian areas within the planning area.

IMPACTS ON SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Potential mining activity within Uncompahgre fritillary butterfly habitat could result in the accidental loss of habitat in the disturbed areas. This same accidental loss could result to populations and potential habitat of skiff milkvetch.

Impacts from Oil, Gas, and Geothermal Management. No significant impacts are anticipated from one or two wells. If any development were to occur, accidental loss of habitat in the disturbed areas could result.

Impacts from Saleable Minerals Management. Surface disturbance associated with disposal of mineral material on 10,192 acres of potential habitat of skiff milkvetch and the Uncompahgre fritillary butterfly could result in the accidental destruction of these species and their habitat.

Impacts from Recreation Management. Off-highway vehicle use along South Beaver Creek drainage would result in the accidental destruction of skiff milkvetch.

Impacts from Acquisition of Non-Federal Lands. Acquiring private lands which contain skiff milkvetch would increase the population on public lands by 35%.

CUMULATIVE IMPACTS ON SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

The quality and quantity of special status plants and animal species and habitat would be maintained under this alternative. Accidental loss could occur due to any form of resource disturbance or land use.

IMPACTS ON TERRESTRIAL WILDLIFE AND HABITAT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Wildlife Habitat Management. Land treatment projects in GMU's 54, 55, and 551 would increase forage on elk and deer crucial winter range by improving species diversity, cover, structure, and production to help meet CDOW long-range herd goals. Carrying capacities on crucial big game winter range in the remaining GMU's would remain stable regarding the achieving of CDOW long-range herd goals.

Modifying existing fences in antelope ranges would make additional forage and habitat accessible to pronghorn antelope.

Construction of enclosures and gabions would enhance sage grouse broodrearing habitat.

Impacts from Locatable Minerals Management. Withdrawing 45,282 acres of federal mineral estate from mineral entry would reduce the potential for habitat loss of all wildlife species on effected federal surface from mineral development.

Road construction, surface disturbance, and increased human activity that accompanies locatable mineral development would eliminate habitat, alter use patterns, increase stress and disrupt nesting and breeding seasons of a wide variety of game and non-game species. The impact of mining activities would be greatest where bighorn sheep habitat, crucial elk and deer winter range and sage grouse lek areas exist on lands with a high likelihood for the occurrence of locatable minerals.

Impacts from Soil and Water Resources Management. Increasing ground cover or plant basal cover in the sagebrush vegetation type would improve hiding and nesting cover for sage grouse and other non-game species. The continued implementation and maintenance of the "Long Gulch" project would result in increased forage and hiding cover for sage grouse and non-game wildlife.

Impacts from Riparian Zones Management. Projects designed to stabilize streambanks and increase vegetation cover would improve sage grouse brood habitat.

Impacts from Livestock Grazing Management. Restricting livestock use to proper utilization levels in riparian areas would improve sage grouse broodrearing habitat, crucial big game winter range and non-game species habitat. Physical trampling would be reduced, as would the invasion of undesirable plant species. Land treatment projects which result in decreasing sagebrush cover below 25% would preclude these areas from being used as sage grouse nesting areas, and would decrease sage grouse wintering habitat.

Domestic sheep grazing on bighorn sheep ranges would result in the possibility of disease transfer between the two sheep species and would decrease forage availability for bighorn sheep due to dietary overlap.

Impacts from Forest Management. Removal of snags in harvest stands would eliminate habitat for raptors and other non-game species. Timber harvests within 1/4 mile of goshawk nests would disturb nesting pairs. Harvest of ponderosa pine and Douglas fir on a sustained yield basis would decrease elk and deer thermal and hiding cover by 100-150 acres per year.

Impacts from Recreation Management. Development of campsites and the associated increase in use along Cochetopa Creek would eliminate bighorn sheep use within 1/2 miles of developed areas and would deter raptor use.

Limiting OHV use from December 1 through May 31 to designated routes in crucial elk and deer winter range north of U.S. Highway 50 would prevent disturbance to these animals during the most critical portion of the year.

Impacts from Transportation and Access. Acquiring public road access into the Rock Creek Park area would disrupt bighorn sheep and lambing bighorn sheep and would force the herd onto marginal habitat.

Impacts from Acquisition of Non-Federal Lands. The acquisition of private lands containing crucial elk and deer winter range would prevent the loss of habitat through subdivision development and human activities.

Impacts from Wilderness Study Area Management. Flexibility to manipulate wildlife habitat would continue to be limited in WSAs, potentially resulting in reduced options for wildlife transplant locations.

CUMULATIVE IMPACTS ON TERRESTRIAL WILDLIFE HABITAT

Management actions identified in this alternative would gradually improve wildlife habitat conditions. Big game habitat would improve through land treatment projects. Bighorn sheep herds would continue to fluctuate widely due to disease. Sage grouse habitat would be decreased and populations would potentially be reduced as a result of some sagebrush treatments.

IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Mineral entry and location being precluded on 45,282 acres of withdrawn federal mineral estate would prevent possible reductions in fishery habitat quality, or a complete loss of some fishery habitat on some streams due to mining activities and associated road construction on effected fisheries. Loss of fishery habitat due to sedimentation and channelization would be greatest if mineral development were to occur in alluvial soils along or in streambanks. These lands have a low or no likelihood for the occurrence of locatable minerals.

Impacts from Soil and Water Resources Management. Vegetation treatments designed to reduce soil erosion would enhance aquatic habitat by decreasing the amount and frequency of sediments entering the streams. Acquisition of water rights, including instream flows, would ensure sufficient water to maintain the present fish population.

Impacts from Livestock Grazing Management. Restricting livestock use to proper utilization levels in some riparian zones would decrease sedimentation of fishery streams in these areas, stabilize streambanks and increase overhanging cover. Fishery habitat would improve through improvement of water quality and increase in aquatic vegetation and insects.

Impacts from Forest Management. Timber harvests and associated activities, such as road, skid trail, and staging area construction, in some drainages with fishery streams would increase sedimentation and alter stream channels.

Impacts from Recreation Management. The construction of recreation facilities and increased recreational use of fishery streams would cause the loss of or reduction in the quality of some fishery habitat on about 3.5 miles of streams.

Impacts from Rights-of-Way Management. Construction of roads and pipelines in or across fishery streams would result in the short-term loss, or damage to, fishery habitat.

CUMULATIVE IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)

Fishery habitat would be lost due to management actions identified in this alternative. Construction of roads and decreases in streambank cover would increase sedimentation and alter stream channels and increase water temperatures.

IMPACTS ON LIVESTOCK GRAZING MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Livestock Grazing Management. A total of 47,256 AUM's would be available for livestock grazing on 146 grazing allotments.

If implemented, land treatment projects would improve livestock distribution and forage quality.

Implementing actions to ensure livestock utilization levels in the less-than-heavy range in some riparian

zones could result in changes in seasons of use, class of livestock, and possible temporary reductions in livestock forage allocations. These adjustments would be considered during AMP revision or new CRMAP or AMP development, and could remain the same or be modified.

Impacts from Soil and Water Resources Management. Vegetation treatment projects would improve livestock distribution and improve livestock forage quality and quantity.

Impacts from Wildlife Habitat Management. Vegetation treatment projects designed to improve wildlife habitat would improve livestock distribution and livestock forage quality.

Impacts from Wilderness Study Area Management. Management requirements in wilderness study areas would exclude any land treatment projects and would severely limit development and maintenance of livestock watering projects. This could result in heavy livestock utilization in some areas, especially within riparian zones, or if necessary, forage adjustments could occur.

Impacts from Transportation and Access. Acquiring access into eight areas would improve effectiveness of administration of the livestock grazing program, but seven of the eight being for public access also would increase livestock harassment and vandalism of livestock facilities.

Impacts from Disposal of Public Lands. Disposal of 2,585 acres of public lands which are currently grazed by domestic livestock would eliminate 172 AUMs of livestock forage.

CUMULATIVE IMPACTS ON LIVESTOCK GRAZING

Increases in livestock AUMs through land treatment projects and improved vegetation production would be offset by disposal of public land. Impacts from achieving less-than-heavy livestock utilization levels in some riparian zones could result in temporary or permanent reductions in forage allocations. Impacts from land disposal would result in a loss of AUMs and 2,585 acres of suitable grazing lands. The net effect could be a decrease of 172 AUMs, resulting in a total grazing preference of 47,256 AUMs.

IMPACTS ON FOREST MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Forest Management. Approximately 44,062 acres of suitable commercial forest lands and 19,262 acres of suitable woodlands would be available for harvest. This would result in an annual harvest of 1,200 MBF of commercial forest products and 400 cords of fuelwood.

Impacts from Livestock Grazing Management. Livestock utilization and trampling on approximately 400 acres of seedling areas would result in these lands remaining classified as poorly stocked.

Impacts from Wilderness Study Area Management. Non-impairment guidelines in wilderness study areas would preclude the harvest of commercial timber on approximately 14,400 acres. This would result in a loss of 432 MBF annually.

Impacts from Disposal of Public Lands. A total of 650 acres of commercial forest lands would be lost due to public land disposal. This would result in 19 MBF annually being unavailable for harvest on public lands.

CUMULATIVE IMPACTS ON FOREST MANAGEMENT

A total of 44,062 acres of suitable commercial forest lands would be available for sustained yield production. This would result in the annual harvest of 1,200 MBF of commercial timber. Approximately 400 cords of fuelwood would be available annually from 19,262 acres of suitable woodlands. About 15,050 acres of suitable commercial forest lands would be unavailable for harvest, resulting in a potential harvest loss annually of 451 MBF. Other forest products would also be available.

IMPACTS ON RECREATION MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Recreation Management. Additional and improved campground facilities, improved hiking trails, and increased visitor contacts would enhance visitor use, and the enjoyment and understanding of resources in the planning area.

Maintaining near-current OHV designations on public land (373,916 acres open, 92,927 acres limited to designated routes year long, 74,707 acres limited seasonally if necessary for wintering big game, and 43,462 areas closed) would ensure a variety of desired recreation settings and opportunities in the Planning Area.

Minor adjustments to OHV designations would preserve the area's primitive recreational setting.

Impacts from Locatable Minerals Management. Mineral entry and location being precluded on 45,282 acres of federal mineral estate would prevent any possible mineral exploration or development on those lands with low or no likelihood for the occurrence of locatable minerals, and would protect the integrity of recreation settings and experiences. Mining on federal mineral estate not withdrawn could significantly alter recreation settings and experiences. The greatest potential for development exists on about 110,528 acres with a high likelihood for the occurrence of locatable minerals.

Impacts from Saleable Mineral Management. Surface disturbance associated with disposal of mineral materials could change recreation settings. Adverse impacts to recreation settings and experiences from potential surface disturbance associated with mineral material disposal would be minimized by mitigating measures being applied to disposal authorizations.

Impacts from Wildlife Habitat and Fishery Resources (Aquatic Habitat) Management. Improvement of Wildlife habitat through land treatment projects, seedings, and stream rehabilitation would result in marginal increases in the numbers of recreationists, primarily fishers and hunters.

Impacts from Livestock Grazing Management. Extensive land treatment projects that reduce scenic quality would result in alterations to current recreation settings and decrease visitor use in those areas.

Domestic sheep grazing near and above timberline would diminish recreation settings and experiences, particularly for backcountry visitors.

Impacts from Forest Management. Timber harvests would result in a loss or change in recreation experiences, ROS settings, and scenic quality. Visitor use of these areas would decrease over the short-term from this increase in logging activity.

Impacts from Wilderness Study Area Management. Managing wilderness study areas under interim management guidelines would provide wilderness and primitive experience for the public. The wilderness and primitive character of the land would be maintained.

Impacts from Historical Resource Management. The identification, stabilization and interpretation of historical resources would enhance the setting and experience of recreation visitors.

Impacts from Transportation and Access. Acquisition of public access into nine areas would increase recreational visitor use and would make available more public land for recreational activities such as hunting, sightseeing and OHV use.

Impacts from Acquisition of Non-Federal Lands. The acquisition of inholdings and lands with significant recreation resources would expand public recreational opportunities and would eliminate potential private development on these lands.

CUMULATIVE IMPACTS ON RECREATION MANAGEMENT

Improved recreation facilities, development of additional campgrounds, and acquisition of access would increase the number of visitors to this area by

an estimated 30% over the life of this plan. ROS settings could be altered from a variety of land use activities, which would result in a loss of actual recreation opportunities on the affected lands.

IMPACTS ON OUTSTANDINGLY REMARKABLE SCENIC VALUES IN SEGMENT A, LAKE FORK OF THE GUNNISON RIVER WILD AND SCENIC RIVER STUDY CORRIDOR

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from the Recommendation. In this alternative, the 13.3 mile-long Segment A of the Lake Fork of the Gunnison River from Sloan Lake to Wager Gulch would NOT BE RECOMMENDED as being suitable for inclusion into the National Wild and Scenic Rivers System (NWSRS). The resultant potential and significant impacts to the outstandingly remarkable scenic values (values) that qualify this segment to be eligible for inclusion are discussed below.

Impacts from Locatable Minerals Management. If mineral development were to occur on federal mineral estate in Segment A, values would potentially be altered in the short-term on about 352 acres not in WSAs or BLM protective withdrawal C-0125423 (along the Backcountry byway). This impact would be greatest on lands near Burrows Park, Sherman, and Mill Creek campground, in instances where vegetation and land forms would be altered or removed.

Impacts from Recreation Management. Increased visitation over the life of the plan of about 30% under this alternative would result in some slightly greater impacts to scenic values along the road and river, primarily as a result of physical impacts caused by increased numbers of people and motorized vehicular use off designated routes, and the actual increase in the presence of vehicles and people. Scenic impacts from OHV use off designated routes would be mitigated by implementing patrols and other actions in the management plan for the Alpine Triangle Special Recreation Management Area (SRMA).

Impacts from Visual Resource Management. Continuing to manage lands under VRM Class II objectives would require most discretionary surface-disturbing activities on public land to result in a low amount of visual contrast. Maintenance of the existing scenic quality would thus continue.

Impacts from Wilderness Study Area Management. Activities on 3,300 acres within the Redcloud Peak and Handies Peak WSAs would be required to comply with BLM's Interim Management Policy for Lands under Wilderness Review (IMP), and regulations at 43 CFR 3802 (regarding mining activities in WSAs). Required compliance with the IMP and 3802 regulations would result in the maintenance of values inside WSA boundaries.

Impacts from Rights-of-Way Management. Permanent, surface-disturbing developments or above-ground facilities could diminish the quality of values on about 352 acres that are not within WSAs or the withdrawal C-0125423 along the backcountry byway.

Impacts from Withdrawals and Classifications. Continuing the BLM protective withdrawal C-0125423 would preclude most surface-disturbing activities on 330 acres within Segment A, thereby protecting values.

CUMULATIVE IMPACTS ON VALUES IN SEGMENT A

Increased recreation use, primarily off-highway vehicle use, could result in some increase of impacts to scenic values. Impacts from other activities would be offset by required compliance with BLM's IMP and 3802 regulations, and management actions within the SRMA.

IMPACTS ON VISUAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Visual Resource Management. Continuing to manage public lands according to existing VRM Class objectives would result in minor to moderate positive impacts for scenic resources, as

a result of the impacts of activities of other programs being mitigated to the extent practical.

Impacts from Locatable and Saleable Minerals Management. The surface disturbance caused by mining operations and exploration, and the disposal of mineral materials, and the associated access and haul routes from both activities would potentially cause minor to severe changes to visual resources, depending on the extent and location of operations. These impacts would be most apt to occur on 110,528 acres with a high probability for the occurrence of locatable minerals. Most of these lands are in VRM Class II areas.

Impacts from Forest Management. The harvest of commercial timber, and firewood in some areas would have minor to moderate negative impacts to visual resources. These impacts would be greatest in clear cut areas and lands affected by access and haul routes. Stands where selective cutting is used would undergo minimal disturbance to visual resources. Most stands of commercial timber selected for sale or harvest are located in VRM Class III and IV areas, which allow for substantial modification of the natural environment.

Impacts from Rights-of-Way Management. The development of some facilities in rights-of-way would cause minor to major impacts to visual resources depending on the extent and location of disturbance. The greatest impact would probably occur from large electrical transmission lines, pipelines, or other linear facilities in VRM Class I or II areas.

Impacts from Withdrawals and Classifications. The continuation of the "Loop Road" withdrawal C-0125423, the Powderhorn Primitive Area withdrawal, and other BLM "protective" withdrawals, would maintain scenic resources within those areas.

CUMULATIVE IMPACTS ON VISUAL RESOURCE MANAGEMENT

Continuing to manage public lands according to existing VRM Class objectives (VRM Class I, 43,590 acres; VRM Class II, 173,510 acres; VRM Class III, 126,645 acres; VRM Class IV, 236,845 acres; and VRM Class IIR, IIIR, and IVR, 4,422 acres) would maintain the overall visual character of the Planning Area, but would permit changes from projects or developments that result in varying degrees of visual contrast in localized viewsheds in VRM Class III and IV lands. These changes would be most adverse where major transportation or utility facilities are located, or where large mining operations occur.

IMPACTS ON WILDERNESS STUDY AREAS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Wilderness Study Area Management. Managing WSAs under BLM's Interim Management Policy for Lands under Wilderness Review would continue to help reduce disturbance from non-conforming uses and maintain wilderness values on 114,247 acres of public land. Any lands designated as wilderness would be managed as such and a management plan would be prepared.

Impacts from Soil and Water Resources Management. Pursuing water rights where appropriate, and soils and water resources management, could maintain or enhance wilderness values in WSAs.

Impacts from Livestock Grazing Management. Domestic livestock on lands authorized for grazing in WSAs would have a minor negative impact on the wilderness experience for backcountry users, especially in alpine areas where large sheep bands can significantly alter the visitor's experience.

Impacts from Visual Resource Management. Managing WSAs according to existing VRM objectives would have a minor positive impact on wilderness values by reducing the visual contrast and disturbance of uses, especially mineral development, grazing improvements, and visitor management facilities that could alter natural character.

Impacts from Transportation and Access. The maintenance of existing hiking trails would provide a moderate positive impact on the public's ability to visit and enjoy WSAs. The pursuit of access

easements would also improve visitor opportunities and help to distribute use more evenly in the WSAs.

Impacts from Acquisition of Non-Federal Lands. The acquisition of non-federal lands, including private inholdings within WSAs would have a high positive impact by eliminating the possibility that these parcels could be developed for uses that conflict with wilderness values.

Impacts from Rights-of-Way. The development of rights-of-way in WSAs would result in a minor to high negative impact to wilderness values, depending on the extent and location of disturbances.

Impacts from Fire Management. Suppressing wildfires according to current policies in WSAs would result in some deterioration of scenic quality in areas allowed to burn. In the long term however, fire would have positive impacts on WSAs by helping to maintain healthy ecosystems and reducing fuel loading.

CUMULATIVE IMPACTS ON WILDERNESS STUDY AREAS

Wilderness values could be degraded, depending on the extend and location from activities associated with minerals, grazing, and rights-of-way. Development of private inholding, including road access (especially in Redcloud peak WSA) and other minor or moderate effects in WSAs has resulted in some lowering of wilderness values, naturalness, solitude, and backcountry recreation experiences.

Positive impacts would result from soil and water resources, riparian zones, visual resources, WSA, transportation and access, non-federal land acquisition, and fire management, and withdrawals.

IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL RESOURCES (CULTURAL RESOURCES)

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Archaeological and Historical Resources Management. The gathering of archaeological or historical information required by law in response to project development or proposed disturbances would contribute to our current knowledge and data base. However, any physical disturbance and extraction of information from sites, other than that for documentation, would remove that data from context, and destroy the integrity of sites.

CUMULATIVE IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL RESOURCES (CULTURAL RESOURCES)

Existing policies, procedures, and regulations would provide for the protection, preservation and enhancement of sites from authorized projects. Effects from other dispersed activities, and nature, are not subject to standard operating procedures, thus these effects would not be mitigated and preventative or corrective actions would not be implemented. An increase of 30% in visitor use would result in some increase in vandalism, theft, and destruction of sites.

IMPACTS ON RIGHTS-OF-WAY

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Wilderness Study Area Management. Interim Management guidelines for wilderness study areas impose strict limitations on the location of rights-of-ways, precluding nearly all development.

SHORT-TERM USES VS LONG-TERM PRODUCTIVITY

SOIL AND WATER RESOURCES

Mineral development proposed under this alternative would potentially result in some increases in long-term erosion and sediment yields and possibly some decrease in the quality of surface waters from mine discharge and spoil pile runoff. Some loss in soil productivity would be expected in areas where surface-disturbing activities, such as OHV use, would occur.

RIPARIAN ZONES

Timber harvest restrictions and potential livestock grazing management adjustments would result in long-

term improvement in condition on some areas and other areas would be stabilized and would experience increased production.

WILDLIFE HABITAT

Habitat improvement and production to help meet CDOW's long-term herd goals for elk and deer would be achieved on some GMUs. Land treatment projects which reduce sagebrush below 25% would lower sage grouse populations.

LIVESTOCK GRAZING

Disposal of 2,585 acres of public land would reduce long-term productivity by 172 AUMs. Managing livestock forage use in some riparian areas could result in short-term forage allocation reductions, but forage production could be further increased as a result in the long-term.

WILDERNESS VALUES

Mineral or rights-of-way development could result in long-term losses in wilderness values as a result of slow reclamation efforts or results on some fragile lands in WSAs.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

SOIL AND WATER RESOURCES

The loss of soil through wind and water erosion would be irretrievable.

WILDERNESS VALUES

Wilderness values that are permanently altered by non-conforming uses would be irretrievably lost.

ARCHAEOLOGICAL AND HISTORICAL RESOURCES

The loss of archaeological and historical sites and information would be irretrievable.

DISPOSAL OF PUBLIC LANDS

Disposal of public lands would result in a loss of administrative control of all resource values on these lands except valid existing rights and existing land use authorizations.

IMPACTS OF ALTERNATIVE B

IMPACTS ON SOCIAL AND ECONOMIC CONDITIONS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Oil, Gas, and Geothermal Management. The Planning Area would not experience measurable social or economic impact because of the low potential for occurrence of these resources.

Impacts from Forest Management. The potential sale of 1,180 MBF of commercial timber would support Planning Area income and employment and produce $30,000 in federal revenue. On the other hand, the potential loss of 590 MBF of commercial timber represents losses to local Planning Area income and employment, and a loss to federal revenue of $15,000.

Impacts from Wildlife Habitat Management. Increases in forage supply would translate into increases in game populations and in recreational activities associated with them and would lead to increases in Planning Area income and employment.

Impacts from Livestock Grazing Management. Eliminating grazing from some areas and not allocating any additional forage would reduce present active preference by 5,480 AUMs. Any decreases in AUMs could result in financial losses for the affected ranching operations.

Impacts from Recreation Management. Economic benefits from recreation would be medium to high but unmeasured and would depend on the area of the impact. Benefits would occur in those businesses providing tourist and recreation sales and services. All ESA counties are dependent on tourism related

income sectors for their socio-economic well being and would receive a positive impact to income and employment from a 50% increase in recreation activity.

CUMULATIVE IMPACTS ON ECONOMIC CONDITIONS

The cumulative impact on the local economy is likely to be beneficial. The actual impact is localized but not presently quantified.

IMPACTS ON LOCATABLE MINERALS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Identifying 670,198 acres of federal mineral estate, of which about 99,600 acres have a high likelihood for the occurrence of locatable minerals, as open to mineral entry and location would make these lands available for exploration and development under the general mining laws. Withdrawing 58,369 acres of federal mineral estate from mineral entry and location would preclude any possible mineral exploration or development of these lands. The lands which would be withdrawn contain 5,400 acres with a high likelihood for the occurrence of locatable minerals.

Impacts from Wild and Scenic River Study Segment Recommendations. About 2,408 acres that would not be withdrawn from mineral entry and location in this alternative in the 4,315 acre Segment A of the Lake Fork of the Gunnison River downstream from Sloan Lake would be withdrawn for a three-year period, upon a recommendation to Congress for designation into the National Wild and Scenic Rivers System. As a result, the mineral resources within the segment would be unavailable for exploration and development for this period.

IMPACTS ON OIL, GAS, AND GEO-THERMAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Oil, Gas, and Geothermal Management. Managing 679,381 acres of federal oil and gas estate as open to leasing of fluid minerals would make these resources available. About 47,537 acres not available would result in little impact to the oil and gas program because of little or no likelihood for the occurrence of these resources.

IMPACTS ON SALEABLE MINERALS MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Saleable Minerals Management. Permitting the disposal of saleable mineral materials on 670,065 acres of federal mineral estate would more than satisfy the current demand of 12,500 cubic yards annually and meet the anticipated future demand. Not permitting the disposal of saleable mineral materials on 179,063 acres of federal mineral estate would not result in any significant impact due to the amount of materials that would be available. Seasonal restrictions on the disposal of mineral materials would not result in any significant impact.

IMPACTS ON SOIL AND WATER RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Soil and Water Resources Management. The implementation of the "Long Gulch Sediment Control and Riparian Habitat Improvement Project" would result in downstream sediment yields by up to 300 tons per year, increased vegetation production for watershed protection, improvement of hydrologic functions of riparian zone

by raising the alluvial water table, and some downstream flood control benefits by reducing peak flows from runoff events.

Implementing erosion control projects that are designed to increase plant basal cover on uplands would indirectly result in improved watershed conditions.

Allocation of additional forage on 306,548 acres to soil and water resources would result in increased vegetation cover to protect and enhance watershed conditions and reduce rates of erosion.

Securing minimum stream flows on 113 miles of fisheries streams would result in water quantity protection being provided within fisheries to existing fish populations, and inadvertently would improve or protect hydrologic functions within adjacent riparian zones.

Impacts from Locatable Minerals Management. If mineral development occurs on 670,198 acres in the Planning Area identified as open to mineral entry and location, increased sedimentation and physical damage to stream beds or banks could potentially result. These impacts would most likely occur somewhere within the 99,600 acres that have a high likelihood for the occurrence of locatable minerals. Physical disturbance to stream channels and increases in sedimentation would be greatest from placer mining operations. Heavy metal contamination of surface water is possible from mine water discharges and spoil-pile runoff. Heavy metal pollution is usually associated with mine drainage resulting from the oxidation of pyrite. The highest potential for this situation to occur is on 1,200 acres near Iris and midway. Underground mining operations could create the potential for ground water aquifer dewatering and mixing of water from different aquifers, diminishing both groundwater quantity and quality.

Impacts from Oil, Gas, and Geothermal Management. No significant environmental impacts are anticipated from one or two wells. If any development were to occur surface-disturbing activities such as road and drill pad construction could result in increased sediment yields. Accidental fluid discharges during drilling operations, such as produced water, could contaminate surface waters and soils.

Impacts from Saleable Minerals Management. Road construction, vehicle use, and mineral extraction would increase erosion and sediment production, and decrease soil productivity. Operations in close proximity to perennial water courses would have the potential effect of destabilizing and altering natural stream channels and disrupting the beneficial values of floodplains.

Impacts from Riparian Zones Management. Developing new sources or relocating existing water sources to reduce utilization in riparian areas would result in the local hydrologic and soil conditions being improved.

Impacts from Wildlife Habitat Management. Vegetation treatments, seedings and plantings designed to increase shrub densities on uplands and riparian areas would result in improved hydrologic and soil erosion conditions on these areas.

Impacts from Livestock Grazing Management. Restricting total forage utilization, including livestock utilization, to maintain a minimum stubble height of 6 inches in riparian areas within sage grouse brood habitat, a minimum stubble height of 4 inches in riparian areas with a fishery stream, a minimum stubble height of 2 1/2 inches in all other riparian areas, and to maintain a 40-60% utilization rate on all uplands would stabilize and improve hydrologic and soil conditions.

Eliminating continuous spring, summer, and fall livestock grazing, postponing livestock turnout to June 1 or until range readiness, and limiting fall trailing to four days would improve the soil and hydrologic condition of 7,635 acres of riparian/aquatic areas. Implementing livestock grazing IGMCs (minimum stubble heights and range readiness, limits on total forage utilization) would help establish lower erosion rates and improved watershed and stream channel stability.

Eliminating grazing in portions of North Willow allotments and along Cochetopa Creek would improve hydrologic conditions.

Continuing to manage 320 acres of public land in the Wildcat Creek drainage as unavailable for livestock grazing would help maintain and protect the water quality of Crested Butte.

Vegetation treatments designed to increase ground cover would result in improved hydrologic and soil erosion conditions on these areas.

Impacts from Forest Management. Harvest of forest products and associated road construction would increase sediment production and soil compaction and erosion. Limiting road construction and timber harvests in riparian areas would maintain the existing soil and hydrologic conditions within these zones.

Impacts from Recreation Management. Designating 5,171 more acres of public land as closed to OHV use would reduce sediment yields and erosion rates.

Impacts from Rights-of-Way Management. Excluding rights-of-way development on 54,024 acres, and designating 161,283 acres as avoidance areas would help to minimize accelerated erosion and sediment yields.

Impacts from Fire Management. Wildfires tend to result in short-term increases in sediment production. However, in areas where existing vegetation conditions are poor for watershed protection, fire can allow for a natural vegetation type conversion that provides additional watershed cover/protection. Typically, fire suppression activities, such as fire lines, and the use of suppression vehicles and heavy equipment could decrease watershed productivity by removing or damaging protective vegetation and increasing sediment production.

CUMULATIVE IMPACTS ON SOIL AND WATER RESOURCES

Hydrologic functions of riparian areas, water quality and stream channel stability would be expected to improve in the Long Gulch Demonstration Area, and riparian areas. Future water quantity protection would be provided on 113 miles of fisheries if minimum stream flows are secured. Sediment and erosion rates would be expected to decrease where surface-disturbing activities, including OHV use, are reduced, where basal vegetation cover is improved, and where livestock grazing IGMCs are implemented.

IMPACTS ON RIPARIAN ZONES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Riparian Zones Management. Moving existing watering areas and sources, and restricting development of new water sources in riparian zones would indirectly reduce vegetation utilization levels and the effects of trampling.

Impacts from Locatable Minerals Management. Existing and proposed withdrawals that segregate the federal mineral estate from mineral entry and location would protect about 117 miles of identified riparian zones from potential vegetation loss and other disturbances associated with mining locatable minerals. About 33 of these miles are within areas having a high likelihood for the potential for the occurrence of locatable minerals. The remainder of identified riparian zones, about 617 miles, would be open to mineral entry and location, and if mining were to occur, some loss of vegetation and other mining-associated disturbances could occur. About 96 of these miles are within areas with a high potential for the occurrence of locatable minerals. Reclamation requirements would limit these impacts to the short-term.

Impacts from Saleable Minerals Management. Damage and removal of the riparian vegetation type as a result of surface disturbance associated with mineral material disposal would be minimized by mitigating measures that would limit disturbance to the short-term.

Impacts from Soil and Water Resources Management. Vegetation treatments designed to reduce accelerated soil erosion would enhance riparian areas by reducing the quantity and timing of water and sediment delivery. Acquisition of water rights, where appropriate, including instream flows, would improve the overall condition of riparian areas

by improving the dependability of surface and subsurface water.

Impacts from Livestock Grazing Management. The implementation of IGMCs (total forage utilization limits, minimum stubble heights, and range readiness), the elimination of livestock grazing, including fall use in some areas, and the elimination of some season-long grazing, would result in improved plant vigor, diversity and composition, and an increase in above-ground biomass; streambanks would stabilize, groundwater recharge would increase, and water tables would rise. Implementing these actions would thus result in improved condition in riparian zones.

Impacts from Forest Management. Eliminating commercial timber harvests, and from 250 acres of riparian areas would protect these areas from rutting, compaction, streambank deterioration and channelization.

Impacts from Recreation Management. Restrictions on camping use within the proposed Powderhorn ACEC would prevent excessive trampling, compaction and destruction of vegetation in riparian areas in the proposed Powderhorn ACEC.

The construction of recreation facilities and the subsequent increased visitor use in and adjacent to riparian areas would eliminate riparian vegetation on approximately 50 acres in the planning area.

Impacts from Disposal of Public Lands. Disposal of 25 acres of riparian vegetation included in the 41 tracts of public land identified for potential disposal would not result in a substantial loss of riparian zones.

Impacts from Acquisition of Non-Federal Lands. Acquisition of non-federal lands containing riparian vegetation would enhance riparian management on public land and would prevent development of these areas.

Impacts from Rights-of-Way Management. Excluding rights-of-ways and typical rights-of-way related construction within 1,913 acres of riparian areas would result in these zones being protected from rutting, compaction, streambank deterioration and channelization.

CUMULATIVE IMPACTS ON RIPARIAN ZONES

Mineral withdrawals, IGMCs, elimination of grazing, and restriction on commercial timber harvests would combine to drastically improve most of the 14,933 acres of riparian areas within the planning area.

IMPACTS ON SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS.

Impacts from Special Status Plant and Animal Species and Habitat Management. Special attention that would occur upon designation of the Alpine and South Beaver Creek ACECs would help to protect the existing populations and habitat of skiff milkvetch and the Uncompahgre fritillary butterfly. The research and special studies that would occur would increase knowledge and management effectiveness of these species and their habitats.

Impacts from Locatable Minerals Management. Potential mining activity within Uncompahgre fritillary butterfly habitat could result in the accidental loss of habitat in the disturbed areas. This same accidental loss could result to populations and potential habitat of skiff milkvetch. This chance of loss would probably be minimized by requirements for plans of operation to be submitted in these areas.

Impacts from Oil, Gas, and Geothermal Management. No significant impacts are anticipated from one or two wells. The no surface occupancy stipulations that would be attached to any fluid mineral leases within potential and occupied habitat of the Uncompahgre fritillary butterfly and populations of skiff milkvetch would help prevent loss of these species and their habitat. If any development were to occur, accidental loss of other species or habitat in the disturbed areas could result.

Impacts from Saleable Minerals Management. Not permitting the disposal of mineral materials on occupied and potential habitat of skiff milkvetch (9,900 acres) and the Uncompahgre fritillary butterfly (3,743 acres) would prevent accidental destruction from surface disturbance associated with this activity.

Impacts from Livestock Grazing Management. Eliminating sheep grazing on 3,743 acres of Uncompahgre fritillary butterfly habitat would increase the production of snow willow, a very important habitat requirement for the butterfly.

Impacts from Recreation Management. Limiting OHV use to designated roads in the South Beaver Creek ACEC would help to prevent the accidental destruction of 4,492 acres of skiff milkvetch habitat. This species usually occur in small dense groups making them more susceptible to disturbance.

Limiting OHV use to designated routes within the Uncompahgre fritillary butterfly habitat would prevent accidental destruction of this species habitat on 3,743 acres.

Impacts from Acquisition of Non-Federal Lands and Disposal of Public Lands. Acquiring available non-federal lands containing colonies of skiff milkvetch as necessary would increase the populations on public land by 35%. Not disposing of public lands containing colonies of skiff milkvetch until inventories show sufficient colonies exist on public lands in the planning area would maintain populations of the species on public lands.

CUMULATIVE IMPACTS SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

Designation of two ACECs, limiting OHV use, and eliminating domestic sheep grazing would increase our knowledge about, and would prevent accidental destruction of skiff milkvetch plants and habitat, and habitat of the Uncompahgre fritillary butterfly.

IMPACTS ON TERRESTRIAL WILDLIFE HABITAT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Wildlife Habitat Management. Land treatment projects, water developments and managing elk and deer populations would increase wildlife forage quality and availability to help meet CDOW long-term elk and deer herd goals. Improvement of habitat quality would improve big game distribution, reduce stress on big game, and decrease forage utilization levels.

Reducing the deer population within the highway livestock grazing allotment, No. 6056, by 50% would improve the quality of winter habitat.

Interseeding and land treatment projects in the sagebrush vegetation type within pronghorn antelope yearlong range would provide sufficient forage for an additional 200 animals (500 total) yearlong to increase the antelope population from 300 to 500 animals yearlong.

Modifying existing allotment and pasture fences in pronghorn antelope yearlong ranges would provide access to additional pronghorn antelope habitat and forage.

Impacts from Locatable Minerals Management. Withdrawing 58,369 acres from mineral entry and location would reduce the potential for habitat loss of all wildlife species on these lands from mineral development.

Road construction, surface disturbance, and increased human activity that potentially would accompany locatable mineral development would eliminate habitat, alter use patterns, increase stress and disrupt nesting and breeding seasons of a wide variety of game and non-game species. The impact of mining activities would be greatest where bighorn sheep habitat, crucial elk and deer winter range and sage grouse lek areas occur on lands with a high potential for the occurrence of locatable minerals.

Impacts from Saleable Minerals Management. Seasonal restrictions on authorizations for mineral material disposal would protect sage grouse broodrearing areas and big game crucial winter range from disturbance during critical times of the year.

Not permitting mineral material disposal on sage grouse strutting grounds would protect these areas from surface disturbance associated with this activity.

Impacts from Soil and Water Resources Management. Increasing ground cover in the sagebrush vegetation type would improve hiding and nesting cover for sage grouse and other non-game

species. Land treatment projects which result in decreasing sagebrush cover below 25% would preclude these areas from being used for sage grouse nesting and would decrease sage grouse wintering habitat.

Impacts from Riparian Zones Management. Moving existing watering facilities out of riparian areas would improve these ares for sage grouse brooding and nesting.

Impacts from Livestock Grazing Management. Restricting total forage utilization in order to maintain minimum stubble heights of 6 inches in riparian areas within sage grouse brood habitat, 4 inches in riparian areas with a fishery stream, and 2 1/2 inches in all other riparian areas, and to maintain a 40-60% utilization rate on all uplands would improve big game forage quality, and forage diversity and nesting and brood cover for sage grouse and non-game species.

Eliminating livestock grazing in the North Willow Creek drainage would improve winter forage and thermal cover by 70-100% on 76 acres of crucial winter range.

Continuing to not authorize livestock grazing along 5 miles of Cochetopa Creek would increase winter forage for deer, reduce disturbance to bighorn sheep, and improve cover and forage diversity for all wildlife species. Prohibiting fall livestock use within the proposed East Gunnison ACEC would increase forage availability for wintering big game.

Excluding season-long livestock grazing on 61,061 suitable acres in EMU 551 in units B-9 and B-11 would provide additional habitat for sage grouse and would increase forage for wintering antelope, elk, and deer. Prohibiting domestic sheep grazing in the highway grazing allotment, No 6056, would decrease total browse utilization and forage competition between domestic sheep and wintering deer.

Eliminating domestic sheep grazing on bighorn sheep habitat within the Alpine ACEC and within grazing allotment 6112 (25,664 suitable acres) would eliminate most of the possibility of disease transfer between the two sheep species and would increase available forage for bighorn sheep on these lands.

Eliminating livestock grazing on 837 suitable acres from allotment 6200 would increase forage for bighorn sheep, elk and deer.

Impacts from Forest Management. Prohibiting commercial timber harvests from May 1 through June 30 in elk calving areas would prevent disturbance to calving elk from logging during the calving season.

Prohibiting commercial timber harvests in riparian areas would help maintain non-game habitat and species diversity.

Harvesting ponderosa pine and douglas fir on a sustained yield basis would decrease big game thermal and hiding cover by 100-150 acres per year.

Maintaining 70% cover along new roads constructed for commercial timber harvests would maintain the surrounding area for summer elk habitat.

Impacts from Recreation Management. Development of campsites and the associated increase in use along Cochetopa Creek would eliminate bighorn sheep use within 1/2 miles of developed areas, and would deter raptor use.

Increased visitor use within the proposed Alpine ACEC would alter bighorn sheep and elk use patterns, resulting in the loss of habitat and overutilization of forage species in the remaining areas, especially along Henson Creek and the upper Lake Fork of the Gunnison River.

Designating 600 acres of public land within and adjacent to the Sapinero State Wildlife Area as closed to OHV use would ensure OHV management consistency with the adjoining CDOW land and would improve management of the area.

Limiting OHV use from December 1 through March 31 to designated roads, when necessary, on 56,297 acres of crucial elk and deer winter range in units B-5 and B-6 would prevent disturbance to these animals during the most critical portion of the year.

Impacts from Transportation and Access. Acquiring public road access into the Rock Creek Park area

would disrupt bighorn sheep lambing areas and would force the herd onto marginal habitat.

Impacts from Acquisition of Non-Federal Lands. The acquisition of private lands containing crucial elk and deer winter range would prevent the loss of habitat through potential subdivision development and human activities.

Impacts from Rights-of-Way Management. Prohibiting rights-of-way development within 1/4 mile of sage grouse leks would protect these areas from disturbance and possible destruction.

CUMULATIVE IMPACTS ON TERRESTRIAL WILDLIFE HABITAT

Management actions identified in this alternative would greatly improve wildlife habitat conditions. Big game habitat in all areas would improve through elimination of grazing and implementation of seasonal stipulations for crucial winter range, calving areas, lambing areas, and wildlife habitat management.

Upland bird habitat would be enhanced through seasonal and other protective measures within leks and wintering areas.

Non-game species habitat would be increased through improvement of riparian areas and increased habitat diversity.

IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Mineral entry and location being precluded on 58,369 acres of withdrawn federal mineral estate would prevent possible loss of fishery habitat due to mining activities and associated road construction on effected fisheries. Loss of fishery habitat due to sedimentation and channelization would be greatest if mineral development were to occur in alluvial soils along or in streambanks.

Impacts from Saleable Minerals Management. Fishery streams would be protected by mitigating measures designed to limit disturbance to the associated riparian vegetation from this activity on lands available for mineral material disposal (670,065 acres).

Impacts from Soil and Water Resources Management. Vegetation treatments designed to reduce soil erosion would enhance aquatic habitat by decreasing the amount and frequency of sediments entering the streams.

Acquisition of water rights, including instream flows, would ensure sufficient water to maintain the present fish population.

Impacts from Livestock Grazing Management. Implementing IGMCs, excluding livestock grazing within some areas, and elimination of season-long livestock grazing use would decrease sedimentation of fishery streams, help stabilize streambanks and increase overhanging cover. Fishery habitat would improve through the improvement of water quality and increases in aquatic vegetation and insects.

Impacts from Forest Management. Eliminating commercial timber harvests from riparian areas would protect the associated fishery streams from siltation, channelization and streambank deterioration.

Impacts from Recreation Management. The construction of recreation facilities and increased recreational use of fishery streams would cause the loss or reduction in quality to fishery habitat along 3.5 miles of streams.

Impacts from Rights-of-Way Management. Designating lands as rights-of-way avoidance areas or excluding rights-of-way construction on 215,307 acres would help prevent siltation and streambank deterioration on effected fisheries.

CUMULATIVE IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)

Management actions described in this alternative, primarily the protection of streams from construction activities and implementing IGMCs would enhance

fishery habitat within the majority of streams within the planning area.

IMPACTS ON LIVESTOCK GRAZING MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Livestock Grazing Management. Livestock forage in the Planning Area would be expected to improve in quantity and quality over the life of the plan by implementing AMPs or CRMAPs, maintaining existing treatments and projects in some units, and indirectly, by improved livestock distribution patterns by implementing 6", 4" and 2-1/2" minimum stubble heights in riparian areas, 40-60% forage utilization rates on all uplands and range readiness. More intensive livestock management and use supervision would be necessary.

Impacts from Soils and Water Resource Management. Vegetation treatments designed to increase plant basal cover, and implementing soil erosion and watershed mitigation measures would increase forage quality and help improve livestock distribution over the life of the plan. Allocation of all additional available forage to meet watershed objectives first, and then wildlife needs, would potentially result in livestock grazing treatments or projects being deferred or not developed

Impacts from Riparian Zones Management. Not authorizing livestock grazing on about three miles, or 76 acres, of the North Willow Creek riparian zone to improve big game forage and fishery habitat in unit B-5 would reduce livestock utilization by about 38 AUMs.

Maintaining a 6" stubble height on about 1,660 acres in unit B-10 would result in a reduction of 166 AUMs and would require more intensive livestock management.

Managing livestock forage utilization to maintain a 4" stubble height on about 131 miles or about 2,364 suitable acres of important fishery habitat could result in a reduction of 236 AUMs and more intensive livestock management.

Requiring livestock treatments and management to meet riparian management objectives would probably increase costs and time for planning and implementation of treatments, or possibly operators' costs, for livestock management on these lands.

Implementing riparian zone management actions and other mitigation would, over the life of the plan, improve and increase available forage.

Impacts from Wildlife Habitat Management. Maintaining existing treatments and developing new wildlife treatments on uplands and within riparian areas, allocating new available forage to meet watershed objective first, potentially reducing big game numbers in GMUs 54, 55, 551, and a part of GMU 64, and implementing other wildlife mitigation measures would result in improved livestock distribution and forage quality over the life of the plan.

Prohibiting domestic sheep grazing on the highway allotment No. 6056, to reduce forage competition with deer, and within 19,387 suitable acres on bighorn sheep habitat within the proposed Alpine ACEC to prevent disease transfer to bighorn sheep would result in the cancellation of grazing permits on allotments 6056, 6502, 6503, 6504, 6506, 6507, and 6509. This would reduce livestock allocations by 107 and 3,502 AUMs respectively, due to the unsuitability of using these areas for other domestic livestock grazing.

Eliminating all domestic livestock grazing on 837 suitable acres in allotment 6200 in unit B-5 and on lands managed by the NPS, in order to improve crucial big game winter range would reduce livestock allocations by 114 AUMs.

Not authorizing domestic sheep grazing on 5,717 suitable acres in allotments 6100 and 6101 in unit B-14, where permitted, in order to reduce trampling within sage grouse nesting habitat and reduce disturbance to nesting grouse, would result in a reduction of 1,025 AUMs.

Not authorizing domestic sheep grazing in order to prevent disease transfer to bighorn sheep on 6,277 suitable acres in allotment 6112 in unit B-1 and in unit B-13 would result in a change of class of livestock to

cattle only in affected allotments, and would require additional livestock facilities if cattle are grazed. Not authorizing domestic sheep use on 46,042 suitable acres in unit B-11 in order to help improve and maintain pronghorn antelope habitat would also result in a change of class of livestock to cattle only.

Restricting livestock management on 80,918 suitable acres and restricting treatments on 185,918 suitable acres for wildlife management would possibly increase costs and time for planning and implementation or operator's costs for livestock management.

Eliminating two-week fall livestock use and permitting only four days of fall use in GMUs 55 and 551 could result in a reduction of AUMs or increases in the springtime season of use.

Impacts from Fishery Resources (Aquatic Habitat Management). Pursuing and acquiring instream flow appropriations for fishery streams and implementing fishery resource mitigating measures in activity plans to improve upon or prevent damage to or loss of fishery stream channels and associated riparian resources would indirectly improve forage quantity and quality, over the life of the plan.

Other companion impacts from fishery resource management are discussed under Impacts from Riparian Zone Management.

Impacts from Forest Management. Commercial timber and woodland harvests would, over the life of the plan, increase forage and help improve livestock distribution on some of the 39,442 acres of suitable commercial forest lands and 24,405 acres of suitable woodlands available for harvest. Mitigating measures and harvest restrictions, especially within riparian areas, would help limit removal of forage in affected areas during harvesting of forest products.

Impacts from Recreation Management. Restricting livestock grazing treatments on about 43,944 acres and restricting livestock administration on about 31,007 acres to maintain and enhance recreation settings would limit the scope of these future proposals and possibly increase BLM's or operator's management and use supervision time or costs. Designation of 48,633 acres of public land as closed to OHV traffic, and limiting OHV traffic on 92,927 acres to designated routes yearlong would reduce livestock harassment and management concerns.

Eliminating grazing on 320 acres (167 suitable) in allotment 6401 along the Slate River would result in a reduction of about 83 AUMs.

Impacts from Transportation and Access. Acquiring access into seven new acres would improve livestock grazing administration, but 5 of the 7 would be for public access, which would result in some degree of additional livestock harassment and vandalism to livestock facilities.

Impacts from Disposal of Public Lands. Disposal of 3,129 acres of public lands on tracts identified for disposal which are currently grazed by domestic livestock would result in a reduction or loss of 209 AUMs.

CUMULATIVE IMPACTS ON LIVESTOCK GRAZING MANAGEMENT

Eliminating or not authorizing livestock grazing, implementing minimum stubble heights and seasonal grazing restrictions, and disposal of public lands would result in a net decrease of 5,480 AUMs in the Planning Area, and a total grazing preference of 41,948 AUMs. Long-term livestock forage productivity and livestock distribution would be improved as a result of vegetative treatments and improvements in forage quality and quantity.

IMPACTS ON FOREST MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Forest Management. Approximately 39,442 acres of suitable commercial forest lands and 24,405 acres of suitable woodlands would be available for harvest. This would result in an annual harvest of 1,189 MBF of commercial forest products and 505 cords of fuelwood.

Impacts from Riparian Zone Management. Restrictions on timber harvests within riparian areas would remove 250 acres from the harvest base,

resulting in an annual loss of 7.5 MBF of commercial timber per year being available for harvest.

Impacts from Wildlife Habitat Management. Restrictions on timber harvests from May 1 to June 30 in elk calving areas would shorten the usual six-month harvest season by one-third.

Restricting harvest of ponderosa pine stands by 30% for non-game habitat management would remove 1,000 acres from the timber base resulting in 30 MBF of Ponderosa Pine per year being unavailable for harvest.

Protective stipulations for goshawk nests, if present, would result in suitable commercial forest lands being unavailable for harvest. If an estimated 10 goshawk nests are located, 1,260 acres would be removed from the timber base resulting in 38 MBF per year being unavailable for harvest. Protecting other raptor nest sites would remove 500 acres from the timber base resulting in 15 MBF per year being unavailable for harvest.

Limiting road construction to 1.5 miles per square mile to reduce stress on calving elk in unit B-12 would preclude harvest on approximately 500 acres of suitable commercial forest lands which would result in 20 MBF per year being unavailable for harvest.

Impacts from Livestock Grazing Management. Livestock utilization and trampling of approximately 400 acres would continue on lands needing reforestation, that is, on lands classified as poorly stocked.

Impacts from Recreation Management. Increasing recreational use on High Mesa would create a serious safety hazard along the switchbacks on the High Mesa Road because of logging trucks going downhill meeting recreational vehicles going uphill.

Restrictions on timber harvests to enhance recreation and ROS settings in units B-1 and B-2 would eliminate harvest on 14,527 acres of commercial timber, resulting in an annual harvest reduction of 435 MBF.

Impacts from Visual Resource Management. Managing the High Mesa area under VRM Class II objectives would limit harvest methods to only selective cuts. Opportunities to harvest bug-killed areas or burned over areas would be eliminated.

Implementing commercial timber harvests to meet VRM class II objectives in unit B-7 would remove about 1,500 acres from the commercial timber base resulting in 45 MBF being unavailable for harvest annually.

Impacts from Disposal of Public Lands. A total of 153 acres of suitable commercial forest lands would no longer be in public ownership. This would result in 5 MBF per year being unavailable for harvest.

CUMULATIVE IMPACTS ON FOREST MANAGEMENT

Restrictions on timber harvests would eliminate sustained yield harvest on 19,670 acres of suitable commercial forest lands resulting in 590 MBF per year being unavailable for harvest. A total of 39,442 acres of suitable commercial forest lands would be managed for sustained yield production which would result in an annual harvest of 1,180 MBF. An additional 5,143 acres of suitable woodlands would be available for harvest annually (24,405 acres total), potentially increasing annual harvest by 105 cords, for a total of 505 cords annually. Other forest products would also be available for harvest (Christmas trees, wildings, etc.).

IMPACTS ON RECREATION

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Recreation Management. Additional and improved campground facilities, improved hiking trails, and increased visitor contacts would enhance visitor use, enjoyment and understanding of resources in the Planning Area. If a joint BLM/USFS visitor center is eventually constructed in Lake City, recreation management effectiveness and general public education and awareness of BLM management would be greatly improved in the Planning Area, especially in the south and west portions.

About 5,171 more acres would be closed to OHV traffic and open areas would decrease by 5,171 acres. Other designations would not change from Alternative A.

Closing the Powderhorn ACEC to OHV use and limiting camping use in the ACEC to designated sites would preserve primitive recreational settings.

Special management attention being implemented in the Alpine, Powderhorn, and Lake Fork ACECs would help enhance and maintain ACEC and recreation values. Plans of operation for locatable mineral activity being required in the Alpine, Lake Fork, South Beaver Creek, East Gunnison, and West Antelope Creek ACECs would provide more control of surface disturbance and reclamation plans for recreation resources in these areas.

Impacts from Locatable Minerals Management. Withdrawing 58,369 acres of federal mineral estate from mineral entry and location would preclude any possible mineral exploration or development and would protect the integrity of recreation settings and experiences on these lands from disturbance associated with mining. About 5,400 of these acres have a high likelihood for the occurrence of locatable minerals. Identifying 99,600 acres of lands with a high potential for the occurrence of locatable minerals as open to mineral entry and location could significantly alter recreation settings and experiences where mining occurs.

Impacts from Saleable Minerals Management. Adverse impacts to recreation settings and experiences from surface disturbance associated with mineral material disposal would be minimized by mitigating measures being applied to disposal authorizations. About 670,065 acres would be available for mineral material disposal.

Impacts from Special Status Plant and Animal Species and Habitat Management. Limiting OHV use to designated routes on 4,625 acres in the South Beaver Creek ACEC would restrict this use in an area previously open to OHV use.

Impacts from Wildlife Habitat and Fishery Resources (Aquatic Habitat) Management. Improvement of Wildlife habitat through land treatment projects, seedings, and stream rehabilitation would result in marginal increases in the numbers of recreationists, primarily fishers and hunters.

Impacts from Wild and Scenic River Study Segment Recommendation. If eventually designated into the National Wild and Scenic Rivers System, awareness of Segment A of the Lake Fork of the Gunnison River and the recognition the stream would receive would result in some increase of motorized vehicular traffic from visitors, and an increase in hikers to Sloan Lake and the American Basin drainage. Opportunities for solitude could be diminished, and other visitors may choose different lands for recreation experiences in a less crowded environment.

Impacts from Visual Resource Management. Managing 6,000 acres at the Hartman Rocks area under VRM Class III objectives and 4,358 acres at High Mesa under VRM class II objectives would maintain the recreation setting and scenic quality on lands highly valued by recreational visitors.

Impacts from Historical Resource Management. The identification, stabilization and interpretation of historical resources would significantly enhance the setting and experience of recreation visitors.

Impacts from Transportation and Access. Acquisition of new public access into nine areas would increase recreational visitor use and would make available more public lands for recreation activities such as hunting, sightseeing and OHV use.

Impacts from Acquisition of Non-Federal Lands. The acquisition of inholdings and lands with significant recreation resources would expand recreational opportunities and would eliminate potential private development.

CUMULATIVE IMPACTS ON RECREATION

Improved recreation facilities and development of additional campgrounds would increase the number of visitors to this area by an estimated 50% over the life of this plan. Public lands would be managed for a wide variety of recreation opportunities and activities. Locatable mineral activity and above-ground rights-of-way development would result in deterioration of recreation settings if surface disturbance and

vegetation removal occurs from potential development, and a loss of actual recreation opportunities on affected lands would occur.

IMPACTS ON OUTSTANDINGLY REMARKABLE SCENIC VALUES IN SEGMENT A, LAKE FORK OF THE GUNNISON RIVER WILD AND SCENIC RIVER STUDY CORRIDOR

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from the Recommendation. In this alternative, the 13.3 mile Segment A of the Lake Fork of the Gunnison River from Sloan Lake to Wager Gulch WOULD BE RECOMMENDED as being suitable for inclusion into the National Wild and Scenic Rivers System (NWSRS). The resultant potential and significant impacts to the outstandingly remarkable scenic values (values) that qualify this segment to be eligible for inclusion are discussed below. Interim management in Alternative B would protect values from all discretionary actions that might result in adverse impacts that could cause these values not to be present at the time Congress decides upon designation or non-designation. If eventually designated into the NWSRS by Congress, the segment would be recognized and managed under the "recreation" classification (assuming this classification would be adopted in designation legislation). Management actions would be developed to address permanent river management needs, and would be incorporated into the Alpine ACEC Management Plan, or a separate plan for the segment.

Impacts from Locatable Minerals Management. If mineral activity occurs on federal mineral estate on about 2,075 acres not currently withdrawn or proposed to be withdrawn within the segment in this alternative, values would be altered. The alteration would occur on lands located outside the existing "Loop Road" withdrawal C-0125423 or the proposed American Basin ACEC (proposed to also be withdrawn). Impacts would be greatest if vegetation removal or land form changes occur. The lands that would not be withdrawn have a high potential for the occurrence of locatable minerals. Required reclamation would limit impacts to the short-term.

Impacts from Wildlife Habitat Management. Eliminating domestic sheep grazing on bighorn sheep habitat to enhance the species would in turn result in a more naturally appearing landscape on 1,915 acres in the segment.

Impacts from Recreation Management. Increased visitation over the life of the plan of about 20% under this alternative, in addition to that in Alternative A, would result in some slightly greater impacts to scenic values along the road and river, primarily as a result of physical impacts caused by increased numbers of people and motorized vehicular use off designated routes, and the actual increase in the presence of vehicles and people. Scenic impacts from OHV use off designated routes would be mitigated by implementing patrols and other actions in the management plan for the Alpine Triangle Special Recreation Management Area (SRMA). Values would receive special management attention as a result of being located within the Alpine ACEC (proposed). Plans of Operation would be required relative to locatable mineral activity as a result of ACEC designation also, which would permit more time and design input into required reasonable reclamation.

Impacts from Wilderness Study Area Management. Impacts in this alternative are analyzed assuming that WSA status would not be in effect, in the event Congress acts on and decides not to designate any part of any WSA as wilderness. If any part of Segment A is contained within any designated wilderness, the lands therein would be managed as wilderness. Refer to **Impacts from WSA Management** in the discussion of impacts of Alternative A (Continuation of Current Management) for impacts applicable to all alternatives, as long as WSA status applies.

Impacts from Rights-of-Way Management. Managing the lands as a rights-of-way avoidance area would result in few surface-disturbing activities from this land use. Rights-of-way are now excluded in the "Loop Road" withdrawal.

Impacts from Withdrawals and Classifications. Continuing the BLM protective withdrawal C-0125423, and affecting the withdrawal in the American Basin ACEC, would preclude most surface-disturbing activities on 1,907 of the 4,315 acres of public land, which would in turn protect values on these lands. Upon the President's recommendation to Congress for designation, a temporary three-year withdrawal would take effect that would segregate, (1) the federal mineral estate from entry and location under the general mining laws, and (2) the federal surface estate from future appropriation under the general land laws, thereby protecting all values in the segment from surface disturbance for this period.

CUMULATIVE IMPACTS ON VALUES IN SEGMENT A

Increased recreation use, primarily off-highway vehicle use, could result in some increase of impacts to scenic values. Impacts from other activities would be offset by required compliance with BLM's surface management regulations for locatable mineral activity, special management attention that would be contained in the ACEC plan, and actions in the management plan for the Alpine SRMA.

If designation occurs, more attention and recognition would bring in more visitors, potentially resulting in more impacts to scenic values.

IMPACTS ON VISUAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Visual Resource Management. Managing 4,358 acres in the High Mesa area under VRM Class II objectives and 6,000 acres in the Hartman Rocks area under VRM Class III objectives would improve the scenic quality of the areas and reduce visually intrusive uses.

CUMULATIVE IMPACTS ON VISUAL RESOURCES

The scenic quality would be improved or maintained on 10,358 acres of VRM Class I and II land due to the changes in management objectives. Visual impacts would be mitigated on a variety of VRM classes throughout the Planning Area.

IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL RESOURCES (CULTURAL RESOURCES)

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Archaeological and Historical Resources Management. The gathering of archaeological or historical information required by law in response to project development or proposed disturbance would contribute to the current knowledge and data base. However, any physical disturbance and extraction of information from sites, other than that for documentation, would remove that data from context, and destroy the integrity of sites.

A projected 50% increase in recreational visitor use would be expected to result in some increase in site degradation. Education and interpretation would reduce these impacts.

CUMULATIVE IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL RESOURCES (CULTURAL RESOURCES)

Existing policies, procedures, and regulations would provide for the protection, preservation and enhancement of sites from authorized projects. Effects from other dispersed activities, and nature, are not subject to standard operating procedures, thus these effects would not be mitigated and preventative or corrective actions would be implemented. Increased visitor use would result in an increased vandalism, theft, and destruction of sites.

IMPACTS ON RIGHTS-OF-WAY AND RIGHTS-OF-WAY CORRIDORS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Rights-of-Way and Rights-of-Way Corridor Management. Designation of an east to west rights-of-way corridor would allow major utility

applicants to plan for and design projects without the need to investigate and analyze alternate routes.

Designation of 54,024 acres and 161,283 acres as rights-of-way exclusion and avoidance areas would respectively result in additional costs to utility companies in planning, designing, and constructing facilities around these areas.

Seasonal restrictions on rights-of-way related construction could increase proponents' costs.

CUMULATIVE IMPACTS ON RIGHTS-OF-WAY AND RIGHTS-OF-WAY CORRIDORS

Designating 215,307 acres of public land as either rights-of-way exclusion or avoidance areas, and restricting rights-of-way related construction on 134,970 acres seasonally would increase the cost of these projects. Designating an east-west corridor would decrease the cost of those projects which would be authorized in the corridor.

SHORT-TERM USE VS LONG-TERM PRODUCTIVITY

Trade-offs between short-term uses and long-term productivity of resources have been identified. For this analysis, short-term refers to the period of implementation of this plan which is approximately 10 years, and long-term refers to at least a 20-year period or beyond, during which the adverse or beneficial impacts of the proposal would still occur.

MINERAL RESOURCES

Locatable mineral development would be constrained by withdrawals, resulting in a long-term loss or delay in mineral production on effected lands.

SOIL AND WATER RESOURCES

Mineral development would potentially result in some increases in long-term erosion and sediment yields and possibly some decrease in the quality of surface waters from mine discharge and spoil pile runoff. Some loss in soil productivity would be expected in areas where surface disturbing activities are proposed. Riparian zones proposed for intensive management from a variety of resource programs would experience improved soil and water resource conditions.

The loss of soil through wind and water erosion would be irretrievable.

RIPARIAN RESOURCES

Implementing IGMCs and changes in livestock grazing forage utilization and other resource management would result in long-term improvement in riparian vegetation conditions.

LIVESTOCK GRAZING

Restrictions on livestock grazing administration, treatment development, total forage utilization on uplands and in riparian zones and eliminations or reductions in livestock forage allocations would reduce carrying capacities but would result in long-term forage productivity gains.

WILDLIFE HABITAT

Big game, upland bird, and non-game habitat would be improved under this alternative. Colorado Division of Wildlife long-term herd goals for elk and deer on public lands would be achieved. A marked improvement in fishery streams and increases in fish and other restrictions in riparian areas would be realized primarily due to the reduction of livestock forage utilization in riparian areas.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Irreversible or irretrievable commitments of resources occur when a wide range of future management options are precluded. This section identifies the extent to which the alternatives would irreversibly limit potential resource uses. The individual alternative impacts sections identify those decisions which apply to a particular alternative and the magnitude of the impact.

MINERAL RESOURCES

Once a particular area has been committed to a single, non-mineral use, it is not likely that the use

would be reversed. Thus, mineral deposits within these areas would be irreversibly committed to not being developed and would be unavailable.

SOIL AND WATER RESOURCES

The loss of soil through wind and water erosion would be irretrievable.

VISUAL RESOURCES

Construction of permanent structures such as roads, buildings, and powerlines would result in an irretrievable loss of visual resources.

ARCHAEOLOGICAL AND HISTORICAL RESOURCES

The loss of archaeological or historical sites and information would be irretrievable.

DISPOSAL OF PUBLIC LANDS

Disposal of public lands would result in a loss of administrative control of all resource values on these lands except any valid existing rights and existing land use authorizations.

IMPACTS OF ALTERNATIVE C

IMPACTS ON SOCIAL AND ECONOMIC CONDITIONS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Oil, Gas and Geothermal Management. The Planning Area would not experience measurable social or economic impacts because of the low potential for occurrence of these resources.

Impacts from Wildlife Habitat Management. Any loss in wildlife habitat could result in loss of game populations and a loss in associated recreational activities could lead to some decreases in Planning Area income and employment.

Impacts from Livestock Grazing Management. An increase of 4,256 AUMs could result in financial benefits for the affected ranching operations.

Impacts from Forest Management. The potential sale of 1,770 MBF of commercial timber annually would support Planning Area income and employment and produce $44,000 annually in federal revenue.

Impacts from Recreation Management. Economic benefits from recreation opportunities would be lost. The overall loss from decreases in recreation activities would occur in those businesses providing tourist and recreation sales and services.

CUMULATIVE IMPACTS ON SOCIAL AND ECONOMIC CONDITIONS

The cumulative impact on the local economy is likely to be negative but not large. The actual impact is localized but not presently quantified.

IMPACTS ON LOCATABLE MINERALS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Identifying the entire federal mineral estate in the Planning Area, 728,567 acres, of which 110,528 acres have a high likelihood for the occurrence of locatable minerals, as open to mineral entry and location would make these lands available for exploration and development under the general mining laws.

IMPACTS ON OIL, GAS, AND GEOTHERMAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Oil, Gas, and Geothermal Management. Managing 726,918 acres of federal oil and gas estate as open to the leasing of fluid minerals would make these resources available.

IMPACTS ON SALEABLE MINERALS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Saleable Minerals Management. Permitting the disposal of saleable mineral materials on 720,881 acres of federal mineral estate would more than satisfy the current demand of 12,500 cubic yards annually and meet the anticipated future demand.

IMPACTS ON SOIL AND WATER RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Soil and Water Resources Management. Continuing the implementation of the "Long Gulch Sediment Control and Riparian Habitat Improvement Project" would result in downstream sediment yields being reduced by up to 300 tons per year, increased vegetation production for watershed protection, improvement of the hydrologic functions of riparian zones by raising the alluvial water table, and some downstream flood control benefits by reducing peak flows from runoff events.

Implementing erosion control projects that are designed to increase plant basal cover on uplands would indirectly result in improved watershed conditions.

Securing minimum stream flows would protect water quality and hydrologic functions of adjacent riparian areas.

Impacts from Locatable Minerals Management. If mineral development occurs on 728,567 acres in the Planning Area identified as open to mineral entry and location, increased sedimentation and physical damage to stream beds or banks could potentially result. These impacts would most likely occur somewhere within the 110,528 acres that have a high likelihood for the occurrence of locatable minerals. Physical disturbance to stream channels and increases in sedimentation would be greatest from placer mining operations. Heavy metal contamination of surface water is possible from mine water discharges and spoil-pile runoff. Heavy metal pollution is usually associated with mine drainage resulting from the oxidation of pyrite. The highest potential for this situation to occur is on 1,200 acres near Iris and Midway. Underground mining operation could create the potential for ground water aquifer dewatering and mixing of water from different aquifers, diminishing both groundwater quantity and quality.

Impacts from Oil, Gas, and Geothermal Management. No significant environmental impacts are anticipated from one or two wells. If any development were to occur, surface-disturbing activities such as road and drill pad construction could result in increased sediment yields. Accidental fluid discharges during drilling operations, such as produced water, could contaminate surface waters and soils.

Impacts from Saleable Minerals Management. Road construction, vehicle use, and surface disturbance associated with mineral material disposal would increase erosion and sediment production, and decrease soil productivity. Operations in close proximity to perennial water courses would have the potential effect of destabilizing and altering natural stream channels and disrupting the beneficial values of floodplains.

Impacts from Riparian Zones Management. Developing new water sources or modifying existing water sources to reduce concentrated forage utilization in riparian areas would result in the local hydrologic and soil conditions being improved.

Impacts from Wildlife Habitat Management. Vegetation treatments, seedings and plantings designed to increase shrub densities on uplands and riparian areas would result in improved hydrologic and soil erosion conditions on these areas.

Impacts from Livestock Grazing Management. Restricting total forage utilization, including livestock utilization, to 40-60% of the current year's growth of key forage species would stabilize and improve hydrologic and soil conditions.

Implementation of IGMCs would benefit soil and water resources on uplands and riparian areas by

reducing sediment and erosion rates, increasing stream channel stability, and improving water quality.

Eliminating grazing on riparian vegetation on unit C-11 would improve hydrologic conditions.

Continuing to manage 320 acres of public land in the Wildcat Creek drainage as unavailable for livestock grazing would help maintain and protect the water quality of Crested Butte.

Vegetation treatments designed to increase ground cover would result in improved hydrologic and soil erosion conditions on these areas.

Impacts from Forest Management. Harvest of forest products and associated road construction would increase sediment production and soil compaction on approximately 59,000 acres of commercial forest lands.

Impacts from Recreation Management. Managing 135,789 more acres as open to OHV use would increase sediment yields and erosion rates.

Impacts from Rights-of-Way Management. Identifying 6,150 acres as rights-of-way avoidance areas and 120 acres exclusion areas would help minimize erosion and sediment yields. The remainder of the Planning Area would experience some increase in sediment production and erosion rates. Impacts would occur at stream channel crossings and when construction activities occur during periods of high soil moisture.

Impacts from Fire Management. Wildfires tend to result in short-term increases in sediment production. However, in areas where existing vegetation conditions are poor for watershed protection, fire can allow for a natural vegetation type conversion that provides additional watershed cover/protection. Typical fire suppression activities, such as the clearing of fire lines, and the use of fire suppression vehicles and heavy equipment could decrease watershed productivity by removing or damaging protective vegetation and increasing sediment production.

CUMULATIVE IMPACTS ON SOIL AND WATER RESOURCES

Hydrologic functions of riparian areas, water quality and stream channel stability would be expected to improve in the Long Gulch Demonstration Area, and riparian areas. Future water quantity protection would be provided where minimum stream flows are secured. Sediment and erosion rates would be expected to decrease where surface-disturbing activities are reduced and where basal vegetation cover is improved, and where IGMC's are implemented. Sediment and erosion rates would be expected to increase as a result of more acres open to OHV use.

IMPACTS ON RIPARIAN ZONES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Riparian Zones Management. Moving existing watering areas and sources and restricting development of new water sources in riparian zones would indirectly reduce vegetation utilization levels and the effects of trampling.

Impacts from Locatable Minerals Management. Federal mineral estate along about 734 miles of identified riparian zones would be open to mineral entry and location, as a result of all protective withdrawals being revoked, which could result in some loss of vegetation and other mining associated disturbances. About 129 of these miles are located within areas with a high potential for the occurrence of locatable minerals. Reclamation requirements would limit these impacts to the short-term, in most instances.

Impacts from Saleable Minerals Management. Damage or removal of riparian vegetation would occur as a result of surface disturbance from mineral material disposal in riparian areas.

Impacts from Soil and Water Resources Management. Vegetation treatments designed to increase plant basal cover and reduce soil erosion in

uplands would indirectly enhance riparian areas by reducing the quantity and timing of water and sediment delivery. Acquisition of water rights, including instream flows, would improve the dependability of surface and sub-surface water.

Impacts from Livestock Grazing Management. Implementing total forage utilization limits would initiate an improvement in the vigor and production of grasses, forbs and shrubs. The majority of streambanks in poor condition would stabilize and begin healing as a result of the increase in grasses that would occur.

Implementation of a total forage utilization level, including utilization by livestock within riparian areas in good to excellent condition, most of which are currently ungrazed by livestock, would result in some physical damage to plants and stream banks. Livestock grazing at this utilization level would also modify the composition of plant communities in these riparian zones.

Impacts from Forest Management. Timber harvests and associated activities in riparian areas would cause damage to and loss of soils and vegetation due to the construction of roads and skid trail. Roads and skid trails would erode, channeling amounts of runoff and sediment loads greater than riparian systems can accommodate without damage. The removal of trees in riparian areas would change the ecological status through the reduction and alteration of the diversity of plant and animal species.

Impacts from Recreation Management. The construction of recreation facilities and the subsequent increased visitor use in and adjacent to riparian areas would eliminate riparian vegetation on approximately 50 acres. Increased acreage open to OHV use (135,789 acres) could result in additional vegetation damage or other riparian zone impacts.

Impacts from Disposal of Public Lands. Disposal of 63 tracts identified for potential disposal would not result in a substantial loss of riparian areas or vegetation.

Impacts from Acquisition of Non-Federal Lands. Acquisition of private lands containing riparian vegetation would enhance riparian management on public land and would prevent development of these areas.

CUMULATIVE IMPACTS ON RIPARIAN ZONES

This alternative would result in a stabilization of, and in some areas and improvement in, the condition of riparian zones. The majority of this improvement would be the result of implementing total forage utilization limits in riparian areas.

IMPACTS ON SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Potential mining activity within Uncompahgre fritillary butterfly habitat could result in the accidental loss of habitat in the disturbed areas.

Impacts from Oil, Gas, and Geothermal Management. No significant impacts are anticipated from one or two wells. If any development were to occur, accidental loss of habitat in the disturbed areas could result.

Impacts from Saleable Minerals Management. Disposal of mineral material on occupied or potential habitat of skiff milkvetch (9,900 acres) and the Uncompahgre fritillary butterfly (3,743 acres) could result in the accidental destruction of these species and their habitat as a result of surface disturbance.

Impacts from Recreation Management. Off-highway vehicle use along South Beaver Creek and in the Silver Creek drainage would result in the accidental destruction of skiff milkvetch and Uncompahgre fritillary butterfly habitat.

Impacts from Acquisition of Non-Federal Lands. Acquiring private lands which contain skiff milkvetch populations would increase populations on public land by 35%.

CUMULATIVE IMPACTS ON SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

The quality and quantity of special status plants and animal species and habitat would be maintained under this alternative.

