



**United States Department of the Interior**  
**Bureau of Land Management**  
Colorado State Office  
Colorado

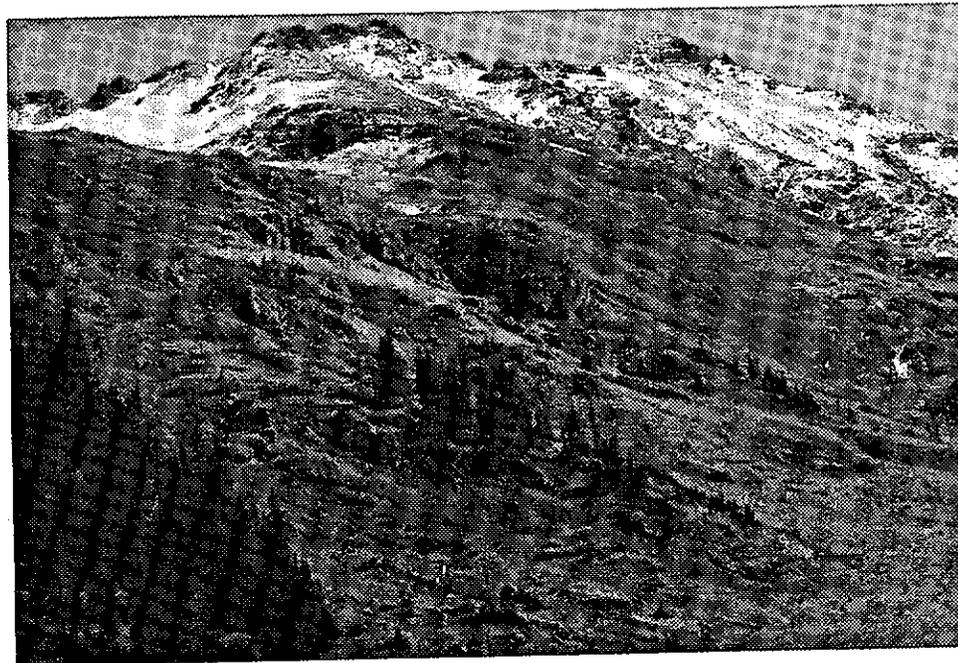
October 1991



# **WILDERNESS STUDY REPORT**

Volume Two, Pages 169-352

## **Montrose District Study Areas**





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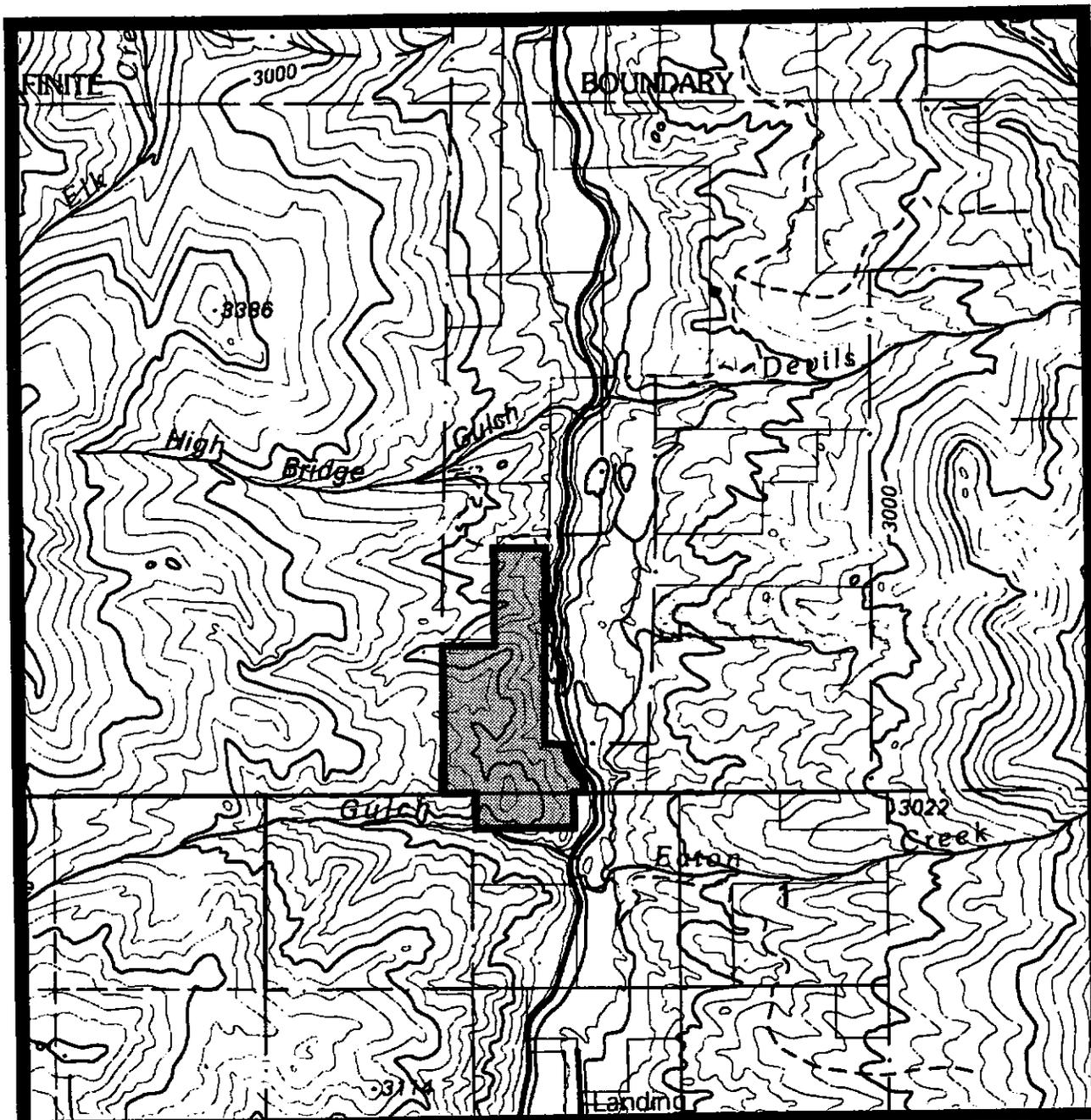
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T 45 N  
T 44 N

R 5 W R 4 W

- |   |   |   |                               |
|---|---|---|-------------------------------|
|  | RECOMMENDED FOR WILDERNESS (NONE)           |  | SPLIT ESTATE (NONE)           |
|  | RECOMMENDED FOR NONWILDERNESS               |  | STATE (NONE)                  |
|  | LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS |  | PRIVATE (NONE) WITHIN THE WSA |

Scale 1:50,000  
1 Inch equals Approximately 3/4 of a mile



Bill Hare Gulch WSA  
Proposal  
CO-030-085



January 1991

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## BILL HARE GULCH

### WILDERNESS STUDY AREA

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#### The Study Area -- 406 acres

The Bill Hare Gulch WSA (CO-030-085) is located in Hinsdale County, Colorado approximately 4 miles north of Lake City. The WSA consists of 406 acres of BLM lands with no private or state inholdings. It is bounded on the north, east and south by private land and on the west by national forest land which is part of the Big Blue Wilderness. The area is depicted on the map.

This area is comprised of relatively steep terrain ranging from 8600 feet to 9400 feet in elevation. Access to the WSA is limited to a hiking trail leading in to Independence Gulch. The vegetation consists of aspen and conifer woodlands interspersed with a few open parks dominated by sagebrush, grasses and forbs. The topography is dissected by several drainages which originate on the national forest.

The WSA was studied under Section 202 of the Federal Land Policy and Management Act (FLPMA) and was included in the Gunnison Basin and American Flats/Silverton Wilderness Final Environmental Impact Statement filed in August 1987. There were three alternatives analyzed in the EIS; an all wilderness alternative, a partial wilderness alternative which proposed 313 acres for wilderness designation, and a no wilderness alternative which is the recommendation of this report.

#### Recommendation and Rationale

0 acres recommended for wilderness

406 acres recommended for nonwilderness

The recommendation is to not designate any acres as wilderness and release all 406 acres for uses other than wilderness. The environmentally preferable alternative would be to designate the entire 406 acres as wilderness since this would result in the least change to the natural environment over the long term.

The area was not recommended for wilderness for several reasons. It was originally considered under Section 202 of FLPMA because it was adjacent to the existing Big Blue Wilderness. Addition of this area, however, would not add any significant values or features to the Big Blue Wilderness and would not improve the manageability of its boundary. The U.S. Forest Service, which manages the Big Blue, agreed with our recommendation for this area. The inaccessibility of the WSA also suggests that the character of the area is unlikely to change from its present condition.

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	406
Split Estate(BLM surface only)	0
Inholdings(State, Private)	<u>0</u>
<b>Total</b>	<b>406</b>
<hr/>	
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	0
Split Estate (outside WSA)	0
Split Estate (within WSA)	<u>0</u>
<b>Total BLM Land Recommended for Wilderness</b>	<b>0</b>
<b>Inholdings (State, Private)</b>	<b>0</b>
<hr/>	
<u>Within the Area not Recommended for Wilderness</u>	
BLM	406
Split Estate	<u>0</u>
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>406</b>
<b>Inholdings (State, Private)</b>	<b>0</b>

**Criteria Considered in Developing the Wilderness Recommendations**

**WILDERNESS CHARACTERISTICS**

***Naturalness***

The Bill Hare Gulch WSA is predominantly natural with negligible human impacts. Access from the adjacent highway is possible along a steep rocky footpath. The WSA includes the lower end of three gulches whose upper portions are part of the Forest Service Wilderness. The terrain is steep with limited access. The vegetation consists of aspen and conifers with shrubs along the drainages.

***Solitude***

The WSA contains 406 acres which would not by itself provide outstanding opportunities for solitude.

It is, however, adjacent to the 98,320 acre Big Blue Wilderness which does provide outstanding opportunities for solitude.

***Primitive and Unconfined Recreation***

Because of its small size, the WSA itself does not provide outstanding opportunities for primitive recreation. When taken along with the contiguous Big Blue Wilderness the area would not significantly add to opportunities for backpacking, hiking, fishing, hunting or nature study. The main access trail for the eastern part of the wilderness passes through this WSA and would be expected to remain open no matter what decision is made on wilderness.

***Special Features***

The area contains no special features or values.

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

*Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilder-

ness Preservation System (NWPS). The Rocky Mountain Forest Province is well represented in the NWPS. Existing wilderness in this area includes large acreages of the sagebrush meadows, aspen woodlands and spruce-fir forest found in this WSA.

**TABLE 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u> Province/Potential Natural Vegetation	<u>NWPS Areas</u> <u>areas</u> <u>acres</u>	<u>Other BLM Studies</u> <u>areas</u> <u>acres</u>
<i>Nationwide</i>		
<u>Rocky Mt. Forest Province</u>		
Southwestern Spruce-Fir Forest	10 612,622	13 51,528
<i>Colorado</i>		
<u>Rocky Mt. Forest Province</u>		
Southwestern Spruce- Fir Forest	6 406,528	13 51,528

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The WSA is within a day's driving time of two major population centers (Standard Metropolitan Statisti-

cal Areas of 100,000 or more), Colorado Springs and Pueblo. Table 3 summarizes the number and acreage of designated areas and other BLM Study Areas within a day's drive of these population centers.

**TABLE 3 - Wilderness Opportunities for Residents of Major Population Centers**

<u>Population Center</u>	<u>NWPS Areas</u> <u>areas</u> <u>acres</u>	<u>Other BLM Studies</u> <u>areas</u> <u>acres</u>
Denver	20 1,728,410	21 372,010
Boulder	20 1,728,410	21 372,010
Colorado Springs	19 1,845,350	19 336,925
Pueblo	19 1,865,011	19 336,925

**Balancing the Geographic Distribution of Wilderness Areas**

The Bill Hare Gulch WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. In a clockwise direction beginning due north is the West Elk Wilderness (176,412 acres), La Garita Wilderness (103,986 acres), Weminuche Wilderness (459,604 acres), Mt. Sneffels Wilderness (16,505 acres) and the Big Blue Wilderness (98,320 acres).

**MANAGEABILITY**

The main reason for considering this WSA is as an addition to the existing Big Blue Wilderness. It is manageable as wilderness in conjunction with the Big Blue. The steep nature of the terrain restricts the potential for vehicle incursions and recreational use is very light. Unfortunately, this areas would not improve the manageability of the eastern boundary of the wilderness. Its irregular shape, lack of

identifiable topographic features along the border and closer proximity to vehicle access would further complicate the manageability of the wilderness boundary.

**ENERGY AND MINERAL RESOURCE VALUES**

The *Mineral Summaries* prepared for BLM by U.S. Geological Survey and Bureau of Mines in 1990 states that no mineral resources have been identified in the study area. The WSA has a low mineral resource potential for metals, including uranium, and for coal, oil, gas, and geothermal energy.

**IMPACTS ON RESOURCES**

The following table of comparative impacts summarizes the effects on pertinent resources for all alternatives considered including designation or nondesignation of the entire area as wilderness.

**Table 4 - Comparative Summary of the Impacts by Alternative**

<b>Impact Topics</b>	<b>Recommendation: No Wilderness Alternative</b>	<b>All Wilderness Alternative</b>	<b>Partial Wilderness Alternative</b>
<b>Impacts on Wilderness Values</b>	<i>No protection will be provided, however, wilderness values are not expected to be affected by non-designation.</i>	<i>Wilderness values on 406 acres would be protected in the long term.</i>	<i>Wilderness values would be legislatively protected on 313 acres. Values are not expected to be impacted on the remaining 93 acres.</i>
<b>Impacts on Mineral Resource Development</b>	<i>Mineral resource development would not be affected by non-designation since no development is predicted.</i>	<i>Exploration would be foregone. Since the potential is low there would be no impact on mineral resource production.</i>	<i>No impact on mineral development is expected in the suitable or non-suitable portions of the WSA.</i>
<b>Impacts on Recreation Use</b>	<i>Recreation use would continue to be for access to the Big Blue Wilderness and should not exceed 100 user days.</i>	<i>Designation would protect the existing setting but would not affect use within the WSA. Use would remain at about 100 user days.</i>	<i>The recreation setting would not change in either the suitable or nonsuitable areas. Use patterns or amounts (100 user days) would not change as a result of designation or non-designation.</i>

## LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS

No significant social or economic effects would occur as a result of designation or non designation of this area as wilderness.

## SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS

During the inventory phase, eight public comments were received on this area. These comments were mostly from people who did not understand the inventory criteria or study process. Comments were concerning the size, mineral potential, boundaries and naturalness of the area and questioned its suitability for study.

During formal public review of the draft EIS, a total of 26 comments specifically addressing this WSA were received. Of those, 18 were written and 8 were oral statements received at public hearings in Lake City, Silverton and Denver. In general, 22 comments supported wilderness designation for all or part of the WSA and 4 comments supported no wilderness designation for the WSA.

Those favoring wilderness designation cited the lack of conflicts with other resources and the potential for addition to the Big Blue Wilderness as major considerations. Those opposed to wilderness designation were generally opposed to any wilderness des-

ignation on the basis that it would preclude mineral development and that there was already enough wilderness.

### *County*

At the time of comment the Hinsdale County Planning Commission was opposed to any additional wilderness designation within the county.

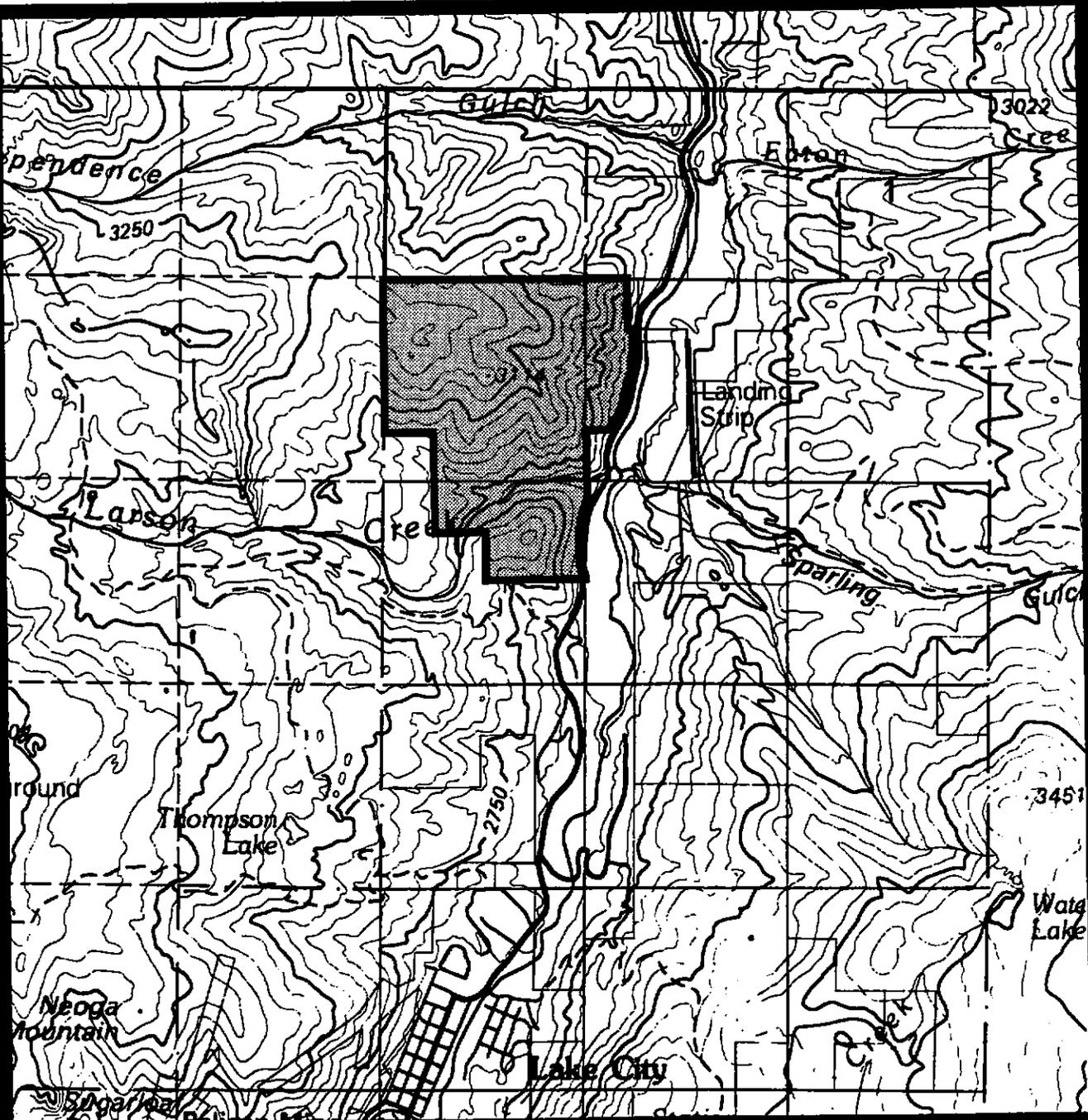
### *State*

The Colorado Historical Society made no recommendation, but stated their concern for possible cultural resources in all our WSAs. The Division of Wildlife, Water Conservation Board, Natural Areas Program, Division of Water Resources, Geological Survey and Department of Health had no specific comments on this area.

### *Federal*

The U.S. Forest Service which manages the adjacent Big Blue Wilderness supported the no wilderness alternative. The National Park Service recommended wilderness designation for this area. The Environmental Protection Agency had no objections to the recommendation. The Fish and Wildlife Service agreed no threatened or endangered species would be affected. The Air Force made no specific recommendations, but expressed opposition to any decisions that would restrict military overflight.

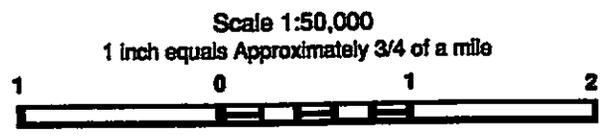
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|---|---|--|-------------------------------|
|  | RECOMMENDED FOR WILDERNESS (NONE)           |  | SPLIT ESTATE (NONE)           |
|  | RECOMMENDED FOR NONWILDERNESS               |  | STATE (NONE)                  |
|  | LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS |  | PRIVATE (NONE WITHIN THE WSA) |

Larsen Creek WSA  
Proposal  
CO-030-086



January 1991

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## LARSON CREEK

### WILDERNESS STUDY AREA

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#### The Study Area – 902 acres

The Larson Creek WSA (CO-030-086) is located in Hinsdale County, Colorado, approximately 2 miles north of Lake City. The WSA consists of 902 acres of BLM lands with no private or state inholdings. It is bounded on the north and west by the Big Blue Wilderness managed by the U.S. Forest Service and on the south and east by private land. The area is depicted on the map.

This area is comprised of relatively steep terrain ranging from 8,500 feet to 10,500 feet in elevation. Access to the WSA is very limited. There are no roads or trails in the area. A road approaches the southeast boundary from private land but no public access is allowed. The vegetation consists of open rocky slopes, aspen and conifer woodlands and open parks dominated by sagebrush, grass and forbs. The topography is dissected by several drainages which originate on the national forest.