IMPACTS ON TERRESTRIAL WILDLIFE AND HABITAT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Wildlife Habitat Management. Sufficient forage would be available to support BLM's portion of CDOW's long-term elk and deer herd goals.

Land treatment projects in pronghorn summer range would increase the quantity of forbs and would help to achieve sufficient habitat to support 50 animals yearlong.

Reducing wildlife utilization of mountain mahogany by 50% on those public lands in GMU 64 northeast of Cimarron would improve vigor and annual production of mountain mahogany.

Impacts from Locatable Minerals Management. Road construction, surface disturbance, and increased human activity accompanying locatable mineral activity would eliminate habitat, alter use patterns, increase stress and disrupt nesting and breeding seasons of a wide variety of game and non-game species. These effects would potentially be greatest where bighorn sheep habitat, crucial elk winter range and sage grouse lek areas occur on lands with a high likelihood for the occurrence of locatable minerals.

Impacts from Saleable Minerals Management. Surface disturbance from disposal of mineral materials within sage grouse strutting grounds, or leks, would potentially totally eliminate these areas.

Impacts from Soil and Water Resources Management. Increasing ground cover in the sagebrush vegetation type would improve hiding and nesting cover for sage grouse and other non-game species. Land treatment projects which result in decreasing sagebrush cover below 25% would preclude these areas from being used for sage grouse nesting and would decrease sage grouse wintering habitat.

Impacts from Riparian Zones Management. Moving existing watering facilities out of riparian zones would improve these areas for sage grouse brooding and nesting.

Impacts from Livestock Grazing Management. Domestic sheep grazing on bighorn sheep ranges would create the possibility of disease transfer between the two sheep species and would decrease forage availability for bighorn sheep due to dietary overlap.

Limiting total forage utilization, including that by livestock, in all riparian areas would improve sage grouse brood rearing habitat by indirectly increasing the quantity of insects available to young birds during their first twelve weeks of life.

Land treatment projects designed to increase livestock forage would result in a decrease in elk and deer browse forage and would increase big game utilization on the remaining plants. Land treatment projects which reduce sagebrush cover to less than 25% would preclude these areas from being used by sage grouse for nesting habitat.

Impacts from Forest Management. Allowing commercial timber harvests from May 1 through June 30 in elk calving areas would result in these animals being forced into other, less desirable areas over the short-term.

Removal of snag trees would eliminate perch sites for numerous raptor species.

Timber harvests and associated activities, such as road and staging area construction in riparian zones would reduce vegetation diversity and the quality of habitat for non-game species.

Harvest of ponderosa pine and Douglas fir based on sustained yield would decrease elk and deer thermal and hiding cover by 100-150 acres per year.

Clear-cutting decadent aspen would improve big game habitat by increasing forage and rejuvenating old stands.

Impacts from Recreation Management. Development of campsites and the associated increase in recreation use along Cochetopa Creek would result in the displacement of bighorn sheep within 1/2 mile of these campsites and use areas and would deter raptor use.

Designating 600 acres of public land within the Sapinero State Wildlife Area as closed to OHV use would prevent disturbance to big game and big game habitat from this activity.

Limiting OHV use from December 1 through March 31 to designated roads on 74,707 acres of crucial elk and deer winter range would prevent disturbance to these animals during the most critical portion of the year.

Impacts from Transportation and Access. Acquiring public road access into the Rock Creek Park area would disrupt bighorn sheep lambing areas and would force the herd onto marginal habitat.

Development of roads in riparian areas would eliminate valuable forage and cover for both game and non-game species.

Impacts from Disposal of Federal Lands. Disposal of 2,000 acres of crucial elk and deer winter range and subsequent development would increase utilization on the remaining area and decrease the quality of winter habitat.

Impacts from Acquisition of Non-Federal Lands. The acquisition of private lands containing crucial elk and deer winter range would prevent the loss of habitat through potential subdivision development and human activities.

CUMULATIVE IMPACTS ON TERRESTRIAL WILDLIFE HABITAT

Mineral development, land treatment projects that remove browse species, disposal of public lands, and OHV use would result in a loss of habitat for elk, deer, sage grouse, and non-game species. Bighorn sheep populations could be drastically reduced if disease transfer from domestic sheep occurs between the two sheep species.

IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Surface disturbance from locatable mineral activity would potentially reduce the quality of, or result in, a loss of fishery habitat. This habitat loss and the reduction in quality from sedimentation and channelization due to mining activity and associated road construction would be greatest if development were to occur in alluvial soils along or in stream banks.

Impacts from Saleable Minerals Management. Degradation or some loss of fishery habitat or reduction in fishery habitat quality would result if surface disturbance associated with mineral material disposal occurs in alluvial soils or in stream channels.

Impacts from Soil and Water Resources Management. Vegetation treatments designed to reduce soil erosion would enhance aquatic habitat by decreasing the amount and frequency of sediments entering the streams.

Acquisition of water rights, including instream flows, would ensure sufficient water to maintain the present fish population.

Impacts from Livestock Grazing Management. Implementing total forage utilization limits, including utilization by livestock, would decrease sedimentation of fishery streams, help stabilize stream banks and increase overhanging cover. Fishery habitat would improve through the improvement of water quality and increases in riparian vegetation and insects.

Impacts from Forest Management. Timber harvests and associated activities, such as road, skid trail, and staging area construction along fishery streams would remove stream bank vegetation and result in an increase in sedimentation and alteration of stream

channels. The removal of trees in and along fishery streams would reduce shading, increase water temperatures and decrease insect life.

Impacts from Recreation Management. The construction of recreation facilities and increased recreational use of fishery streams would cause the loss of, or reduction in quality, of fishery habitat along 3.5 miles of streams.

Impacts from Rights-of-Way Management. Construction of roads and pipelines in or across fishery streams would result in the short-term loss of, or damage to, fishery habitat.

CUMULATIVE IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)

Some fishery habitat would be lost due to mineral activity, timber harvests, recreation construction and use, and rights-of-way facility construction. Construction of roads, removal of trees and decrease in stream bank cover would increase sedimentation, alter stream channels, and increase water temperatures. Stream bank and fishery conditions would be expected to improve as a result of implementing livestock management actions and implementing vegetation treatments with measures to reduce soil erosion in uplands.

IMPACTS ON LIVESTOCK GRAZING MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Livestock Grazing Management. Allowing livestock use on 6,909 acres of public land (about 2,000 suitable acres) not currently grazed in unit C-7 would increase livestock forage allocations by about 898 AUM's.

Implementation of land treatment projects designed to improve or produce additional livestock forage would potentially increase livestock AUMs by 4,000 AUMs and improve distribution.

Impacts from Special Status Plant and Animal Species and Habitat. Not authorizing livestock use on riparian areas in unit C-11 frequented by bald eagles (about 54 suitable acres) would continue these lands as being unavailable for allocation.

Impacts from Soil and Water Resources Management. Implementing vegetation treatment projects designed to reduce soil erosion would improve livestock distribution and livestock forage quality and quantity. About 320 acres in the Wildcat Creek drainage would continue to be unavailable for grazing in order to help maintain Crested Butte's water supply.

Impacts from Wildlife Habitat Management. Implementing vegetation treatment projects designed to improve wildlife habitat would improve livestock distribution and livestock forage quality.

Impacts from Recreation Management. Eliminating livestock grazing on 320 acres in allotment #6401 would decrease livestock forage by 83 AUMs.

Impacts from Transportation and Access. Acquiring public access into seven new areas for livestock grazing administration management would improve management of the livestock grazing program but five of the seven would be for public access, which potentially would increase livestock harassment and vandalism of livestock facilities.

Impacts from Disposal of Public Lands. Disposal of a total of 7,986 acres of public lands (or about 1,100 suitable acres) which are currently grazed by domestic livestock would reduce available forage by 532 AUMs.

CUMULATIVE IMPACTS ON LIVESTOCK GRAZING

Increases in livestock AUM's through allocation of forage in additional areas, implementation of land treatment projects designed to increase and improve vegetation production and distribution would be offset by eliminating livestock grazing and disposal of public land. The net affect would be an increase of 4,256 AUMs, resulting in a total 51,684 AUMs of forage being available for allocation. About 519,146 suitable acres would be available for allocation.

IMPACTS ON FOREST MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Forest Management. Approximately 58,959 acres of suitable commercial forest lands and 19,262 acres of suitable woodlands would be available for harvest. This would result in an annual harvest of about 1,770 MBF of commercial forest products and 400 cords of fuelwood.

Impacts from Livestock Grazing Management. Livestock utilization and trampling of approximately 400 acres of seedling areas would increase the amount of lands classified as poorly stocked areas from 400 acres to 600 acres during the life of the plan.

Impacts from Recreation Management. Increasing recreational use on High Mesa would create a serious safety hazard along the switchbacks on the High Mesa Road between logging trucks coming downhill and recreational vehicles going uphill.

Impacts from Disposal of Public Lands. A total of 153 acres of suitable commercial forest lands would be lost due to public land disposal. This would result in 3 MBF annually being unavailable for harvest on public lands.

CUMULATIVE IMPACTS ON FOREST MANAGEMENT

A total of 58,959 acres of suitable commercial forest lands and 19,262 acres of suitable woodlands would be available for sustained yield production. This would result in an annual harvest of 1,770 MBF of commercial timber and 400 cords of firewood, and other forest products.

IMPACTS ON RECREATION MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Recreation Management. Improved and increased campground facilities, improved hiking trails, and increased visitor contacts would enhance visitor use, and the enjoyment and understanding of resources in the Planning Area.

Designating semi-primitive non-motorized and primitive areas totalling about 48,033 acres in the Powderhorn SRMA as open to off-highway vehicle use would alter the setting of these areas to semi-primitive motorized. This change would result in a loss of recreation opportunities for some visitors, and would decrease backcountry recreation experiences, and other lands would have to be used for back country recreation. Increased OHV recreational use would occur, compared to Alternative A, as a result of 135,789 more acres that would be open to OHV use, 42,862 fewer acres that would be closed, and the elimination of the "limited yearlong to designated routes" designation on 92,927 acres.

Impacts from Locatable Minerals Management. If mining and associated activity occurs that results in reduced scenic quality, increases in noise, displaced wildlife, natural settings being altered, restricted public access and increases in heavy truck traffic, affected lands would have to be managed for less restrictive ROS settings, and a loss of actual recreation opportunities for some visitors would occur. The changes would decrease back country recreation experiences, resulting in other lands being sought out and used for this recreation activity. These changes would be most apt to occur, and would be most pronounced on about 88,663 acres with a high likelihood for the occurrence of locatable minerals in the area south and west of Lake City.

Impacts from Saleable Minerals Management. Surface disturbance from extraction of saleable mineral materials that reduces scenic quality and alters natural settings would result in lands being managed for less restrictive ROS settings and a decrease in recreation experiences and use.

Impacts from Wildlife Habitat Management. Maintaining and improving wildlife habitat and fishery habitat would result in marginal increases in the numbers of recreationists, primarily fishers, wildlife watchers, and hunters.

Impacts from Livestock Grazing Management. Extensive land treatment projects that occur in or

adjacent to popularly used recreation resources would reduce scenic viewing related recreation experiences and visitor use as a result of lowered scenic quality.

Domestic sheep grazing near and above timberline would alter recreation settings and experiences particularly for backcountry visitors, especially in the Silver Creek drainage.

Impacts from Forest Management. Timber harvests occurring in a variety of ROS settings would result in a loss and lowering of recreation experiences, ROS settings, scenic quality, and watchable wildlife opportunities. Visitor use in these areas would gradually decrease over the long-term.

Impacts from Visual Resource Management. Managing approximately 90% of the planning area under VRM Class IV guidelines would permit extensive changes to occur within the landscapes in the planning area, resulting in lowered scenic quality which, in turn, would result in diminished recreation experiences and altered ROS settings.

Impacts from Historical Resource Management. The identification, stabilization and interpretation of historical resources would enhance the setting and experience of recreation visitors by increasing enjoyment and understanding.

Impacts from Transportation and Access. Acquisition of public access would increase recreational visitor use and would make available more public lands for recreation activities such as hunting, sightseeing and OHV use.

Impacts from Acquisition of Non-Federal Lands. The acquisition of inholdings and lands with significant recreation resources would expand recreational opportunities and would eliminate potential private development.

CUMULATIVE IMPACTS ON RECREATION

Improved recreation facilities, hunting and fishing opportunities, and increased OHV use would be offset by a drastic decrease in backcountry visitor use and use by those seeking a more primitive experience. The decrease in use would occur because of lowered scenic quality, and thus viewable landscapes, altered ROS settings, displacement of wildlife, and losses of wildlife habitat and fisheries.

IMPACTS ON OUTSTANDINGLY REMARKABLE SCENIC VALUES IN SEGMENT A, LAKE FORK OF THE GUNNISON RIVER STUDY CORRIDOR

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from the Recommendation. In this alternative, the 13.3 mile Segment A of the Lake Fork of the Gunnison River from Sloan Lake to Wager Gulch would NOT BE RECOMMENDED as being suitable for inclusion into the National Wild and Scenic Rivers System (NWSRS). The resultant potential and significant impacts to the outstandingly remarkable scenic values (values) that qualify this segment to be eligible for inclusion are discussed below.

Impacts from Locatable Minerals Management. If mineral activity were to occur on federal mineral estate, values would potentially be altered in the short-term on an additional 330 acres of public land in the "Loop Road" protective withdrawal, which would be recommended for revocation in this alternative. The total federal mineral estate would thus be available for mineral entry and location, but would be subject to BLM's surface management regulations regarding reasonable reclamation and plans of operation.

Impacts from Recreation Management. Managing 7.3 miles of public land in Unit C-1 (3,665 acres) in the segment as open to motorized vehicular use would result in significant deterioration of scenic values, as a result of physical impacts to terrain from OHV use, especially in the American Basin drainage.

Impacts from Visual Resource Management. Managing about 7.3 miles (3,665 acres) of public land in Unit C-1 under VRM Class IV objectives could potentially result in an increased amount of visual change and contrast over that currently managed for under VRM Class II objectives.

Impacts from Wilderness Study Area Management. Impacts in this alternative are analyzed assuming that WSA status would not be in effect, in the event Congress acts on and decides not to designate any part of any WSA as wilderness. If any part of Segment A is contained within any designated wilderness, the lands therein would be managed as wilderness. Refer to **Impacts from WSA Management** in the discussion of impacts of Alternative A (Continuation of Current Management) for impacts applicable to all alternatives, as long as WSA status applies.

Impacts from Rights-of-Way Management. Permanent, surface-disturbing developments or above-ground facilities could diminish the quality of values on 3,665 acres in Segment A in Unit C-1, as a result of lowering the VRM Class objectives to VRM IV from VRM II. Management requirements in the management plan for the Alpine SRMA would help mitigate these impacts to the short-term in some cases. Locating these facilities in alternative locations would also help mitigate impacts.

Impacts from Withdrawals and Classifications. Revocation of the BLM protective withdrawal C-0125423 along the "Loop Road" and backcountry byway would result in the values in these 330 acres being potentially impacted from surface disturbing mineral activity and discretionary activities, such as rights-of-way and mineral material sales and disposal.

CUMULATIVE IMPACTS ON VALUES IN SEGMENT A

Surface-disturbing activities could potentially diminish scenic values along the entire segment, especially in the upper 7.3 miles. The BLM's surface management regulations would limit some of the impacts from mineral development to the short-term, as would other mitigation that could be applied to discretionary activities, such as rights-of-way and mineral material disposal.

IMPACTS ON VISUAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Visual Resource Management. The scenic quality of most existing landscapes in the planning area would be severely altered/modified if managed according to the Visual Resource Management class objectives in this alternative. Approximately 90% of the public lands in the Planning Area would be managed under VRM Class IV objectives, and high degrees of visual change would be permitted.

Impacts from Locatable Minerals Management. Mineral extraction and associated above-ground facilities would alter landscapes and lower the scenic quality of the affected area. This change would be greatest in areas where mining has not occurred.

Impacts from Saleable Minerals Management. Surface disturbance from extraction of saleable minerals would alter landscapes and reduce scenic quality in the Planning Area. The degree of change could be reduced in the long-term due if rehabilitation methods are implemented.

Impacts from Livestock Grazing Management. Scenic quality would be reduced where livestock grazing projects, such as land treatments, fences, and water facilities are implemented. Less mitigation to reduce visual impacts would occur in this alternative as a result of VRM class objectives.

Impacts from Forest Management. Timber harvest, especially clearcuts, in areas with high scenic quality, such as in the Powderhorn area would result in a reduction of scenic quality over extensive acreage in the Planning Area. This reduction in scenic quality and increase in visual contrast in the landscape would occur from extensive timber harvests and road construction on lands managed under existing VRM class I (43,590 acres) and VRM class II (173,510 acres).

Impacts from Recreation Management. Increased surface disturbance and lowering of scenic quality would result from OHV use that could occur in areas that are now closed to OHV use (42,862 acres) or where motorized traffic is now limited to designated routes yearlong (92,927 acres).

CUMULATIVE IMPACTS ON VISUAL RESOURCES

The combined effect of management actions identified in this alternative could result in a reduction of the visual quality in most of the planning area, as a result of changes in OHV designations, and VRM class objectives on VRM class I lands (-35,750 acres), VRM class II lands (-37,877 acres), VRM class III lands (-115,834 acres), and VRM class IV lands (+291,464 acres).

IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Archaeological and Historical Resource Management. The gathering of archaeological or historical information required by law in response to project development or disturbance would contribute to our current knowledge and data base. However, any physical disturbance and extraction of information from sites, other than that for documentation, would remove that data from context, and destroy the integrity of sites.

Impacts from Recreation Management. Vandalism, damage to, and illegal removal of archaeological or historical materials from sites would result from recreation visitor use, such as OHV use and hiking at some locations in the Planning Area.

CUMULATIVE IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Existing policies, procedures, and regulations would provide for the protection, preservation and enhancement of archaeological sites from authorized projects. Effects from other dispersed activities, and nature, are not subject to standard operating procedures; thus these effects would not be mitigated, and preventative or corrective actions would not be implemented. Recreation visitor use would result in some increased vandalism, theft, and destruction of archaeological sites.

IMPACTS ON RIGHTS-OF-WAY

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Rights-of-Way and Rights-of-Way Corridor Management. Designation of east-to-west and north-to-south rights-of-way corridors would allow major utility applicants to plan for and design projects without the need to investigate and analyze alternate routes.

Designating 120 acres of public lands as rights-of-way exclusion areas and 1,150 acres as rights-of-way avoidance areas would result in additional costs to utility companies in planning, designing, and constructing facilities around these areas.

Seasonal restrictions on rights-of-way related construction, such as powerlines and waterlines, could increase applicant's costs.

CUMULATIVE IMPACTS ON RIGHTS-OF-WAY

Designating 1,270 acres of public land as either rights-of-way exclusion or avoidance areas, and restricting rights-of-way related construction on 8,322 acres seasonally would increase the cost of these projects. Designating east-to-west and north-to-south rights-of-way corridors would decrease the cost of those projects which would be authorized in the corridors.

SHORT-TERM VS. LONG-TERM PRODUCTIVITY

Trade-offs between short-term uses and long-term productivity of resources have been identified. For this analysis, short-term refers to the period of implementation of this plan which is approximately 10 years, and long-term refers to at least a 20-year period or beyond during which the adverse or beneficial impacts of the proposal would still occur.

MINERAL RESOURCES

Mineral development would not be constrained by withdrawals, and long-term loss or delay in mineral production would not occur.

SOIL AND WATER RESOURCES

Mineral development would potentially result in some increases in long-term erosion and sediment yields and possibly some decrease in the quality of surface waters from mine discharge and spoil pile runoff. Some loss in soil productivity would be expected in areas where surface disturbing activities, such as OHV use and road construction occur.

RIPARIAN ZONES

Timber harvests occurring in riparian areas would result in long-term decreases in the condition of these areas. Livestock grazing management under this alternative would result in some areas that are now in good to excellent condition experiencing a decrease in condition and most other areas being stabilized and experiencing an improvement in condition and increased production.

WILDLIFE HABITAT

Colorado Division of Wildlife long-term herd goals for elk and deer would be achieved. Land treatment projects which reduce sagebrush below 25% would lower sage grouse populations.

LIVESTOCK GRAZING

Disposal of 7,986 acres of public land would reduce the long-term productivity by 532 AUMs.

VISUAL RESOURCES

Mineral development, livestock grazing and timber harvests would result in scenic quality being lowered on affected lands.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Irreversible or irretrievable commitments of resources occur when a wide range of future management options are precluded. This section identifies the extent to which the alternatives would irreversibly limit potential resource uses. The individual alternative impacts sections identify those decisions which apply to a particular alternative and the magnitude of the impact.

SOIL AND WATER RESOURCES

The loss of soil through wind and water erosion would be irretrievable.

VISUAL RESOURCES

Mining activities, timber harvest, and land treatment projects, and the construction of permanent structures such as roads, buildings, and powerlines would result in an irretrievable loss of visual resources.

ARCHAEOLOGICAL AND HISTORICAL RESOURCES

The loss of archaeological or historical sites and information would be irretrievable.

DISPOSAL OF PUBLIC LANDS

Disposal of 7,986 acres of public lands would result in a loss of administrative control of all resource values on these lands except valid existing rights and existing land use authorizations.

IMPACTS OF ALTERNATIVE D

IMPACTS ON SOCIAL AND ECONOMIC CONDITIONS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Oil, Gas and Geothermal Management. The Planning Area would not experience measurable social or economic impacts because of the low potential for occurrence of these resources.

Impacts from Wildlife Habitat Management. Increases in forage supply would translate into increases in game populations and in recreational activities associated with them and would lead to increases in Planning Area income and employment.

Impacts from Livestock Grazing Management. Eliminating grazing and not allocating any additional forage to livestock would reduce present preference by 12,406 AUMs. Any decreases in AUMs could result in financial losses for the affected ranching operations.

Impacts from Forest Management. The potential sale of 900 MBF of commercial timber would support Planning Area income and employment and produce $22,500 annually in federal revenue. On the other hand, 733 MBF of potential harvest would not be available for production and would mean a potential loss of $18,000 in federal revenue annually.

Impacts from Recreation Management. Economic benefits from recreation would be enhanced and would be concentrated on those businesses providing tourist and recreation sales and services. All ESA counties are dependent on tourism-related income sectors for their socio-economic well being and would receive a positive impact to income and employment from an estimated 30% increase in recreation activity.

CUMULATIVE IMPACTS ON SOCIAL AND ECONOMIC CONDITIONS

Cumulative impact on the local economy is likely to be beneficial but not large given the potential losses to forest production and livestock grazing. The actual impact is localized but not presently quantified.

IMPACTS ON LOCATABLE MINERALS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Identifying 649,645 acres of federal mineral estate, of which 101,550 acres have a high likelihood for the occurrence of locatable minerals, as open to mineral entry and location would make these lands available for exploration and development under the general mining laws. Withdrawing 78,922 acres of federal mineral estate from mineral entry and location would preclude any possible mineral exploration or development of these lands. The lands which would be withdrawn contain 8,980 acres with a high likelihood for the occurrence of locatable minerals.

Impacts from Wildlife Habitat Management. Designation of the proposed Bighorn Sheep - A ACEC (3,912 acres) and the proposed Bighorn Sheep - B ACEC (4,762 acres) would increase claimant's costs by requiring plans of operation to be submitted.

Impacts from Recreation Management. Managing 57,851 acres as closed to OHV use would require claimants to submit plans of operation prior to development, thereby increasing their operating costs.

Impacts from Wild and Scenic River Study Segment Recommendation. About 2,408 acres that would not be withdrawn from mineral entry and location in this alternative in the 4,315 acre Segment A of the Lake Fork of the Gunnison River downstream from Sloan Lake would be withdrawn for a three-year period, upon a recommendation to Congress for designation into the National Wild and Scenic Rivers System. As a result, the mineral resources within the segment would be unavailable for exploration and development for this period.

CUMULATIVE IMPACTS ON LOCATABLE MINERALS

Identifying 649,645 acres of federal mineral estate, of which 101,550 acres have a high likelihood for the occurrence of locatable minerals, as open to mineral entry and location would permit exploration and development on these lands.

Withdrawing 78,922 acres of federal mineral estate from mineral entry and location, of which 8,980 acres have a high likelihood for the occurrence of locatable mineral, would preclude any possible mineral exploration or development on these lands.

Closing areas to OHV use and designation of ACECs would require claimants to submit plans of operation prior to development, thereby increasing their operating costs.

IMPACTS ON OIL, GAS, AND GEOTHERMAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Oil, Gas, and Geothermal Management. Managing 674,164 acres of federal oil and gas estate as open to the leasing of fluid minerals would make these resources available. About 52,754 acres not available would result in little impact to the oil and gas program because of little likelihood for the occurrence of these resources.

IMPACTS ON SALEABLE MINERALS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Saleable Minerals Management. Permitting the disposal of mineral materials on 579,309 acres of federal mineral estate would more than satisfy the current demand of 12,500 cubic yards annually and meet the anticipated future demand. Not permitting the disposal of saleable mineral materials on 149,258 acres of federal mineral estate would not result in any significant impact due to the amount of materials which would remain available.

IMPACTS ON SOIL AND WATER RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Soil and Water Resources Management. The implementation of the "Long Gulch Sediment Control and Riparian Habitat Improvement Project" would reduce downstream sediment yields by up to 300 tons per year, increase vegetation production for watershed protection, improve the hydrologic functions of the riparian zone by raising the alluvial water table, and provide some downstream flood control benefits by reducing peak flows from runoff events. Required mitigation to minimize soil disturbance from all surface-disturbing activities would decrease potential losses of soil productivity.

Erosion control projects primarily designed to increase plant basal cover on uplands would indirectly result in improved watershed conditions.

Securing minimum in-stream flows where appropriate would protect water quality and hydrologic functions.

Allocation of additional forage to soil and water resources would result in increased vegetation cover to protect and enhance watershed conditions and reduce rates of erosion.

Maintaining or reclaiming existing water source developments which are not in good condition would reduce erosion and sedimentation.

Impacts from Locatable Minerals Management. If mineral development occurs on 649,645 acres in the Planning Area identified as open to mineral entry and location, increased sedimentation and physical damage to stream beds or banks could potentially result. These impacts would most likely occur somewhere within the 101,550 acres that have a high likelihood for the occurrence of locatable minerals. Physical disturbance to stream channels and increases in sedimentation would be greatest from placer mining operations. Heavy metal contamination of surface water is possible from mine water discharges and spoil-pile runoff. Heavy metal pollution is usually associated with mine drainage resulting from the oxidation of pyrite. The highest potential for this situation to occur is on 1,200 acres primarily in the central portion of the planning area, near Iris and Midway. Underground mining operation could create the potential for ground water aquifer dewatering and mixing of water from different aquifers, diminishing both groundwater quantity and quality.

Impacts from Oil, Gas, and Geothermal Management. No significant environmental impacts are anticipated from one or two wells. If any development were to occur, surface-disturbing activities such as road and drill pad construction could result in increased sediment yields. Accidental fluid discharges, such as produced water, etc., during drilling operations could contaminate surface waters and soils.

Impacts from Saleable Minerals Management. Mineral material disposal that results in road construction, vehicle use, and surface disturbance would increase erosion and sediment production, and decrease soil productivity. Operations in close proximity to perennial water courses would have the potential effect of destabilizing and altering natural stream channels and disrupting the beneficial values of floodplains.

Impacts from Riparian Zones Management. Developing new water sources or relocating existing water sources to reduce utilization in riparian areas would result in the local hydrologic and soil conditions being improved.

Impacts from Wildlife Habitat Management. Vegetation treatments and seedings and plantings designed to increase shrub densities on uplands and riparian areas would result in improved hydrologic and soil erosion conditions on these areas. Generally, upland soil erosion rates would be decreased as well as sediment production from stream channel and bank erosion. Water quality would also be improved.

Impacts from Livestock Grazing Management. Implementing IGMCs, that is, range readiness criteria, restricting total forage utilization to 20-40% on the uplands and maintaining a minimum stubble height of 4 inches in riparian zones, would markedly improve watershed conditions and stream channel stability.

Continuing to manage 320 acres of public land in the Wildcat Creek drainage as unavailable for livestock grazing would help maintain and protect the water quality of Crested Butte.

Vegetation treatments would result in short-term sediment yield increases but would improve hydrologic and soil erosion conditions in the long-term.

Impacts from Forest Management. Harvests of forest products and associated road construction would increase sediment production and soil compaction and erosion. Limiting road construction and timber harvests in riparian areas would maintain the existing soil and hydrologic conditions.

Impacts from Recreation Management. Designating 54,620 fewer acres as open to OHV use, closing an additional 14,389 acres, and limiting OHV use on an additional 40,231 acres (+5,288 limited seasonally and +34,943 acres limited to designated routes yearlong) would reduce sediment yields and erosion rates.

Impacts from Rights-of-Way Management. Excluding rights-of-way development on 63,863 acres, identifying 129,144 acres as avoidance areas, and seasonally restricting rights-of-way construction on 195,751 acres would help to minimize accelerated erosion and sediment yields.

Impacts from Fire Management. Wildfires tend to result in short-term increases in sediment production. However, in areas where existing vegetation conditions are poor for watershed protection, fire can allow for a natural vegetation type conversion that provides additional watershed cover/protection. Fire suppression activities, such as clearing fire lines, and the use of suppression vehicles and heavy equipment operation, etc.) could decrease watershed productivity by disturbing protective vegetation and increasing sediment production.

CUMULATIVE IMPACTS ON SOIL AND WATER RESOURCES

Hydrologic functions of riparian areas, water quality and stream channel stability would be expected to improve in the Long Gulch Demonstration Area, and riparian areas. Future water quantity protection would be provided on 113 miles of fisheries if minimum stream flows are secured. Sediment and erosion rates would be expected to decrease where surface-disturbing activities, including OHV use, are reduced, and where livestock grazing IGMCs are implemented.

IMPACTS ON RIPARIAN ZONES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Riparian Zone Management. Moving existing watering sources and areas from riparian and restricting development of new water sources in

riparian zones would indirectly reduce vegetation utilization levels and the effects of trampling.

Impacts from Locatable Minerals Management. Existing and proposed withdrawals that segregate the federal mineral estate from mineral entry and location would protect about 162 miles of identified riparian zones from potential vegetation loss and other disturbances associated with mining locatable minerals. About 38 of these miles are within areas having a high likelihood for the potential for the occurrence of locatable minerals. The remainder of identified riparian zones, about 572 miles, would be open to mineral entry and location, and if mining were to occur, some loss of vegetation and other mining-associated disturbances could occur. About 91 of these miles are within areas with a high potential for the occurrence of locatable minerals. Reclamation requirements would limit these impacts to the short-term.

Impacts from Saleable Minerals Management. Damage to and removal of the riparian vegetation type as a result of mineral material disposal would be minimized by mitigating measures that would limit disturbance to the short-term.

Impacts from Soil and Water Resource Management. Vegetation treatments designed to reduce soil erosion would enhance riparian areas by reducing the quantity and timing of water and sediment delivery. Acquisition of water rights including instream flows, would facilitate the management of riparian areas by improving the dependability of surface and sub-surface water.

Impacts from Livestock Grazing Management. Implementing IGMCs, that is, total forage utilization limits, minimum stubble heights, and range readiness, would result in the rapid improvement in plant vigor which would lead to healing and building of streambanks while down-cut or incised stream channels would further stabilize. The elimination of livestock grazing, including fall use in some areas, and the elimination of some season-long grazing would result in improved plant vigor, diversity and composition, and an increase in above-ground biomass; streambanks would stabilize, groundwater recharge would increase, and water tables would rise. Implementing these actions would thus result in a marked improved condition in riparian zones.

Impacts from Forest Management. Eliminating commercial timber harvests within 1,000 acres of riparian areas would protect these areas from rutting, compaction, streambank deterioration and channelization. Restricting timber harvest to slopes less than 35% would prevent excessive sedimentation and downcutting of riparian zones.

Impacts from Recreation Management. Camping restrictions within the Powderhorn SRMA would prevent excessive trampling, compaction and destruction of riparian vegetation.

Closing about 1,500 acres of riparian zone to OHV use and limiting OHV use yearlong about 6,844 acres of riparian zones to designated routes would prevent rutting, deterioration of vegetation and streambanks.

The construction of recreation facilities and subsequent use in or adjacent to riparian areas would cause the loss or degradation of these areas. The area affected by such development would be less than 10 acres.

Impacts from Acquisition of Non-Federal Lands. Acquisition of non-federal lands containing riparian zones would enhance riparian management on public land and would prevent development of these areas.

Impacts from Rights-of-Way Management. Excluding rights-of-way from and designated rights-of-way avoidance areas would protect about 6,970 acres of riparian areas from rutting, compaction, streambank deterioration and channelization.

CUMULATIVE IMPACTS ON RIPARIAN ZONES

The management actions identified in this alternative would result in a marked improvement in riparian condition. The majority of this improvement would be the result of limiting total forage utilization and maintaining minimum stubble heights. There would be an increase in total production and diversity of plant species.

IMPACTS ON SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Special Status Plant and Animal Management. Designation of the South Beaver Creek RNA/ACEC, Unit D-1, (9,562 acres) would help to protect the existing populations and potential habitat of skiff milkvetch from accidental destruction and would encourage research and special studies designed to increase our knowledge about this species.

Designation of the Redcloud Peak RNA/ACEC, Unit D-2, (5,950 acres) would help to protect the existing population and potential habitat of the Uncompahgre fritillary butterfly from accidental destruction and would encourage research and special studies designed to increase our knowledge about this species.

Impacts from Locatable Minerals Management. Withdrawing 5,950 acres of federal mineral estate in the Redcloud Peak RNA/ACEC under Uncompahgre fritillary butterfly habitat would prevent accidental destruction and disturbance to this species from mining.

Withdrawing 9,562 acres of federal mineral estate in the South Beaver Creek RNA/ACEC under occupied and potential habitat of skiff milkvetch would prevent accidental destruction of, and disturbance to, this species from mining.

Impacts from Oil, Gas, and Geothermal Management. No significant impacts are anticipated from one or two wells. The proposed no surface occupancy stipulation would protect both the Uncompahgre fritillary butterfly and skiff milkvetch habitat in the event of any exploratory development.

Impacts from Saleable Minerals Management. Not permitting the disposal of mineral material on 14,934 acres of occupied and potential habitat in units D-1 and D-2 would prevent the accidental destruction of skiff milkvetch and Uncompahgre fritillary butterfly habitat and species from surface disturbance associated with this activity.

Impacts from Livestock Grazing Management. Prohibiting livestock grazing on 1,440 suitable acres in the Uncompahgre fritillary butterfly occupied and potential habitat in unit D-2 would prevent disturbance and physical destruction of habitat caused by trampling and utilization of snow willow.

Impacts from Recreation Management. Limiting OHV use to designated routes yearlong in skiff milkvetch habitat, and closing Uncompahgre fritillary butterfly habitat to OHV use would prevent the accidental destruction of the species and their habitat on a total of 15,512 acres.

Impacts from Acquisition of Non-Federal Lands and Disposal of Public Lands. Retaining public lands which contain colonies of skiff milkvetch and acquiring private lands which contain this species would maintain the present population and increase the BLM population by 35%.

CUMULATIVE IMPACTS ON SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

Special designations, altering OHV use and restrictions on livestock grazing and timber harvests would protect and enhance habitat for special status species and would prevent accidental destruction of these species and their habitat.

IMPACTS ON TERRESTRIAL WILDLIFE AND HABITAT

Impacts from Wildlife Habitat Management. Land treatment projects, water developments and managing elk and deer populations below current levels would increase wildlife forage availability to meet CDOW long-term on big game elk and elk and deer herd goals. Improvement of habitat quality would improve animal distribution, reduce stress, and decrease forage utilization levels.

Reducing the deer population within the highway grazing allotment (No. 6056) by 50% would improve the quality and quantity of winter habitat.

Limiting surface disturbance to no more than 2 acres in crucial winter range would limit and control amount of loss of important winter forage.

Land treatment projects would improve forb composition of sagebrush communities for pronghorn antelope, and improve forage production and vigor on bighorn sheep range in the Cebolla Creek area.

Land treatment projects designed to increase understory vegetation within sage-brush communities would improve nesting cover, provide nest structure, and increase nesting success on 76,752 acres of high production areas. Rehabilitating riparian areas where conditions have deteriorated would result in improved cover and foraging areas for young sage grouse.

Improving sage grouse habitat would double existing populations and increase harvest from approximately 500 to 1,000 birds per year.

Increasing vegetative structure and cover within riparian and sagebrush habitat types would have a positive effect on non-game by increasing cover, nesting habitat, foraging areas, and species diversity.

Impacts from Locatable Minerals Management. Withdrawing 78,922 acres of federal mineral estate from mineral entry and location would reduce the potential for habitat loss of all wildlife species on these lands.

Road construction, surface disturbance, and increased human activity would eliminate habitat, alter use patterns, increase stress and disrupt nesting and breeding seasons of a wide variety of game and non-game species. The impact of mining activities would be greatest where bighorn sheep habitat, crucial elk and deer winter range and sage grouse lek areas occur within lands with a high likelihood for the occurrence of locatable minerals.

Impacts from Saleable Minerals Management. Seasonal restrictions on mineral material sales would protect sage grouse strutting areas (1,758 acres) and big game crucial winter range (165,195 acres) from mineral material related disturbance during critical times of the year.

Eliminating mineral material sales on 10,469 acres sage grouse broodrearing habitat would protect these areas from destruction.

Impacts from Soil and Water Resources Management. Increasing ground cover in the sagebrush vegetation type would improve hiding and nesting cover for sage grouse and other non-game species. Land treatment projects which result in decreasing sagebrush cover below 25% would eliminate these areas from sage grouse nesting and would decrease sage grouse wintering habitat. Construction of projects designed to decrease soil erosion and improve water quality would improve sage grouse broodrearing habitat, crucial elk and deer winter range and nesting habitat for non-game species.

Impacts from Riparian Management. Moving existing watering facilities out of riparian areas would improve these areas for sage grouse brooding and nesting. Moving facilities more than 1/8 mile would result in the greatest amount of improvement.

Excluding road construction in riparian areas would prevent the loss of crucial winter range, important sage grouse habitat and reduce disturbance to wildlife from human activity. By improving existing roads and moving other roads out of riparian areas, similar benefits would result.

Impacts from Livestock Grazing Management. Development of intensive grazing systems with emphasis on increasing herbaceous vegetation within sagebrush communities would increase cover for sage grouse nesting habitat, structure for non-game and forage for pronghorn antelope.

Limiting total forage utilization to 20-40% on upland areas and maintaining a minimum stubble height of 4 inches in riparian zones would improve cover and forage quality for elk, deer, pronghorn antelope, sage grouse, and non-game species.

Prohibiting domestic sheep grazing in Bighorn Sheep-A and -B and Cebolla Creek ACECs would eliminate interaction on 15,759 acres of bighorn sheep habitat between these species, and therefore, the potential for

disease transfer. Bighorn sheep populations would increase to 500 over the life of the plan.

Eliminating livestock grazing from allotment 6200 would increase forage on 837 suitable acres for bighorn sheep.

Limiting fall livestock use to no more than four days in GMUs 55 and 551 in units D-11, D-14, and D-16 would improve conditions on 65,970 acres of big game crucial winter on uplands and riparian zones (25 miles) and 42,306 acres of sage grouse nesting and high production areas. Herbaceous forage normally removed by livestock on these lands in the fall would be available to elk and deer during the spring and fall.

Prohibiting domestic sheep grazing on 1,465 suitable acres in allotment No. 6056 would reduce competition for forage between deer and domestic sheep.

Eliminating domestic sheep grazing in pronghorn antelope and bighorn sheep ranges would reduce the competition for forage and would eliminate the transmission of diseases between domestic sheep and bighorn sheep.

Developing grazing systems that exclude season-long grazing in units D-11, D-14, and D-16 within GMU 551 (allotments 6317 and 6318) would improve sage grouse and pronghorn antelope habitat on crucial big game winter range on 29,861 acres.

Impacts from Forest Management. Development of additional roads in elk summer range would decrease hiding cover, and increase human activity, resulting in elk not using traditional areas.

Eliminating timber harvest in riparian zones would protect large trees for non-game wildlife and maintain a variety of habitats.

Timber harvests in elk-calving areas would reduce hiding cover and would force calving elk to use other less desirable areas.

Maintaining sufficient elk hiding cover parallel to logging roads and along the perimeter of clear cuts would allow elk the opportunity to use forage produced in the clear cuts without being disturbed from activity on nearby roads, and would screen wildlife from human activity, thereby helping to reduce stress and disturbance to animals.

The prescribed management in Appendix A for non-game wildlife regarding timber harvests would provide snags for nesting habitat, perch trees for raptors, and brush piles and logs for small mammals.

Impacts from Recreation Management. Designating 600 acres of public land within the Sapinero State Wildlife Area as closed to OHV use would ensure OHV management consistency with the adjoining CDOW land and would improve management effectiveness of the general area.

Limiting OHV use from December 1 through March 31 to designated routes on 56,297 acres of crucial elk and deer winter range, if necessary, would prevent disturbance to these animals during the most critical portion of the year.

Development of campsites and the associated increased use along the Cochetopa Creek would eliminate bighorn sheep use within 1/2 mile of these areas.

Impacts from Transportation and Access. Acquiring public road access into the Rock Creek Park area would disrupt bighorn sheep lambing areas and would force the herd on to marginal habitat.

Development of roads in riparian areas would eliminate valuable forage and cover for both game and non-game species.

Impacts from Acquisition of Non-federal Lands. The acquisition of private lands in crucial elk and deer winter range would prevent the loss of habitat through subdivision development and human activities.

Impacts from Rights-of-Way Management. Prohibiting rights-of-way development within 1/4 miles of sage grouse leks in elk calving areas, and in bighorn sheep ranges would protect these areas from disturbance and possible destruction.

CUMULATIVE IMPACTS ON TERRESTRIAL WILDLIFE AND HABITAT

Management actions identified in this alternative would greatly improve wildlife habitat conditions. Big game habitat in all areas would improve through the protection of special seasonal habitats such as crucial winter range, calving areas, and lambing areas.

Upland bird habitat would be enhanced through protection of leks and wintering areas.

IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)

Impacts from Fishery Resources (Aquatic Habitat) Management. Implementing measures in all plans for surface disturbance to prevent or mitigate damage/loss of fishery stream channels and riparian habitat would result in maintaining or improving the condition of fishery resources planning area-wide. Implementing fishery improvements and projects from activity plans would stabilize and restore stream banks and improve fishery resources as these plans are carried out.

Impacts from Locatable Minerals Management. Withdrawing 78,922 acres of federal mineral estate from mineral entry and location would prevent the possible deterioration or complete loss of fishery habitat on affected lands due to mining activities and associated road construction. The potential for habitat loss due to sedimentation and channelization would be greatest if mineral development were to occur in alluvial soils along or in streambanks within 101,550 acres of land with a high potential for the occurrence of locatable minerals that would not be withdrawn.

Impacts from Saleable Minerals Management. Fishery streams would be protected from damage associated with mineral material disposal by mitigating measures designed to limit disturbance of the associated riparian vegetation. Fishery streams on 149,258 acres where mineral material disposal would not be authorized would be protected to a greater degree.

Impacts from Soil and Water Resource Management. Vegetation treatments designed to reduce soil erosion would enhance aquatic habitat by decreasing the amount and frequency of sediments entering the streams.

Acquisition of water rights, including instream flows, would ensure sufficient water to maintain the present fish population.

Increasing plant basal cover rather than increasing big game or livestock allocations would reduce sedimentation through increased ground cover.

Impacts from Livestock Grazing Management. Implementing livestock utilization limits, excluding of livestock from some areas and eliminating of season-long livestock use would decrease sedimentation of fishery streams, stabilize streambanks and increase overhanging cover. Fishery habitat would improve through the improvement of water quality and the increase in aquatic vegetation and insects.

Limiting total forage utilization to 20-40% in the uplands and maintaining a minimum stubble height of 4 inches in riparian zones would result in rapid improvement of streambank cover, streambank stability and would reduce sedimentation.

Limiting fall livestock use in riparian zones to 4 days would allow plant residue to dissipate high flows which would trap sediments, thereby enhancing aquatic habitat.

Impacts from Forest Management. Eliminating timber harvests in riparian areas and on slopes greater than 35% would prevent excessive erosion and accompanying sedimentation of aquatic habitat.

Impacts from Recreation Management. Closing 57,851 acres to OHV use would prevent rutting and destruction of streambank cover, which would decrease sedimentation of stream bottoms in affected streams.

The construction of recreation facilities and subsequent increased visitor use would damage streambank cover on an estimated 1/2 mile of fishery streams.

Impacts from Rights-of-Way Management. Excluding rights-of-way construction along fishery habitat would prevent siltation and streambank deterioration.

CUMULATIVE IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)

The management actions identified in this alternative would result in a rapid improvement of the majority of fishery streams in the planning area. Mineral withdrawals, 4-inch minimum stubble height requirements and elimination of timber harvest would decrease sedimentation, stabilize streambanks and improve streambank cover.

IMPACTS ON LIVESTOCK GRAZING MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Livestock Grazing Management. Livestock forage in the Planning Area would be expected to improve in quantity and quality over the life of the plan by achieving proper total forage utilization levels in riparian areas and on uplands, implementing AMPs or CRMAPs, maintaining existing treatments and projects in some units, and indirectly, by improved livestock distribution patterns by implementing 4" minimum stubble heights in riparian areas, a maximum forage utilization rate of 20-40% on all uplands, and range readiness. More intensive livestock management and use supervision would be necessary. About 8,553 AUMs would be unavailable for allocation as a result of implementing these measures on about 434,058 suitable acres.

Impacts from Soil and Water Resource Management. Vegetation treatments designed to increase plant basal cover, and implementing soil erosion and watershed mitigation measures would increase forage quality and quantity and help improve livestock distribution over the life of the plan. Allocation of all additional available forage to meet watershed objectives would potentially result in some livestock grazing treatments or projects being deferred or not developed. Requiring all plans for surface disturbing activities to contain measures to minimize soil loss and disturbance would decrease potential loss of soil productivity. Potential livestock treatments on 120,151 suitable acres in units D-22, D-24, D-25 and D-26 would be affected.

Impacts from Riparian Zone Management. Managing livestock utilization to maintain a 4" minimum stubble height for key herbaceous forage species in riparian zones would reduce livestock allocations on several allotments. This reduction is discussed under impacts from Livestock Grazing Management above. More intensive supervision and operator management would be required in order to phase in this minimum stubble height.

Requiring livestock treatments and management to meet riparian management objectives for big game winter range within riparian zones in unit D-11 (10,907 suitable acres) and restricting treatments on an additional 8,952 suitable acres in riparian unit D-12 for sage grouse broodrearing areas would probably increase costs and time for planning and implementation of treatments, or possibly operator's costs, for livestock management on these lands.

Implementing riparian zone management actions and other mitigation would, over the life of the plan, improve and increase available forage.

Impacts from Special Status Plant and Animal Species and Habitat. Not authorizing domestic sheep grazing, or treatments or maintenance of treatments, in unit D-1 (South Beaver Creek ACEC, in order to protect skiff milkvetch populations from trampling, sheep use, and destruction would require a change in the class of livestock for a portion of allotment 6311, and would preclude treatments on 5,902 suitable acres.

Not authorizing domestic sheep grazing in the Redcloud Peak ACEC in order to prevent destruction of Uncompahgre fritillary butterfly habitat would result in a reduction of about 118 AUMs on 1,065 suitable acres, since a change of livestock class to cattle would be unlikely in this unit.

Not authorizing livestock grazing on 54 acres along Red and East Elk Creeks in unit D-13 to maintain bald eagle habitat would continue these lands as being unavailable for allocation.

Impacts from Wildlife Habitat Management. Maintaining existing treatments and developing new wildlife treatments on uplands and within riparian areas, allocating new available forage to meet watershed objective first, potentially reducing big game numbers in GMUs 54, 55, 551, and a part of GMU 64, and implementing other wildlife mitigation measures would result in improved livestock distribution and forage quality over the life of the plan.

Not authorizing any livestock grazing in the Bighorn-A (unit D-4), and Bighorn-B (unit D-5) ACECs and not authorizing domestic sheep grazing in unit D-17 or D-20 south and west of Lake City on 31,651 suitable acres in order to prevent disease transfer to bighorn sheep, to improve habitat, and to help herd numbers increase would result in cancellation of grazing permits and livestock reductions of 3,502 AUMs. Not authorizing sheep grazing on the part of unit D-20 north of Lake City would result in a change of class of livestock to cattle only on affected allotments. Not authorizing livestock grazing in allotment 6200 in units D-16 and D-10 on 837 suitable acres would reduce livestock forage allocations by 114 AUMs. Not authorizing domestic sheep grazing on 1,617 suitable acres in allotment 6056 in unit D-16 to also reduce forage competition would reduce livestock forage allocations by 54 AUMs. Not authorizing domestic sheep grazing in allotment 6112 in units D-16 and D-19, and on the remainder of unit D-6 would result in a change of class of livestock on these allotments to cattle only.

Limiting fall livestock use to four days in order to provide more use of fall vegetation regrowth by wildlife on 2,400 suitable acres in GMUs 55 and 551 would result in the need for more intensive livestock grazing administration, while providing more forage during the affected time of year. Excluding treatments on 63,252 suitable aces on wildlife habitats would eliminate opportunities to increase or improve forage on these lands. Restricting livestock treatments on about 362,170 suitable acres and restricting grazing administration on about 148,710 acres for management of wildlife habitats would possibly increase costs and time for planning and implementation, or operator's costs for livestock management.

Impacts from Fishery Resources (Aquatic Habitat Management). Pursuing and acquiring instream flow appropriations on 13 miles of fishery streams and implementing fishery resource mitigating measures in activity plans to improve upon or prevent damage to or loss of fishery stream channels and associated riparian resources would indirectly improve forage quantity and quality, over the life of the plan.

Impacts from Forest Management. Commercial timber and woodland harvests would, over the life of the plan, increase forage and help improve livestock distribution on some of the 34,679 acres of suitable commercial forest lands and 27,352 acres of suitable woodlands available for harvest. Mitigating measures and harvest restrictions, especially within riparian areas, would help limit removal of forage in affected areas during harvesting of forest products.

Excluding livestock for five years in Unit D-21 on reforested sites or treated areas could result in temporary reductions of forage allocated to livestock, and more administration of livestock would be required.

Impacts from Recreation Management. Restricting livestock grazing treatments and projects and managing grazing to maintain recreation settings on 37,867 suitable acres in unit D-19 would limit the scope of these future proposals and possibly increase BLM's or operators' management and use supervision time or costs. Designation of an additional 14,389 acres of public land as closed to OHV traffic, and limiting OHV traffic on an additional 34,943 acres to designated routes yearlong would reduce livestock harassment and management concerns on these lands.

Impacts from Visual Resource Management. Not permitting livestock grazing on 1,040 suitable acres in unit D-8, American Basin ACEC in order to maintain and protect scenic resources would reduce livestock allocations by 250 AUMs.

Not authorizing livestock grazing on 147 suitable acres on allotment 6200 (Dillon Pinnacles ACEC, unit D-8) would reduce livestock allocations, the impact of which is discussed under livestock allocations, the impact of which is discussed under wildlife habitat management.

Impacts from Transportation and Access. Acquiring access into 6 new acres for livestock grazing administration would improve management of the grazing program, but 2 of the 6 would be for public access, which would result in some degree of additional livestock harassment and vandalism to livestock facilities.

Impacts from Acquisition of Non-Federal Lands. Acquiring 40 acres of private land in unit D-19, Powderhorn SRMA, would result in an increase of about 20 AUMs of new available forage for allocations.

CUMULATIVE IMPACTS ON LIVESTOCK GRAZING MANAGEMENT

Eliminating or not authorizing livestock grazing and implementing minimum stubble heights and 20-40% utilization rates would result in a net decrease of 12,406 AUMs. Long-term livestock forage condition, vigor, and distribution would be improved as a result of vegetative treatments and improvements in forage quality and quantity.

IMPACTS ON FOREST MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Forest Management. Approximately 34,679 acres of suitable commercial forest lands and 27,352 acres of suitable woodlands would be available for harvest. This would result in an annual harvest of approximately 1,040 MBF of commercial forest products, 565 cords of fuelwood, and other forest products.

Impacts from Soil and Water Resources Management. Erosion control requirements would eliminate timber harvests on 250 acres of commercial forest lands. This would result in a loss of 7.5 MBF annually.

Impacts from Riparian Zone Management. Restrictions in riparian zones would eliminate timber harvests on 1,000 acres of commercial forest lands. This would result in a loss of 30 MBF annually.

Impacts from Wildlife Habitat Management. Harvest restrictions on crucial big game winter ranges would eliminate harvest on 138 acres resulting in a loss of 5 MBF annually. Requirements for non-game habitat would eliminate harvest on 1,000 acres of commercial ponderosa pine, resulting in a loss of 30 MBF annually. Leaving sufficient cover for elk hiding cover would eliminate harvest on 2,000 acres of commercial forest lands resulting in a loss of 60 MBF annually.

Restrictions on timber harvest from May 1 to June 30 in elk calving areas would shorten the usual six month harvest season by two months.

If an estimated 10 goshawk nests are located, 1,260 acres of commercial timber would not be available for harvest, resulting in a loss of 38 MBF per year. Protecting other raptor nestsites would remove 500 acres from the timber base, resulting in a loss of 15 MBF per year.

Limiting road construction to 1.5 miles per square mile would preclude harvest on approximately 500 acres of commercial forest lands, which would result in a reduction of 15 MBF per year.

Impacts from Recreation Management. Restrictions on timber harvests in units D-17, D-19 and D-20, to enhance recreation management and primitive ROS settings, would eliminate timber harvest on 14,285 acres of commercial forest lands. This would result in a loss of 428 MBF annually.

Increasing recreational use on High Mesa would create a serious safety hazard along the switchbacks on the High Mesa Road between logging trucks and recreational vehicles.

Impacts from Visual Resource Management. Managing the commercial forest lands within two miles of the Powderhorn SRMA under VRM class II objectives would eliminate timber harvests on 2,500 acres of commercial forest lands, which would result in a loss of 75 MBF annually.

Impacts from Fire Management. Identifying Management Unit D-21 for conditional suppression could result in wildfires within approximately 1,000 acres of commercial timber, potentially resulting in a loss of 30 MBF annually.

CUMULATIVE IMPACTS ON FOREST MANAGEMENT

Restrictions on timber harvests would eliminate sustained yield harvest on approximately 24,433 acres of suitable commercial forest lands resulting in a loss of 733 MBF annually. A total of 34,679 acres of suitable commercial forest lands would be managed for sustained yield production which would result in an annual harvest of 1,040 MBF.

An additional 8,090 acres of suitable woodlands would be available for harvest annually (27,352 acres total), potentially increasing annual harvest by 165 cords, for a total of 565 cords annually. Other forest products would also be available for harvest (Christmas trees, wildings, etc.).

IMPACTS ON RECREATION MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Recreation Management. Improved and additional campground facilities, improved hiking trails, and increased interpretation and visitor contacts would enhance visitor use and their enjoyment and understanding of the Planning Area.

Closing areas to OHV use and limiting camping use to designated sites in the Powderhorn SRMA would preserve the area's primitive recreational setting. In this alternative, 54,620 fewer acres would be open to OHV use, 14,389 more acres would be closed, and OHV traffic on 40,231 more acres would be limited (+5,288 seasonally and +34,943 acres to designated routes yearlong).

Impacts from Locatable Minerals Management. Withdrawing 78,922 acres of federal mineral estate from mineral entry and location would preclude surface disturbance from mining on these lands, 8,980 acres of which have a high likelihood for the occurrence of locatable minerals, and would protect the integrity of recreation settings and experiences. Managing 101,550 acres of lands with a high potential for the likelihood of occurrence of locatable minerals as open to mineral entry and location could significantly alter recreation settings and experiences throughout the Planning Area.

Impacts from Saleable Minerals Management. Potential adverse impacts to recreation settings and experiences from mineral material related surface disturbance would be minimized by mitigating measures applied to disposal authorizations. Extraction of saleable mineral materials could lower scenic quality, thus altering natural settings.

Impacts from Wildlife Habitat Management. Improvement of wildlife habitat through land treatment projects, seedings, and stream rehabilitation would result in marginal increases in the numbers of recreationists, primarily fishers and hunters. The protection of potential raptor rest sites in Cochetopa Canyon would significantly reduce the development of recreation facilities in the Cochetopa SRMA.

Impacts from Livestock Grazing Management. Prohibiting sheep grazing on 9,456 acres would improve the visual setting and eliminate undesirable odors for users of these lands.

Impacts from Wild and Scenic River Study Segment Recommendation. If eventually designated into the National Wild and Scenic Rivers System, awareness of Segment A of the Lake Fork of the Gunnison River and the recognition the stream would receive would result in some increase of motorized vehicular traffic from visitors, and an increase in hikers to Sloan Lake and the American Basin drainage. Opportunities for solitude would be diminished, and other visitors may choose different lands for recreation experiences in a less crowded environment.

Impacts from Visual Resource Management. Raising VRM Class objectives on nearly the entire planning area would at least maintain the present ROS setting and in most areas would enhance scenic quality for related recreational uses.

Impacts from Historical Resource Management. The identification, stabilization and interpretation of historical resources would significantly enhance the setting and experience of recreation visitors.

Impacts from Transportation and Access. Acquisition of public access into six areas would increase recreational visitor use and would permit access to more public lands for recreational activities such as hunting, sightseeing and OHV use.

Impacts from Acquisition of Non-Federal Lands. The acquisition of inholdings and lands with significant recreation resources would expand recreational opportunities and would eliminate potential private development.

CUMULATIVE IMPACTS ON RECREATION MANAGEMENT

Improved recreation facilities and development of additional campgrounds would increase the number of visitors to this areas by an estimated 30% over the life of this plan. About 54,620 fewer acres would be open to OHV use, 14,389 more acres would be closed to OHV use, 5,288 more acres would have OHV traffic limited seasonally, and 34,943 more acres would have OHV traffic limited to designated routes yearlong. These changes in OHV designations would result in fewer acres being accessible to OHV users. Opportunities for solitude would increase on these affected lands, however.

IMPACTS ON OUTSTANDINGLY REMARKABLE SCENIC VALUES IN SEGMENT A, LAKE FORK OF THE GUNNISON RIVER WILD AND SCENIC RIVER STUDY CORRIDOR

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from the Recommendation. In this alternative, the 13.3 mile Segment A of the Lake Fork of the Gunnison River from Sloan Lake to Wager Gulch WOULD BE RECOMMENDED as being preliminarily suitable for inclusion into the National Wild and Scenic Rivers System (NWSRS). The resultant potential and significant impacts to the outstandingly remarkable scenic values (values) that qualify this segment to be eligible for inclusion are discussed below. Interim management in Alternative D would protect values from all discretionary actions that might result in adverse impacts that could cause these values not to be present at the time Congress decides upon designation or non-designation. If eventually designated into the NWSRS by Congress, the segment would be recognized and managed under the "recreation" classification (assuming this classification would be adopted in designation legislation). Management actions would be developed to address permanent river management needs, and would be incorporated into the plan for the Alpine Triangle SRMA or a separate plan for the segment.

Impacts from Locatable Minerals Management. If mineral activity occurs on about 2,075 acres not currently withdrawn or proposed to be withdrawn within the segment in this alternative, values would be altered. The alteration would occur on lands located outside the existing "Loop Road" withdrawal C-0125423 or the proposed American Basin ACEC (proposed to also be withdrawn). Impacts would be greatest if vegetation removal or land form changes occur. The lands that would not be withdrawn have a high potential for the occurrence of locatable minerals. Required reclamation would limit impacts to the short-term.

Impacts from Wildlife Habitat Management. Eliminating domestic sheep grazing in Units D-17 and D-20 to enhance wildlife habitat would in turn result in a more naturally appearing landscape on 2,720 acres or about 8.9 miles of public land.

Impacts from Recreation Management. Increased visitation over the life of the plan of about 30% under this alternative (same as in Alternative A, Continuation of Current Management) would result in some slightly greater impacts to scenic values along the road and river, primarily as a result of physical impacts caused by increased numbers of people and motorized vehicular use off designated routes, and the actual increase in the presence of vehicles and people. Scenic impacts from OHV use off designated routes would be mitigated by implementing patrols and other actions in the management plan for the Alpine Triangle Special Recreation Management Ares (SRMA), and the proposed American Basin ACEC. Eliminating livestock grazing in Unit D-8 for enhancement of recreation and scenic resources would result in the scenic quality being more naturally appearing on 1,552 acres or about 1.8 miles of public land.

Impacts from Visual Resource Management. Managing 1,577 acres in the segment in the proposed American Basin ACEC under VRM Class I objectives would result in surface disturbing activities being required to be naturally appearing upon the completion of the activity.

Impacts from Wilderness Study Area Management. Impacts in this alternative are analyzed assuming that WSA status would not be in effect, in the event that Congress acts on, and decides not to designate any part of any WSA as wilderness. If any part of Segment A is designated as wilderness, those lands would be managed as wilderness. Refer to **Impacts from WSA Management** in the discussion of impacts of Alternative A (Continuation of Current Management) for impacts applicable to all alternatives, as long as WSA status applies.

Impacts from Rights-of-Way Management. Managing 1,577 acres in Unit D-8 (American Basin ACEC as a rights-of-way exclusion area, and 2,408 acres in Units D-17 and D-20 as rights-of-way avoidance areas would result in few, if any future surface disturbing activities from this land use. Rights-of-way are prohibited in the existing "Loop Road withdrawal C-0125423 (330 acres).

Impacts from Withdrawals and Classifications. Continuing the BLM protective withdrawal C-0125423, and effecting the withdrawal in the proposed American Basin ACEC would close these lands to mineral entry and location, and would protect scenic values by precluding most surface disturbing activities within Segment A on 1,907 of the 4,315 acres of public land. If the President recommends the segment to Congress for designation, a temporary three-year withdrawal would take effect that would segregate (1), the federal mineral estate from entry and location under the general mining laws, and (2), the federal surface estate from future appropriation under the general land laws, thereby protecting the values in the segment from surface disturbance during this period.

CUMULATIVE IMPACTS ON VALUES IN SEGMENT A

Increased recreation use, primarily off-highway vehicle use, could result in some increase of impacts to scenic values. Impacts from other activities would be offset by required compliance with patrols, BLM's surface management regulations, required plans of operation in the proposed ACEC, special ACEC management attention, rights-of-way exclusion and avoidance areas, VRM Class I objectives in the ACEC, and management actions in the plan for the Alpine Triangle SRMA.

If designation occurs, more attention and recognition would bring in more visitors, potentially resulting in more impacts to scenic values.

IMPACTS ON VISUAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Visual Resource Management. Managing the Redcloud Peak RNA/ACEC (D-2, 5,950 acres), American Basin ACEC (D-8, 1,577 acres), and the Dillon Pinnacles ACEC (D-10, 190 acres) under VRM Class I objectives would improve or maintain scenic quality on these lands as a result of more restrictive visual resource objectives. Managing nearly the remainder of the entire planning area under VRM class II objectives, which generally require more mitigation of impacts to scenic quality then current VRM ratings, would enhance the visual quality of the area or result in a greater degree of mitigation of visual impacts.

IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Archaeological and Historical Resource Management. The gathering of archaeological or historical information required by law in response to project development or proposed disturbance would contribute to our current knowledge and data base. However, any physical disturbance and extraction of information from sites, other than that for documentation, would remove that data from context, and destroy the integrity of sites.

CUMULATIVE IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Existing policies, procedures, and regulations would provide for the protection, preservation and enhancement of sites from authorized projects. Effects from other dispersed activities, and nature, are not subject to standard operating procedures, thus these effects would not be mitigated and preventative or corrective actions would not be implemented.

Increased visitor use could result in some increase in vandalism, theft, and destruction of sites. These impacts would be reduced by interpretation and education.

IMPACTS ON RIGHTS-OF-WAY

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Rights-of-Way and Corridor Management. Designation of 63,863 acres of rights-of-way exclusion areas and 129,144 acres as rights-of-way avoidance areas would result in additional costs to utility companies in planning, designing, and constructing facilities around these areas.

Seasonal restrictions on rights-of-way construction could increase the proponent's costs.

CUMULATIVE IMPACTS ON RIGHTS-OF-WAY

Designating 193,007 acres of public land as either rights-of-way exclusion or avoidance areas, and restricting construction seasonally would increase development costs.

SHORT-TERM USE VS. LONG-TERM PRODUCTIVITY

SOIL AND WATER RESOURCES

Mineral development would potentially result in some increases in long-term erosion and sediment yields and possibly some decrease in the quality of surface waters from mine discharge and spoil pile runoff. Some loss in soil productivity would be expected in areas where surface disturbing activities are proposed. Uplands and riparian zones proposed for intensive livestock and wildlife management would experience improved soil and water resource conditions.

RIPARIAN ZONES

Implementing IGMCs and changes in livestock grazing utilization would result in long-term improvement in riparian vegetation conditions.

WILDLIFE HABITAT

Big game, upland bird, and non-game habitat would be improved under this alternative. Colorado Division of Wildlife long-term herd goals for elk and deer, on public lands, would be achieved. A marked improvement in fishery streams would be realized primarily due to the reduction of total forage utilization in riparian areas.

LIVESTOCK GRAZING

Restrictions on livestock grazing would reduce carrying capacities and would result in long-term elimination of some livestock forage allocations from total preference.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

MINERALS

Once a particular area has been committed to a single, non-mineral use, it is not likely that the use would be reversed. Thus, mineral deposits within these areas would be irreversibly committed to not being developed and would be unavailable.

SOIL AND WATER RESOURCES

The loss of soil through wind and water erosion would be irretrievable.

VISUAL RESOURCES

Construction of permanent structures such as roads, buildings, and powerlines would result in an irretrievable reduction and loss of scenic quality.

ARCHAEOLOGICAL AND HISTORICAL RESOURCES

The loss of archaeological sites and information would be irretrievable.

DISPOSAL OF PUBLIC LANDS

Disposal of public lands would result in a loss of administrative control of all resource values on these lands except any valid existing rights and existing land use authorizations.

IMPACTS OF ALTERNATIVE E (PREFERRED ALTERNATIVE)

IMPACTS ON SOCIAL AND ECONOMIC CONDITIONS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Any increase in operating costs because of plans of operations being required would lower the potential for economic production. These requirements would not have measurable social or economic impacts on the Planning Area.

Impacts from Oil, Gas, and Geothermal Management. The Planning Area would not experience measurable social or economic impacts because of the low potential for occurrence of these resources.

Impacts from Wildlife Habitat Management. Increases in forage supply could translate into increases in game populations and in associated recreational activities, which could lead to increases in Planning Area income and employment.

Impacts from Livestock Grazing Management. Eliminating grazing in certain areas and not allocating any additional forage to livestock would reduce present preference by 927 AUMs. Any decreases in AUMs could result in financial losses for the affected ranching operations.

Impacts from Forest Management. The potential sale of 1,200 MBF of commercial timber would support area income and employment and produce $30,000 in federal revenue. On the other hand, 530 MBF of potential harvest would not be available for production and would mean a potential loss of $13,000 of federal revenue.

Impacts from Recreational Management. The economic benefits from recreation opportunities would be medium to high, but unmeasured, and would depend on the area of the impact. Benefits would occur in those businesses providing tourist and recreation sales and services. All ESA counties are dependent on tourism related incomes sectors for their socio-economic well being and would receive a positive impact to income and employment from a 40% increase in recreation activity.

CUMULATIVE IMPACTS ON SOCIAL AND ECONOMIC CONDITIONS

The cumulative impact on the local economy is likely to be beneficial. The actual impact is localized but not presently quantified.

IMPACTS ON LOCATABLE MINERALS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Locatable Minerals Management. Identifying 674,490 acres of federal mineral estate, of which 105,368 acres have a high likelihood for the occurrence of locatable minerals, as open to mineral entry and location would make these lands available for exploration and development under the general mining laws.

Impacts from Withdrawals. Withdrawing 54,077 acres of federal mineral estate from mineral entry and location would preclude any possible mineral exploration or development of these lands. These lands would be withdrawn for protection of recreation and scenic (53,305 acres), and riparian (395 acres) values, and for R&PP classifications and agency protective withdrawals (362 acres). The lands which would be withdrawn contain about

5,160 acres with a high likelihood for the occurrence of locatable minerals.

IMPACTS ON OIL, GAS, AND GEOTHERMAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Oil, Gas and Geothermal Management. Managing 680,911 acres of federal oil and gas estate as open to the leasing of fluid minerals would result in these resources being available. About 46,007 acres not being available and 85,567 acres with stipulations would result in little impact to the oil and gas program because of little likelihood for the occurrence of these resources.

IMPACTS ON SALEABLE MINERALS

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Saleable Minerals Management. Permitting the disposal of mineral materials on 666,530 acres of federal mineral estate would more than satisfy the current demand of 12,500 cubic yards annually and meet the anticipated future demand. Not permitting the disposal of saleable mineral materials on 62,037 acres of federal mineral estate, or implementing seasonal closures for mineral material disposal on 188,970 acres of federal mineral estate, would not result in any significant impact due to the amount of materials which would remain available.

IMPACTS ON SOILS AND WATER RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Soil and Water Resources Management. The continued implementation of the "Long Gulch Sediment Control and Riparian Habitat Improvement Project" would continue to reduce downstream sediment yields by up to 300 tons per year, increase vegetation production for watershed protection, improve the hydrologic functions of the riparian zone by raising the alluvial water table, and provide some downstream flood control benefits by reducing peak flows from runoff events.

Erosion control projects, including those primarily designed to increase plant basal cover on uplands, would indirectly result in improved watershed conditions. Securing minimum instream flows, where appropriate, would protect water quality and hydrologic functions. Maintaining roads and existing water source developments in good condition would reduce erosion and sedimentation.

Impacts from Locatable Minerals Management. If mineral development occurs on 674,490 acres in the Planning Area identified as open to mineral entry and location, increased sedimentation and physical damage to stream beds or banks could potentially result. These impacts would most likely occur somewhere within the 105,368 acres that have a high likelihood for the occurrence of locatable minerals. Physical disturbance to stream channels and increases in sedimentation would be greatest from placer mining operations. Heavy metal contamination of surface water is possible from mine water discharges and spoil-pile runoff. Heavy metal pollution is usually associated with mine drainage resulting from the oxidation of pyrite. The highest potential for this situation to occur is on lands south and west of Lake City and 1,200 acres near Iris and Midway. Underground mining operation create the potential for ground water aquifer dewatering and mixing of water from different aquifers, diminishing both groundwater quantity and quality.

Impacts from Oil, Gas, and Geothermal Management. No significant environmental impacts are anticipated from one or two wells. If any development were to occur, surface-disturbing activities such as road and drill pad construction could result in increased sediment yields. Accidental fluid discharges, such as produced water during drilling operations could contaminate surface waters and soils. Seasonal or no surface occupancy stipulations in this alternative would lessen these potential impacts if development occurs.

Impacts from Saleable Minerals Management. Surface disturbance from mineral material disposal would increase erosion and sediment production, and decrease soil productivity. Operations in close proximity to perennial water courses would have the potential effect of destabilizing and altering natural stream channels and disrupting the beneficial values of floodplains. Springtime seasonal stipulations in this alternative for this activity would lessen potential impacts by eliminating vehicle use and disturbance in wet areas.

Impacts from Riparian Zone Management. Managing riparian areas to improve conditions, and to enhance natural values, especially by implementing projects designed to improve stream hydrologic functions, would result in improved stream channel stability, water quality and quantity, and streamflow duration.

Impacts from Special Status Plant and Animal Species and Habitat Management. Stipulations in this alternative aimed at controlling surface-disturbing activities, such as mineral material disposal and rights-of-way construction, would minimize accelerated sediment yields and prevent degradation to local surface water quality conditions.

Impacts from Wildlife Habitat Management. Vegetation treatments and other wildlife management actions designed to increase shrub densities and otherwise improve habitat quality on uplands and to protect, restore, and enhance riparian areas would result in improved hydrologic, soil erosion, and watershed conditions on these areas.

Impacts from Livestock Grazing Management. Implementing range readiness criteria, total forage utilization levels, and minimum stubble heights would result in planning area-wide improvements in general watershed and hydrologic conditions, stream channel stability and soil erosion rates. Short-term sediment yield increases expected from vegetation treatments would be more than offset by the new available forage being used first to satisfy watershed objectives.

Managing 320 acres of public land in the Wildcat Creek drainage as unavailable for livestock grazing would help maintain and protect the water quality of Crested Butte.

Developing new, or relocating existing water sources to reduce livestock utilization in riparian areas would result in localized hydrologic and soil conditions being improved.

Impacts from Forest Management. Harvests of forest products and associated road construction would increase sediment production and soil compaction and erosion. Limiting road construction in riparian areas would maintain the existing soil and hydrologic conditions. Erosion control objectives and mitigating measures required in all timber harvest activity would reduce sediment production and soil compaction and erosion, and other impacts to water quality and hydrology. Requiring riparian values to be maintained during timber harvests would prevent additional disturbance, and allow existing soil and hydrologic functions to be maintained.

Impacts from Recreation Management. Sediment yields and erosion rates would be reduced as a result of 9,923 fewer acres that would be open to OHV use and 5,066 more acres on which OHV use would be limited to designated routes.

Impacts from Transportation and Access. Acquiring access into 12 areas for better resource management would indirectly improve soil and hydrologic conditions. Some increase in sediment yield would occur if these actions result in new road construction or extraordinary improvement or maintenance of existing roads.