The WSA was studied under section 202 of the Federal Land Policy and Management Act (FLPMA) and was included in the Gunnison Basin and American Flats/Silverton Wilderness Final Environmental Impact Statement filed in August 1987. There were three alternatives analyzed in the EIS: an all wilderness alternative, a partial wilderness alternative which proposed 480 acres for wilderness designation, and a no wilderness alternative which is the recommendation of this report.

#### Recommendation and Rationale

0 acres recommended for wilderness

902 acres recommended for nonwilderness

The recommendation is to not designate any acres as wilderness and to release the entire area for uses other than wilderness. The environmentally preferred alternative would be to designate the entire 902 acres as wilderness since this would result in the least change to the natural environment over the long term.

The area was not recommended for wilderness for several reasons. It was considered under Section 202 of FLPMA because it was adjacent to the existing Big Blue Wilderness. Addition of this WSA, however, would not add any significant values or features to the Big Blue and would not improve the manageability of its boundary. The U.S. Forest Service which manages the Big Blue agreed with this recommendation in their input during the public comment period. In addition, the lack of vehicle access to the WSA also suggests that the character of the area is unlikely to change from its present condition.

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	902
Split Estate (BLM surface only)	0
Inholdings (State, private)	<u>0</u>
Total	902
<hr/>	
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	<u>0</u>
Total BLM Land Recommended for Wilderness	0
Inholdings (State, Private)	0
<hr/>	
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	902
Split Estate	<u>0</u>
Total BLM Land Not Recommended for Wilderness	902
Inholdings	0

**Criteria Considered in Developing the Wilderness Recommendations**

**WILDERNESS CHARACTERISTICS**

***Naturalness***

The Larson Creek WSA is predominantly natural with negligible human imprints. There are no roads or trails within the area and none could be easily developed. There is an existing road on private land along the southern boundary. While there is the possibility of vehicle incursions into the unit from that road, this has not yet been a problem.

***Solitude***

The area contains 902 acres which by itself is too small to provide outstanding opportunities for

solitude. It is, however, adjacent to the Big Blue Wilderness and the two areas taken together would provide outstanding opportunities for solitude.

***Primitive and Unconfined Recreation***

Because of its small size, the WSA itself does not provide outstanding opportunities for primitive recreation unless considered as a part of the adjacent Big Blue Wilderness. There are no hiking trails and no significant fishery in Larson Creek. Public access is very difficult and no development for recreation access has been planned.

***Special Features***

The area contains no special features or values.

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

*Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a

new ecosystem or landform to the National Wilderness Preservation System (NWPS). The Rocky Mountain Forest Province is well represented in the NWPS. Existing wilderness in this area includes large acreages of the sagebrush meadows, aspen woodlands and spruce-fir forest found in this WSA.

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u> Province/Potential Natural Vegetation	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<i>Nationwide</i>				
<u>Rocky Mt. Forest Province</u>				
Southwestern spruce-fir Forest	10	612,622	13	51,528
<i>Colorado</i>				
<u>Rocky Mt. Forest Province</u>				
Southwestern spruce-fir Forest	6	406,528	13	51,528

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The WSA is within a day's driving time of four major population centers (Standard Metropolitan

Statistical Areas of 100,000 or more) - Denver, Boulder, Colorado Springs and Pueblo. Table 3 summarizes the number and acreage of designated areas and other BLM Study Areas within a day's drive of these population centers

**Table 3 - Wilderness Opportunities for Residents of Major Population Centers**

<u>Population Center</u>	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
Denver	20	1,728,410	21	372,010
Boulder	20	1,728,410	21	372,010
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925

**Balancing the geographic distribution of wilderness areas**

The Larson Creek WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. In a clockwise direction beginning due north from this area, is the West Elk Wilderness (176,412 acres), La Garita Wilderness (103,986 acres), Weminuche Wilderness (459,604 acres), Mount Sneffels Wilderness (16,505 acres) and the Big Blue Wilderness (98,320 acres).

**MANAGEABILITY**

The main reason for considering this WSA is as an addition to the existing Big Blue Wilderness. It is manageable as wilderness in conjunction with the Big Blue. The steep nature of the terrain restricts the potential for vehicle incursions and recreation use is very light. Unfortunately, inclusion of this area

would not improve the manageability of the eastern boundary of the wilderness. Its irregular shape and lack of identifiable topographic features along the boundaries would further complicate the manageability of the existing wilderness boundary.

**ENERGY AND MINERAL RESOURCE VALUES**

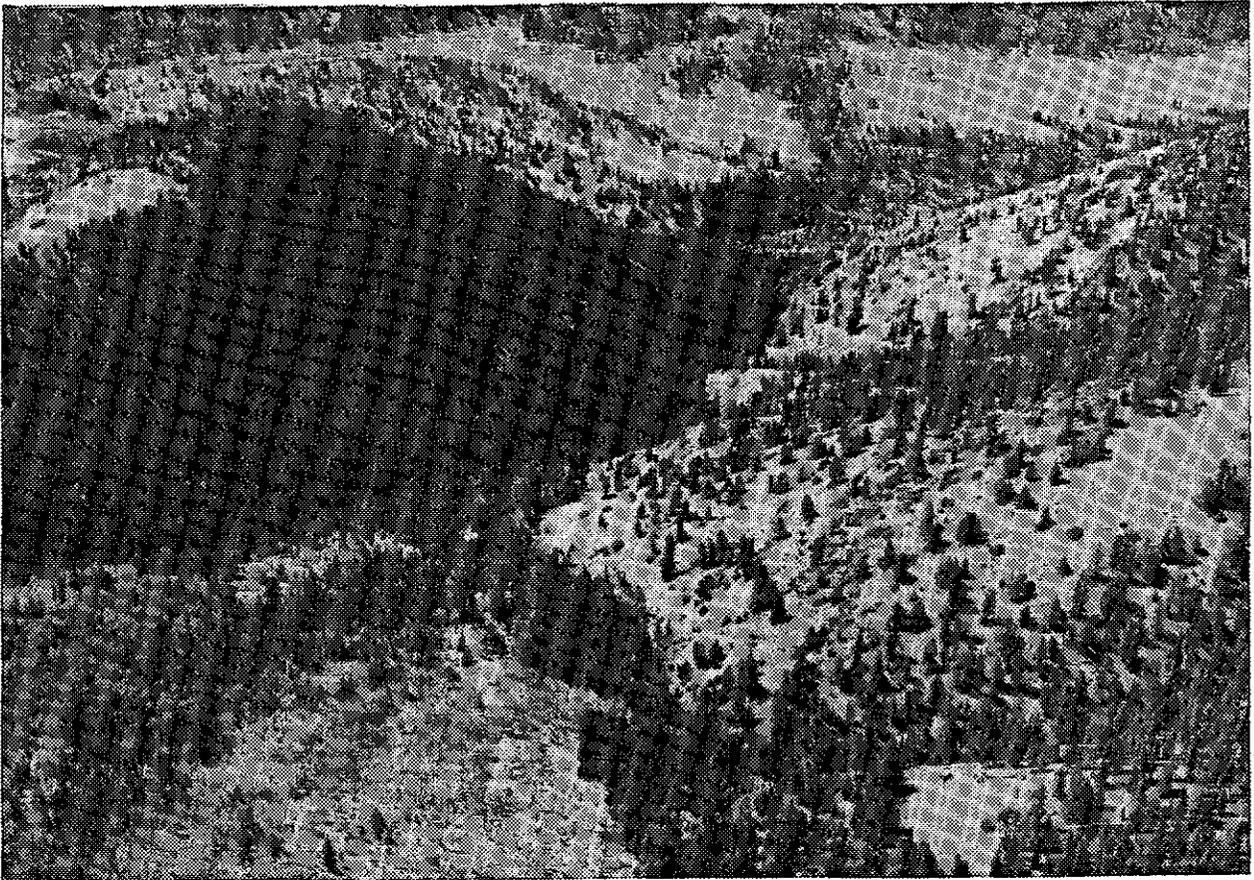
The *Mineral Summaries* prepared for BLM by U.S. Geological Survey and Bureau of Mines in 1990, states there are no identified mineral resources in the study area. The WSA has a low mineral resource potential for metals, including uranium, and for coal, oil, gas, and geothermal energy.

**IMPACTS ON RESOURCES**

The following table of comparative impacts summarizes the effects on pertinent resources for all the alternatives considered including designation or nondesignation of the entire area as wilderness.

**Table 4 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Wilderness Values</i>	<i>Although no protection would be provided, wilderness values on the 902 acre WSA are not expected to be affected by nondesignation.</i>	<i>Wilderness values on 902 acres would be protected in the long term.</i>	<i>Wilderness values would be legislatively protected on 480 acres. Values would not be protected on the remaining 422 acres but they are not expected to be affected by non-designation.</i>
<i>Impacts on Mineral Resource Development</i>	<i>Mineral resource develop- ment is not expected to be affected by nondesignation since no development is predicted.</i>	<i>Exploration would be foregone. Since the potential is low there would be no impact on mineral resource production.</i>	<i>No impact on mineral development or explora- tion in the suitable or non- suitable portions of the WSA is expected.</i>
<i>Impacts on Recreation Use</i>	<i>Recreation use would remain at about 20 user days.</i>	<i>Designation would protect the existing setting but would not affect use (about 20 user days) within the WSA.</i>	<i>The recreation setting would not change in either the suitable or non suitable areas. Use patterns or amounts (20 user days) would not change as a result of designation or non- designation.</i>



*Photo 1. Larson Creek WSA. Larson Creek drainage.*

### **LOCAL SOCIAL AND ECONOMIC EFFECTS**

No significant social or economic effects would occur as a result of designation or non designation of the area as wilderness.

### **SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS**

During the inventory phase eleven public comments were received on this area. These comments were mostly from people who did not understand the inventory criteria or the study process. Comments were concerning the size, mineral potential, boundaries and naturalness of the area and questioned its suitability for study. Three comments supported further study.

During formal public review of the draft EIS, a total of 26 comments specifically addressing this WSA were received. Of those, 18 were written and 8 were oral statements received at public hearings in Lake City, Silverton and Denver. In general, 22

comments supported wilderness designation for all or part of the WSA and 4 comments supported no wilderness designation for the WSA.

Those favoring wilderness designation cited the lack of conflicts with other resources and the potential for addition to the Big Blue Wilderness as major considerations. Those opposed to wilderness designation were generally opposed to any wilderness designation on the basis that it would preclude mineral development and that there was already enough wilderness.

#### ***County***

At the time of comment, the Hinsdale County Planning Commission was opposed to any additional wilderness designation within the county.

#### ***State***

The Colorado Historical Society made no recommendation, but stated their concern for possible cultural resources in all BLM WSAs.

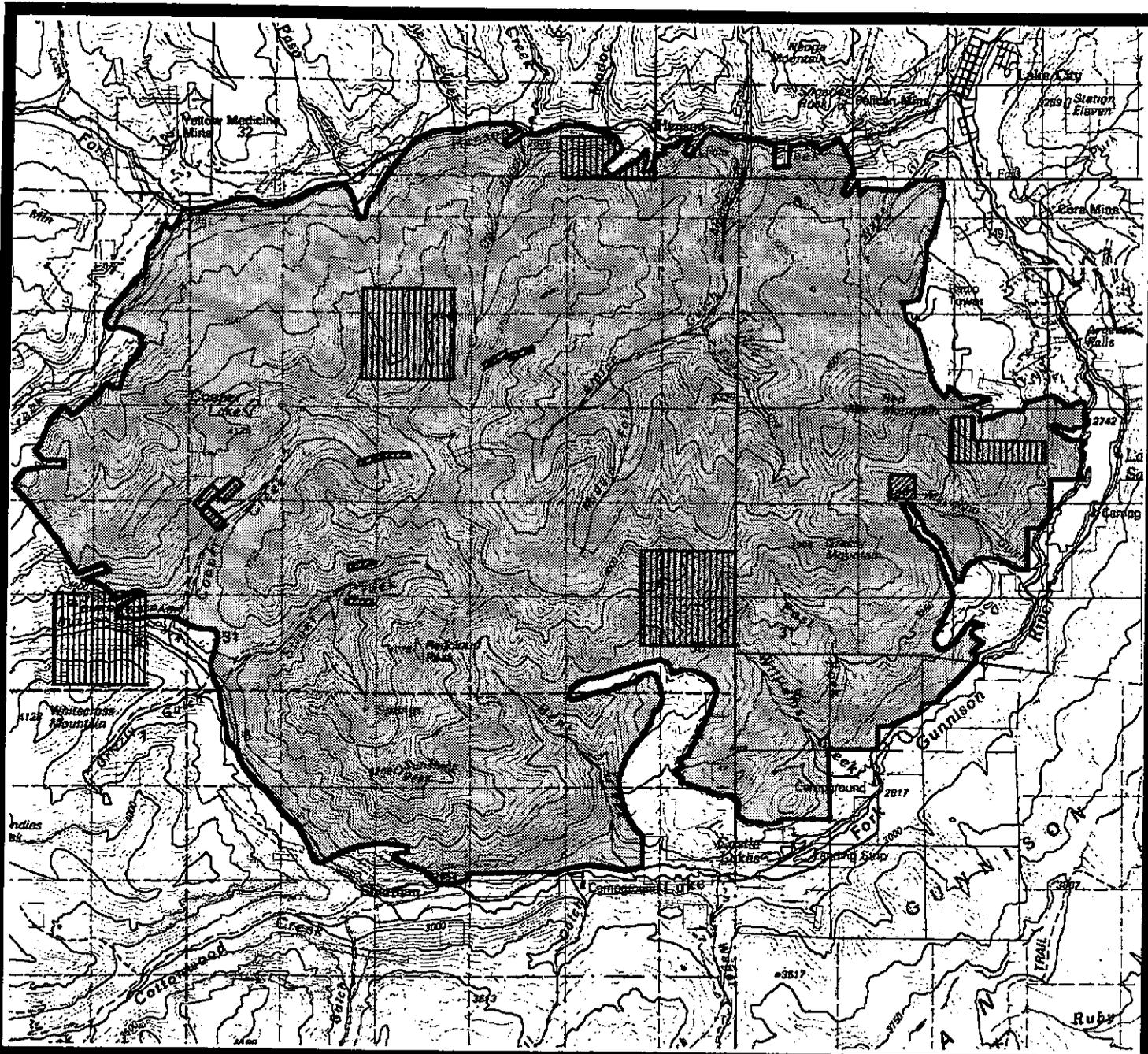
The Division of Wildlife, Water Conservation Board, Natural Areas Program, Division of Water Resources, Geological Survey and Department of Health had no specific comments on this area.

*Federal*

The U.S. Forest Service which manages the adjacent Big Blue Wilderness supported the no wilder-

ness alternative. The National Park Service recommended wilderness designation for this area. The Environmental Protection Agency had no objections to the recommendation. The Fish and Wildlife Service agreed no threatened or endangered species would be affected. The U.S. Air Force made no specific recommendation, but expressed opposition to any decisions that would restrict military overflight.





T 44 N  
T 43 N  
T 43 N  
T 42 N

R 6 W

R 5 W

R 5 W

R 4 W



RECOMMENDED FOR WILDERNESS



RECOMMENDED FOR NONWILDERNESS



LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS



SPLIT ESTATE



STATE (NONE)



PRIVATE

SCALE 1:100000



Red Cloud WSA  
Proposal  
CO-030-208



January 1991

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## REDCLOUD PEAK

### WILDERNESS STUDY AREA

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#### The Study Area -- 36,999 acres

The Redcloud Peak WSA (CO-030-208) is located in Hinsdale County, Colorado from one to ten miles west of Lake City. The WSA includes 34,972 acres of BLM lands, 1750 acres of BLM surface with State subsurface ownership. An additional 720 acres of BLM outside the original WSA was included in the partial wilderness alternative and analyzed for manageability reasons. There are also 15 parcels of private inholdings totalling 277 acres.\*

The WSA is bounded on the north by a county road and private land along Henson Creek, on the east by the Round Top Mountain Road and private land near Lake San Cristobal. The Loop Road and private land form the southern boundary and a concentration of private lands define the western limits. Roads near Red Mountain Gulch and Bent Creek have been cherrystemmed.

Within this WSA are 30 peaks over 13,000 feet and 2 peaks over 14,000 feet. At lower elevations the vegetation is aspen and spruce/fir forest with small willow communities in some riparian areas. Above timberline is an alpine tundra ecosystem dominated by grasses, sedges and forbs. Steep mountain streams, some originating from alpine lakes, radiate toward the boundary from a central ridge of mountain peaks.

The area has outstanding scenic views both internally and to surrounding natural areas such as the Big Blue Wilderness to the north and the Handies Peak WSA to the south. Wilderness designation of this area would ensure the integrity of the scenery and maintain the attraction of the Alpine Loop National Backcountry Byway. This jeep road, which follows the paths of old wagon

roads from the late 1800's is one of the area's top recreation attractions. It receives over 500,000 recreation user days annually primarily by visitors who come to appreciate the special beauty of these mountains. The nearby towns of Lake City, Silverton and Ouray rely heavily on these visitors for the revenue generated by the goods and services they consume.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Gunnison Basin and American Flats/Silverton Wilderness Final Environmental Impact Statement filed in August 1987. There were five alternatives analyzed in the EIS; an all wilderness alternative, a no wilderness alternative and three partial wilderness alternatives. The proposal in the Final EIS was to designate 27,989 acres as wilderness. The recommendation of this report, by Secretarial decision, is to not designate any of the area as wilderness.

#### Recommendation and Rationale

0 acres recommended for wilderness

36,999 acres recommended for nonwilderness

The recommendation is to not designate Redcloud Peak WSA as wilderness and to release the area for uses other than wilderness. The environmentally preferred alternative would be to designate the entire 36,999 acres as wilderness as this would result in the least change from the natural environment over the long term.

The Secretary of the Interior has recommended that this area not be designated wilderness due to the occurrence of an identified large alunite deposit in

*\*NOTE: Acreages presented here are different from those presented in the final EIS. The EIS contained an error which showed approximately 2,860 more acres in the WSA than are reflected here. The acreages portrayed here reflect an updated and more accurately measured land status in and around the WSA.*

a small portion of the eastern end of the WSA, and the high potential for occurrence of undiscovered precious metals in most of the remainder of the WSA. The U.S. Geological Survey (USGS) and Bureau of Mines (BOR) have estimated that a potential value of \$4.9 billion of undiscovered in-place resources may exist within this WSA, and the nearby Handies Peak WSA. Over \$4 billion of this value is projected for molybdenum for which the potential for occurrence is classified as moderate. The projected values are based on assumptions and statistical analysis of probabilities of mineral occurrence, and do not consider exploration, production, and transportation costs or market availability. See page 189 for further mineral information and for references to USGS publications.



*Photo 1. Redcloud Peak WSA. Looking Northeast from Burrows Park toward Redcloud Peak (14,034 ft.) and Sunshine Peak (14,001 ft.).*

## Criteria Considered in Developing the Wilderness Recommendations

### WILDERNESS CHARACTERISTICS

#### *Naturalness*

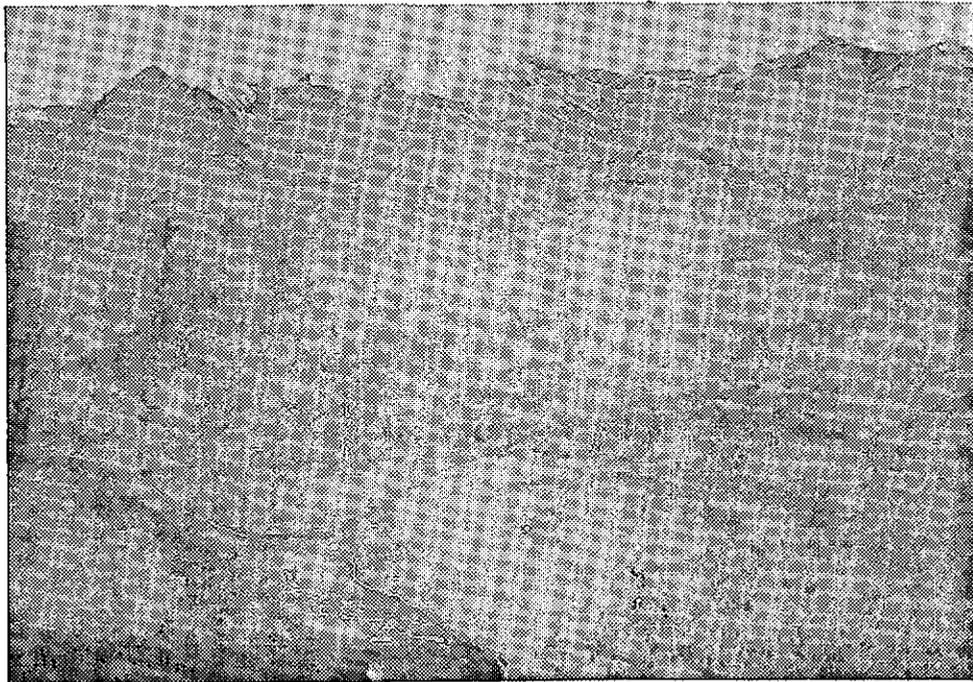
The Redcloud Peak WSA is predominately natural with negligible human imprints. The rugged topography has kept vehicle incursions to a minimum. There is a way extending 1 miles up the Cooper Creek drainage as access to a cluster of private inholdings. A newly constructed vehicle route extends approximately 2 miles up Silver Creek to provide access for mineral exploration on private inholdings. There is also an old road, cherry-stemmed in the original study but included in the partial wilderness alternatives, located between Bent Creek and Williams Creek. This

road has been closed to traffic for several years and is slowly revegetating.