Impacts from Rights-of-Way Management. Excluding rights-of-way development on 51,406 acres, identifying 85,387 acres as avoidance areas, and seasonally restricting rights-of-way construction on 155,870 acres would result in accelerated erosion and sediment yields being minimized.

Impacts from Areas of Critical Environmental Concern. Limitations to surface-disturbing activities as a result of special management attention for

protection of various resources on 42,261 acres within six ACECs would maintain or improve water quality and maintain or decrease accelerated erosion and sediment yields.

CUMULATIVE IMPACTS ON SOILS AND WATER RESOURCES

Overall hydrologic functions of riparian areas would be expected to improve. Future water quantity protection would be provided on 113 miles of fisheries if minimum stream flows are secured. Sediment and erosions rates would be expected to decrease where surface-disturbing activities, including OHV use, are reduced, where total forage utilization levels are implemented, and where plant basal cover objectives are achieved.

IMPACTS ON RIPARIAN ZONES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Riparian Zone Management. Overall riparian conditions would be improved and natural values would be enhanced. Limiting road construction and mitigating water source developments would minimize removal of vegetation and help improve riparian conditions. Requiring mitigating measures in all plans for surface-disturbing activities would help reduce site specific riparian area deterioration. Restricting potential oil and gas development and associated surface disturbance under a controlled surface use stipulation would protect riparian vegetation in Unit E-14, and prevent removal of sage grouse brood rearing habitat as a result of these activities.

Impacts from Locatable Minerals Management. Existing and proposed withdrawals that segregate the federal mineral estate from mineral entry and location would protect about 117 miles of identified riparian zones from potential vegetation loss and other disturbances associated with mining locatable minerals. About 33 of these miles are within areas having a high likelihood for the potential for the occurrence of locatable minerals. The remainder of identified riparian zones, about 617 miles, would be open to mineral entry and location, and if mining were to occur, some loss of vegetation and other mining associated disturbances could occur. About 96 of these miles are within areas with a high potential for the occurrence of locatable minerals. Reclamation requirements would limit these impacts to the short-term.

Impacts from Saleable Minerals Management. Damage to and removal of the riparian vegetation type as a result of surface disturbance from mineral material disposal would be minimized by mitigating measures that would limit disturbance to the short-term.

Impacts from Soil and Water Resource Management. Vegetation treatments designed to increase plant basal cover and reduce accelerated soil erosion would enhance riparian areas by reducing the quantity and timing of water and sediment delivery. Acquisition of water rights, where appropriate, including instream flows, would improve the overall condition of riparian areas by improving the dependability of surface and sub-surface water. Mitigation measures required for erosion reduction in all surface-disturbing plans would indirectly help reduce riparian area deterioration.

Impacts from Wildlife Habitat Management. The improvement in upland and riparian areas through proposed management and vegetation treatments would maintain and help improve the condition of riparian areas. Managing fishery streams to improve their condition would indirectly help improve overall riparian zone conditions.

Acquisition of instream flow water rights along 113 miles of fishery stream would indirectly enhance and help improve the overall condition of riparian vegetation along these streams. Implementing mitigation required in all plans for surface disturbance involving fishery streams would indirectly help maintain or reduce riparian area deterioration.

Impacts from Livestock Grazing Management. Implementing livestock grazing management actions, including increasing use supervision, limits on total forage utilization, a cooperative weed-control program, minimum stubble heights, and range

readiness would result in an improvement in plant vigor which would lead to healing and building of streambanks while down-cut or incised stream channels would stabilize. The elimination of livestock grazing, on about 2,700 suitable acres in riparian zones, including fall use in some areas, and the elimination of some season-long grazing would directly result in improved plant vigor, diversity and composition, and an increase in above-ground biomass; streambanks would further stabilize, groundwater recharge would increase, and water tables would rise. Implementing these actions would help achieve an improved condition in riparian zones. The allocation of new or additional forage from vegetation treatments to meet watershed needs first would also improve riparian areas.

Impacts from Recreation Management. The construction of recreation facilities and subsequent use in, or adjacent to, riparian areas would cause less than 50 acres of loss or deterioration of vegetation.

Closing 71 miles of riparian zone to OHV use and limiting OHV use yearlong on 92,927 acres to designated routes would prevent rutting and destruction of vegetation and streambanks.

Impacts from Transportation and Access. The acquisition of proposed easements would facilitate access for riparian management in 12 areas.

Impacts from Acquisition of Non-Federal Lands. Acquisition of non-federal lands containing riparian zones would enhance riparian management on public land and would prevent development of these areas.

Impacts from Rights-of-Way Management. Excluding rights-of-way on 51,406 acres would protect riparian zones on these lands from rutting, compaction, streambank deterioration and channelization. Rights-of-way construction seasonal stipulations and required rehabilitation would help reduce vegetation and soil damage and removal. Designating 85,387 acres as avoidance areas would also help reduce disturbance from rights-of-way construction. Implementing required mitigation from surfacing-disturbing rights-of-way in the remainder of the Planning Area would also minimize disturbance and vegetation removal.

Impacts from Water Power and Storage Reservoir Sites. Construction of reservoirs on inventoried and potential sites would result in the loss of riparian vegetation.

CUMULATIVE IMPACTS ON RIPARIAN AREAS

Current and proposed withdrawals, vegetation treatments and management strategies to reduce soil erosion, intensive riparian management, total forage utilization limits, fall livestock use limits, and restrictions on logging procedures would act synergistically, resulting in stabilization and improvement in the majority of the 14,933 acres of riparian systems in the Planning Area.

IMPACTS ON SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Special Status Plant and Animal Species and Habitat Management. Designation and special management of the 4,565 acre South Beaver Creek ACEC would help to protect the existing populations and potential habitat of skiff milkvetch from accidental destruction and would encourage research and special studies designed to increase our knowledge about this species.

Designation and special management of the 5,947 Redcloud Peak ACEC would help to protect the existing population and potential habitat of the Uncompahgre fritillary butterfly from accidental destruction and would encourage research and special studies designed to increase our knowledge about this species.

Restricting surface-disturbing activities in these ACECs would further prevent accidental loss of species and habitat.

Impacts from Locatable Minerals Management. Mining activity could result in accidental loss or removal of skiff milkvetch or Uncompahgre fritillary butterfly habitat, or other listed or classified species habitat. Required plans of operation would reduce this likelihood, however.

Impacts from Oil, Gas, and Geothermal Management. No significant impacts are anticipated from one or two wells. The proposed no-surface occupancy stipulations would protect both the Uncompahgre fritillary butterfly and skiff milkvetch habitat in the event of any exploratory development.

Impacts from Saleable Minerals Management. Not permitting the disposal of mineral materials on 62,037 acres would prevent the accidental loss/removal of classified or listed habitat or species from surface disturbance from mineral material disposal on these lands. On-site examinations and mitigation required on the remainder of public lands for this discretionary action would further help to prevent accidental loss of species or habitat.

Impacts from Livestock Grazing Management. The elimination of domestic sheepgrazing within the South Beaver Creek ACEC and intensive management of livestock grazing in the Redcloud Peak ACEC would prevent or help prevent accidental loss of special status habitat and species in these areas. Implementing minimum stubble heights in riparian zones would improve habitat conditions for whooping and sandhill cranes, bald eagles, yellow billed cuckoos, and skiff milkvetch.

Impacts from Recreation Management. Limiting OHV use to designated routes and trails yearlong in skiff milkvetch and Uncompahgre fritillary butterfly habitat would help prevent the accidental destruction of the species and their habitat from OHV use.

Impacts from Rights-of-Way Management. Designating and managing public lands in the Redcloud Peak ACEC as a rights-of-way avoidance area and implementing rights-of-way location restrictions on public lands in the South Beaver Creek ACEC containing skiff milkvetch populations would help prevent accidental loss of these habitats and species from this land use.

Impacts from Acquisition of Non-Federal Lands. Acquiring non-federal lands which contain colonies of skiff milkvetch would maintain the present population and increase the population by 35% on public lands.

CUMULATIVE IMPACTS ON SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

Special designations, limiting OHV use and implementing restrictions on livestock grazing and rights-of-way location would protect and enhance habitat for special status species and would help prevent accidental destruction or loss of these species and their habitat in these areas.

IMPACTS ON TERRESTRIAL WILDLIFE AND HABITAT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Wildlife Habitat Management. Land treatment projects, water developments and managing elk and deer populations at recommended levels would increase wildlife forage production, availability, and quality to meet CDOW long-range or big game elk and deer herd goals. Improvement of habitat quality would improve animal distribution, reduce stress and improve forage utilization to acceptable levels in some areas. Minimizing disturbances within big game crucial winter range and elk calving areas would reduce stress and fetal mortality, and increase calf survival.

Designating the 28,215 acre West Antelope ACEC and implementing special management attention would improve and increase big game crucial winter range forage, plant vigor, carrying capacity, and thermal and hiding cover. Limiting forage utilization to a maximum of 50% of key forage species, and working with CDOW to reduce deer numbers on 3,302 acres of crucial big game winter range in GMU 64 near Cimarron would improve elk and deer forage conditions and carrying

capacities on those lands. Bighorn sheep and pronghorn antelope habitat and herd management in this alternative would potentially increase populations of these animals to 500 of each species, an increase of 350 and 200 respectively.

Land treatment projects on 28,147 acres of pronghorn antelope habitat in unit E-11 would improve forb composition of sagebrush communities for sage grouse and pronghorn antelope.

Land treatment or other projects designed to increase understory vegetation within sagebrush communities would improve sage grouse nesting cover, provide nest structure, and increase nesting success on 48,474 acres of high production areas in unit E-11. Improving sage grouse habitat would double existing populations and increase harvest from approximately 500 to 1,000 birds per year. Seasonal and surface disturbance restrictions would protect 27 known leks from destruction and reduce stress and disturbance for strutting sage grouse on about 3,402 acres surrounding these leks.

Increasing vegetative structure and cover within riparian and sagebrush habitat types would increase cover, nesting habitat, foraging areas, and plant species diversity for a variety of wildlife species.

Impacts from Locatable Minerals Management. Withdrawing federal mineral estate from entry and location would preclude loss of 6,545 acres of big game crucial winter range, 3,281 acres of bighorn sheep habitat, 2,074 acres of elk calving areas, and a variety of other habitat on these lands. Requiring plans of operations to be submitted for locatable mineral activity within 38,727 acres in ACECs in units E-5, E-7, and E-8 would provide greater potential for reducing loss of habitat and disturbance to wildlife.

Road construction, surface disturbance, and increased human activity associated with mining activity would eliminate habitat, alter use patterns, increase stress and disrupt nesting and breeding of a wide variety of game and non-game species. The impact of mining activities would potentially be greatest where bighorn sheep habitat, crucial elk and deer winter range and sage grouse lek areas occur on lands with a high likelihood for the occurrence of locatable minerals.

Impacts from Oil, Gas, and Geothermal Management. No significant impacts would occur as a result of drilling one or two wells. Managing federal oil, gas, and geothermal estate as closed to fluid mineral leasing and with a no-surface occupancy stipulation would prevent loss of habitat and disturbance on 15,240 acres of big game crucial winter range, 15,453 acres of bighorn sheep habitat, and on 2,662 acres of elk calving areas if oil and gas leasing were to occur. A variety of non-game and other habitats and species would also be protected on these lands.

Seasonal stipulations on exploration and drilling in the West Antelope ACEC would prevent disturbance during critical periods on 35,447 acres of big game crucial winter range and 13,068 acres of elk calving areas. Controlled surface use and no surface occupancy stipulations would protect 2,417 acres of sage grouse brood rearing habitat from potential oil and gas development and associated surface disturbances in riparian areas (Unit E-14), and 3,402 acres of sage grouse strutting areas surrounding lek sites, respectively.

Impacts from Saleable Minerals Management. Not authorizing mineral material disposal would preclude related surface disturbance on 3,664 acres of big game crucial winter range, 9,023 acres of bighorn sheep range, and 185 acres of elk calving areas, and a variety of other wildlife habitats.

Seasonal restrictions on disposal would prevent related surface disturbance to habitat and species during critical periods on 163,593 acres of crucial winter range, 4,741 acres of elk calving areas, 14,817 acres of potential bighorn sheep lambing areas, 3,402 acres of sage grouse nesting habitat, 2,417 acres of sage grouse brood rearing habitat, and a variety of other habitats on these lands.

Impacts from Soil and Water Resources Management. Increasing ground cover in the sagebrush vegetation type would improve forage, hiding, and nesting cover for sage grouse, pronghorn antelope, bighorn sheep, and other non-

game species. Land treatment projects which result in decreasing sagebrush cover below 25% would eliminate these areas from use by sage grouse for nesting or strutting grounds, and would decrease sage grouse wintering habitat, and possibly grouse populations. Construction of projects designed to decrease soil erosion and improve water quality would improve sage grouse broodrearing habitat, crucial elk and deer winter range and nesting habitat for non-game species.

Impacts from Riparian Area Management. Moving watering facilities from riparian areas where impacts are occurring would improve these areas for sage grouse brood rearing, thermal habitat for elk, deer, and non-game habitat, and would improve livestock distribution. Moving facilities at least 1/8 mile from riparian zones would result in the greatest amount of improvement.

Limiting road construction in riparian zones to an absolute minimum, requiring road crossings to be perpendicular when permitted, and moving or modifying existing roads contributing to excessive erosion would prevent loss of big game crucial winter range, important sage grouse habitat, and reduce disturbance to wildlife from human activity.

Reclaiming or restoring riparian areas would result in improved forage and cover for young sage grouse and many non-game species.

Impacts from Special Status Plant and Animal Species and Habitat. Limiting OHV use to designated routes in the South Beaver Creek ACEC, unit E-8, for skiff milkvetch management, would result in less disturbance yearlong from OHV use on 1,960 acres of elk and deer crucial winter range, and on sage grouse habitat.

Impacts from Livestock Grazing Management. Development of intensive grazing systems with an emphasis on increasing herbaceous vegetation within sagebrush communities would increase cover for sage grouse nesting habitat, structure for non-game and forage for pronghorn antelope.

Limiting total forage utilization to maintain a 4" stubble height along about 83 total miles of riparian areas in units E-2, E-13, E-14, and E-15 on various allotments would improve cover and forage quality for elk, deer, sage grouse and especially young sage grouse, pronghorn antelope, and non-game wildlife, as would managing forage utilization on uplands to no more than 40-60%, including within treated areas. Sage grouse populations would also increase as a result of these actions.

Not authorizing domestic sheep grazing in allotment 6112 in Unit E-2, and all of unit E-10 would prevent the transfer of disease to bighorn sheep from domestic sheep and would provide more forage for big game. Not authorizing any livestock grazing in the North Willow Creek riparian zone and in allotment 6200 in unit E-7 would provide forage and improve forage conditions on big game winter range, prevent disease transfer to bighorn sheep from domestic sheep and would eliminate livestock trespass into the Sapinero State Wildlife Area. Eliminating domestic sheep grazing in unit E-3 and E-8, cattle grazing along Cochetopa Creek riparian area in E-3, and all grazing in E-4 (except for trailing), E-9, and along 1/4 mile of Tomichi Creek and Los Pinos Creek in unit E-15 would improve and provide more habitat, cover, and forage for a variety of wildlife species.

Seasonal restrictions on domestic sheep grazing in allotment 6056 in GMU 64 (unit E-12) and in all of unit E-14 would provide more forage and cover for big game and sage grouse during critical periods. Excluding treatments, restricting treatments and livestock grazing administration, implementing changes in grazing systems, and better vegetation management, would enhance effectiveness of wildlife management objectives on about 154,655 acres within the Planning Area.

Temporary forage allocation reductions or other adjustments in grazing systems, seasons of use and class, allotment categorization, and possibly to livestock improvements that could be made in order to achieve proper forage utilization levels or ranges on uplands or riparian zones could result in long-term increases in forage quality and cover for a variety of wildlife species and habitats.

Continued fall cattle grazing within big game crucial winter ranges in riparian zones would reduce forage for wintering elk and deer. Continued livestock

grazing at existing allocations in the Powderhorn Primitive Area SRMA and in allotments 6208, 6300 and 6309, could result in reduced forage and big game forage quality. Domestic sheep grazing in bighorn sheep ranges south and west of Lake City would result in less forage for, and disease transfer to, bighorn sheep, continued low bighorn sheep numbers, and potentially bighorn sheep elimination from this area.

Impacts from Forest Management. Prohibiting harvesting from May 1 through June 30 on 5,389 acres of suitable commercial forest lands in elk-calving areas would prevent disturbance to elk from logging during calving season. Harvests in elk calving areas would reduce hiding cover for pregnant and young elk, potentially resulting in the areas not being used as calving areas.

Maintaining sufficient elk hiding cover parallel to logging roads and along the perimeter of clear cuts would allow elk the opportunity to use forage produced in the clear cuts without being disturbed from activity on nearby roads, and would screen wildlife from human activity, thereby helping reduce stress and disturbance to animals.

Requiring riparian zone values to be maintained during timber harvests would protect large trees for non-game wildlife and maintain a variety of habitats. The prescribed management in Appendix A for non-game wildlife regarding timber harvests would provide snags for nesting habitat, perch trees for raptors and brush piles and logs for small mammals.

Harvesting ponderosa pine and douglas fir on a sustained yield basis could decrease big game thermal and hiding cover at the rate of 100-150 acres annually.

Development of additional roads in elk summer range would also decrease hiding cover, and increase human activity, potentially resulting in changes of traditional use patterns.

Impacts from Recreation Management. Development of a visitor and administrative center in Lake City could result in more effective educational programs about wildlife and habitat to the visiting public.

Designating 600 acres of public land within the Sapinero State Wildlife Area as closed to OHV use would ensue OHV management consistency with the adjoining CDOW land and would improve management of the general area for wildlife. Continuing to limit OHV use from December 1 through March 31 to designated routes, if necessary, on 56,740 acres of crucial elk and deer winter range North of U.S. Highway 50 would prevent disturbance to these animals during the most critical portion of the year.

Development of recreation facilities and the associated increased visitor use within the Alpine Triangle SRMA would continue to displace bighorn sheep and elk, especially along Henson Creek and the upper stretch of the Lake Fork of the Gunnison River, resulting in loss of habitat and utilization of forage species in other, more isolated, areas. Development of campsites and the associated increased use along the Cochetopa Creek would eliminate bighorn sheep use within 1/2 mile of these areas, and could deter raptors from using the area.

Impacts from Transportation and Access. Acquiring public road access into the Rock Creek Park area via Management Unit E-10 and increasing human activity in a previously inaccessible area would disrupt bighorn sheep range and lambing areas, and would force the herd onto marginal habitat. Acquiring public access into elk summer ranges and elk calving areas could result in eventual timber harvests and road building for logging, which would disturb elk, reduce habitat and cover, and increase human activity.

Impacts from Acquisition of Non-Federal Lands. The acquisition of private lands in crucial elk and deer winter range would prevent the loss of habitat through subdivision development and human activities.

Impacts from Rights-of-Way Management. Disturbances to species and habitat on about 40,613 acres of bighorn sheep range and 4,752 acres of crucial big game winter range would possibly be

precluded as a result of designating rights-of-way avoidance areas in the Planning Area. Rights of way development and disturbance to species and habitat would be precluded on 135 acres at 27 sage grouse leks where rights-of-way are excluded. Seasonal stipulations on rights-of-way related construction would prevent disturbance on 134,751 acres of crucial big game winter range, 3,402 acres of sage grouse nesting habitat and 2,605 acres of brood rearing habitat, and 15,112 acres of potential bighorn sheep lambing areas during critical periods.

Impacts from Rights-of-Way Corridor Management. Construction of major utilities within two designated corridors would result in removal of wildlife habitat, the amount depending on necessary construction clearing.

CUMULATIVE IMPACTS ON WILDLIFE HABITAT

Removal of and disturbance to crucial winter range, elk calving areas, and sage grouse habitat from vegetation treatments, logging, and potential locatable mineral activity would be offset by other resource management outputs and stipulations, seasonal restrictions, and habitat increases and better vegetation management throughout the planning area, especially in sagebrush and riparian zones.

Disturbance to species from human and other activity would be reduced on most habitat types during crucial periods. Timber harvest and management guidelines would help improve game and non-game wildlife and habitats.

Increased forage and improved forage quality, and herd size management on crucial winter range would help meet CDOW's long-range elk and deer herd goals, and big game populations could be permitted to increase to eventual desired carrying capacities. Sage grouse, pronghorn antelope, and bighorn sheep numbers would increase to 1,000 harvestable grouse, 500 antelope, and 500 bighorn sheep.

Road densities could increase as a result of forest management, resulting in disturbance to species and removal of habitat. Removal and abandonment of habitat could occur as a result of constructing facilities, and increased recreation visitation.

IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Fishery Resources (Aquatic Habitat) Management. Implementing measures in all plans for surface disturbance to prevent or mitigate damage/loss of fishery stream channels and riparian habitat would result in maintaining or improving the conditions of fishery resources Planning Area-wide. Implementing fishery improvements and projects from activity plans would stabilize and restore stream banks and improve fishery resources as these plans are carried out. Acquiring instream flow water rights on 113 miles of fishery streams would insure sufficient water to maintain the present fish populations.

Impacts from Locatable Minerals Management. Fishery streams within 54,077 acres withdrawn from mineral entry and location would be protected from localized loss of habitat or habitat quality reduction that could occur from mining-related surface disturbance. Habitat loss due to sedimentation and channelization would be greatest if mineral development on the remainder of public lands were to occur in alluvial soils along or in streambanks.

Impacts from Saleable Minerals Management. Some sedimentation within fishery streams would result from mineral material-related surface disturbance on about 666,530 acres where disposal is authorized, but mitigation required for riparian areas, soils and water resources, and fishery streams would minimize the magnitude and longevity of impacts.

Impacts from Soil and Water Resources Management. Vegetation treatments designed to reduce soil erosion would enhance aquatic habitat by decreasing the amount and frequency of runoff and sediments entering the streams.

Impacts from Riparian Zone Management. Restrictions on road construction and water source development and maintenance would limit vegetation loss, sedimentation, and erosion, and directly and indirectly maintain and improve fishery stream conditions.

Impacts from Wildlife Habitat Management. The improvement in upland and riparian areas through proposed management and vegetation treatments would maintain and help improve the condition of fishery streams.

Impacts from Livestock Grazing Management. Implementing livestock grazing management actions, including increasing use supervision, limits on total forage utilization, a cooperative weed-control program, minimum stubble heights, and range readiness would result in an improvement in plant vigor which would lead to healing and building of streambanks while down-cut or incised stream channels would stabilize. The elimination of livestock grazing, including fall use in some areas, and the elimination of some season-long grazing would result in improved plant vigor, diversity and composition, and an increase in above-ground biomass; streambanks would further stabilize, groundwater recharge would increase, and water tables would rise.

The allocation of new or additional forage from vegetation treatments to meet watershed needs first would indirectly improve fishery streams.

Impacts from Forest Management. Excluding timber harvests in some areas, requiring riparian values to be maintained during all timber harvests, and implementing measures designed to protect and maintain watershed, soil, and vegetative resources during timber harvests would prevent riparian zone deterioration and indirectly and directly maintain fishery stream conditions.

Impacts from Recreation Management. The construction of recreation facilities and subsequent use in, or adjacent to, fishery streams would cause the deterioration of habitat quality through vegetation removal and sedimentation. The areas affected by such development would be less than 50 acres.

Closing about 1,276 acres of riparian zones to OHV use and limiting OHV yearlong use on 3,927 acres to designated routes would prevent rutting and destruction of vegetation and streambanks, and indirectly maintain fishery conditions in these areas.

Impacts from Transportation and Access. The acquisition of proposed easements would facilitate access for fishery stream management in 12 areas.

Impacts from Acquisition of Non-Federal Lands. Acquisition of non-federal lands containing riparian zones would indirectly enhance fishery stream management on public lands and would prevent development of these areas.

Impacts from Rights-of-Way Management. Excluding rights-of-way from about 963 acres of riparian areas along fishery streams would protect these areas from rutting, compaction, streambank deterioration and channelization. Rights-of-way construction seasonal stipulations and required rehabilitation would help reduce vegetation and soil damage and removal. Designating 85,387 acres as avoidance areas would also help reduce disturbance from rights-of-way constructions. Implementing required mitigation from surface-disturbing rights-of-way in the remainder of the planning area would also minimize fishery stream disturbances.

Impacts from Withdrawals. Protective withdrawals would prevent loss or deterioration of fishery streams.

Impacts from Water Power and Storage Reservoir Sites. Construction of reservoirs on inventoried and potential sites would result in the loss of affected fishery streams and habitat.

CUMULATIVE IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)

Current and proposed withdrawals, vegetation treatments and management strategies to reduce soil erosion, intensive riparian management, total forage, utilization limits, fall livestock use limits, and

restrictions on logging procedures would act synergistically, resulting in improvement of the majority of the 14,933 acres of fishery streams in the Planning Area.

IMPACTS ON LIVESTOCK GRAZING MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Livestock Grazing Management. Livestock forage in the Planning Area would be expected to improve in quantity and quality over the life of the plan. This would occur as a result of achieving proper total forage utilization levels in riparian areas and on uplands, implementing AMPs or CRMAPs, maintaining existing treatments and projects in some units, and indirectly, by improved livestock distribution patterns by implementing 4" and 2-1/2" minimum stubble heights in riparian areas.

Impacts from Soils and Water Resource Management. Vegetation treatments designed to increase plant basal cover, and implementing soil erosion and watershed mitigation measures would increase forage and help improve livestock distribution over the life of the plan. Allocation of all additional available forage to meet watershed objectives would potentially result in livestock grazing treatments or projects being deferred or not developed.

Impacts from Riparian Zone Management. Managing livestock utilization to maintain a 4" minimum stubble height for key herbaceous forage species on 2,541 suitable acres of riparian zones important for fisheries and sage grouse brood habitat in units E-1, E-2, E-13, E-14, and E-15, would reduce livestock allocations by about 260 AUMs on several allotments. More intensive supervision and operator management would be required in order to phase in these minimum stubble heights.

Eliminating livestock grazing on about three miles, or 76 acres, of the North Willow Creek riparian zone to improve big game forage in unit E-7 would reduce livestock utilization by about 38 AUMs. Eliminating livestock grazing on 1/4 mile of the Los Pinos creek and 1/4 mile of the Tomichi Creek riparian zones to improve fisheries in Unit E-15 would reduce livestock allocations by a total of about 46 AUMs on the 40-acre parcels each of these stream segments crosses.

Requiring livestock treatments and management to meet riparian management objectives for fishery resources within riparian zones along about one mile or 24 acres of Pauline Creek in unit E-13, all public land in riparian zone unit E-15, about 4,247 suitable acres, and public land in riparian zone unit E-14 for sage grouse brood habitat improvement, about 2,344 suitable acres, would probably increase costs and time for planning and implementation of treatments, or possibly operators' costs, for livestock management on these lands.

Not authorizing grazing or watering on about 200 acres in the riparian area along Cochetopa Creek in unit E-3 in order to help improve recreation settings would make these lands unavailable for future grazing use. Not authorizing domestic sheep grazing on 2,272 suitable acres in unit E-3, for the same reason, would require a change of livestock class to permit cattle only to use these lands.

Implementing riparian zone management actions and other mitigation would, over the life of the plan, improve and increase available forage.

Impacts from Special Status Plant and Animal Species and Habitat. Requiring domestic sheep grazing in unit E-5, 5,947 acres, to be controlled in order to prevent destruction of Uncompahgre fritillary butterfly habitat would increase operators' management intensity, and potentially costs, and would necessitate closer use supervision.

Restricting surface disturbance to protect butterfly habitat in unit E-5 would preclude large-scale livestock treatments on 1,072 suitable acres.

Not authorizing domestic sheep grazing, or vegetative treatments or maintenance of treatments in unit E-8 in order to protect skiff milkvetch populations from trampling, sheep use, and destruction would require a change in the class of

livestock for a portion of allotment 6311, and would preclude treatments on about 3,222 acres.

Impacts from Wildlife Habitat Management. Maintaining existing treatments and developing new wildlife treatments on uplands and within riparian areas, allocating new available forage to meet watershed objective first, potentially reducing big game numbers in GMUs 54, 55, 551, and a part of GMU 64, and implementing other wildlife mitigation measures would result in improved livestock distribution and forage quality.

Not authorizing domestic sheep grazing in order to prevent disease transfer to bighorn sheep in allotment 6112 in unit E-2, and in parts of 14 allotments in unit E-10 would result in a change of class of livestock to cattle only in affected allotments. Not authorizing domestic sheep grazing in unit E-14 in order to reduce trampling within sage grouse nesting habitat would result in a change of class of livestock to cattle only in affected allotments.

Eliminating all domestic livestock grazing on 827 suitable acres in allotment 6200 in unit E-7 and E-9, and on lands managed by the NPS, in order to improve crucial big game winter range and to protect scenic values would reduce livestock allocations by 114 AUMs. Not authorizing domestic sheep grazing from October 15 through April 15 on 1,465 acres in GMU 64 in allotment 6,056 to reduce forage competition with big game during the winter would reduce livestock allocations by 29 AUMs.

Restricting livestock management and treatments on 20,849 suitable acres in unit E-7, and on 97,954 suitable acres within GMUs 55, 66, 67, and 551 in unit E-12 for big game crucial winter range management, and on 35,852 acres of crucial sage grouse nesting area in unit E-11 would possibly increase costs and time for planning and implementation, or operator's costs for livestock management.

Impacts from Fishery Resources (Aquatic Habitat Management). Pursuing and acquiring instream flow appropriations on 113 miles of fishery streams and implementing fishery resource mitigating measures in activity plans to improve upon or prevent damage to or loss of fishery stream channels and associated riparian resources would indirectly improve forage quantity and quality, over the life of the plan.

Other companion impacts from fishery resource management are discussed under Impacts from Riparian Zone Management.

Impacts from Forest Management. Commercial timber and woodland harvests would, over the life of the plan, increase forage and help improve livestock distribution on some of the 41,347 acres of suitable commercial forest lands and 23,615 acres of suitable woodlands available for harvest. Mitigating measures and harvest restrictions, especially within riparian areas, would help limit removal of forage in affected areas during harvesting of forest products.

Impacts from Recreation Management. Restricting livestock grazing treatments and projects, and managing grazing to maintain recreation settings on 40,374 suitable acres in unit E-2 would possibly limit future projects or preclude development of some projects, and possibly increase BLM's or operators' use supervision time or costs. Designation of an additional 5,415 acres of public land as closed to OHV traffic, and limiting OHV traffic on 46,170 suitable acres to designated routes yearlong (an additional 34,943 acres planning area-wide) would reduce livestock harassment and management concerns.

Impacts from Visual Resources Management. Not permitting livestock grazing, other than trailing, on 1,060 suitable acres in unit E-4, American Basin ACEC, in order to maintain and protect scenic resources would reduce livestock allocation by 250 AUMs. Treatments would be excluded also on these lands.

Not authorizing livestock grazing on 402 suitable acres on allotment 6200 (Dillon Pinnacles ACEC, unit E-9) would reduce livestock allocations, the impact of which is discussed under wildlife habitat management. Treatments would also be excluded.

Impacts from Transportation and Access. Acquiring access into 12 new acres would improve livestock grazing administration, but 11 of the 12 would be for public access, which would result in some degree of additional livestock harassment and vandalism to livestock facilities.

Impacts from Disposal of Public Lands. Disposal of 3,049 acres of public land that are grazed by livestock would reduce livestock allocations by 203 AUMs.

CUMULATIVE IMPACTS ON LIVESTOCK GRAZING MANAGEMENT

Eliminating or not authorizing livestock grazing, implementing minimum stubble heights and seasonal grazing restrictions and disposal of public lands would result in a net decrease of 927 AUMs in the planning area, and a total grazing preference of 46,501 AUMs. Long-term livestock forage conditions, vigor, and livestock distribution would be improved as a result of vegetative treatments and improvements in forage quality and quantity.

IMPACTS ON FOREST MANAGEMENT

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Forest Management. Intensive management of 41,347 acres of suitable commercial forest lands and 23,615 acres of suitable woodlands that would be available for harvest would result in potential annual harvests of 1,200 MBF of commercial timber, 490 cords of firewood, 400 wildings, and several hundred Christmas trees. About 10,000 acres would be inventoried for TPCC during the life of the plan.

Impacts from Riparian Zone Management. Maintaining or improving riparian values or wildlife during timber harvesting could potentially preclude harvest on about 640 acres of suitable commercial forest lands, potentially resulting in about 20 MBF not being available for harvest annually.

Impacts from Wildlife Habitat Management. Seasonal harvesting restrictions within elk calving areas would shorten an already abbreviated logging season. Designing sales to allow elk hiding cover along roads and clear cut edges could result in up to 500 acres or 15 MBF of suitable commercial timber not being available for harvest annually.

Restricting harvesting in ponderosa pine stands, and any surrounding raptor nest sites could preclude harvest on about 2,260 acres of suitable commercial forest lands potentially resulting in up to 68 MBF not being available for harvest annually.

Impacts from Livestock Grazing Management. Continued livestock grazing and trampling on about 400 acres of lands in need of reforestation, would result in these lands remaining classified as poorly stocked and regrowth being hampered.

Impacts from Recreation Management. Restrictions on timber harvests to enhance recreation management and ROS settings in the Powderhorn Primitive Area SRMA and the Slumgullion Earthflow National Natural Landmark ACEC would eliminate harvesting on 13,632 acres and 80 acres respectively. This would result in about 400 MBF not being available for harvest annually.

Increasing recreational use on High Mesa would create a serious safety hazard along the switchbacks on the High Mesa Road between logging trucks and recreational vehicles.

Impacts from Transportation and Access. Acquiring access into four new areas for timber management would facilitate timber harvests on the affected public lands.

Impacts from Disposal of Public Land. About 153 acres of suitable commercial forest lands would no longer be in public ownership, resulting in about 3MBF annually not being available for harvest.

Impacts from Fire Management. About 500 acres of suitable commercial forest lands could be destroyed in conditional suppression areas, resulting in 15 MBF not being available for harvest annually.

CUMULATIVE IMPACTS ON FOREST MANAGEMENT

Restrictions on timber harvests would eliminate sustained yield harvest on 17,765 acres of suitable commercial forest lands resulting in a loss of 535 MBF annually. A total of 41,347 acres of suitable commercial forest lands would be managed for sustained yield production which would result in an annual harvest of 1,200 MBF of commercial saw timber. An additional 4,353 acres of suitable woodlands would be available for harvest annually (total of 23,615 acres) potentially increasing annual harvest by 90 cords, for a total of 490 cords annually. Other forest products would also be available for harvest (Christmas trees, wildings, etc.).

IMPACTS ON RECREATION

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Recreation Management. Improved and additional campground and other recreation facilities, improved hiking trails, and increased interpretation and visitor contacts would enhance visitor use, and enjoyment and understanding of resources in the Planning Area. If a joint BLM/USFS visitor center is eventually constructed in Lake City, recreation management effectiveness and general public education and awareness of BLM management would be greatly improved in the Planning Area, especially in the south and west portions.

Designating and managing the Slumgullion Earthflow National Natural Landmark ACEC would result in special interpretive and other management attention being implemented in the unit which would help protect ACEC values.

Closing 600 acres in the West Antelope Creek ACEC, and Powderhorn Primitive Area SRMA to OHV use would help maintain ROS settings on 5,415 more acres. Limiting OHV traffic on 4,787 more acres, primarily south and west of Lake City to designated routes, would protect recreation and scenic values on these lands and would maintain ROS settings. Managing 363,993 acres as open to OHV use (9,923 fewer acres) would provide adequate quantities of land for OHV use.

Impacts from Locatable Minerals Management. Withdrawing 54,077 acres of federal mineral estate from mineral entry and location would preclude any surface disturbance from possible mineral exploration or development and would protect the integrity of recreation settings and experiences on these lands. Managing about 105,368 acres of land with a high potential for the occurrence of locatable minerals as open to mineral entry and location could significantly alter recreation settings and experiences in the Alpine Triangle SRMA. Locatable mineral activity and related surface disturbance on the remaining BLM surface estate over federal mineral estate could also alter recreation settings and experiences.

Designating 38,727 acres as ACECs (Redcloud Peak, West Antelope, and South Beaver Creek) would require plans of operation to be submitted for locatable mineral activity and would provide more control of surface disturbance and reclamation plans for recreation resources in these areas.

Impacts from Saleable Minerals Management. Not authorizing mineral material disposal on about 57,497 acres of public land would protect ROS settings and experiences from mineral material related surface disturbance on these lands. The remaining 527,515 acres of public land could undergo some degree of change in ROS settings and experiences wherever mineral material related surface disturbance occurs, but mitigation for this discretionary action would help minimize impacts.

Impacts from Riparian Zone Management. Improved condition of riparian zones through management from all disciplines would enhance the recreation setting and experience on these lands.

Impacts from Special Status Plant and Animal Species and Habitat Management. Limiting OHV use to designated routes on 4,565 acres in the South Beaver Creek ACEC would restrict this use in an area previously open to OHV use.

Impacts from Wildlife Habitat Management. Wildlife habitat management objectives and restrictions would increase hunting related recreation activities and enhance recreation experiences by increasing numbers of watchable wildlife.

Impacts from Fishery Resources (Aquatic Habitat) Management. Improvements in fisheries would increase fishing use and experiences by providing more and bigger catchable fish.

Impacts from Livestock Grazing Management. Not authorizing grazing on about 9,098 acres, and especially in the scenic 1,595 acre American Basin ACEC, would enhance recreation settings and experiences.

Impacts from Visual Resource Management. Managing lands totalling 49,872 acres in the Powderhorn Primitive Area SRMA and the American Basin and Dillon Pinnacles ACECs under VRM Class I objectives, and managing lands at Hartman Rocks (6,000 acres) and on High Mesa (4,358 acres) under VRM class II and III objectives would maintain present ROS settings and could potentially enhance recreation experiences on these highly valued areas.

Impacts from Historical Resource Management. The identification, stabilization, and interpretation of historical resources would significantly enhance the setting and experience of recreation visitors.

Impacts from Transportation and Access. Acquisition of public access into eight areas and maintenance of existing routes would increase recreational visitor use, enhance recreation management effectiveness, and would permit access to more public land for recreational activities such as hunting, sightseeing, and OHV use previously precluded.

Impacts from Acquisition of Non-Federal Lands. The acquisition of inholdings and lands with significant recreation resources would expand recreational opportunities and would eliminate potential private development.

Impacts from Rights-of-Way Management. Excluding rights-of-way on 51,406 acres, managing 85,387 acres as avoidance areas, and excluding above-ground utilities on an additional 95,624 acres would prevent the lowering or ROS settings on these lands from surface disturbance and vegetation loss from rights-of-way construction.

Impacts from Rights-of-Way Corridors. Location of additional major above-ground rights-of-way in the designated corridor along the Lake Fork of the Gunnison River near Blue Mesa Reservoir would lower ROS settings by decreasing scenic quality.

CUMULATIVE IMPACTS ON RECREATION MANAGEMENT

Improved recreation facilities and development of additional campgrounds would increase the number of visitors to the Planning Area by an estimated 40% over the life of the plan. Public lands would be intensively managed for a wide variety of recreation opportunities and activities. Locatable mineral activity and above-ground rights-of-way development would result in deterioration of recreation settings if these lands are developed and a loss of actual recreation opportunities on the affected lands. About 9,923 fewer acres would be open to OHV use, 5,415 more acres would be closed, 279 fewer acres would have OHV use limited seasonally, and 4,787 more acres would have OHV use limited to designated routes yearlong. The changes in OHV designations would result in fewer acres being accessible to OHV users. Opportunities for solitude would increase on these affected lands, however.

IMPACTS ON OUTSTANDINGLY REMARKABLE SCENIC VALUES IN SEGMENT A, LAKE FORK OF THE GUNNISON RIVER WILD AND SCENIC RIVER STUDY CORRIDOR

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from the Recommendation. In this alternative, the 13.3 mile-long Segment A of the Lake Fork of the Gunnison River from Sloan Lake

to Wager Gulch would NOT BE RECOMMENDED as being suitable for inclusion into the National Wild and Scenic Rivers System (NWSRS). The resultant potential and significant impacts to the outstandingly remarkable scenic values (values) that quality this segment to be eligible for inclusion are discussed below.

Impacts from Locatable Minerals Management. If mineral activity occurs on about 2,075 acres not currently withdrawn or proposed to be withdrawn within the segment in this alternative, values would be altered. The alteration would occur on lands located outside the existing "Loop Road" withdrawal C-0125423 or the proposed American Basin ACEC (proposed to also be withdrawn). Impacts would be greatest if vegetation removal or land form changes occur. The lands that would not be withdrawn have a high potential for the occurrence of locatable minerals. Required reclamation would limit impacts to the short-term.

Impacts from Recreation Management. Increased visitation over the life of the plan of about 10% under this alternative, in addition to that in Alternative A, would result in some slightly greater impacts to scenic values along the road and river, primarily as a result of physical impacts caused by increased numbers of people and motorized vehicular use off designated routes, and the actual increase in the presence of vehicles and people. Scenic impacts from OHV use off designated routes would be mitigated by implementing patrols and other actions in the management plan for the Alpine Triangle Special Recreation Management Area (SRMA). Special management attention as a result of the American Basin ACEC designation would provide a means of enhancing or protecting the values on these lands. Withdrawing federal mineral estate from mineral entry and location in the proposed ACEC to protect recreation and visual resources would also protect values on 1,577 acres in the segment (Unit E-4).

Impacts from Visual Resources Management. Managing values in the proposed ACEC under VRM Class I objectives would result in surface disturbing activities being required to be naturally appearing upon completion of the activity, and would maintain scenic values. Eliminating livestock grazing in the proposed ACEC to enhance visual resources would in turn enhance the values on the affected lands.

Impacts from Wilderness Study Area Management. Impacts in this alternative are analyzed assuming that WSA status would not be in effect, in the event that Congress acts on, and decides not to designate any part of any WSA as wilderness. If any part of Segment A is designated as wilderness, those lands would be managed as wilderness. Refer to **Impacts of WSA Management** in the discussion of impacts of Alternative A (Continuation of Current Management) for impacts to values from WSA management that would be applicable to all alternatives, as long as WSA status applies.

Impacts from Rights-of-Way Management. Managing the lands as rights-of-way avoidance area would result in few surface-disturbing activities from this land use. Rights-of-way are now excluded in the "Loop Road" withdrawal.

Impacts from Withdrawals and Classifications. Continuing the BLM protective withdrawal C-0125423, and effecting the withdrawal in the proposed American Basin ACEC would preclude most surface disturbing activities within Segment A on 1,907 of the 4,315 acres of public land.

CUMULATIVE IMPACTS ON VALUES IN SEGMENT A

Increased recreation use, primarily off-highway vehicle use, could result in some increase of impacts to scenic values. Impacts from other activities would be offset by required compliance with BLM's surface management regulations, required plans of operation in the proposed ACEC, special ACEC management attention, rights-of-way exclusion and avoidance areas, VRM Class I objectives in the ACEC, and management actions in the plan for the Alpine Triangle SRMA.

IMPACTS ON VISUAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Visual Resource Management. Managing 49,872 acres in the Powderhorn Primitive Area SRMA, and the American Basin and Dillon

Pinnacles ACECs under VRM Class I objectives, 9,313 acres at High Mesa and in fishery riparian zones (unit E-15) under VRM Class II objectives, and 6,000 acres at the Hartman Rocks area in units E-8 and E-13 under VRM class III objectives would require more mitigation for scenic quality on these lands, thereby protecting visual resources.

Impacts from Locatable Minerals. Surface disturbance from locatable mineral activity would alter landscapes where development occurs, but reclamation required would potentially result in a minimum of alteration, especially in 42,261 acres of ACECs where plans of operation would be required to be submitted. Precluding mineral development on about 54,077 acres that are withdrawn from mineral entry and location under the general mining laws would fully protect visual resources from mining-related surface disturbance on these lands.

Impacts from Rights-of-Way Management. Designating 51,406 acres as rights-of-way exclusion areas and 85,387 acres as avoidance areas would result in little or no changes being permitted to occur to scenic quality from this land use on these lands. Excluding rights-of-way on 51,406 acres and not authorizing above-ground utilities on an additional 95,624 acres would prevent the development of visual intrusions on these lands. Rights-of-way development occurring on 448,219 acres open to this land use would result in alterations to the landscape. Managing these changes according to VRM objectives would help keep them within acceptable limits.

Impacts from Rights-of-Way Corridors. Locating new, major above-ground and some underground facilities in two designated corridors would result in long term alterations to landscapes; these changes would be most adverse along the lower Lake Fork of the Gunnison River.

CUMULATIVE IMPACTS ON VISUAL RESOURCE MANAGEMENT

Managing about 6,300 additional acres under more restrictive VRM Class objectives would result in more mitigation for scenic quality on these lands. Managing the remainder of lands under VRM II, VRM III, or VRM IV class objectives would maintain scenic quality on these lands, but would permit projects or development that result in landscape contrast or change in localized view sheds. These changes would be most adverse where mining or major rights-of-way are located.

IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL RESOURCES

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Archaeological and Historical Resource Management. The gathering of archaeological or historical information required by law in response to project development or proposed disturbance would contribute to our current knowledge and data base. However, any physical disturbance and extraction of information from sites other than that for documentation, would remove that data from context, and destroy the integrity of sites.

CUMULATIVE IMPACTS ON ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Existing policies, procedures, and regulations would provide for the protection, preservation and enhancement of recorded archaeological or historical sites from authorized projects. Effects from other dispersed activities, and nature, are not subject to standard operating procedures, thus these effects would not be mitigated and preventative or corrective actions would not be implemented. Increased visitor use would result in an increase to vandalism, theft, and destruction of sites. Education and interpretation would reduce these impacts.

IMPACTS ON RIGHTS-OF-WAY

IMPACTS FROM PROPOSED MANAGEMENT ACTIONS

Impacts from Rights-of-Way and Corridor Management. Designation of east to west and north to south rights-of-way corridors would allow major utility applicants to plan for and design

projects without the need to investigate and analyze alternative routes.

Designation of 51,406 acres as rights-of-way exclusion and 85,387 acres as avoidance areas, and an additional 95,624 acres as being open but restricted for utility construction (excluded for above-ground utilities), would result in additional costs to utility companies in planning, designing, and constructing facilities around these areas.

Seasonal restrictions on rights-of-way related construction could increase proponents costs.

CUMULATIVE IMPACTS ON RIGHTS-OF-WAY

Designating 232,418 acres of public land as either rights-of-way exclusion or avoidance areas, and restricting construction of utilities on 155,870 acres would preclude development on some lands and would seasonally increase the cost of these projects. Designating an east-west corridor would decrease the cost of these projects which would be authorized in the corridor.

SHORT-TERM USES VS. LONG-TERM PRODUCTIVITY

Trade-offs between short-term uses and long-term productivity of resources have been identified. For this analysis, short-term refers to the period of implementation of this plan which is approximately 10 years, and long-term refers to at least a 20-year period or beyond during which the adverse or beneficial impacts of the proposal would still occur.

MINERAL RESOURCES

Locatable mineral development would be constrained by withdrawals, resulting in a long-term loss or delay in mineral production on affected lands.

SOIL AND WATER RESOURCES

Mineral development would potentially result in some increases in long-term erosion and sediment yields and possibly some degraded surface waters from mine discharge and spoil pile runoff. Some loss in soil productivity would be expected in areas where surface disturbing activities are proposed. Riparian zones proposed for intensive management from a variety of resource programs would experience improved soil and water resource conditions.

RIPARIAN RESOURCES

Changes in livestock grazing forage utilization and other resource management would result in long-term improvement in riparian, hydrologic, and vegetation conditions.

WILDLIFE HABITAT

Big game, upland bird, and non-game habitat would be improved under this alternative. Pronghorn antelope, bighorn sheep, and sage grouse numbers would increase. Colorado Division of Wildlife long-term herd goals for elk and deer would be achieved. A marked improvement in fishery streams and increases in fish and other restrictions in riparian areas would be realized primarily due to the reduction of livestock utilization in riparian areas.

LIVESTOCK GRAZING

Restrictions on livestock grazing administration, treatment development, total forage utilization on uplands and in riparian zones and eliminations or reductions in livestock forage allocations would reduce carrying capacities but would result in long-term forage productivity gains and improved ecological condition.

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Irreversible or irretrievable commitments of resources occur when a wide range of future management options are precluded. This section identifies the extent to which the alternatives would irreversibly limit potential resource uses. The individual alternative impacts sections identify those decisions which apply to a particular alternative and the magnitude of the impact.

MINERAL RESOURCES

Once a particular area has been committed to a single, non-mineral use, it is not likely that the use would be reversed. Thus, mineral deposits within these areas would be irreversibly committed to not being developed and would be unavailable.

SOIL AND WATER RESOURCES

The loss of soil through wind and water erosion would be irretrievable.

VISUAL RESOURCES

Construction of permanent structures such as roads, buildings, and powerlines would result in an irretrievable loss of visual resources.

ARCHAEOLOGICAL AND HISTORICAL RESOURCES

The loss of archaeological or historical sites and information would be irretrievable.

DISPOSAL OF PUBLIC LANDS

Disposal of public lands would result in a loss of administrative control of all resource values on these lands except leasable and locatable minerals and existing land use authorizations.

COMPARISON OF IMPACTS

Table 4-1 lists the more significant impacts to the affected environment that would occur from implementing management actions under each of the five alternatives.

Table 4-1

COMPARATIVE SUMMARY OF IMPACTS

	IMPACTS OF EACH ALTERNATIVE				
	Alternative A (Continuation of Current Management Alternative)	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E (Preferred Alternative)**
RESOURCE/ RESOURCE USE	**OBJECTIVES:** Continue the present levels, methods, and mix of multiple use resource management, maintaining existing uses, outputs, and protection activities.	**OBJECTIVES:** To emphasize or be compatible with those resources which promote outdoor recreation opportunities, tourism, economic stability, and the quality of life.	**OBJECTIVES:** To emphasize a high degree of economic return and resource production, while maintaining, protecting, or enhancing the natural environment at a compatible and non-restricting level.	**OBJECTIVES:** To emphasize a high degree of protection, enhancement, and maintenance for natural values, while sustaining a compatible level of production for renewable and non-renewable resources.	**OBJECTIVES:** To emphasize the mix and variety of actions that best resolves the issues and management concerns of this RMP/EIS; to achieve a balance between competing demands on uses of public land.
IMPACTS ON LOCATABLE MINERALS	Potential mineral exploration and development would be permitted on 683,285 acres, and would not be permitted on 45,282 acres of federal mineral estate.	Potential mineral exploration and development would be permitted on 670,198 acres, but not on 58,369 acres of federal mineral estate.	Potential mineral exploration and development would be permitted on 728,567 acres.	Potential mineral exploration and development would be permitted on 649,645 acres, and not permitted on 78,922 acres of federal mineral estate.	Potential mineral exploration and development would be permitted on 674,490 acres, and not permitted on 54,077 acres of federal mineral estate.
IMPACTS ON OIL, GAS, AND GEOTHERMAL RESOURCES	No significant impacts would occur to the oil and gas program as a result of managing 288,640 acres open to leasing with seasonal stipulations, or 110,007 acres as closed to leasing, because of the low probability for the occurrence of oil and gas resources. Exploration and development would occur with few restrictions on 328,271 acres managed as open to leasing under standard leasing terms.	Same as Alternative A on 30,856 acres open to leasing with no surface occupancy stipulations, 177,311 acres open with seasonal stipulations, 471,214 acres being open to leasing with standard terms, or 47,537 acres being closed to leasing.	Same as Alternative A on 726,918 acres open to leasing with standard terms.	Same as Alternative A on 114,430 acres open to leasing with no surface occupancy stipulations, 202,678 acres open with seasonal stipulations, 357,056 acres being open to leasing with standard terms, or 52,754 acres being closed to leasing.	Same as Alternative A on 35,605 acres open to leasing with no surface occupancy stipulations, 47,545 acres with seasonal stipulations, 2,417 acres with a controlled surface use stipulation, 443,164 acres being open with standard terms or 46,007 acres being closed to leasing.
IMPACTS ON SOIL AND WATER RESOURCES	Hydrologic functions of riparian areas, and water quality and stream channel stability would be expected to steadily improve in the Long Gulch Demonstration Area, and at an unknown rate within some other riparian areas.	Same as in Alternative A, and sediment and erosion rates would be expected to decrease additionally as a result of implementing soil and water improvement projects on 55,555 acres of wildlife habitat and T&E species habitat, and IGMCs on riparian zones and uplands.	Same as in Alternative A, and sediment and erosion rates would be expected to decrease additionally as a result of implementing IGMCs on uplands and riparians, and allocating forage from wildlife habitat treatments in units C-4 and C-12 to watershed needs.	Same as in Alternative B, and sediment and erosion rates would be expected to decrease even more as a result of implementing more restrictive IGMCs and requiring mitigation in activity plans for site-specific surface disturbance.	Same as in Alternative B, except managing for less constraining minimum stubble heights in riparian areas could result in slightly more sedimentation and some increase in erosion rates.

Table 4-1 (Continued)

	IMPACTS OF EACH ALTERNATIVE				
RE-SOURCE/ RE-SOURCE USE	Alternative A (Continuation of Current Management Alternative)	Alternative B	Alternative C	Alternative D	Alternative E (Preferred Alternative)
IMPACTS ON SOIL AND WATER RESOURCES (Cont'd)	Future water quantity protection would be provided where minimum stream flows would be acquired. Sediment and erosion rates would be expected to decrease where surface disturbing activities are reduced, where basal vegetation cover is improved, and where livestock grazing utilization in some riparian zones is adjusted to achieve lower forage use rates. Sediment and erosion rates would slightly increase on the remainder of the planning area.	Future water quantity protection would be provided where appropriate on 113 miles of streams.			
IMPACTS ON RIPARIAN ZONES	Mineral withdrawals, setting limits on livestock grazing, and commercial timber harvesting restrictions and requiring mitigation in other activity plans would combine to stabilize or improve the condition of some of the riparian areas within the planning area.	Mineral withdrawals, IGMCs, elimination of grazing in some areas, and restriction on commercial timber harvests would combine to markedly improve most of the 14,933 acres of riparian areas within the planning area.	There would be general stabilization and improvement in the condition of riparian zones associated with livestock grazing. This improvement would result from implementing total forage utilization limits in riparian zones, and from projects in high-priority riparian areas and from a variety of treatments (wildlife), and potentially from improving riparian conditions in units C-9, C-10, and C-11 (1,839 acres).	There would be a rapid improvement in the condition of riparian zones in the Planning Area as a result of implementing IGMCs (total forage utilization rates and maintaining minimum stubble heights), and there would be an increase in total production and diversity of plant species. Riparian conditions would improve from projects in high-priority areas, required mitigation, and from improving wildlife habitat in riparian areas in units D-11 and D-12.	Same as Alternative B, and vegetation treatments, soil erosion reduction strategies, intensive riparian management, forage utilization limits, and fall trailing limits would help improve riparian conditions in the Planning Area.

Table 4-1 (Continued)

IMPACTS OF EACH ALTERNATIVE					
RE-SOURCE/ RE-SOURCE USE	Alternative A (Continuation of Current Management Alternative)	Alternative B	Alternative C	Alternative D	Alternative E (Preferred Alternative)
IMPACTS ON SPECIAL STATUS PLANT & ANIMAL SPECIES AND HABITAT	The quality and quantity of T&E species and habitat would be maintained throughout the planning area.	Special management attention resulting from the designation of an RNA/ACEC and an ACEC limiting OHV use, and eliminating domestic sheep grazing in known habitat for T&E species would increase the information base and would prevent accidental destruction of plants, animals, and habitat, specifically skiff milkvetch and snow-willow.	Same as Alternative A. Accidental destruction of habitat would be more apt to occur due to more intensive management of "production" resources.	Special management attention resulting from two RNA/ACEC designations, limiting OHV use, and restrictions on livestock grazing, public land disposal, and timber harvests would protect and enhance habitat for T&E species and would prevent accidental destruction of these species and their habitat.	Same as Alternative B except two ACECs would be designated and managed for T&E species and habitat protection.
IMPACTS ON TERREST-RIAL WILDLIFE AND HABITAT	Wildlife habitat conditions, including for big game, would gradually improve through land treatments and other actions. Bighorn sheep herds would continue to fluctuate widely due to disease. Sage grouse habitat would potentially be destroyed or damaged and populations would be reduced if land treatment projects in MFPs are implemented throughout planning area.	Wildlife habitat conditions would greatly improve, especially on big game crucial winter range, elk calving areas and bighorn sheep lambing areas as a result of improved distribution, special management attention in ACECs, seasonal stipulations and OHV designations limiting disruption and disturbance. Managing big game herds below current levels in some GMUs would increase forage and help meet CDOW long-range elk and deer herd goals. Bighorn sheep numbers would be expected to increase. Sage grouse habitat would be enhanced and numbers of harvestable birds would increase through seasonal restrictions and other protective measures within leks and wintering areas.	A loss of habitat for elk, deer, sage grouse, and non-game species would occur as a result of potential mineral development, land treatment projects, public land disposal, and OHV use. Bighorn sheep populations could be drastically reduced if disease transfer occurs between domestic and bighorn sheep.	Wildlife habitat conditions would improve as in Alternative B, but not to the same degree. Bighorn sheep and pronghorn antelope numbers would be managed at carrying capacity levels. Sage grouse habitat would improve and numbers of grouse would increase as in Alternative B. Designation and management of Bighorn-A (3,912 acres), Bighorn-B (4,762 acres), Cebolla Creek (9,812 acres), and Lake Fork (4,800 acres) ACECs would result in an increase in bighorn sheep herd sizes and a marked decrease in disturbances to bighorn sheep and disease transfer, and less disturbance to elk and deer. Cooperative livestock or other management on adjacent Forest Service lands would also help prevent	Wildlife habitat conditions would improve as in Alternative B, but not to the same degree. Bighorn sheep numbers would not increase as much as in Alternative B (250 vs. 500). Sage grouse habitat would be enhanced and numbers of harvestable birds would increase through forage utilization limits, riparian zone management, seasonal restrictions, and other protective measures within leks and wintering areas. Habitat for non-game species would be increased through riparian zone improvements and increased habitat diversity. Designation and management of West Antelope ACEC (28,215 acres) would, through implementation of special management attention,

Table 4-1 (Continued)

IMPACTS OF EACH ALTERNATIVE					
RESOURCE/ RESOURCE USE	Alternative A (Continuation of Current Management Alternative)	Alternative B	Alternative C	Alternative D	Alternative E (Preferred Alternative)
IMPACTS ON TERRESTRIAL WILDLIFE AND HABITAT (Continued)		Habitat for non-game species would be increased through riparian zone improvements and increased habitat diversity. Designation and management of West Antelope ACEC (29,060 acres) and East Gunnison ACEC (37,503 acres) would, through implementation of special management attention, help to achieve improved big game habitat and riparian zone conditions.		the transfer of disease to bighorn sheep.	help to achieve improved big game habitat and riparian zone conditions.
IMPACTS ON FISHERY RESOURCES (AQUATIC HABITAT)	Fishery/aquatic habitat streambank cover water temperature, sedimentation rates, and streambank instability would improve gradually in some areas as forage utilization management is adjusted.	Fishery/aquatic habitat would be enhanced within the majority of streams due to surface disturbance stipulations, implementing IGMCs, and riparian zone improvements.	Impacts would be similar to those in Alternative A, except more loss would probably occur as a result of more surface disturbance occurring from production-oriented resource management and OHV use.	The same or similar enhancement of fishery/aquatic habitat would occur, as that in Alternative B, except the majority of fishery streams would experience a more rapid improvement and stabilization in condition due to more restrictive IGMCs and riparian and upland surface disturbance restrictions.	Fishery/aquatic habitat would be intensively managed along approximately 110 miles of public land in units E-1, E-2, E-13, and E-15, resulting in habitat improvements, stabilized streambanks and increased vegetation on streambanks, from livestock forage utilization management and riparian zone management.
IMPACTS ON LIVESTOCK GRAZING MANAGEMENT	Implementing actions to ensure livestock utilization levels in the less-than-heavy range in some riparian zones could result in changes in seasons of use, class of livestock, and possible temporary reductions in livestock forage allocations. Any adjustments made would be considered during AMP revision or new CRMAP or AMP development, and could remain the	Elimination of livestock grazing, disposal of public land, implementing IGMCs, restricting class of livestock and altering turn-out dates would result in a net decrease of 5,480 AUMs in the planning area, resulting in a total active grazing preference of 41,948 AUMs.	Increases in livestock AUMs through allocation of additional areas, and implementation of land treatment projects designed to increase and improve vegetation production, would be partially offset by eliminating livestock grazing on several areas and the disposal of public land. The affect	The elimination of livestock grazing, restrictions on class of livestock and restrictions of total key forage utilization would severely restrict the livestock grazing program. There would be a total decrease of 12,406 AUMs of forage for livestock use, resulting in a total active grazing preference of 35,022 AUMs.	The elimination of livestock grazing, restrictions on class of livestock and total key forage utilization in riparian zones and on uplands would result in a decrease of 927 AUMs of forage for livestock use, resulting in a total active grazing preference of 46,501 AUMs.

Table 4-1 (Continued)

IMPACTS OF EACH ALTERNATIVE					
RE-SOURCE/ RE-SOURCE USE	Alternative A (Continuation of Current Management Alternative)	Alternative B	Alternative C	Alternative D	Alternative E (Preferred Alternative)
IMPACTS ON LIVE-STOCK GRAZING MANAGE-MENT (Cont'd)	same or be modified. Approximately 172 AUMs would be eliminated as a result of disposing of about 2,585 acres of public land currently being grazed. Current active preference would remain at 47,256 AUMs, unless decreases occur as a result of land disposal.		would be an increase of 4,256 AUMs being available resulting in a total of 51,684 active AUMs of forage being available for allocation.		Implementing actions to ensure livestock utilization levels in the less-than-heavy range in some riparian zones could result in additional changes in seasons of uses, class of livestock, and possible temporary reductions in livestock forage allocations.
IMPACTS ON FOREST MANAGE-MENT	Management restrictions in riparian zones, WSAs, and disposal of public land would eliminate sustained yield production on approximately 15,050 acres of suitable commercial forest lands (SCFL), reducing annual potential harvest by about 451 MBF. About 44,062 acres of SCFL and 19,262 acres of suitable woodlands would be available for production, resulting in a potential annual harvest of 1,200 MBF of commercial timber, 400 cords of firewood, 400 wildings, and several hundred Christmas tree.	Harvesting or other management-related restrictions in riparian zones, wildlife habitats, VRM Class II areas, and public land disposal would eliminate sustained yield production on approximately 19,670 acres of suitable commercial forest lands (SCFL), resulting in a potential annual harvest loss of 590 MBF of commercial timber. About 39,442 acres of SCFL and 24,405 acres of suitable woodlands would be available for production, resulting in a potential annual harvest of 1,180 MBF of commercial timber, a decrease of 20 MBF of commercial timber compared to Alternative A; about 105 additional cords of firewood, for a total of 505 cords, would be available annually for harvest, along with the same number of other outputs as in Alternative A.	Disposal of public land would result in a loss of 153 acres of suitable commercial forest lands, and an annual potential loss of 3 MBF of commercial timber. Approximately 58,959 acres of suitable commercial forest lands (SCFL) would be available for production, resulting in a potential annual harvest of approximately 1,770 MBF, an increase of 570 MBF over Alternative A. The same number of acres of suitable woodland outputs as in Alternative A would be available for harvest annually.	Harvesting or other management-related restrictions in riparian zones, wildlife habitat, VRM Class II areas, and public lands disposal would eliminate sustained yield production on approximately 24,433 acres of suitable commercial forest land, resulting in a potential annual harvest loss of approximately 733 MBF. About 34,679 acres of suitable commercial forest lands would be available for production, resulting in a potential annual harvest of about 1,040 MBF of commercial timber, a decrease of 160 MBF compared to Alternative A. About 27,532 acres of suitable woodlands being available annually would result in an annual harvest of 565 cords of firewood, an increase of 165 cords annually, and the same number of other outputs as in Alternative A.	Harvesting or other management-related restrictions in riparian zones, wildlife habitat, VRM Class II areas, SRMAs, ACECs, public lands disposal and possibly fire management would eliminate sustained yield production on approximately 17,765 acres of suitable commercial forest land, resulting in a potential annual harvest loss of approximately 535 MBF. About 41,347 acres of suitable commercial forest lands would be available for production, resulting in a potential annual harvest of about 1,200 MBF of commercial timber. No significant change would occur compared to Alternative A. About 90 additional cords of firewood would be produced annually on 23,615 acres of suitable woodlands, for a total of 490 cords annually, along with the same number of other outputs as in Alternative A.

Table 4-1 (Continued)

IMPACTS OF EACH ALTERNATIVE					
RESOURCE/ RESOURCE USE	**Alternative A (Continuation of Current Management Alternative)**	**Alternative B**	**Alternative C**	**Alternative D**	**Alternative E (Preferred Alternative)**
IMPACTS ON RECREATION MANAGEMENT	Implementing recreation management actions in RAMPs for the Cochetopa and San Juan Triangle SRMAs would result in about a 30% gradual increase in visitor use and available facilities, and somewhat more protection of recreation resources. Managing the Powderhorn SRMA for primitive recreation opportunities would continue to provide backcountry opportunities and experiences for visitors. Managing the remainder of the planning area as the Gunnison ERMA would result in a slight increase in dispersed, low-scale developments, and would provide a diversity of experiences and settings. Management of recreation and other resources in this alternative, including soils and water, wildlife habitat, visual resources, WSAs, historic resources, transportation and access, and some aspects of the realty and fire programs would result in overall improvements or maintenance of ROS Settings and resources. Acres and locations in each OHV designation (373,916 acres open, 92,937 acres limited yearlong; 74,707 acres limited seasonally; and 43,462 acres closed) would essentially remain the same as currently designated with some minor adjustments or changes being made.	Fully implementing recreation management actions in RAMPs for Cochetopa and San Juan SRMAs would result in a 50% increase in visitor use as a result of additional facilities, and a greater degree of utilization of recreation resources would occur. Designating Powderhorn ACEC (48,033 acres), Alpine ACEC (88,663 acres), and Lake Fork ACEC (4,685 acres), and managing for special management attention would result in backcountry/primitive, and motorized/non-motorized recreation opportunities and resources being enhanced and protected. Managing the remainder of the Planning Area as the Gunnison ERMA would result in a moderate increase in dispersed, low-scale developments, and would enhance and provide a greater diversity of experiences and settings. Management under this alternative would result in approximately a 50% increase in visitation over the life of the plan. About 5,171 more acres would be closed to OHV use, and "open" acres would decrease by about 5,171 acres.	Environmental effects under Alternative C would be similar to Alternative A, except that adverse impacts to recreation impacts would be much greater in scope. A decrease in visitation would occur. Not managing resources in the Powderhorn SRMA for Primitive, restrictive ROS settings would result in uses occurring that have not been permitted since designation as a Primitive Area, such as motorized vehicular travel, unrestricted livestock grazing improvementmaintenance, and potential mineral activity. Recreation settings would be altered, and the quality of primitive, non-motorized recreation experiences, and opportunities, in the area would be greatly lowered or eliminated. Motorized travel in the area would increase. Overall, this alternative would result in serious decreases in recreation activities, settings, and experiences, as a result of reductions in scenic quality, displaced wildlife, and reduced fishery habitat and production. This alternative would result in a decrease of 42,862 acres closed to OHV use, an increase of 135,789 acres open to OHV use, and the elimination of 92,927 acres where OHV use is limited to designated routes yearlong.	Impacts would be similar as in Alternative A. Visitation increases would be about the same as in Alternative A. Management for natural values would constrain recreation facility development be requiring more mitigation and seasonal or geographic restrictions. Recreation settings would be enhanced and improved overall. Designation and management of the Lake Fork ACEC (4,800 acres) and the Slumgullion Slide ACEC (1,370 acres) would result in special management attention being implemented to protect, and enhance management and interpretation of values in these units. Less land would be designated open to OHV use (-54,620 acres), more lands would be closed to OHV use (+14,389 acres), and more lands would be limited in some manner (+5,288 acres seasonally and +34,943 acres to designated routes yearlong).	Implementing recreation management actions in activity plans for the Cochetopa Canyon, Alpine Triangle, and Powderhorn Primitive Area SRMAs would potentially result in visitor use increasing by about 40%, as a result of improved and additional facilities; more protection of recreation settings would occur from livestock grazing restrictions than in either alternative. Designation of American Basin (1,595 acres) Slumgullion Earthflow National Natural Landmark (1,140 acres), and Dillon Pinnacles (532 acres) ACECs would result in special management attention and enhancement for these resources. About 5,415 more acres would be closed to OHV use, and open areas would decrease by 9,923 acres; OHV use would be limited to designated routes yearlong on 4,787 more acres and limited seasonally on 279 fewer acres.

Table 4-1 (Continued)

IMPACTS OF EACH ALTERNATIVE					
RESOURCE/ RESOURCE USE	Alternative A (Continuation of Current Management Alternative)	Alternative B	Alternative C	Alternative D	Alternative E (Preferred Alternative)
IMPACTS ON OUTSTANDINGLY REMARKABLE SCENIC VALUES IN SEGMENT A, LAKE FORK OF THE GUNNISON RIVER WILD AND SCENIC RIVER STUDY CORRIDOR	Scenic values could be impacted from OHV traffic and numbers of people as a result of an anticipated increase in recreation visitation of 30% in the planning area over the life of the plan. Locatable mineral activity occurring on 352 acres of federal mineral estate not withdrawn or not in WSAs could result in short term alterations to scenic values. BLM's surface management regulations would require reasonable reclamation of these activities. No designation of the segment into the wild and scenic rivers system would occur.	Scenic values could be impacted from OHV traffic and numbers of people as a result of an estimated 20% increase in recreation visitors in the planning area over Alternative A. Locatable mineral activity occurring on 2,075 acres not withdrawn in the segment could result in short-term alterations to scenic values, but required plans of operation from ACEC designation would permit more design time for reasonable reclamation. Designation of the segment into the wild and scenic rivers system could result in more motorized vehicle traffic, and thus more impacts to scenic values.	Scenic values in the segment could be altered as a result of no federal mineral estate being withdrawn. The BLM's surface management regulations, and other mitigation for discretionary actions, would limit most of these impacts to the short term, and reasonable reclamation would be required of mining activities. No designation of the segment into the wild and scenic rivers system would occur.	Same as for Alternative B, except that no additional increase in recreation visitation is anticipated over that in Alternative A, other than that from the increased recognition that would occur if designated, and only 1,577 acres in the segment would be within an ACEC. The ACEC would be managed under VRM Class I objectives that would require future activities to be near-natural in appearance. Designation of the segment into the wild and scenic rivers system could result in more motorized vehicle traffic, and thus more impacts to scenic values.	Same as for Alternative D, except a 10% increase in recreation visitation, over that in Alternative A is anticipated, and no designation of the segment into the wild and scenic rivers system would occur, and thus no increase in motorized vehicle use would occur from additional recognition.
IMPACTS ON VISUAL RESOURCES	Managing the public lands according to existing VRM Class objectives (VRM Class I, 43,590 acres, VRM Class II, 174,510 acres, VRM Class III, 126,645 acres, VRM Class IV, 236,845 acres, and VRM Class IIR, IIIR, and IVR, 4,422 acres) would maintain the overall visual character of the planning area, but would allow for significant visually contrasting projects within localized viewsheds on VRM Class III and IV lands.	The scenic quality would be maintained or potentially improved on public lands due to the change from Alternative A in VRM Class objectives on VRM I lands (+4,443 acres), VRM II lands (-2,943 acres), VRM III lands (+5,915 acres), and VRM IV lands (-7,235 acres), and VRM IIR, IIIR, and IVR lands (-180 acres).	The combined affect of management actions identified in this alternative would potentially result in a severe reduction of visual quality throughout the planning area as a result of changes from Alternative A in VRM Class objectives on public land on VRM Class I lands (-35,750 acres), VRM Class II lands (-37,877 acres), VRM Class III lands (-115,834 acres), and VRM Class IV lands (+291,464 acres), and VRM IIR, IIIR, and IVR (-4,247 acres).	Approximately 53% or 311,598 acres of the planning area would be managed under VRM Class II objectives. This action would require more mitigation of impacts to scenic quality and enhance the overall visual quality.	Impacts would be similar to those in Alternative B. The scenic quality would be maintained or potentially improved on public lands due to the change from Alternative A in VRM Class objectives on VRM I lands +6,282 acres), VRM II lands (-3,896 acres), VRM III lands (+9,093 acres), VRM IV lands (-1,069 acres), and VRM IIR, IIIR, and IVR (-410 acres).

Table 4-1 (Continued)

IMPACTS OF EACH ALTERNATIVE					
RE-SOURCE/ RE-SOURCE USE	Alternative A (Continuation of Current Management Alternative)	Alternative B	Alternative C	Alternative D	Alternative E (Preferred Alternative)
IMPACTS ON VISUAL RESOURCES (Cont'd)		Designation and management of Powderhorn (48,033 acres), Alpine (88,663 acres), and Lake Fork (4,685 acres) ACECs would result in more mitigation and enhancement of visual quality as a result of special management attention.		Impacts would be similar to those in Alternative B, as a result of the following changes from Alternative A in VRM Classes: VRM I (+4,314 acres), VRM II (+138,088 acres), VRM III (+93,919 acres), VRM IV (-235,645 acres), and VRM IIR, IIIR, and IVR (-76 acres). Designating and managing American Basin (1-,577 acres), Lake Fork (4,800 acres) and Dillon Pinnacles (190 acres) ACECs, and implementing special management attention would result in more mitigation and protection, and enhancement of visual quality.	Designation and management of American Basin (1,595 acres) and Dillon Pinnacles (532 acres) ACECs would potentially result in more mitigation and enhancement of visual quality as a result of special management attention.
IMPACTS ON WILDERNESS STUDY AREAS	Rights-of-way locations would impair wilderness characteristics, in varying degrees, in WSAs if they occur. Management of wildlife habitat, soils and water, riparian zones, visual resources, transportation and access, Realty/Lands, and Fire management programs, and BLM's IMP for WSAs would maintain wilderness characteristics. Any lands designated as wilderness would be managed as such and a management plan would be prepared.	Same as Alternative A.	Same as Alternative B	Same as Alternative B.	Same as Alternative B.
		MANAGEMENT OF LANDS IN WSAs IN ALTERNATIVES B, C, D, & E, AND THE IMPACTS OF THESE ALTERNATIVES ON LANDS WITHIN EXISTING WSAs ARE ANALYZED AND PRESENTED IN THE EVENT CONGRESS ACTS UPON AND DOES NOT DESIGNATE PARTS OR ALL OF WSAs AS WILDERNESS. ACTIONS AND ASSOCIATED IMPACTS WOULD BE LIMITED TO THOSE THAT COULD OCCUR UNDER BLM's IMP FOR LANDS UNDER WILDERNESS REVIEW.			

Table 4-1 (Continued)

IMPACTS OF EACH ALTERNATIVE					
RE-SOURCE/ RE-SOURCE USE	Alternative A (Continuation of Current Management Alternative)	Alternative B	Alternative C	Alternative D	Alternative E (Preferred Alternative)
IMPACTS ON ARCHAEO-LOGICAL RESOURCES	Existing policies, procedures, and regulations would provide for the protection, preservation and enhancement of archeological sites from authorized projects. Effects from other dispersed activities, and nature, are not subject to standard operating procedures, thus these effects would not be mitigated and preventative or corrective actions would not be implemented. An increase in vandalism, theft, and destruction of archeological sites could occur due to increased visitor use.	Same as Alternative A, except designation and management of all ACECs and the RNA/ACEC would generally provide more protection for archaeological values that may be present.	Same as Alternative A.	Same as Alternative A, except that designation and management of all ACECs and RNA/ACECs would provide more protection for archaeological values that may be present.	Same as Alternative B, except no RNA/ACEC would be designated.
IMPACTS ON HISTORICAL RESOURCES	Existing policies, procedures, and regulations would provide for the protection, preservation and enhancement of historical sites from authorized projects. Effects from other dispersed activities and nature are not subject to standard operating procedures; thus impacts would not be mitigated and preventative or corrective actions would not be implemented. Increased visitor use could result in some increase in vandalism, theft, and destruction of historical sites.	Same as Alternative A, and designation and management of Alpine and Lake Fork ACECs would result in historic sites being protected and intensively managed and interpreted. Increased visitor use could result in more of an increase in vandalism, theft, and destruction of historical sites.	Same as Alternative A. Increased visitor use could result in increased vandalism, theft and destruction of historical sites.	Same as Alternative A, except that designation and management of Lake Fork ACEC would result in sites being managed for interpretation and special management attention. Increased visitor use could result in an increase in vandalism, theft, and destruction of historical sites.	Impacts would be similar to Alternative B, except designation of American Basin and Redcloud Peak ACECs could result in more protection of historic sites. Historic sites would receive management emphasis (interpretation, stabilization, necessary surveys, and protection) in Unit E-1 and the entire Alpine Triangle CRMAP.

Table 4-1 (Continued)

IMPACTS OF EACH ALTERNATIVE					
RE-SOURCE/ RE-SOURCE USE	Alternative A (Continuation of Current Management Alternative)	Alternative B	Alternative C	Alternative D	Alternative E (Preferred Alternative)
IMPACTS ON RIGHTS-OF-WAY CORRIDORS	All impairing rights-of-way development would be precluded from 114,247 acres of public land associated with WSAs within the planning area until such time as Congress makes a decision on designation of wilderness.	The designation of 54,024 acres of public land as rights-of-way exclusion and 161,283 acres as avoidance areas and the restriction of right-of-way construction on 134,970 acres seasonally would increase costs of these projects. The designation of an east-west rights-of-way corridor would decrease the cost of projects that would be authorized in the corridor.	The designation of 120 acres of public land as rights-of-way exclusion and 1,150 acres as avoidance areas and the restriction of rights-of-way construction on 8,322 acres seasonally would increase costs of these projects on these lands. The designation of four rights-of-way corridors would decrease the cost of projects that would be authorized in the corridors.	The designation of 63,863 acres of public land as rights-of-way exclusion and 129,144 acres as avoidance areas and restricting construction on 195,751 acres would increase development costs.	The designation of 51,406 acres of public land as rights-of-way exclusion and 85,387 acres as avoidance areas and the restriction of right-of-way construction on 155,870 acres seasonally would increase costs of these projects. The designation of east-west and north to south rights-of-way corridor would decrease the cost of projects that would be authorized in the corridor.

CHAPTER FIVE

CONSULTATION AND COORDINATION

CHAPTER FIVE

CONSULTATION AND COORDINATION

PUBLIC PARTICIPATION

Throughout the preparation of this Draft RMP/EIS, concerns and interests of all publics were addressed in a variety of public participation activities. The area manager, team leader, and team members met with county commissioners, environmental and interest groups, the Montrose BLM District Advisory Council (representatives who advise the District Manager on local land issues), the Montrose BLM Grazing Advisory Board, and other concerned citizens.

On September 15, 1988, a Notice of Intent was published in the Federal Register. This notice began the formal planning process. At the same time, the first of two newsletters was sent to individuals, organizations, agencies, special interest groups, the media, business interests, and academic institutions inviting them to participate in the planning process. The general public was informed through news releases.

The contents of the first newsletter included an invitation for all publics to attend a series of afternoon and evening informal open houses held in Gunnison, Lake City, and Montrose, Colorado during October 1988. The purpose of the newsletter and the meetings was to explain the goals and objectives of the RMP/EIS and identify, discuss, and clarify issues and management concerns related to the plan. Issue statements and comments were accepted from the public by mail and at the open houses. Grazing, off-highway vehicle use, recreation and land use, and forestry issues received the most responses. The BLM requested, through this newsletter, that all interested parties return a self-addressed, stamped, questionaire if they wanted to continue to receive information dealing with this RMP/EIS.

In November 1988, a second newsletter was published. This communique was a follow-up to the open houses, briefing the publics on changes resulting from their comments regarding issues and management concerns. A request for nominations or the identification of potential Areas of Critical Environmental Concern (ACECs) was included in the newsletter.

During the month of January 1989, the public was again asked to comment on a list of potential ACECs through a mailing to interested parties.

A follow-up to this mailing was an ACEC workshop held in Gunnison on the evening of February 14, 1989. Comments received assisted BLM in identifying more ACECs to be considered as potential ACECs. In July 1989, a letter was mailed to the interested parties informing them of potential ACECs that would be carried through the planning process.

CONTACT/DISTRIBUTION LIST

During preparation of this Draft RMP/EIS, various federal agencies, state and local governments and agencies, interest groups, and individuals were contacted for information and data. This draft document will be mailed to numerous agencies, organizations, and individuals. A partial list of contacts and recipients follows:

FEDERAL AGENCIES

U.S. Air Force
U.S. Army Corps of Engineers
U.S. Department of Energy
U.S. Environmental Protection Agency
USDA, Forest Service
- Office of Environmental Coordination, Rocky Mountain Regional Office
- Grand Mesa, Uncompahgre, Gunnison National Forests
- Cebolla Ranger District
- Taylor River Ranger District
- Ouray Ranger District
- Saguache Ranger District

USDA, Soil Conservation Service
- Center Field Office
- Gunnison Field Office
- Montrose Field Office

CHAPTER FIVE

USDI, Office of Environmental Project Review
USDI, Bureau of Land Management
- Washington Office, Division of Planning and Environmental Coordination
- Colorado State Office
  - Canon City District
  - Craig District
  - Grand Junction District
  - Denver Service Center

USDI, Bureau of Mines, Washington
USDI, Bureau of Reclamation
- Division of Environmental Affairs, Washington
- Upper Colorado Regional Office, Salt Lake City
- Projects Office, Montrose
- Denver Federal Center

USDI, Fish and Wildlife Service
- Chief, Division of Environmental Coordination, Washington
- Regional Office, Denver
- Ecological Services, Grand Junction
- Ecological Services, Salt Lake City

USDI, Geological Survey
- Environmental Affairs Program, Reston
- Geologic Division, Denver

USDI, National Park Service
- Division of Environmental Compliance, Denver
- Planning and Resource Preservation
- Black Canyon National Monument
- Curecanti National Recreation Area

USDOE, Western Area Power Administration
- Office of Environmental Affairs, Golden
- Office of Environmental Affairs, Salt Lake City
- Montrose District Office

COLORADO STATE AGENCIES

Board of Land Commissioners
Colorado State University
- Forest Service
  - Fort Collins
  - Montrose

Department of Natural Resources
- Division of Parks and Recreation
- Division of Wildlife
- Colorado Natural Areas Program
- Division of Water Resources

Department of Highways
District 10 Regional Planning Commission
Historical Society
Mined Land Reclamation Board
Natural Heritage Inventory
State Clearinghouse
State Historic Preservation Officer

COUNTY GOVERNMENTS AND AGENCIES

Boulder County
Gunnison Chamber of Commerce
Gunnison County
Hinsdale County
Lake City Chamber of Commerce
Montrose Chamber of Commerce
Montrose County
Ouray County
Saguache Chamber of Commerce
Saguache County

MUNICIPAL GOVERNMENTS

Crested Butte
Gunnison
Lake City
Montrose
Saguache

CONGRESSIONAL AND LEGISLATIVE OFFICES

U.S. Senators/Representatives
- Senator Hank Brown
- Senator Tim Wirth
- Congressman Ben Nighthorse Campbell

Governor/State Senators/Representatives
- Governor Roy A. Romer
- Senator Bob DeNier
- Senator Tillman Bishop
- Senator Robert Pastore
- Representative Steve Acquafresca
- Representative Ed Carpenter

LOCAL AND REGIONAL MEDIA CONTACTS

Chronicle and Pilot
Delta County Independent
Dolores Star
Durango Herald
Gunnison County Times
KBUT FM Radio
KGUC AM/FM Radio
KOA Radio
KPRN Radio

KQIL Radio
KREY TV
KSTR Radio
KUBC/KKXK Radio
KVLE FM Radio
Montezuma Valley Journal
Montrose Daily Press
North Fork Timber
Silver World
Silverton Standard and Miner
Telluride Timber
The Daily Sentinel
The Rocky Mountain News
The Daily Record
The Denver Post

INTEREST GROUPS AND ORGANIZATIONS

7M Company
Adams Ranch
Allen Brothers
Amax Coal Company
American Wilderness Alliance
American Mining Congress
Applehanz Brothers
Audubon Society
Black Canyon Corner
Blue Mesa Forest Products, Inc.
Blue Mesa Recreation Association
Chuchuru Brothers
Cimarron Land
Club 20
Coal Creek Angling Service
Coleman Ranches
Colorado Mountain Club
Colorado Association of Four-Wheel Drive Clubs, Inc.
Colorado Native Plant Society
Colorado Timber Industry
Colorado Mining Association
Colorado Archaeological Society
Colorado Outdoor Bound School
Colorado Wool Growers
Colorado Chapter of the Wildlife Society
Colorado Natural Heritage Inventory
Colorado School of Mines
Colorado State University
Colorado Trail Riders
Colorado Cattleman's Association
Colorado Environmental Coalition
Colorado-Utah
Colorado-Ute Electric Association
Consolidated Coal Company
Consulting Engineering
Continental Divide Trail Society
Coors Energy Company
Crested Butte Rafting
Curecanti Sheep Company
D.A. Masden and Sons
Delta-Montrose Electric Association
Design Shop
Dunbar Ranches
Earth Sciences Inc.
Exxon Minerals Company
Federal Land Bank Association
Flat Top Cattle Association
Forest Queen Mine
Ft. Lewis College, Department of Economics
Gateview Ranch Inc.
Gateway Ranch
Grand Junction Geological Society
Gunnison Valley Alliance
Gunnison River Coalition
Gunnison Exploration companies
Gunnison County Stockgrower's Association
H.H. McJunkin, Inc.
Hazard, Helen Estate
Hicks Family trust
High Country Outfitters Inc.
High County News
High County Citizen's Alliance
Hollenbeck, Inc.
Holman Brothers
Hugh Corrington IV
Jerry Green Consulting Engineering
Jones Lumber Company, Inc.
Krueger Ranch Company
Kysar Triangle Two
Lake Fork Hunt and Fish Club
Lakewood Mining Company
Land Office of Andrew Kasic
League of Women Voters
Louisiana Pacific Corporation
Lowry Excavating
Mid-Continent Resources
Minerals Exploration Coalition
National Wildlife Federation
National Resources Defense Council
National Cattlemen's Association
New West Enterprises
Nicolas Brothers
Ochs Brothers
Omega Hygrade Ltd.
P & J Ranch
Pikes Peak Group of Sierra Club

Rio Grande Railroad
Rivergate Ranch Association
Rocky Mountain Law Foundation
Rocky Mountain Biological Lab
Rocky Mountain Sportsman Federation
Rocky Top Lodge
Rocky Mountain Oil and Gas Association
Rocky Mountain Land Stewards Unlimited
Ronzio Firewood
Sammons Land and Cattle Company
Sherrill & Allgeier Engineers Architects
Sierra Club, Southwest Regional Office
Sierra Club, Rocky Mountain Chapter
Sierra Club Legal Defense Fund
Silver World Publishing Company
Silverton Standard and Miner
Soderquist Ranches
Southwest Forest Ind. Inc.
Swank Mines
Texaco, USA
The Nature Conservancy
The Country Store
The Wilderness Society
Trout Unlimited
UMETCO Minerals
Uncompahgre Livestock Association
United Four-Wheel Drive Association
University of Colorado
University of Illinois, Department BIOSCI
University of Nevada-Reno
Vader Cloverleaf Ranch
VALCRO Inc.
Van Tuyl Ranches
Vickers Brothers
Ward Ranches, Inc.
Waunita Hot Springs Ranch
West Elk Coal Company
Western Energy Company
Western Small Miner's Association
Western Colorado Congress
Western State College
Western Land Exchange Company
Western Region Land Texaco Inc.
Western Utility Group
Western Organization of Resources

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CHAPTER FIVE

LIST OF PREPARERS

The Draft Gunnison Resource Management/Environmental Impact Statement (DRMP) was prepared by an interdisciplinary team of resource specialists from the Bureau of Land Management (BLM). The team consisted of 28 specialists from the Gunnison Resource Area Office (GRA), the Montrose District Office, (MDO), and the Colorado State Office (CSO).

List of RMP/EIS Preparers			Experience
Barry Tollefson	Area Manager and Overall Project Manager	M.S. - Outdoor Recreation Management	15.0
Bill Bottomly	Team Leader	B.L.A. - Landscape Architecture	25.0
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Dave Harned	Waterpower Storage	B.S. - General Engineering	25.0
Art Hayes	Aquatic Wildlife Riparian Management, Vegetation	B.S. & M.S. - Wildlife Biology and Range Management	10.0
Mike Henkel	Livestock Management, Vegetation	B.S. - Range and Forest Management	14.0
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Cheryl Laudenback	Typing and Clerical Support	On-the-Job training, formal computer training	15.0
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Dianne Osborn	Typing and Clerical Support	College Classes/On-the-Job Training	14.0
Jeanette Pranzo	Economic and Social Conditions	M.A. - Economics	18.5
Jim Rhett	Oil and Gas Assistance	B.S. Environmental Science and Geology	15.0
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Stan Specht	CSO Liasion Plan Coordinator	B.S. and MLA - Landscape Architecture MUP - Urban Planning	21.0
Ben Sprouse	Geology and Minerals	B.S. - Geology	15.0
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Pam Weakley	Typing and Clerical Support	Business College, Formal Computer Training	10.0

APPENDIXES

APPENDIX A
WILDLIFE MANAGEMENT

Table A-1

CDOW LONG RANGE HERD GOALS

GMU	ELK[1]	DEER[1]
54	3,000	4,800
55/551	3,000	5,000
66/67	3,000	6,800

Note: [1] Numbers represent the total projected animals present including Federal, State, and private lands.

Table A-2
LONG RANGE HERD GOALS
ON PUBLIC LANDS

GMU	ELK[1]	DEER[1]
54	1,250	2,000
55	700	2,250
551 North	400	1,000
551 South	400	1,750
66	1,100	1,000

Note: [1] Herd goal numbers would be managed to support elk and deer within proper utilization on public lands.

Table A-3

INTERIM HERD GOALS

GMU	ELK[1]	DEER[1]
54	2,800	3,500
55/551	3,000	3,800
66/67	3,000	3,800

Note: [1] Numbers represent interim totals of animals recommended to the CDOW for management on the public lands until shrub production and vigor increases.

SAGE GROUSE MANAGEMENT IN SAGEBRUSH COMMUNITIES

1. Manage for sagebrush conditions that maintain the following optimum habitat components for sagegrouse.

a. Maintain a canopy cover of 20-30% in sagebrush stands 15 to 20 inches high in sagegrouse high production areas: Chance Gulch, South and North Parlin Flats, and Razor Creek drainages.

b. Protect all strutting grounds (lek) from destruction.

c. Allow no treatments that would remove more than 25% of the sagebrush within one-half mile of all leks.

d. Protect sagebrush taller than 15 inches on dry south facing slopes greater than or equal to five percent ridge tops less than or equal to five percent.

e. In locations outside of the sagegrouse high production areas but within the sagegrouse habitat areas, maintain 50% of the sagebrush within two miles of a lek. This 50% of untreated sage should contain equal amounts of all types of canopy cover and height. The intent is to maintain diversity of sagebrush structure and cover.

f. Maintain sagebrush on public lands within 300 feet of irrigated hay meadows or pastures for escape cover.

g. In sagebrush stands having an average height of 10 to 15 inches, maintain a 10 to 15% overstory cover for summer habitat.

h. In order to protect brood-rearing cover and forage, maintain 50% of the sagebrush within a 600 foot buffer zone around wetlands, wet and sub-irrigated meadows, and riparian areas. Untreated areas will be representative of the total treatment area within the 500 feet prior to treatment.

i. Maintain 50% of the tall dense sagebrush in drainage for winter habitat.

j. No sagebrush treatments that would remove more than 30% of the sagebrush cover within the treatment area will be allowed within two miles of a lek in high production area. Areas outside high production areas maintain at least 50% of the sagebrush. This 50% should contain equal amounts of all types of canopy cover and height.

NON-GAME MANAGEMENT IN TIMBER MANAGEMENT AREAS

Manage timber resources to improve or maintain habitat for timber dependent non-game wildlife.

Within all timber types, maintain a 200 acre block of undisturbed forest around all goshawk nests to meet nesting requirements.

Maintain two slash piles and five logs 20" or greater DBH per acre for small mammals, black bears, and pine martens.

Maintain two-to-five snag trees for each three-to-four acres of clearcut; each tree would have a minimum diameter at breast height of 18", and a minimum height of 20 feet.

Maintain 30% of the ponderosa pine for Abert squirrels as follows: uneven-aged; 11-36 inches DBH; 200 stems per acre with basal area of 150-200 square feet, canopy closure greater than 80% with interlocking branches; and crowns 30-50 feet above the floor. Furthermore, trees meeting the parameters should occur in contiguous stands 1 to 2 acres.

Maintain a variety of all ecosystem timber types and all five forest structural stages that would maintain viable populations of non-game wildlife as identified in the Managing Forest Lands for Wildlife handbook.

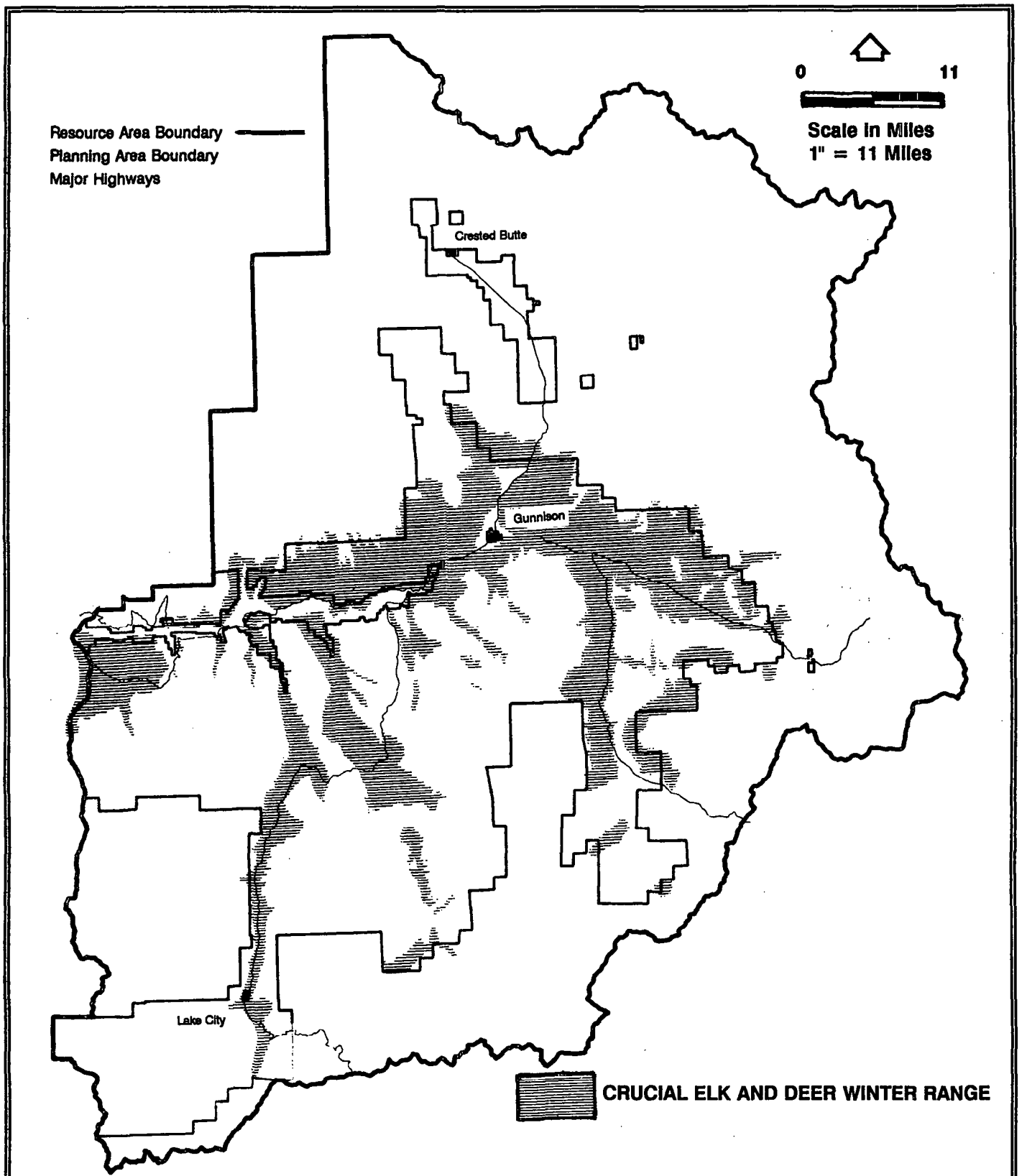
Increase the grass and forb component of sagebrush communities and maintain sage cover of 25%. A combination of good ground cover with sagebrush provides optimum habitat for small mammals and birds.

Table A-4

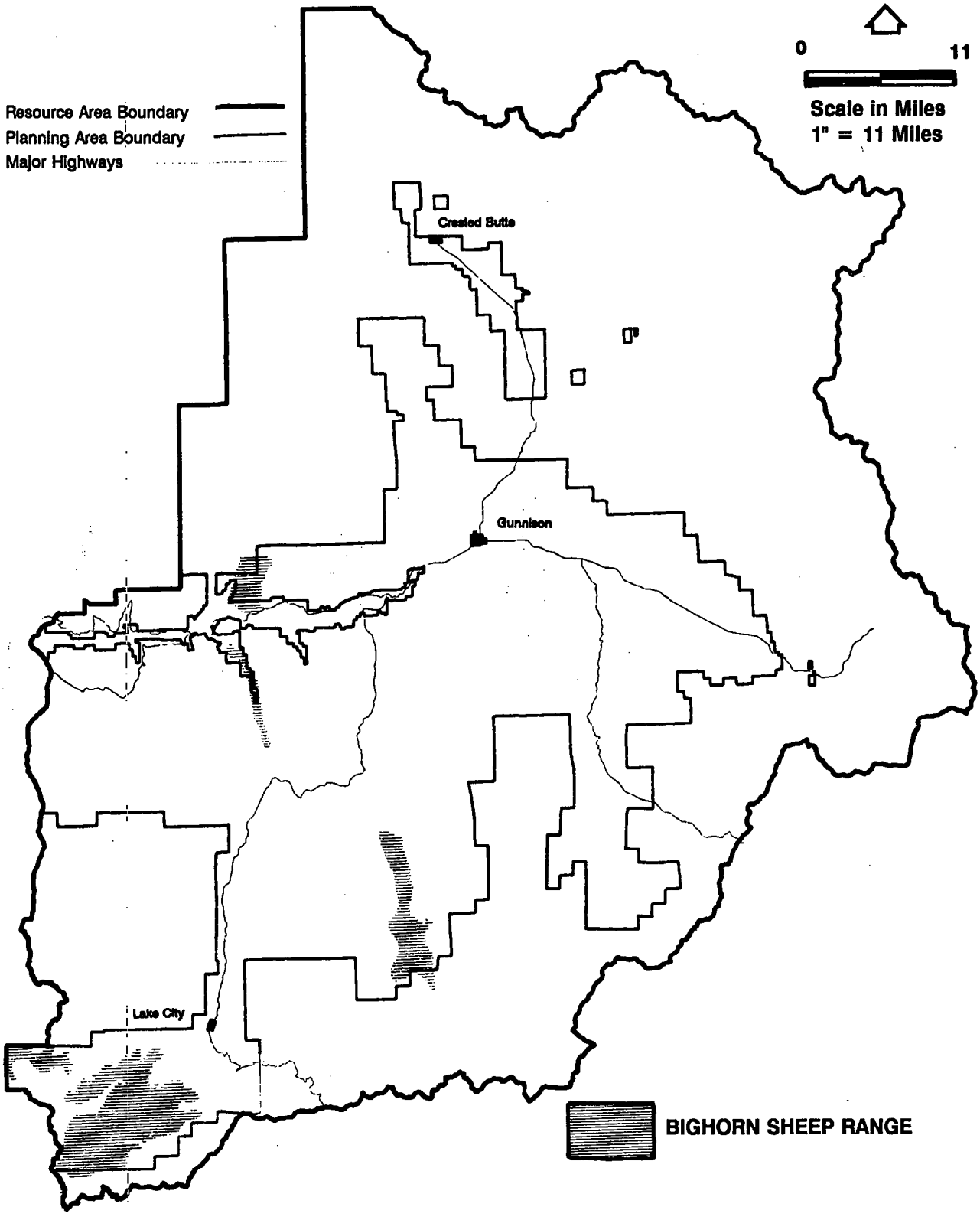
MITIGATION FOR BIRDS OF PREY HABITAT

SPECIES	HABITAT[1] TYPE	TYPES OF SURFACE DISTURBANCE RESTRICTIONS ON PUBLIC LANDS WITHIN OR SURROUNDING NESTS, ROOSTS, OR HABITAT[2]	
		PUBLIC LANDS WHERE NO SURFACE DISTURBANCE WOULD OCCUR YEARLONG	PUBLIC LANDS WHERE SEASONAL RESTRICTIONS FOR SURFACE DISTURBANCE WOULD APPLY
Ferruginous Hawk	Nesting	1/8 mile radius of nest	3/1-6/31, between 1/8 and 1/4 mile radius
Golden Eagle	Nesting	1/8 mile radius of nest	2/15-7-15, between 1/8 and 1/4 mile radius
Prairie Falcon	Nesting	1/8 mile radius of nest	3/15-7-31, between 1/8 and 1/4 mile radius
Peregrine Falcon	Nesting	1/8 mile radius of nest	3/15-7/31, between 1/8 and 1/4 mile radius
Bald Eagle	Nesting Active/Inactive	1/8 mile radius of nest	11/15-7/31, between 1/4 and 1/2 mile radius
	Roost Diurnal/Nocturnal	1/8 mile radius of nest	11/15-3/15, between 1/4 and 1/2 mile radius
	Crucial Winter	1/8 mile radius of nest	11/15-3/15, between 1/4 and 1/2 mile radius
Other Raptors	Nesting	1/8 mile radius of nest	2/15-7/15, between 1/8 and 1/4 mile radius

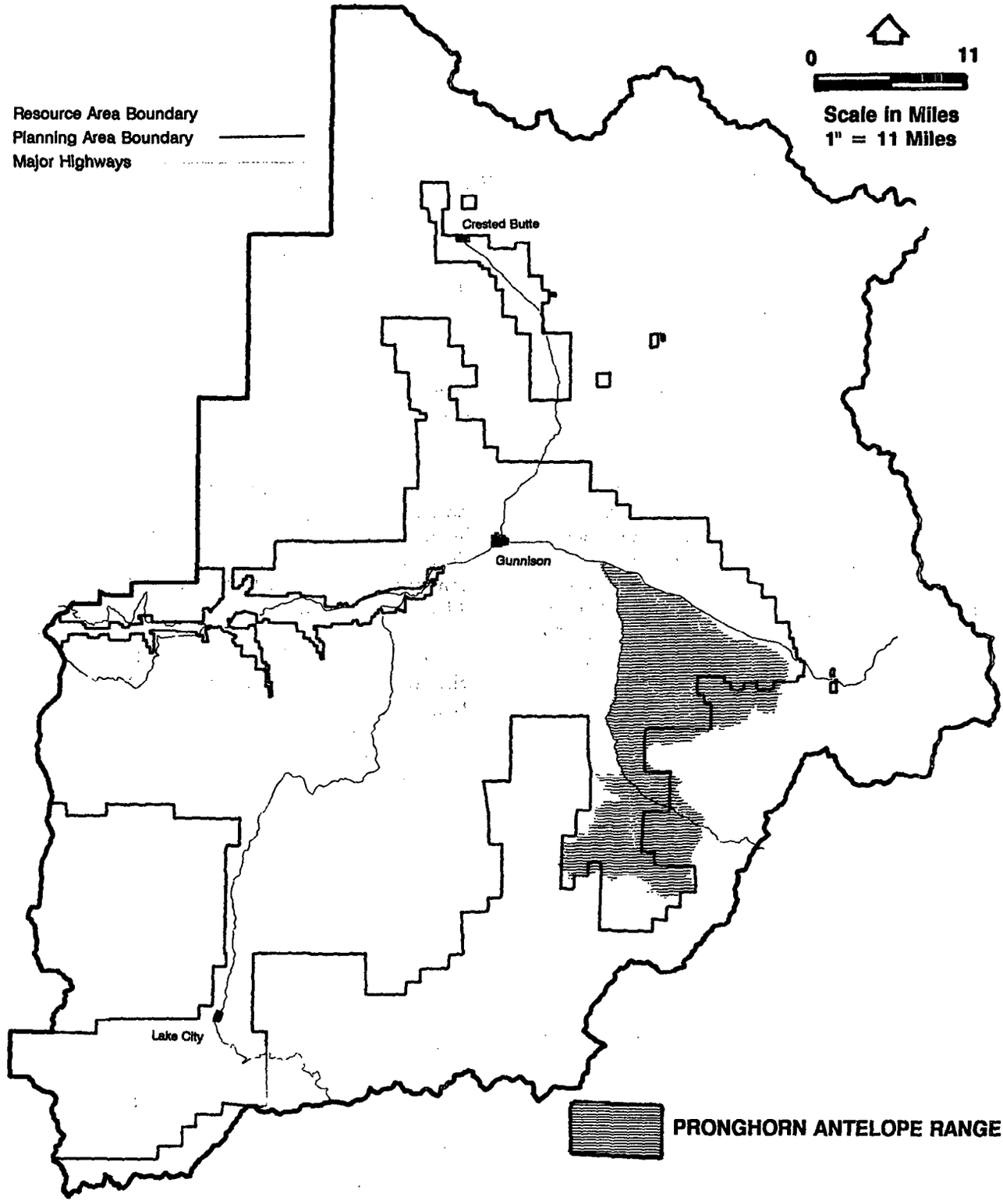
Notes: [1] Diurnal and Nocturnal = daytime and nighttime, respectively.
[2] If habitat is located within planned surface disturbance site(s), specific inventories would determine if habitat would be affected and appropriate mitigation determined at that time.



Map A-1
Crucial Elk and Deer Winter Range
in the Planning Area



Map A-2
Bighorn Sheep Range
in the Planning Area



Map A-3
Pronghorn Antelope Range
in the Planning Area

APPENDIX B
LIVESTOCK GRAZING MANAGEMENT

CATTLE AND SHEEP OPERATIONS IN THE PLANNING AREA

A majority of the cattle grazing in the Planning Area consists of cow/calf operations with a few yearling operations. Season-of-use on allotments in the Planning Area for cattle occurs generally in one of three categories:

A. Allotments that are used in the Spring (May 15 through July 1) as transitional ranges between winter use on private (or base) lands and summer grazing on Forest Service lands. Public lands are also used in the Fall (September 15 through November 1) by cattle leaving Forest Service allotments and going to private lands. There are 29 allotments containing 97,140 acres allocated for 8,397 AUMs in this category.

B. The other major use of allotments is season long (May 15 through November 15) use. There are 53 allotments containing 337,333 acres that are allocated for 29,818 AUMs in this category.

C. Allotments which are isolated tracts that are grazed in conjunction with larger tracts of private lands. These are used throughout the season at varying times. There are 47 allotments containing 21,760 acres that are allocated for 1,734 AUMs in this category.

Sheep operations in the Planning Area are mostly ewe/lambs with a few small yearling bands. Use on sheep allotments is managed in one of two categories.

D. On these allotments south of Lake City (numbers 6500 and greater), use is restricted to summer (July 10 to September 10) exclusively. Most bands come from base operations in the Montrose/Cimarron area. There are 9 allotments containing 49,580 acres that are allocated for 3,490 AUMs in this category.

E. In the Cimarron area, use is usually transitional with sheep (waiting for higher elevation ranges to open up) coming off of lambing grounds in the early spring. This starts in mid-May and goes through mid-July. There are eight allotments containing 42,480 acres that are allocated for 3,999 AUMs in this category.

A summary of the numbers of allotments by class of stock and season of use is shown in Table B-1.

Table B-1

CATTLE AND SHEEP SEASONS OF USE

SEASON OF USE[1]	NUMBER OF ALLOTMENTS	ACRES	AUMs
	CATTLE		
A	29	47,140	8,397
B	53	337,333	29,818
C	47	456,233	1,734
Total	129	456,233	39,949
	SHEEP		
D	9	49,580	3,490
E	8	42,480	3,999
Total	17	92,060	7,489

Note: [1] Letters refer to season-of-use on Page B-1.

Table B-2

AUMs AVAILABLE AND AUMs USED
IN THE PLANNING AREA
ON PUBLIC LANDS, 1978-1987[1]

YEAR	AVAILABLE AUMs (ACTIVE PREFERENCE)	AUMs ACTUALLY USED	% OF AVAILABLE AUMs ACTUALLY USED
1979	59,355	44,491	75%
1980	59,355	45,034	76%
1981	58,705	37,739	76%
1982	52,279	39,596	76%
1983	52,562	37,459	71%
1984	51,089	40,552	79%
1985	51,089	35,413	69%
1986	48,808	35,732	73%
1987	47,428	32,072	68%

Note: [1] AUM = Animal Unit per month

Table B-3

LIVESTOCK UTILIZATION MONITORING
IN THE PLANNING AREA
1981 TO 1987[1]

	ALLOTMENT MANAGEMENT CATEGORY						YEARLY TOTALS	
	M		I		C			
YEAR	NO. OF ALLOTS	ACRES	NO. OF ALLOTS	ACRES	NO. OF ALLOTS	ACRES	NO. OF ALLOTS	ACRES
1981	26	58,402	60	439,652	31	8,230	117	506,284
1982	19	48,524	59	420,358	22	6,377	100	475,259
1983	16	43,238	50	388,951	10	2,767	76	439,628
1984	10	33,609	51	391,754	4	2,898	65	428,261
1985	12	36,291	40	360,901	6	2,305	58	399,497
1986	6	21,435	37	367,390	3	944	46	389,769
1987	11	39,054	46	401,992	1	713	58	441,759

Note: [1] Utilization monitoring conducted between 1981 and 1984 used the modified Key Forage Plant Method. Monitoring from 1985 through 1987 combined the modified Key Forage Plant Method and utilization mapping.

RANGE READINESS CRITERIA FOR THE GUNNISON BASIN RESOURCE AREA

Criteria for range readiness consists of two elements: (1) soil readiness and (2) vegetation readiness.

Soil Readiness. Soils are especially vulnerable to damage in early season because of high soil moisture. Grazing at this time can damage soils, causing loss in productivity. Livestock should be excluded from the allotment at this critical period to allow the soil to become firm and plants to complete their early growth. Where applicable, snow should be absent from stock driveways.

Indicators of Soil Readiness:

Soils should be firm before grazing starts and moisture content should be low enough to insure that:

1. Soils will not be compacted resulting in hardpan surfaces which are impervious. This is especially true on fine-textured soils.

2. Sod covers in meadows and riparian areas will not be broken by hoof action.

3. Seedlings will not be pulled out of the ground because of high soil moisture.

Vegetative Readiness. The development stages of the species in Table B-4 would be used as indicators of readiness for grazing. This list is by no means complete. Additional species and developmental stages could be included when appropriate. These growth stages represent the earliest dates that use can begin on. When an allotment is dominated by a poor range condition, the guidelines prescribed in Table B-4 may have to be further altered to improve range condition and increase production.

Stages of plant development keyed to specific plants determine opening dates of the grazing season, and indicate when livestock grazing could occur. Under a system of management which provides for deferred use or rest, vegetation readiness may not be as important since the plants are provided a period for recovery. Under such grazing systems, vegetation may be grazed earlier than indicated by the following guides, provided the soils are ready. The goal is to maintain or restore the better forage plants. Therefore, growth stages of the perennial plants, not annuals, would govern vegetation readiness.

Range readiness observations would be made at key areas within an allotment. Key species would be the plants observed with emphasis on those plants which are primary forage species. This is a judgment decision to be made on the allotment. A list of plants which may be considered as key species when conducting range readiness is available for each range site. These lists can be found in the SCS Rangesite Descriptions for each site. However, the plants listed in the SCS descriptions do not include species which may be present in seral stages below the potential natural community (PNC) or introduced species.

Altitude also has a strong influence on vegetative readiness dates. Generally, each 100-foot (30 meters) difference in elevation is equal to one day's difference in range readiness. Also, a 10 to 15 day delay can be expected on north slopes compared to south slopes.

Other factors to consider are that plants will not produce seed head every year or, depending on site or moisture conditions, plants may not attain desired heights. These factors would be watched for (particularly plant height growth) and judgment used when determining range readiness.

Table B–4

INDICATORS OF VEGETATIVE READINESS - SEASON-LONG RANGE[1]

SPECIES	COMMON NAME	STAGE OF DEVELOPMENT INDICATING RANGE READINESS[2]
Grasses:		
Agropyron smithii	Western wheatgrass	6-8" or more in height.
Agropyron spicatum	Bluebunch wheatgrass	8" or more in height, heading out.
Agrostis spp.	Redtop	Heading out.
Bromus carinatus	Mountain brome	8" or more in height, headed, panicle spreading.
Danthonia spp.	Oatgrass	In full bloom.
Deschampsia caespitosa	Tufted hairgrass	6" or more in height, heading out.
Festuca arizonica	Arizona fescue	8" or more in height, heading out.
Festuca idahoensis	Idaho fescue	6" or more in height, heading out.
Festuca thurberi	Therber fescue	12" or more in height, heading out.
Koeleria nitida	Prairie junegrass	Headed out.
Leucopoa kingii	Spike fescue	12" or more in height, heading out.
Muhlenbergia montana	Mountain muhly	6" or more in height, headed out.
Phleum alpinum	Alpine timothy	6" or more in height, headed out.
Poa alpina	Alpine bluegrass	Headed ou., panicle open.
Poa fendleriana	Mutton grass	Plants maturing, seed in dough stage.
Poa pratensis	Kentucky bluegrass	Panicle fully opened.
Poa secunda	Sandberry bluegrass	Development slightly behind Muttongrass.
Stipa spp.	Needlegrass	6" or more in height, headed out to blooming.
Grasslike:		
Carex spp.	Sedges	Heads blooming
Carex aquatilis	Water sedge	7" - heading out.
Forbs:		
Balsamorhiza spp	Balsamroon	Full to past blooming.
Castilleja spp.	Indian paintbrush	Full bloom.
Delphinium spp.	Low larkspur	Full to past bloom.
	Tall larkspur	Full growth, blooming to past bloom.
Erigeron spp.	Fleabane, Daisy	Full bloom.
Eriogonum spp.	Wild buckwheat	Full bloom.
Geranium spp.	Geranium	Full to past bloom.
Lupinus spp.	Lupine	Early to full bloom.
Martensia spp.	Bluebell	Full bloom.
Penstemon spp.	Penstemon	Full to past bloom.
Polygonum bistorta	Bistort	Full to past bloom.
Potentilla spp.	Cinquefoil	Early to full bloom.
Taraxacum officinal	Common dandelion	Seed disseminated on most plants.
Thermopsis spp.	Golden pea	Full bloom.
Valeriana spp.	Valerian	Fully developed, blooming.

Table B-4 (Continued)

SPECIES	COMMON NAME	STAGE OF DEVELOPMENT INDICATING RANGE READINESS[2]
Veratrum califonicum	False hellebore	Budding to early bloom.
Wyethia app.	Mules ear or Wyethia	Full bloom to plants starting to dry.
Zygadenus spp.	Deathcamas	Full bloom.
Browse and Trees:		
Amelanchier spp.	Serviceberry	Fruit forming.
Cercocarpus spp.	Mountain mahogany	Fully leafed.
Crataegus spp.	Hawthorn	In full bloom.
Populus tremuloides	Aspen	Fully leafed - deep green.
Potentilla fruticosa	Shrubby cinquefoil	In full bloom.
Prunus virginiana	Chokecherry	Full to past blooming
Purshia tridentata	Bitterbrush	In bloom.
Ribes spp.	Current, Gooseberry	Flowering 50% or more.
Salix spp.	Willow	Fully leafed.
Sambucus spp.	Elderberry	Full bloom.
Symphoricarpos spp.	Snowberry	Full leaf, budded to blooming.

[1] Source: USFS Range Analysis and Management Handbook, R-2, FSH 3/85 Amendment No. 15.
[2] In every case, the key forage perennial grass species should have reached the stage development listed. Leaf height is the average height of all leaves, except the few longest or the shortest, when held upright and measured.

Table B-5

SUMMARY OF LIVESTOCK GRAZING PROGRAM BY ALLOTMENT

ALLOTMENT NUMBER	CATEGORY[1]	AMP STATUS[2]	GRAZING PREFERENCE (AUM) Active	Suspended	Total	CLASS OF LIVESTOCK[3]	SEASON OF USE[4]	RANGE CONDITION (ACRES) GOOD	FAIR	POOR	UNCLASSIFIED	TOTAL
5209	O	O	0	0	0			0	579	0	63	642
6000	C	N	1	9	10	H	SP	0	0	0	33	33
6001	M	N	280	94	374	S	SP-SU-FA	1160	1741	0	40	2941
6003	C	N	22	46	68	C	SP-SU-FA	0	0	143	396	539
6004	C	N	13	11	24	C	SP-SU-FA	0	0	153	179	332
6005	M	N	10	18	28	C	SP-SU-FA	0	0	0	580	580
6006	C	N	27	133	160	C	SP-SU-FA	0	56	0	422	478
6007	M	N	29	61	90	C	SP-SU-FA	0	126	0	336	462
6008	C	N	17	17	34	S	SP-SU-FA	28	0	0	513	541
6009	C	N	3	11	14	C		0	0	0	37	37
6010	O	O	0	0	0			0	0	0	0	0
6011	I	N	186	67	253	C	SP-SU	341	271	448	15	1075
6013	C	N	14	14	28	C	SP-SU-FA	0	0	0	302	302
6014	C	N	4	0	4	C	SP-SU-FA	0	0	0	20	20
6015	C	N	6	1	7	C	SP-SU-FA	0	34	0	39	73
6016	C	N	25	86	111	S	SP-SU-FA	0	0	0	80	80
6017	C	N	15	0	15	H	SP-SU	0	0	19	27	46
6018	I	N	75	105	180	S	SU	0	0	155	3221	3376
6019	O	O	0	0	0			0	0	0	198	198
6021	C	N	15	0	15	C	SP-SU-FA	0	171	0	97	268
6022	M	N	8	52	60	C	SP-SU-FA	0	35	0	0	35
6024	C	N	30	59	89	C	SP-SU-FA	0	0	1	638	639
6026	C	N	7	0	7	S	SP-SU-FA	0	0	82	16	98
6027	C	N	12	44	56	C	SU	0	0	71	154	225
6028	C	N	10	0	10	CH	SP-SU-FA	0	0	0	0	0
6029	C	N	9	27	36	C	SU-FA	0	0	24	141	165
6030	C	N	22	2	24	CH	SP-SU-FA	0	0	35	65	100
6031	M	N	190	0	190	C	FA	0	202	0	2342	2544
6032	M	N	206	74	280	S	SU-FA	0	372	0	1267	1639
6033	I	Y	494	110	604	C	SP-SU-FA	0	215	274	2879	3368
6034	I	N	101	63	164	C	SU-FA	264	0	339	489	1092

Table B-5 (continued)

ALLOTMENT NUMBER	CATEGORY[1]	AMP STATUS[2]	GRAZING PREFERENCE (AUM) Active	Suspended	Total	CLASS OF LIVESTOCK[3]	SEASON OF USE[4]	RANGE CONDITION (ACRES) GOOD	FAIR	POOR	UNCLASSIFIED	TOTAL
6035	I	Y	70	0	70	C	SP-SU-FA	0	610	0	0	610
6036	C	N	8	3	11	S	FA	0	0	0	40	40
6037	C	N	19	9	28	C	SP-SU-FA	0	0	183	308	491
6038	C	N	4	0	4	C	FA-WI	0	36	0	59	95
6040	C	N	31	0	31	C	SU	0	62	0	264	326
6050	M	N	272	0	272	CSH	SP-SU-FA	0	250	10	1232	1492
6051	I	N	13	21	34	C	SU	0	80	4	548	632
6052	I	N	88	0	88	C	SU-FA	0	80	0	1456	1536
6053	M	N	102	18	120	C	SP-SU	0	210	0	728	938
6054	C	N	21	15	36	C	SU-FA	0	33	64	848	945
6055	0	N	0	0	0			0	0	0	80	80
6056	I	N	107	75	182	S	SP WI	0	408	905	1199	2512
6057	C	N	9	0	9	C	SU	0	60	0	0	60
6060	0	N	0	0	0			0	0	0	714	714
6061	C	N	44	0	44	C		0	0	0	320	320
6100	M	N	1791	81	1872	S	SP-SU-FA	2607	3911	2176	6635	15329
6101	M	N	684	0	684	S	SP-SU-FA	0	0	7831	270	8101
6102	M	N	347	0	347	S	SU-FA	0	0	0	4022	4022
6103	I	Y	944	538	1482	C	SP-SU-FA	371	1924	638	15076	18009
6104	I	Y	1250	1785	3035	C	SP-SU-FA	0	1112	4934	22153	28199
6105	I	Y	475	126	601	C	SP-SU-FA	3287	0	0	2414	5701
6106	M	N	190	0	190	C	SP-SU-FA	0	0	0	1238	1238
6107	I	Y	10843	5351	16194	C	SP-SU-FA	18151	22395	19371	49934	109851
6108	I	Y	1007	477	1484	C	SP-SU-FA	503	1954	1449	6163	10069
6109	M	N	498	0	498	C	SP-SU-FA	0	2410	0	4498	6908
6110	I	N	51	0	51	C	SP	0	0	0	600	600
6111	I	N	250	23	273	C	SP-SU-FA	0	210	985	3025	4220
6112	I	N	415	0	415	CS	SP-SU-FA	0	0	2240	4237	6477
6113	C	N	13	1	14	C	SP-SU-FA	0	59	0	0	59
6114	C	N	20	0	20	S	FA	0	0	66	78	144
6115	I	N	530	0	530	S	SU-FA	0	0	0	7075	7075

Table B-5 (continued)

ALLOTMENT NUMBER	CATEGORY[1]	AMP STATUS[2]	GRAZING PREFERENCE (AUM) Active	Suspended	Total	CLASS OF LIVESTOCK[3]	SEASON OF USE[4]	RANGE CONDITION (ACRES) GOOD	FAIR	POOR	UNCLASSIFIED	TOTAL
6116	M	N	76	0	76	C		0	517	0	230	747
6117	M	N	132	27	159	C	SU-FA	0	786	0	284	1070
6118	C	N	4	0	4	C	FA	0	0	0	35	35
6119	I	Y	10	0	10	C	SP	0	70	0	0	70
6120	I	N	89	30	119	C	SP FA	620	0	0	282	902
6121	I	N	165	46	211	C	SP-SU-FA	1142	0	0	328	1470
6123	C	N	9	0	9	C	SP-SU-FA	0	59	0	0	59
6125	C	N	8	8	16	C	SP-SU	0	52	0	45	97
6127	M	N	70	0	70	C	SP-SU-FA	0	0	0	1784	1784
6128	C	N	120	0	120	C		0	0	1855	118	1973
6129	C	N	21	22	43	C		0	0	0	461	461
6130	C	N	9	0	9	C	SP-SU-FA	69	0	0	71	140
6131	C	N	54	20	74	C	FA-WI	310	0	0	413	723
6132	C	N	5	0	5	C	SP	22	0	0	0	22
6133	0	0	0	0	0			0	0	0	1726	1726
6134	0	0	0	0	0			0	0	0	3490	3490
6150	M	N	23	16	39	C	SP	0	0	237	60	297
6180	I	N	74	0	74	C	SP FA	0	512	434	1041	1987
6200	I	N	114	54	168	C	SP-SU-FA	0	1843	165	350	2358
6201	0	0	0	0	0			0	15	0	70	85
6202	I	N	762	69	831	C	SP FA	0	6238	1354	1675	9267
6203	I	Y	673	0	673	C	SP FA	0	7193	436	1641	9270
6204	M	N	26	23	49	H	SP-SU-FA	0	0	401	0	401
6205	C	N	8	0	8	C	SP WI	0	0	76	0	76
6206	I	N	180	0	180	C	SP	0	2501	0	527	3028
6207	I	N	0	0	0			0	426	0	332	758
6208	I	N	489	0	489	C	SP	0	2848	0	810	3658
6210	I	N	20	7	27	C	SU	0	0	77	287	364
6212	M	N	46	0	46	C	SP-SU-FA	0	210	0	211	421
6213	M	Y	166	0	166	C	SP-SU-FA	0	0	281	340	621
6215	0	0	0	0	0			0	0	265	404	669

Table B-5 (continued)

ALLOTMENT NUMBER	CATEGORY[1]	AMP STATUS[2]	GRAZING PREFERENCE (AUM) Active	Suspended	Total	CLASS OF LIVESTOCK[3]	SEASON OF USE[4]	RANGE CONDITION (ACRES) GOOD	FAIR	POOR	UNCLASSIFIED	TOTAL
6216	I	N	167	58	225	C	SP-SU	0	0	1427	206	1633
6217	M	N	77	0	77	C	SU-FA	244	0	0	0	244
6250	0	0	0	0	0			0	0	0	4672	4672
6251	0	0	0	0	0			0	0	0	139	139
6300	I	Y	1111	0	1111	C	SP-SU-FA	0	7100	3089	1174	11363
6301	I	Y	1615	0	1615	C	SP FA	0	6155	7447	1182	14784
6302	I	Y	1487	0	1487	C	SP FA	0	8368	2039	1110	11517
6303	I	N	85	15	100	C	SP FA	0	0	430	708	1138
6304	I	N	367	225	592	C	SP-SU-FA	0	0	3086	738	3824
6305	I	N	421	134	555	C	SP-SU-FA	0	5281	0	687	5968
6306	I	N	45	5	50	C	SP	0	392	130	135	657
6307	C	N	26	0	26	C	SP-SU-FA	0	0	0	145	145
6308	I	N	60	47	107	C	SP FA	0	794	47	0	841
6309	I	N	248	0	248	C	SP-SU	950	1901	12	194	3057
6310	I	N	62	38	100	C	SP	0	1094	0	0	1094
6311	I	Y	3553	1264	4817	C	SP-SU-FA	873	7170	0	9352	17395
6312	I	Y	1500	0	1500	C	SP-SU-FA	2026	8226	2026	8811	21089
6313	I	Y	892	0	892	C	SP-SU-FA	1080	1793	181	2902	5956
6314	M	N	47	0	47	C	SP-SU	0	493	0	76	569
6315	M	N	157	49	206	C	SU-FA	0	0	265	404	669
6316	I	N	318	122	440	C	SP-SU	0	3150	541	133	3824
6317	I	N	922	124	1046	CH	SP-SU-FA	0	0	13690	1879	15569
6318	I	N	867	112	979	C	SP-SU-FA	5999	1012	8067	777	15855
6319	I	N	318	0	318	C	SP	1513	6144	1513	0	9170
6320	M	N	147	0	147	C	SP	0	0	0	1848	1848
6323	I	N	118	17	135	C	SP-SU	0	1197	380	20	1597
6324	I	N	22	0	22	C	SP	54	0	412	0	466
6325	I	N	137	0	137	C	SP-SU-FA	0	1107	9	0	1116
6326	I	N	80	0	80	C	SP	0	0	1125	83	1208
6327	I	N	200	0	200	C	SP-SU-FA	0	0	1655	532	2187
6328	M	N	324	0	324	C	SP-SU-FA	0	1870	1291	1342	4503

Table B-5 (continued)

ALLOTMENT NUMBER	CATEGORY[1]	AMP STATUS[2]	GRAZING PREFERENCE (AUM) Active	Suspended	Total	CLASS OF LIVESTOCK[3]	SEASON OF USE[4]	RANGE CONDITION (ACRES) GOOD	FAIR	POOR	UNCLASSIFIED	TOTAL
6329	I	N	400	136	536	C	SP-SU-FA	0	3441	1583	1126	6150
6330	I	N	30	0	30	C	SP-SU-FA	0	0	331	0	331
6331	I	N	462	101	563	C	SP-SU-FA	0	2025	1288	1275	4588
6338	M	Y	120	0	120	C	SP-SU-FA	306	614	269	392	1581
6339	C	N	23	0	23	C	SP-SU-FA	0	80	79	7	166
6340	I	N	8	0	8	C	FA	0	0	40	0	40
6341	C	N	0	0	0			0	0	0	13	13
6342	I	N	215	69	284	C	SU	0	179	2304	523	3006
6343	I	Y	369	87	456	C	SP-SU-FA	0	1456	1857	380	3693
6344	M	Y	332	0	332	C	SP-SU-FA	0	0	1138	894	2032
6346	M	N	50	10	60	C	SP FA	0	770	125	10	905
6347	M	Y	216	423	639	C	SP-SU-FA	0	0	939	889	1828
6348	I	N	108	86	194	C	SP-SU-FA	0	0	1429	19	1448
6349	C	N	10	0	10	C	SP-SU-FA	0	107	0	39	146
6350	I	N	144	26	170	C	SP-SU-FA	0	0	1082	299	1381
6352	C	N	10	0	10	C	SU	0	0	0	119	119
6353	I	N	138	0	138	C	SU	520	520	170	367	1577
6354	0	N	0	0	0			0	0	126	0	126
6355	0	N	0	0	0			0	0	0	79	79
6356	I	N	0	0	0			0	0	0	0	0
6357	I	N	0	0	0			0	0	0	0	0
6358	C	N	21	0	21	C	SP-SU-FA	0	0	0	483	483
6359	I	N	40	60	100	I	SP	0	602	0	115	717
6360	M	N	23	15	38	C	SP	0	360	45	0	405
6361	M	N	0	0	0			0	0	0	0	0
6362	I	Y	138	30	168	C	SP-SU-FA	0	0	0	1645	1645
6363	0	N	0	0	0			0	0	0	213	213
6364	0	N	0	0	0			0	0	0	70	70
6365	C	N	11	0	11	C	SP	0	241	26	0	267
6366	I	N	0	0	0			0	0	0	0	0
6367	0	N	0	0	0			0	0	0	69	69

Table B-5 (continued)

ALLOTMENT NUMBER	CATEGORY[1]	AMP STATUS[2]	GRAZING PREFERENCE (AUM) Active	Suspended	Total	CLASS OF LIVESTOCK[3]	SEASON OF USE[4]	RANGE CONDITION (ACRES) GOOD	FAIR	POOR	UNCLASSIFIED	TOTAL
6368	O	N	0	0	0			0	0	0	49	49
6369	I	N	0	0	0			0	0	0	0	0
6370	I	N	0	0	0			0	0	0	0	0
6371	I	N	0	0	0			0	0	0	0	0
6372	M	N	0	0	0			0	0	0	0	0
6373	I	N	0	0	0			0	0	0	0	0
6374	M	N	0	0	0			0	0	0	0	0
6375	I	N	0	0	0			0	0	0	0	0
6400	C	N	30	8	38	C	SP-SU-FA	0	0	19	160	179
6401	C	N	27	81	108	C	SU-FA	0	0	370	343	713
6402	C	N	10	0	10	C		0	0	20	0	20
6500	M	N	126	402	528	C	SP-SU-FA	0	1058	97	1056	2211
6501	I	N	43	0	43	S	SU-FA	645	0	0	448	1093
6502	I	Y	450	418	868	S	SU-FA	1469	2939	0	5845	10253
6503	I	N	242	0	242	C	SP-SU-FA	0	790	790	3868	5448
6504	I	Y	400	86	486	S	SU-FA	1593	1792	0	6568	9953
6505	I	Y	1080	234	1314	S	SU-FA	0	0	0	13370	13370
6506	I	Y	544	0	544	S	SU-FA	0	0	0	4785	4785
6507	I	Y	236	31	267	SH	SU-FA	420	421	0	453	1294
6508	C	N	65	0	65	S	SU-FA	0	684	684	1075	2443
6509	I	Y	550	355	905	S	SU-FA	3694	0	0	1909	5603
6510	I	Y	122	127	249	S	SU-FA	158	314	0	314	786
6525	0	0	0	0	0			0	0	0	5057	5057
6526	0	0	0	0	0			0	0	0	6269	6269
6527	0	0	0	0	0			0	0	0	495	495
6999	0	N	0	0	0			0	0	0	252	252
TOTALS			47446	14944	62390			50419	144516	111854	267409	574198

[1] Allotment Category: "M" is maintain, "I" is improve, "C" is custodial and "O" is uncategorized.
[2] AMP Status: "N" allotment has no AMP (Allotment Management Plan), "Y" allotment has an AMP, "O" allotment(s) has been combined with "Y" or "N" allotment or is unallotted.
[3] Class of Livestock: "C" are cattle, "H" are horses, and "S" are sheep.
[4] Season of Use: "SP" is spring, "SU" is summer, "FA" is fall, and "WI" is winter.

APPENDIX C
VISUAL RESOURCE MANAGEMENT

VISUAL RESOURCE MANAGEMENT CLASSES

The Bureau of Land Management's Visual Resource Management (VRM) System provides a method for analyzing and managing visual resources on public lands. The basis of the VRM System is an inventory of visual resources. The components of the inventory are determinations of scenic quality, numbers of viewers, public attitudes regarding maintenance or modification of the scenery, the distance from which areas are viewed, and the existence of special considerations such as natural area or wilderness designations. All of these components are incorporated into a formula used to determine VRM classification ratings ranging from highly valued visual resource lands (VRM Class I and VRM Class II) to the least valued lands (VRM Class IV). A special fifth class (VRM Class R) is used to identify lands where rehabilitation is needed to improve visual qualities.

The management objectives for each VRM class are:

VRM CLASS I

Visual contrast caused by land use, development, or construction activities should be within low levels similar to those of natural or ecological changes typical in a given area. This protective classification is applied to wilderness areas, wild and scenic river corridors, natural landmarks, and other congressionally designated areas whose management is aimed at protecting their natural and scenic values.

VMR CLASS II

Visual contrast caused by land use, development, or construction activities should be within low to moderate levels. The changes should be relatively inconspicuous within their context.

VRM CLASS III

Visual contrast caused by management activities should be within moderate to high levels, but remain subordinate to the characteristic landscape.

VRM CLASS IV

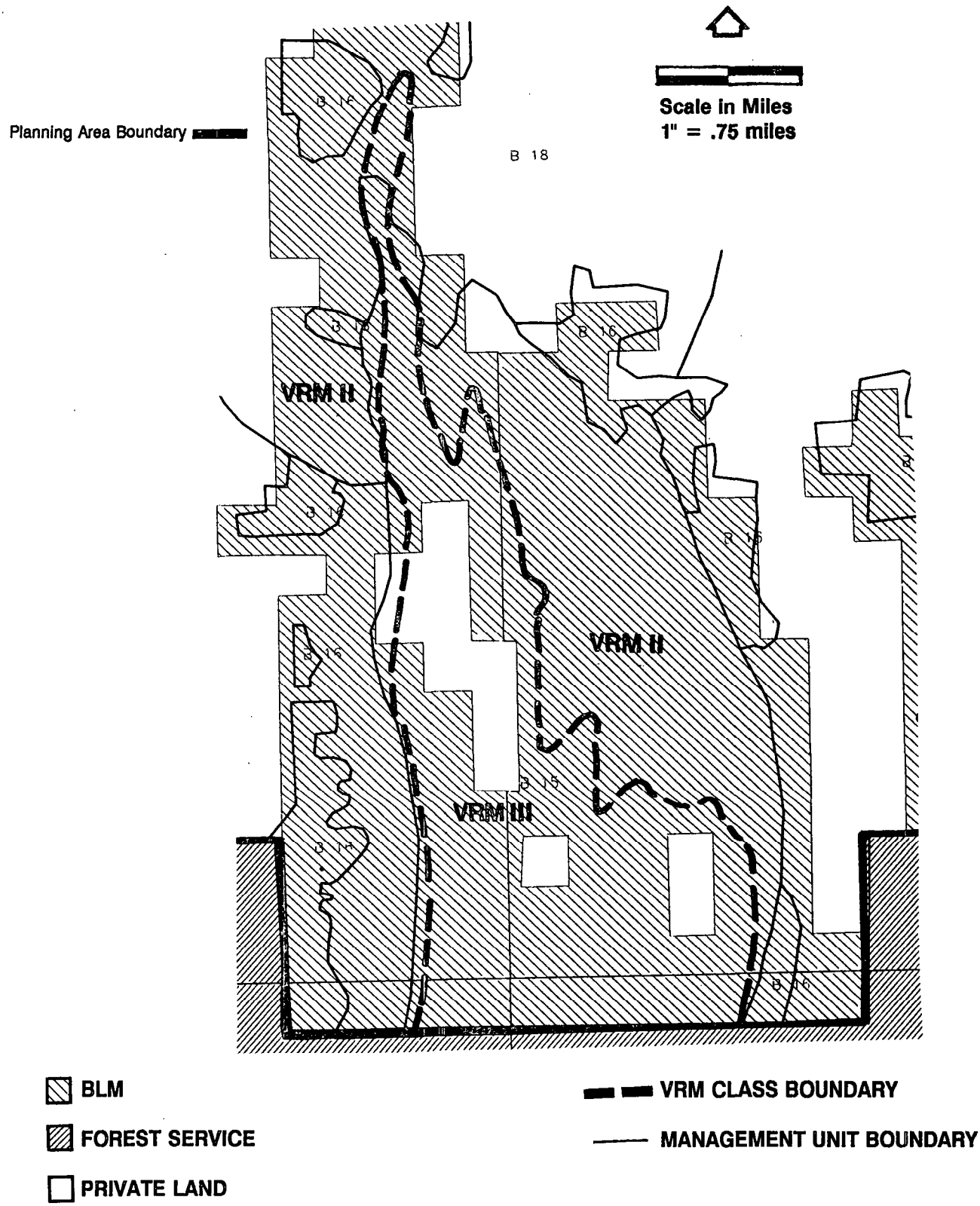
Visual contrast caused by management activities may be high to extreme levels, and become a dominant feature within the context, but the design should incorporate elements found in the characteristic landscape context.

VRM CLASS IIR, IIIR, AND IVR

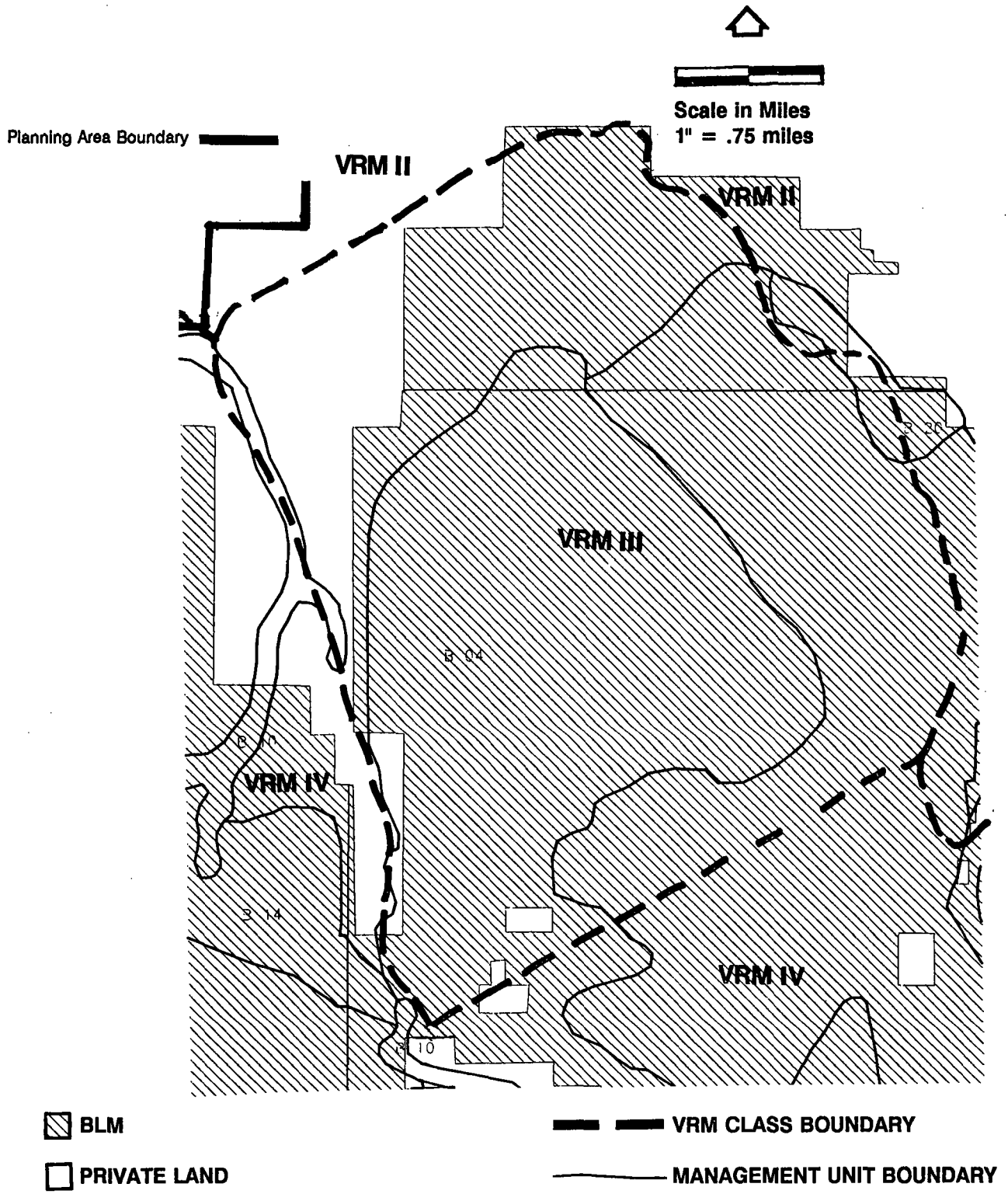
This interim classification is applied to areas where existing or proposed management activity has or will cause extreme visual contrasts without incorporating characteristic landscape elements in its design. The aim is to reclaim some of these elements to achieve visual contrast consistent with the objectives of the original class.

A low visually-contrasting project would be visible but should not attract the attention of a casual observer. A high visually-contrasting project would dominate the landscape and be a major focus of a casual observer.

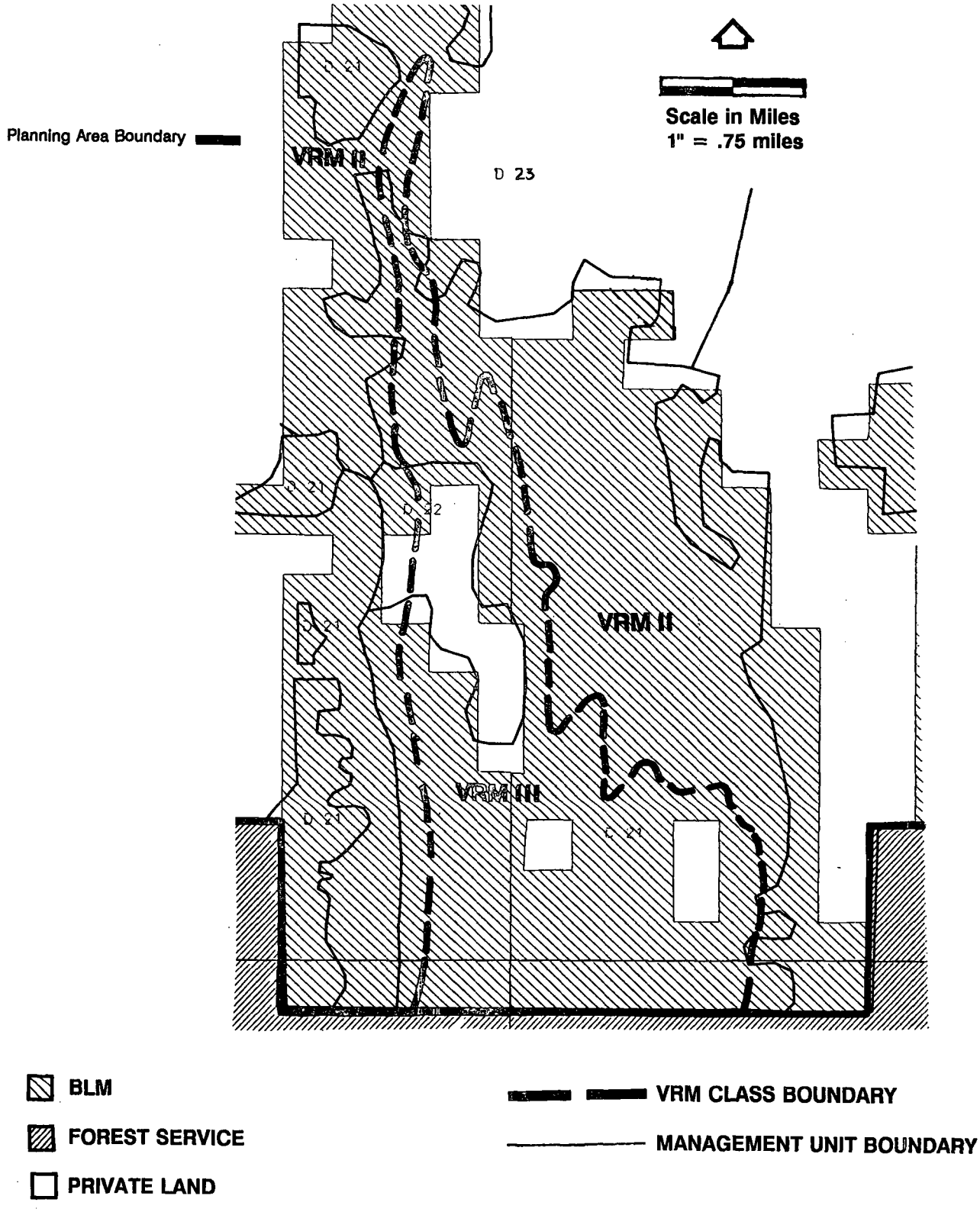
The VRM system is utilized to determine appropriate visual design measures for proposed land uses. The degree of visual contrast between proposed projects and alternatives and the surrounding landscape are often compared as part of an overall environmental analysis of project proposals. As a result of this analysis, measures designed to reduce visual contrast or meet VRM class objectives are often incorporated into the design and construction methods of authorized land uses.