The rest of the WSA is a good example of natural ecosystems in the southern Rocky Mountains. There are healthy populations of mule deer, elk, bighorn sheep and many other wildlife species. Spruce, fir and aspen forests dominate the lower elevations and the alpine tundra ecosystem is prevalent above timberline.

#### *Solitude*

The Redcloud Peak WSA contains outstanding opportunities for solitude. The WSA is extremely rugged with high mountain peaks and numerous valleys. This highly dissected topography provides numerous opportunities for solitude. In the upper portion of the drainages, the mountainous terrain with its expanses of alpine tundra and open



*Photo 2. Redcloud Peak WSA. Looking northwest up Bent Creek toward Redcloud and Sunshine Peaks.*

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within the Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	34,972
Split Estate (BLM surface only)	1,750
Inholdings (State, Private)	<u>277</u>
<b>Total</b>	<b>36,999</b>
<hr/>	
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	<u>0</u>
<b>Total BLM Land Recommended for Wilderness</b>	<b>0</b>
<b>Inholdings (State, Private)</b>	<b>0</b>
<hr/>	
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	34,972
Split Estate	<u>1,750</u>
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>36,722</b>
<b>Inholdings (State, Private)</b>	<b>277</b>

scenic vistas, projects a feeling of vastness and of being alone. The lower elevations are often heavily forested and create a feeling of total seclusion.

***Primitive and Unconfined Recreation***

This WSA, with its relatively large size and varied topography, contains outstanding opportunities for primitive and unconfined recreation. While topography often encourages the use of drainages for access, the majority of the WSA allows for unconfined freedom of movement.

The mountain peaks, particularly the two fourteen thousand foot peaks, attract many climbers. There are also opportunities for hiking, fishing, hunting, photography, horseback riding and nature study. Scenic values are extremely high in the Redcloud Peak WSA.

***Special Features***

Redcloud Peak (14,034 feet) and Sunshine Peak (14,001 feet) are two of Colorado's 54 peaks over 14,000 feet. They are also two of the easiest to climb. This attracts many climbers each summer.

The area is high in educational and scientific study potential. The Colorado Outward Bound School regularly uses the area to teach skills in backcountry living and wilderness survival. Volcanic and Precambrian rock types are intermingled and glacial geomorphology is highly evident. There are also several rock glacier formations in the WSA. This unusual phenomena occurs when rocks in a steep talus slope "flow" downhill in a glacier-like manner. These characteristics make the WSA popular with geologic field trips from various colleges and universities.

The endangered Colorado cutthroat trout has been reintroduced in Cooper Lake and the Cooper Creek drainage. In 1978 a potentially new species of butterfly, the Uncompahgre Peak Fritillary, was discovered in this region. Only two populations were found, one on National Forest lands near Uncompahgre Peak and one in the Redcloud Peak WSA. The species has been listed as an endangered species. Field studies over the past few years indicate the population in the WSA is the largest and most viable of the known populations of this species. This discovery is one of only two new butterfly species to be classified this century.

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

*Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System (NWPS). The Rocky Mountain Forest Province is well represented in the NWPS. Forest Service lands already designated as wilderness include large acreages of the southwestern spruce-fir forest, alpine meadows and barren vegetative classification types found in this WSA.

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u>	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
<u>Province/Potential Natural Vegetation</u>	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<i>Nationwide</i>				
<u>Rocky Mountain Forest Province</u>				
Alpine Meadows and Barren	32	1,988,190	6	54,741
Southwestern Spruce-Fir Forest	10	612,622	13	51,528
<i>Colorado</i>				
<u>Rocky Mountain Forest Province</u>				
Alpine Meadows and Barren	18	844,387	6	54,741
Southwestern Spruce-Fir Forest	6	406,528	13	51,528

***Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers***

The Redcloud Peak WSA is within a day's driving time of four major population centers (Standard Metropolitan Statistical Areas of 100,000 or more). Those are Denver, Boulder, Colorado Springs, and Pueblo. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a day's driving time of these population centers.

**Table 3 - Wilderness Opportunities for Residents of Major Population Centers**

<u>Population Center</u>	<u>NWPS Areas</u>		<u>Other BLM Study Areas</u>	
	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
Denver	20	1,728,410	21	372,010
Boulder	20	1,728,410	21	372,010
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925

***Balancing the geographic distribution of wilderness areas***

The Redcloud Peak WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. In a clockwise direction beginning due north is the Big Blue Wilderness (98,320 acres), the La Garita Wilderness (103,986 acres), the Weminuche Wilderness (459,604 acres), the Lizard Head Wilderness (41,189 acres), and the Mt. Sneffels Wilderness (16,505 acres). Also the Powderhorn Primitive Area, recommended for wilderness designation, is nearby.

### MANAGEABILITY

The WSA is manageable as wilderness. The area is large enough and topographical and vegetative screening make the sights and sounds of man substantially unnoticeable. Potential obstacles to manageability are private inholdings and State mineral tracts within the recommended portions. The State has expressed interest in an exchange for their mineral estate but it is unknown how the private landowners feel about selling their inholdings. Possible development of these inholdings and the associated access routes would compromise the naturalness of the Silver Creek and/or the Cooper Creek drainages although topographic screening would confine the visual impacts of such activities. It is possible such developments will never take place.

If the area were designated wilderness, a more manageable boundary would include approximately 720 acres of BLM land outside of the WSA boundary. This would provide more identifiable boundaries and close a cherry-stemmed road which receives little use.

### ENERGY AND MINERAL RESOURCES VALUES

The U.S. Geological Survey Bulletin 1715-B entitled *Mineral Resources of the Redcloud Peak and Handies Peak Wilderness Study Area* was the result of considerable fieldwork done to identify mineral potential in these WSA's. The report speaks of these areas generally as one unit.

Except for a large alunite deposit in a small portion of the eastern end of the WSA, no identified mineral resources were found in the Redcloud Peak WSA. Much of the unit has high mineral resource potential for precious (gold and silver) and base (principally lead zinc and copper but also antimony, barite, bismuth, cadmium, fluorspar, manganese, mercury, selenium, tellurium and tungsten) metals in vein type epithermal deposits. The unit has mostly moderate potential for these commodities in breccia-pipe epithermal deposits. This area has a generally low potential for molybdenum and copper in porphyry type deposits. The potential for uranium in veins is moderate in half

of the WSA, low in 30% and high in 20% of the area. There is no energy resource potential for coal, oil or natural gas in the WSA. There is no present production of any mineral resource in the WSA.

Additional information developed by USGS in 1991 provides a quantitative assessment of mineral resources that projects a potential value of \$4.9 billion of undiscovered in-place minerals within the Red Cloud Peak and Handies Peak WSAs. Over \$4 billion dollars of this value is projected to be molybdenum, for which the potential for occurrence is classified as moderate. These estimates do not consider exploration, production, or transportation costs or market availability and are based upon a number of assumptions and statistical analysis of the potential for in-place resources. (See USGS Open-File Report 91-384, "Quantitative Assessments of the Energy and Mineral Resources within Eighteen Wilderness Study Areas in the States of Colorado, Nevada, Oregon and Utah," 1991).

### IMPACTS ON RESOURCES

The following comparative impact table, Table 4, summarizes the effects on pertinent resources for all alternatives considered including designation or nondesignation of the entire area as wilderness.

**Table 4 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Partial Wilderness (27,969 acres)	All Wilderness Alternative	Recommendation: No Wilderness Alternative	Partial Wilderness Alternative (35,980 acres)	Partial Wilderness Alternative (10,659 acres)
<b>Impacts on Wilderness Values</b>	<i>Although a total of 27,969 acres would be designated and protected as wilderness, potential mineral development resulting from valid existing rights could reduce the acreage on which wilderness values would actually be preserved to 25,969. In addition, wilderness values would eventually be lost on 9,750 acres recommended as nonsuitable as a result of alunite mining and other small mineral operations.</i>	<i>Although a total of 37,719 acres would be designated and protected as wilderness, potential mineral development resulting from valid existing rights could affect 3,000 acres and reduce the acreage on which wilderness values are actually preserved to 34,719.</i>	<i>Approximately 520 to 585 acres would be disturbed from various mineral activities. Wilderness values would be directly lost on about 11,000 acres as a result of these activities. In the long term wilderness values would be lost on the entire 37,719 acres.</i>	<i>Although a total of 35,980 acres would be designated and protected as wilderness, potential mineral development resulting from valid existing rights could affect 2,000 acres and reduce the acreage on which wilderness values are actually preserved to 33,980. Wilderness values would also be lost on the 1,739 acres recommended nonsuitable.</i>	<i>Although 10,659 acres would be designated and protected as wilderness, potential development resulting from valid existing rights could reduce the acreage on which wilderness values would be preserved to 8,659. In addition wilderness values would be lost on about 9,000 acres in the nonsuitable portion of the WSA as a result of alunite mining and other small mineral operations. In the long term wilderness values would be lost on the 27,060 acres recommended nonsuitable.</i>
<b>Impacts on Recreation Use</b>	<i>The existing 4,500 user days of hiking, hunting, camping, photography and mountain climbing in a primitive back country setting would continue to occur within the suitable areas. This use would increase by about 9 percent annually. The current 500 user days of use in the nonsuitable portion would increase by about 5 percent annually and shift toward motorized recreation.</i>	<i>The existing 5,000 user days of hiking, hunting, camping, photography and mountain climbing in a primitive back country setting would continue to occur. This use would increase by about 9 percent annually. Access to Redcloud and Sunshine Peaks would shift from Silver Creek to Bent Creek. New trails would provide better dispersion of recreationists in the Alpine Gulch area.</i>	<i>The existing 5,000 user days would increase by about 5 percent annually. Existing activities would occur in a setting dominated by marmade intruders. An additional 1,250 user days of motorized recreation use would occur on new mining roads.</i>	<i>The existing 4,750 user days of hiking, hunting, camping, photography and mountain climbing in a primitive back country setting would continue to occur within the suitable area. This use would increase by about 9 percent annually. The 250 user days of use in the nonsuitable portion would increase by about 5 percent annually with little change in the types of activities taking place.</i>	<i>The existing 2,500 user days of hiking, hunting, camping, photography and mountain climbing would continue to occur within the suitable area. This use is expected to increase by about 9 percent annually. The current 2,500 user days of use in the nonsuitable portion would increase by about 5 percent annually and shift toward motorized recreation in the Alpine Gulch area.</i>

**Table 4 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Partial Wilderness (27,969 acres)	All Wilderness Alternative	Recommendation: No Wilderness Alternative	Partial Wilderness Alternative (35,980 acres)	Partial Wilderness Alternative (10,659 acres)
<b>Impacts on Mineral Resource Development</b>	<p><i>The proposed action would withdraw 27,969 acres from mineral entry subject to valid existing rights. Due to predicted valid existing rights development of 3 mines for the production of base and precious metals in the Silver and Cooper Creek drainages would still occur. The 9,750 acres recommended as nonsuitable would remain open to mineral entry. Production of 4 million tons of alunite as well as an unquantified amount of base and precious metals from 2 mines would occur. Alunite would generate 110 jobs and increase per capita income by 19 percent.</i></p>	<p><i>Subject to valid existing rights 37,719 acres would be withdrawn from mineral entry and the mineral potential would be foregone. Surface disturbing exploration activity would be foregone. Development of 4 million tons of alunite ore annually would not occur. The projected resultant 110 jobs and 19 percent increase in per capita income would also not occur. Five small mines for the production of base and precious metals would result from valid existing rights.</i></p>	<p><i>The entire 37,719 acre WSA would remain open to mineral entry with development of base and precious metals predicted to result from 5 small mines. If developed, the alunite mine on Red Mountain would produce 4 million tons of ore annually, generate 110 jobs and increase per capita income 19 percent.</i></p>	<p><i>Subject to valid existing rights mineral development would be foregone on 35,980 acres recommended as suitable. Valid existing rights would allow development of 3 mines in Silver and Cooper Creeks. Two small mines and mineral exploration would be allowed on the 1,739 acres recommended as nonsuitable. Development of 4 million tons of alunite would not occur. The projected resultant 110 jobs and 19 percent increase in per capita income would also not occur.</i></p>	<p><i>The proposed action would withdraw 10,659 acres from mineral entry, subject to valid existing rights. Due to predicted valid existing rights development of 3 mines for the production of base and precious metals in the Silver and Cooper Creek drainages would still occur. The 27,060 acres recommended as nonsuitable would remain open to mineral entry. Production of 4 million tons of alunite as well as unquantified amount of base and precious metals from 2 mines would occur. Alunite development would generate 110 jobs and increase per capita income 19 percent.</i></p>
<b>Impacts on Wildlife</b>	<p><i>Development of the alunite deposits would displace 50 to 80 deer and 100 to 130 elk to other portions of their summer range. Aquatic habitats in Alpine and East Alpine Gulch would be subject to degradation. Bighorn sheep, deer, and elk habitat would be protected on the 27,969 acres recommended suitable.</i></p>	<p><i>Impacts to terrestrial and aquatic wildlife from alunite development would not occur in this alternative. Overall impact would be the long term protection to 37,719 acres of habitat and about 200 elk, 120 deer and 20 bighorn sheep.</i></p>	<p><i>Development of alunite would result in displacing 50 to 80 deer and 100 to 130 elk to other portions of their summer range and degradation of water quality and loss of aquatic habitat in Alpine and East Alpine Gulch.</i></p>	<p><i>Impacts to terrestrial and aquatic habitat from alunite development would not occur. The overall impact would be the long term protection of 35,980 acres of habitat and about 200 elk, 120 deer and 20 bighorn sheep.</i></p>	<p><i>Development of the alunite deposit would displace 50 to 80 deer and 100 to 130 elk to other portions of their summer range. Aquatic habitat in Alpine and East Alpine Gulch would be degraded. Bighorn sheep, elk and deer habitat would be protected on 10,659 acres.</i></p>

**Table 4 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Partial Wilderness (27,969 acres)	All Wilderness Alternative	Recommendation: No Wilderness Alternative	Partial Wilderness Alternative (35,980 acres)	Partial Wilderness Alternative (10,659 acres)
<i>Impacts on Soils</i>	<p><i>Within the suitable area soil would be disturbed and productivity lost on approximately 20 to 40 acres as a result of mineral development and trail construction. Disturbance of 25 to 50 acres from prospecting activity would be prevented. Soil would be disturbed and productivity lost on up to 495 acres from alunite and other development in the recommended non-suitable. Overall 515 to 535 acres would be disturbed.</i></p>	<p><i>Disturbance and loss of productivity would occur on about 25 to 55 acres of soil from mineral development, access road construction and trail construction would occur. Designation would preclude disturbance to 35 to 70 acres from exploration activity and 460 acres from alunite development. Overall 25 to 55 acres would be disturbed.</i></p>	<p><i>Soil disturbance would occur and productivity would be lost on 520 to 585 acres as a result of predicted mineral activity.</i></p>	<p><i>Disturbance and loss of productivity would occur on 20 to 40 acres of soil from mineral development, access road construction and trail construction within the suitable area. Disturbance to 490 to 520 acres would be prevented. About 10 to 30 acres would be disturbed within the nonsuitable area. Overall 30 to 70 acres would be disturbed.</i></p>	<p><i>Within the suitable area soil would be disturbed and productivity would be lost on approximately 20 to 40 acres as a result of mineral development and trail construction. Disturbance of 10 to 20 acres from prospecting would be prevented. Soil would be disturbed on 460 acres from alunite and other mineral development in the area recommended nonsuitable. An additional 30 to 60 acres would be disturbed as a result of other mineral development and prospecting. Overall 500 to 560 acres would be disturbed.</i></p>
<i>Impacts on Water Quality</i>	<p><i>Degradation of water quality would occur in both the suitable and nonsuitable portions of the WSA. These would be concentrated in the Cooper and Silver Creek areas within the suitable portion. Alpine Gulch, East Alpine Gulch, Red Mountain Gulch, Wade Gulch and Henson Creek would be affected if alunite is developed in the nonsuitable portion of the WSA. Overall about 14 miles of stream would be affected.</i></p>	<p><i>Water quality would be degraded by mineral development in Silver and Cooper Creeks and along Henson Creek. Impacts to water quality associated with alunite development would not occur. About 5 miles of stream would be affected.</i></p>	<p><i>Mineral development in the Red Mountain area, Cooper and Silver Creeks and along the northern boundary as well as continued exploration would result in contamination of up to 14 miles of stream with sediment and heavy metals. This would be significant only in the case of Red Mountain development.</i></p>	<p><i>Water quality in 5 miles of stream within the suitable area would be affected by mineral development in Silver and Cooper Creeks. Impacts to water quality associated with alunite development would not occur. Slight impacts to Henson Creek might result from 2 mines in the nonsuitable area.</i></p>	<p><i>Degradation of water quality would occur in both the suitable and nonsuitable portions of the WSA. These would be concentrated in the Cooper and Silver Creek areas within the suitable portion. Alpine Gulch, East Alpine Gulch, Red Mountain Gulch, Wade Gulch and Henson Creek would be affected as a result of alunite development in the nonsuitable portion of the WSA. Overall, about 14 miles of stream could be affected.</i></p>

## LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS

Designation of the entire WSA as wilderness could lead to the removal of some or all of the mining claims from the county tax rolls. If all of the claims lapsed this could mean a loss of \$3,823 annually in tax revenues to Hinsdale County. Wilderness designation could create a minor favorable impact as a result of increased recreation use. By protecting important scenic values of the Alpine Loop Backcountry Byway, wilderness designation could ensure the area's continued attraction as a sight-seeing destination.

No significant social effects would occur as a result of wilderness designation or nondesignation.

### SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS

During the inventory phase some comments were received which dealt with other resource values and potential resource conflicts. Thirteen comments were received stating the area should not be designated a WSA because of the mining conflicts. Two comments cited grazing as a conflict. Two comments expressed the feeling that outside sights and sounds would be in conflict with the unit being designated a WSA. One comment noted that mining activity devastates native flora and fauna and protection of the area would save minerals for a less destructive generation.

Comments received during the Management Framework Plan Amendment were specifically addressed as either favoring or opposing wilderness designation of the Redcloud Peak WSA. A total of 13 comments were received. Of those, 3 comments favored wilderness designation and 10 comments favored no wilderness designation. Opposition to designation stated the area is highly mineralized and mining development would be the highest and best use. Support for wilderness designation cited that wilderness would preserve and promote tourism around Lake City, it would protect the watershed, wildlife habitat and cultural resource values and would not affect grazing.

A series of public meetings and hearings were held in association with the study phase and draft EIS for the WSAs within the Gunnison Basin and American Flats/Silverton Planning Units. These meetings were a combination workshop and scoping meeting and were held in Lake City, Silverton and Denver. Formal public hearings were later held in these same communities. A total of 81 comments (22 oral and 59 written) were received. A total of 71 comments supported more wilderness than the draft EIS recommendation. Two comments supported the recommendation and 8 comments called for less wilderness than the recommendation.

#### *County*

The Hinsdale County Planning Commission at that time was opposed to any additional designation within the county.