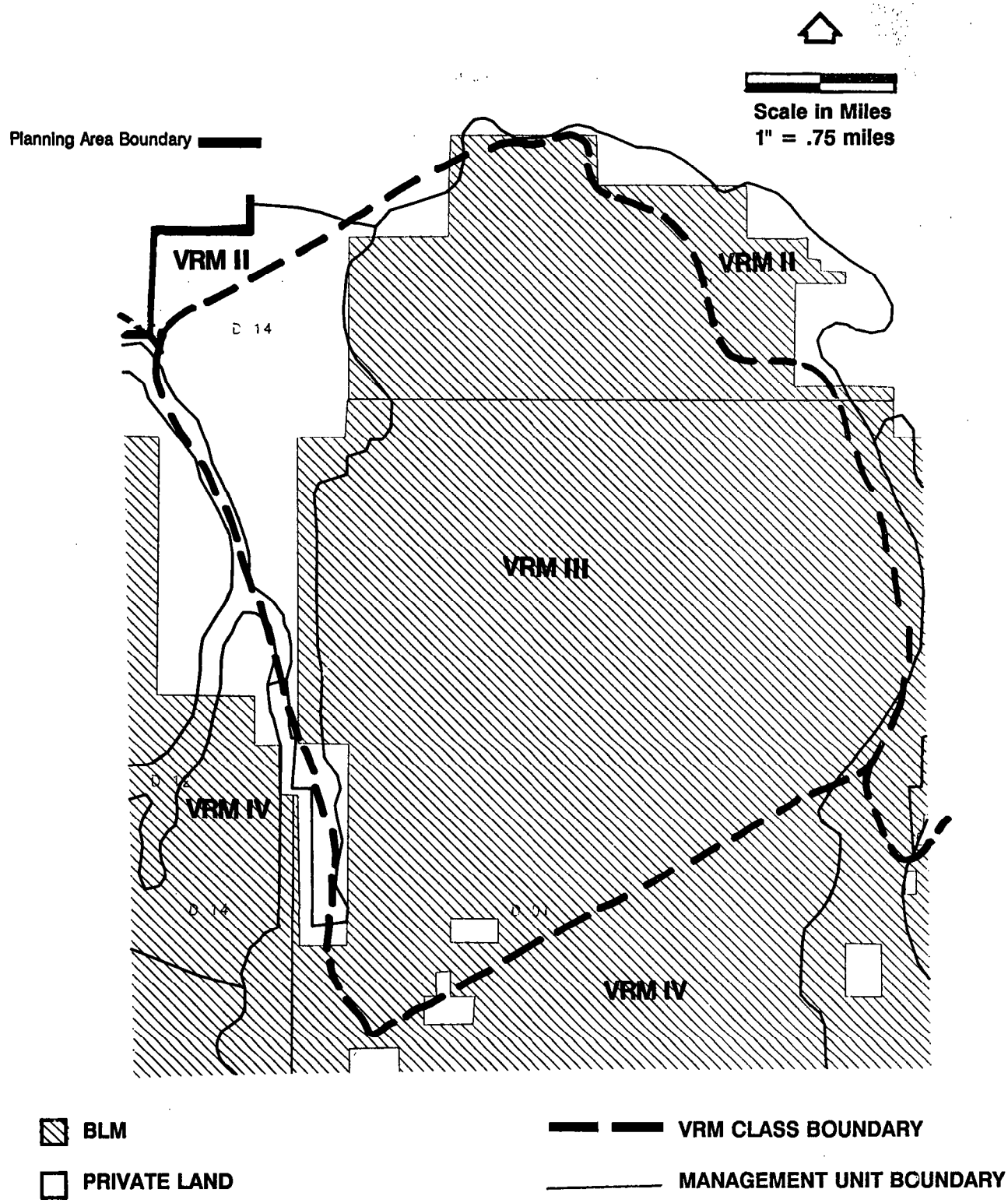
Map C-1
Visual Resource Management Classes
at High Mesa
Alternative B



Map C-2
Visual Resource Management Classes
at Hartman Rocks
Alternative B



Map C-3
Visual Resource Management Classes
at High Mesa
Alternative D



Map C-4
Visual Resource Management Classes
at Hartman Rocks
Alternative D

APPENDIX D

DISPOSAL TRACTS, ACQUISITION CRITERIA, RIGHTS-OF-WAY CORRIDORS, AND LANDS AND REALTY

ALTERNATIVE A CATEGORY I DISPOSAL TRACTS

1. T. 14 S., R. 86 W., Sec. 1: S 1/2 SE 1/4 SW 1/4 - 20 acres isolated tract uneconomical to manage.

2. T. 49 N., R. 2 E., Sec. 16: NW 1/4 NW 1/4, S 1/2 NE 1/4 NW 1/4, S 1/2 NW 1/4 NW 1/4 NE 1/4 N/W 1/4 and: S 1/2 NW 1/4 NW 1/4 NE 1/4 NW 1/4, SW 1/4 NE 1/4 NE 1/4 NW 1/4 - 68.75 acre isolated tract.

3. T. 49 N., R. 2 E., Sec. 17: SE 1/4 NE 1/4, NE 1/4 SE 1/4 - 80 acre isolated tract, uneconomical to manage.

4. T. 48 N., R. 3 E., Sec. 13: NE 1/4 NE 1/4, S 1/2 NE 1/4; T. 48 N. R. 4 E., Sec. 18: Lots 1, 2 and 3, SE 1/4 NW 1/4 - 280.39 acre isolated tract, uneconomical to manage.

5. T. 49 N., R. 3 E., Sec. 8: SE 1/4 SW 1/4 - 40 acre isolated tract, uneconomical to manage.

6. T. 48 N., R. 4 E., Sec 30: SE 1/4 NE 1/4 - 40 acre isolated tract, uneconomical to manage.

7. T. 46 N., R. 2 W., Sec. 18: SW 1/4 SE 1/4 - 40 acre isolated tract, uneconomical to manage.

8. T. 47 N., R. 3 W., Sec. 19: E 1/2 NE 1/4, NE 1/4 - 120 acre isolated tract, uneconomical to manage.

9. T. 47 N., R. 3 W., Sec. 20: NE 1/4 NW 1/4 - 40 acre isolated tract, uneconomical to manage.

10. T. 47 N., R. 3 W., Sec. 20: NE 1/4 SW 1/4, S 1/2 SW 1/4; Sec. 29: NW 1/4 - 280 acre isolated tract, uneconomical to manage.

11. T. 47 N., R. 3 W., Sec. 20: SE 1/4 NE 1/4, NE 1/4 SE 1/4 - 8 acre isolated tract, difficult or uneconomical to manage.

12. T. 44 N., R. 4 W., Sec. 11: Lots 2, 3, 4, and 7 - 66.58 acres irregular shaped parcel, difficult to manage.

13. T. 46 N., R. 4 W., Sec. 25: NW 1/4 NW 1/4; Sec. 26: NE 1/4 NE 1/4 - 80 acre tract, isolated and uneconomical to manage.

14. T. 46 N., R. 4 W., Sec. 25: SW 1/4 SW 1/4 - 40 acre isolated tract, uneconomical to manage.

15. T. 46 N., R. 4 W., Sec. 26: E 1/2 NW 1/4, S/W 1/4 NW 1/4, NW 1/4 S/W 1/4 - 160 acre isolated tract, uneconomical to manage.

16. T. 49 N., R. 4 W., Sec 29: NE 1/4 NE 1/4 - 40 acre isolated tract, uneconomical to manage.

17. T. 46 N., R. 5 W., Sec. 3: Lot 4, S 1/2 NW 1/4, NE 1/4 SW 1/4; Sec. 4: Lot 1; T. 47 N., R. 5 W., Sec. 33: SE 1/4 NE 1/4, NE 1/4 SE 1/4; Sec. 34: SW 1/4 NW 1/4, W 1/2 SW 1/4 - 444.29 acres, does not meet any of the criteria for 203 sale under FLPMA.

18. T. 46 N., R. 5 W., Sec. 4: NW 1/4 NW 1/4 - 40 acre tract, does not meet 203 sale criteria.

19. T. 46 N., R. 5 W., Sec. 4: N 1/2 SW 1/4 - 80 acre tract, does not meet sale criteria.

20. T. 47 N., R. 5 W., Sec. 8: Lot 14 - 20.45 acre isolated tract, uneconomical to manage.

21. T. 47 N., R. 5 W., Sec. 9: Lot 22 - 19.45 acre isolated tract, uneconomical to manage.

22. T. 47 N., R. 5 W., Sec. 33: NE 1/4 SW 1/4 - 40 acre timbered tract, not meeting 203 sale criteria.

23. T. 48 N., R. 5 W., Tr. 65 L, Tr. 65 M., Tr. 65 R., Sec. 23: Lot 1 - 131.31 acres, would not meet Sec. 203 sale criteria because of change in adjacent land ownership.

24. T. 47 N., R. 6 W., Sec. 14: NW 1/4 SW 1/4 - 40 acre isolated tract, uneconomical to manage.

25. T. 47 N., R. 6 W., Sec. 14: SE 1/4 SE 1/4 - 40 acre isolated tract, uneconomical to manage.

26. T. 48 N., R. 6 W., Sec. 12: Lots 1,2,3, SW 1/4 NE 1/4 - 159.29 acre isolated tract, desirable for management by NPS (Curecanti NRA); currently inside NRA boundary proposal.

27. T. 48 N., R. 6. W., Sec. 25: SE 1/4 SE 1/4 - 40 acre isolated tract, uneconomical to manage.

ALTERNATIVES B & E CATEGORY I DISPOSAL TRACTS

1. T. 14 S., R 86 W., Sec. 1: S 1/2 SE 1/4 SW 1/4 - 20 acre isolated tract, on East River near town of Crested Butte, difficult to manage and is adjacent to private subdivision developments on two sides.

2. T. 15 S., R. 87 W., Sec. 1: Lot 2, SW 1/4 NE 1/4 - 80.11 acre isolated tract, near Carbon Creek that is uneconomical to manage; adjacent to USFS.

3. T. 15 S., R. 86 W., Sec. 7: NE 1/4 SE 1/4 - 40 acre isolated tract, near Baldwin that is uneconomical to manage.

4. T. 15 S., R. 84 W., Sec. 28: SE 1/4 SE 1/4 - 40 acre isolated tract, near Taylor River in Elsinor Ranch, difficult and uneconomical to manage.

5. T. 49 N., R. 3 E., Sec. 8: SE 1/4 SW 1/4 - 40 acre isolated tract, near Quartz Creek, difficult and uneconomical to manage.

6. T. 49 N., R. 2 E., Sec. 17: SE 1/4 NE 1/4, NE 1/4 SE 1/4 - 80 acre isolated tract, near Tomichi Creek that is difficult and uneconomical to manage.

7. T. 49 N., R. 5 W., Sec. 21: E 1/2 NE 1/4, NE 1/4 SE 1/4 - 120 acre isolated tract, difficult and uneconomical to manage.

8. T. 49 N., R. 5 W., Sec. 34: NE 1/4 - 160 acre isolated tract, difficult and uneconomical to manage; Current BuRec withdrawal in revocation process.

9. T. 48 N., R. 4-1/2 E., Sec. 24: Lot 6 - 3.78 acre isolated sliver of public land, difficult and uneconomical to manage; Templeton ranch.

10. T. 48 N., R. 3 W., Sec. 8: NE 1/4 - 160 acre isolated tract, difficult and uneconomical to manage.

11. T. 48 N., R. 3 W., Sec. 21: SW 1/4 NE 1/4, SE 1/4 NW 1/4, W 1/2 SE 1/4 - 160 acre isolated tract.

12. T. 48 N., R. 5 W., Sec. 9: Lots 1,2,3,4, W 1/2 NW 1/4, NW 1/4 SW 1/4 - Western part of Section, adjacent to NPS; - 212.96 acre isolated tract.

13. T. 48 N., R. 5 W., Sec. 20: Lot 9; Sec. 21: Lot 1 - 57.08 acre isolated tract.

14. T. 48 N., R. 6 W., Sec. 13: Lots 1, 2, and 7 - 121.98 acre isolated tract.

15. T. 48 N., R. 6 W., Sec. 25: SE 1/4 SE 1/4 - 40 acre isolated tract.

16. T. 47 N., R. 1 W. , Sec. 29: NW 1/4 NW 1/4 - 40 acre isolated tract - Big Mud Pond Area

17. T. 47 N., R. 1 W., Sec. 34: S 1/2 SW 1/4 - 80 acre isolated tract.

18. T. 47 N., R. 1-1/2 W., Sec. 25: N 1/2 NE 1/4 - 80 acre isolated tract.

19. T. 47 N., R. 3 W., Sec. 19: E 1/2 NE 1/4, NE 1/4 SE 1/4 - 120 acre isolated tract.

20. T. 47 N., R. 3 W., Sec. 20: NE 1/4 NW 1/4 - 40 acre isolated tract.

21. T. 47 N., R. 3 W., Sec. 20: NE 1/4 SW 1/4, S; 1/2 SW 1/4; Sec. 29: NW 1/4 - 280 acre isolated tract.

22. T. 47 N., R. 3 W., Sec. 20: SE 1/4 NE 1/4, NE 1/4 SE 1/4 - 80 acre isolated tract.

23. T. 47 N., R. 5 W., Sec. 8: Lot 14 - 20.45 acre isolated tract.

24. T. 47 N., R. 5 W., Sec. 9: Lot 22 - 19.45 acre isolated tract.

25. T. 47 N., R. 5 W., Sec. 10: Lots 1,3,4,5, NE 1/4 SE 1/4 - 133.43 acre isolated tract.

26. T. 47 N., R. 6 W., Sec. 14: SE 1/4 SE 1/4 - 40 acre isolated tract.

27. T. 47 N., R. 6 W., Sec. 14: NW 1/4 SW 1/4 - 40 acre isolated tract.

28. T. 47 N., R. 2 E., Sec. 12: SE 1/4 NE 1/4 - 40 acre isolated tract.

29. T. 46 N., R. 1 W., Sec. 33: SW 1/4 NE 1/4, Lot 1 - 82.58 acre isolated tract.

30. T. 46 N., R. 2 W., Sec. 11: Lots 2, 3, 5, 6, 7, 8, 9, 12 & 13 - 103.95 acres in four isolated slivers around Iron Hill.

31. T. 46 N., R. 2 W., Sec. 12: Lots 4, 5, 6, 7, 8, 9 & 10 - 75.46 acres in three isolated small tracts around Iron Hill.

32. T. 46 N., R. 3 W., Sec. 18: SW 1/4 SE 1/4 - 40 acre isolated tract near Indian Creek.

33. T. 46 N., R. 3 W., Sec. 17: SW 1/4 NE 1/4 - 40 acre isolated tract.

34. T. 46 N., R. 3 W., Sec 20: NE 1/4 SE 1/4 - 40 acre isolated tract.

35. T. 46 N., R. 3 W., Sec. 34: SW 1/4 NW 1/4 -40 acre isolated tract.

36. T. 45 N., R. 2 E., Sec. 10: SE 1/4 NE 1/4 - 40 acre isolated tract.

37. T. 45 N., R. 2 E., Sec. 11: Lot 1 - 45.10 acre isolated tract.

38. T. 45 N., R. 1 W., Sec. 3: E 1/2 SW 1/4 - 80 acre isolated tract in Rock Creek.

39. T. 45 N., R. 1 W., Sec. 5: Lot 2 - 41.62 acre isolated tract.

40. T. 48 N., R. 4 E., Sec. 30: Se 1/4 NE 1/4 - 40 acre isolated tract.

41. T. 48 N., R. 3 W., Sec. 6: Lot 2 - 31.28 acre isolated tract.

ALTERNATIVE C CATEGORY I DISPOSAL TRACTS

Tracts 1 through 41 are identical to those in Alternatives B & E.

1. T. 14 S., R 86 W., Sec. 1: S 1/2 SE 1/4 SW 1/4 - 20 acre isolated tract, on East River near town of Crested Butte, difficult to manage and is adjacent to private subdivision developments on two sides.

2. T. 15 S., R. 87 W., Sec. 1: Lot 2, SW 1/4 NE 1/4 - 80.11 acre isolated tract, near Carbon Creek that is uneconomical to manage; adjacent to USFS.

3. T. 15 S., R. 86 W., Sec. 7: NE 1/4 SE 1/4 - 40 acre isolated tract, near Baldwin that is uneconomical to manage.

4. T. 15 S., R. 84 W., Sec. 28: SE 1/4 SE 1/4 - 40 acre isolated tract, near Taylor River in Elsinor Ranch, difficult and uneconomical to manage.

5. T. 49 N., R. 3 E., Sec. 8: SE 1/4 SW 1/4 - 40 acre isolated tract, near Quartz Creek, difficult and uneconomical to manage.

6. T. 49 N., R. 2 E., Sec. 17: SE 1/4 NE 1/4, NE 1/4 SE 1/4 - 80 acre isolated tract, near Tomichi Creek that is difficult and uneconomical to manage.

7. T. 49 N., R. 5 W., Sec. 21: E 1/2 NE 1/4, NE 1/4 SE 1/4 - 120 acre isolated tract, difficult and uneconomical to manage.

8. T. 49 N., R. 5 W., Sec. 34: NE 1/4 - 160 acre isolated tract, difficult and uneconomical to

manage; Current BuRec withdrawal in revocation process.

9. T. 48 N., R. 4-1/2 E., Sec. 24: Lot 6 - 3.78 acre isolated sliver of public land, difficult and uneconomical to manage; Templeton ranch.

10. T. 48 N., R. 3 W., Sec. 8: NE 1/4 - 160 acre isolated tract, difficult and uneconomical to manage.

11. T. 48 N., R. 3 W., Sec. 21: SW 1/4 NE 1/4, SE 1/4 NW 1/4, W 1/2 SE 1/4 - 160 acre isolated tract.

12. T. 48 N., R. 5 W., Sec. 9: Lots 1,2,3,4, W 1/2 NW 1/4, NW 1/4 SW 1/4 - Western part of Section, adjacent to NPS; - 212.96 acre isolated tract.

13. T. 48 N., R. 5 W., Sec. 20: Lot 9; Sec. 21: Lot 1 - 57.08 acre isolated tract.

14. T. 48 N., R. 6 W., Sec. 13: Lots 1, 2, and 7 - 121.98 acre isolated tract.

15. T. 48 N., R. 6 W., Sec. 25: SE 1/4 SE 1/4 - 40 acre isolated tract.

16. T. 47 N., R. 1 W. , Sec. 29: NW 1/4 NW 1/4 - 40 acre isolated tract - Big Mud Pond Area

17. T. 47 N., R. 1 W., Sec. 34: S 1/2 SW 1/4 - 80 acre isolated tract.

18. T. 47 N., R. 1-1/2 W., Sec. 25: N 1/2 NE 1/4 - 80 acre isolated tract.

19. T. 47 N., R. 3 W., Sec. 19: E 1/2 NE 1/4, NE 1/4 SE 1/4 - 120 acre isolated tract.

20. T. 47 N., R. 3 W., Sec. 20: NE 1/4 NW 1/4 - 40 acre isolated tract.

21. T. 47 N., R. 3 W., Sec. 20: NE 1/4 SW 1/4, S; 1/2 SW 1/4; Sec. 29: NW 1/4 - 280 acre isolated tract.

22. T. 47 N., R. 3 W., Sec. 20: SE 1/4 NE 1/4, NE 1/4 SE 1/4 - 80 acre isolated tract.

23. T. 47 N., R. 5 W., Sec. 8: Lot 14 - 20.45 acre isolated tract.

24. T. 47 N., R. 5 W., Sec. 9: Lot 22 - 19.45 acre isolated tract.

25. T. 47 N., R. 5 W., Sec. 10: Lots 1,3,4,5, NE 1/4 SE 1/4 - 133.43 acre isolated tract.

26. T. 47 N., R. 6 W., Sec. 14: SE 1/4 SE 1/4 - 40 acre isolated tract.

27. T. 47 N., R. 6 W., Sec. 14: NW 1/4 SW 1/4 - 40 acre isolated tract.

28. T. 47 N., R. 2 E., Sec. 12: SE 1/4 NE 1/4 - 40 acre isolated tract.

29. T. 46 N., R. 1 W., Sec. 33: SW 1/4 NE 1/4, Lot 1 - 82.58 acre isolated tract.

30. T. 46 N., R. 2 W., Sec. 11: Lots 2, 3, 5, 6, 7, 8, 9, 12 & 13 - 103.95 acres in four isolated slivers around Iron Hill.

31. T. 46 N., R. 2 W., Sec. 12: Lots 4, 5, 6, 7, 8, 9 & 10 - 75.46 acres in three isolated small tracts around Iron Hill.

32. T. 46 N., R. 3 W., Sec. 18: SW 1/4 SE 1/4 - 40 acre isolated tract near Indian Creek.

33. T. 46 N., R. 3 W., Sec. 17: SW 1/4 NE 1/4 - 40 acre isolated tract.

34. T. 46 N., R. 3 W., Sec 20: NE 1/4 SE 1/4 - 40 acre isolated tract.

35. T. 46 N., R. 3 W., Sec. 34: SW 1/4 NW 1/4 -40 acre isolated tract.

36. T. 45 N., R. 2 E., Sec. 10: SE 1/4 NE 1/4 - 40 acre isolated tract.

37. T. 45 N., R. 2 E., Sec. 11: Lot 1 - 45.10 acre isolated tract.

38. T. 45 N., R. 1 W., Sec. 3: E 1/2 SW 1/4 - 80 acre isolated tract in Rock Creek.

39. T. 45 N., R. 1 W., Sec. 5: Lot 2 - 41.62 acre isolated tract.

40. T. 48 N., R. 4 E., Sec. 30: Se 1/4 NE 1/4 - 40 acre isolated tract.

41. T. 48 N., R. 3 W., Sec. 6: Lot 2 - 31.28 acre isolated tract.

42. T. 13 S., R. 86 W., 6th P.M., Sec. 29: S 1/2 SE 1/4 - 80 acre isolated tract, adjacent to USFS along Slate River, difficult and uneconomical to manage.

43. T. 14 S., R. 86 W., 6th P.M., Sec. 4: SW 1/4 SW 1/4; Sec. 9: NW 1/4 NW 1/4, S 1/2 NW 1/4, SW 1/4 - 320 acre isolated tract, along Wildcat Creek difficult and uneconomical to manage, adjacent to USFS.

44. T. 14 S., R. 85 W., 6th P.M., Sec. 26: N. 1/2 NW 1/4 - 80 acre isolated parcel, near Cement Creek, adjacent to USFS.

45. T. 14 S., R. 85 W., 6th P.M., Sec. 26: NE 1/4 SW 1/4, S 1/2 SW 1/4 - 120 acre isolated parcel, adjacent to USFS near Granite Creek.

46. T. 49 N., R. 2 E., N.M.P.M., Sec. 16: within N. 1/2 NW 1/4 - 69 acre isolated tract, along Tomichi Creek.

47. T. 49 N., R. 2 W., N.M.P.M., Sec. 19: S 1/2 SW 1/4 - 80 acre isolated tract, difficult and uneconomical to manage on Willow Creek near private campground development.

48. T. 49 N., R. 2 W., N.M.P.M., Sec. 20: E 1/2 NE 1/4 - 80 acre isolated tract, difficult and uneconomical to manage along Stevens Creek.

49. T. 48 N., R. 4 1/2 E., N.M.P.M., Sec. 24: Lots 1, 2, 3, 4 & 5; Sec. 25: N. 1/2 - 249.56 acres in three isolated parcels, adjacent to USFS, difficult and uneconomical to administer.

50. T. 48 N., R. 4 E., N.M.P.M., Sec. 4: Lots 1 and 2, S. 1/2 NE 1/4, SE 1/4; Sec. 9: NE 1/4 - 479.64 acre isolated tract, adjacent to USFS near Horn Gulch, difficult and uneconomical to administer.

51. T. 48 N., R. 4 E., N.M.P.M., Sec. 15: E. 1/2 NW 1/4, NE 1/4 NW 1/4 - 120 acre isolated tract, adjacent to USFS that is difficult and uneconomical to manage.

52. T. 49 N., R. 1 E., N.M.P.M., Sec. 10, 11, 14 and 15 - 105 acre tract, classified under R&PP Act that is leased to Gunnison County for a landfill (C-35052). Site meets criteria of R&PP Act Amendment for patent without reversionary clause.

53. T. 48 N., R. 4 E., N.M.P.M., Sec. 18: Lots 1, 2 & 3, SE 1/4 NW 1/4; T. 48 N., R. 3E, N.M.P.M., Sec. 13: E 1/2 NE 1/4, SW 1/4 NE 1/4 - 280 acre isolated test, on Coyote Hill that is difficult and uneconomical to manage.

54. T. 48 N., R. 4 W., N.M.P.M., Sec. 35: W 1/2 NE 1/4, NW 1/4 SE 1/4, E 1/2 SW 1/4, SW 1/4; Sec. 34: SE 1/4 SE 1/4; T. 47 N., R. 4W., N.M.P.M., Sec. 2: Lot 4; Sec. 3: Lot 1, SW 1/4 SE 1/4, SE 1/4 NE 1/4, E 1/2 SE 1/4; Sec. 10: W. 1/2 NE 1/4, SE 1/4, NW 1/4, E 1/2 SW 1/4; Sec. 15: NE 1/4 NW 1/4 - 720 acre parcel, uneconomical to manage because it is a 1/4 mile-wide strip of 40 acre parcels surrounded by private land on three sides.

55. T. 47 N., R. 6 W., N.M.P.M., Sec. 3: Lot 4; Sec. 4: Lots 1, 2, 3, S 1/2 N 1/2 - 321.16 isolated tract, adjacent to CDOW land at Cimarron State Wildlife Area, uneconomical to manage.

56. T. 47 N., R. 2 W., Sec. 11: S 1/2 S 1/2, Lot 2; Sec. 14: W 1/2 NE 1/4 - 272.48 acre isolated tract, difficult and uneconomical to manage near Huntsman Mesa.

57. T. 47 N., R. 1 W., Sec. 26: W 1/2; Sec 35: W 1/2 - 640 acres isolated tract, adjacent to USFS on South side that is difficult and uneconomical to manage. Near Deer Beaver Creek.

58. T. 47 N., R. 2 E., Sec. 31: SE 1/4 SE 1/4; Sec. 32: S 1/2 S 1/2; Sec 33: W 1/2 SW 1/4 - 280 acre isolated tract, difficult and uneconomical to manage along Homestead Gulch.

59. T. 46 N., R. 1 E., Sec. 26: E 1/2 E 1/2 - 160 acre isolated tract, along Trail Creek adjacent to USFS, uneconomical to administer.

60. T. 46 N., R. 4 W., Sec. 25: NW 1/4 NW 1/4, Sec. 26: NE 1/4 NE 1/4 - 80 acre isolated tract, difficult and uneconomical to manage.

61. T. 46 N., R. 4 W., Sec. 25: SW 1/4 Sw 1/4 - 4 acre isolated tract, difficult and uneconomical t manage.

62. T. 46 N., R. 4 W., Sec. 26: E 1/2 NW 1/4, SW 1/4 NW 1/4, NW 1/4 SW 1/4 - 160 acre isolated tract, that is adjacent to USFS that is difficult and uneconomical to manage.

63. T. 42 N., R. 4 W., Sec. 4: SE 1/4 SW 1/4, S 1/2 SE 1/4, - 120 acre isolated tract, adjacent to USFS, difficult and uneconomical to manage.

CRITERIA FOR LAND ACQUISITIONS

The following list of general land acquisition criteria will be used to evaluate potential parcels for acquisition, by any means:

1. Private lands within areas recommended as suitable for designation as wilderness or adjacent to such areas where the acquisition would add to the manageability and scenic value of the unit.

2. Private lands needed for management of wild and scenic rivers and wild and scenic study rivers.

3. Land adjacent to and inholdings within Special Recreation Management Areas and high value recreation areas.

4. Potential national or historic trails.

5. Potential natural or research natural areas or areas for cultural or natural history designation.

6. Potential areas of critical environmental concern.

7. Threatened or endangered species habitat areas.

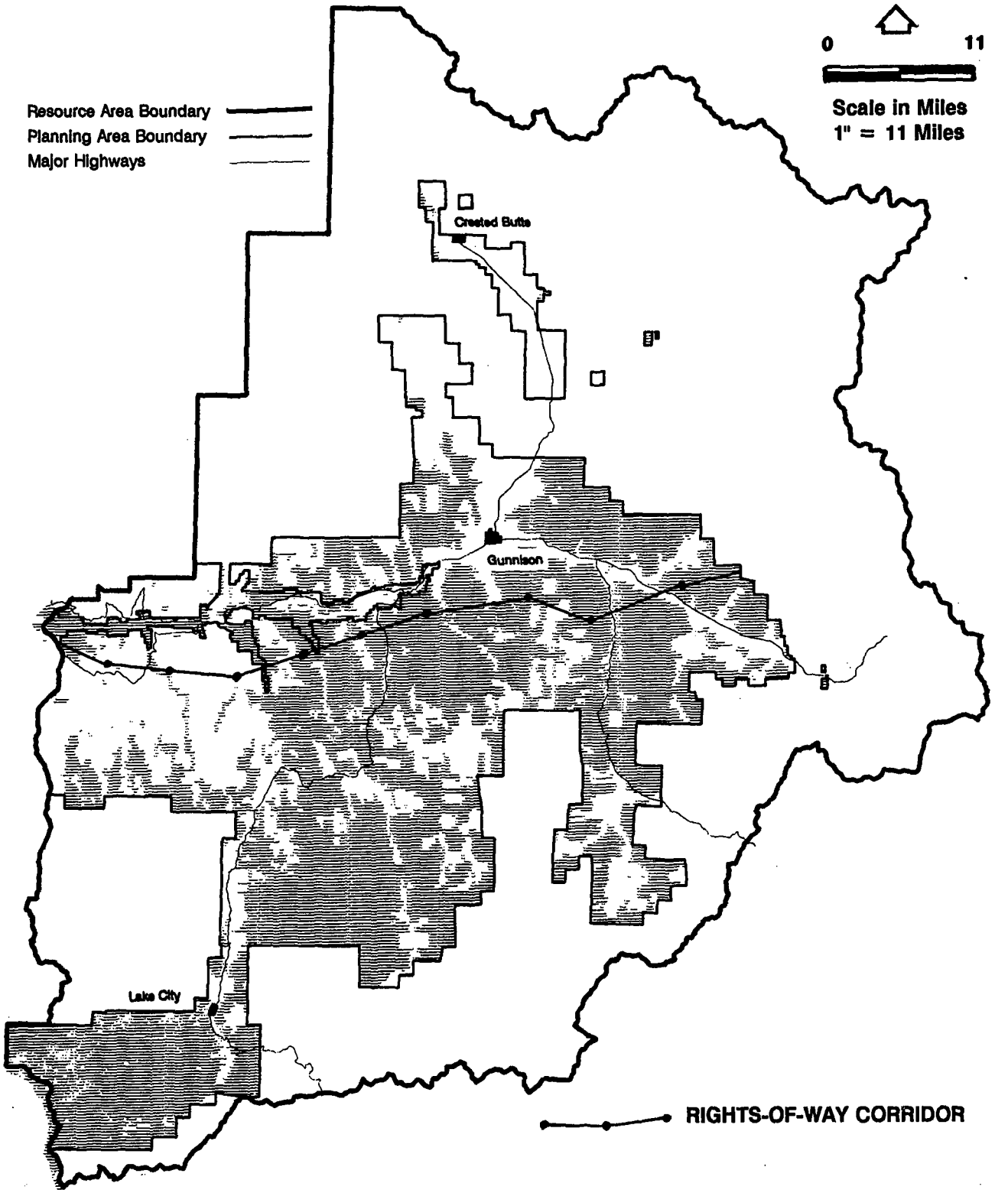
8. Aquatic, riparian, and wetland habitat areas (streams, rivers, lakes, ponds).

9. Critical/crucial game winter range or other important wildlife habitat.

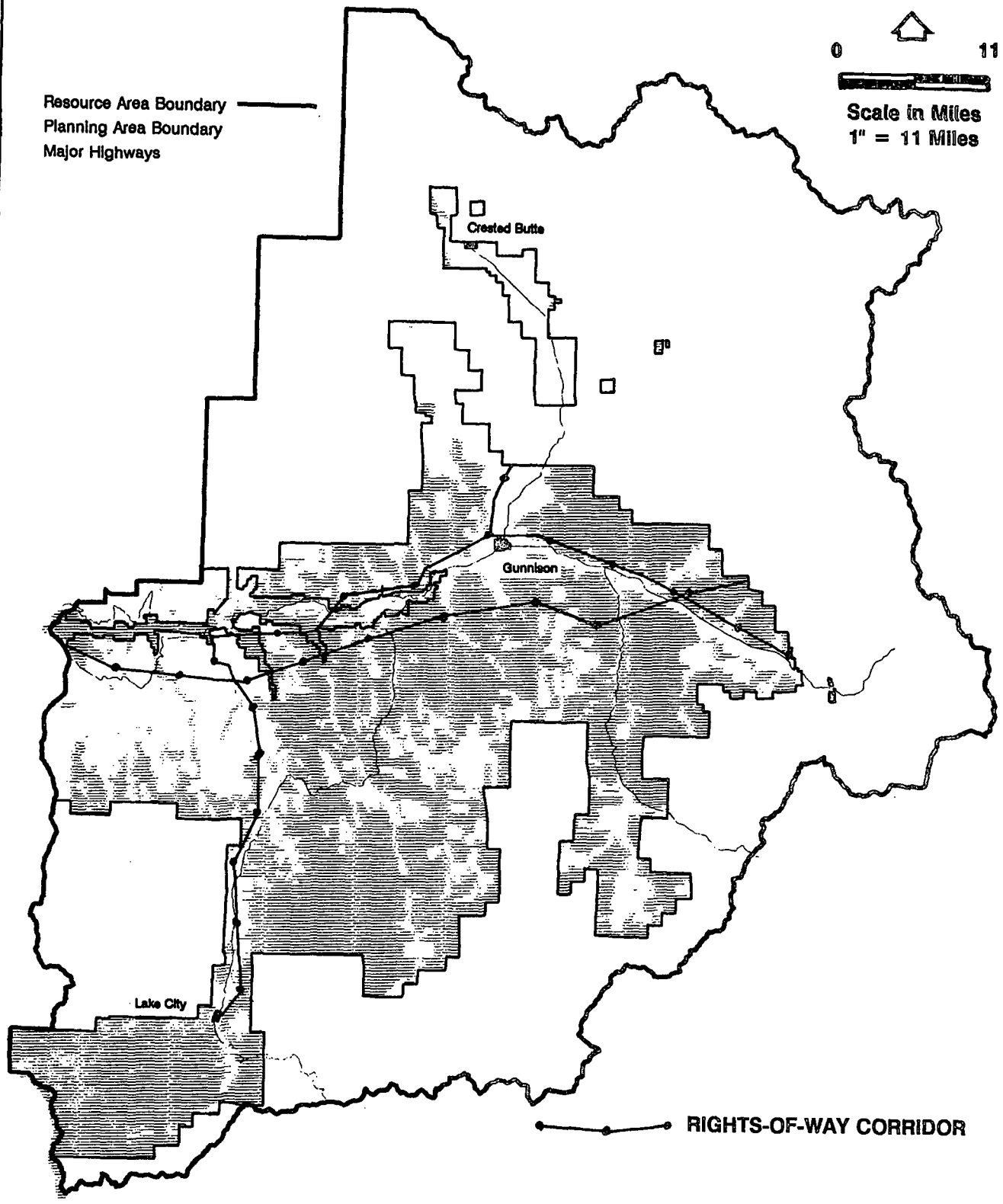
10. Floodplain areas (100-year) as defined in Executive Order 11988, dated May 24, 1977.

11. Private land that would improve public access.

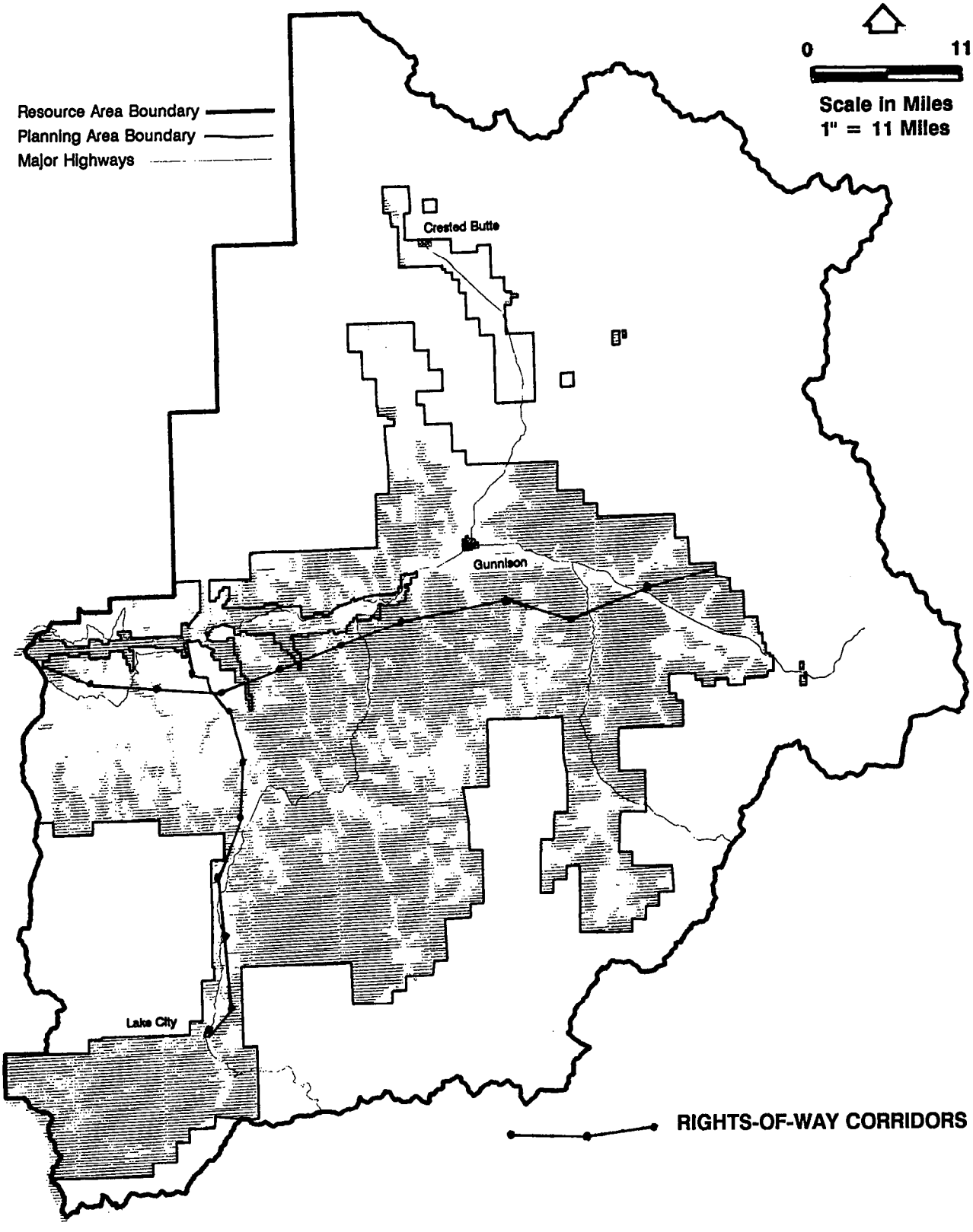
12. High country summer range.



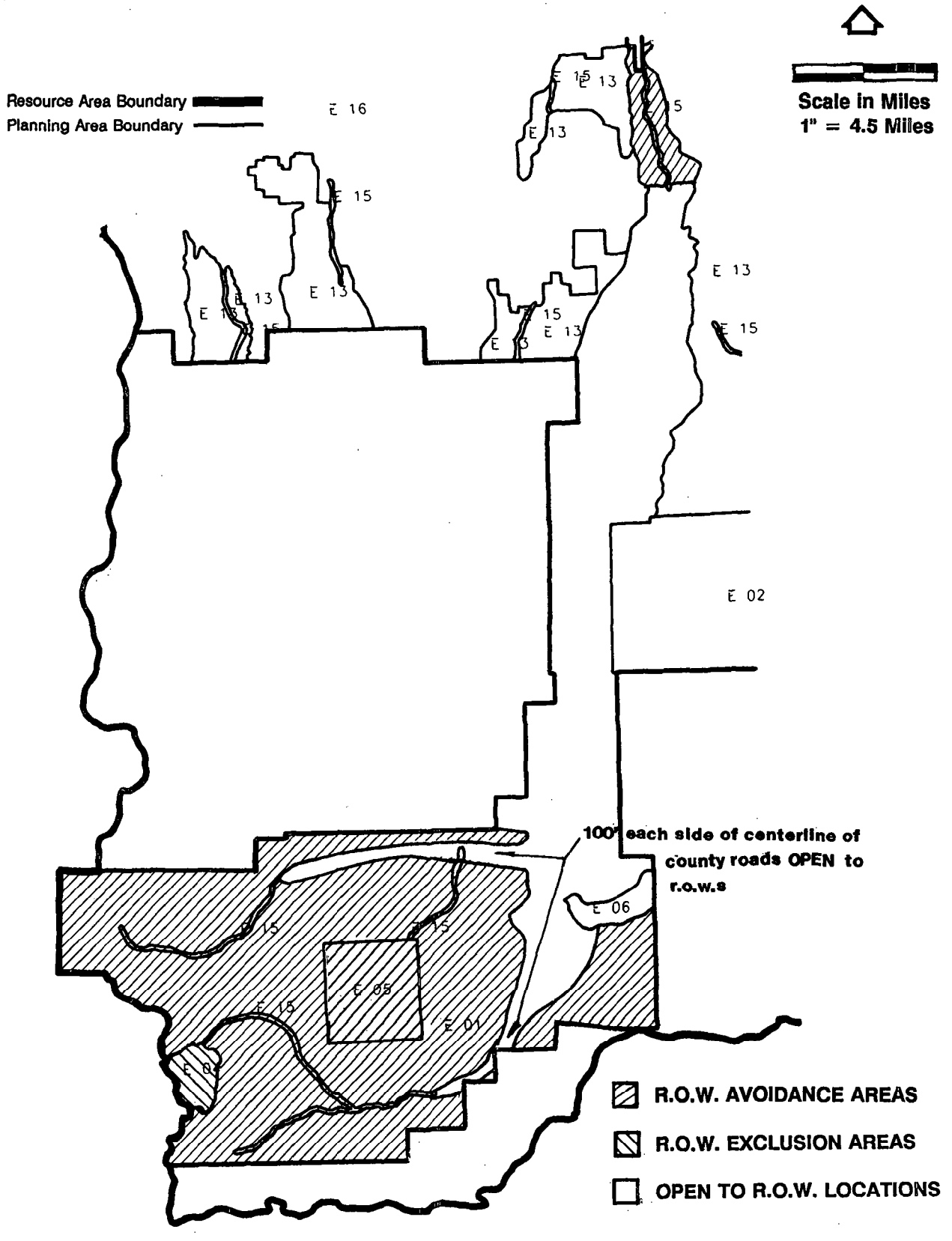
Map D-1
Rights-of-Way Corridor
Alternative B



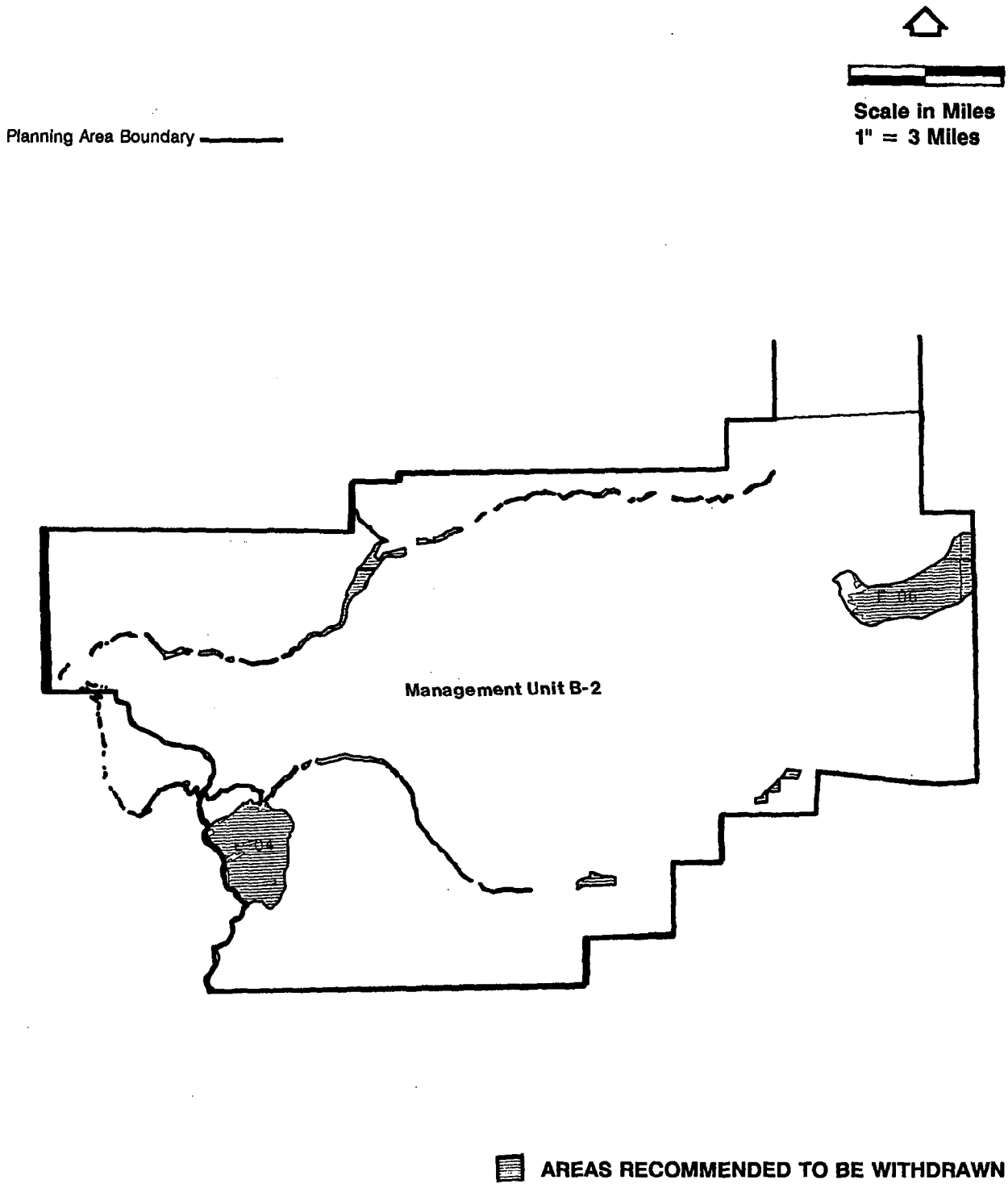
Map D-2
Rights-of-Way Corridor
Alternative C



Map D-3
Rights-of-Way Corridors
Alternative E



Map D-4
Rights-of-Way Avoidance and Exclusion Areas and Areas Open to R.O.W.s in a Portion of Alternative E



Map D-5
Recommended Withdrawals in Management Unit B-2
Alternative B

APPENDIX E

ECONOMIC DATA

Table E-1

EMPLOYMENT AND LABOR FORCE - Gunnison County

	GUNNISON			PERCENT OF TOTAL		
	1982	**1984**	**1986**	**1982**	**1984**	**1986**
Mining	532	375	308	8.96	6.53	5.02
Construction	525	640	555	8.84	11.15	9.05
Manufacturing	178	125	125	3.00	2.18	2.04
Transportation	212	248	314	3.57	4.32	5.12
Wholesale Trade	65	44	33	1.09	0.77	0.54
Retail Trade	1,458	1,366	1,394	24.55	23.80	22.73
Finance, Insurance, Real Estate	518	504	599	8.72	8.78	9.77
Services	1,364	1,359	1,711	22.96	23.68	27.90
Government	1,038	1,025	1,034	17.47	17.86	16.86
Misc. Agriculture Services	50	54	59	0.84	0.94	0.96
Not Classified Elsewhere						
Total Nonfarming	**5,940**	**5,740**	**6,132**	**100.00**	**100.00**	**100.00**
Farming	359	349	361			
Total Employment by place of work	**6,299**	**6,089**	**6,493**			
County Labor Force						
Employment	5,434	5,324	5,141			
Unemployment	457	306	330			
Total Labor Force by place of residence	**5,891**	**5,630**	**5,471**			

Source: Colorado Division of Local Government County Profile
(Blanks indicate suppressed data to avoid disclosure of confidential information).

Table E-2

EMPLOYMENT AND LABOR FORCE - Hinsdale County

	HINSDALE			PERCENT OF TOTAL		
	1982	1984	1986	1982	1984	1986
Mining		0	0	0.00		
Construction	32	62	21	15.09	25.62	10.88
Manufacturing				0.00		
Transportation				0.00		
Wholesale Trade				0.00		
Retail Trade	61	69	60	28.77	28.51	31.09
Finance, Insurance, Real Estate		12	20	0.00	4.96	10.36
Services	31	36	35	14.62	14.88	18.13
Government	46	45	46	21.70	18.60	23.83
Misc. Agriculture Services	42	18	11	19.81	7.44	5.70
Not Classified Elsewhere						
Total Nonfarming	**212**	**242**	**193**	**100.00**	**100.00**	**100.00**
Farming	23	24	23			
Total Employment by place of work	**235**	**266**	**216**			
County Labor Force						
Employment	220	682	409			
Unemployment	10	13	16			
Total Labor Force by place of residence	**230**	**695**	**425**			

Source: Colorado Division of Local Government County Profile
(Blanks indicate suppressed data to avoid disclosure of confidential information).

Table E-3

EMPLOYMENT AND LABOR FORCE - Montrose County

	MONTROSE			PERCENT OF TOTAL		
	1982	1984	1986	1982	1984	1986
Mining	809	750	415	7.78	7.12	3.83
Construction	689	688	769	6.63	6.53	7.09
Manufacturing	772	754	829	7.43	7.16	7.65
Transportation	1,043	946	1,001	10.03	8.96	9.23
Wholesale Trade	320	300	284	3.08	2.85	2.62
Retail Trade	1,869	1,827	1,743	16.07	28.51	31.09
Finance, Insurance, Real Estate	822	928	997	7.91	8.81	9.19
Services	2,029	2,325	2,690	19.52	22.06	24.81
Government	1,908	1,852	1,910	18.35	17.57	17.62
Misc. Agriculture Services	136	168	205	1.31	1.59	1.89
Not Classified Elsewhere						
Total Nonfarming	**10,397**	**10,538**	**10,843**	**100.00**	**100.00**	**100.00**
Farming	1,248	1,248	1,259			
Total Employment by place of work	**11,645**	**11,786**	**12,102**			
County Labor Force						
Employment	10,104	10,151	9,736			
Unemployment	1,423	1,337	1,445			
Total Labor Force by place of residence	**11,527**	**11,488**	**11,181**			

Source: Colorado Division of Local Government County Profile
(Blanks indicate suppressed data to avoid disclosure of confidential information).

Table E-4

EMPLOYMENT AND LABOR FORCE - Saguache County

	SAGUACHE			PERCENT OF TOTAL		
	1982	**1984**	**1986**	**1982**	**1984**	**1986**
Mining		26	10	0.00	2.16	
Construction	75	80	86	6.19	6.64	6.90
Manufacturing			24	0.00	0.00	1.93
Transportation	31	36	37	2.56	2.99	2.97
Wholesale Trade	84		70	6.94	0.00	5.62
Retail Trade	154	140	161	12.72	11.63	12.92
Finance, Insurance, Real Estate	119	69	73	9.83	5.73	5.86
Services	208	290	289	17.18	24.09	23.19
Government	385	373	383	31.79	30.98	30.74
Misc. Agriculture Services	128	103	113	10.57	8.55	9.07
Not Classified Elsewhere						
Total Nonfarming	**1,211**	**1,204**	**1,246**	**100.00**	**100.00**	**100.00**
Farming	511	500	513			
Total Employment by place of work	**1,722**	**1,704**	**1,759**			
County Labor Force						
Employment	1,926	1,452	1,308			
Unemployment	263	229	287			
Total Labor Force by place of residence	**2,189**	**1,681**	**1,595**			

Source: Colorado Division of Local Government County Profile
(Blanks indicate suppressed data to avoid disclosure of confidential information).

Table E-5

EMPLOYMENT AND LABOR FORCE - Four County ESA

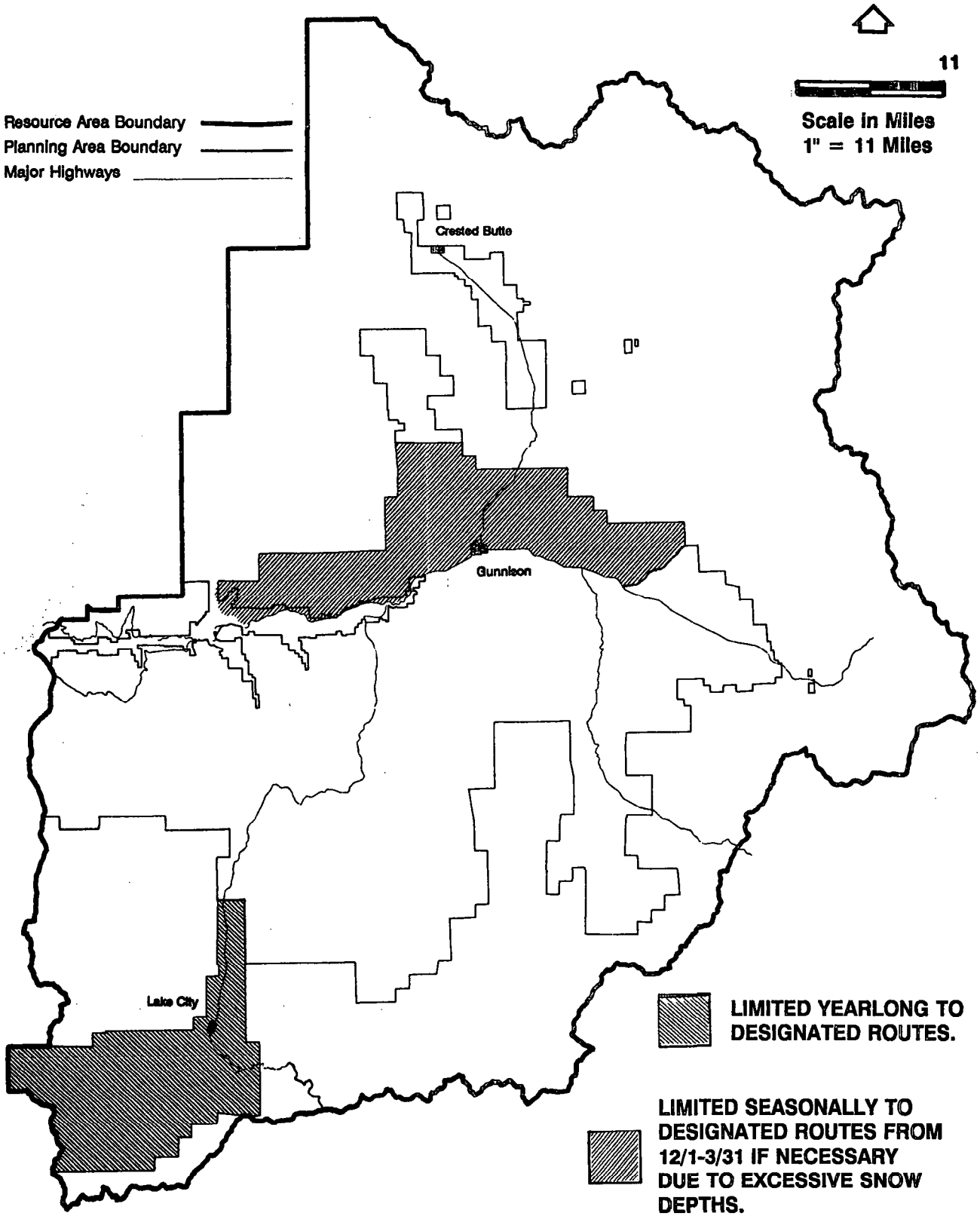
	ESA			PERCENT OF TOTAL		
	1982	1984	1986	1982	1984	1986
Mining	1,341	1,151	733	7.55	6.49	3.98
Construction	1,321	1,470	1,431	7.44	8.29	7.77
Manufacturing	950	879	978	5.35	4.96	5.31
Transportation	1,286	1,230	1,352	7.24	6.94	7.34
Wholesale Trade	469	344	387	2.64	1.94	2.10
Retail Trade	3,542	3,402	3,358	19.94	19.19	18.24
Finance, Insurance, Real Estate	1,459	1,513	1,689	8.22	8.54	9.17
Services	3,632	1,513	1,689	8.22	8.54	9.17
Government	3,377	3,295	3,373	19.01	18.59	18.32
Misc. Agriculture Services	314	325	377	1.77	1.83	2.05
Not Classified Elsewhere	69	105	11	0.39	0.59	0.06
Total Nonfarming	**17,760**	**17,724**	**18,414**	**100.00**	**100.00**	**100.00**
Farming	2,141	2,121	2,156			
Total Employment by place of work	**19,901**	**19,845**	**20,570**			
County Labor Force						
Employment	17,684	17,609	16,594			
Unemployment	2,153	1,885	2,078			
Total Labor Force by place of residence	**19,837**	**19,494**	**18,672**			

Source: Colorado Division of Local Government County Profile
(Blanks indicate suppressed data to avoid disclosure of confidential information).

APPENDIX F
RECREATION MANAGEMENT AND WILDERNESS STUDY AREAS

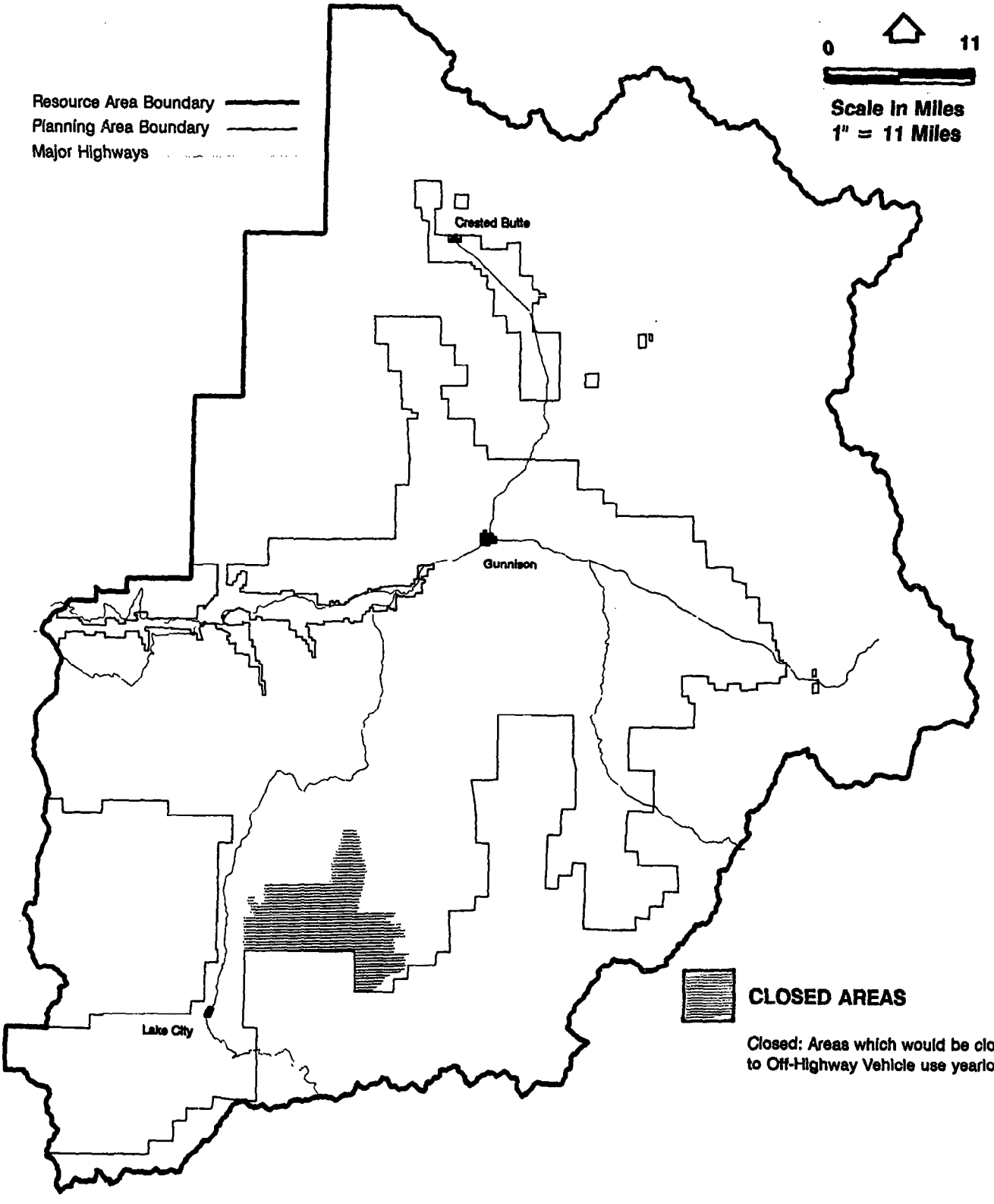
CONTENTS OF APPENDIX F

Appendix F consists of Maps F-1 through F-13 and Tables F-1 through F-6. Maps F-1 through F-11 depict areas that are open or closed to motorized vehicle use or where use is limited either to designated routes yearlong or seasonally if necessary, for each of the five alternatives in this RMP/EIS. Maps F-12 and F-13 depict existing Wilderness Study Areas (WSAs) and Special Recreation Management Areas. Table F-1 lists the designated routes along which motorized travel would be permitted in Alternative E (Preferred Alternative). Tables F-2 through F-6 show the acreage of each WSA in each management unit in each alternative.



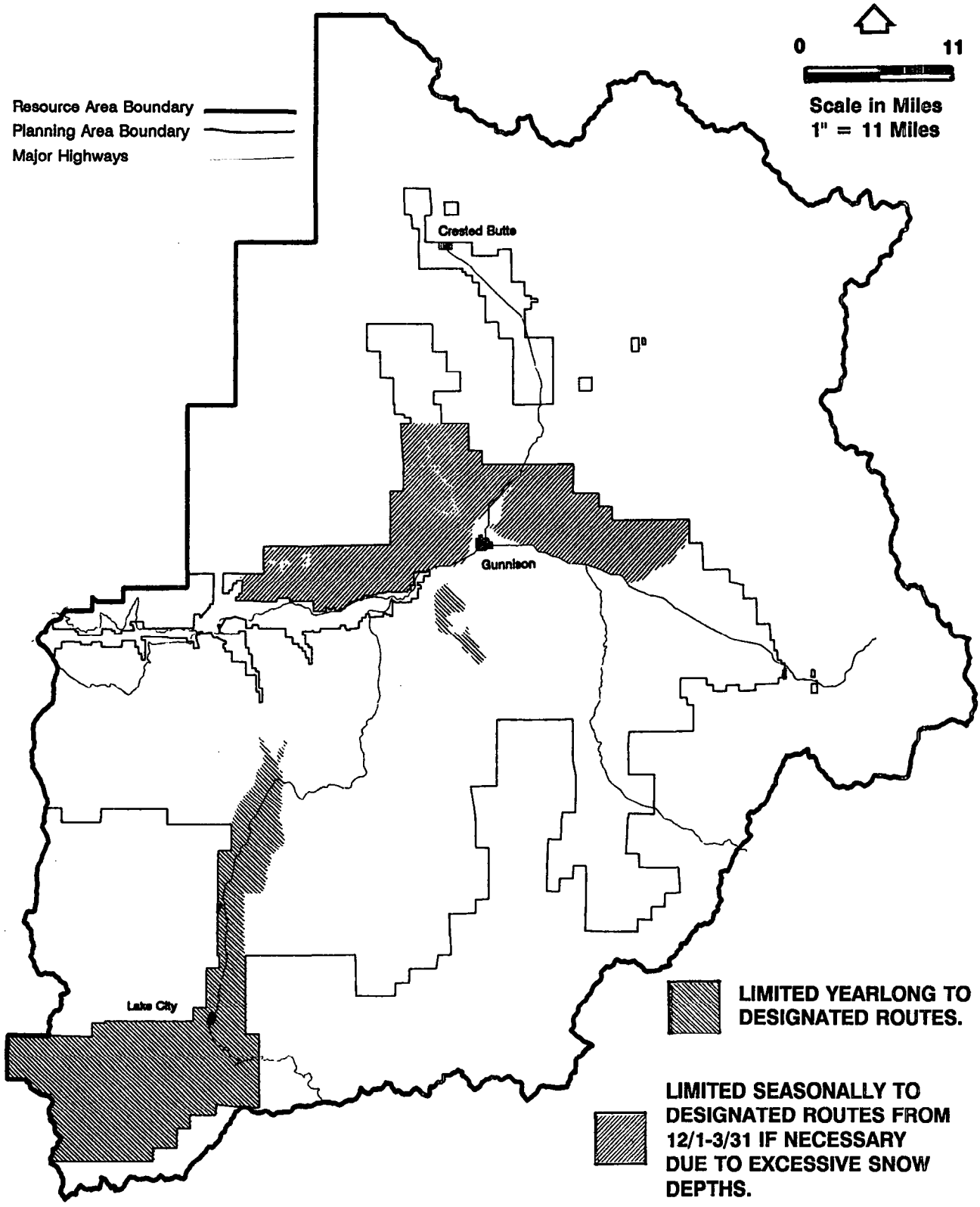
Public lands where OHV use is not limited (seasonally or yearlong) or closed are *OPEN* to OHV use.

Map F-1
Off-Highway Vehicle Use
Limited Areas
Alternative A



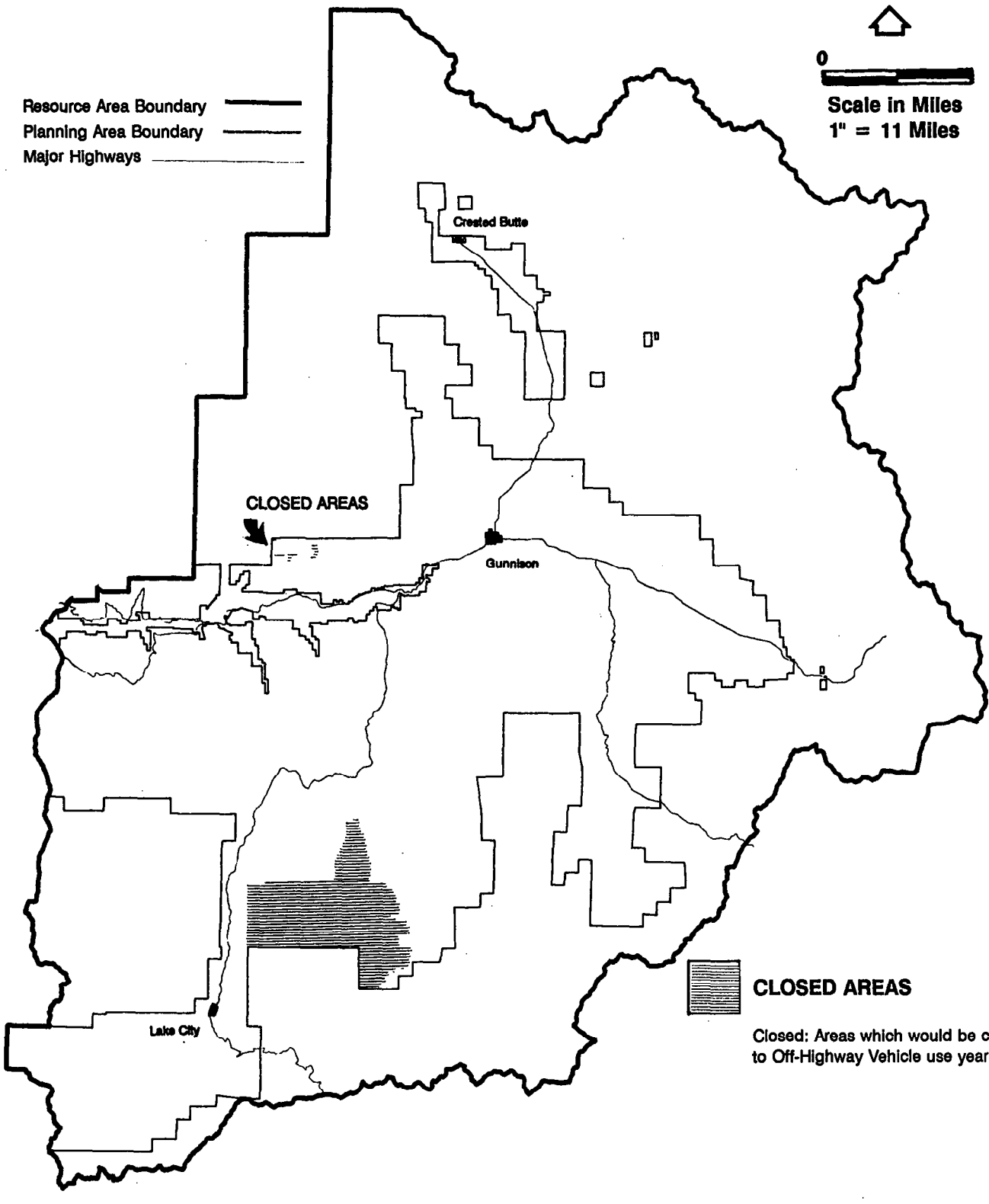
Public lands where OHV use is not limited (seasonally or yearlong) or closed are OPEN

Map F-2
Off-Highway Vehicle Use
Closed Areas
Alternative A



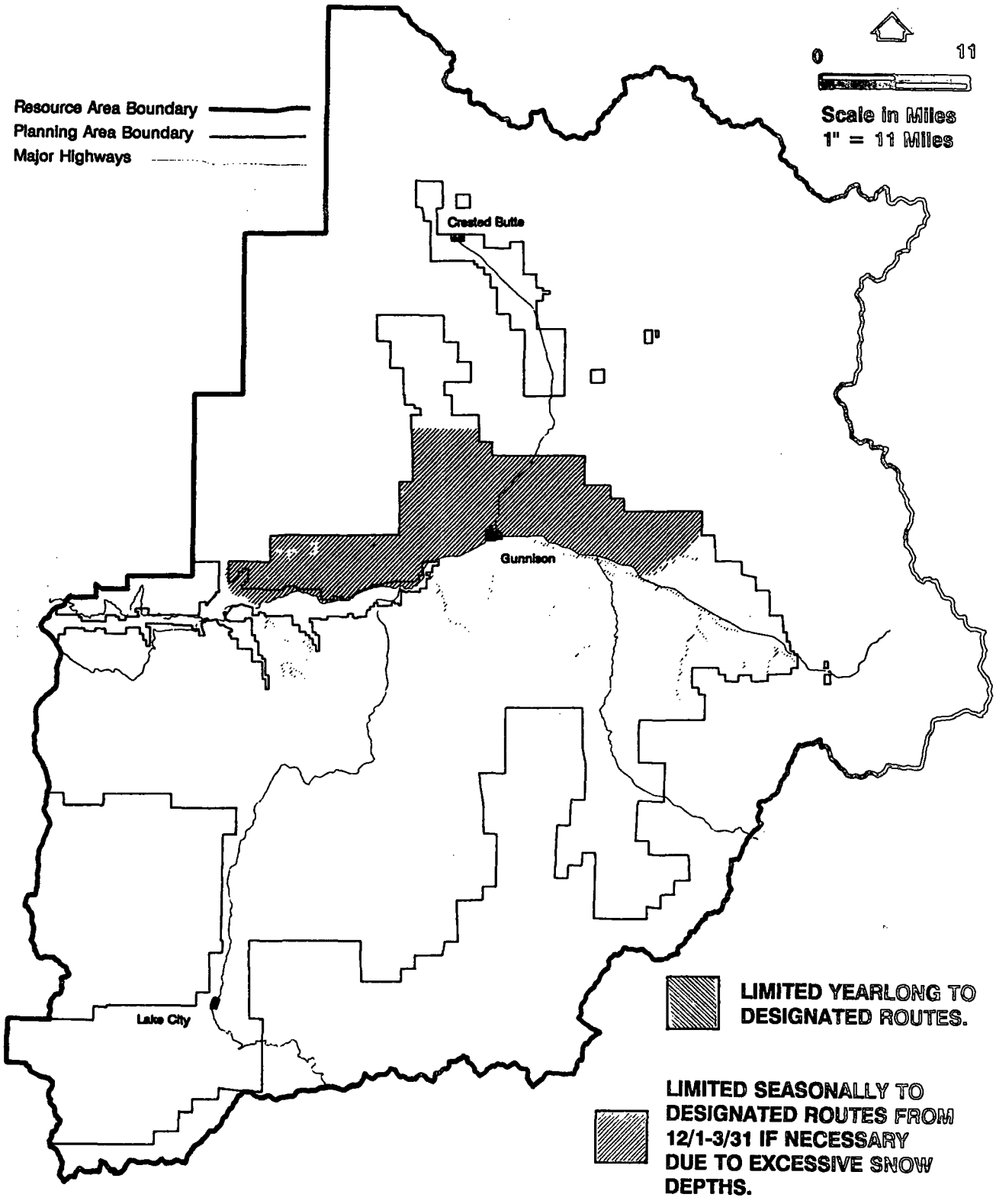
Public lands where OHV use is not limited (seasonally or yearlong) or closed are OPEN to OHV use.

Map F-3
Off-Highway Vehicle Use
Limited Areas
Alternative B



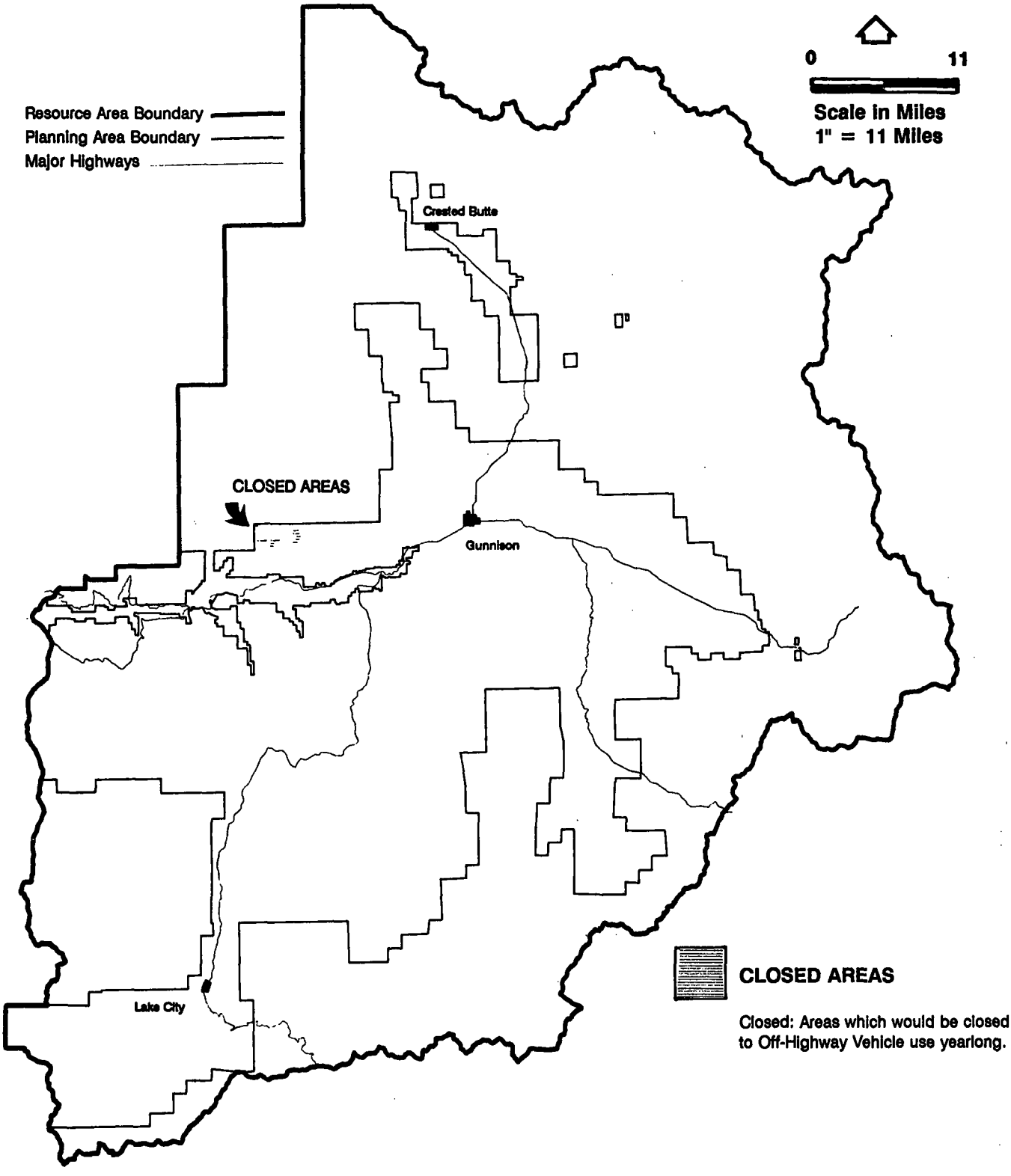
Public lands where OHV use is not limited (seasonally or yearlong) or closed are OPEN

Map F-4
Off-Highway Vehicle Use
Closed Areas
Alternative B



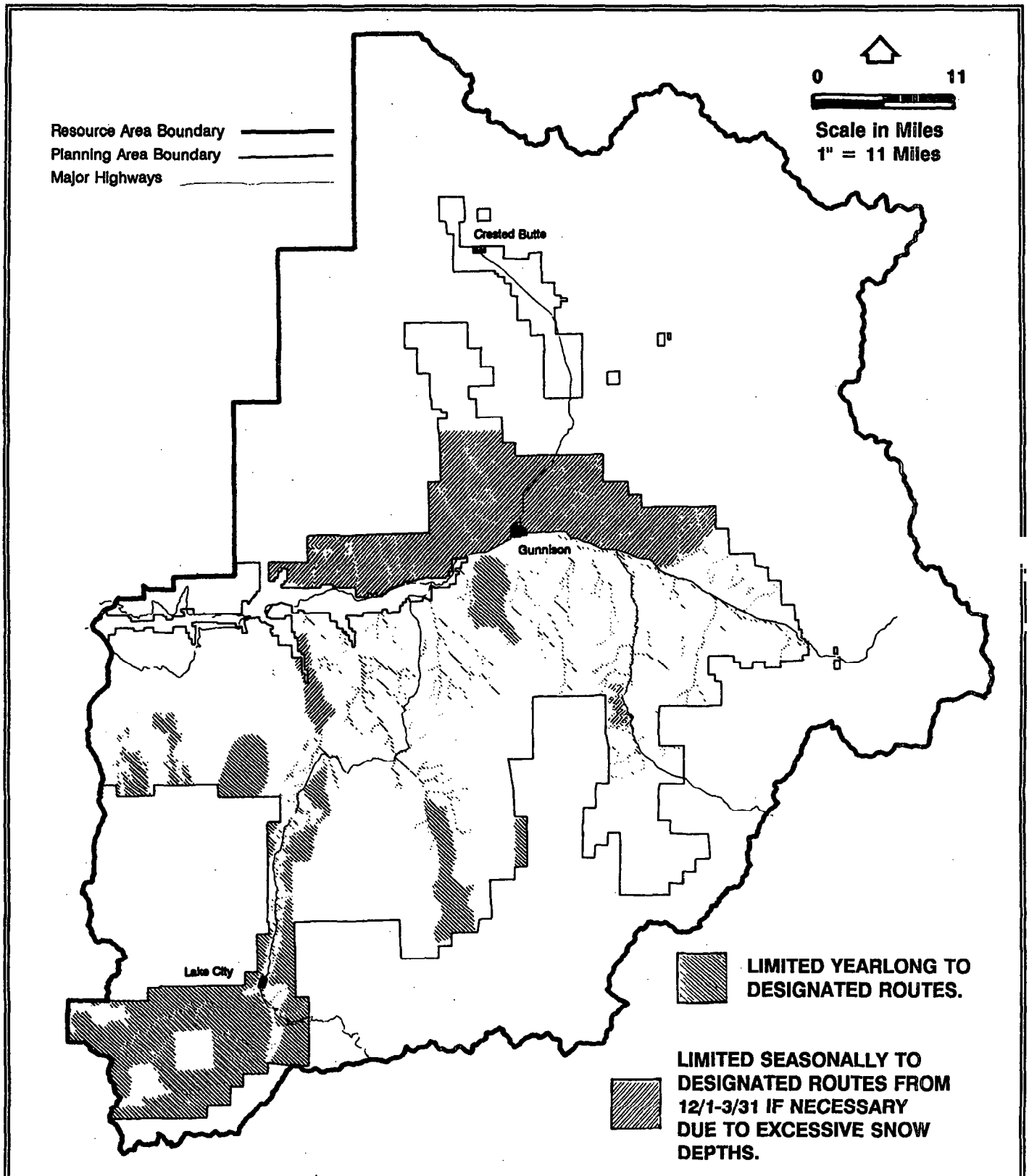
Public lands where OHV use is not limited (seasonally or yearlong) or closed are OPEN to OHV use.

Map F-5
Off-Highway Vehicle Use
Limited Areas
Alternative C



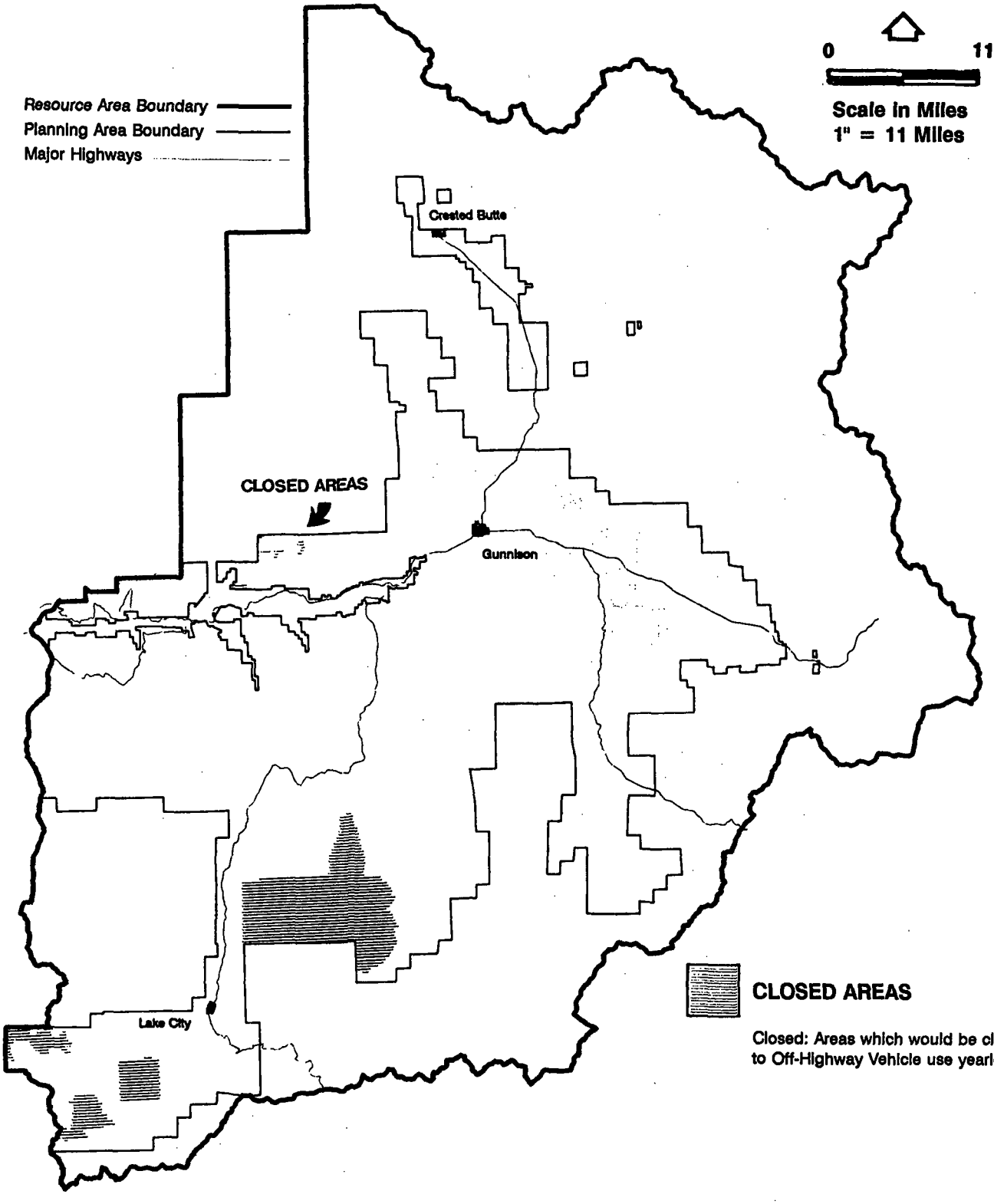
Public lands where OHV use is not limited (seasonally or yearlong) or closed are OPEN

Map F-6
Off-Highway Vehicle Use
Closed Areas
Alternative C



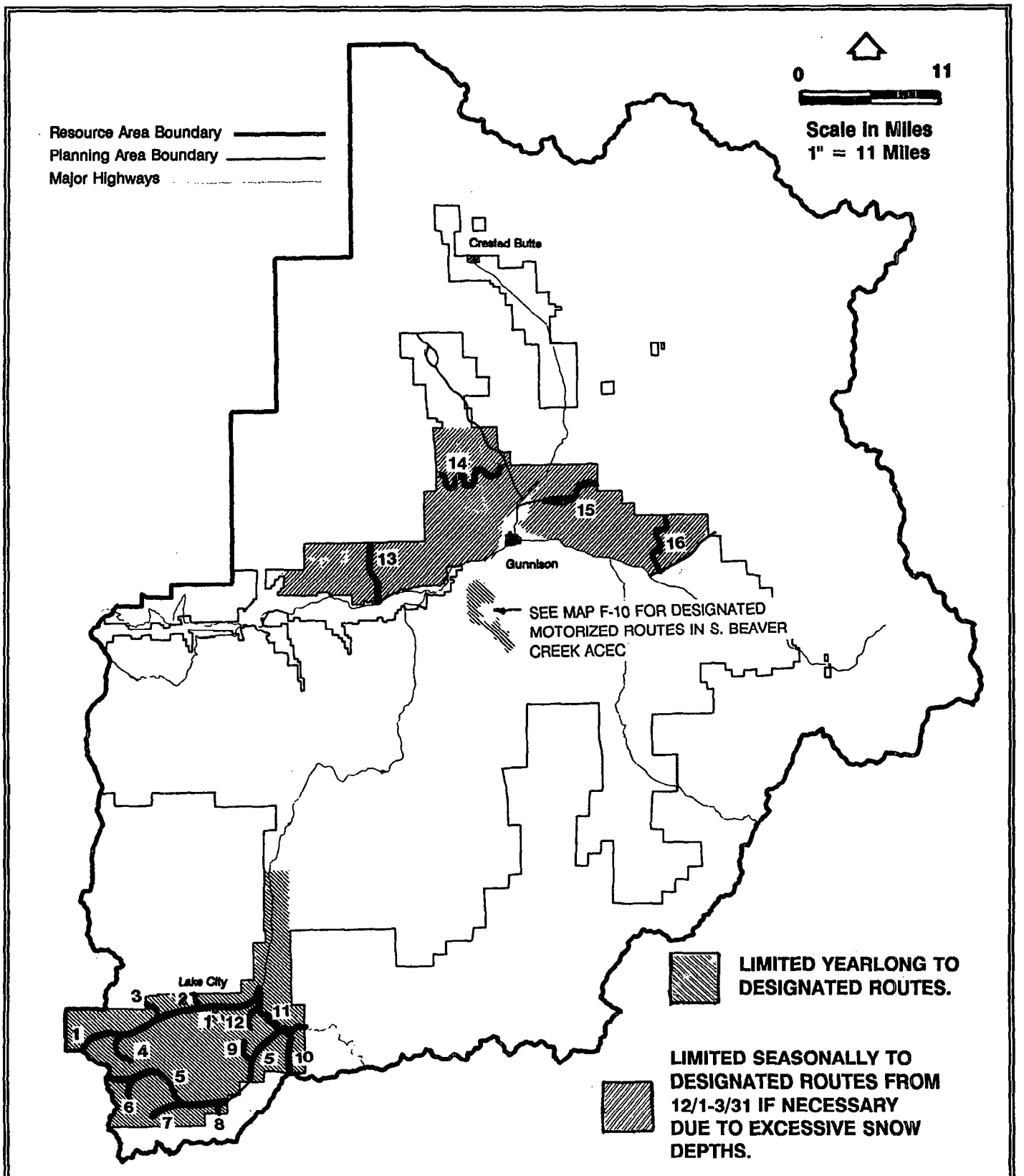
Public lands where OHV use is not limited (seasonally or yearlong) or closed are OPEN to OHV use.

Map F-7
Off-Highway Vehicle Use
Limited Areas
Alternative D



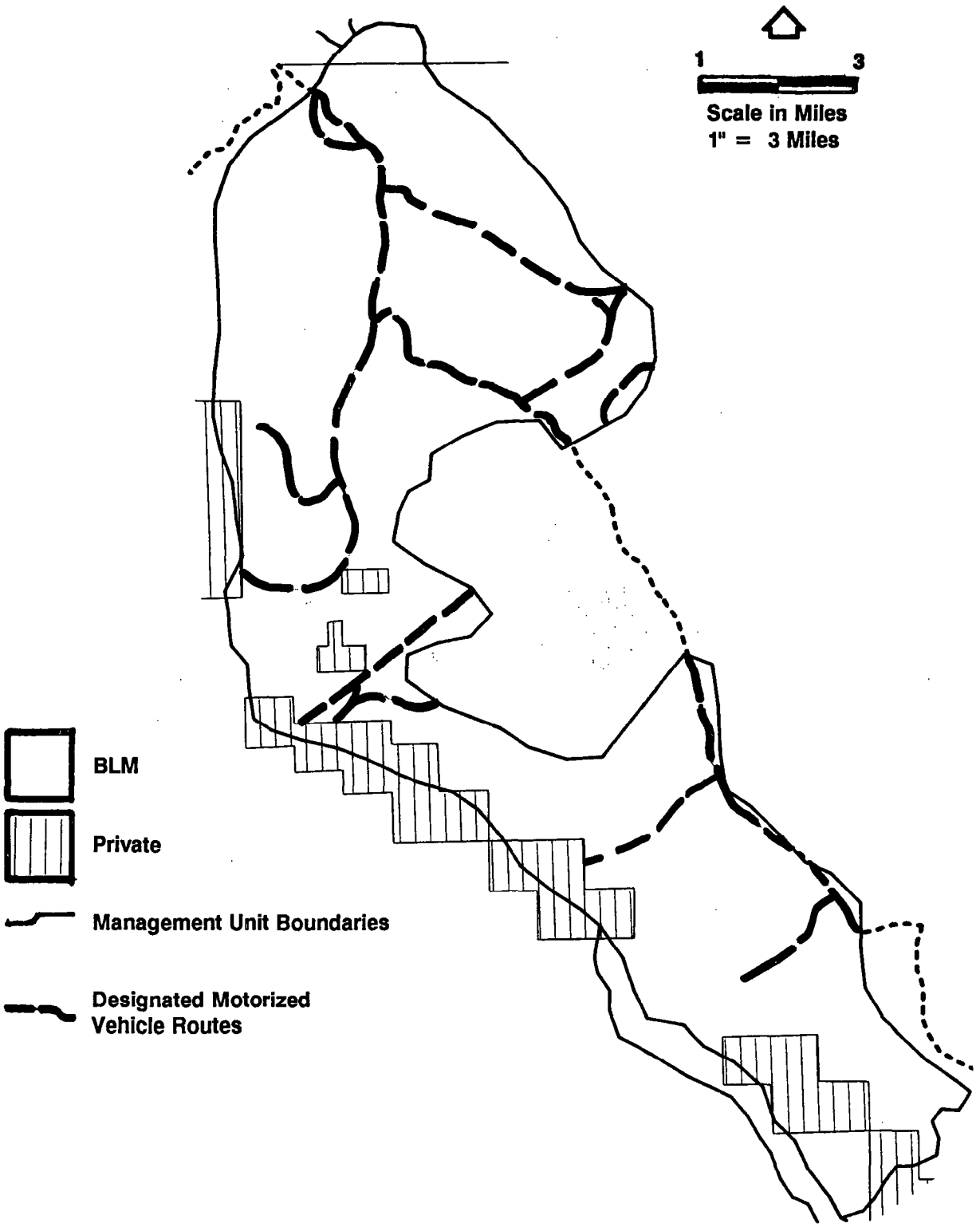
Public lands where OHV use is not limited (seasonally or yearlong) or closed are OPEN

Map F-8
Off-Highway Vehicle Use
Closed Areas
Alternative D



Public lands where OHV use is not limited (seasonally or yearlong) or closed are OPEN to OHV use.

Map F-9
Off-Highway Vehicle Use
Limited Areas
Alternative E



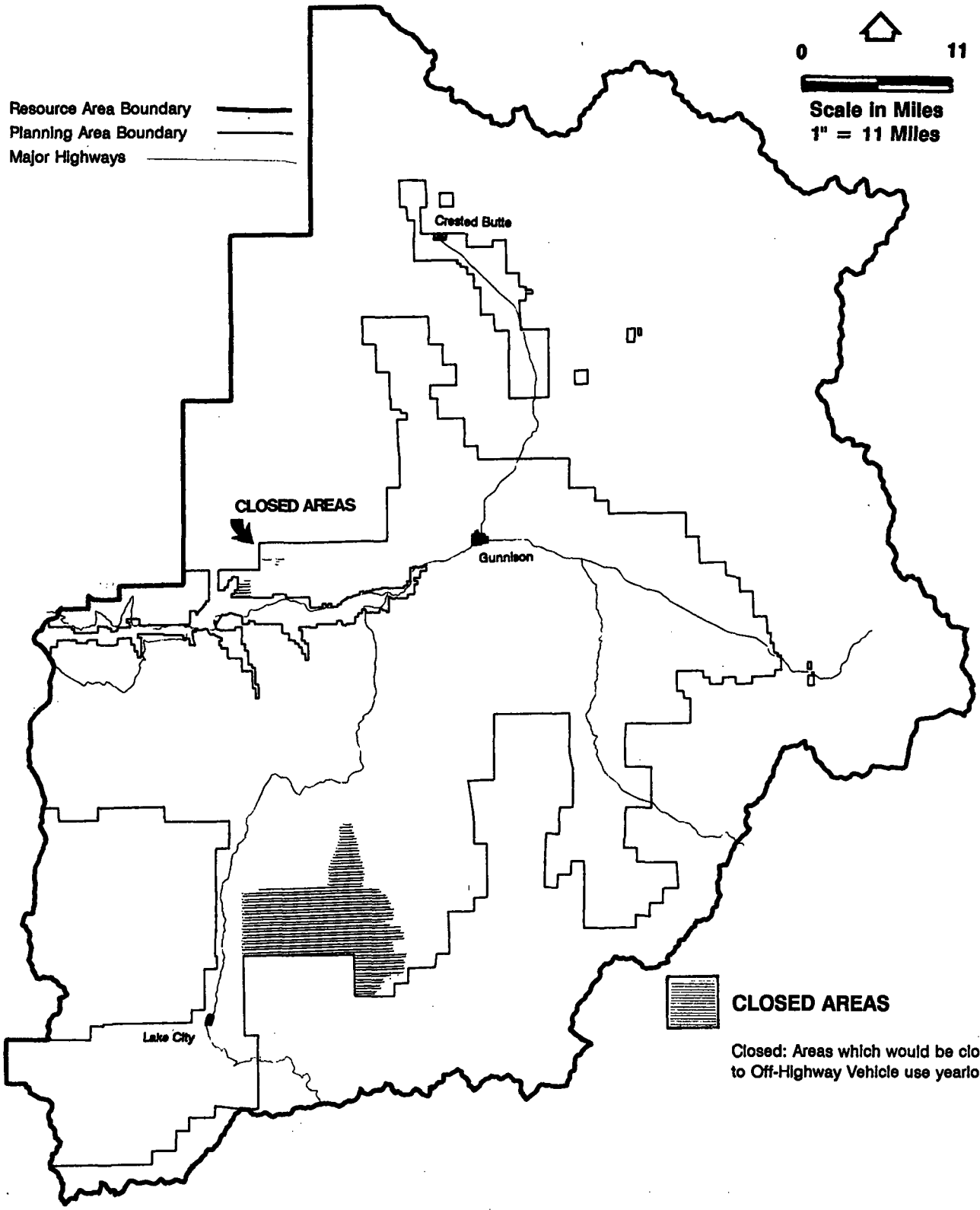
Map F-10
Off-Highway Vehicle Use
Designated Routes, Unit E-8, S. Beaver Creek ACEC
Alternative E

Table F-1

DESIGNATED OFF-HIGHWAY VEHICLE ROUTES
FOR ALTERNATIVE E (PREFERRED ALTERNATIVE)
(See Maps F-9 and F-10 for locations)

MAP F-9 REFERENCE NUMBER[1]	DESIGNATED ROUTE[2]
1	BLM Road #3300 from Lake City, generally along Henson Creek to Engineer Pass and Planning Area boundary.
2	BLM Road #3303 along Nellie Creek to USFS boundary.
3	From BLM Road #3300 north along North Fork Creek to USFS boundary.
4[3]	BLM Road 3320 from BLM Road #3300, south and east along Schaeffer Gulch, and to head of Hurricane Basin[3].
5	BLM Road #3306, from Colorado Highway 149, generally along Lake Fork of the Gunnison River to Cinnamon Pass and Planning Area boundary.
6	BLM Road #3314 from BLM Road #3306 to about 0.8 miles north of Sloan Lake, in American Basin.
7	BLM Road #3309 along Cottonwood Creek, from Road #3306 to Junction of Snare Creek and Cuba Gulch.
8	BLM Road #3308 along Wager Gulch from BLM Road #3306 to USFS boundary.
9[3]	From Road #3306 south of Lake San Cristobal in Red Mountain Gulch area, north generally to the northern part of section 29, T. 43 N., R. 4 W.[3]
10	BLM Road #3322 from Colorado Highway 149, and a trail extension at road's end to the USFS boundary.
11	Colorado Highway 149 to USFS boundary.
12	BLM Road #3305 from Colorado Highway 149 south of Lake City to a radio tower.
13[2]	BLM Road #3087 (the Rainbow Lake Road) generally along East Fork Dry Creek to USFS boundary[2].
14[2]	Deep Gulch and Maggie Gulch Roads from Ohio Creek Road to West Antelope Creek Road and USFS boundary[2].
15[2]	BLM Road #3110 along Sheep Gulch and Lost Canyon to USFS boundary[2].
16[2]	BLM Road #3105 from Quartz Creek in North Parlin Flats vicinity to USFS boundary[2].
17[3]	See Map F-10 for designated routes in Unit E-8, South Beaver Creek ACEC.

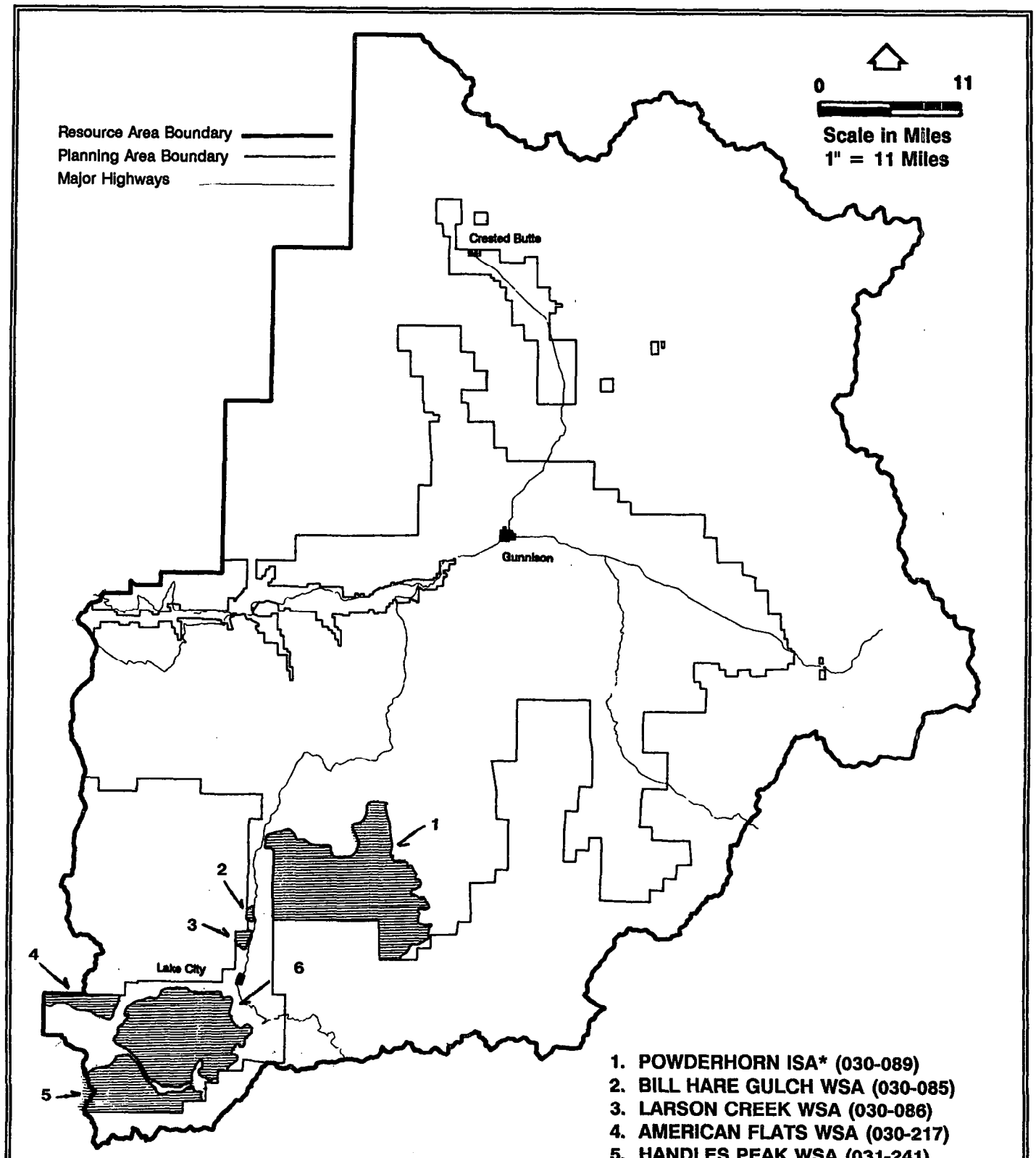
Notes: [1] See numbers and routes on Maps F-9 and F-10 for general locations
[2] These routes would continue to be designated OHV routes, if necessary, in the event of heavy snowfalls and concentrated elk or deer herds from 12-1 through 3-31.
[3] These are newly designated routes for OHV use in this Alternative. The remainder of the routes on Map F-9 and in this table are currently designated OHV routes in "limited" areas (seasonally or yearlong).



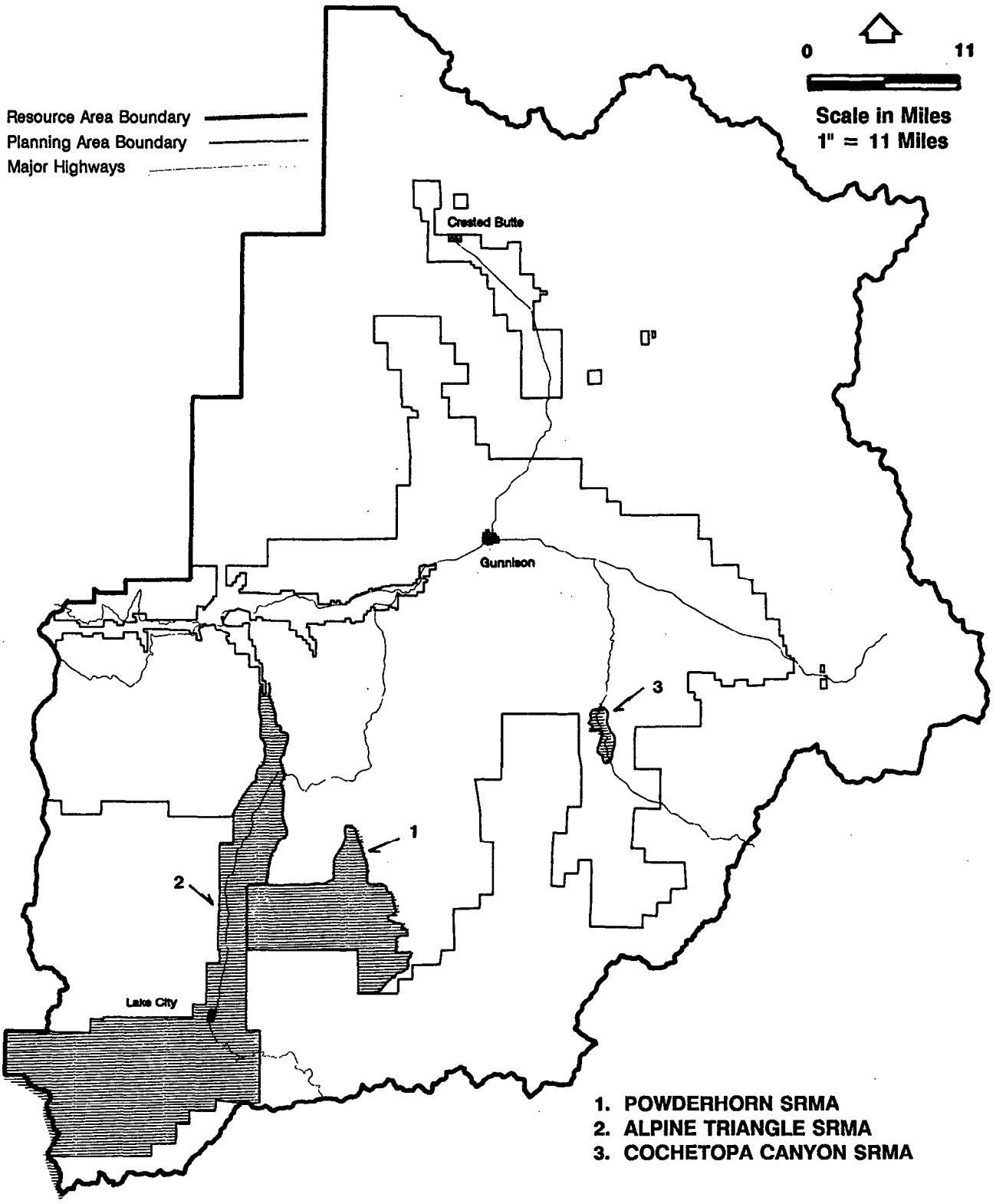
Public lands where OHV use is not limited (seasonally or yearlong) or closed are OPEN

Map F-11

Off-Highway Vehicle Use
Closed Areas
Alternative E



Map F-12
Wilderness Study Areas
in the Planning Area



Public Lands not included in the above SRMAs are contained within the Gunnison Extensive Recreation Management Area.

Map F-13
Special Recreation Management Areas in the Planning Area

Table F-2

APPROXIMATE BLM WILDERNESS STUDY AREA AND RECOMMENDED WILDERNESS AREA ACRES IN ALTERNATIVE A (CONTINUATION OF CURRENT MANAGEMENT ALTERNATIVE[1])

POWDER-HORN	AMERICAN FLATS	RED CLOUD PEAK	BILL HARE GULCH	LARSON CREEK	HANDIES PEAK
WSA[2]/RWA[2]	WSA/RWA	WSA/RWA	WSA/RWA	WSA/RWA	WSA/RWA
54,059/47,982	4,617/1,497	37,579/27,909	370/0	880/0	16,742/7,164

Notes:
[1] These acre figures were calculated using BLM's GIS computerized program, and are approximate; these figures do not equal the acre figures in BLM's Wilderness Study Reports and EISs.

[2] WSA = Wilderness Study Area; RWA = Recommended Wilderness Areas; WSAs were studied and reported on separately from this RMP/EIS.

Table F-3

APPROXIMATE BLM WILDERNESS STUDY AREA AND RECOMMENDED WILDERNESS AREA ACRES IN EACH MANAGEMENT UNIT IN ALTERNATIVE B[1]

MGT UNIT	POWDER-HORN	AMERICAN FLATS	RED CLOUD PEAK	BILL HARE GULCH	LARSON CREEK	HANDIES PEAK
	WSA[2]/RWA[2]	WSA/RWA	WSA/RWA	WSA/RWA	WSA/RWA	WSA/RWA
B-1	47,982/47,982					
B-2		4,617/1,467	37,579/27,909			16,742/7,164
B-7	2,637/0			370/0	880/0	
B-9	8/0					
B-15	2,260/0					
B-16	790/0					
B-20	382/0					

Notes:
[1] These acre figures were calculated using BLM's GIS computerized program, and are approximate; these figures do not equal the acre figures in BLM's Wilderness Study Reports and EISs.

[2] WSA = Wilderness Study Area; RWA = Recommended Wilderness Areas; WSAs were studied and reported on separately from this RMP/EIS.

Table F-4

APPROXIMATE BLM WILDERNESS STUDY AREA AND RECOMMENDED WILDERNESS AREA ACRES IN EACH MANAGEMENT UNIT IN ALTERNATIVE C[1]

MGT UNIT	POWDER-HORN	AMERICAN FLATS	RED CLOUD PEAK	BILL HARE GULCH	LARSON CREEK	HANDIES PEAK
	WSA[2]/RWA[2]	WSA/RWA	WSA/RWA	WSA/RWA	WSA/RWA	WSA/RWA
C-1		1,050/0	30,460/22,465			11,362/7,068
C-3	1,950/1,470					
C-4	39,803/36,918	3,567/1,467	2,865/2,475			628/96
C-5	2,892/1,422		12/0		182/0	
C-6	7,903/7,828					
C-7	1,192/35		4,242/2,969	370/0	698/0	4,752/0
C-16	319/309					

Notes:
[1] These acre figures were calculated using BLM's GIS computerized program, and are approximate; these figures do not equal the acre figures in BLM's Wilderness Study Reports and EISs.

[2] WSA = Wilderness Study Area; RWA = Recommended Wilderness Areas; WSAs were studied and reported on separately from this RMP/EIS.

Table F-5

APPROXIMATE BLM WILDERNESS STUDY AREA AND RECOMMENDED WILDERNESS AREA ACRES IN EACH MANAGEMENT UNIT IN ALTERNATIVE D[1]

MGT UNIT	POWDER-HORN	AMERICAN FLATS	RED CLOUD PEAK	BILL HARE GULCH	LARSON CREEK	HANDIES PEAK
	WSA[2]/RWA[2]	WSA/RWA	WSA/RWA	WSA/RWA	WSA/RWA	WSA/RWA
D-2			5,935/5,935			
D-4		2,866/1,254				
D-5						4,692/4,072
D-6	1,660/1,614					
D-8						1,467/1,463
D-11	47/0			28/0	8/0	
D-16	1,786/1,601		182/0	342/0	155/0	
D-17			15,668/14,859			6,468/1,417
D-19	44,767/44,767					
D-20	2,237/0	1,741/243	15,794/7,115		717/0	4,115/212
D-21	2,202/0					
D-22	1,115/0					
D-26	245/0					

Notes:
[1] These acre figures were calculated using BLM's GIS computerized program, and are approximate; these figures do not equal the acre figures in BLM's Wilderness Study Reports and EISs.

[2] WSA = Wilderness Study Area; RWA = Recommended Wilderness Areas; WSAs were studied and reported on separately from this RMP/EIS.

Table F-6

APPROXIMATE BLM WILDERNESS STUDY AREA AND RECOMMENDED WILDERNESS AREA ACRES IN EACH MANAGEMENT UNIT IN ALTERNATIVE E (PREFERRED ALTERNATIVE)[1]

MGT UNIT	POWDER-HORN	AMERICAN FLATS	RED CLOUD PEAK	BILL HARE GULCH	LARSON CREEK	HANDIES PEAK
	WSA[2]/RWA[2]	WSA/RWA	WSA/RWA	WSA/RWA	WSA/RWA	WSA/RWA
E-1	2,487/0	4,617/1,497	31,223/21,781	370/0	880/0	14,694/5,509
E-2	47,982/47,982					
E-4						1,467/1,463
E-5			5,935/5,935			
E-12	13/0					
E-13	3,490/0					
E-15	5/0		421/193			581/192
E-16	82/0					

Notes:
[1] These acre figures were calculated using BLM's GIS computerized program, and are approximate; these figures do not equal the acre figures in BLM's Wilderness Study Reports and EISs.

[2] WSA = Wilderness Study Area; RWA = Recommended Wilderness Areas; WSAs were studied and reported on separately from this RMP/EIS.

APPENDIX G
MITIGATING MEASURES

Appendix G lists examples of possible mitigating measures which would be incorporated into use authorizations and activity plans to protect specific resources that are identified below. This list is not intended to be a comprehensive listing of all possible mitigating measures.

SOIL AND WATER RESOURCES

Restriction of surface disturbances along waterways
Requirement for waterbars and culverts
Restrictions on forage utilization levels
Closure and rehabilitation of roads

RIPARIAN AREAS

Requirement for fencing
Closure and rehabilitation of roads
Restrictions on forage utilization levels
Reclamation of disturbed areas

THREATENED, ENDANGERED, AND SENSITIVE SPECIES

Relocation of surface-disturbing activities
Relocation of the individual plant or animal
Off-site replacement of critical habitat

WILDLIFE HABITAT

Development of drop structures on streams
Rehabilitation of disturbed sites
Restrictions on forage utilization levels
Seasonal or permanent road closures
Requirement for increased edge areas
Limitations on size of disturbances

LIVESTOCK GRAZING

Requirement for reseeding of disturbed areas with palatable species
Requirement for fencing of areas hazardous to livestock
Development of alternative water sources
Installation of cattleguards

FORESTRY

Requirement to leave two snag trees per acre
Requirement to plant trees
Restrictions on burning
Requirement for waterbars in road construction

RECREATION

Acquisition of alternative access
Alterations in project design
Relocation of roads
Requirement for fencing of recreational sites

CULTURAL AND PALEONTOLOGICAL RESOURCES

Restrictions on road construction
Requirement for intensive testing and excavation
Relocation of surface-disturbing activities
Requirement for on-site inspections during project development

APPENDIX H

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

RESOURCE MANAGEMENT PLANNING AND AREAS OF CRITICAL ENVIRONMENTAL CONCERN

1. Definition:

An Area of Critical Environmental Concern (ACEC) is an area on public land containing important historic, cultural and scenic values, fish or wildlife resources (species or habitat), or other natural systems or processes. An ACEC can also be an area for which protection of human life and safety from natural hazards is felt necessary. An ACEC management plan would be prepared for officially designated areas and actions would be implemented to carry out whatever special management is needed to insure that an ACEC's values are protected to the required degree.

2. Characteristics of ACECs:

To be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet the criteria of relevance and importance, as established and defined in 43 CFR 1610.7-2.

A. **Relevance.** An area meets the "relevance" criterion if it contains one or more of the following:

1. A significant historic, cultural, or scenic value (including, but not limited to, rare or sensitive archaeological resources and religious or cultural resources important to Native Americans).

2. A fish and wildlife resource (including, but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

3. A natural process or system (including, but not limited to, habitat for endangered, sensitive or threatened species; rare, endemic, or relic plants or plan communities which are terrestrial, aquatic or riparian; or rare geological features).

4. Natural hazards (including, but not limited to, areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of the natural process.

B. **Importance.** The value, resource, system, process, or hazard described above must have substantial significance and values in order to satisfy the "importance" criteria. This generally means that the value, resource, system, process, or hazard is characterized by one or more of the following:

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates for FLPMA.

4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare.

5. Poses a significant threat to human life and safety or to property.

C. **Special Management Attention.** To be designated as an ACEC, an area must require special management attention to protect the important and relevant values. Therefore, areas which have important and relevant resource values and for which special management attention is prescribed are to be designated as ACECs using the procedures set forth in this section. "Special management attention" refers to management

prescriptions developed during preparation of an RMP, including proposed actions deemed to be in conformance with the terms, conditions, and decisions of the RMP. These are management measures which would not be necessary and prescribed if the critical and important features were not present. That is, they would not be prescribed in the absence of the designation. (In other words, the concept of special management is relative.) A management prescription is considered to be special if it is unique to the area involved and includes terms and conditions specifically to protect the important and relevant value(s) occurring on that area. For example, a seasonal use stipulation on permits or other use authorizations may be prescribed specifically to protect life and safety from natural hazards. Management prescriptions providing special management attention should include more detail than prescriptions for other areas and should establish priority for implementation. Special management often provides for consultation and coordination with identified groups and/or experts having interest or expertise in the affected values.

3. ACECs and BLM's RMP/EIS Process

A. Potential ACECs nominated by BLM, other agencies, and public.

B. ACEC nominations are examined for adherence to "relevance, importance" criteria in BLM Manual 1613.

C. ACEC nominations meeting criteria become "Potential ACECs, written into RMP draft Alternatives, with their "management prescriptions".

D. "Potential ACECs" published in BLM's Draft Alternative description, for public review, comment. Nominations not forwarded to Alternatives justified.

E. Comments on "Potential ACECs" analyzed, considered along with all other comments on Draft Alternatives, changes made to "Potential ACECs" as needed, justifications written.

F. "Potential ACECs" considered further in analyzing impacts of recommendations in the Alternatives, including those effects of ACEC "management prescriptions". BLM's Preferred Alternative developed, with "PROPOSED ACECS"; other alternatives still have "Potential ACECs".

G. "PROPOSED" and "Potential" ACECs described, published in Draft RMP/Eis, and commented on for 90 days. All previous changes, or drops in nominated or "Potential" ACECs justified in Appendix of Draft.

H. Comments on "PROPOSED" and "Potential" ACECs, analyzed, changes made, justifications written, BLM's proposed RMP/Final EIS written, readied for publication to public. ACECs passing this screen to be "Recommended" ACECs.

I. Proposed RMP/Final EIS published, 30 days to protest recommendations in documents, including the "Recommended ACECs". Changes made in ACECs from Draft to this document will be explained.

J. BLM responds to protests, if any, then State Director approves RMP via a "Record of Decision" that, when published in the Federal Register, officially designates all ACECs in the Approved RMP.

K. Designated ACECs, and their management prescriptions, are implemented including writing of additional action plans for ACECs requiring that detail.

Table H-1

ACEC NOMINATIONS THAT DID NOT MEET SCREENING CRITERIA

AREA NAME AND NOMINATOR[1]	ANALYSIS OF SCREENING CRITERIA
Lake City Caldera (CEC)	The area nominated is not a caldera; the nomination does not meet either the relevance or importance criteria.
Cebolla Creek Garnet Area (CEC)	The values for which this area was nominated (garnet-bearing deposits) are not rare, nor is their potential in the area for the occurrence of gem-quality garnets; no immediate threat to the values present; the nomination does not meet either the relevance or importance criteria.
Horseshoe Basin Glacial Rock Area (BLM)	The occurrence of these glacial rocks is neither rare nor unique; the nomination does not meet either the relevance or importance criteria.
Red Mountain Scenic Area (CEC)	The values for which this area was nominated (high-quality scenic values) are not rare, unique, nor significant in the region or the local area; no immediate threat to the values present; the nomination does not meet either the relevance or importance criteria.
East Elk Creek to Red Creek Paleontological Area (NPS)	The area nominated, other than in Haystack Cave (a potential ACEC), does not possess the potential for occurrence of fossils in any great abundance; the nomination does not meet either the relevance or importance criteria.
Andress Exchange Tract Elk and Deer Crucial Winter Range (Gunnison County)	The size of the nomination does not contribute significantly to the viability of elk and deer populations; the nomination does not meet either the relevance or importance criteria; no immediate threat to habitat.
Cebolla Creek Fish Spawning Crucial Habit at Area (NPS)	The fishery as an individual resource odes not contribute significantly to the viability of trout species or populations; no immediate threat to the values present; the nomination does not meet either the relevance or importance criteria.

Note: [1] CEC = Colorado Environmental Coalition; NPS = National Park Service; BLM = Bureau of Land Management

Table H-2

POTENTIAL AREAS OF CRITICAL ENVIRONMENTAL CONCERN

NAME OF AREA AND VALUES	RELEVANCE AND IMPORTANCE	ACRES	NOMINATED BY:
1. **Alpine:** Historical/cultural, recreation, and scenic values (includes view shed as seen from the Lake Fork and Henson Creek roads); considered in Alternative B; originally nominated as the American Flats (historical and recreation values) area.	**Relevance:** Significant cultural and historic values present on public lands; intensively used for recreation (hiking, 4 wheel drive touring, camping, sightseeing). Significant scenic loop drive approximately 50 miles in length (Lake City as beginning and end of drive); traverses Engineer and Cinnamon passes and follows shore of Lake San Cristobal. **Importance:** Significant regional and national awareness; destination for commercial four wheel drive tour and rental companies; element in the "Alpine Explorer", a BLM information and education publication; important to economy of Lake City; area is fragile in many locations; historic sites are deteriorating; known threat to historic, scenic values from mining and vandalism, potential threat from development; contains existing 2,300 acre scenic withdrawal along Henson Creek and Lake Fork roads; drive extends into adjacent BLM San Juan Resource Area; historic mining setting; known and potential threats to foreground and middle ground landscapes from private land development and mining.	88,663 BLM; 97,452 total	Rick Athearn, Arden Anderson, BLM
2. **Haystack Cave:** Paleontological values; considered in Alternative D	**Relevance:** Significant paleontological site; 1/3 of total fossils still present; 14,000 year old potential pleistocene remains; most of site has been excavated. **Importance:** Regionally significant; archaeological site also; unique research site; nominated to National Register of Historic Places; only known site containing both shrub ox and Woodland musk ox remains; 60,000 faunal specimens, 40 species; potential threat from vandalism.	5 BLM	Colorado Environmental Coalition[1]

Table H-2 (Continued)

NAME OF AREA AND VALUES	RELEVANCE AND IMPORTANCE	ACRES	NOMINATED BY
3. **South Beaver Creek:** Proposed Colorado Natural Area; Astragalus microcymbus (skiff milkvetch) populations; considered in Alternative B, D, and E.	**Relevance:** Contains populations of USF&WS Category II plant species (also recommended as an endangered species). **Importance:** Managed under cooperative agreement with Colorado Natural Areas Program; proposed Research Natural Area; research potential by a N.M. University; known threat to plant populations from grazing and wildlife.	4,625 BLM In Alternative B; 9,895 BLM In Alternative D; 4,565 BLM In Alternative E	USF&WS; Joe Capodice, BLM
4. **Powderhorn:** Recreation and scenic values; considered in Alternative B	**Relevance:** Existing primitive area; significant visual variety (scenery); back country recreations area; no motor vehicle use allowed. **Importance:** Nationally known primitive area; closed to motor vehicle use; scenic values high; receives moderate amount of recreation use.	47,983 BLM	Arden Anderson, BLM
5. **East Gunnison:**	**Relevance:** Contains habitat necessary for maintaining mule deer and elk populations. **Importance:** Attracts hunters nationally; high concentrations of elk and deer compared to areas south of U.S. 50; known threat to critical range from grazing.	37,503 BLM	Ralph Clark III; Joe Capodice, BLM
6. **Sapinero:** Critical big game winter range; combined with West Antelope Creek in Alternatives B and E.	**Relevance:** Important significant habitat for maintaining species diversity of elk and deer; first acquisition under Pittman Robinson (historic relevance); contains Sapinero State Wildlife Area. **Importance:** Attracts hunters nationally; historic acquisition; significant habitat regionally; high concentrations of elk and deer; important for herd viability; limited ORV classifications, closed in Sapinero State Wildlife area; potential threat to critical range from grazing.	4,518 BLM	Joe Capodice, BLM

Table H-2 (Continued)

NAME OF AREA AND VALUES	RELEVANCE AND IMPORTANCE	ACRES	NOMINATED BY
7. **Lake Fork Canyon:** Scenic and wildlife values, and historic railroad work camps; considered in Alternative B and D.	**Relevance:** Contains nine historic railroad work camps; receives 20,000 Recreations User Days annually; contains a 10-animal bighorn sheep herd; high quality trout fishing; high value scenery. **Importance:** Significant regional recreation values (fishing, camping, viewing scenery); important brown trout fishery.	4,685 BLM in Alternative B; 4,800 BLM in Alternative E	National Park Service (NPS); Arden Anderson BLM
8. **Dillon Pinnacles:** Scenic and geologic values; considered in Alternatives D and E.	**Relevance:** Outstanding example of eroded volcanic mudflow; high recreation use; accessible and visible for miles; significant photo subject. **Important:** Regionally significant; vertical spires (pinnacles) warrant highlighting; potential threat to view shed from private land development.	190 BLM in Alternative D; 532 BLM in Alternative E.	CEC; Arden Anderson, BLM
9. **Bighorn Sheep-A:** Bighorn Sheep habitat (name changed from Lake City Bighorn Sheep Range) now is the smaller of the two original areas; in the N.W. corner of American Flats; considered in Alternative D.	**Relevance:** Summer and winter range important to diversity of species, about 30 head. **Importance:** Regionally and nationally significant habitat; fragile resources; disease could endanger herd; sensitive species using the habitat; known threat to values from grazing (domestic sheep).	3,912 BLM	Joe Capodice, BLM
10. **Bighorn Sheep-B:** Bighorn Sheep habitat; considered in Alternative D; name changed from Handies Peak.	**Relevance:** Summer and winter range important to diversity of species; about 30 head. **Importance:** Regionally and nationally significant habitat; fragile resources; disease could endanger herd, sensitive species using the habitat; known threat to values from grazing (domestic sheep).	4,762 BLM	Joe Capodice, BLM

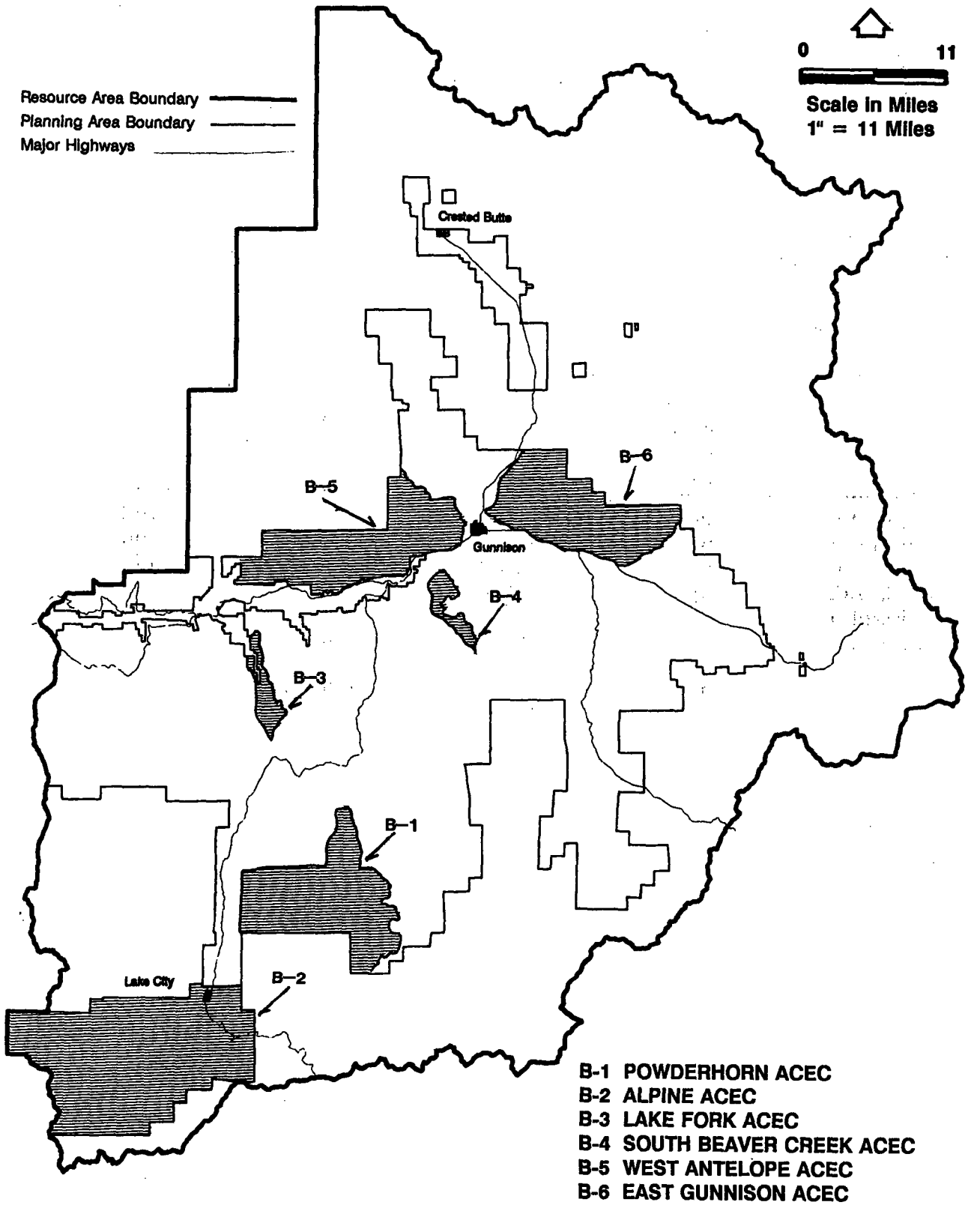
Table H-2 (Continued)

NAME OF AREA AND VALUES	RELEVANCE AND IMPORTANCE	ACRES	NOMINATED BY
11. Cebolla Creek: Bighorn Sheep Range; considered in Alternative D.	**Relevance:** Large herd of 80 animals use this area; used statewide to gather transplant animals; same as 9. **Importance:** Regionally and nationally significant habitat; fragile resources; disease could endanger herd; sensitive species using habitat; known threat to values from grazing (domestic sheep).	9,812 BLM	Joe Capodice, BLM
12. Slumgullion Earthflow: Mass wasting phenomenon; geologic, scenic values; considered in Alternatives D and E.	**Relevance:** Significant earthflow; research and article subject; natural processes resulted in the damming of Lake Fork of the Gunnison River to form Lake San Cristobal, Colorado's second largest natural lake. **Importance:** NPS designated National Natural Landmark, October, 1965; BLM and Colorado Natural Area Program's Geologic Advisory Group (in existence from 1983 to 1988) recommended the area as a Research Natural Area (RNA); important geologic phenomenon; Nationally important; unstable soils; known threat to view shed from private land development.	1,370 BLM in Alternative D; 1,407 BLM in Alternative E	CEC
13. Red Cloud Peak: Snow willow vegetative community, habitat for USF&WS Category I invertebrate; considered in Alternatives D and E.	**Relevance:** Habitat is significant in that it supports the largest of two known viable breeding populations of a listed species. **Importance:** Recommended to be included on the USF&WS endangered list; national importance regarding the existence of the species and research value; currently being researched and reported on; known threat to species and habitat from collectors and domestic sheep grazing.	5,950 BLM in Alternative D; 5,947 BLM in Alternative E.	Joe Capodice, BLM; USF&WS
14. West Antelope Creek to Dillon Mesa: Critical big game winter range; eagle habitat; Red Creek and North Beaver Creek trout spawning streams; considered in Alternatives B and E.	**Relevance:** Significant wildlife habitat (big game, winter range [elk, deer, bighorn sheep], bald eagles, trout spawning; includes Sapinero State Wildlife Area; essential for species diversity. **Importance:** Nationally important for hunting; fragile bald eagle wintering area; trout spawning streams essential for fishery within Blue Mesa Reservoir.	29,060 BLM in Alternative B; 28,215 BLM in Alternative E.	NPS

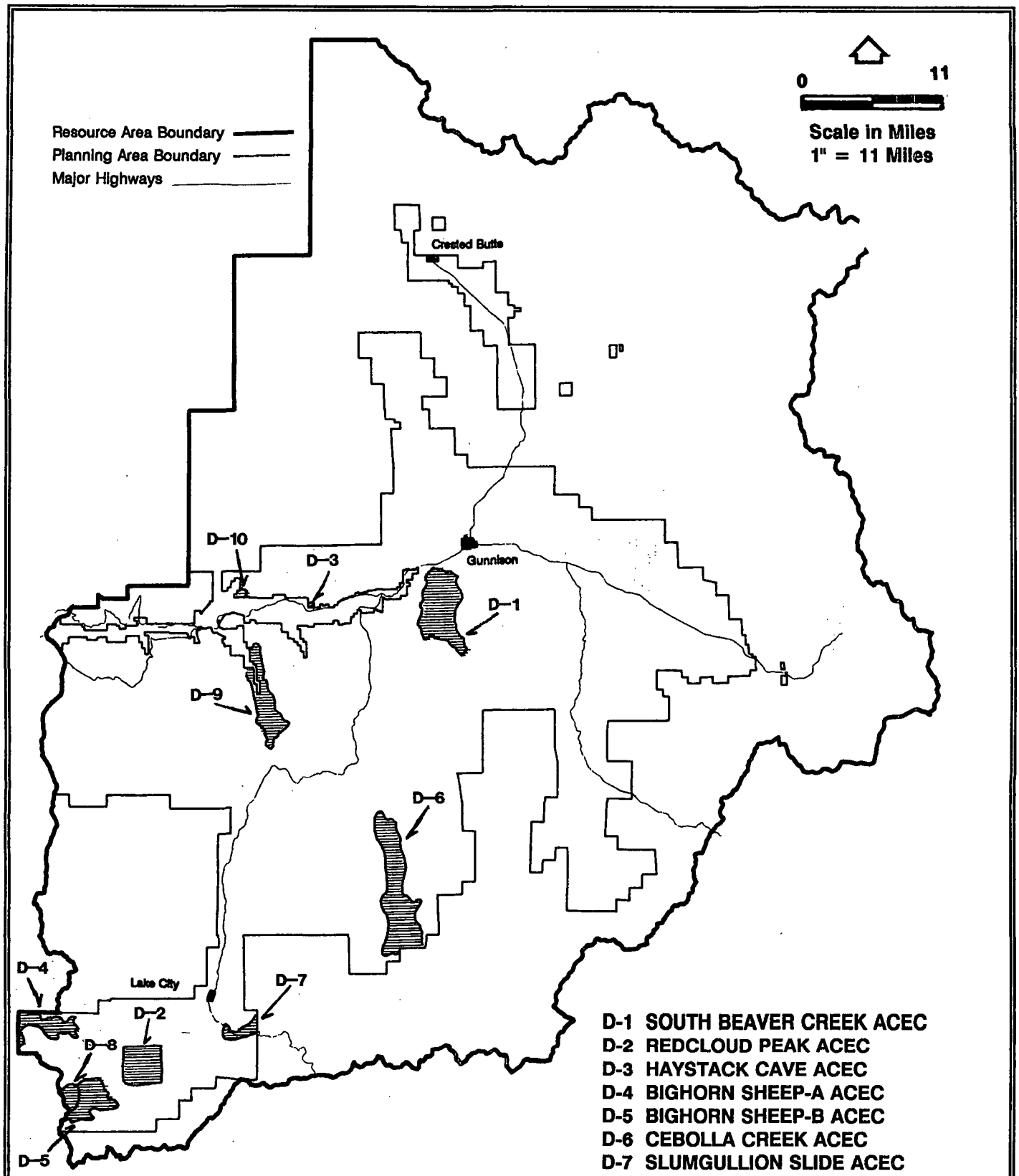
Table H-2 (Continued)

NAME OF AREA AND VALUES	RELEVANCE AND IMPORTANCE	ACRES	NOMINATED BY
15. **American Basin:** Scenic and recreation values; considered in Alternative D and E.	**Relevance:** Highly accessible; significant scenic values; heavily used hiking trails; large areas of striking wildflower displays. **Importance:** Nationally important destination for viewing wildflowers and high country scenery; fragile, exemplary mountain tundra; threatened by domestic sheep grazing; potentially threatened by mining and homesite development; important to hikers and motorists.	1,577 BLM in Alternative D;	Arden Anderson, BLM
16. **Loop Road:** Scenic resources; combined with Alpine potential ACEC; considered in Alternative B.	**Relevance:** Existing 2,318 acre protective scenic withdrawal; route through scenic, historical resources; designated National Backcountry Byway in San Juan Mountains. **Importance:** Nationally important and visited resource; National significance by designation as a "byway"; route traverses fragile historic mining period structures; is protected by a BLM scenic withdrawal; accesses developed recreation sites; promoted nationally by local 4-wheel rental firms, recognized and supported by Hinsdale and San Juan County Commissioners.	2,318 BLM	Arden Anderson, BLM

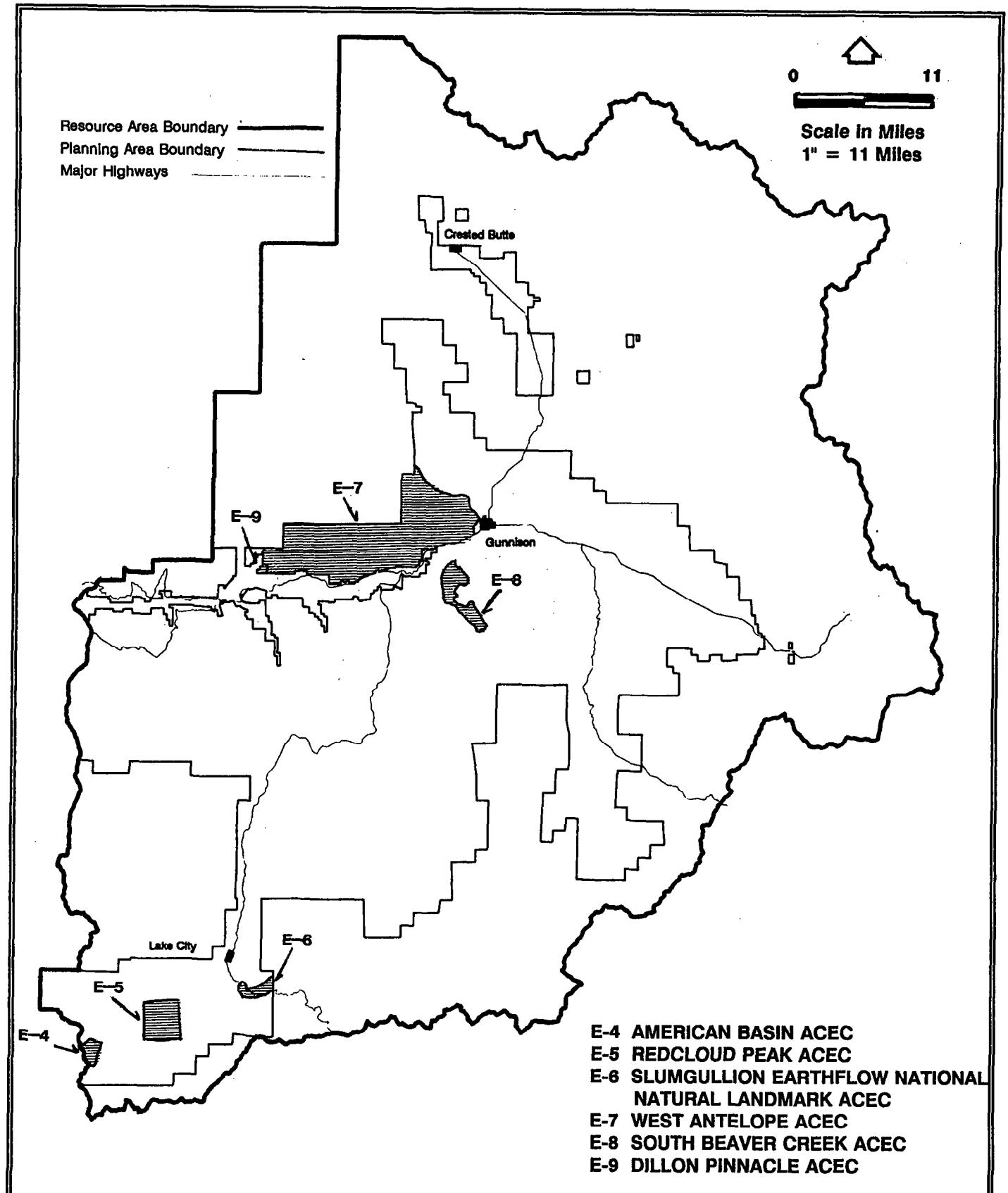
Note: [1] CEC = Colorado Environmental Coalition



Map H-1
Proposed ACECs
Alternative B



Map H-2
Proposed ACECs
Alternative D



Map H-3
Proposed ACECs
Alternative E

APPENDIX I

LAKE FORK OF THE GUNNISON WILD AND SCENIC RIVER STUDY REPORT

U.S. Department of the Interior
Bureau of Land Management
Montrose District
Gunnison Resource Area

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Lake Fork of the Gunnison
Wild and Scenic River Study Report

INTRODUCTION

This report is a record of the Wild and Scenic River (W&SR) study process that is being conducted concurrently with the Gunnison Resource Management Plan/Environmental Impact Statement (RMP/EIS). This report documents BLM's examination of the river segments as they relate to the W&SR eligibility, classification and suitability criteria. The environmental analysis of impacts from "preliminary administrative recommendations for W&SR designation or non-designation" within the five management alternatives are discussed in Chapter Four of this RMP/EIS.

Because of the significant differences between various parts, the 57-mile long river was divided into three segments which will be evaluated separately. These are:

Segment A - Sloan Lake to Wager Gulch - 13.3 miles

Segment B - Wager Gulch to the Red Bridge Campground - 38.5 miles

Segment C - Red Bridge Campground to Blue Mesa Reservoir - 5.2 miles

DESCRIPTION AND LOCATION OF THE STUDY AREA

The headwaters of the Lake Fork of the Gunnison River (Lake Fork) are at Sloan Lake in the scenic American Basin at an elevation of 12,600 feet in the San Juan Mountains of southwest Colorado. From there the Lake Fork generally runs east to Lake San Cristobal then turns north, passing through Lake City and emptying into Blue Mesa Reservoir. The total river length is approximately 57 miles of which 36.2 miles (64.7%) is privately owned, 19.5 miles (33%) is managed by the Bureau of Land Management (BLM), 0.8 miles (1.3%) is managed by the National Park Service (NPS) and 0.5 miles (1%) is managed by the U.S. Forest Service. In an effort to evaluate portions of the stream with similar characteristics the river was broken into three segments. The river is located within the Alpine Triangle Special Recreation Management Area.

These segments with land ownership and mileage, are displayed in Table I-1 and I-2 and Maps I-1 through I-4.

Each segment was separately analyzed with respect to the various study criteria. Map I-1 shows the entire portion of the river studied. A river corridor of ¼ mile on each side of the stream was evaluated except in American Basin where the corridor was expanded to include the view shed of the basin.