#### *State*

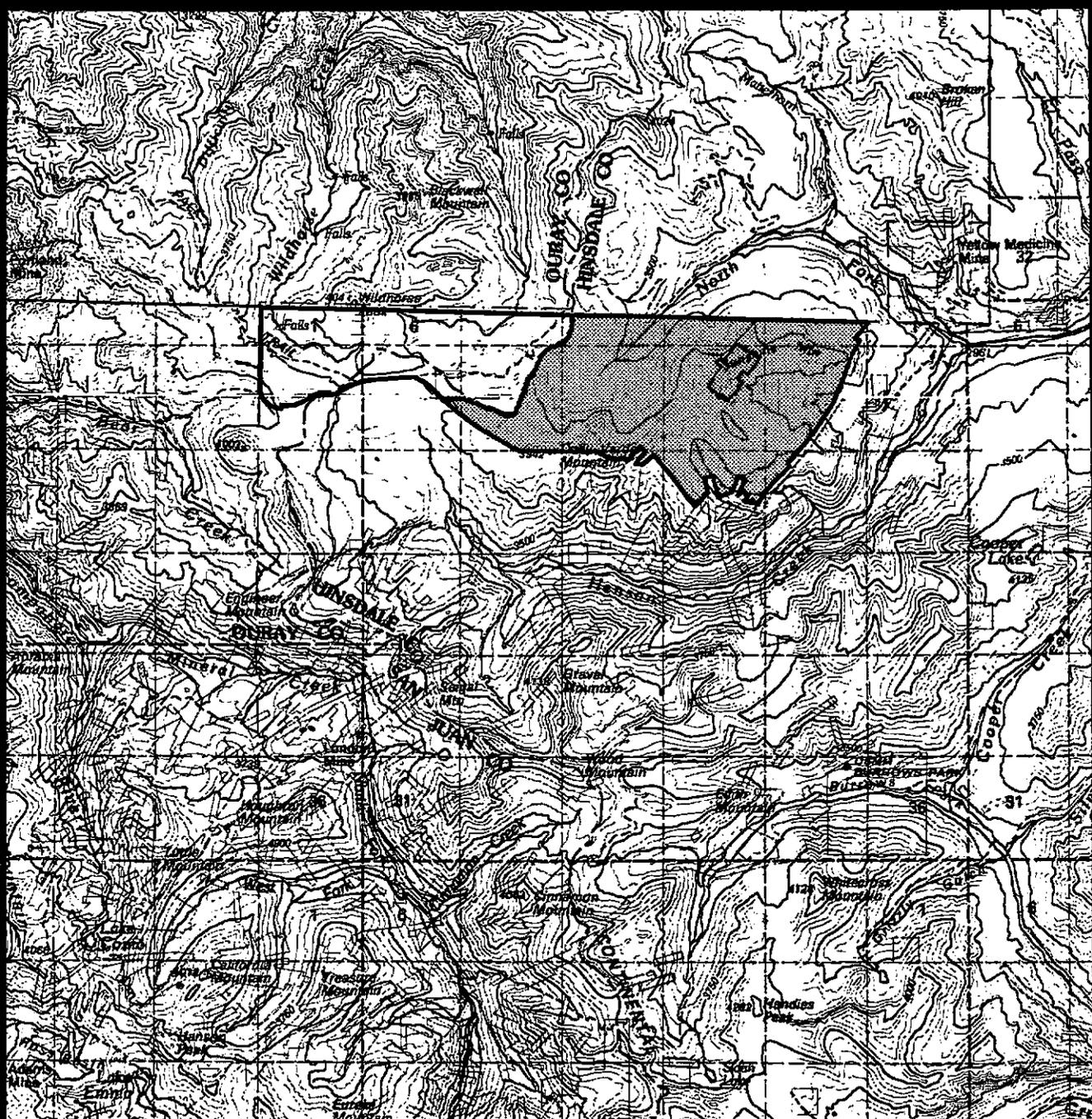
The Division of Wildlife stated the wildlife resources in the Redcloud Peak Area would benefit from a larger wilderness designation than the DEIS recommendation. The Colorado Geological Survey stated their opposition to wilderness designation. The Colorado Historical Society made no recommendation but stated their concerns for cultural resources under wilderness designation. The Division of Water Resources made no recommendation but stated their concern for motorized access to possible future reservoir structures.

#### *Federal*

The National Park Service stated they support the all-wilderness alternative. The U.S. Department of the Air Force made no recommendation but stated they would oppose any decisions to restrict military overflight.

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T 43 N

T 43 N

T 42 N

R 7 W

R 6 W

R 6 W

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RECOMMENDED FOR WILDERNESS



RECOMMENDED FOR NONWILDERNESS



LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS



SPLIT ESTATE (NONE)



STATE (NONE)



PRIVATE

SCALE 1:100000



American Flats WSA  
Proposal  
CO-030-0217



January 1991

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## AMERICAN FLATS

### WILDERNESS STUDY AREA

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#### The Study Area -- 4,800 acres

The American Flats WSA (CO-030-217) is located in Ouray and Hinsdale Counties, Colorado about 5 miles east of Ouray and 11 miles west of Lake City. The WSA includes 4,790 acres of BLM lands and 10 acres of split estate (BLM surface with State subsurface ownership). There are no private inholdings. The WSA is bounded on the north and west by national forest land, part of which is in the Big Blue Wilderness Area. On the south and east the boundary skirts old roads and patented mining claims in the American Flats, Boulder Gulch and Sunshine Mountain areas. (See Map)

This area consists primarily of alpine tundra ranging from 11,200 feet to 13,300 feet in elevation and dominated by grasses, sedges and forbs. In the western half of the WSA the topography is the gently rolling hills of American Flats. The eastern half is steeper alpine mountain ridges with associated drainages. There are five peaks over 12,000 feet and one alpine lake. There is a small stand of spruce-fir forest in the north central portion of the WSA surrounding North Henson Creek.

The WSA was studied under Section 202 of the Federal Land Policy and Management Act (FLPMA) and was included in the Gunnison Basin and American Flats/Silverton Wilderness Final Environmental Impact Statement filed in August of 1987. There were three alternatives analyzed in the final EIS; an all wilderness alternative, a no wilderness alternative, and a partial wilderness alternative which recommends 1,494 acres to be designated wilderness.

#### Recommendation and Rationale

1,494 acres recommended for wilderness

3,306 acres recommended for nonwilderness

The recommendation is to designate 1,494 acres as wilderness and release 3,306 acres for uses other than wilderness. The environmentally preferred alternative would be to designate the entire 4,800

acres as wilderness since this would result in the least change to the natural environment over the long term.

The area recommended for wilderness creates a logical topographic continuation of the U.S. Forest Service Big Blue Wilderness (97,350 acres). Inclusion of these lands would improve the manageability of the Big Blue Wilderness because the present boundary between BLM and the designated wilderness is an unsurveyed, indefinite boundary. This area includes the southern flank of Wildhorse Peak (13,266) and American Lake. It is commonly used by hikers and horseback riders into the Big Blue. Within the recommended area there are no identified ore deposits, no private lands and no split estate lands. These lands offer outstanding viewpoints into the contiguous Big Blue Wilderness and the adjacent Red Cloud Peak WSA. They are a logical ecologic addition to the Big Blue and provide important summer habitat for the area's elk herd.

There are several parcels of land which are not recommended for wilderness designation. (See Map) Much of the boundary separating the recommended from the nonrecommended portions follows a prominent ridge line or parallels a maintained foot and horse trail into American Lake. The parcel east of the Ouray-Hinsdale county line is physically separated from both the Big Blue Wilderness and the western portion of the WSA. The southern portion of the WSA is open tundra with no natural barriers to prevent illegal vehicle access from adjacent roads. Also excluded is an infrequently used vehicle access for a mining operation on nonwilderness U.S. Forest Service lands. A small tract of split estate land along the southern boundary was excluded to avoid potential conflicts. It is projected that some mineral exploration and development may occur on private inholdings adjacent to the WSA in the southeastern portion of the WSA. This would compromise natural values in much of the surrounding open terrain. Finally, the boundaries of the portions not recommended are not easily identified on the ground and would be difficult to manage in an open tundra environment.

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	4,790
Split Estate (BLM surface only) (estimated)	10
Inholdings (State, Private)	<u>0</u>
<b>Total</b>	<b>4,800</b>
<hr/>	
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	1,494
BLM (outside WSA)	0
Split Estate (within WSA)	0
Split Estate (outside WSA)	<u>0</u>
<b>Total BLM Land Recommended for Wilderness</b>	<b>1,494</b>
Inholdings (State, Private)	0
<hr/>	
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	3,296
Split Estate (estimated)	<u>10</u>
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>3,306</b>
Inholdings (State, Private)	0

**Criteria Considered in Developing the Wilderness Recommendations**

**WILDERNESS CHARACTERISTICS**

***Naturalness***

The American Flats WSA is predominately natural with negligible human imprints. The majority of the area is comprised of an alpine tundra ecosystem. A small area below timberline is forested with spruce and fir. Several drainages radiate from Dolly Varden (12,932 feet) and Sunshine (13,321) Mountains including North Hensen Creek. A large portion of the WSA has an undulating topography with unobscured vistas of the surrounding mountain lands. The WSA includes American Lake and several smaller tundra ponds. The area provides summer habitat for elk and bighorn sheep populations.

The imprints of humans associated with this WSA are substantially unnoticeable. A vehicle way, essentially two tracks, extends approximately two-thirds of a mile along the North Fork of Henson Creek. This way is naturally rehabilitating in places and is often used as a foot or horseback trail and a stock driveway. Other imprints include mineral prospects which have an insignificantly low impact on the naturalness of the WSA. Foot and horseback trails are located primarily in the western portion of the WSA and provide access to the adjacent National Forest lands.

***Solitude***

Both by itself and in conjunction with the Big Blue Wilderness Area the American Flats WSA contains outstanding opportunities for solitude. The area's rolling, open alpine tundra does not provide for either

vegetative or topographic screening but the western portion readily combines geographically with the existing wilderness to offer the sense of vastness and solitude.

*Primitive and Unconfined Recreation*

The tundra vegetation in this WSA allows unconfined movement for recreation both on and off trails. This combined with the high scenic quality of the mountainous landscape provides outstanding opportunities for primitive recreation such as hiking, backpacking, mountain climbing, hunting, photography and horseback riding.

*Special Features*

The WSA has high scenic values encompassing rolling grassy tundra and the surrounding rugged

peaks. The area proposed for wilderness will extend and enhance outstanding opportunities for recreation on the adjacent Big Blue Wilderness.

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

*Assessing the diversity of natural systems and features, as represented by ecosystems*

Wilderness designation on this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System (NWPS). The Rocky Mountain Forest Province is well represented in the NWPS. Forest Service lands already designated as wilderness include large acreages of the southwestern spruce-fir forest, alpine meadows and barren vegetation classification types found in this WSA.

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u> Province/Potential Natural Vegetation	NWPS areas		Other BLM Studies	
	areas	acres	areas	acres
<i>Nationwide</i>				
<u>Rocky Mt. Forest Province</u>				
Alpine Meadows and Barren	32	1,988,190	6	54,741
Southwestern Spruce-Fir Forest	10	612,622	13	51,528
<i>Colorado</i>				
<u>Rocky Mt. Forest Province</u>				
Alpine Meadows and Barren	18	844,387	6	54,741
Southwestern Spruce-Fir Forest	6	406,528	13	51,528

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (5 hours) of major population centers*

The American Flats WSA is within a day's driving time of four major population centers (Standard

Metropolitan Statistical Areas of 100,000 or more) - Denver, Boulder, Colorado Springs and Pueblo. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a day's driving time of these population centers.

**Table 3 - Wilderness Opportunities for Residents of Major Population Centers**

<u>Population Center</u>	<u>NWPS Areas</u>		<u>Other BLM Study Areas</u>	
	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
Denver	20	1,728,410	21	372,010
Boulder	20	1,728,410	21	372,010
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925

***Balancing the geographic distribution of wilderness areas***

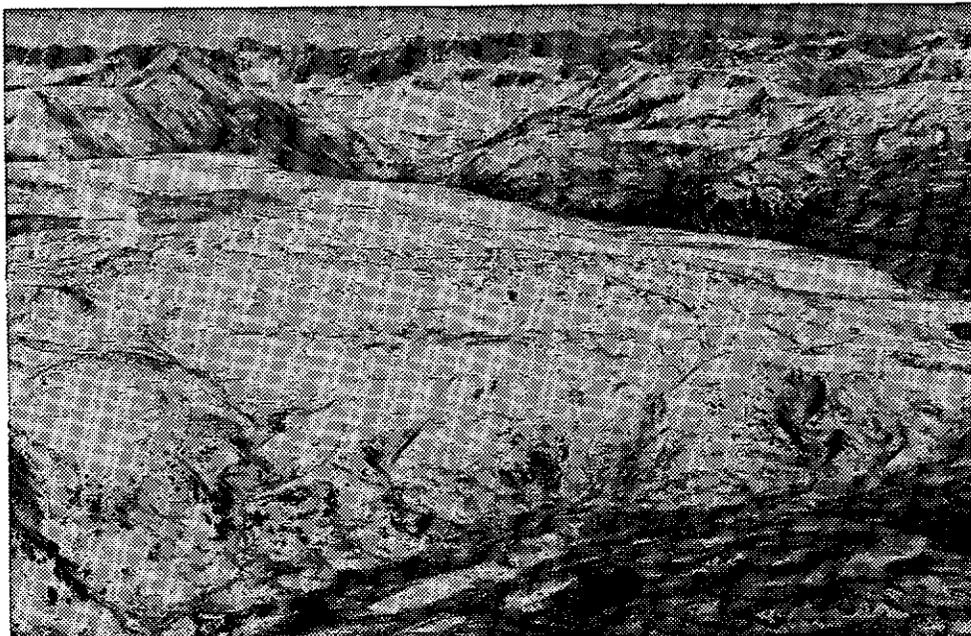
The American Flats WSA would not contribute to balancing the geographic distribution of areas within the NWPS. In a clockwise direction beginning due north are located the Big Blue Wilderness (98,320 acres), the La Garita Wilderness (103,986 acres), the Weminuche Wilderness (459,604 acres), the Lizard Head Wilderness (41,189 acres) and the Mt Sneffels Wilderness (16,505 acres).

**MANAGEABILITY**

The portion of the WSA recommended for wilderness designation is manageable as wilderness. There are no private lands or split estate lands within

this area. These lands are a logical continuation of the contiguous Big Blue Wilderness both topographically and ecologically.

The portions of the WSA not recommended for wilderness would be difficult to manage as wilderness. The area east of the Ouray-Hinsdale county line is physically separated from both the Big Blue Wilderness and the western portion of the WSA. The southern portion of the WSA is open tundra with no natural barriers to prevent illegal ORV use from adjacent roads. A small tract of split estate land along the southern boundary was excluded to avoid potential conflicts. It is expected that some mineral exploration and development would occur in the southeastern portion of the WSA. This would compromise natural values in much of the surround-



**Photo 1. American Flats Wilderness WSA. Part of Recommended Portion of American Flats WSA.**

ing area. Finally, the boundaries of the area not recommended are not easily identified on the ground and would be difficult to manage in an open tundra environment.

**ENERGY AND MINERAL RESOURCE VALUES**

The U.S. Geological Survey Bulletin 1715-A entitled *Mineral Resources of the American Flats Wilderness Study Area* was the result of considerable fieldwork done to identify mineral potential in this WSA. The study found no identified mineral resources in the recommended portion of the WSA and a low mineral resource potential for all metals, including copper, lead, zinc, gold, silver, molybde-

num, uranium and geothermal energy. There is low potential for unique or easily recoverable deposits of gravel within the study area. There is no energy resource potential for oil, gas, or coal. The report did not address the non-recommended portion of the WSA. There is no present production of any mineral resource in the WSA.

**IMPACTS ON RESOURCES**

The following comparative impact table (Table 4) summarizes the effects on pertinent resources for all alternatives considered including designation or nondesignation of the entire area as wilderness.

**Table 4 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Proposed Action Partial Wilderness Alternative	All Wilderness Alternative	No Wilderness Alternative
<i>Impacts on Wilderness Values</i>	<i>The 1,494 acres recommended suitable would receive the protection provided by wilderness designation. Wilderness values would be lost on about 315 acres within the nonsuitable area as a result of mineral development and eventually lost on the entire 3,205 acres not recommended.</i>	<i>Although 4,800 acres would be designated and protected as wilderness, potential mineral development resulting from valid existing rights could reduce the acreage on which wilderness values are actually preserved to 4,500.</i>	<i>Wilderness values would be lost on up to 320 acres primarily in the southeast portion of the WSA as a result of mineral exploration and development activity. Wilderness values on the remaining acreage would eventually be lost to human encroachment.</i>
<i>Impacts on Mineral Resource Development</i>	<i>Although the 1,494 acres recommended suitable would be withdrawn there should be no impact as the area has low potential for development. The remaining area would remain open to entry with one mine projected in the southeast portion of the WSA.</i>	<i>Subject to valid existing rights, exploration would be precluded within the entire 4,800 acres. Development of one mine in the southeastern portion of the WSA is projected to occur.</i>	<i>The entire WSA would remain open to entry with production of base and precious metals projected to result from one mine.</i>

**Table 4 - Comparative Summary of the Impacts by Alternative (continued)**

<b>Impact Topics</b>	<b>Recommendation: Partial Wilderness Alternative</b>	<b>All Wilderness Alternative</b>	<b>No Wilderness Alternative</b>
<b>Impacts on Recreation Use</b>	<i>The 1,200 user days in the suitable area are expected to increase by about 9 percent annually. The hiking and hunting activities in this area will continue to occur in a backcountry setting. This setting would continue in the nonsuitable portion as well except near the potential mineral development. The 300 user days in the nonsuitable portion would increase by about 5 percent annually.</i>	<i>The existing backcountry setting and existing uses would be maintained except in the vicinity of projected mineral development where it would be altered to one influenced by the sights and sounds of mining activity. Recreation use of about 1,500 user days would increase by about 9 percent annually.</i>	<i>The existing backcountry recreation setting would remain except where altered by mineral development. The existing 1,500 user days would increase about 5 percent annually.</i>
<b>Impacts on Wildlife</b>	<i>Designation would protect habitat for 11 bighorn sheep. Mineral exploration and development in the nonsuitable portion of the WSA would have minimal impact on wildlife habitat.</i>	<i>Designation would protect habitat for 11 bighorn sheep. Mineral development would have a minimal effect on wildlife habitat.</i>	<i>Mineral exploration and development in the southeastern portion of the WSA would have minimal impact on wildlife habitat.</i>
<b>Impacts on Soils</b>	<i>Soil productivity would be protected within the suitable area and lost on up to 40 acres within the nonsuitable portion.</i>	<i>Soil productivity would be preserved on 10 to 15 acres that would otherwise be lost due to exploration work. Productivity would be lost on up to 15 acres as a result of mineral development.</i>	<i>Soil productivity would be lost on up to 40 acres as a result of mineral exploration and development.</i>
<b>Impacts on Water Quality</b>	<i>Water quality would be protected within the 1,494 acres recommended as suitable. Disturbance of up to 40 acres in the nonsuitable area due to mineral exploration and development could result in some unquantified degradation of water quality in small drainages in the WSA and in less than 1 mile of Henson Creek.</i>	<i>Disturbance would be precluded and water quality protected with the exception of one mineral development resulting from valid existing rights. Some unquantified contamination of less than one mile of Henson Creek could occur.</i>	<i>Disturbance of up to 40 acres due to mineral exploration and development could result in some unquantified degradation of water quality in small drainages in the WSA and less than 1 mile of Henson Creek.</i>

## SOCIAL AND ECONOMIC CONSIDERATIONS

Designation of the recommended portion of the WSA would result in an estimated loss of tax revenues to Ouray county from lapsed mining claims of \$11.00 annually. It is not expected that the positive benefits of wilderness designation such as possibly increased recreation use and the protection of scenic values would result in measurable economic benefits.

No significant social effects would be expected as a result of wilderness designation.

## SUMMARY OF WSA - SPECIFIC PUBLIC COMMENTS

During the inventory phase some comments were received which dealt with other resource values and potential resource conflicts. Seven comments cited conflicts concerning the mineral resource with reference to metallic and uranium minerals as well as oil and gas. Two comments cited grazing as a conflict but did not provide specific information. One comment stated grazing is compatible with wilderness and another felt the sheep population should be reduced. Two comments noted that the area's ecological values needed protection. One person wished to see jeeps prohibited from this area. Another suggested that the area should be kept open to mineral exploration. One comment included geochemical sample and analysis results from locations within the WSA. One comment reflected a concern that the State had mineral rights in the area and suggested a land exchange to avoid conflict.

Comments received during the Management Framework Plan Amendment were specifically addressed as either favoring or opposing wilderness designation of the American Flats WSA. A total of 8 comments were received. Of those, 4 comments favored wilderness designation and 4 were opposed to wilderness. Opposition to designation stated the area lies within the highly mineralized San Juan-Lake City caldera complex and the area should be left open to mining. Support for wilderness designation pointed out that the American Flats is an ideal

extension to the Big Blue Wilderness Area and that the benefits of wilderness outweigh the mining interests.

A series of public meetings and hearings were held in association with the study phase and draft EIS. The meetings were a combination workshop and scoping meeting held in Lake City, Silverton and Denver. Formal public hearings were later held in these same communities.

A total of 49 comments were received (37 written and 12 oral). In these comments 37 people favored more wilderness than that recommended in the Draft EIS, 5 supported the recommendation and 7 commenters wanted less wilderness than the DEIS recommended.

### County

At the time of the DEIS the Hinsdale County Planning Commission was opposed to any additional wilderness within the county. No comments were received from Ouray County.

### State

The Division of Wildlife stated that wildlife resources in the general area would benefit from wilderness designation. The Colorado Geological Survey stated their opposition to wilderness designation. The Colorado Historical Society made no recommendation but stated their concerns for the cultural resources under wilderness designation. The Division of Water Resources made no recommendation but stated their concern for motorized access to possible future reservoir structures.

### Federal

The National Park Service stated they support the all wilderness alternative. The U.S. Air Force made no recommendation but stated they would oppose any decisions to restrict military overflight. The U.S. Forest Service stated they support BLM's recommendation.