Table I-1

MILEAGE OF LAKE FORK OF GUNNISON RIVER STUDY SEGMENTS

RIVER SEGMENT	TOTAL MILES	BLM MILES/%	NPS MILES/%	FS MILES/%	PRIVATE MILES/%
A-Sloan Lake to Wager Gulch	13.3	10.6/80%	--	--	2.7/20%
B-Wager Gulch to Red Bridge	38.5	4.5/12%	--	0.5/1%	33.5/87%
C-Red Bridge to Blue Mesa	5.2	4.4/85%	0.8/15%	--	--

[1] NPS = National Park Service; FS = Forest Service

Table I-2

ACREAGE OF LAKE FORK OF GUNNISON RIVER STUDY SEGMENTS

RIVER SEGMENT	TOTAL ACRES	BLM ACRES/%	NPS ACRES/%	FS ACRES/%	PRIVATE ACRES/%
A-Sloan Lake to Wager Gulch	4,960	4,315/87%	--	--	645/13%
B-Wager Gulch to Red Bridge	10,940	2,467/22%	--	325/3%	8,147/75%
C-Red Bridge to Blue Mesa	1,525	1,325/88%	67/4%	--	132/8%

[1] NPS = National Park Service; FS = Forest Service

STUDY PROCESS

The wild and scenic river study process includes three steps:

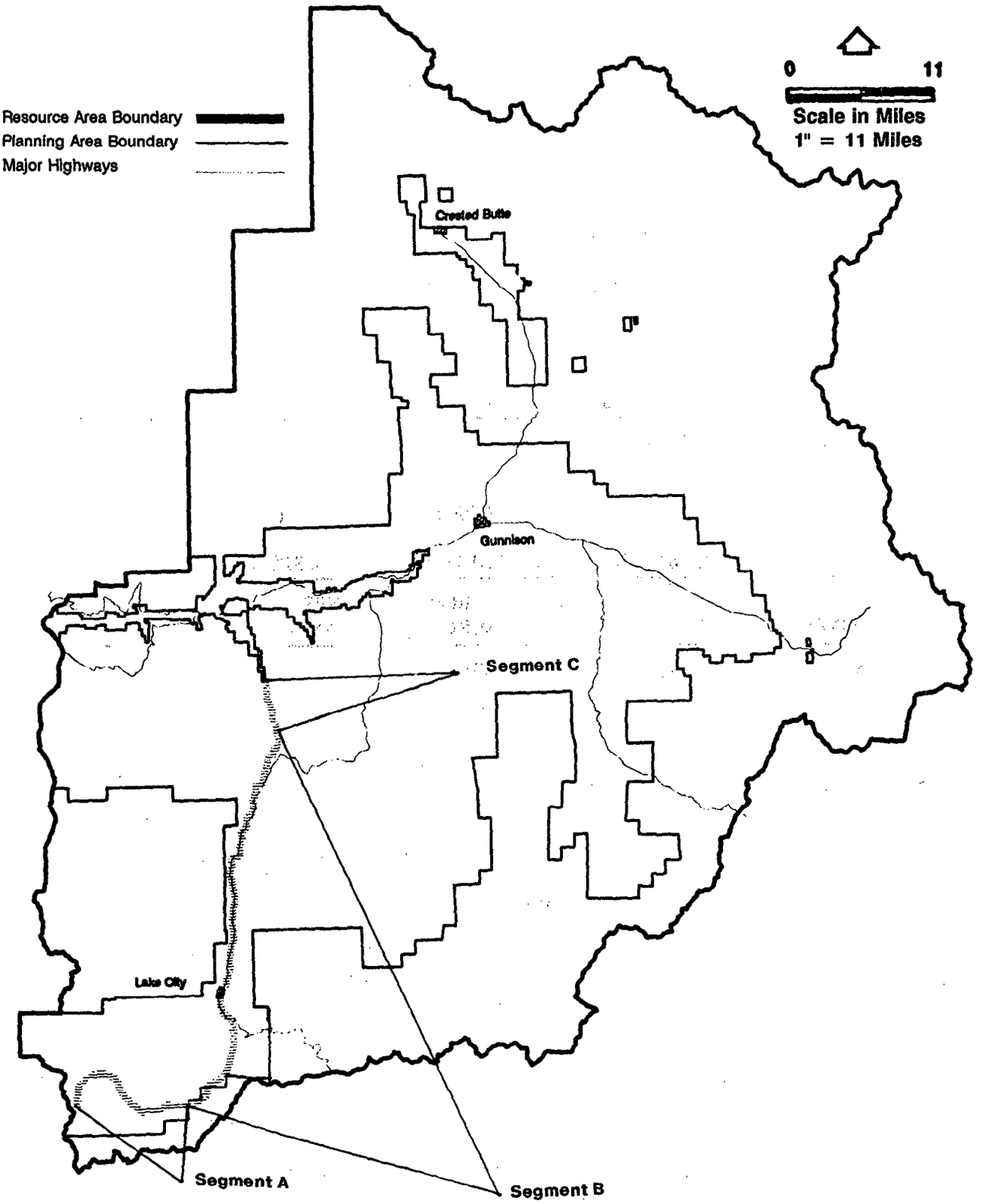
1. Determine if potential river segments are eligible for wild and scenic designation;

2. Determine the potential classification of the eligible segments as wild, scenic, recreation or any combination thereof; and

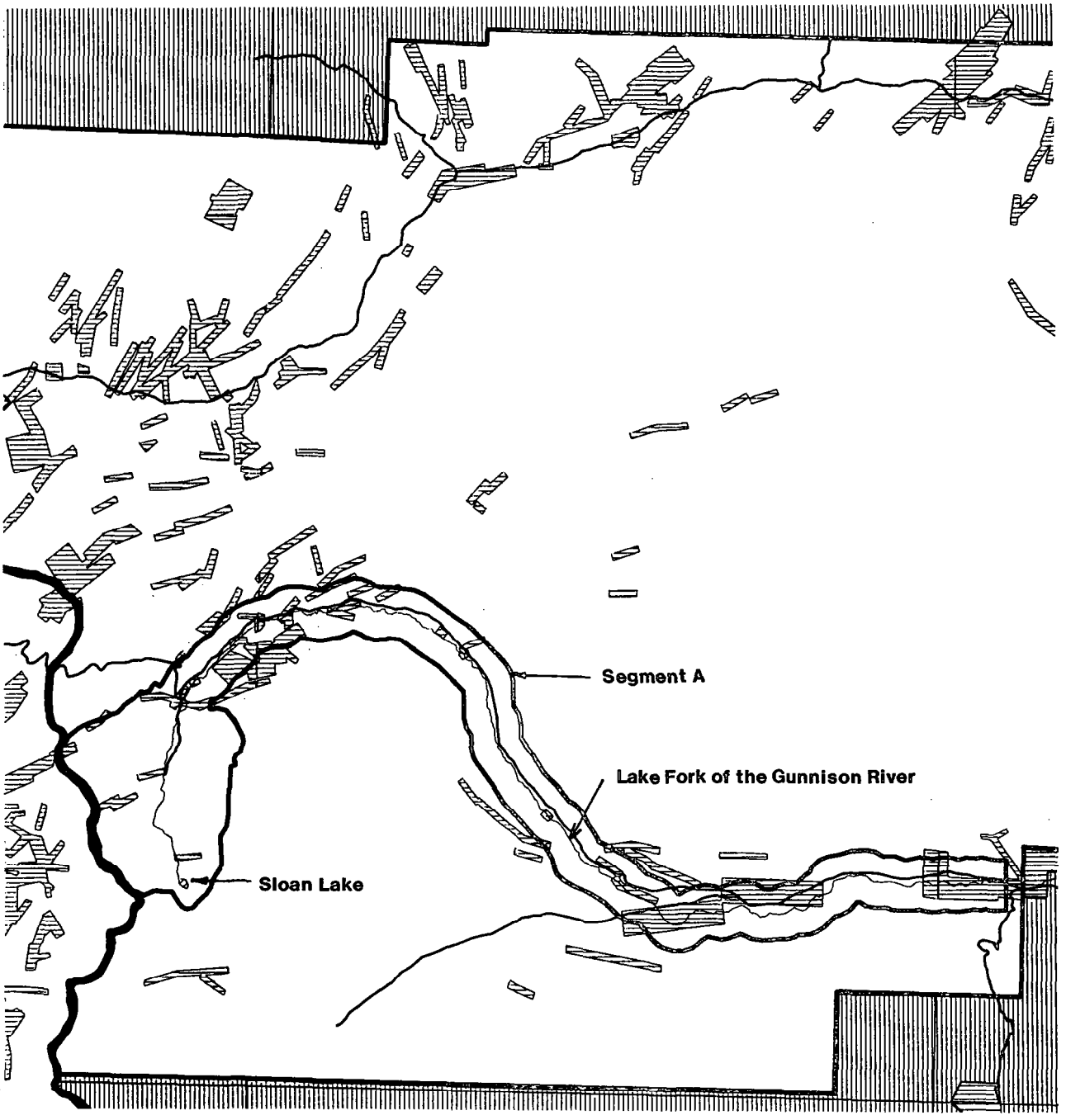
3. Conduct a suitability study to determine if the segment is suitable for inclusion into the Wild and Scenic Rivers System.

Study procedures are found in guidelines from the U.S. Departments of Interior and Agriculture National Wild and Scenic Rivers System; Guidelines for Eligibility, Classification and Management of River Areas (Federal Register Vol. 7 No 173, Sept. 7, 1982), and BLM's Guidelines For Fulfilling Requirements of The Wild and Scenic Rivers Act, August, 1988. Section 1623.4 contains requirements for studying National River Inventory (NRI) segments in the planning process.

Based on this guidance, the study process will continue as a regular part of the BLM RMP process. This process will include the publication and distribution of the draft RMP/EIS. This provides a 90-day opportunity for the public to comment on BLM's proposed management decisions, including preliminary designation and non-designation recommendations of the five alternatives in the draft RMP/EIS, and this study report. These comments will be analyzed and addressed as appropriate and a proposed RMP/Final EIS (PRMP) will be prepared, with a revised version of this study report as an Appendix.



Map I-1
Lake Fork of the Gunnison River
Study Corridor

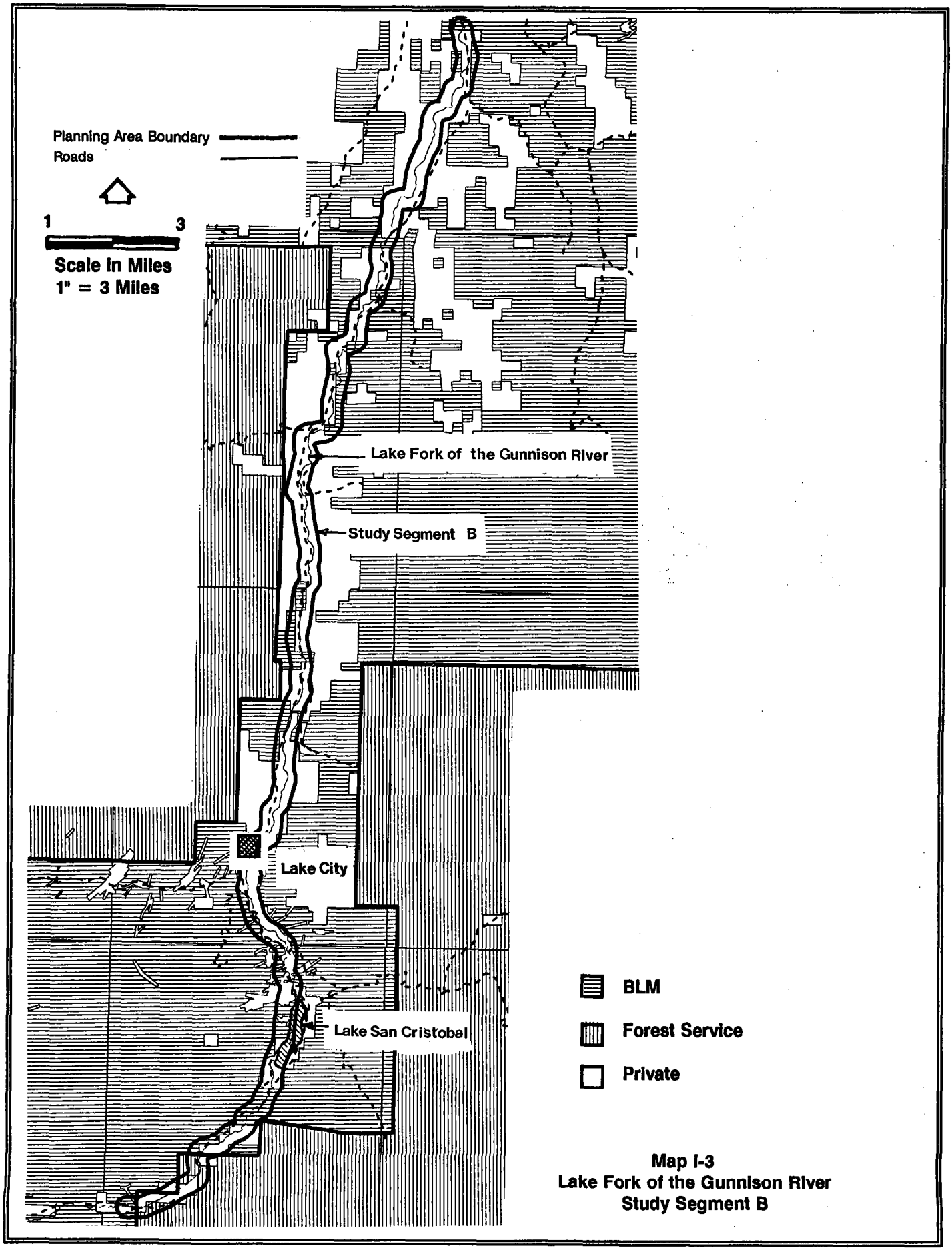


Resource Area Boundary
Planning Area Boundary
Roads

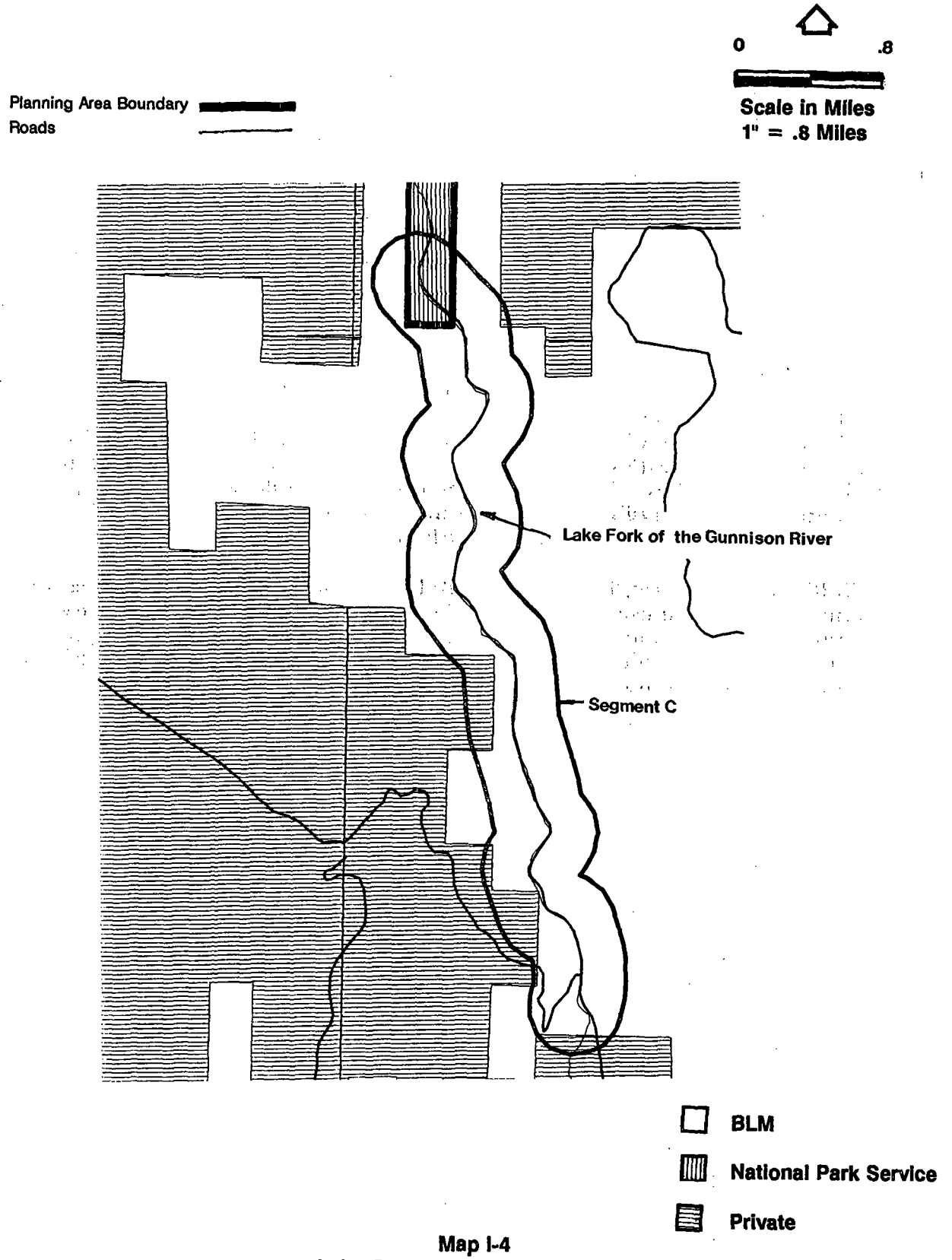
BLM
FOREST SERVICE
PRIVATE

0 1.5
Scale in Miles
1" = 1.5 Miles

Map I-2
Lake Fork of the Gunnison River
Study Segment A



Map I-3
Lake Fork of the Gunnison River
Study Segment B



Map I-4
Lake Fork of the Gunnison River
Study Segment C

The PRMP will contain only one "alternative" and the environmental impacts of those management decisions. This document will also include BLM's responses to written public comments received on the draft RMP/EIS and this report. The PRMP will be published and distributed for a 30-day period in which proposed decisions in the PRMP can be protested, including those associated with the Lake Fork of the Gunnison river W&SR study report (determinations of eligibility, classification, and/or suitability or non-suitability).

After any protests received are resolved by the Director of the BLM, an approved Resource Management Plan/Record of Decision (RMP/ROD) will be published and made available. This study report would be finalized and made available to the public.

Once the RMP/ROD becomes effective, the BLM's role is determined by the designation or non-designation decision. If the decision does not recommend any segments as "suitable for designation" then the BLM's role is concluded. If the segment is found to be "suitable for designation" in the RMP/ROD, BLM could prepare a separate Study Report/ROD document, with an accompanying Legislative EIS that would consist of data extracted from the RMP/EIS documents. This package could be submitted to The Department of Interior for further recommendation. The BLM would develop an interim management plan to protect the outstanding features that qualify the river for inclusion. This plan would be followed for three years to give Congress an adequate opportunity to act on the BLM's recommendations.

An implementation process is then begun immediately after approval of the RMP for most decisions within the plan, including implementing interim management within eligible and suitable segments, if appropriate.

ELIGIBILITY, CLASSIFICATION AND SUITABILITY CRITERIA

To be eligible for inclusion in the national system, a study segment must be free-flowing, and the river and its adjacent land area must possess at least one outstandingly remarkable value. There are no specific requirements regarding the length or flow of an eligible river segment. Length and flow are sufficient if they sustain or complement the outstandingly remarkable values for which the river would be designated. The minimum study corridor includes the river and the adjacent lands to 0.25 mile from the riverbank. A wider corridor may be studied if inclusion could facilitate improved management of resources in the river area. Segments determined to be non-eligible are not considered or studied further in the process.

A segment's potential classification depends on the condition of the river and adjacent lands as they exist at the time of the study. The Act specifies three classification categories for eligible rivers: wild, scenic, and recreational.

To be classified as wild, a river segment must be free of impoundments. The area must show little evidence of human activity and be generally inaccessible except by trail. The watersheds or shorelines must be primitive, with no structures or modifications of the river course. The water must be unpolluted.

To be classified as scenic, a river segment must be free of impoundments. The area must not show substantial evidence of human activity. It may be accessible by roads in places or have occasional bridges. The watershed or shoreline must be largely primitive and undeveloped.

To be classified as recreational, a river segment may have been impounded or diverted in the past if its appearance remains generally natural. It may be readily accessible by road or railway or be crossed by bridges. It may have some development along the shoreline or show substantial evidence of human activity.

Some factors to consider in the suitability determination include, but are not limited to:

1. Characteristics that do or do not make the area a worthy addition to the National Wild and Scenic Rivers System.

2. Current status of landownership, use in the area, including the amount of private land involved and associated or conflicting uses.

3. Reasonably foreseeable potential uses of the land and related waters, which would be enhanced, foreclosed, or curtailed if the area were included in the National Wild and Scenic Rivers System, and the values which could be foreclosed or diminished if the area is not protected as part of the system.

4. Public, State, local, or Federal interest in designation of the river, including the extent to which the administration of the river, including the costs thereof, may be shared by State, local, or other agencies and individuals.

5. Estimated cost of acquiring necessary lands and interests in lands and of administering the area if it is added to the system.

6. Ability of the agency to manage the river area or segment as a W & S river.

7. Historical or existing rights which would be adversely affected as to foreclose, extinguish, curtail, infringe, or constitute a taking that would entitle the owner to just compensation if the area were included in the National Wild and Scenic Rivers System. In the suitability analysis, adequate consideration will be given to rights held by owners, applicants, lessees, or claimants.

8. Other.

RELATIONSHIP OF WILD AND SCENIC RIVERS ACT TO PRIVATE LANDS

Land use controls on private lands are a matter of state and local zoning. Although the Wild and Scenic Rivers Act of 1968 includes provisions encouraging protection of river values through State and Federal land use planning, these provisions are not binding on local governments.

The Federal government is responsible for ensuring that management of designated rivers meets the intent of the act. In the absence of local or state river protection provisions, the Federal government could ensure protection through acquisition of private lands or interests in lands.

The Wild and Scenic Rivers Act specifically prohibits Federal use of condemnation in the fee title purchase of lands if 50 percent or more of the land within the boundary is already in public ownership. The BLM manages about 87% (4,315 acres) of the surface estate in Segment A. The act does provide the Federal government with authority to purchase scenic, conservation, or access "easements" through condemnation proceedings, but this measure of last resort would be used only as necessary to remove a threat to the river.

The basic objective of wild and scenic river designation is to maintain the existing condition of the river. If a land use or development clearly threatens the outstandingly remarkable value, which resulted in designation of the river, efforts would be made to remove the threat through local zoning, land exchanges, purchases from willing sellers, and other actions except condemnation. Agriculture and grazing activities occurring at the time of designation would generally not be affected.

ANALYSIS OF ELIGIBILITY, CLASSIFICATION, AND SUITABILITY

Eligibility Determination

Segment A meets both criteria for eligibility. It is free flowing though some rip rapping has occurred. Some small diversions exist in Segment A to fill 6 lakes on private land within the study corridor. The river and associated study corridor within Segment A also possess outstandingly remarkable scenic values. This area is part of the BLM's Alpine Triangle Special Recreation Management Area which receives approximately 600,000 visitor days annually.

Much of this recreation use centers around the Alpine Loop National Backcountry Byway. This rough road parallels most of segment A within the study corridor. Most of this vehicle recreation is focused on the area's spectacular scenery. The river itself is important to recreation mainly to the extent it contributes to scenic beauty and diversity. Some fishing does occur in the lower portion from Sherman down to the Mill Creek Campground. No rafting, kayaking or other river dependent recreation occurs along this segment.

Segment B from Wager Gulch to the public land boundary south of the Red Bridge Campground was not found to be eligible for inclusion because it did not meet either criteria for eligibility. It is not free flowing. There are numerous diversions to fill streamside lakes. There is a large hydroelectric dam and spillway near Lake City. The outlet of Lake San Cristobal has been artificially raised to maintain the level of the lake. The most recent work on the outlet structure was in the spring of 1990. There is significant riprapping along much of the length, particularly along Highway 149 north of Lake City.

Extensive gabion structures on the Thomas property divert and channelize the river. This segment also lacks characteristics that could be considered outstandingly remarkable. No known threatened or endangered species exist within the study corridor in Segment B. The scenic values are good, but not outstanding and there are many man-made features such as roads, bridges, mines, gravel pits, houses and a small town within the corridor. Recreation values, which are mostly centered around fishing, are extremely limited due to the preponderance of private land in the segment (88% of the stream miles). The public has access only to small and isolated tracts of public land which tends to diminish the recreation experience. Conflicts between rafters and private landowners have resulted in the river in Segment B being closed to boater passage. There are some historical and cultural features along this segment but none are outstanding. There are no outstanding wildlife, geologic or other values that would qualify this segment as being eligible.

Segment C from the Red Bridge Campground to Blue Mesa Reservoir was also found to be ineligible for inclusion. It is more or less free flowing along the 5.2 miles of its length but extensive riprapping has occurred along the railroad bed which later became a gravel road for vehicle traffic. This segment lacks values that are outstandingly remarkable. Scenic values are good but not significant or unusual in a regional or national context. Recreation values are good, primarily focused on fishing and rafting, but again not regionally significant. There are historic values in the form of remnants of temporary railroad camps used by workers who built the spur around 1890. These have been thoroughly inventoried by BLM and Park Service archaeologists and interpretive signs have been installed at several locations along the road. Still, these sites are not unique or particularly significant. The Canyon contains good breeding populations of brown and rainbow trout and a small herd of bighorn sheep. Otherwise there are no special fish or wildlife values and no threatened or endangered species. In summary there are several attractive resource values in this segment, but none that could be considered outstandingly remarkable in a regional or national context.

Classification Determination

All eligible segments must be classified according to the category (wild, scenic, or recreational) that best fits each eligible segment. Classification is based on the degree of naturalness and the extent of development on the river and its adjacent lands as they exist at the time of the study.

Classifying an eligible segment as wild, scenic, or recreational does not segregate or withdraw the subject lands, but rather recommends or suggests the level of interim management for Federal land in the study area until a decision regarding designation is made, in the case of segments found "suitable for designation". If Congress designates a river or river segment, the segment would be managed according to how it is classified. Congress may classify a river segment at or below the highest level for which it qualifies. Specific management strategies may vary according to classification, but would be designed to protect and enhance the outstandingly remarkable

values of the river area. These specific management strategies are formulated during development of the management plan, required within 3 full fiscal years of designation.

Since only Segment A of the Lake Fork was found to be eligible for study, only that segment was classified. The main criteria considered are impoundments, diversions, roads, bridges, shoreline development and evidence of human activity. The river segment was analyzed using these criteria.

Impoundments affect Segment A at Sloan Lake in the upper part of American Basin. The outlet of the lake has been artificially raised to impound more water than the natural outlet would allow. In Burrows Park a diversion removes water to fill a small lake on private land. Another diversion downstream near Wager Gulch fills a moderately sized lake on private land.

Beginning at river mile 0.75 a road parallels the entire length of this segment. There is a wet, or low-water crossing of the river in American Basin. Bridges cross the river near Sherman and at the Mill Creek Campground. The road ranges from 20 to 1000 feet from the river but averages about 100 to 150 feet from the river throughout this segment.

Human activity and development are evident in many places along the river and throughout the corridor. These include a dozen mining exploration pits, at least seven major mine developments, about a dozen modern buildings and another dozen historic buildings. There is a 22-unit campground adjacent to the river and a potential recreational housing development with multiple homesites on the private land just east of Bent Creek.

Cumulatively, the above intrusions and disturbances diminish the natural and primitive nature of the river and the study corridor. Based on the above analysis the recreational classification would be most appropriate for this segment.

Suitability Determination

This section of the study report contains a discussion of eight suitability factors in relationship to the 13.3 mile Segment A. These factors are contained in previously mentioned documents. The determination of suitability provides the basis to recommend designation or nondesignation of the river.

BLM's evaluation of Segment A regarding the eight suitability factors, and the determination of suitability or non-suitability for potential inclusion of Segment A into the National Wild and Scenic Rivers system follow:

1. Characteristics that do or do not make the area a worthy addition to the National Wild and Scenic Rivers System.

The outstandingly remarkable characteristic that qualifies this river segment as being eligible for inclusion is the superb scenery in this high mountain valley. The scenery is outstanding in the river corridor but the river itself plays only a small part in this scenic quality. Recreation use is moderate to heavy in the river corridor but very little use is focused on the river itself. There is no recreational boating and no significant fishery resource associated with this segment. As a result the outstanding values in this segment are not river dependent. These values are recognized and partly protected in other ways such as the "Loop Road" scenic withdrawal (C-0125423, 330 acres in Segment A), the Alpine Loop National Backcountry Byway (11.05 miles in Segment A), WSA interim management policy for Redcloud and Handies Peak WSA's, and the Alpine Triangle Special Recreation Management Area. The preferred alternative for the current RMP recognizes and manages for the recreation values in this area and focuses particular attention on protecting the outstanding scenery along about 2-1/4 miles of the headwaters of the segment in the proposed American Basin Area of Critical Environmental Concern (ACEC).

Because the outstanding values are not river dependent the BLM does not feel this segment would make a worthy addition to the National Wild and Scenic Rivers System. The segment would continue to be protected with other management tools.

2. Current status of landownership, use in the area, including the amount of private land involved and associated or conflicting uses.

Segment A contains approximately 4,960 acres of which 4,315 acres (87%) are federal land managed by the BLM. The remaining 645 acres (13%) are not public land. Non-federal mineral estate underlies 332 acres of federal surface. About 85% (3,668 acres) of the federal mineral estate has a high potential for the occurrence of locatable minerals while the remaining 15% has moderate potential. Much mineral exploration and exploitation has occurred within the segment, both on public and private land. That activity has ceased almost entirely. Approximately 3,300 acres in Segment A are contained in WSA's of which 2,357 acres have been recommended for designation as wilderness. Values on an additional 330 acres within the study segment are protected by the "Loop Road" scenic withdrawal along the Alpine Loop National Backcountry Byway. The BLM's Interim Management Policy for Lands under Wilderness Review, the proposed American Basin ACEC, and other special management attention within the segment restrict or constrain surface disturbance on the affected lands, and go a long way toward protecting the scenic and recreational values of the river and lands in the segment. These management situations do nothing to protect the integrity of the values in the segment on private lands. While there is little mining activity occurring on these lands, there is considerable activity in the construction of recreational homesites. If this segment is designated the Bureau would hope to mitigate these impacts by purchasing private inholdings from willing sellers. In past years attempts to purchase inholdings in this area have been relatively unsuccessful. Landowners habitually expect to get more than fair market value for their land, which makes it difficult, if not impossible, to negotiate satisfactory arrangements. In addition, many of the properties already have houses developed on them. It is unlikely the government could afford to acquire these capital improvements only to tear them down to maintain the integrity of the segment. The segment is manageable without acquisition of private inholdings, but the integrity of the values would continue to decline in direct proportion to the amount of private land within it and development that occurs on that land.

3. Subject to valid existing rights, the reasonably foreseeable potential uses of the land and related waters, which would be enhanced, foreclosed, or curtailed if the area were included in the National Wild and Scenic Rivers system, and the values which could be foreclosed or diminished if the area is not protected as part of the system.

The potential development of the 3,992 acres of federal mineral estate in Segment A that are not withdrawn would not be precluded as a result of designation. Most discretionary actions would be curtailed or precluded, subject to valid existing rights or RMP decisions. Existing water rights would not be effected by designation of this "headwater" segment, since an objective of designation would be to maintain instream flows and a free-flowing condition of water in the river course. Acquisition of upstream water rights would not be considered in the case of designation.

It is not anticipated that any values would be diminished or foreclosed if the segment is not designated. Locatable mineral development is currently precluded in the segment within protective withdrawal C-0125423 (330 acres). Required compliance with BLM's 43 CFR 3802 regulations currently curtails locatable mineral development in the segment within 3,300 acres still subject to wilderness review in the Handies Peak and Red Cloud Peak WSAs. Existing legislation prohibits mineral leasing on the lands in WSA's. Discretionary actions are also curtailed in the lands under wilderness review as a result of necessary compliance with BLM's wilderness interim management policy. Discretionary actions in the entire segment are also curtailed by the requirement to meet mitigation and recreation management objectives in the Alpine Triangle SRMA Recreation Area Management Plan (RAMP). Special management attention is also required for maintenance of scenic and recreation values along the Alpine Loop National Back Country Byway (11.05 miles in Segment A). Potential mineral leasing and locatable mineral activity would also be precluded on federal mineral estate in the proposed

American Basin ACEC in Segment A (1,590 acres under federal surface). The ACEC designation and associated management objectives would emphasize special management attention for existing values.

4. Public, State, local, or Federal interest in designation of the river, including the extent to which the administration of the river, including the costs thereof, may be shared by State, local, and other agencies and individuals.

Public input on recommendations for W&SR designation or non-designation will be accomplished with the release of the draft RMP. Comments received during that process will be analyzed and included in the proposed RMP.

In about 1980 National River Inventory personnel looked at the Lake Fork as one unit. They found it had a fairly high number of points on their cultural development scoring sheet (4,158) but still could contain significant values. They chose to place the river in Category II which contains rivers that may have significant values but which did not receive the broad public support expressed for rivers on the NRI final list.

In 1980 the Colorado Division of Wildlife (CDOW) wrote a letter to BLM stating that the Lake Fork possessed outstandingly remarkable scenic, fishery and wildlife values.

In 1989 Lisa Stein of the University of Colorado Wilderness Study Group submitted a detailed report entitled "Proposal to Designate the Lake Fork of the Gunnison as a Wild and Scenic River". The group studied the entire river as a unit rather than in segments. The group's report did not analyze eligibility, but did discuss classification. Their recommendation was that the entire river was suitable for designation or inclusion with a classification of wild for the first 3/4 mile and recreational for the rest of the river. According to the cover letter, their recommendation was endorsed by the Colorado Environmental Coalition.

The Hinsdale County government has not officially expressed their opinion on, or reacted to a W&SR proposal. Their public opposition to further wilderness designations in Hinsdale County suggests they would not look favorably on another protective withdrawal that could accompany a W & SR designation. One major concern within the county is the small tax base resulting from the amount of public land (96%) in the county. Because there is so little private land on which taxes can be collected there would undoubtedly be opposition to any attempts by the BLM to acquire private lands in the segment and remove them from the tax base whether developed or undeveloped.

There has been no interest expressed in assisting the BLM to carry out management of the river segment, although Hinsdale County has provided excellent assistance with the BLM's recreation goals for the Back Country Byway and the general area. The CDOW would want to continue their management efforts for cutthroat trout in Sloan Lake and the upper part of the drainage.

5. Estimated cost of acquiring necessary lands and interests in lands and of administering the area if it is added to the system.

The study segment could be managed as it is without acquiring private lands. The ability of BLM to maintain the integrity of the resources in the segment would be enhanced by acquiring these inholdings. The cost of acquiring the lands and improvements to place in federal ownership the W&SR values in Segment A would likely be prohibitively expensive. Approximately 645 acres of private land would be involved with an average cost of $1000 to $2000 per acre. There are about 8 habitable structures in the segment with values ranging from $50,000 to $200,000. Costs for purchasing fee title to land and improvements would probably exceed 2 million dollars. If BLM instead tried to purchase conservation easements or scenic easements the cost would be less but still prohibitive. If BLM opted not to acquire private inholdings, current trends suggest that some changes would occur but values in the segment would not deteriorate drastically.

The cost of administering the area would be minimal because it is already part of the high priority Alpine Triangle SRMA. Since very little recreation use is focused on the river in Segment A

there would be no need for additional facilities or access.

6. Ability of the agency to manage the river area or segment as a Wild and Scenic River.

Because of the current attention paid to recreation management in this general area it would be relatively simple for the BLM to incorporate considerations to maintain or protect values within current management. If designated, the management plan could incorporate cooperative agreements with private landowners regarding the management of values in the segment. This approach would be preferred in lieu of fee simple acquisition or the acquisition of easements. Some landowners could be willing participants while others would not.

7. Historical or existing rights which would be adversely affected as to foreclose, extinguish, curtail, infringe, or constitute a taking that would entitle the owner to just compensation if the area were included in the National Wild and Scenic Rivers System. In the suitability analysis, adequate consideration will be given to rights held by owners, applicants, lessees, or claimants.

No existing rights have been identified in the study segment that would be adversely affected as a result of designation. Existing private property rights would be completely unaffected. Land purchases, exchanges or easement acquisitions would be carried out only with willing sellers. Unpatented mining claims would predate W&SR designation and thus would remain valid as long as proper diligence and filing are kept up. No new mining claims would be allowed within the corridor.

Very few water rights are present in this segment, and none would be negatively affected by designation. The Colorado Water Conservation Board maintains a perpetual right for instream flow on the Lake Fork to maintain fisheries habitat. From Sloan Lake to Cottonwood Creek that flow is 18 cubic feet per second (CFS). From Cottonwood Creek to Henson Creek the reserved flow is 20 CFS from October through April and 35 CFS from May through September. This right has a priority date of 1980 which makes it the senior right on that part of the river. As a result, a protection of instream flow and the associated river values is already in place. It is not likely that W&SR status would offer additional protection for this resource.

8. Other issues and concerns identified in the land-use planning process.

No other major issues or concerns have been identified in the land use planning process. It is possible that other issues or concerns would be identified during the public comment period for the draft RMP/EIS. Those comments and concerns will be taken into consideration, along with all the others that we receive, during preparation of the PRMP/Final EIS.

SUITABILITY DETERMINATION SUMMARY

Segment A was the only one of the three segments studied that was determined to be eligible for study. It was classified in a recreational category. This was the only segment for which a suitability determination was done. Compatibility of the existing situation with Federal designation, analysis of alternative management strategies and reasonably foreseeable potential effects of designation on the management and protection of the land and resources in the Upper Lake Fork corridor were used to determine suitability of the river for inclusion in the National Wild and Scenic Rivers System.

About 87% of the land in the segment is managed by BLM. Activities on private land are expected to somewhat alter the natural setting of the corridor primarily through the development of recreational homesites. The cost of acquiring these private inholdings would be prohibitive and probably strongly opposed by local government due to the impact on the county's already small tax base.

The outstandingly remarkable scenic values which qualify the corridor for study are more a factor of the surrounding San Juan Mountains than a result of the river itself. The river plays a relatively small part in the overall scenic values of the area. These scenic values are already afforded significant protection through the Loop Road scenic withdrawal, the Redcloud and Handies Peak

Wilderness Study Areas, the Recreation Area Management Plan and the State of Colorado reservation of instream flows. Designation as a Recreational component of the Wild and Scenic River system would not offer any significant improvement in the protection of this area's outstanding scenery.

For these reasons BLM has determined that Segment A of the Lake Fork of the Gunnison River would not be a worthy addition to the system and is not suitable for inclusion in the National Wild and Scenic Rivers System.

INTERIM MANAGEMENT

Because no segment of the Lake Fork was found suitable for Wild and Scenic status no interim management is necessary to protect the river corridor. The area will continue to be protected by existing management of the Wilderness Study Areas, the Loop Road scenic withdrawal, the Alpine Loop National Backcountry Byway and the Recreation Area Management Plan for the Alpine Triangle SRMA.

Attachment 1

BLM GUIDELINES FOR WILD AND SCENIC RIVER DETERMINATION OF SUITABILITY

The following is taken from the BLM's August 1988 Guidelines for Fulfilling Requirements of the Wild and Scenic Rivers Act of September 1968

1. Determination of Suitability: the Determination of suitability is the third step in the river assessment and evaluation process for section 5 (a) and 5 (d) rivers. This step provides the basis for the decision to recommend designation or nondesignation of an eligible river based on the resource alternatives studied in detail in the RMP, associated EIS, and related information developed during resource management planning.

a. RMP Preference: Where possible, it is advantageous to carry the river assessment through the suitability determination and make that decision in the RMP. If a suitability determination is deferred on those rivers where the BLM has primary responsibility, the RMP must prescribe the protection (interim management prescriptions) to be provided for the river and adjacent public land area pending the suitability recommendation and, when necessary, subsequent action by the Congress. In order to provide realistic interim management prescription, the RMP should document the classification category of the appropriate segment(s) (wild, scenic, and/or recreation), independent of the suitability or nonsuitability recommendation. the projected schedule for completing the study, recommendation concerning suitability, and other information will be set forth in the RMP also. (See VIII.B.s.).

b. Eligible Rivers: All eligible river segments are evaluated for suitability using the BLM resource management planning process (except where study is deferred or where a legislatively mandated study requires an earlier deadline be met). Eligible W & S rivers, which are determined nonsuitable for designation, can be released from further study only by State Directors through the RMP record of decision. For suitable W & S rivers, a separate appendix to the RMP and EIS document is encouraged for ease in preparing the W & S river study report/record of decision to Congress. Where a suitability determination cannot be made in the RMP, a separate legislative final EIS will be required as part of a separate study reporting package (and plan amendment) to make that determination. Some factors to consider in the suitability determination include, but are not limited to:

1. Characteristics that do or do not make the area a worthy addition to the National Wild and Scenic Rivers System.

2. Current status of landownership, use in the area, including the amount of private land involved and associated or conflicting uses.

3. Reasonably foreseeable potential uses of the land and related waters, which would be enhanced, foreclosed, or curtailed if the area were included in the National Wild and Scenic Rivers system, and the values which could be foreclosed or diminished if the area is not protected as part of the system.

4. Public, State, local, or Federal interest in designation of the river, including the extent to which the administration of the river, including the costs thereof, may be shred by State, local, or other agencies and individuals.

5. Estimated cost of acquiring necessary lands and interests in lands and of administering the area if it is added to the system.

6. Ability of the agency to manage the river area or segment as a W&S river.

7. Historical or existing rights which would be adversely affected as to foreclose, extinguish, curtail, infringe, or constitute a taking that would entitle the owner to just compensation if

the area were included in the National Wild and Scenic Rivers System. In the suitability analysis, adequate consideration will be given to rights held by owners, applicants, lessees, or claimants.

8. Other

c. Noneligible Rivers

1. BLM 5 (d) W & S River Studies: Studies or rivers under this Section of the Act will be discontinued upon finding of noneligibility in the BLM resource management planning process or subsequent W & S river study. In RMPs, the documentation supporting the eligibility assessment will normally be put in an appendix to either the RMP or the associated EIS.

2. Legislatively Mandated Studies: If a section 5 (a) study river is found to be non eligible, the WSR river study report/record of decision should describe the basis for the noneligibility determination. The report should then be submitted to the Congress in accordance with section 7 (b) and the Secretary of the Interior shall publish a notice in the Federal Register 180 days after congressional notification that such a determination has been made. This notice should also include a reference to termination of related NEPA compliance action, thereby concurrently terminating activities for which a notice of intent had earlier been published.

APPENDIX J
SPECIAL STATUS PLANT AND ANIMAL SPECIES AND HABITAT

FEDERAL STATUS CATEGORIES FOR TAXA BEING CONSIDERED FOR ADDITION TO THE LIST OF ENDANGERED AND THREATENED WILDLIFE

The Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) requires determination of whether species of wildlife and plants are endangered or threatened based on the best available scientific and commercial data. For many years, the U.S. Fish and Wildlife Service has been gathering data on taxa of animals (fishes, amphibians, reptiles, birds, mammals, sponges, crustaceans, arachnids, insects, snails and bivalve mollusks), native to the United States that have appeared at least at times, to merit consideration for addition to the List of Endangered and Threatened Wildlife. These taxa are assigned to one of the three categories described below. Unless it is the subject of a current published proposed or final rule determining endangered or threatened status, none of these taxa receives substantive or procedural protection pursuant to the Act (those species that are the subject of a proposed or final rule are removed from this list at each periodic updating).

1. Taxa for which the Service has on file enough substantial information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species. Also included in category 1 are taxa of known vulnerable status in the recent past that may already have become extinct. These plants retain a high priority for addition to the List, if extant populations are confirmed.

2. Taxa for which there is some evidence of vulnerability but for which there are not enough data to support listing proposals at this time. Further biological research and field study usually will be necessary to ascertain the status of the taxa in category 2 and some of the taxa are of uncertain taxonomic validity. It is likely that some category 2 candidates will not warrant listing while others will be found to be in greater danger of extinction than some taxa in category 1.

3. Taxa that once were considered for listing as threatened or endangered but are no longer under such consideration are included in category 3. Taxa in category 3 are not candidates for listing. Such taxa are further divided into three subcategories, to indicate the reason(s) for their removal from consideration:

3A. Taxa for which the Service has persuasive evidence of extinction. If rediscovered, such taxa might acquire high priority for listing. At this time, however, the best available information indicates that the taxa in this subcategory or the habitats from which they were known, have been lost.

3B. Names that, on the basis of current taxonomic understanding (usually as represented in published revisions and monographs), do not represent distinct taxa meeting the Act's definition of "species". Such supposed taxa could be reevaluated in the future on the basis of new information.

3C. Taxa that have proven to be more abundant or widespread than previously believed and/or those that are not subject to any identifiable threat. If further research or changes in habitat indicate a significant decline in any of these taxa they may be reevaluated for possible inclusion in categories 1 or 2.

BLM SENSITIVE SPECIES

Sensitive species are those designated by a State Director, usually in cooperation with the State agency responsible for managing the species, as sensitive. They are those species that are: (1) under status review by the USF&WS; or (2) whose numbers are declining so rapidly that Federal listing may become necessary; or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats. If sensitive species are designated by a State Director, the protection provided by the policy for USF&WS candidate species shall be used as the minimum level of protection.

APPENDIXES

STATE OF COLORADO PLANT SPECIES OF SPECIAL CONCERN

The "State Concern" status in Table 2-13 refers to a list of plant species maintained by the Colorado Natural Areas Program, Division of Parks and Outdoor Recreation. The species on this list are divided into four categories and are defined as follows:

List 1 - Federal threatened or endangered plant species and species that are rare throughout their range, including a number of species which only occur in Colorado; plant species presumed extinct;

List 2 - Plant species presumed extirpated from Colorado; plant species which are rare in Colorado but relatively common elsewhere within their range;

List 3 - Plant species which appear to be rare but for which conclusive information is lacking;

List 4 - Plants of limited distribution or special interest which appear secure at this time.

State laws protecting these species apply to all BLM programs and actions to the extent that they are consistent with FLPMA and other Federal laws. In states where state government has designated species in categories that imply local rarity, endangerment, extirpation, or extinction, the State Director develops policies that will assist the state in achieving management objectives for those species on the various lists above.

APPENDIX K

OIL AND GAS STIPULATIONS

The following stipulations would be added, as prescribed in the various alternatives in this plan, to future oil and gas leases on both Federal surface and split-estate lands. The actual wording of these stipulations may be adjusted at the time of leasing to reflect future legislation, court decisions, or policy changes; however, the protection standards in these stipulations would be maintained. Any change to the protection content of the stipulation would require an amendment to the RMP/EIS. A summary table of these stipulations and alternatives is found on page K-1.

Stipulations for Alternative A, the Continuation of Current Management Alternative, are found on page K-2, and have been inserted exactly as they appear in the Gunnison River Basin Oil and Gas Umbrella Environmental Assessment, 1982.

No surface occupancy (NSO), timing limitation (TL), and controlled surface use (CSU) stipulations for Alternatives B, C, D and E (Preferred Alternative) are contained in pages K-3 through K-9 with the applicable alternatives noted.

APPENDIX K

Table K-1

OIL AND GAS STIPULATION SUMMARY BY TYPE AND ALTERNATIVE

RESOURCES OR VALUES PROTECTED BY STIPULATION	TYPE OF STIPULATION AND APPLICABLE ALTERNATIVES		
	NSO[1]	TL[1]	CSU[1]
Special Status Plants in South Beaver Creek ACEC	B,D,E		
Special Status invertebrates in Redcloud Peak ACEC	D,E		
Special Status invertebrates	B		
Paleontological and Archaeological values in Haystack Cave ACEC	D		
Scenic Values in American Basin ACEC	E		
Scenic Values in Dillon Pinnacles ACEC	E		
Geological mass wasting phenomenon in Slumgullion Earthflow National Natural Landmark ACEC	E		
Bald eagle concentration areas and perch trees in certain riparian areas	D		
Recreation and Scenic values in Alpine Triangle SRMA	B,D,E		
Recreation and Scenic values in Cochetopa Canyon SRMA	B,E		
Elk and deer crucial winter range in certain riparian areas	D		
Elk, deer, pronghorn antelope, and bighorn sheep crucial winter range		A,B,D,E	
Elk calving areas		A,B,D,E	
Bighorn sheep lambing areas	D	D	
Bighorn sheep habitat	D,E		
Riparian vegetation and sage grouse brood-rearing habitat in certain riparian areas	D	B	E
Sage grouse lek sites	B		
Sage grouse strutting area within 1/4 mile radius of lek sites	E	A,B,D	

Notes:
[1] NSO = No Surface Occupancy; TL = Timing Limitation or seasonal stipulation; CSU = Controlled surface use stipulation

STIPULATIONS FOR ALTERNATIVE A (CONTINUATION OF CURRENT MANAGEMENT ALTERNATIVE) (as contained in the Gunnison River Basin Oil and Gas Umbrella EA, 1982)

1. Mule Deer, Pronghorn and Elk Critical Winter Ranges

Stipulation: In order to protect important seasonal wildlife habitat, exploration, drilling, and other development activity will be allowed only during the period from May 1 to November 30. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the District Oil and Gas Supervisor, Mineral Management Service, with the concurrence of the District Manager, Bureau of Land Management.

Narrative: These areas are critical mule deer, pronghorn, and elk winter ranges. These key concentration areas support and sustain a large percentage of the total wintering populations. They are extremely important for animal survival during winters of harsh weather conditions. Disturbances may place unnecessary stress on the wintering big game herds and cause an increase in mortality. See EA pages 31, 43, 44, 52 and Maps 1 and 2.

2. Elk Calving Area

Stipulation: In order to protect important seasonal wildlife habitat, exploration, drilling, and other development activity will be allowed only during the period from July 16 to April 14 on elk calving areas. a This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation on any year may be specifically authorized in writing by the District Oil and Gas Supervisor, Mineral Management Service, with the concurrence of the District Manager, Bureau of Land Management.

Narrative: These important areas have been identified by the BLM and DOW. The reproductive season is a crucial period in the life cycle of these species. Disturbances during this period may create unnecessary stress and reduce the herd productivity. See EA pages 31, 43, 44, 52 and Maps 1 and 2.

3. Sage Grouse Strutting Grounds

Stipulation: In order to protect important seasonal wildlife habitat, exploration, drilling, and other development activity will be allowed only during the period from May 16 to March 31. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the District Oil and Gas Supervisor, Mineral Management Service, with the concurrence of the District Manager, Bureau of Land Management.

Narrative: Strutting activities are a crucial period in the life cycle of sage grouse. Human disturbances or harassment during this time may disrupt the breeding cycle and result in a population decline. See EA pages 32, 43, 45, 52 and Map 2.

STIPULATIONS FOR ALTERNATIVES B,D, AND/OR E (PREFERRED ALTERNATIVE)

NO SURFACE OCCUPANCY STIPULATION (Alternatives B,D&E)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: Protecting the threatened, endangered, candidate, sensitive, or Colorado listed plants and their potential habitat within the South Beaver Creek Area of Critical Environmental Concern (ACEC); Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that operations can be conducted without causing unacceptable impacts on threatened, endangered, candidate, sensitive, or Colorado listed plants and their potential habitat.

This stipulation may be waived by the Authorizing Officer only upon a determination that threatened, endangered, candidate, sensitive, or Colorado listed plants and their potential habitat do not exist within the lease.

NO SURFACE OCCUPANCY STIPULATION (Alternatives D & E)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: Protecting threatened, endangered, candidate, sensitive, or Colorado listed invertebrates and their occupied and potential habitat within the Redcloud Peak Area of Critical Environmental Concern (ACEC) or on the lands described above; Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that operations can be conducted without causing unacceptable impacts on threatened, endangered, candidate, sensitive, or Colorado listed invertebrates or their occupied or potential habitat.

This stipulation may be waived by the Authorizing Officer only upon a determination that threatened, endangered, candidate, sensitive, or Colorado listed invertebrates or their occupied or potential habitat do not exist within the lease.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provision for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative B)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: Protecting threatened, endangered, candidate, sensitive, or Colorado listed invertebrates and their occupied and potential habitat or on the lands described above; Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that operations can be conducted without causing unacceptable impacts on threatened, endangered, candidate, sensitive, or Colorado listed invertebrates or their occupied or potential habitat.

This stipulation may be waived by the Authorizing Officer only upon a determination that threatened, endangered, candidate, sensitive, or Colorado listed invertebrates or their occupied or potential habitat do not exist within the lease.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provision for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative D)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: Protecting paleontological and archaeological resources within the Haystack Cave Area of Critical Environmental Concern (ACEC); Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if appropriate mitigation would occur as the result of accredited paleontological/archaeological excavations and/or studies approved by the Authorized Officer.

This stipulation may be waived by the Authorizing Officer only upon a determination that significant paleontological or archaeological resources do not exist on the lease.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative E)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: protecting scenic and other natural resources and existing related recreation opportunities in the American Basin Area of Critical Environmental Concern (ACEC); Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that operations can be conducted without causing unacceptable impacts to the scenic and other natural values and related recreation opportunities.

This stipulation may be waived by the Authorizing Officer only upon a determination that the scenic and other natural values and related recreation opportunities identified in the Gunnison Resource Management Plan are no longer present.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative E)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: protecting scenic and other natural resources and existing related recreation opportunities in the Dillon Pinnacles Area of Critical Environmental Concern (ACEC); Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that operations can be conducted without causing unacceptable impacts to the scenic and other natural values and related recreation opportunities.

This stipulation may be waived by the Authorizing Officer only upon a determination that the scenic and other natural values and related recreation opportunities identified in the Gunnison Resource Management Plan are no longer present.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative E)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: protecting the geological mass-wasting phenomenon in the Slumgullion Earthflow National Natural Landmark Area of Critical Environmental Concern (ACEC); Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that operations can be conducted without causing unacceptable impacts to the geological mass wasting phenomenon.

This stipulation may be waived by the Authorizing Officer only upon a determination that the mass wasting phenomenon is no longer occurring.

Any changes to this stipulation will be made in accordance with the land use plan and/or regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative D)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: Protecting bald eagle concentration areas and perch trees in certain riparian zones from activities which would cause abandonment or force bald eagles into less suitable areas; Gunnison Resource Management (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that these concentration areas are (1) not being utilized and are expected to remain in such condition because of temporary change in climate and/or habitat, and (2) operations can be conducted, which avoid damaging perch trees.

This stipulation may be waived by the Authorizing Officer only upon a determination that bald eagle concentration areas do not exist within the lease.

NO SURFACE OCCUPANCY STIPULATION (Alternatives B,D,&E)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: Protecting the Primitive, Semi-Primitive Non-Motorized, Semi-Primitive Motorized and Roaded Natural recreation and scenic values within the Alpine Triangle Special Recreation Management Area (SRMA); Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorized Officer that operations can be conducted without causing unacceptable impacts to the recreation, visual, or scenic values.

This stipulation may be waived by the Authorizing Officer only upon a determination that the special recreation and visual or scenic values identified in the Gunnison Resource Management Plan are no longer present.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternatives B & E)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: Protecting the Roaded Natural recreation and scenic values within the Cochetopa Canyon Special Recreation Management Area (SRMA); Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that operations can be conducted without causing unacceptable impacts to the recreation and visual or scenic values.

This stipulation may be waived by the Authorizing Officer only upon a determination that the special recreation and visual or scenic values identified in the Gunnison Resource Management Plan are no longer present.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative D)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: Protecting crucial elk and deer winter range within certain riparian areas from activities that would alter the productivity or suitability of these areas as crucial big game winter range; Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorized Officer that the winter range is (1) not being utilized and is expected to remain in such a condition because of a temporary change in climate and/or habitat, and (2) operations can be conducted in such a manner as to avoid altering vegetation, topography, slope, aspect, and escape cover on these lands.

This stipulation may be waived by the Authorized Officer only upon a determination that the described lands are no longer considered to be elk or deer crucial winter range.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative D)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: Protecting lambing areas selected by bighorn sheep for topography, slope, aspect, and escape cover; Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorized Officer that the lambing area is (1) not being utilized and is expected to remain in such condition because of a temporary change in climate and/or habitat, and (2) operations can be conducted, which avoid a change in the topography, slope, aspect, and escape cover.

This stipulation may be waived by the Authorized Officer only upon a determination that bighorn sheep lambing areas do not exist within the lease.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternatives D & E)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: protecting bighorn sheep and their habitat selected because of topography, slope, aspect, and escape cover from disturbances that would alter the productivity or suitability of these areas as important bighorn sheep range; Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorized Officer that the bighorn sheep range is (1) not being utilized and is expected to remain in such condition because of a temporary change in climate and/or habitat, and (2) operations can be conducted in such a manner as to avoid altering vegetation, topography, slope, aspect, and escape cover on these lands.

This stipulation may be waived by the Authorizing Officer only upon a determination that the described lands are no longer considered to be important bighorn sheep range.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative D)

No surface occupancy or use is allowed on the lands described below:

For the purpose of protecting sage grouse brood rearing habitat in certain riparian areas from activities that would remove this habitat and force sage grouse into less suitable areas; Gunnison Resource Management Plan (Pages).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that the sage grouse brood-rearing habitat is (1) not being utilized and is expected to remain in such a condition because of a temporary change in climate and/or habitat, and

(2) operations can be conducted in such a manner as to avoid altering the vegetation, topography, and sage grouse escape cover.

This stipulation may be waived by the Authorized Officer only upon a determination that sage grouse no longer use these riparian zones as brood-rearing habitat.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative B)

No surface occupancy or use is allowed on the lands described below:

For the purpose of: protecting a five-acre area surrounding sage grouse lek sites from destruction or disturbance that would force strutting grouse into less desirable sites or that would interfere with mating processes; Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the Authorizing Officer that operations can be conducted without disturbing or destroying lek sites or vegetation, topography, or other values that contribute to these sites being selected by strutting grouse.

This stipulation may be waived by the Authorizing Officer only upon a determination that strutting sage grouse no longer use these lek sites.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

NO SURFACE OCCUPANCY STIPULATION (Alternative E)

No surface occupancy or use is allowed within one-quarter mile of sage grouse lek sites strutting areas. Known lek sites are described or identified below:

For the purpose of protecting these areas from disturbances that would force strutting sage grouse onto less desirable sites, or disturbances that would interfere with mating processes, or disturbances that could result in lek site destruction.

The NSO area may be altered depending upon the active status of the lek or geographical relationship of topographical barriers and vegetation screening to the lek site.

TIMING LIMITATION STIPULATION (Alternatives B, D, & E)

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

December 1 through April 30

On the lands described below:

For the purpose of: Protecting crucial elk, deer, pronghorn antelope, or bighorn sheep winter range from activities that would cause these species to abandon areas of crucial winter cover and forage for less suitable ranges; Gunnison Resource Management Plan (Page).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorized Officer that the crucial winter range is (1) not being utilized and is expected to remain in such a condition because of a temporary change in climate and/or habitat, or that (2) impacts can be mitigated to avoid the abandonment of crucial winter cover and forage.

This stipulation may be waived by the Authorized Officer only upon a determination that crucial winter range does not exist within the lease.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

TIMING LIMITATION STIPULATION (Alternatives B,D&E)

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

April 16 through June 30

On the lands described below:

For the purpose of protecting elk-calving areas from activities which would force elk into less suitable areas during the calving season; Gunnison Resource Management Plan (Pages).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that the elk-calving area is (1) not being utilized and is expected to remain in such a condition because of a temporary change in climate and/or habitat, or that (2) impacts can be mitigated to result in avoiding disturbance to elk during calving season.

This stipulation may be waived by the Authorized Officer only upon a determination that elk-calving areas do not exist within the lease.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

TIMING LIMITATION STIPULATION (Alternative D)

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

April 15 through June 15

On the lands described below:

For the purpose of protecting bighorn sheep lambing areas from activities which would force sheep into less suitable areas during the lambing season; Gunnison Resource Management Plan (Pages).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that the bighorn sheep lambing area is (1) not being utilized and is expected to remain in such a condition because of a temporary change in climate and/or habitat, or that (2) impacts can be mitigated to result in avoiding disturbance to bighorn sheep during lambing season.

This stipulation may be waived by the Authorized Officer only upon a determination that bighorn sheep lambing areas do not exist within the lease.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

TIMING LIMITATION STIPULATION (Alternative B)

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

July 1 through September 13

On the lands described below:

For the purpose of protecting sage grouse brood rearing habitat in certain riparian areas from activities which would force grouse, including young chicks, into less suitable areas during the critical brood-rearing season; Gunnison Resource Management Plan (Pages).

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that the sage grouse brood-rearing habitat is (1) not being utilized and is expected to remain in such a condition because of a temporary change in climate and/or habitat, or that (2) impacts can be mitigated to result in avoiding disturbance to sage grouse, including young chicks.

This stipulation may be waived by the Authorized Officer only upon a determination that sage grouse brood habitat does not exist within the lease.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

TIMING LIMITATION STIPULATION (Alternatives B & D)

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities.

April 1 through May 31

On the lands described below:

For the purpose of protecting sage grouse strutting areas within 1/4 mile of leks from activities which would force nesting grouse into less suitable areas during the critical nesting season.

An exception to this stipulation may be approved if it can be demonstrated to the satisfaction of the Authorizing Officer that lek(s) or strutting habitat is (1) not being utilized and is expected to remain in such a condition because of a temporary change in climate and/or habitat, or that (2) impacts can be mitigated to result in avoiding disturbance to nesting grouse during the nesting season.

This stipulation may be waived by the Authorized Officer only upon a determination that lek(s) or strutting habitat does not exist within the lease.

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

CONTROLLED SURFACE USE STIPULATION (Alternative E)

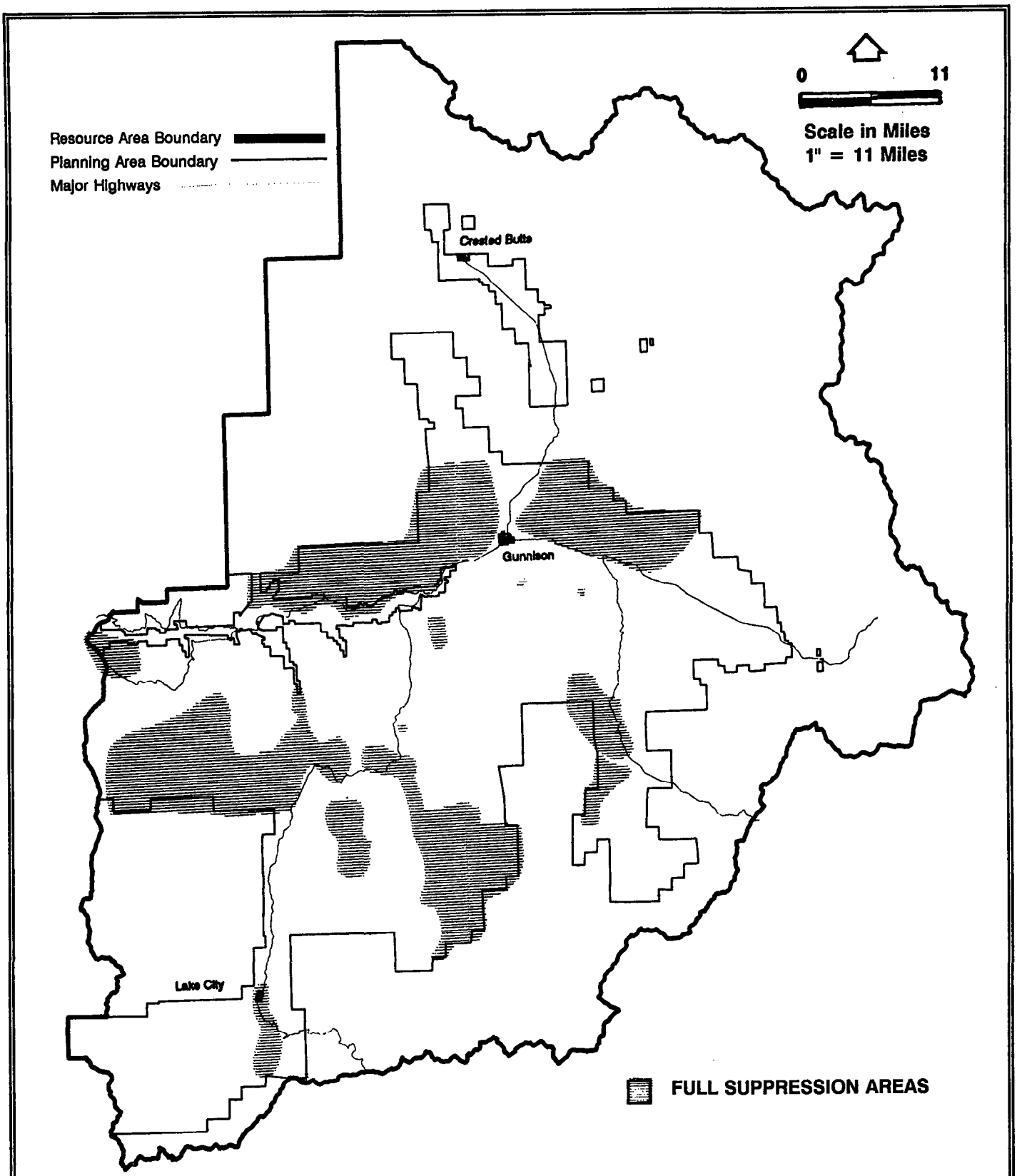
Activities associated with oil and gas exploration and development including roads, transmission lines, storage facilities, are restricted to an area beyond 500 feet of the riparian vegetation zone on the lands described below (for clarification, the 500 foot restriction starts at the point between riparian vegetation and upland vegetation):

For the protection of perennial water impoundments and streams, and/or riparian/wetland vegetation zone, important sage grouse brood-rearing habitat, and fish use, water quality, and other related resource values; Gunnison Resource Management Plan (Page).

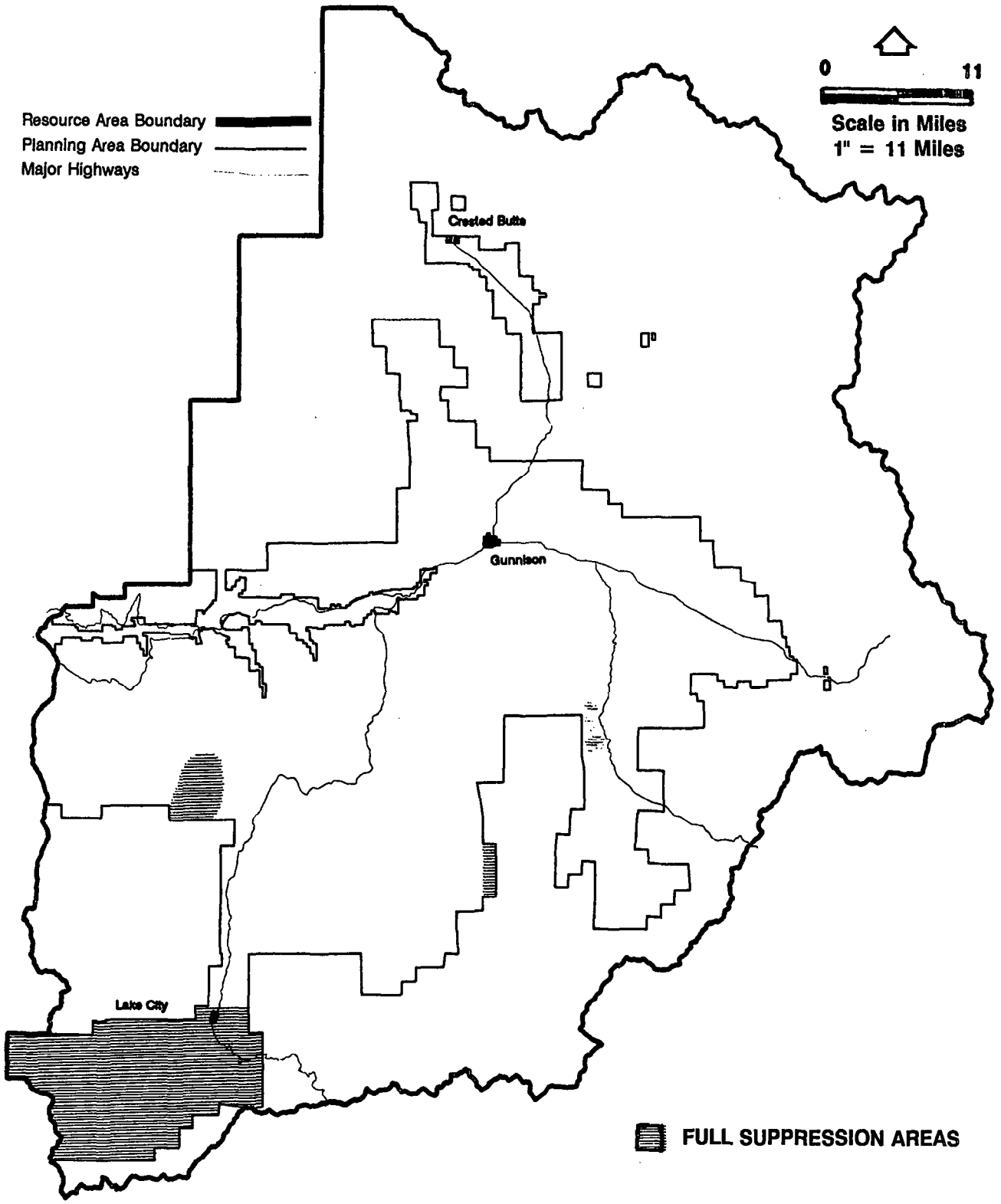
This stipulation will not be applied when the Authorized Officer determines that relocation up to 200 meters can be applied to protect the riparian system during well siting.

Exceptions: This stipulation may be excepted subject to an on-site impact analysis with consideration given to degree of slope, soils, importance to the amount and type of wildlife.