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## HANDIES PEAK

### WILDERNESS STUDY AREA

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#### The Study Area -- 16,836 acres

The Handies Peak WSA (CO-030-241) is located in Hinsdale County, Colorado, ten miles southwest of Lake City. The WSA includes 15,909 acres of BLM lands and 755 acres of BLM surface with State sub-surface ownership. The WSA is bounded on the south by the Gunnison National Forest and on the north by the Alpine Loop Backcountry Byway. The road up Wager Gulch is the eastern boundary and a concentration of patented mining claims in the upper portions of Grouse, Burns and Niagara Gulches bounds the west. Roads were cherrystemmed up Cottonwood Creek and into American Basin and also form WSA boundaries. Five acres within the end of the cherrystem in American Basin were excluded in the original WSA but were included in the study process within partial wilderness alternatives and analyzed for manageability reasons. (There are 13 parcels of private inholdings totalling 172 acres.\*) The area is depicted on the map.

The WSA contains many outstanding natural features including twelve 13,000 foot peaks and one 14,000 foot peak, Handies Peak (14,048 feet). There are three major canyons, numerous small drainages and three alpine lakes within the area. In lower elevations the vegetation is mixed spruce, fir, and aspen. Above timberline is an alpine tundra ecosystem dominated by grasses, sedges, and forbs. Steep mountain streams, some originating from alpine lakes, radiate toward the boundary from a central ridge of mountain peaks.

These lands offer outstanding viewpoints into the adjacent Redcloud Peak WSA. Conversely, views into the Handies Peak WSA enhance the wildland values of the Redcloud Peak area. The Redcloud Peak and Handies Peak areas can logically be considered as one visually and ecologically

continuous area divided only by the Cinnamon Pass jeep road. However, from the majority of locations within either the Handies Peak or Redcloud Peak areas, this road is essentially unnoticeable.

Wilderness designation of this area would enhance and add wilderness value to the recreational use of the Alpine Loop National Backcountry Byway, a jeep road which parallels the northern portion of the Handies Peak area and divides this area from Redcloud Peak WSA. Use of this road, which receives over 500,000 user days per season is not totally wilderness dependent, but such use is maintained by unsurpassed views of these undisturbed landscapes and high mountain peaks. Without wilderness designation these values could be degraded by mineral development and other impacting uses. In addition, the Alpine Loop National Backcountry Byway and the Cottonwood Creek jeep road provide numerous access points, reducing the need for fixed trail access and associated facilities. Public access is guaranteed and no easements or land purchases or exchanges are needed to provide trailhead access. Two main trails and one lesser developed route currently provide access from the periphery.

Wilderness designation of this area would coincide with the continued steady and stable growth of the recreation/tourism industry of Lake City, Silverton, and Ouray. The Alpine Loop Backcountry Byway is one of the primary recreational resources which provides economic benefits to these local communities. It provides an important seasonal base income to these towns. In addition, it also stimulates service-oriented types of businesses based on the tourism industry. Without wilderness designation there could be degradation of the wilderness values, which in turn could significantly detract from primitive and other outdoor types of recreation.

*\*Note: Acreages presented here are different from those presented in the final EIS. The EIS contained an error which showed approximately 2000 more acres in the WSA than the original study. The acreages portrayed here reflect an updated and more accurately measured land status in and around the WSA.*

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Gunnison Basin and American Flats/Silverton Wilderness Final Environmental Impact Statement filed in August 1987. There were four alternatives analyzed in the EIS; an all wilderness alternative, a no wilderness alternative and two partial wilderness alternatives. One of these includes 7,635 acres and the other includes 7,167 acres for wilderness designation. The latter deletes approximately 9,533 acres of BLM and private land from wilderness recommendation to avoid conflicts with development on private inholdings and to eliminate management problems. The recommendation of this report, by Secretarial decision, is to not designate any of the area as wilderness.

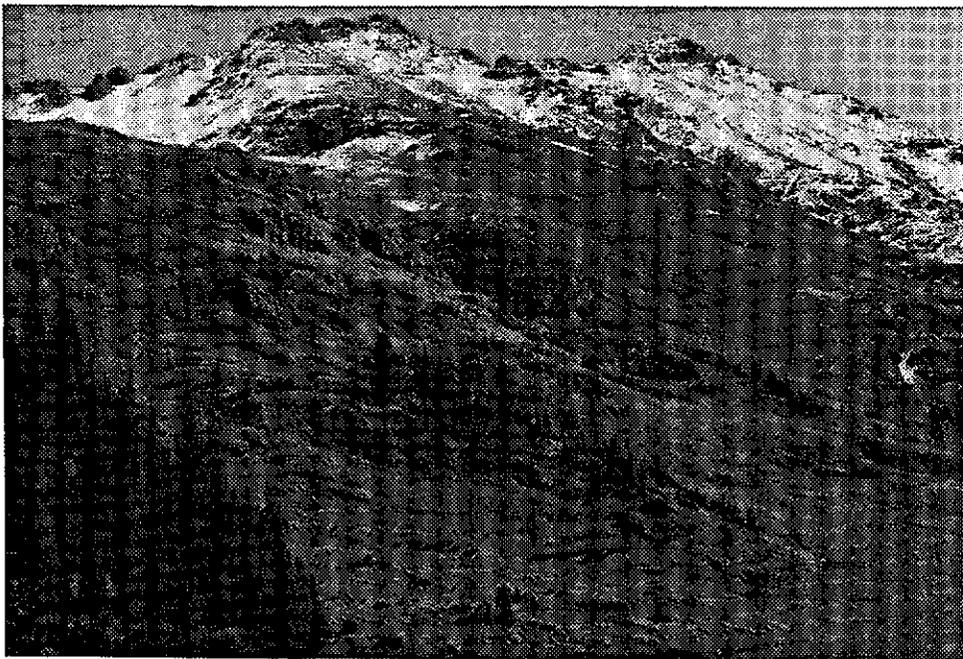
### Recommendation and Rationale

0 acres recommended for wilderness

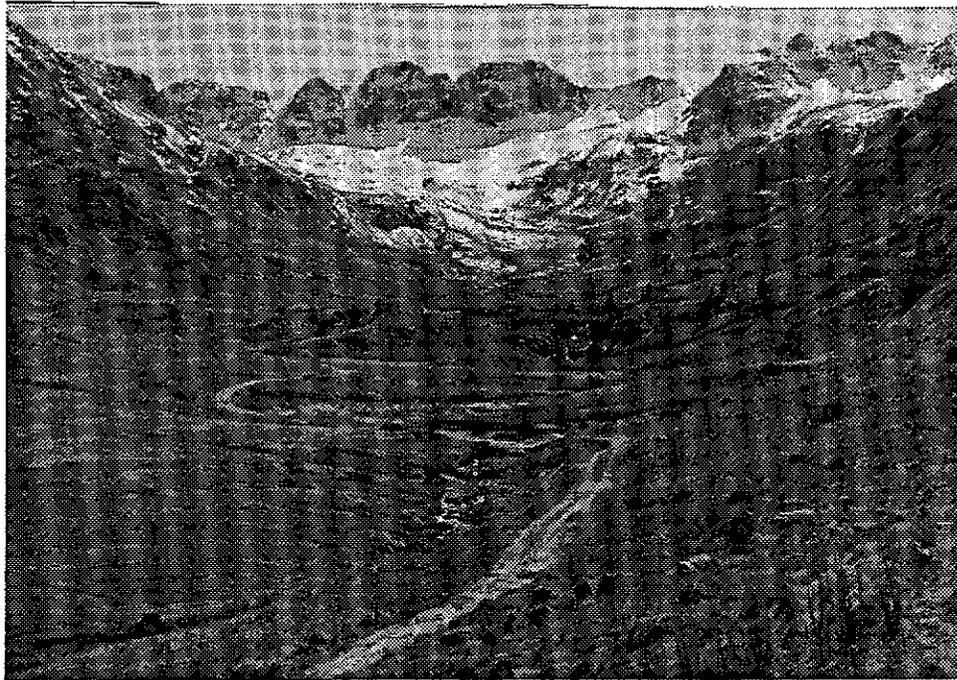
16,836 acres recommended for nonwilderness

The recommendation is to not designate Handies Peak WSA as wilderness and to release the area for uses other than wilderness. The environmentally preferred alternative would be to designate the entire 16,836 acres as wilderness as this would result in the least change from the natural environment over the long term.

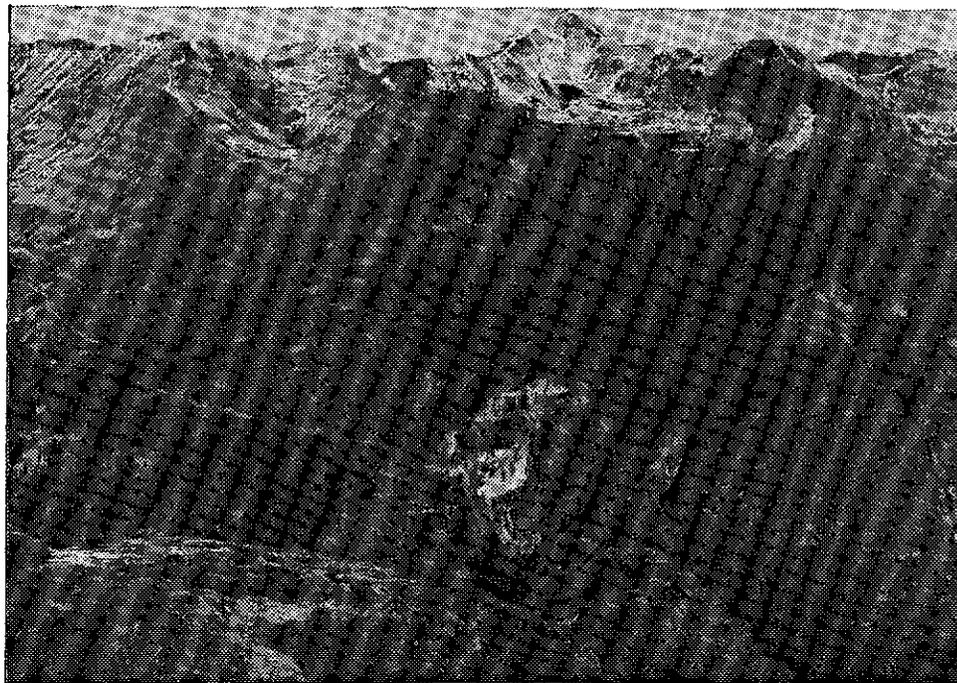
The Secretary of the Interior has recommended that this area not be designated wilderness due to the high potential for occurrence of undiscovered precious metals in the WSA. The U.S. Geological Survey (USGS) and Bureau of Mines (BOM) have estimated that a potential value of \$4.9 billion of undiscovered in-place resources may exist within this WSA and the nearby Redcloud Peak WSA. Over \$4 billion of this value is projected for molybdenum, for which the potential for occurrence is classified as moderate. The projected values are based on assumptions and statistical analysis of probabilities of mineral occurrence, and do not consider exploration, production, and transportation costs or market availability. See page 189 for further mineral information and for references to USGS publications.



*Photo 1. Handies Peak WSA. Looking southeast toward Handies Peak (14,048 ft.) from American Basin.*



*Photo 2. Handies Peak WSA. Looking south into scenic American Basin. The road is cherrystemmed.*



*Photo 3. Handies Peak WSA. Visual impacts of cherrystemmed roads to patented mining claims in Upper Snare Basin Handies Peak WSA.*

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>		<u>Acres</u>
BLM (surface and subsurface)		15,909
Split estate (BLM surface only)	(estimated)	755
Inholdings (State, Private)	(estimated)	<u>172</u>
<b>Total</b>		<b>16,836</b>
<u>Within the Recommended Wilderness Boundary</u>		
BLM (within WSA)		0
BLM (outside WSA)		0
Split Estate (within WSA)	(estimated)	0
Split Estate (outside WSA)		<u>0</u>
<b>Total BLM Land Recommended for Wilderness</b>		<b>0</b>
Inholdings (State, Private)	(estimated)	0
Inholdings (Private outside WSA)		0
<u>Within the Area Not Recommended for Wilderness</u>		
BLM		15,909
Split Estate	(estimated)	755
<b>Total BLM land not recommended for Wilderness</b>		<b>16,664</b>
Inholdings (State, Private)	(estimated)	172

## Criteria Considered in Developing the Wilderness Recommendations

### WILDERNESS CHARACTERISTICS

#### *Naturalness*

The Handies Peak WSA is predominately natural with negligible human imprints. The area is extremely rugged and ranges from an elevation of 9,400 feet near Wager Gulch up to 14,048 feet on the summit of Handies Peak. The WSA contains numerous peaks and ridges above 13,000 feet and glacial cirques such as American Basin and steep-walled canyons such as Cottonwood Creek.

Although there are some spruce and aspen forests on the periphery of this WSA, the dominant vegetative type is alpine tundra. The WSA also contains several alpine lakes. This range of habitats supports elk, deer, and bear as well as a variety of smaller mammals and birds.

The majority of human imprints, associated with past mining activity and access routes, were excluded from the WSA during the wilderness inventory process. Some old prospects are found within the western portion of this WSA but they do not adversely impact the natural character of the landscape. The overall influence of human imprints on the naturalness of the area as perceived by the average visitor is negligible.

#### *Solitude*

The Handies Peak WSA contains outstanding opportunities for solitude. Much of the WSA is comprised of mountain peaks and ridges above 13,000 feet which divides the area into numerous remote glacial cirques and drainages, each facilitating opportunities for solitude. The majestic view of the surrounding mountains from within this WSA provides a feeling of spaciousness. The lower elevations and drainages, with their dense aspen and spruce stands, provide opportunities for seclusion and intimacy. The WSA's diversity encourages a freedom of movement within its boundaries.

The majority of the northern boundary of the Handies Peak WSA parallels the Alpine Loop

Road. Due to the steepness of terrain along this road, as well as the cherrystemmed Cottonwood Creek Road, the sights and sounds of vehicle use are not so imposing as to outweigh the benefits of wilderness designation.

#### *Primitive and Unconfined Recreation*

The Handies Peak WSA, with its relatively large size, diversity, and ruggedness of terrain, contains outstanding opportunities for primitive and unconfined recreation.

The numerous high mountain peaks, including Handies Peak at 14,048 feet, provide excellent hiking and climbing opportunities. The glacial cirques and drainages and numerous lakes facilitate recreational activities such as backpacking, camping, and fishing. Wildlife viewing and hunting are also activities which occur in this WSA.

In addition, the outstanding scenic quality of this WSA and surrounding mountainous lands enhances the recreational values.

#### *Special Features*

Handies Peak (14,048 feet) is the 40th highest mountain in Colorado and is the highest point of land managed by the Bureau of Land Management outside of Alaska. In 1874, members of the Hayden Survey climbed Handies Peak. At an elevation of 13,500 feet they found prospect holes and concluded that miners had preceded them to the top. Early Forest Service maps referred to this peak as "Tobasco". The early historian H.H. Bancroft reported that Handies was named after a prominent pioneer of the area.

The scenic quality of the WSA is outstanding due to the interaction of the mountainous landform, multi-colored rock strata, diverse vegetation, and vast, open vistas.

The area is high in educational and scientific study potential. The Colorado Outward Bound School regularly uses the area to teach skills in backcountry living and wilderness survival. American Basin, because of its diverse native flora, has been the focus of a doctoral dissertation

on alpine tundra ecosystems. Volcanic and Precambrian rock types are intermingled and glacial geomorphology is highly evident. There is a rock glacier formation at the head of American Basin. This unusual phenomena occurs when rocks in a steep talus slope "flow" downhill in a glacier-like manner. These characteristics make the WSA popular with geologic field trips from various colleges and universities.

The WSA provides both summer and winter range for bighorn sheep which are scarce in this area. There have been some reported summer sightings of the very rare mountain goat in the WSA. The area also offers potential habitat for the recently listed endangered Uncompahgre Peak Fritillary. Studies are underway to determine if populations of this butterfly exist in the WSA.

#### **DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

##### ***Assessing the diversity of natural systems and features, as represented by ecosystems***

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System (NWPS). Forest Service lands already designated as wilderness include large acreages of the southwestern spruce-fir forest, alpine meadows and barren vegetative classification types found in this WSA.

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u>	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
<u>Province/Potential Natural Vegetation</u>	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<i>Nationwide</i>				
<u>Rocky Mountain Forest Province</u>				
Alpine Meadows and Barren	32	1,988,190	6	54,741
Southwestern Spruce-Fir Forest	10	612,622	13	51,528
<i>Colorado</i>				
<u>Rocky Mountain Forest Province</u>				
Alpine Meadows and Barren	18	844,387	6	54,741
Southwestern Spruce-Fir Forest	6	406,528	13	51,528

***Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers***

The Handies Peak WSA is within a day's driving time of four major population centers (Standard Metropolitan Statistical Areas of 100,000 or more) -Denver, Boulder, Colorado Springs, and Pueblo. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a day's driving time of these population centers.

**Table 3 - Wilderness Opportunities for Residents of Major Population Centers**

<u>Population Center</u>	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
Denver	20	1,728,410	21	372,010
Boulder	20	1,728,410	21	372,010
Colorado Springs	19	1,845,350	19	336,925
Pueblo	19	1,865,011	19	336,925

### ***Balancing the geographic distribution of wilderness areas***

The Handies Peak WSA would not contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. In a clockwise direction beginning due north, is the 98,320 acre Big Blue Wilderness, the 103,986 acre La Garita Wilderness, the 459,604 acre Weminuche Wilderness, the 41,189 acre Lizard Head Wilderness, and the 16,505 acre Mount Sneffels Wilderness. Also, the Powderhorn Primitive Area, recommended for wilderness designation, is nearby.

### **MANAGEABILITY**

Except for some peripheral areas, the WSA is manageable as wilderness.

The southern and eastern portions of the WSA would be very difficult to manage as wilderness because they form a narrow strip of land sandwiched between land which would not be managed as wilderness. To the north, the heavily used Cottonwood Creek road forms one boundary. To the south, the Forest Service lands have been released from wilderness consideration and are to be managed for semi-primitive motorized recreation. This would leave a narrow strip of wilderness (ranging from 1/4 to 1/2 miles wide and 9 miles long) that would not have an easily identifiable nor manageable boundary. If the area were to be designated wilderness, more manageable boundaries exist and were addressed in the partial wilderness alternatives analyzed in the Final EIS.

### **ENERGY AND MINERAL RESOURCE VALUES**

The U.S. Geological Survey Bulletin 1715-B entitled *Mineral Resources of the Redcloud Peak and Handies Peak Wilderness Study Areas* was the result of considerable fieldwork done to identify mineral potential in these WSAs. The report speaks of the areas generally as one unit.

No identified mineral resources were found in the Handies Peak WSA. Much of the WSA has high mineral resource potential for occurrence of precious metals (gold and silver) and base metals (principally lead, zinc and copper, but also anti-

mony, barite, bismuth, cadmium, fluorspar, manganese, mercury, selenium, tellurium and tungsten) in vein-type epithermal deposits. The area has mostly moderate potential for these commodities in breccia-pipe epithermal deposits. This area has a generally low potential for molybdenum and copper in porphyry-type deposits but approximately 30% of the WSA shows a moderate potential for these elements. The potential for uranium in veins is moderate in 30% of the WSA and low in about 70% of the area. The potential for aluminum in alunite deposits is low throughout the study area. There is no energy resource potential for coal, oil or natural gas in the WSA. There is no present production of any mineral resource in the WSA. Additional information developed by USGS in 1991 provides a quantitative assessment of mineral resources that projects a potential value of \$4.9 billion of undiscovered in-place minerals within the Redcloud Peak and Handies Peak WSAs. Over \$4 billion of this value is projected to be molybdenum, for which the potential for occurrence is classified as moderate. These estimates do not consider exploration, production, or transportation costs or market availability and are based upon a number of assumptions and statistical analysis of the potential for in-place reserves. (See USGS Open-File Report 91-384, "Quantitative Assessments of the Energy and Mineral Resources within Eighteen Wilderness Study Areas in the States of Colorado, Nevada, Oregon and Utah," 1991.)

### **IMPACTS ON RESOURCES**

The following comparative impact table, Table 4, summarizes the effects on pertinent resources for all alternatives considered including designation or nondesignation of the entire area as wilderness.

Table 4 - Comparative Summary of the Impacts by Alternative

Impact Topics	Partial Wilderness Alternative (7,167 acres)	All Wilderness Alternative	Recommendation: No Wilderness Alternative	Partial Wilderness Alternative (7,635 acres)
<i>Impacts on Wilderness Values</i>	<i>Although 7,167 acres would be designated and protected as wilderness, potential mineral development resulting from valid existing rights in American Basin could reduce the acreage on which wilderness values are preserved to 6,267. Wilderness values could be lost on 400 of the 9,674 acres recommended nonsuitable as a result of mineral development on private property near Campbell Creek. An additional 10 to 20 acres would be lost to mineral exploration. In the long term wilderness values would be lost on the entire 9,674 acres recommended nonsuitable.</i>	<i>Although the entire 16,841 acres would be designated and protected as wilderness, potential mineral development resulting from valid existing rights could reduce the acreage on which wilderness values would actually be preserved to 15,441.</i>	<i>Wilderness values would be lost on about 1,400 acres as a result of mineral activity. Wilderness values would be unprotected on the remaining acreage and in the long term would be lost.</i>	<i>Although 7,635 acres would be designated and protected as wilderness, potential mineral development resulting from valid existing rights in American Basin could reduce the acreage on which wilderness values would actually be preserved to 6,235. About 10 to 20 acres would be lost within the nonsuitable area as a result of mineral exploration. In the long term wilderness values will be lost on the 9,206 acres recommended nonsuitable.</i>
<i>Impacts on Mineral Resource Development</i>	<i>The 7,167 acres recommended suitable would be withdrawn from entry, although three mines are projected based on valid existing rights. One small scale mine would be developed within the nonsuitable area.</i>	<i>Subject to valid existing rights, the entire 16,841 acres would be withdrawn from mineral entry. Valid rights are expected to allow for development of base and precious metals from 4 mines in the American Basin and Campbell Creek areas.</i>	<i>The entire WSA would remain open to entry with development of base and precious metals, uranium, and strategic minerals projected to result from 4 mines.</i>	<i>7,635 acres recommended as suitable would be withdrawn from entry. Valid existing rights would allow for development of three mines in American Basin and near Campbell Creek. No development is projected in the nonsuitable portion of the WSA although exploration would continue.</i>

Table 4 - Comparative Summary of the Impacts by Alternative (continued)

Impact Topics	Partial Wilderness Alternative (7,167 acres)	All Wilderness Alternative	Recommendation: No Wilderness Alternative	Partial Wilderness Alternative (7,635 acres)
<i>Impacts on Recreation Use</i>	<i>The existing 3,000 user days of hiking, hunting, camping, photography and mountain climbing in a primitive backcountry setting would continue to occur in the suitable area except where affected by mineral development in American Basin. This use will increase by about 9 percent annually. Use of the nonsuitable area for hunting access would continue and increase by about 5 percent annually. Mineral development near Campbell Creek would detract from the backcountry experience in that area.</i>	<i>The current 4,000 user days would increase by about 9 percent annually with designation. Hiking, hunting, camping, photography, and mountain climbing would continue to occur in a primitive backcountry setting except on about 1,400 acres affected by mineral development.</i>	<i>The existing 4,000 user days would increase by about 5 percent annually. Existing activities would continue to occur in a primitive back country setting except in American Basin and near Campbell Creek where the setting would be influenced by the sights and sounds of mineral activity.</i>	<i>The existing 3,000 user days of hiking, hunting, camping, photography and mountain climbing in a primitive back country setting would continue to occur in the suitable area except where affected by mineral development in American Basin and Campbell Creek. This use will increase by about 9 percent annually. Use of the nonsuitable area for hunting access would continue and increase by about 5 percent annually.</i>
<i>Impacts on Soils</i>	<i>Within the suitable area productivity would be lost on 115 acres as a result of mineral development. Disturbance of 10 to 20 acres from exploration activities would be prevented. Soil would be disturbed and productivity lost on 10 to 20 acres as a result of mineral exploration in the nonsuitable area. Overall 125 to 145 acres would be disturbed.</i>	<i>Soil productivity would be lost on up to 115 acres as a result of mineral development. Disturbance of 20 to 40 acres from exploration activities would be prevented.</i>	<i>Soil productivity would be lost on about 115 acres as a result of mineral development. Soil would be disturbed and productivity lost on 20 to 40 acres as a result of mineral exploration. Overall 135 to 155 acres would be disturbed.</i>	<i>Within the suitable area productivity would be lost on 115 acres as a result of mineral development. Disturbance of 10 to 20 acres from exploration activities would be prevented. Soil would be disturbed and productivity lost on 10 to 20 acres as a result of mineral exploration in the nonsuitable area. Overall 125 to 145 acres would be disturbed.</i>

Table 4 - Comparative Summary of the Impacts by Alternative (continued)

Impact Topics	Partial Wilderness Alternative (7,167 acres)	All Wilderness Alternative	Recommendation: No Wilderness Alternative	Partial Wilderness Alternative (7,635 acres)
<i>Impacts on Water Quality</i>	<p><i>Mineral exploration and development resulting from valid existing rights within the suitable area would cause some unquantified increase in sediment and heavy metal concentrations in the Lake Fork. Preclusion of exploration activity would prevent any additional contamination of this drainage. Mineral exploration and development in the nonsuitable area would result in an unquantified increase in sediment and heavy metal concentrations in various drainages throughout the WSA. Overall, water quality could be degraded in up to 5 miles of stream.</i></p>	<p><i>Mineral exploration and development resulting from valid existing rights within the WSA would cause some unquantified increase in sediment and heavy metal concentrations in 5 miles of the Lake Fork and Campbell Creek. Preclusion of exploration activity as a result of designation would prevent any additional contamination of these drainages.</i></p>	<p><i>Mineral exploration and development within the WSA would cause some unquantified increase in sediment and heavy metal concentrations in the Lake Fork and Campbell Creek. Mineral exploration would result in an unquantified increase in sediment and heavy metal concentrations in various drainages throughout the WSA. Overall, up to 5 miles of stream could be affected.</i></p>	<p><i>Mineral exploration and development resulting from valid existing rights within the suitable area would cause some unquantified increase in sediment and heavy metal concentrations in the Lake Fork. Preclusion of exploration activity would prevent any additional contamination of this drainage. Mineral exploration and development in the nonsuitable area would result in an unquantified increase in sediment and heavy metal concentrations in various drainages throughout the WSA. Overall, about 5 miles could be affected.</i></p>
<i>Impacts on Wildlife</i>	<p><i>Mineral development in American Basin would displace about 10 elk to other portions of their summer range. Exploration activity would be precluded within the suitable area thereby protecting bighorn sheep and elk habitat. Mineral development and exploration in the nonsuitable area could result in a loss of about 5 bighorn sheep. Habitat would be protected on 7,167 acres.</i></p>	<p><i>Mineral development in American Basin would displace about 10 elk to other portions of their summer range. Exploration activity would be precluded thereby protecting bighorn sheep and elk habitat. Mineral development and exploration in the Campbell Creek area could result in a loss of about 5 bighorn sheep. Habitat would be protected on 16,841 acres.</i></p>	<p><i>Mineral development in American Basin would displace about 10 elk to other portions of their summer range. Mineral development and exploration could result in a loss of about 5 bighorn sheep. Habitat would not be protected by designation.</i></p>	<p><i>Mineral development in American Basin would displace about 10 elk to other portions of their summer range. Mineral development in the Campbell Creek area would result in a loss of about 5 bighorn sheep. Exploration activity would be precluded within the suitable area thereby protecting bighorn sheep and elk habitat on 7,635 acres.</i></p>

### LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS

Designation of the entire WSA as wilderness could lead to removal of some or all of the mining claims from the county tax rolls. If all the claims lapsed, this could mean a loss of \$785 annually in tax revenues to Hinsdale County. Wilderness designation could create a minor favorable impact as a result of increased recreation use. By protecting important scenic values of the Alpine Loop Road, wilderness designation could ensure the area continued income from sightseeing-oriented travel on that road.

No significant social effects would occur as a result of wilderness designation or nondesignation.

### SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS

During the inventory phase some comments were received which dealt with other resource values and potential resource conflicts. Five comments were received which stated the area should not be designated a WSA because of various hard rock mineral deposits. One comment stated the mineral resource should be saved for future, less destructive generations.

Comments received during the Management Framework Plan Amendment were specifically addressed as either favoring or opposing wilderness designation of the Handies Peak WSA. A total of 13 comments were received. Of those, 4 comments favored wilderness designation and 9 comments favored no wilderness designation. Opposition to designation stated the area is highly mineralized and mining development would be the highest and best use. Support for wilderness designation cited that wilderness would preserve and promote tourism around Lake City, it would protect the watershed, wildlife habitat would be protected, cultural resource values would be preserved, and grazing and timbering would not be affected by wilderness designation.

A series of public meetings and public hearings were held in association with the study phase and Draft Environmental Impact Statement for the

WSAs within the Gunnison Basin and American Flats/Silverton Planning Units. These meetings were a combination workshop and scoping meeting and were held in Lake City, Silverton, and Denver. Formal public hearings were later held in these same communities.

A total of 82 comments (23 oral and 59 written) were received. Of these, 71 comments supported more wilderness than the Draft EIS preferred alternative, 2 supported the preferred alternative and 9 comments wanted less wilderness than the DEIS preferred alternative.

#### *County*

The Hinsdale County Planning Commission was opposed to any additional wilderness designation within the county.

#### *State*

The Colorado Historical Society made no recommendation but stated their concern for the cultural resources under wilderness designation. The Division of Wildlife stated they support designation for the recommended area. The Division of Water Resources made no recommendation but stated their concerns for motorized access to possible future reservoir structures. The Colorado Geological Survey stated their opposition to wilderness designation.

#### *Federal*

The National Park Service stated they support wilderness designation for the entire 16,669 acres. The U.S. Air Force made no recommendation but stated they would oppose any decisions to restrict military overflight.

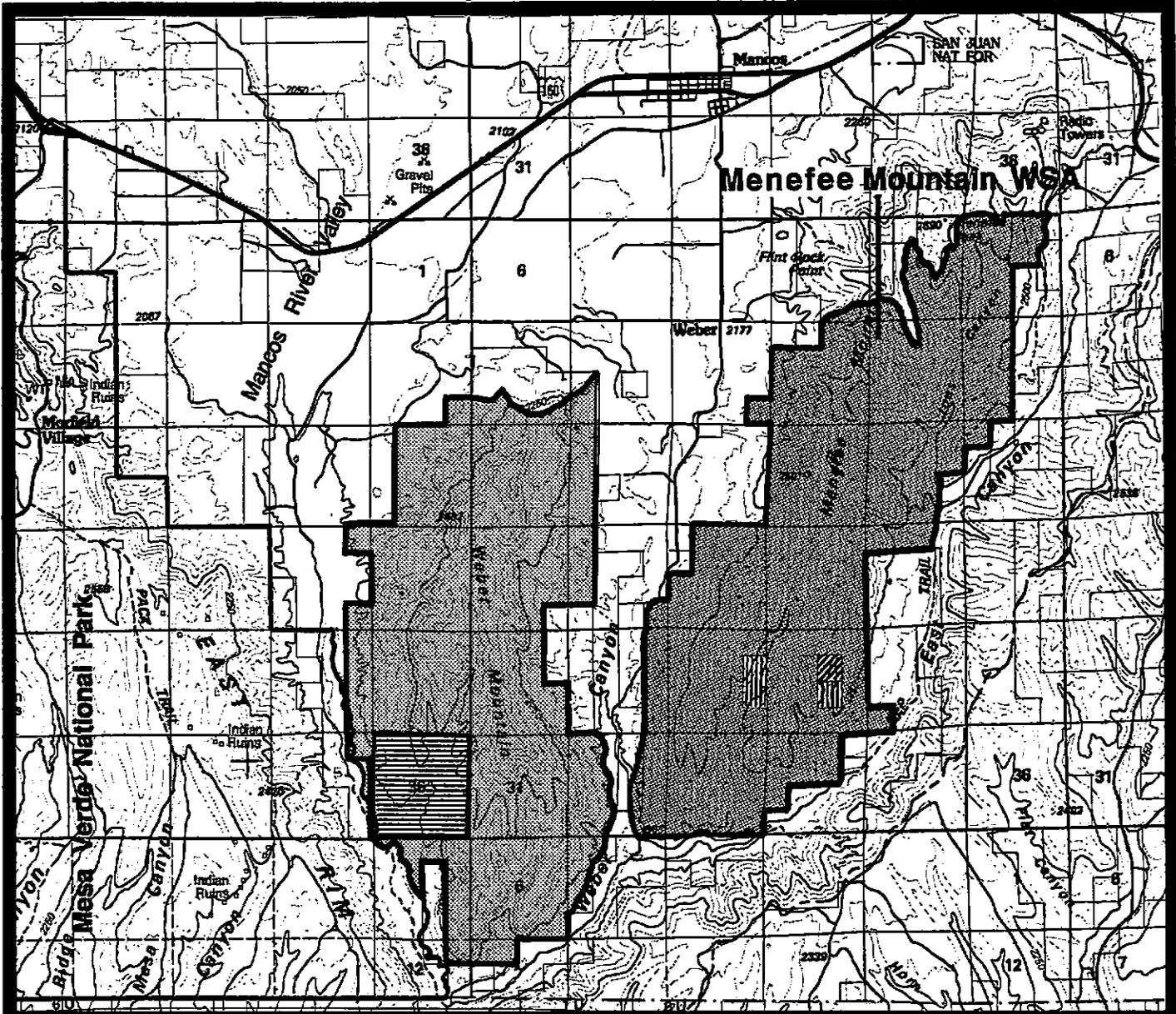
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- |   |   |  |              |
|---|---|--|--------------|
|  | RECOMMENDED FOR WILDERNESS (NONE)                   |  | SPLIT ESTATE |
|  | RECOMMENDED FOR NONWILDERNESS                       |  | STATE (NONE) |
|  | LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS. (NONE) |  | PRIVATE      |



SCALE 1:100000

Menefee Mountain WSA Proposal



CO-030-251

January 1991

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## MENELEE MOUNTAIN WILDERNESS STUDY AREA

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### The Study Area -- 7,089 acres

The Menefee Mountain WSA (CO-030-251) is located in Montezuma County, approximately three miles south of Mancos, Colorado, 2 miles east of Mesa Verde National Park, and just east of BLM's Weber Mountain WSA. The WSA contains 6,969 acres of BLM land and 120 acres of BLM surface ownership and non-federal subsurface mineral rights (split estate). There is a 40 acre private inholding. For the most part, the WSA boundary follows private property lines. The extreme northern boundary was drawn to exclude a highly impacted area of roads, ways, mining activity, and fire suppression lines. East, west, and south boundaries mostly follow private property lines except for one section of state land on the west and a small section of BLM on the southwest which is bisected by the Weber Canyon road and is the main south access route to both Weber WSA and Menefee WSA. The WSA is surrounded by mostly private land with small sections of public and Colorado state land. The area is shown on the map.

Topography consists of numerous short, steep canyons radiating from Menefee Mountain, a north/south running linear-shaped mountain about 6 miles long and 1 to 2 miles wide. Elevations range from 6,500 feet at the base of the slope in Weber Canyon up to the long ridge of the mountain at 7,800 feet on the south and rising to 8,600 feet on the north. Vegetation varies with altitude; pinyon pine/juniper at lower elevations with oakbrush and pockets of ponderosa and spruce/fir at higher elevations (See Photo 1). Menefee Mountain, like Weber Mountain just to the west, is part of the same geologic landform upon which Mesa Verde National Park sits - a large, uplifted mesa formation sloping gently to the south. Weber Mountain was isolated from Mesa Verde by the cutting action of the Mancos River and Menefee Mountain is isolated from Weber Mountain by water-flow erosion which created Weber Canyon. As in Mesa Verde, Menefee WSA contains archeological sites related to the Anasazi culture - communities of prehistoric farmers who lived in earthen and stone structures 6-20 centuries ago.

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the San Juan/San Miguel Planning Area Final Wilderness Environmental Impact Statement published November, 1990. Three alternatives were analyzed in the EIS: all wilderness (7,129 acres including the 40 acre private inholding), partial wilderness (5,416 acres included and 1,713 acres deleted), and a no wilderness alternative which is the recommendation of this report.

### Recommendation and Rationale

0 acres recommended for wilderness

7,089 acres recommended for nonwilderness

The recommendation is to not designate Menefee Mountain WSA as wilderness and to release the area for uses other than wilderness. The all wilderness alternative is the environmentally preferable alternative since its implementation would result in the least change to the natural environment over the long term.

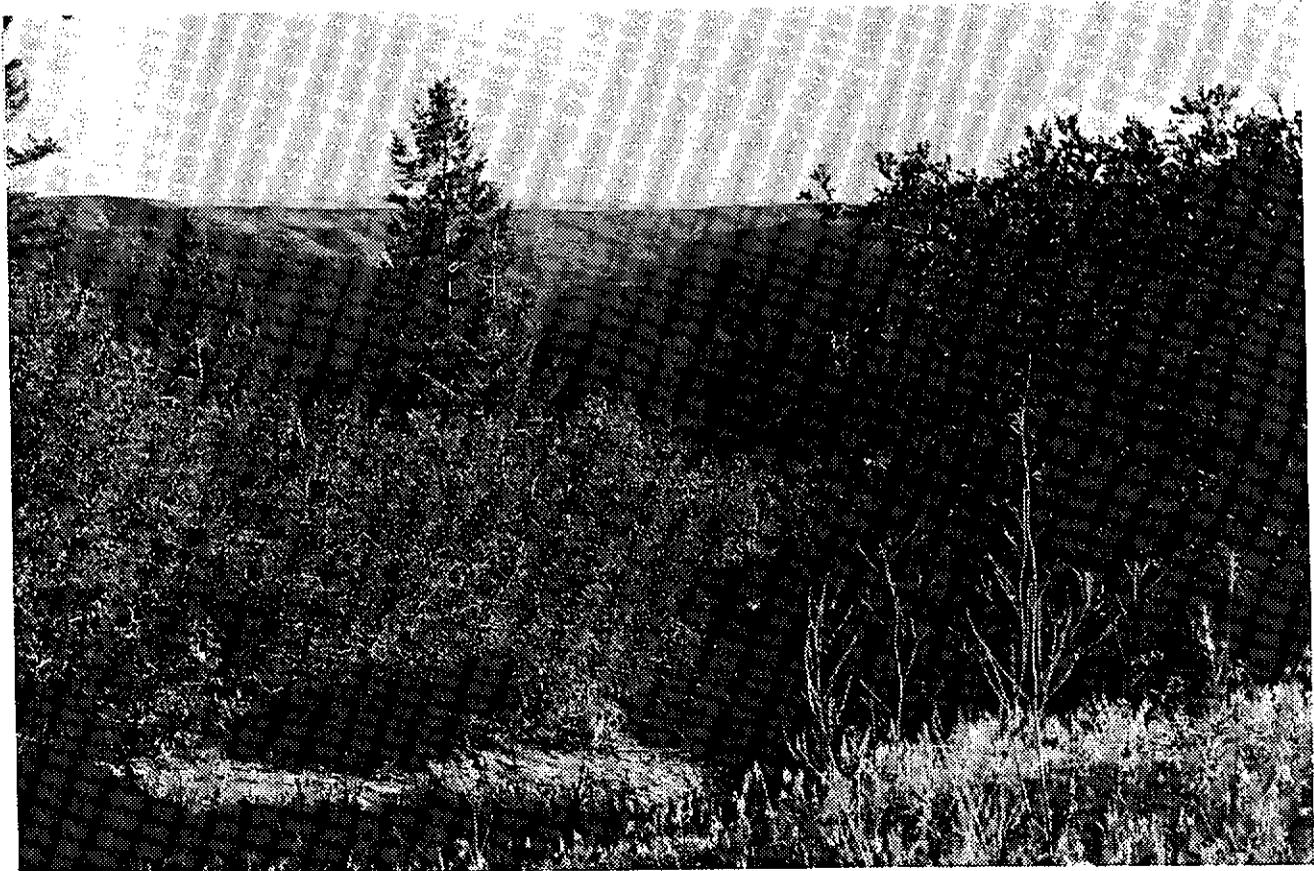
During the study phase of the wilderness review process, BLM management decided that the wilderness values contained in this area were not of an overall quality and significance to warrant inclusion in the National Wilderness Preservation System. BLM did feel that these wilderness values were and will remain, locally or in some cases regionally important and therefore current management plans were devised to protect the sensitive resources found in Menefee Mountain WSA. BLM feels that the majority of primary values identified by the public as wilderness-related (roadless, visual, wildlife habitat, etc.) can be managed in a non-wilderness management scheme through professional application of the principles of multiple-use management.

The San Juan/San Miguel Resource Management Plan, September 1985, states that current management of Menefee Mountain WSA is directed toward the goal of preserving semiprimitive recreation

values, wildlife habitat, and the outstanding scenic qualities of the area. To do this, the majority of Menefee Mountain WSA is closed to off-road vehicles and managed under Visual Resource Management Class II standards. These standards state that the character of the existing landscape should be retained and the level of change to the landscape should be low. Activities and projects may be seen but should not attract the attention of the casual observer. Visual constraints on uses will remain reasonable but should reduce visual impacts to the extent possible. In addition, if future leasing for oil and gas does occur, a no-surface-occupancy stipulation will be included in the lease agreement for most of Menefee Mountain WSA. This stipulation prohibits occupancy or disturbance of all or part of the lease surface in order to protect special values or uses. Lessees may exploit the oil and gas or geothermal resource in this lease by directional drilling from sites outside the no-surface-occupancy area. As accessibility and economic potential for coal is rated poor in this area (see *Energy and*

*Mineral Resource Values*, this report), no future coal leasing will occur.