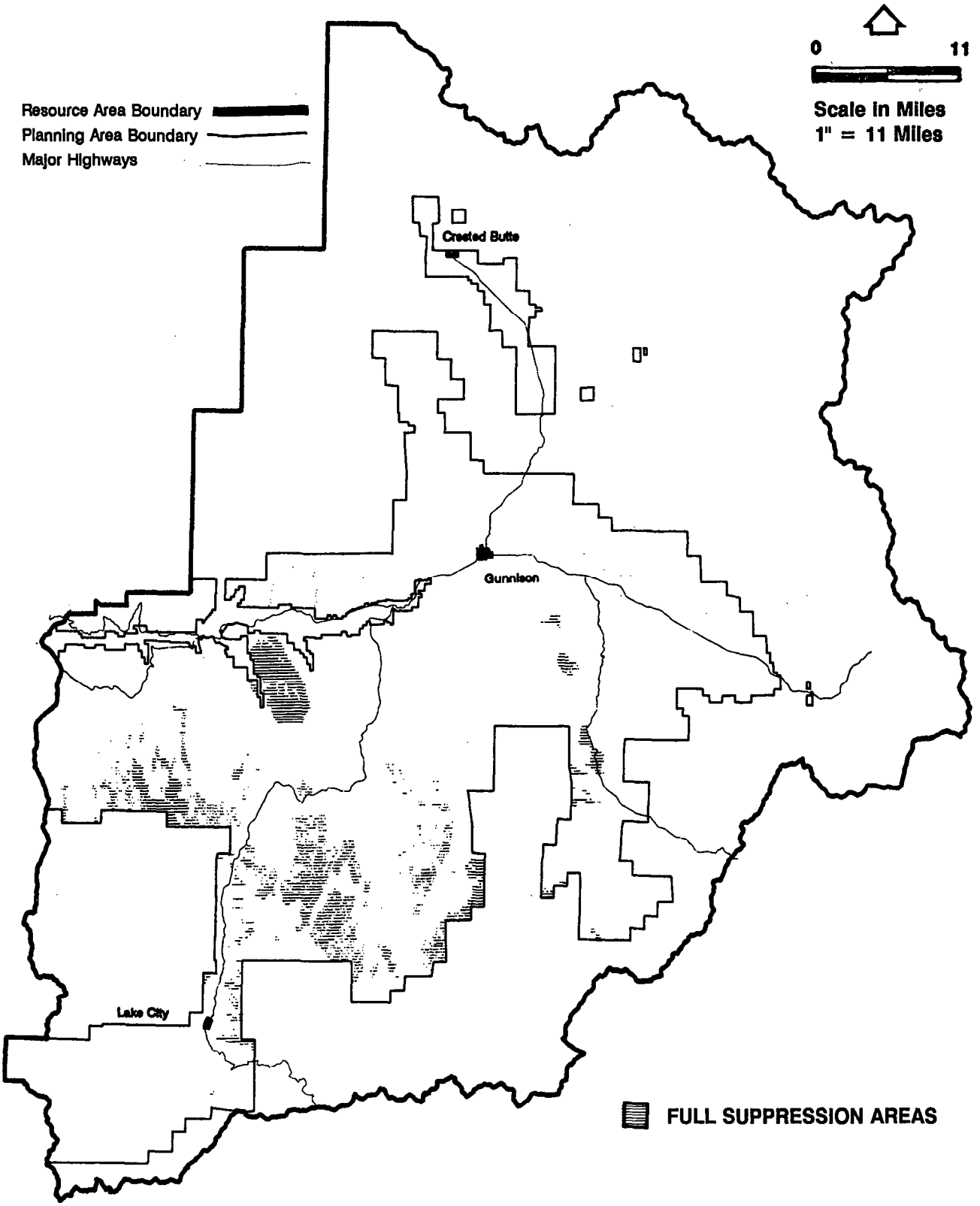
APPENDIX L
FIRE SUPPRESSION



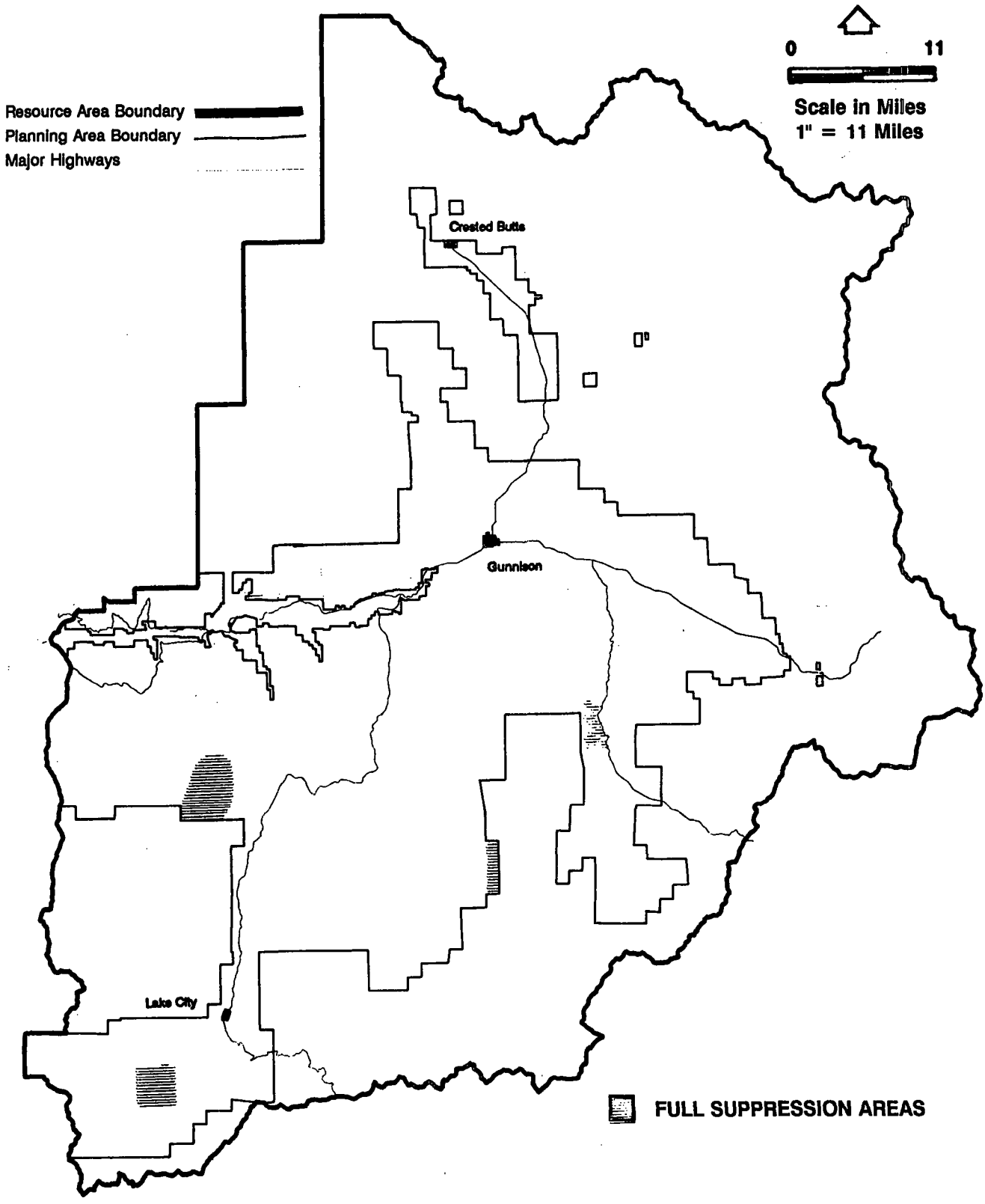
Map L-1
Full Wildfire Suppression Areas
Alternative A



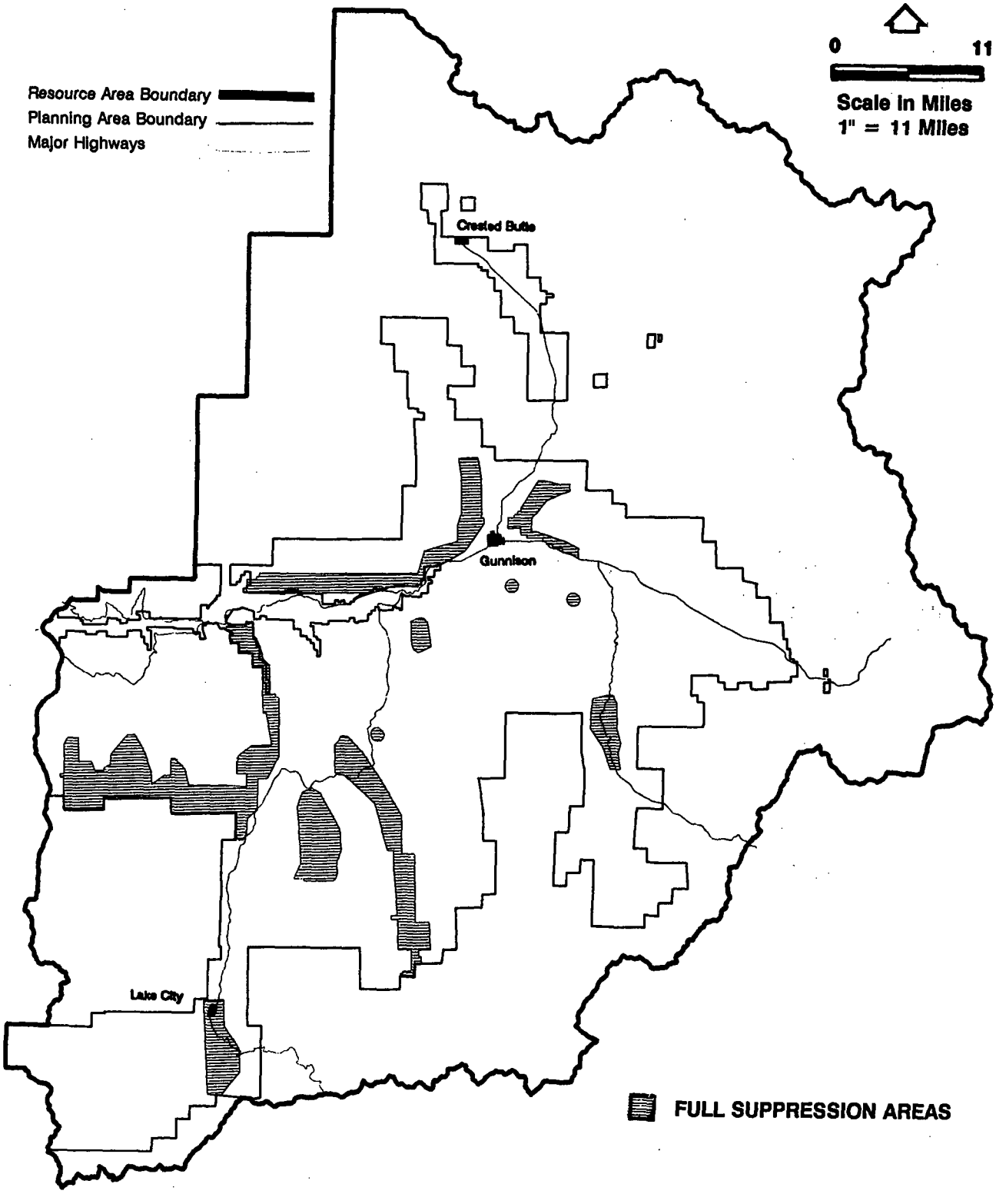
Map L-2
Full Wildfire Suppression Areas
Alternative B



Map L-3
Full Wildfire Suppression Areas
Alternative C



Map L-4
Full Wildfire Suppression Areas
Alternative D



Map L-5
Full Wildfire Suppression Areas
Alternative E

APPENDIX M
ACCESS

Table M-1

AREAS TARGETED FOR ACCESS IN ALERNATIVE A
(CONTINUATION OF CURRENT MANAGEMENT ALTERNATIVE)

TARGETED AREA	TYPE OF ACCESS DESIRED[1]		BENEFITTING PROGRAMS		
	PUB	ADMIN	Livestock Grazing Management	Recreation	Forestry
FOURTH OF JULY CREEK	X		X	X	
LITTLE WILLOW CREEK	X		X	X	X
SANDY DRAW		X	X		X
ALPINE GULCH	X			X	
BEAD CREEK ROAD	X			X	X
ROCK CREEK PARK	X		X	X	X
VULCAN-BIG MUD POND	X		X	X	X
POISON DRAW	X		X	X	X
HUNTSMAN MESA TO 9-MILE	X		X	X	X
DEER BEAVER	X		X	X	X

Notes: [1] Pub. = Public Access; Admin. = Administrative Access

Table M-2

AREAS TARGETED FOR ACCESS IN ALTERNATIVE B

MANAGEMENT UNIT	TARGETED AREA	TYPE OF ACCESS DESIRED[1]		BENEFITTING PROGRAMS			
		PUB	ADMIN	Livestock Grazing Management	Forestry	Recreation	Wildlife Habitat Management
B-2	ALPINE GULCH	X			X		
B-5	NORTH WILLOW CREEK	X					
B-5	STEVENS CREEK	X					X
B-7	DEVIL'S CREEK		X		X		
B-7	YAEGER GULCH		X			X	
B-7	SKUNK CREEK		X			X	
B-7	TROUT CREEK		X			X	
B-12	BLUE MESA	X		X		X	
B-12	POISON DRAW	X		X			
B-12	WILLOW CREEK	X		X	X	X	
B-12	SANDY MESA		X	X		X	
B-15	HUNTSMAN MESA		X	X			
B-15	VULCAN/BIG MUD POND	X					
B-15	DEER BEAVER CREEK	X		X	X		
B-20	ROCK CREEK PACK	X		X	X		
B-16	T. 47N., R. 5W		X			X	

Notes: [1] Pub. = Public Access; Admin. = Administrative Access

Table M-3

AREAS TARGETED FOR ACCESS IN ALTERNATIVE C

MANAGEMENT UNIT	TARGETED AREA	TYPE OF ACCESS DESIRED[1]		BENEFITTING PROGRAMS		
		PUB	ADMIN	Livestock Grazing Management	Forestry	Recreation
C-1	DEER BEAVER CREEK		X	X	X	
C-1	BEAD CREEK	X		X		X
C-1	ALPINE GULCH	X		X		X
C-1	HUNTSMAN MESA	X	X	X		X
C-4	SANDY MESA		X	X	X	
C-4	POISON DRAW		X	X	X	
C-4	ROCK CREEK		X	X	X	
C-4	WILLOW CREEK	X		X	X	X
C-4	BIG MUD POND	X			X	X
C-5	MIDDLE BLUE CREEK		X		X	
C-5	ALKALI CREEK		X		X	
C-5	TROUT/YEAGER CREEK		X		X	

Notes: [1] Pub. = Public Access; Admin. = Administrative Access

Table M-4

AREAS TARGETED FOR ACCESS IN ALTERNATIVE D

MANAGEMENT UNIT	TARGETED AREA	TYPE OF ACCESS DESIRED[1]		BENEFITTING PROGRAMS		
		PUB	ADMIN	Livestock Grazing Management	Forestry	Recreation
D-6	ROCK CREEK		X	X		X
D-11	STEVENS CREEK	X				X
D-16	BEAD CREEK	X		X		X
D-18	POISON DRAW		X	X		
D-18	ROCK CREEK PARK		X			
D-18	SANDY MESA		X	X	X	
D-18	WILLOW CREEK	X			X	X
D-20	ALPINE GULCH	X		X		X
D-21	T. 47 N., T. 5W		X		X	
D-22	HUNTSMAN MESA		X	X		
D-22	VULCAN/BIG MUD POND	X				
D-22	DEER BEAVER CREEK	X		X		X

Notes: [1] Pub. = Public Access; Admin. = Administrative Access

Table M-5

AREAS TARGETED FOR ACCESS IN ALTERNATIVE E
(PREFERRED ALTERNATIVE)

MANAGEMENT UNIT	TARGETED AREA	TYPE OF ACCESS DESIRED[1]		BENEFITTING PROGRAMS		
		PUB	ADMIN	Livestock Grazing Management	Forestry	Recreation
E-1	DEVIL'S CREEK	X				X
E-1	YAEGER GULCH, SKUNK & TROUT CREEKS		X		X	
E-1	ALPINE GULCH DRAINAGE (HIKING)	X				X
E-1	PUBLIC LANDS ADJACENT TO MANAGEMENT UNIT E-2[2]	X				X
E-10	ALONG ROCK CREEK	X				X
E-12	BEAD CREEK	X		X		X
E-13	HUNTSMAN MESA (FROM COLORADO HIGHWAY 149)		X	X		
E-13	VULCAN/BIG MUD POND	X		X		X
E-13	PUBLIC LANDS EAST OF DEER BEAVER CREEK	X		X		X
E-13	SANDY MESA (ON BLUE MESA)					
E-13	POISON DRAW (ON BLUE MESA)	X		X	X	
E-13	WILLOW CREEK (IN BLUE MESA AREA)	X		X	X	X

Notes: [1] Pub. = Public Access; Admin. = Administrative Access
[2] Between Lake City and Trout Creek and east of Colorado Highway 149.

APPENDIX N

WATER RESOURCES

Table N-1

WATER SOURCE DEVELOPMENTS IN FAIR CONDITION

SOURCE NAME	TOWNSHIP	RANGE	SECTION
3C SPG AND EXCLOSR	49N	03. E	21
ADAMS RANCH SPG 1	50N	01. E	22
ALDRED SPG 1	49N	04. E	32
ALPINE SPG	46N	04. W	9
APRIL GUL SPG	49N	01. W	16
BESECKER DTCH	45N	02. E	26
BIG BIRD SPG	47N	02. E	19
BIG MESA SPG 2	48N	01.5W	24
BLUE MONDAY SPG	49N	03. E	14
BOUNDARY SPGS	47N	03. W	24
BUBBLING SPG	47N	04. W	29
CAP MTN SPG	47N	02. W	31
CK DAM	50N	01. E	35
CK DAMS	49N	01. E	2
CLAY SPG	49N	03. E	13
CORRAL CRK SPG 3	47N	01. W	8
COW HEAD SPG	49N	02. E	31
CURTIS RET DAM 1	45N	02. E	27
CUTOFF RD SPG	48N	03. W	27
DIVERSION DAM	49N	03. W	11
DOG SPG 2	48N	03. W	25
DRY GUL PIT SPG	50N	02. E	34
E COCHETOPA SPG 1	48N	02. E	21
E COCHETOPA SPG 3	48N	02. E	15
E COCHETOPA SPG 5	48N	02. E	10
E COCHETOPA SPG 8	49N	02. E	23
ELLA TURNBULL SPG	47N	02. E	32
EXCAVATD SEEP 8412	49N	02. W	8
EXCAVATED SEEP	46N	03. W	12
FIRST SPG	45N	01. W	32
FLAT TOP SPG	49N	03. E	31
GOOSE CREEK SPG 10	47N	03. W	10
GOOSE CRK SPG 11	47N	03. W	10
GOOSE CRK SPG 12	47N	03. W	14
GOOSE CRK SPG 13	47N	02. W	30

Table N-1 (Continued)

SOURCE NAME	TOWNSHIP	RANGE	SECTION
GOOSE CRK SPG 3	48N	03. W	11
GOOSE CRK SPG 8	47N	03. W	9
GOOSE CRK SPG 9	47N	03. W	9
GOOSEBERRY SPG-EX	49N	03. E	10
GRAYBACK GUL SPG	48N	01. E	22
GREEK SPG	50N	02. W	12
HARRIS SPG 3	50N	02. W	36
HAWKS SEC 4 RSV 3	46N	04. W	3
HAZARD SPG EXC 11	47N	02. E	35
HAZARD SPG EXC 14	46N	02. E	3
HILL SPG 171	46N	01. W	10
HWY 149 SPG 2	48N	02. W	4
I PWDRHRN DEV 6	48N	02. W	4
I PWDRHRN SPG 2	48N	02. W	19
INDIAN CRK SPG 2	46N	03. W	15
INDIAN CRK SPG 8	46N	03. W	24
IOLA PWDRHRN SPG 9	49N	02. W	36
JACKRABBIT PIT SPG	49N	01. E	17
JIM BLAIN SPG 4	48N	02. W	4
KELSO SPG 1	46N	02. W	22
KEZAR SPG	48N	02. W	6
LAKE FK SPG 1	46N	03. W	16
LAKE FK SPG 11	46N	03. W	32
LAKE FK SPG 8	46N	04. W	25
LEMON SPG	49N	01. W	15
LISEL SPG	48N	03. W	35
LONG GONE PIT SPG	50N	01. E	33
LTL SNARE PND 2	42N	06. W	15
LWR COCH SPG 13	49N	01. W	25
LWR COCH SPG 16	49N	01. E	27
LWR COCH SPG 17	49N	01. E	19
LWR COCH SPG 19	49N	01. E	17
LWR COCH SPG 2	48N	01. E	19
LWR COCH SPG 2	49N	01. E	21
LWR COCH SPG 23	49N	02. E	30
LWR COCH SPG 26	48N	02. E	6
LWR COCH SPG 27	48N	02. E	7
LWR COCH SPG 29	49N	02. E	32
LWR COCH SPG DEV13	48N	02. E	6
LWR COCH SPG DEV15	48N	02. E	6
LWR COCHETOPA SPG3	49N	01. E	28
LWR COCHETOPA SPG4	49N	01. E	28

Table N-1 (Continued)

SOURCE NAME	TOWNSHIP	RANGE	SECTION
LWR FANCY SPG	50N	02. W	35
MIXED UP SPG	47N	04. W	29
OLD HWY 149 SPG	46N	03. W	2
OLD LOT HILL SPG	47N	02. W	16
PEBBLE PIT SPG	49N	02. W	14
POLE CRK CKS	48N	01. W	28
PWDRHRN RSV 1	46N	03. W	12
PWDRHRN RSV 3	46N	02. W	7
PWDRHRN SPG 2	45N	01.5W	1
PWDRHRN SPG 36	46N	02. W	36
PWDRHRN SPG 58	45N	01. W	5
PWDRHRN SPG DEV 10	49N	02. W	25
PWDRHRN SPG DEV 12	49N	02. W	36
PWDRHRN SPG DEV 14	48N	01. W	6
PWDRHRN SPG DEV 15	48N	01. W	6
PWDRHRN SPG DEV 17	48N	01. W	6
PWDRHRN SPG DEV 20	47N	02. W	3
PWDRHRN SPG DEV 21	47N	02. W	10
PWDRHRN SPG DEV 22	48N	02. W	24
PWDRHRN SPG DEV 25	48N	02. W	35
PWDRHRN SPG DEV 28	48N	02. W	35
PWDRHRN SPG DEV 51	48N	01. W	21
PWDRHRN SPG DEV 72	46N	01. W	6
QUEASY SPG	50N	02. E	17
RAZOR CRK SPG 2	48N	03. E	7
ROAD SIDE SPG	48N	02. W	34
ROCKY TRAIL SPG	47N	02. W	35
S BEAVER CR TRIB S	49N	01. W	32
SAGE GROUSE SPG	47N	02. E	22
SAPINERO MESA SPG1	47N	03. W	15
SAPINERO SPG 10	49N	03. W	25
SAPINERO SPG 16	49N	02. W	5
SAPINERO SPG 19-A	49N	02. W	8
SAPINERO SPG 22	49N	02. W	8
SAPINERO SPG 26	49N	02. W	14
SAPINERO SPG 27	49N	02. W	19
SAPINERO SPG 5	49N	03. W	13
SHOTGUN SPG	46N	02. W	16
SHROOM RET DAM	49N	02. W	10
SKULL PARK PND	45N	02. W	31
SLOSS SPG 1	48N	01. E	9
SLOSS SPG 12	48N	01. E	32

Table N-1 (Continued)

SOURCE NAME	TOWNSHIP	RANGE	SECTION
SLOSS SPG 4	48N	01. E	15
SPG 114	47N	01. W	3
SPG 169	48N	02. W	5
SPG 171	48N	03. W	1
SPG 196	48N	02. W	29
SPG 207	48N	02. W	28
SPG 212	48N	02. W	27
SPG 218	47N	02. W	5
SPG 242	47N	02. W	35
SPG 76	49N	02. W	36
SPG WATER 7	48N	02. W	29
SPG WATER A	47N	02. W	16
STEER GUL SPG 11	50N	02. W	25
STEER GUL SPG 19	50N	01. W	17
STEER GUL SPG 21	50N	01. W	7
STEER GUL SPG 3	50N	01. W	31
STEER GUL SPG 30	48N	02. E	13
STEER GUL SPG 6	50N	01. W	31
STEERS GUL SPG 18	50N	01. W	28
STEERS GUL SPG 26	50N	01. W	4
STK TANK	47N	04. W	36
STKDRIVE SPG	47N	04. W	29
SUGAR CRK SPG 1	47N	01. W	10
SWINEHEART SPG 3	45N	02. W	1
TANK OF BLK RIDGE	46N	01. W	10
TAYLOR PARK SPG 12	50N	01. E	23
TAYLOR PARK SPG 14	50N	01. E	25
TAYLOR PARK SPG 16	50N	01. E	25
TAYLOR PARK SPG 22	50N	01. E	34
TAYLOR PARK SPG 24	50N	01. E	34
TAYLOR PARK SPG 29	50N	02. E	18
TAYLOR PARK SPG 30	50N	02. E	18
TAYLOR PARK SPG 31	50N	02. E	18
TAYLOR PARK SPG 34	50N	02. E	22
TAYLOR PARK SPG 46	50N	02. E	29
TAYLOR PARK SPG 59	49N	02. E	5
TAYLOR PARK SPG 6	50N	01. E	14
TAYLOR PARK SPG 64	49N	02. E	10
TAYLOR PARK SPG 70	50N	03. E	29
TAYLOR PARK SPG 78	50N	03. E	33
TAYLOR PARK SPG 8	50N	01. E	15
TAYLOR PARK SPG 81	50N	03. E	33

Table N-1 (Continued)

SOURCE NAME	TOWNSHIP	RANGE	SECTION
TAYLOR PARK SPG 9	50N	01. E	15
TEN MILE SPG 2	48N	03. W	22
THOMAS AMP SPG 11	46N	04. W	24
THOMAS AMP SPG 16	46N	03. W	21
THOMAS AMP SPG 17	46N	03. W	22
THOMAS AMP SPG 19	46N	03. W	29
THOMAS AMP SPG 3	46N	04. W	12
U LNDS GUL P T SPG	50N	01. E	26
VOUGA WATER BOX	47N	03. E	6
WILLOW CRK SPG 1	48N	02. W	26
WILLOW SPG 2	47N	02. W	11
YUKON DAM	47N	02. E	2

Table N-2

WATER SOURCE DEVELOPMENTS IN POOR CONDITION

SOURCE NAME	TOWNSHIP	RANGE	SECTION
ALBUQUERQUE SPG	48N	03. E	6
ASPEN SPG	49N	01. W	20
BEAR GUL SPG 3	48N	01. W	22
BIG SEEP SPG-EXCS	50N	02. E	36
BURN SPG 1	47N	04. W	30
CAMP SPG 1	48N	02. E	33
CK DAM	49N	02. E	5
CK DAM	50N	01. E	35
CLAIM SPG	42N	06. W	15
COLEMAN PIPELINE	45N	03. E	6
COW CMP SPG	48N	02. W	26
CROSSING SPG	49N	01. W	15
CURTIS SPG DEV 1	45N	02. E	26
CURTIS SPG DEV 2	45N	02. E	26
E PARLIN SPG	48N	02. E	14
ESCONDIDA SPG	47N	02. E	12
EXCAVATED SEEP	48N	03. W	11
GOOSE CRK SPG 9 1-2	47N	03. W	9
GRUMP SPG	45N	02. W	17

Table N-2 (Continued)

SOURCE NAME	TOWNSHIP	RANGE	SECTION
HAWKS AMP RSV	27N	04. W	25
HAZARD SPG EXC 12	47N	02. E	36
HAZARD SPG EXC 5	47N	02. E	29
HAZARD SPG EXC 8	47N	02. E	27
HUNTSMAN GUL SPG	46N	02. W	3
HWY 149 SPG 3	48N	02. W	22
HWY 149 SPG 4	48N	02. W	27
HWY 149 SPG 9	47N	02. W	9
I PWDRHRN SPG 11	48N	02. W	34
I PWDRHRN SPG 3	48N	02. W	19
INDIAN CRK SPG 15	46N	03. W	27
KODIAK SPG	46N	03. W	16
LAKE FK SPG 4	46N	03. W	16
LAKE FK SPG 6	46N	03. W	19
LOFY SPG	50N	02. W	13
LONG DRW SPG	47N	03. W	33
LTL SEEP RSV FNC	49N	02. E	1
LTL WILLOW SPG DRW	47N	01.5W	12
LWR COCH SPG 11	49N	01. E	30
NANCY CHRITTON DEV	45N	02. E	24
OLD PIT	50N	02. E	29
OWLIN SPG	47N	02. E	11
PIT SPG 83103	48N	02. W	17
PIT SPG 83146	47N	02. W	5
POLE RD SPG 2	48N	01. W	20
PWDRHRN RSV 2	46N	02. W	6
PWDRHRN SPG DEV 11	49N	02. W	25
PWDRHRN SPG DEV 23	48N	02. W	24
PWDRHRN SPG DEV 49	48N	01. W	20
RADO SPG	50N	01. W	16
RET DAM 48	48N	02. W	21
RET DAM 8379	47N	01. W	12
ROAD GUL SPG 2	46N	01. W	12
ROAD GUL SPG 5	46N	01. W	7
ROUNDUP SPG	50N	02. E	27
RUBY SPG AND PL	49N	02. E	8
SAPINERO CK DAM 2	49N	03. W	2
SAPINERO SPG 1	49N	03. W	2
SAPINERO SPG 18	49N	02. W	6
SEWELL PIT SPG	50N	02. E	26
SLOSS SPG 5	48N	01. E	21
SPENCER SPG	47N	02. W	4

Table N-2 (Continued)

SOURCE NAME	TOWNSHIP	RANGE	SECTION
SPG 130	46N	01. W	7
SPG 177	48N	02. W	5
STEER GUL SPG 12	50N	01. W	31
STEER GUL SPG 13	50N	01. W	30
STEER GUL SPG 27	50N	01. W	3
STEER GUL SPG 31	48N	02. E	13
STONE HOUSE SPG	49N	02. W	36
TAYLOR PARK SPG 18	50N	01. E	35
TAYLOR PARK SPG 36	50N	02. E	25
TAYLOR PARK SPG 37	50N	02. E	25
TAYLOR PARK SPG 58	49N	02. E	5
TAYLOR PARK SPG 73	50N	03. E	31
TAYLOR PARK SPG 79	50N	03. E	33
TAYLOR PARK SPG 80	50N	03. E	33
TAYLOR PARK SPG 82	49N	03. E	5
TAYLOR PK SPG 25	50N	01. E	35
TC KERRS SPG	47N	03. W	34
TEXAS SPG	46N	03. W	29
THOMAS AMP SPG 14	46N	04. W	24
THOMAS AMP SPG 20	46N	03. W	29
THOMAS COLDWTR SPG	46N	03. W	18
THREE CIRCUS SPG	45N	02. W	23
VALLEY FORGE CK DAM	46N	03. W	19
VULCAN SPG 1	47N	01. W	18
WOLF CRK SPG 1	47N	02. W	9
WRIGHT SPG AND PND	44N	01. W	6
YEAGER SPG 2	46N	03. W	21
YOUMANS AMP SPG 2	46N	02. W	16

Table N-3

ABANDONED WATER SOURCE DEVELOPMENTS

SOURCE NAME	TOWNSHIP	RANGE	SECTION
APRIL GUL CK DAMS	49N	01. W	27
COCH NEEDLE RAZ 9	48N	02. E	22
COCHETOPA CKS	49N	01. E	23
DOME CK DAMS	49N	04. E	31
E COCHETOPA SPG 6	48N	02. E	4
E COCHETOPA SPG 7	49N	02. E	27
E COCHETOPA SPG 9	47N	03. E	6
GOOSE CRK CK DMS	48N	03. W	35
HAY GUL CK DAMS	49N	01. W	28
HAY GUL SPG	49N	01. W	28
I PWDRHRN SPG 1	48N	03. W	13
SKI HILL SPG	43N	04. W	4
STEER GUL CK DAMS	48N	02. E	13
STEER GUL SPG 20	50N	01. W	8
STEER GUL SPG 32	48N	02. E	24

APPENDIX O

CLIMATE AND AIR QUALITY

Table O-1

TEMPERATURE DATA

STATION	ELEVATION (ft., Mean Sea Level)	TEMPERATURE (degrees F)				
		EXTREME MINIMUM	MEAN MINIMUM	ANNUAL MEAN	MEAN MAXIMUM	EXTREME MAXIMUM
Cimarron	6,896	-43	22	41	61	98
Cochetopa	8,000	-39	19	37	55	92
Crested Butte	8,860	-43	20	36	52	90
Gunnison	7,664	-41	19	37	56	96
Lake City	8,670	-33	21	38	55	91
Ouray	7,840	-22	32	45	58	92
Pitkin	9,200	-31	17	33	50	83
Silverton	9,272	-37	19	36	53	85
Taylor Park	9,206	-60	16	33	49	85

Table O-2

PRECIPITATION AND FROST-FREE PERIODS

STATION	PRECIPITATION (inches)				FROST-FREE PERIOD		
	ANNUAL MEAN	MONTHLY MAXIMUM	MONTHLY MINIMUM	MEAN SNOWFALL	DAYS	MEAN BEGIN DATE	MEAN END DATE
Cimarron	14.0	1.7	0.8	67	46*	6/28*	8/13*
Cochetopa	10.8	1.9	0.6	49	49	6/21	8/09
Crested Butte	25.5	3.3	1.3	221	29	6/24	7/23
Gunnison	11.6	1.9	0.6	63	45	6/23	8/07
Lake City	14.1	2.1	0.8	90	72*	6/28*	9/08*
Ouray	21.1	2.5	1.0	134	129	5/26	10/2
Pitkin	18.0	2.2	1.1	136	2	6/29*	7/01*
Silverton	22.4	3.0	1.2	140	10	6/28	7/08
Taylor Park	16.5	2.1	1.0	151	67	6/18	8/24

*U.S. Department of Commerce (1985)
Source: PEDCO Environmental, Inc. (1981)

Table O-3

SELECTED ATMOSPHERIC DISPERSION DATA AT ALAMOSA, COLORADO

	STABILITY FREQUENCY (percent)			APPROXIMATE MIXING DEPTH (m)	
SEASON	UNSTABLE	NEUTRAL	STABLE	MORNING	AFTERNOON
Annual	29	34	37	350	2,300
Winter	21	27	52	300	1,300
Spring	26	47	27	450	2,900
Summer	39	31	30	350	3,200
Fall	29	33	38	250	2,000

Sources: PEDCO Environmental, Inc. (1981)
(Note: Mixing depths are statewide averages).

Table O-4

SELECTED PARTICULATE CONCENTRATION DATA
(micrograms per cubic meter)

STATION		TOTAL SUSPENDED PART.			PM-10		
NAME/TYPE	Year	No. Obs.	Ann. Geo. Mean	2nd 24-hr. Max.	No. Obs.	Ann. Arit. Mean	2nd 24-hr. Max.
Crested Butte/ Suburban	1987	--	--	--	113	35	84
	1986	21	(52)	(99)	195	44	116
	1985	58	78	276	--	(40)	(125)
	1984	81	71	191	--	--	--
	1983	80	57	341	--	--	--
	1982	23	(56)	(142)	--	--	--

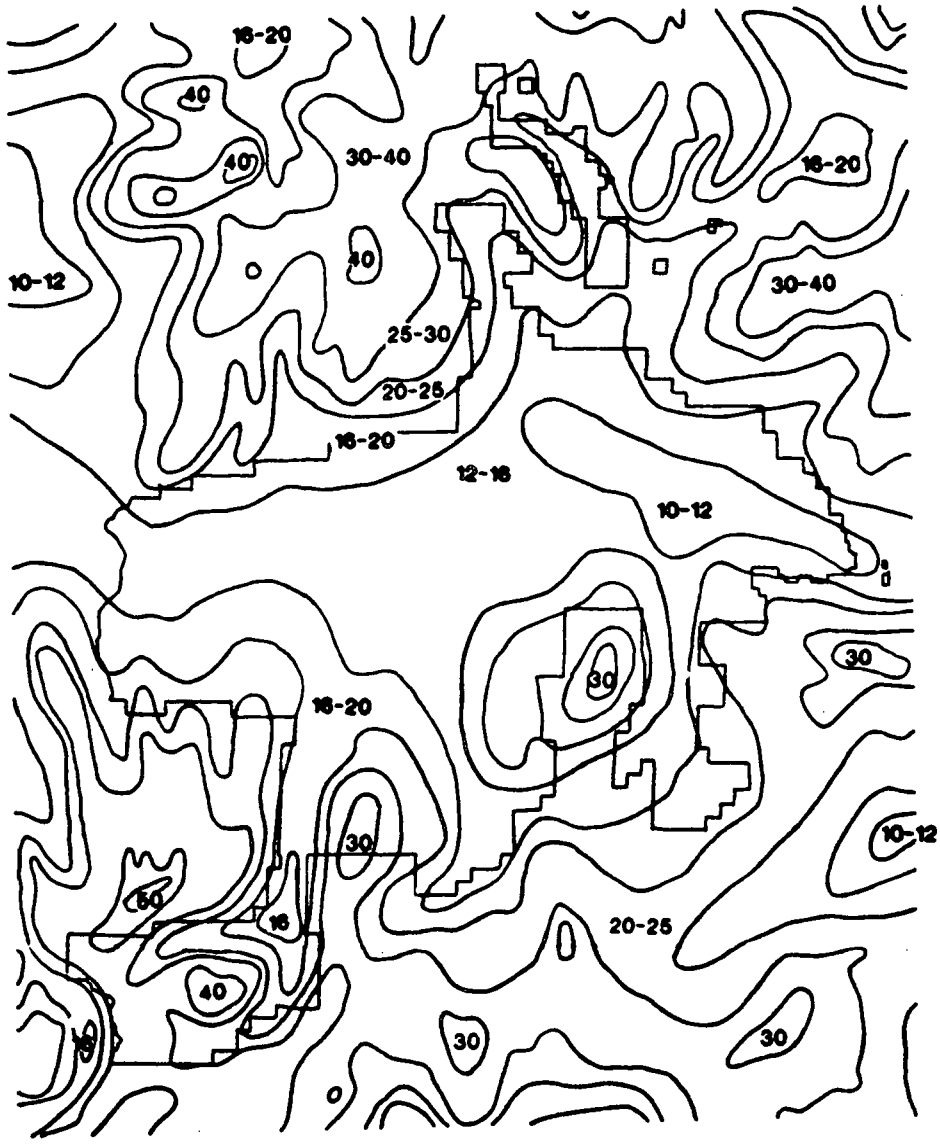
Source: Colorado Department of Health, n.d.
(Note parentheses indicate insufficient data).

Table O-5

SELECTED ACID PRECIPITATION DATA (pH)

LOCATION/YEAR	WINTER		SPRING		SUMMER		FALL		ANNUAL	
	No. Obs	Mean	No. Obs	Mean	No. Obs	Mean	No. Obs	Mean	No. Obs	Mean
Alamosa:										
1987	13	5.80	13	5.86	13	5.16	13	5.26	52	5.42
1986	13	5.00	13	5.86	13	5.32	13	5.03	52	5.28
1985	13	5.91	13	5.45	13	5.21	13	5.33	52	5.29
1984	13	6.02	13	6.73	14	5.36	13	5.48	53	5.51
1983	13	5.81	13	5.93	13	5.50	13	5.51	52	5.58
1982	13	5.31	13	6.13	13	5.68	13	5.47	52	5.59
Engineer Mountain:										
1987	--	--	--	--	13	4.80	13	4.95	26	4.89
1986	--	--	--	--	--	--	13	4.89	13	4.89
Molas Pass:										
1987	--	--	--	--	13	4.80	13	4.96	26	4.91
1986	--	--	--	--	5	4.76	13	4.97	18	4.89

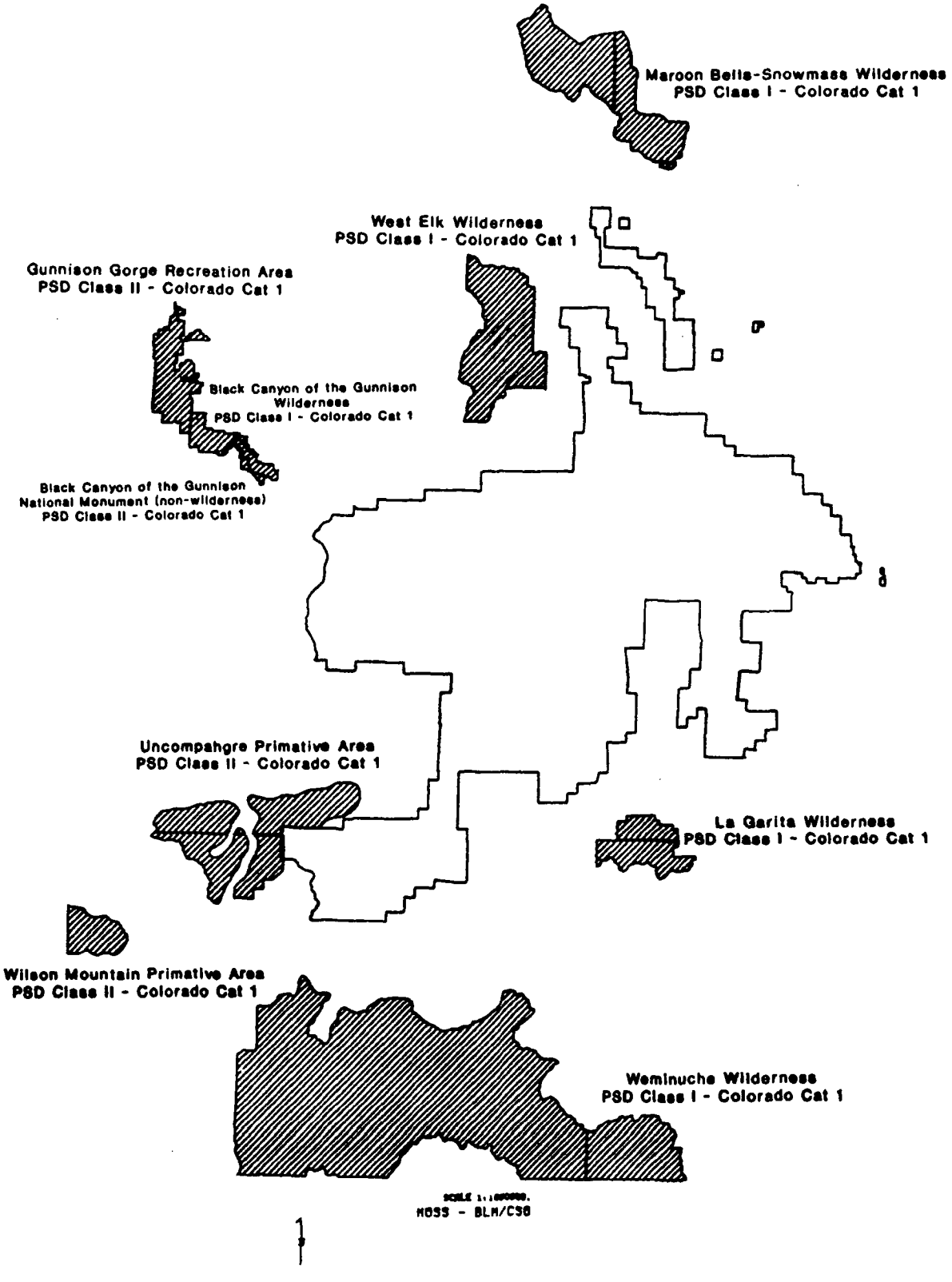
Source: NADP/NTN, 1988.
Note: Precipitation weighted averages. The natural pH of precipitation is approximately 5.6.



CONTOUR INCREMENTS

0-7	inches	20-25	inches
7-8	inches	25-30	inches
8-10	inches	30-40	inches
10-12	inches	40-50	inches
12-16	inches	>50	inches
16-20	inches		

Map O-1
Annual Precipitation
(1951-1980)



Map O-2
Air Quality Management Areas

ACRONYMS, GLOSSARY, AND REFERENCES

ACRONYMS

ACEC:	Area of Critical Environment Concern
ALMRS:	Automated Lands and Minerals Record System
AMP:	Allotment Management Plan
APD:	Application for Permit to Drill
ARPA:	Archaeological Resources Protection Act
AUM:	Animal Unit Month
BLM:	Bureau of Land Management
BOM:	Bureau of Mines
BOR:	Bureau of Reclamation
CEC:	Colorado Environmental Coalition
C&MU:	Classification and Multiple Use Act
CDOW:	Colorado Division of Wildlife
CEQ:	Council on Environmental Quality
CFR:	Code of Federal Regulations
cfs:	cubic feet per second
CNAP:	Colorado Natural Areas Program
CNRA:	Curecanti National Recreation Area
CRMAP:	Coordinated Resource Management Activity Plan
DOE:	Department of Energy
EA:	Environmental Assessment
EIS:	Environmental Impact Statement
EMS:	Existing Management Situation
EPA:	Environmental Protection Agency
ERMA:	Extensive Recreation Management Area
FERC:	Federal Energy Regulatory Commission
FLPMA:	Federal Land Policy and Management Act
FMP:	Forest Management Plan
FMU:	Forest Management Unit
FR:	Federal Register
GAG:	Geologic Advisory Group
GMU:	Game Management Unit
GIS:	Geographic Information System
GRA:	Gunnison Resource Area
HMP:	Habitat Management Plan
IBLA:	Interior Board of Land Appeals
IGMC:	Interim Grazing Management Criteria
IMP:	Interim Management Policy (Wilderness)
KGS:	Known Geologic Structure
kv:	kilovolt
MBF:	Thousand Board Feet
MFP:	Management Framework Plan
MSA:	Management Situation Analysis
NEPA:	National Environmental Policy Act
NPS:	National Park Service
NRHP:	National Register of Historic Places
NSO:	No Surface Occupancy
NWPS:	National Wilderness Preservation System
NWASRA:	National Wild and Scenic Rivers Act
ONA:	Outstanding Natural Area
OHV:	Off-Highway Vehicle
PLO:	Public Land Order
RAMP:	Recreation Area Management Plan
RAP:	Resource Area Profile
R&PP:	Recreation and Public Purposes Act
RCA:	Resource Capability Analysis
RCL:	Resource Capability Level
RMP:	Resource Management Plan
RNA:	Research Natural Area
RS:	Revised Statute
ROD:	Record of Decision
RPS:	Rangeland Program Summary
RVD:	Recreation Visitor Day
SCS:	Soil Conservation Service
SRMA:	Special Recreation Management Area
T&E:	Threatened and Endangered
TDS:	Total Dissolved Solids
TPCC:	Timber Production Capabilities Classification
TSP:	Total Suspended Particulates
USC:	United States Code
USDA:	U.S. Department of Agriculture
USDI:	U.S. Department of the Interior
USFS:	U.S. Forest Service
USFWS:	U.S. Fish and Wildlife Service
USGS:	U.S. Geological Survey
VRM:	Visual Resource Management
WAPA:	Western Area Power Administration
WSA:	Wilderness Study Area
WSR:	Wild and Scenic River

GLOSSARY

ACCELERATED SOIL LOSS. Soil loss that is a direct or indirect result of historic and present human activities. Accelerated soil loss is that which occurs in addition to the soil loss attributable to natural processes acting on undisturbed landscapes.

ACTIVE GRAZING PREFERENCE. That portion of the grazing preference expressed in Animal Units per Month (AUMs), that are available to be licensed for use during any one grazing year.

ACTIVITY PLANNING. Site-specific planning which precedes actual development; the most detailed level of BLM planning.

AIR QUALITY CLASSES. Classifications established under the Prevention of Significant Deterioration portion of the Clean Air Act which limits the amount of air pollution considered significant within an area. Class I applies to areas where almost any changed in air quality would be significant; Class II applies to areas where the deterioration normally accompanying moderate well-controlled growth would be insignificant; and Class III applies to areas where industrial deterioration would generally be insignificant.

ALLOTMENT MANAGEMENT PLAN (AMP). A concisely written program of livestock grazing management, including supportive measures if required, designed to attain specific multiple-use management goals in a grazing allotment.

ALLOTMENT CATEGORIZATION. As an aid in prioritizing grazing allotments for grazing management system development, all allotments have been tentatively placed into one of three categories: (1) Maintain or "M"; (2) Improve or "I"; and (3) Custodial or "C". Allotments within each category do not have to meet all the criteria to be managed according to the category objectives. Category criteria are:

"M" (MAINTAIN) CATEGORY CRITERIA. Present range condition is satisfactory; allotments have moderate or high resource production potential (or trend is moving in that direction); no serious resource-use conflicts/controversy exist; opportunities may exist for positive economic return from public investments; and present management appears satisfactory.

"I" (IMPROVE) CATEGORY CRITERIA. Present range condition is unsatisfactory; allotments have moderate to high resource production potential and are producing at low to moderate levels; serious resource-use conflicts/controversy exist; opportunities exist for positive economic return from public investments; and present management appears unsatisfactory.

"C" (CUSTODIAL) CATEGORY CRITERIA. Present range condition is not a factor; allotment have low resource production potential and are producing near their potential; limited resource-use conflicts/controversy may exist; opportunities for positive economic return on public investments do not exist or are constrained by technological or economic factors; and present management appears satisfactory or is the only logical practice under existing resource conditions.

ALLOTMENT. An area of land where one or more operators graze their livestock. It generally consists of public lands but may include parcels of private or state-owned lands. The number of livestock and period of use are stipulated for each allotment.

ALLOWABLE CUT. The amount of timber which can be harvested on an annual or decadal basis consistent with the principle of sustained yield. The allowable cut includes all planned timber harvest volumes exclusive of such products as Christmas trees, branches, and cones.

ALLUVIAL SOIL. A soil developing from recently deposited alluvium and exhibiting essentially no horizon development or modification of the recently deposited materials.

ALLUVIUM. Clay, silt, sand, gravel, or other rock materials transported by flowing water. Deposited in comparatively recent geologic time as sorted or semisorted sediment in riverbeds, estuaries, floodplains, lakes, and shores, and in fans at the base of mountain slopes.

AMBIENT AIR QUALITY. The state of the atmosphere at ground level as defined by the range of measured and/or predicted ambient concentrations of all significant pollutants for all averaging periods of interest.

ANIMAL UNIT MONTH (AUM). The amount of forage necessary to sustain one cow or its equivalent for a period of one month.

APPLICATION. A written request, petition or offer to lease lands for the purpose of oil and gas exploration and/or the right of extraction.

AQUATIC. Living or growing in or on the water.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC). An area established through the planning process as provided in FLPMA where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values; or to fish and wildlife resources or other natural systems or processes; or to protect life and afford safety from natural hazards.

BEST MANAGEMENT PRACTICE. A practice, or a combination of practices, determined by a state or a designated planning agency to be the most effective, practicable means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals.

BIG GAME. Larger species of wildlife that are hunted, such as elk, deer, bighorn sheep, and pronghorn antelope. Unless otherwise noted, big game in this RMP/EIS refers to elk and deer.

BLM LAND. Land administered by the Bureau of Land Management.

BLOWOUT. A small area from which wind erosion has removed all or almost all of the soil and soil material.

BOARD FOOT. Measure of amount of timber equivalent to a piece 12" x 12" x 1".

CANDIDATE SPECIES. Any species not yet officially listed but which are undergoing a status review or are proposed for listing according to Federal Register notices published by the Secretary of the Interior or the Secretary of Commerce.

CANOPY. The continuous cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth.

CLEAR-CUT. The removal of an entire stand of trees in one cutting. Reproduction is obtained artificially, by natural seeding either from adjacent stands or from trees cut in the clearing operation. This harvest method creates a new even-aged stand of trees.

CLIMAX PLANT COMMUNITY. The final vegetative community that emerges after a series of successive vegetational stages. It represents the highest ecological development of a plant community capable of perpetuation under the prevailing climate and soil conditions.

COAL UNSUITABILITY CRITERIA. Regulations developed by the BLM which use the ability of an area's surface resources to accept or absorb the impact of coal mining activities as a means to determine the suitability or unsuitability of the area for coal mining.

COMMERCIAL FOREST LAND(S). Forest land (of all species of trees) which is producing or is capable of producing 20 cubic feet per acre per year.

CONDITIONAL FIRE SUPPRESSION. Areas where the intensity of fire suppression actions is not fixed and will vary with the conditions existing at the time the fire starts. These areas are managed on a least-cost basis.

CONDITIONS OF APPROVAL. Conditions or provisions (requirements) under which an Application for Permit to Drill or a Sundry Notice is approved.

CONTIGUOUS. Lands or legal subdivisions having a common boundary; lands having only a common corner are not contiguous.

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

COORDINATED RESOURCE MANAGEMENT ACTIVITY PLAN (CRMAP). An activity level plan completed for more than one resource in a given area/site, usually when conflicts or potential conflicts could occur between various resource activities.

CRUCIAL WILDLIFE RANGE. Parts of the habitat necessary to sustain a wildlife population at critical periods of its life cycle. This is often a limiting factor on the population, such as breeding habitat, winter habitat, etc.

CULTURAL RESOURCE INVENTORY CLASSES. Types of inventories to determine the existence, significance, and other characteristics of cultural (historical and archeological) resources. Cultural resource inventories are categorized as Class I, II, or III.

CLASS I. An existing data survey. This is an inventory of a study area to (1) provide a narrative overview of cultural resources by using existing information, and (2) compile existing cultural resources site record data on which to base the development of the BLM's site record system.

CLASS II. A sampling field inventory designed to locate, from surface and exposed profile indications, all cultural resource sites within a portion of an area so that an estimate can be made of the cultural resources for the entire area.

CLASS III. An intensive field inventory designed to locate, from surface and exposed profile indications, all cultural resource sites in an area. Upon its completion, no further cultural resources inventory work is normally needed.

CULTURAL RESOURCES. Those fragile and non-renewable remains of human activity, occupation, or endeavor reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features that were of importance in human events.

CUMULATIVE IMPACTS. The collective and aggregate impacts of all actions affecting a particular resource.

DIRECTIONAL DRILLING. Drilling borehole wherein course of hole is planned before drilling. Such holes are usually drilled with rotary equipment at an angle to the vertical and are useful in avoiding obstacles or in reaching side areas or mineral estate beneath restricted surface.

DISPOSAL. Transfer of ownership of a tract of public land from the United States to another party through sale, exchange, transfer under the Recreation and Public Purposes Act, or desert land entry.

DIVERSITY. The relative abundance of wildlife species, plant species, communities, habitats, or habitat features per unit of area.

EASEMENT. Right afforded a person or agency to make limited use of another's real property for access or other purposes.

ECOLOGICAL SITE. A distinctive geographic unit that differs from other kinds of geographic units in its ability to produce a characteristic natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is capable of supporting a native plant community typified by an association of species that differs from that of other ecologic sites in the kind or portion of species or in total production.

ECOLOGICAL STATUS. The present state of vegetation of a range site in relation to the potential natural community for the site. Ecological status is use independent. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble that of the potential natural community. The four ecological status classes correspond to 0-25, 26-50, 51-75, or 76-100 percent similarity to the potential natural community and are called early seral, mid seral, late seral, and potential natural community, respectively.

ECOSYSTEM. Collectively, all populations in a community, plus the associated environmental factors.

ENDANGERED SPECIES. Any species which is in danger of extinction throughout all or a significant portion of its range.

ENVIRONMENTAL ASSESSMENT (EA). A concise public document prepared to provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact. It includes a brief discussion of the need for the proposal, alternatives considered, environmental impacts of the proposed action and alternatives, and a list of agencies and individuals consulted.

ENVIRONMENTAL IMPACT STATEMENT (EIS). A formal public document prepared to analyze the impacts on the environment of a proposed project or action and released for comment and review. An EIS must meet the requirements of NEPA, CEQ guidelines, and directives of the agency responsible for the proposed project or action.

EPHEMERAL STREAM. A stream that flows occasionally because of surface runoff, but is not influenced by permanent ground water.

EXCEPTION. Case-by-case exemption from an oil and gas lease stipulation. The stipulation continues to apply to all other sites within a leasehold to which the restrict criteria applies.

EXISTING MANAGEMENT SITUATION, AND RESOURCE CAPABILITY ANALYSIS. This is available for review at BLM's Colorado State Office, Montrose District Office, and Gunnison Resource Area Office.

EYRIE. A cliff nest of a raptor.

FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976 (FLPMA). Public Law 94-579 signed by the President on October 21, 1976. Establishes public land policy for management of lands administered by the Bureau of Land Management. FLPMA specifies several key directions for the Bureau, notably (1) management be on the basis of multiple-use and sustained yield, (2) land use plans be prepared to guide management actions, (3) public lands be managed for the protection, development, and enhancement of resources, (4) public lands be retained in federal ownership, and (5) public participation be utilized in reaching management decisions.

FISHERY, FISHERY STREAM. A body of water capable of producing and sustaining fishery populations.

FORAGE. All browse and herbaceous forbs that are available to grazing animals.

FORB. A nonwoody herbaceous plant.

FOREST LANDS. Lands which are, or are capable of being, at least 10 percent stocked by forest trees and are not currently developed for nonforest use.

FOREST MANAGEMENT. The application of business methods and technical forestry principles to the operation of a forest property.

FOREST MANAGEMENT UNIT. A specific geographic area for which a FMP would be prepared and in which intensive management of commercial forest land(s) would occur.

FOREST MANAGEMENT PLAN (FMP). A detailed activity plan identifying the objectives and techniques used to harvest the forest resource of a specific area.

FRAGILE SOIL. Category of problem sites composed of soils that have moderate to high water holding capacities, moderate to slow permeability, and can be severely degraded by compaction, slumping and sliding, and erosion.

FRAGILE SOIL/SLOPE GRADIENT. Problem sites where unstable landforms and unstable or erosive soils are made more vulnerable to degradation by steep slopes.

GRAZING SYSTEM. Scheduled grazing use and non-use of an allotment to reach identified goals or objectives by improving the quality and quantity of vegetation.

GROUND COVER. The area of ground surface occupied by the stem(s) of a range plant, as contrasted with the full spread of its herbage or foliage, generally measured at one inch above soil level.

GROUND WATER. Water beneath the land surface, in the zone of saturation.

GROWING SEASON. Generally, the period of the year during which the temperature of vegetation remains sufficiently high to allow plant growth.

HABITAT MANAGEMENT PLAN (HMP). A written and approved activity plan for a geographical area which identifies habitat management activities to be implemented in achieving specific objectives of planning decisions.

HABITAT. A specific set of physical conditions that surround a single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

HEAVY GRAZING. A comparative term which indicates that the stocking rate of a pasture is relatively greater than that of other pastures. Often erroneously used to mean overuse. cf. light and moderate grazing.

IMPACT. The effect, influence, alteration, or imprint caused by an action.

INDIGENOUS. Born, growing or produced naturally (native) in an area, region, or country.

INFILTRATION RATE. Maximum rate at which soil under specified conditions can absorb rain or shallow impounded water, expressed in quantity of water absorbed by the soil per unit of time.

INTENSIVE FIRE SUPPRESSION. Areas where a full complement of equipment and work force is used to contain, control, and suppress wildfire.

INTERIM GRAZING MANAGEMENT CRITERIA. A set of conditions applicable to forage utilization and range-readiness that governs how much forage can be consumed by grazing animals on public land and when livestock grazing can help in the spring on public land.

INTERIM MANAGEMENT POLICY (IMP). The Department of Interior policy that mandates the BLM to manage lands under wilderness review so as not to impair wilderness values and to protect the right of Congress to make the wilderness designation decision.

INTERMITTENT STREAM. A stream that does not flow year-round but has some association with ground water for surface or subsurface flow.

INTRUSION. A feature (land and water form, vegetation, or man-made structure) that is generally considered out of context with the characteristic landscape.

INVADER. Plant species that were absent or present in very small amounts in undisturbed portions of the original vegetation of a specific range site and will invade following disturbance or continued overuse.

INVERTEBRATE. An animal lacking a backbone or spinal column.

KEY AREA. A relatively small portion of a rangeland selected because of its location, use, or grazing value as an area on which to monitor the effects of grazing use. It is assumed that key areas, if properly selected, will reflect the effects of current grazing management over all or a part of a pasture, allotment, or other grazing unit.

KEY SPECIES. (1) those species which must, because of their importance, be considered in a management program; or (2) forage species whose use serves as an indicator to the degree of use of associated species.

KNOWN GEOLOGIC STRUCTURES (KGS). A trap in which an accumulation of oil and gas has been discovered by drilling and which is determined to be productive. Its limits include all acreage that is presumptively productive (43 CFR 3100.0-5 (a)).

LAND TREATMENT. All methods of artificial range improvement and soil stabilization such as reseeding, brush control (chemical and mechanical), pitting, furrowing, water spreading, etc.

LEASE NOTICE. Provides more detailed information concerning limitation that already exist in law, lease terms, regulations, or operation orders. A Lease Notice also addresses special items the lessee would consider when planning operations, but does not impose new or additional restrictions.

LEASABLE MINERALS. Those minerals or materials designated as leasable under the Mineral Leasing Act of 1920. They include coal, phosphate, asphalt, sulphur, potassium and sodium minerals, and oil and gas. Geothermal resources are also leasable under the Geothermal Stream Act of 1970.

LITHIC SITE. An archeological site containing debris left from the manufacturer, use, or maintenance of flaked stone tools.

LOCATABLE MINERALS. Minerals or materials subject to claim and development under the Mining Law of 1872, as amended. Generally includes metallic minerals such as gold and silver, and other materials not subject to lease or sale (some bentonites, limestone, talc, some zeolites, etc.). Whether or not a particular mineral deposit is locatable depends on such factors as quality, quantity, mineability, demand, and marketability.

LOCATION. Perfecting the right to a mining claim by discovery of a valuable mineral, monumenting the corners, completing discovery work, posting a notice of location, and recording the claim.

LONG-TERM. In this document, refers to the time period extending beyond the 10 to 12-year life of the plan. Long-term impacts would occur over a 20-year period.

MANAGEMENT FRAMEWORK PLAN (MFP). A land use plan that establishes land use allocations, multiple-use guidelines, and management objectives for a given planning area. The MFP planning system was used by the BLM until about 1980.

MANAGEMENT SITUATION ANALYSIS (MSA). An unpublished companion document to this RMP that provides the background documentation for the development of alternatives. The MSA consists of the Resource Area Profile.

MASS WASTING. Dislodgement and downslope transport of earthen material as a unit, such as in landslides, rockslides, and earthflows.

MINERAL ESTATE (MINERAL RIGHTS). The ownership of minerals, including rights necessary for access, exploration, development, mining, ore dressing, and transportation operations.

MINERAL MATERIALS. Common varieties of sand, building stone, gravel, clay, moss rock, etc., obtainable under the Minerals Act of 1947, as amended.

MINERAL ENTRY. Claiming public lands (administered by the BLM) under the Mining Law of 1872 for the purpose of exploiting minerals. May also refer to mineral exploration and development under the mineral leasing laws and the Material Sale Act of 1947.

MINING LAW OF 1872. Provides for claiming and gaining title to locatable minerals on public lands. Also referred to as the "General Mining Laws" or "Mining Laws."

MITIGATION. Alleviation or lessening of possible adverse effects on a resource by applying appropriate protective measures or adequate scientific study.

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

MONITORING. The orderly collection, analysis, and interpretation of resource data to evaluate progress toward meeting management objectives.

MONOCLINE. A geologic structure in which the strata are all inclined in the same direction at a uniform angle of dip.

MULTIPLE-USE. Management of the various surface and subsurface resources so that they are jointly utilized in the manner that will best meet the present and future needs of the public, without permanent impairment of the productivity of the land or the quality of the environment.

NATIONAL REGISTER OF HISTORIC PLACES NATIONAL REGISTER, (NRHP). A listing of architectural, historical, archeological, and cultural sites of local, state, or national significance,established by the Historic Preservation Act of 1966 and maintained by the National Park Service.

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (NEPA). Public Law 91-190. Established environmental policy for the nation. Among other items, NEPA requires federal agencies to consider environmental values in decision-making processes.

NATURALNESS. Refers to an area that "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable" (sec. 2(c) of the Wilderness Act of 1964).

NO SURFACE OCCUPANCY (NSO). A fluid mineral leasing stipulation that prohibits occupancy or disturbance on all or part of the lease surface in order to protect special values or uses. Lessees may exploit the oil and gas or geothermal resources under leases restricted by this stipulation through use of directional drilling from sites outside the no surface occupancy area.

NO SURFACE DISTURBANCE. Defined on a case-by-case basis when the activity plan for an area is developed. In general, an activity would be allowed so long as it does not interfere with the management objectives of the area.

NON-FOREST LANDS. Areas within the forest lands that are in capable of maintaining at least 10 percent stocking of forest trees (native woody plants that regularly attain a height of 20 feet or more), and those lands which have been converted to non-timber uses. Examples are rock outcrops, roads, and urban areas. These lands are excluded from the timber production base.

NONGAME SPECIES. Those species not commonly harvested either for sport or profit.

OFF-HIGHWAY VEHICLE (OHV). This term replaces "off-road vehicle (ORV)", and means any motorized vehicle capable of or designed for travel on or immediately over land, water, or other natural terrain.

OFF-HIGHWAY USE DESIGNATIONS (OPEN, LIMITED, AND CLOSED.

OPEN. Designated areas, routes, roads, and trails where unrestricted OHV use may occur (subject to operating regulations and vehicle standards set forth in BLM Manuals 8341 and 8343).

LIMITED. Designated areas, routes, roads, and trails where the use of off-highway vehicles is subject to restrictions, such as limiting the number or types of vehicles allowed, dates and times of use (seasonal restrictions), limiting use to existing routes, roads, and trails, or limiting use to designated routes, roads, and trails. Under the "limited to designated routes, roads, and trails" designation, use would be allowed only on routes, roads, and trails that are signed for such use. Combinations of restrictions, such as limiting use to certain types of vehicles during certain times of the year, are possible.

CLOSED. Designated areas, routes, roads, and trails where the use of off-highway vehicles is permanently or temporarily prohibited. Emergency use of vehicles is allowed.

OUTSTANDING NATURAL AREA (ONA). An area established to preserve scenic values and natural wonders. The preservation of these resources in their natural condition is the primary management objective.

OVERSTORY. That portion of a plant community consisting of the taller plants on the site; the forest or woodland canopy.

PATENT. A grant made to an individual or group conveying fee simple title to selected public lands.

PATENTED CLAIM. A claim on which title has passed from the federal government to the mining claimant under the Mining Law of 1872.

PERENNIAL STREAM. A stream that has year-round surface flows.

PERMEABILITY. The condition of being porous; containing openings or interstices through which outside properties can pass.

PLANNING AREA. The geographical area for which land use and resource management plans are developed and maintained.

POTENTIAL NATURAL COMMUNITY (PNC). The biotic community that would become established if all successional sequences were completed without interferences by man under the present environmental conditions. Natural disturbances are inherent in development. Includes naturalized non-native species.

PRESCRIBED FIRE (PRESCRIBED BURNING). Application of fire to natural fuels under specific conditions of weather, fuel moisture, soil moisture, smoke, and other conditions intended to produce the intensity of heat and rate of spread required to accomplish certain objectives of wildlife habitat or livestock grazing management, and/or hazard reduction.

PRIMITIVE AND UNCONFINED RECREATION. Non-motorized and undeveloped types of outdoor recreation.

PUBLIC LAND. Any land and interest in land (outside of Alaska) owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management (BLM).

RANGE CONDITION. See ecological status.

RANGE SITE. A kind of rangeland with a specific potential natural community and specific physical site characteristics, differing from other kinds of rangeland in its ability to produce vegetation and to respond to management. Range sites are defined and described with soil, species composition, and production emphasis. Range site is synonymous with ecological site.

RANGELAND. A kind of land which supports vegetation useful for grazing on which routine management of that vegetation is through manipulation of grazing rather than cultural practices. (Rangeland include natural grasslands, savannas, shrublands, most deserts, tundra, alpine communities, coastal marshes, riparian zones, and wet meadows. Rangeland includes lands revegetated naturally or artificially to provide a plant cover which is managed like native vegetation.)

RAPTORS. Bird of prey with sharp talons and strongly curved beaks, e.g., hawks, owls, vultures, eagles.

RECLAMATION. Returning disturbed lands to a form and productivity that will be ecologically balanced and in conformity with a predetermined land management plan.

RECREATION AREA MANAGEMENT PLAN (RAMP). An activity plan detailing specific recreation facilities, resource, and management actions to be implemented in a Special Recreation Management Area.

RECREATION VISITOR DAY (RVD). Aggregation of 12 visitor hours, where a visitor hour is the presence of one or more persons on lands and water for outdoor recreation purposes for continuous, intermittent, or simultaneous periods aggregating 60 minutes (one person for one hour).

RECREATION OPPORTUNITY SPECTRUM (ROS). A method for classifying the land by setting opportunity, according to the ability of the land to provide various types of physical, social, and managerial settings to satisfy the desires and expected behavioral preferences of the users.

RECREATION AND PUBLIC PURPOSES ACT (R&PP). This Act authorizes the Secretary of the Interior to lease or convey public lands for recreational and public purposes under specified conditions to states or their political subdivisions, and to nonprofit corporations and associations.

RESOURCE MANAGEMENT PLAN (RMP). A land use plan that establishes land use allocations, multiple-use guidelines, and management objectives for a given planning area. The RMP planning system has been used by the BLM since about 1980.

RESOURCE AREA. A geographic portion of a BLM District that is the smallest administrative subdivision in the BLM.

RESOURCE VALUE RATING (RVR). The value of vegetation present on a range site for a particular use or benefit. Resource value ratings may be established for each plant community capable of being produced on a range site, including exotic or cultivated species. On a given range site, each use (or potential use) has a separate resource value rating because that rating is based on classification of plants according to their value for a specific use. Some examples: A resource value rating for forage useful for cows and calves during the spring grazing season could be based on proper use factors (PUF's) or a more general assigning of plant species to good, moderate, or poor categories of forage value. Resource value ratings could then be based on production, cover, density, or frequency of plants in the different categories. A resource value rating for cover useful for a pronghorn fawning area might be based on density or cover of plants of a certain height or size class, without regard to plant species. A resource value rating related to scenic beauty might be based on abundance of flowering species, species with fall color, evergreens, diversity of growth forms, etc..

REST-ROTATION. A prescribed pattern of grazing use that provides sequential rest for various parts of the range unit for at least an entire year.

RIGHTS-OF-WAY CORRIDOR. A designated parcel of land, either linear or areal in character, that has been identified through the land use planning process as the preferred location for existing and future rights-of-way grants and would accommodate more than one type of right-of-way or one or more rights-of-way that are similar, identical, or compatible.

RIPARIAN ZONE. Riparian zones are those areas that are adjacent to intermittent and perennial streams, rivers, springs, bogs, ponds, lakes, reservoirs and other bodies of water. These areas have visible vegetation or physical characteristics reflective of permanent ground or surface water influence.

RIPARIAN RESOURCE VALUE RATING. A riparian resource value rating evaluates progress toward meeting site-specific management objectives. A rating system is based on site potential and management objectives for the riparian ecological site. Rating criteria will differ for a given site where management objectives differ.

ROADLESS. Refers to the absence of roads that have been constructed and maintained by mechanical means to ensure regular and continuous use.

ROADS. Vehicle routes which have been improved and maintained by mechanical means to ensure relatively regular and continuous use. (A way maintained strictly by the passage of vehicles does not constitute a road.)

SALEABLE MINERALS. Minerals, such as common varieties of sand, stone, gravel, cinders, pumice, pumicite, and clay that may be acquired under the *Materials Act* of 1947, as amended.

SALINITY. Refers to the solids such as sodium chloride (table salt) and alkali metals that are dissolved in water.

SCOPING PROCESS. An early and open public participation process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

SEDIMENT YIELD. The amount of sediment produced in a watershed, expressed as tons, acre-feet, or cubic yards of sediment per unit of drainage area per year.

SENSITIVE SPECIES. A species included on the sensitive species list developed by the Colorado State Office pursuant to section CL of Instruction Memorandum No. 80-722 and approved by the State Director.

SERAL STAGE. The present state of vegetation of an ecological site in relation to the potential natural community for the site. Vegetation status is the expression of the relative degree to which the kinds, proportions, and amounts of degree to which the kinds, proportions, and amounts of plants in a community resemble those of the potential natural community. The classes are potential natural community, late seral, mid-seral, and early seral.

SERAL COMMUNITY. One of a series of biotic communities that follow one another in time on any given area. Seral community is synonymous with seral stage, successional community, and successional stage.

SHEET EROSION. The removal of a fairly uniform layer of soil from the land surface by runoff water.

SHORT-TERM. In this document, short-term refers to the 10 to 12-year life of the approved RMP. Short-term impacts would occur within that time period.

SOIL HORIZON. A layer of soil approximately parallel to the soil surface with comparatively uniform characteristics.

SOIL ASSOCIATION. A mapping unit used on general soil maps in which two or more defined taxonomic units occurring together in a characteristic pattern are combined.

SOLITUDE. The state of being along or remote from habitations; isolation. A lonely or secluded place. Factors contributing to opportunities for solitude may include size, natural screening, topographic relief, vistas, physiographic variety, and the ability of the user to find a secluded spot.

SPECIAL STIPULATIONS. Additional specific terms and conditions that change the manner in which operations may be conducted on a lease or modify the lease rights granted. This term may also apply to other land use authorizations, i.e., rights-of-way grants.

SPECIAL RECREATION MANAGEMENT AREA (SRMA). An area that possesses outstanding recreation resources or where recreation use causes significant user conflicts, visitor safety problems, or resource damage.

SPLIT ESTATE. Lands where the surface and mineral estates have been severed and are under different ownership (i.e., private surface/Federal minerals).

STREAMBANK (AND CHANNEL) EROSION. The removal, transport, deposition, recutting, and bed load movement of material in streams by concentrated water flows.

SUITABILITY. As used in the Wilderness Act and in the Federal Land Policy and Management Act refers to a recommendation by the Secretary of Interior or the Secretary of Agriculture that certain federal lands satisfy the definition of wilderness in the Wilderness Act and have been found appropriate for designation as wilderness on the basis of an analysis of the existing and potential uses of the land.

SUITABLE COMMERCIAL FOREST LANDS. Lands determined to have the capability of sustaining low-term timber production.

SUPPLEMENTAL VALUES. Resources associated with wilderness which contribute to the quality of wilderness areas.

SUSTAINED YIELD. The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple-use.

TERRESTRIAL. Living or growing in or on the land.

THREATENED SPECIES. Any species or significant population of that species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Usually includes only those species that have been recognized and listed as threatened by federal and state governments, but may include species categorized as rare, very rare, or depleted.

TIMBER PRODUCTION CAPABILITY CLASSIFICATION (TPCC). A classification system based on a forest inventory designed to rate an area's suitability for production of timber or woodland products.

TIMBER. Standing trees, downed trees, or logs which are capable of being measured in board feet.

TIMING LIMITATION (SEASONAL RESTRICTION). Prohibits surface use during specified time periods to protect identified resource values. The stipulation does not apply to the operation and maintenance of production facilities unless the findings of analysis demonstrate the continued need for such mitigation and that less stringent, project-specific mitigation measures would be insufficient

TOTAL DISSOLVED SOLIDS (TDS). Salt, or an aggregate of carbonates, bicarbonates, chlorides, sulfates, phosphates, and nitrates of calcium, magnesium, manganese, sodium, potassium, and other cations that form salts.

TREND. The direction of change in ecological status or in resource value ratings observed over time. Trend in ecological status is described as "toward" or "away from" the potential natural community or as "not apparent." Appropriate terms are used to describe trend in resource value ratings. Trends in resource value ratings for several uses on the same site at a given time may be in different directions, and there is no necessary correlation between trends in resource value ratings and trend in ecological status.

TRESPASS. Any unauthorized use of public land.

UNDERSTORY. That portion of a plant community growing underneath the taller plants on the site.

UNIQUE PLANT ASSOCIATIONS. Plant communities which (1) occur only in Colorado, (2) are common elsewhere but are represented by only a few occurrences in Colorado, (3) could easily be eliminated from Colorado, or (4) are considered to be their natural state.

UNIVERSAL SOIL LOSS EQUATION. A formula for predicting soil loss resulting from sheet and rill erosion caused by rainfall.

UTILIZATION. The proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects). May refer either to a single plant species, a group of species, or to the vegetation as a whole. Utilization is synonymous with use.

VALID EXISTING RIGHTS. Legal interests that attach to a land or mineral estate that cannot be divested from the estate until that interest expires or is relinquished.

VANDALISM. Willful or malicious destruction or defacement of public property; e.g., cultural or paleontological resources.

VEGETATION MANIPULATION. Planned alteration of vegetation communities through use of prescribed fire, plowing, herbicide spraying, or other means to gain desired changes in forage availability, wildlife cover, etc.

VEGETATION TYPE. A plant community with immediately distinguishable characteristics based upon and named after the apparent dominant plant species.

VERTEBRATE. An animal having a backbone or spinal column.

VISUAL RESOURCE MANAGEMENT CLASSES. VRM classes identify the degree of acceptable visual change within a characteristic landscape. A VRM classification is assigned to public lands based on the guidelines established for scenic quality, visual sensitivity, and visibility. The management objectives for visual resources in each VRM Class are:

VRM CLASS I. This classification preserves the existing characteristic landscape and allows for natural ecological changes only. Includes Congressionally authorized areas (wilderness) and areas approved through the RMP where changes to the landscape would be restricted, would be very low, and would not attract attention.

VRM CLASS II. This classification retains the existing characteristic landscape. The level of change in any of the basic landscape elements due to management activities should be low and not evident.

VRM CLASS III. This classification partially retains the existing characteristic landscape. The level of change in any of the basic landscape elements due to management activities may be moderate and evident.

VRM CLASS IV. This classification provides for major modifications of the characteristic landscape. The level of change in the basic landscape elements due to management activities can be high. Such activities may dominate the landscape and be the major focus of viewer attention.

VRM CLASS V. This classification applies to areas where the characteristic landscape has been so disturbed that rehabilitation is needed to improve scenic quality. Generally considered an interim short-term classification until rehabilitation or enhancement is completed, note from SLRA p., F-1.

VRM CLASS II R, III R, AND IV R. These classifications denote lands that contain visual intrusions to the extent that rehabilitation is necessary to improve the scenic quality to the level where applicable class objectives (II, III, or IV) could be applied. Upon rehabilitation, the lands would be managed as per the noted VRM Class (II, III, or IV).

VISUAL RESOURCE MANAGEMENT (VRM). The inventory and planning actions taken to identify visual resource values and to establish objectives for managing those values, and the management actions taken to achieve the visual resource management objectives.

VISUAL SENSITIVITY. Visual sensitivity levels are a measure of public concern for scenic quality and existing or proposed visual change to the landscape.

VISUAL RESOURCES. The visible physical features within and on a landscape, (topography, water, vegetation, animals, structures, and other features) that comprise the scenery of the area.

VOLUNTARY NON-USE/SUSPENDED. That portion of the total grazing preference, expressed in AUMs that is being temporarily withheld from active grazing use.

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

WATERSHED. Topographical region or area delineated by water draining to a particular water course or body of water.

WAY. A vehicle route established and maintained solely by the passage of motor vehicles. A way is not a road.

WILDERNESS MANAGEMENT POLICY. Policy document prescribing the general objectives, policies, and specific activity guidance applicable to all designated BLM wilderness areas. Specific management objectives, requirements, and decisions implementing administrative practices and visitor activities in individual wilderness areas are developed and described in the wilderness management plan for each unit.

WILDERNESS INVENTORY. An evaluation of the public land in the form of a written description and a map showing those lands that meet the wilderness criteria as established under Section 603 (a) of FLPMA and Section 2 (c) of the Wilderness Act. The lands meeting the criteria will be referred to as WSAs.

WILDERNESS AREA. An area formally designated by Congress as a part of the National Wilderness Preservation System.

WILDERNESS STUDY AREA (WSA). An area determined to have wilderness characteristics. Wilderness study areas will be subject to interdisciplinary analysis and public comment to determine wilderness suitability. Suitable areas will be recommended to the President and Congress for designation as wilderness.

WILDERNESS CHARACTERISTICS. Identified by Congress in the Wilderness Act of 1964; namely, size, naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation, and supplemental values such as geological, archaeological, historical, ecological, scenic, or other features.

WITHDRAWAL. An action which restricts the use of public land and segregates the land from the operation of some or all of the public land and mineral laws. Withdrawals are also used to transfer jurisdiction of management of public lands to other federal agencies.

WOODLANDS. Plant communities in which trees, often small and characteristically short-bowled relative to their depths of crown, are present but form only an open canopy, the intervening areas being occupied by lower vegetation, commonly grass. Woodland forests contain major and minor forest products (or any wood fibre) that has, or may have, merchantability.

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