An additional reason for the no wilderness recommendation is that wilderness management of Menefee would be made very difficult by the inclusion in the WSA of several parcels of land (1,713 acres total) which are easily accessible in motorized vehicles and are of a lesser wilderness quality than most of the WSA. The wilderness inventory process identified roadless natural areas which resulted in the 7,089 acre Menefee Mountain WSA. This roadless area included several undisturbed yet fairly flat parcels of land extending down off the slope of Menefee Mountain on the periphery of the WSA. These parcels abut private land, much of which has been cleared for grazing and cultivation. These parcels have a lowered wilderness quality and an increased potential for management conflicts due to vehicular access, the sights and sounds of working farm machinery, and other peripheral nonwilderness uses such as trespass fuelwood cutting and illegal dumping.



*Photo 1. Menefee Mountain WSA. Looking south down into Joe's Canyon from near Menefee Peak. Thick mountain shrub understory in sparse spruce/fir.*

**TABLE 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	6,969
Split Estate (BLM surface only)	120
Inholdings (State, Private)	<u>40</u>
<b>Total</b>	<b>7,129</b>
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	<u>0</u>
<b>Total BLM Land Recommended for Wilderness</b>	<b>0</b>
Inholdings (State, Private)	0
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	6,969
Split Estate	<u>120</u>
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>7,089</b>
Inholdings (State, Private)	40

### Criteria Considered in Developing the Wilderness Recommendations

#### WILDERNESS CHARACTERISTICS

##### *Naturalness*

The Menefee Mountain WSA is predominantly natural in character with negligible human imprints. The majority of human imprints associated with past mining activities and access routes, were excluded during the inventory process. The dominant natural feature of this area is the north-south running, linear-shaped Menefee Mountain. A spine-like, high ridge (7,800 to 8,600 feet) runs the length of the mountain, branching frequently and creating many steep canyons radiating from the ridge to the valleys below. Exposed layered rock of the Cretaceous Mancos Shale, Point Lookout, and Cliff House

Sandstone form many overhangs and vertical cliffs in the canyons and on the slopes of the mountain.

The WSA's topography ranges from the steep cliffs along the ridge of the mountain to the gently sloping terrain along the major drainages. In the eastern section of the WSA, Joe's Canyon and its associated drainages form fingerlike projections that cut into the side of the mountain. (See Photo 1) Another major drainage in the southern part of the WSA nearly bisects the mountain and causes the spine-like ridge to branch and break up as it approaches the south.

The vegetation is diverse and varies with altitude. The canyons sustain a thick underbrush of perennial and annual shrubs. Serviceberry, an important browse species, is abundant. Where there is flowing water, narrowleaf cottonwood can be found. Relatively thick stands of pinyon pine and juniper

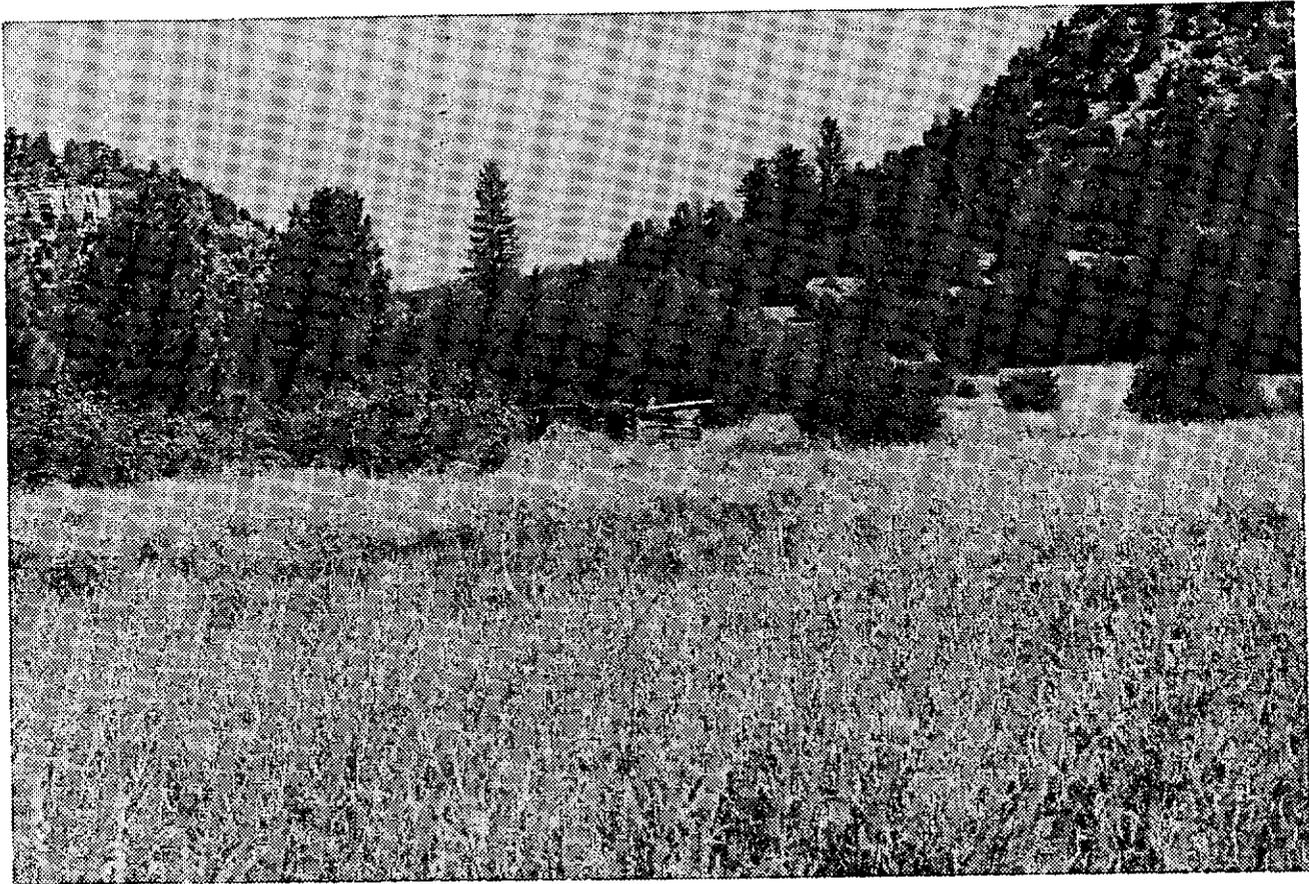


Photo 2. Menefee Mountain WSA. The recorded historic cabin in lower Joe's Canyon.

dominate the area. These stands open up to park-like expanses of sagebrush and associated drought-resistant plant species. (See Photo 1)

As elevation increases, the pinyon-juniper gives way to oakbrush which becomes the dominant species above 7,000 feet. Mountain mahogany and a variety of low-growing annuals and perennials can be found at this elevation. Scattered stands of ponderosa pine and Douglas fir are evident on the summit of the mountain and in the upper portion of the drainages cutting into the mountain.

Menefee Mountain WSA, along with Weber Mountain WSA and Mesa Verde are isolated and mostly undisturbed island mesas rising above the San Juan River Basin to the south and the Montezuma Valley to the north. The surrounding lands are heavily modified from their natural condition by intensive farming and ranching. The WSA serves as a refuge for native flora and fauna that have been displaced by human activities. Riparian vegetation along the numerous intermittent streams provides valuable and diverse habitat for many wildlife

species and is a vital component of the WSA environment. In winter, deer and elk herds migrate from summer range on the Glade and the La Plata Mountains to the lower slopes of Menefee Mountain. The area has a population of black bear and bobcat and the highest concentration of mountain lion in Colorado, most likely because they are not hunted at Mesa Verde and the resulting large population forces the younger lions out of the park.

This WSA contains six inventoried pair of golden eagles (year-round inhabitants) and two pair of hunting bald eagles during the winter. The threatened and endangered peregrine falcons hunt the area during the summer. The WSA may contain at least three federally listed threatened and endangered plant species: *Sclerocactus mesa-verde* (Mesa Verde cactus), *Pedilocactus knowltonii* (Knowlton miniature cactus), and *Astrogalus humillimus* (Mancos milkvetch). These plants are from the desert zones to the south and are indicative of the unique transition ecosystem that exists in Menefee WSA.

Only minor imprints of man are found within the WSA. There are ways in the extreme northern part of the area and in East Canyon. There is one silted-in and revegetated stock pond in the southern part. Two small historic coal prospects and a deteriorating log cabin near the mouth of Joe's Canyon have all been recorded as historic cultural resource sites. (See Photo 2) These imprints are all screened by topography and vegetation and do not adversely affect the naturalness of the WSA.

### *Solitude*

Due to the topography and vegetative screening of the area, Menefee Mountain WSA offers outstanding opportunities for solitude. Access into the area is through a series of canyons interspersed throughout the WSA and separated from one another by steep slopes and cliffs. This limited access due to the rugged topography of the area would tend to disperse users throughout the canyons. Since the mountain top is more of a ridge-like spine, there are no distinguishable focal points that would concentrate use in one area.

Topographic isolation and screening within the canyons create numerous secluded sites. Along the slopes and ridges of the mountain, rocky outcrops and overhangs provide isolated alcoves. Vegetative screening within the pinyon-juniper and oakbrush further enhances opportunities for solitude. Along the ridge top, topographic and vegetative screening are lessened. The vastness of the view, however, gives one the feeling of remoteness, contributing to the sense of solitude.

### *Primitive and Unconfined Recreation*

Menefee Mountain WSA provides outstanding opportunities for primitive and unconfined recreation. The rugged terrain provides challenges for the hiker, backpacker, and climber. Some of the drainages get increasingly difficult to hike as one approaches the higher elevations and in a few places, technical climbing can be done. Though access to the top of the mountain is strenuous, the visitor is rewarded with panoramic views including the La Plata Mountains, Lone Cone and Dolores Peaks, Sleeping Ute Mountain and Mesa Verde - all in Colorado;

the Abajo Mountains in Utah; the Carrizo and Chuska Mountains, and Shiprock in New Mexico. (See Photo 3.)

Recreation opportunities include hunting, sight-seeing, photography, exploring and bird watching. The exceptional scenic vistas, chance encounters with wildlife such as eagles and mountain lion, and viewing archaeological sites, all enhance the area's outstanding opportunities for primitive and unconfined recreation.

### *Special Features*

Menefee Mountain WSA, like Weber Mountain WSA, is a continuation of the geologic landform upon which sits Mesa Verde National Park; isolated from the park by the Mancos River and Weber Mountain. (See Photo 3) The Mesa Verde Wilderness Area (8,105 acres) is in some places contiguous to Weber WSA. As Mesa Verde Wilderness Area is closed to the public because of fragile and important archeological values, Menefee offers a unique opportunity for ecological and archeological visitation and study by the public. Menefee Mountain is largely uninventoried for cultural resources. Out of a total of 7,089 acres, only 320 acres have been intensively inventoried. Four prehistoric and historic sites have been recorded. One of these sites is at the southern extreme of Menefee Mountain. The site is a large rubble mound and is probably a late Anasazi pueblo. This site is even mentioned in the original area land survey of 1877 by Jason Fahringer who writes of artifacts spilling off the mountain from a site above "with abundant pottery". One historic coal prospect and one historic homestead are also recorded. Some important sites are expected to exist but the area does not have a high potential for a large number of sites because the terrain is much more rugged and lacks the tableland aspect of Mesa Verde.

The area contains a scenic and interesting variety of sedimentary rock laid down during the Cretaceous Period. Mancos shale was formed as a result of large amounts of deposition under marine conditions. When this area became shore zone, Point Lookout and Cliff House Sandstone were laid down (and now form the massive, blocky cliffs) and the swamp vegetation formed coal beds. Many of these beds contain invertebrate mollusk remains and fossil plant material. The Mancos Shale and Menefee Formation are both known to contain fossil wood.

The formations are well exposed and provide excellent opportunity for geologic study as well as natural beauty - alternating beds of tan sandstone, gray and brown claystone and siltstone, coal and scattered layers of ironstone and limestone concretions (Fahringer, in the 1877 land survey, mentions "beds of fossiliferous limestone" in what is now the WSA).

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

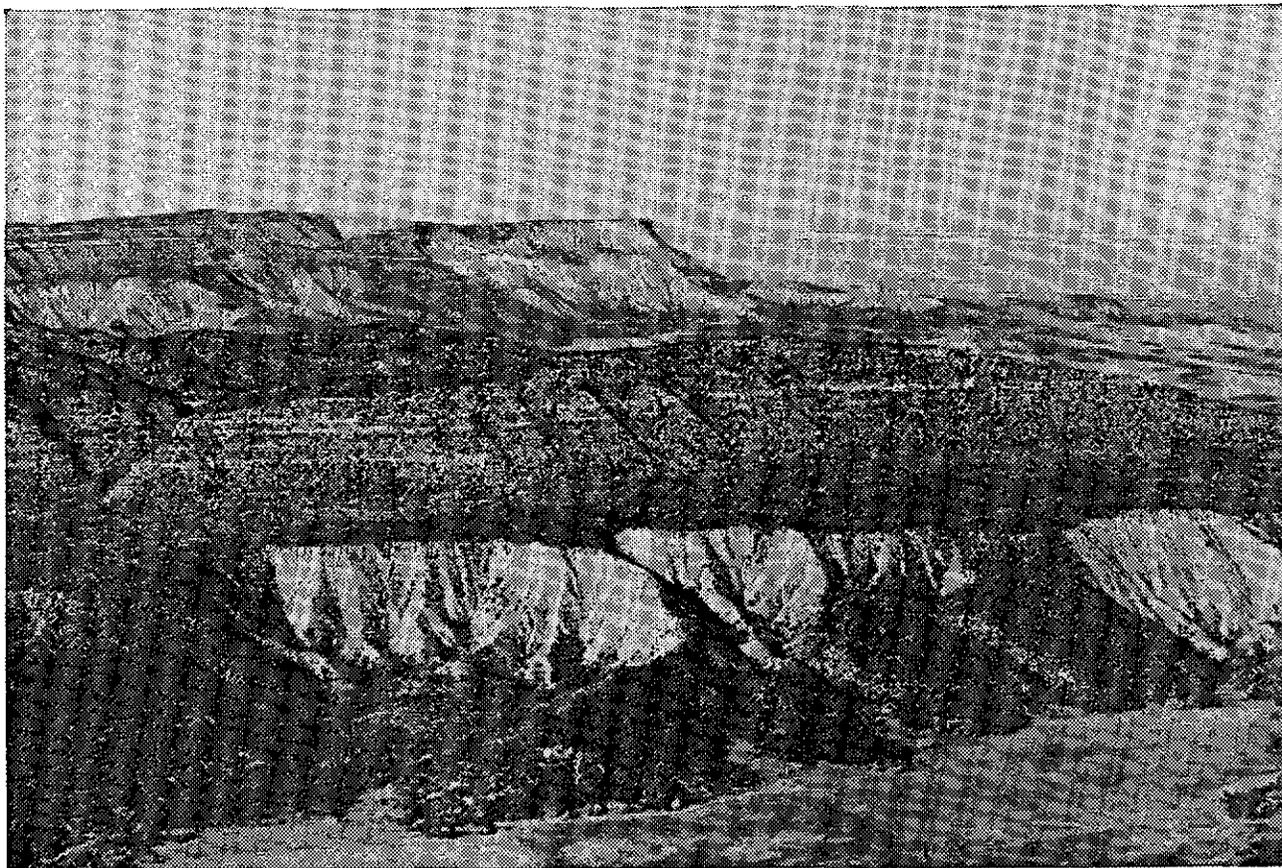
*Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System, although Menefee's transition zone aspect is unique. The

WSA is in the transition between and contains two ecosystems: the Colorado Plateau Province and the Rocky Mountain Forest Province (Bailey-Kuchler classification system). Menefee contains the pinyon/juniper woodland (5,894 acres) and pine-Douglas Fir (368 acres) vegetation zones from the Colorado Plateau Province. The Colorado Plateau pinyon/juniper ecosystem is represented in Colorado by only one other designated wilderness area; Mesa Verde National Park Wilderness Area which is closed to the public. The Colorado Plateau, pine-Douglas Fir ecosystem is not represented in Colorado. Menefee also contains the mountain mahogany-oak scrub zone from the Rocky Mountain Province (867 acres) which is represented in the National Wilderness Preservation System by 80,852 acres, none of which are in Colorado. (See Table 2)

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u>	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
<u>Province/Potential Natural Vegetation</u>	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<b>Nationwide</b>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	11	1,401,745	85	2,142,602
Pine-Douglas Fir	6	125,523	8	18,930
<u>Rocky Mountain Forest Province</u>				
Mountain Mahogany-Oak Scrub	7	80,852	7	35,840
<b>Colorado</b>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	1	8,105	17	293,837
Pine-Douglas Fir	0	0	3	855
<u>Rocky Mountain Forest Province</u>				
Mountain Mahogany-Oak Scrub	0	0	5	30,495



*Photo 3. Menefee Mountain WSA. View west from Menefee Peak across Weber Canyon to Weber WSA. Mesa Verde National Park in mid-photo and the Abajo Mountains in Utah are in the distant right.*

***Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers***

The Menefee Mountain WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area).

***Balancing the geographic distribution of wilderness areas***

The Menefee Mountain WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The nearest designated wilderness area (Mesa Verde National Park Wilderness; 8,105 acres) is three miles to the west. Mesa Verde Wilderness is not open to the public due to important archeological values. Two to three hours to the north of Weber is Forest Service Lizard Head (41,189 acres) and Mt. Sneffels (16,210 acres) Wilderness Areas; areas of high mountain landform and ecosystem and thereby unavailable for most public use during winter and spring. Three hours to the north is the BLM Dolores

River Canyon WSA which contains 29,415 acres recommended for wilderness designation. Because of its near year-round accessibility and Colorado Plateau/Rocky Mountain Forest transition ecosystem, Menefee Mountain WSA would expand and balance opportunities to attain diverse wilderness experiences.

**MANAGEABILITY**

The Menefee Mountain WSA could be effectively managed to preserve its wilderness character. There are no pre FLPMA or post FLPMA oil and gas leases, no coal leases, and no patented or unpatented mining claims within the WSA. Approximately one half of the WSA is unallotted for grazing although the Joe's Canyon area is part of a larger allotment which extends primarily onto private land to the east. No range improvement projects are planned. Even though the WSA contains a 40 acre private inholding and 120 acres of split-estate mineral land (80 acres of which belong to Montezuma County), no management conflicts would be expected.

The one potential management problem is associated with peripheral, flat-land parcels included within the WSA boundaries (See *Recommendation and Rationale*, this report for a complete discussion). The Menefee Mountain WSA Environmental Impact Statement included a partial wilderness alternative which would enhance the manageability of this WSA. This alternative discussed deleting the several flat-land parcels (1,713 total acres) and using the base of the mountain as a more natural and more easily identifiable topographic boundary.

#### ENERGY AND MINERAL RESOURCE VALUES

Menefee Mountain WSA energy and mineral resources were evaluated in *GEM (Geological, Energy, and Minerals); Resource Assessment for Region 4, Colorado Plateau* - submitted to BLM by Mountain States Mineral Enterprises Inc. in May 1983, and the *Mineral Summaries* prepared for BLM by the U.S. Geological Survey and the Bureau of Mines in February, 1990.

**Hydrocarbons (oil, gas, carbon dioxide, helium):** There is one well within the original WSA boundaries with a small "show" of oil and gas. There is a high probability that the resources could be found in the northwest tip of the WSA which is near the Sierra Oil and Gas Field, a small field of limited production. Accessibility of this resource is rated fair to poor and economic potential for this resource is rated poor.

**Coal:** Two historic coal prospects are recorded but no information on their coal deposits occurs. There

is high probability that coal exists in the WSA (Menefee is partially in a Known Recoverable Coal Resource Area). Accessibility and economic potential for coal is rated as poor. There are no coal leases in the WSA.

**Energy and related minerals (uranium, vanadium):** No known deposits and moderate potential for occurrence although the Jurassic Morrison Formation (the uranium/vanadium bearing formation) is not exposed in the WSA. Accessibility and economic potential are not rated.

**Precious and base metals (copper, gold, silver, lead, zinc):** No known deposits and no potential that deposits exist.

**Clays and cut sandstone:** No known deposits, but a high probability that deposits exist. However, accessibility and economic potential are listed at low to moderate.

Overall, Menefee Mountain WSA is considered to have limited economic potential for mineral resource development, which is reflected in the absence of actual development.

#### IMPACTS ON RESOURCES

The following comparative impact table (Table 3) summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

Table 3 - Comparative Summary of the Impacts by Alternative

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Wilderness Values</i>	<i>Under this alternative, wilderness values would remain largely unchanged in the 4,040 acres that are managed with the ORV restrictions and NSO stipulation. Naturalness could be irretrievably lost on the remaining 3,089 acres that are not managed with the ORV closure or NSO stipulation. However, because no ORV or mineral activity is projected, wilderness values will not be diminished.</i>	<i>Wilderness designation would provide statutory, long-term protection for wilderness values on 7,129 acres. Natural and supplemental values would be maintained by the prohibition of motorized recreational use and mineral development. Opportunities for solitude and primitive, unconfined recreation would be maintained because the anticipated increase in visitor use associated with wilderness designation would be incidental.</i>	<i>Under this alternative, the wilderness values in the 5,416 acres designated as suitable for wilderness would be permanently protected. Opportunities for primitive, unconfined recreation would not be diminished as a result of the anticipated increase in visitor use associated with wilderness designation. The wilderness values on the remaining 1,713 acres designated as nonsuitable could be irretrievably lost if these areas were to receive motorized use or were developed for minerals. Since no activity is projected, wilderness values in these areas would not change.</i>
<i>Impacts on Cultural Resources</i>	<i>Under this alternative, there would be no impact on the cultural resources protected by the management restrictions on ORV use and the NSO stipulation. And, since no ORV or mineral activity is projected in the remaining 3,089 acres not carrying these restrictions, there would be no impact on these cultural resources either.</i>	<i>Under this alternative, the cultural resources in the WSA would be well protected by wilderness management. Wilderness designation provides for the WSA-wide exclusion of motorized recreational use and by the mineral withdrawal. As such, this alternative would provide comprehensive protection for the cultural resources in the entire 7,129 acre WSA.</i>	<i>Under the Partial Wilderness Alternative, the cultural resources in the suitable portion of the WSA (5,416 acres) would be well protected by wilderness management and restrictions on motorized recreational use and mineral development. There are no known cultural resources in the remaining 1,713 acres designated as nonsuitable. Any sites that may exist would be protected by natural terrain limitations, as well as ORV closure and NSO stipulation on parts of the area.</i>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Recreational Opportunities and Use</i>	<i>Approximately 400 user days of non-motorized, backcountry recreation use (hiking, horseback riding, hunting, backpacking) would be maintained under this alternative. Of the WSA, 4,040 acres (57 percent) are protected by the ORV closure and NSO stipulation. Since ORV recreation and mineral activity is not projected, recreation opportunities and use on the remaining 3,089 acres will not be diminished.</i>	<i>Recreational use would increase slightly over a 10-year period. Excellent opportunities will be preserved for non-motorized, backcountry recreational activities.</i>	<i>Under this alternative, recreational use in the 5,416 acres designated as suitable for wilderness would increase slightly over a 10-year period. However, this increase would be so incidental that it would not affect the character of recreational use in this area. Excellent opportunities will be preserved for non-motorized recreational use through exclusion of motorized use and mineral development.</i>
<i>Impacts on Energy and Mineral Exploration</i>	<i>Fifty-seven percent of the WSA has no surface occupancy; the remaining 43 percent is open. However, it is projected that the oil and gas reserves under the WSA would remain undeveloped. Production of locatable metal, energy minerals, and mineral materials is not projected to occur.</i>	<i>Under the All Wilderness Alternative, there would be no impact on production of energy or minerals in the WSA. There are no pre-FLPMA leases to be developed. And since there are no mining claims or coal leases and no projected development for these resources, the restriction on mineral development would have no impact on future exploration and production.</i>	<i>Under the Partial Wilderness Alternative, there would be no development or production for energy or minerals in the 5,416 acres designated as suitable. There are no pre-FLPMA leases. And since there are no mining claims or coal leases and no projected development for these resources, the restriction on mineral development would not affect future production.  <i>Further, there probably would be no development or production for either energy or minerals in the remaining 1,713 acres designated as non-suitable. Although there could be exploration and production, no mineral activity is projected</i></i>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Wildlife Habitat and Populations</i>	<i>Under this alternative, the existing habitat and forage conditions would be maintained for the populations of 220 deer and 45 elk. Restrictions on ORV use and mineral development would protect wildlife habitat and populations on 4,040 acres of the WSA. These resources would remain stable in the long-term on the remaining 3,089 acres without these restrictions since motorized use and mineral activity are not projected.</i>	<i>Under this alternative, the existing habitat and forage conditions would be maintained for the populations of approximately 220 deer and 45 elk. Prohibiting ORV use and mineral development would protect wildlife habitat and populations.</i>	<p><i>The existing habitat and forage conditions would be maintained for populations of approximately 220 deer and 45 elk. Restrictions on ORV use and mineral development would permanently protect wildlife habitat and populations on 5,416 acres of the WSA. The slight increase in visitor use would not affect the wildlife habitat or populations in this area.</i></p> <p><i>Wildlife habitat and populations in the 1,713 non-suitable area would remain stable especially since ORV and mineral activity is not projected.</i></p>

**LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS**

Designation or non-designation of this WSA as wilderness would have negligible impacts on local economic conditions. Social factors were not considered a significant issue in the study.

**SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS**

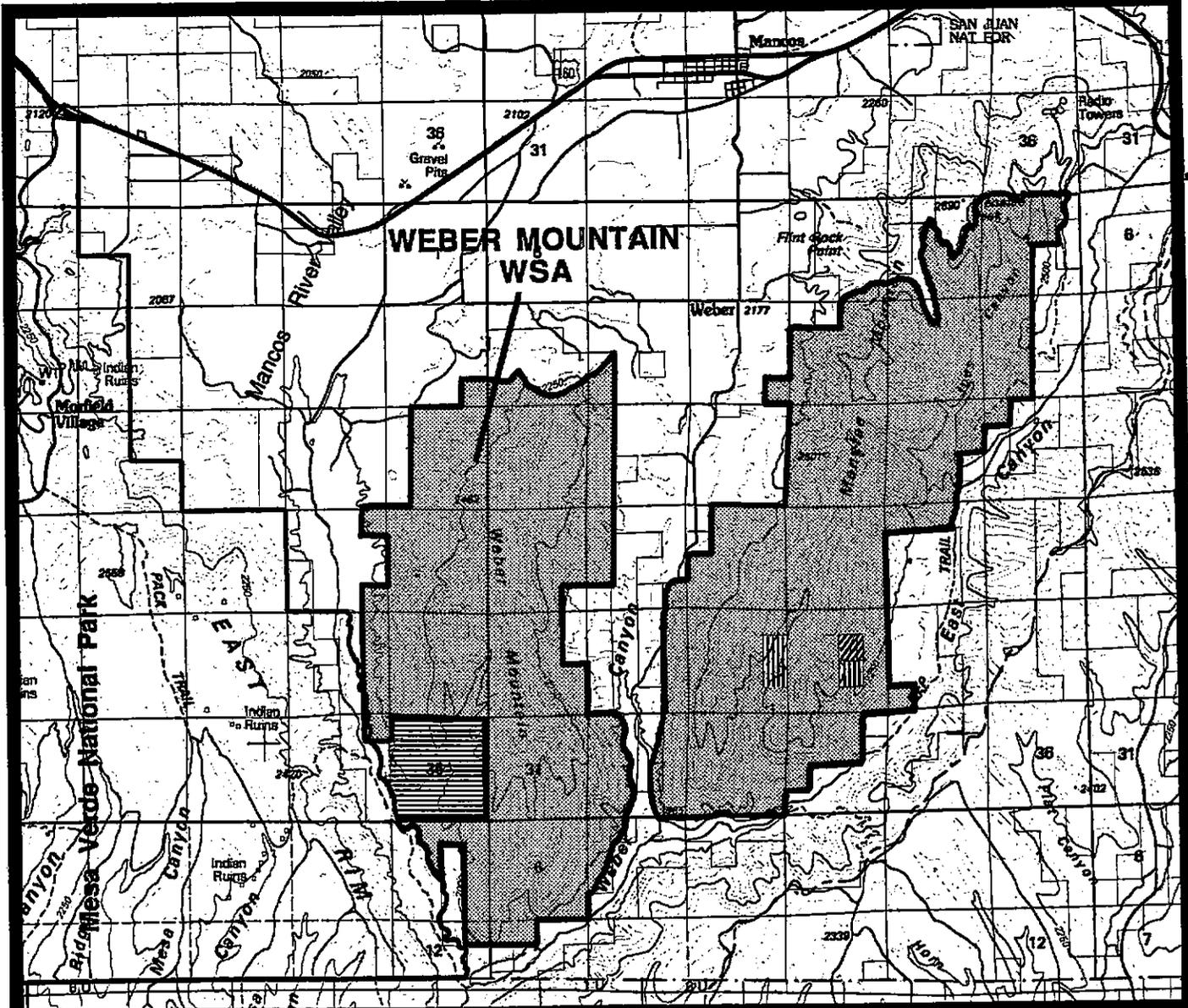
Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the Draft EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values.

During formal public review of the Draft Environmental Impact Statement, a total of 97 comments

were received which specifically addressed this WSA-54 were written and 43 were oral statements received at public hearings. In general, 93 comments supported wilderness designation and 4 favored releasing the area for other uses (no wilderness). Specific comments by those favoring wilderness designation centered on the preservation of natural habitat for wildlife. Protection of ecological diversity and scenic beauty were also major concerns. Solitude, the primitive character of Menelee Mountain, and the proximity of Mesa Verde were all mentioned in several comments. Those opposing wilderness designation were concerned that wilderness would preclude oil, gas and coal development, or that there were range related conflicts. No comments specifically addressing this WSA were received from Federal, state or local agencies.

R 14 W | R 13 W

R 13 W | R 12 W



T 36 N  
T 35 N  
T 35 N  
T 34 N

R 14 W | R 13 W

R 13 W | R 12 W



RECOMMENDED FOR WILDERNESS (NONE)  
 RECOMMENDED FOR NONWILDERNESS  
 LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS. (none)

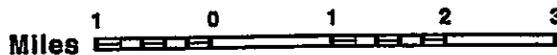


SPLIT ESTATE (none)  
 STATE (none)  
 PRIVATE (none)



SCALE 1:100000

WEBER MOUNTAIN WSA  
 PROPOSAL  
 CO-030-252



January 1991

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## WEBER MOUNTAIN WILDERNESS STUDY AREA

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### The Study Area -- 6,303 acres

The Weber Mountain WSA (CO-030-252) is located in Montezuma County, approximately three miles south of Mancos, Colorado and just east of Mesa Verde National Park. There are no inholdings in the WSA; all 6,303 acres are BLM. The north boundary is defined by impacts of man - agricultural work or oil and gas well pads and access routes. The south boundary is determined by private property in the valley of Weber Canyon. The lateral boundaries - both east and west sides - are also the BLM/private property lines and a Colorado state land section. The west boundary is contiguous with Mesa Verde for approximately two miles in two separate sections. Most of the surrounding private parcels have been cleared for grazing or cultivation. (See Photo 1) The WSA is surrounded by mostly private land with small sections of public and Colorado state land. The area is shown on the map.

Topography consists of numerous short, steep canyons radiating from Weber Mountain, a north/south running linear-shaped mountain. (See Photo 2) Elevations range from 6,600 feet at the base of the slope up to the long ridge of the mountain at 8,200 feet. Vegetation varies with altitude; pinyon pine/juniper at lower elevations with oakbrush and pockets of ponderosa and spruce/fir at higher elevations. Weber Mountain, like Menefee Mountain just to the east, is part of the same geologic landform upon which Mesa Verde National Park sits - a large uplifted mesa formation sloping gently to the south. Weber Mountain was isolated from Mesa Verde by the cutting action of the Mancos River. As in Mesa Verde, Weber WSA contains archeological sites related to the Anasazi culture - communities of prehistoric farmers who lived in earthen and stone structures 6-20 centuries ago.

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the San Juan/San Miguel Planning Area Final Wilderness Environmental Impact Statement published November 1990. Three alternatives were analyzed in the EIS: all wilderness (6,303 acres), partial wilderness

(5,362 acres included and 941 acres deleted), and a no wilderness alternative which is the recommendation of this report.

### Recommendation and Rationale

0 acres recommended for wilderness

6,303 acres recommended for nonwilderness

The recommendation is to not designate Weber Mountain WSA as wilderness and to release the area for uses other than wilderness. The all wilderness alternative is the environmentally preferable alternative since its implementation would result in the least change to the natural environment over the long term.

The primary reason for the no wilderness recommendation is the existence of 2 oil and gas leases dating from before the Federal Land Policy and Management Act of 1976 (pre-FLPMA oil and gas leases). Pre-FLPMA leases are not subject to the regulations that FLPMA created and therefore lease holders could develop these leases by building a road to, drilling from, and occupying a drill pad, all on the ground-surface of the lease. These 2 leases are on the northern tip of Weber Mountain and comprise 1,338 acres or 21 percent of the total acreage in the WSA. The leases are consolidated by unit agreements with producing leases outside the WSA - "held by production" - they will not expire as long as other wells in the unit agreement are producing. Even though the leases are held by production and extensive seismic exploration has been done in the WSA, no development of these leases has occurred, even in years of high oil and gas prices. This WSA is not in a KGS (Known Geologic Structure); an area of known production of oil and gas. It may be that even if oil and gas are present, profitable recovery is not possible; but it cannot be assumed that these leases will never be developed.

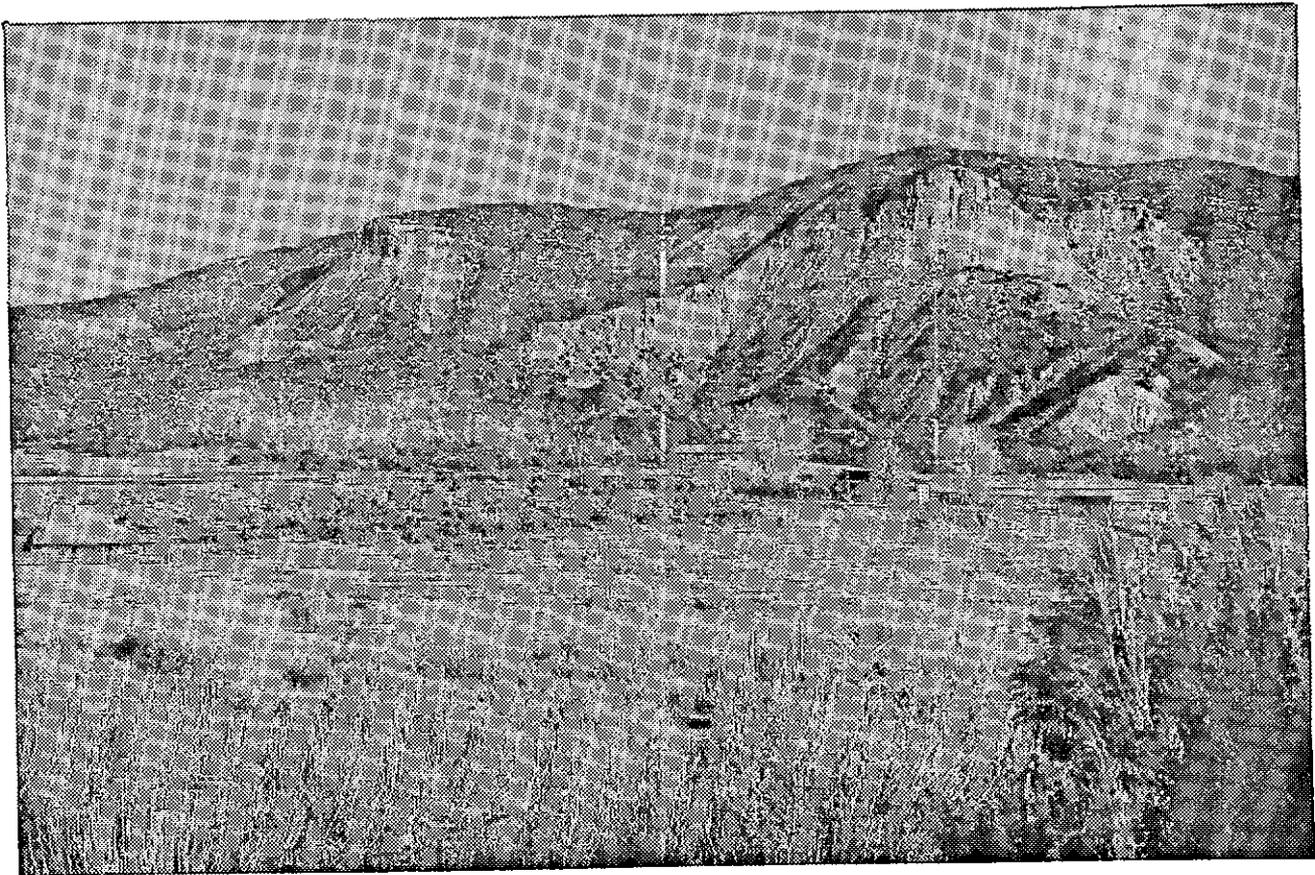
Because the leases are pre-FLPMA, and "no-surface-occupancy" stipulations cannot be imposed, management to preserve the wilderness characteristics of Weber Mountain WSA would be complex,

difficult, and expensive. It is estimated that a total of 10 acres of surface disturbance in 1 to 2-acre scattered parcels (drill pads plus access roads) would occur if both leases were developed. Some of the drill pads might be located on ridgelines or high points which would visually impact a large area, not just the directly disturbed small parcels. Solitude, naturalness, and opportunity for primitive and unconfined recreation would all be impacted in a large portion of the WSA because of the sights and sounds of well site construction.

Under the current management plan, BLM does require that there be no long-term visual impairment of the area by lease development. Because of the rugged, rocky topography and old growth pinyon-juniper woodland, total and acceptable reclamation can be a long and expensive process requiring great effort by both the lease holder and BLM. As a result of these stringent restrictions, the lease holder may find it to be more economical to use directional drilling (slant drilling) from outside the WSA boundary to hit a target under the WSA. It is estimated

that 80 percent of the oil and gas reserves of these leases could be recovered using direction drilling techniques, given current technology and market conditions. But it cannot be assumed that directional drilling would be the method employed in both leases as this method is not actually stipulated in the pre-FLPMA lease agreements.

The San Juan/San Miguel Resource Management Plan, September 1985 states that current management of Weber Mountain WSA is directed toward the goal of preserving semiprimitive recreation values, wildlife habitat, and the outstanding scenic qualities of the area. To do this, the majority of Weber Mountain is closed to off-road vehicles and managed under Visual Resource Management Class II standards. These standards state that the character of the existing landscape should be retained and the level of change to the landscape should be low. Activities and projects may be seen but should not attract the attention of the casual observer. Visual constraints on uses will remain reasonable but should reduce visual impacts to the extent possible.



*Photo 1. Weber Mountain WSA. Looking east to Weber WSA across agricultural land in the Mancos River Valley.*

In addition, if future leasing or renewal of pre-FLPMA leases does occur, a no-surface-occupancy stipulation will be included in the lease agreement for the majority of the WSA. This stipulation prohibits occupancy or disturbance of all or part of the lease surface in order to protect special values or uses. Lessees may exploit the oil and gas or geothermal resource in this lease by directional drilling from sites outside the no-surface-occupancy area.

An additional reason for the no-wilderness recommendation is that wilderness management of Weber would be made very difficult by the inclusion in the WSA of several parcels of land (941 acres total) which are easily accessible in motorized vehicles

and are of a lesser wilderness quality than most of the WSA. The wilderness inventory process identified roadless natural areas which resulted in the 6,303 acre Weber Mountain WSA. This roadless area included several undisturbed yet fairly flat land parcels extending down off the slope of Weber Mountain on the periphery of the WSA. These parcels abut private land, much of it cleared for grazing and cultivation. These parcels have a lowered wilderness quality and an increased potential for management conflicts due to vehicular access, the sights and sounds of working farm machinery, and other peripheral nonwilderness uses such as trespass fuelwood cutting and illegal dumping.

**TABLE 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	6,303
Split Estate (BLM surface only)	0
Inholdings (State, private)	<u>0</u>
<b>Total</b>	<b>6,303</b>
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
<b>Total BLM Land Recommended for Wilderness</b>	<b><u>0</u></b>
Inholdings(State, private)	0
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	6,303
Split Estate	<u>0</u>
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>6,303</b>
Inholdings(State, private)	0



Photo 2. Weber Mountain WSA. Aerial photo looking north from the southern end of the WSA.

## Criteria Considered in Developing the Wilderness Recommendations

### WILDERNESS CHARACTERISTICS

#### *Naturalness*

The Weber Mountain WSA is predominantly natural in character with negligible human imprints. The dominant natural feature of this area is the north-south running linear-shaped Weber Mountain. A spine-like, high ridge (8,000 to 8,200 feet) runs the length of the mountain, branching frequently and creating many steep canyons radiating from the ridge to the valleys below. (See Photo 2.) Exposed sandstone of the Cretaceous Mancos shale and sandstone series forms many overhangs and vertical cliffs in the canyons and on the slopes of the mountain. There is a 600 foot spire-shaped volcanic neck or plug, midslope on the west side of the mountain.

Vegetation varies with altitude. Pinyon/juniper is dominant at most elevations, but oakbrush increases at higher elevations. There are isolated areas of ponderosa and spruce/fir in the upper canyons and

near the ridge. Open park-like stretches of sagebrush and perennial shrubs are interspersed among the oakbrush.

Weber Mountain WSA, along with Menefee Mountain WSA and Mesa Verde are isolated and mostly undisturbed island mesas rising above the San Juan River Basin to the south and the Montezuma Valley to the north. The surrounding lands are heavily modified from their natural condition by intensive farming and ranching. (See Photo 1.) The WSA serves as a refuge for native flora and fauna that have been displaced by human activities. Riparian vegetation along the numerous intermittent streams provides valuable and diverse habitat for many wildlife species and is a vital component of the WSA environment. In winter, deer and elk herds migrate from summer range on the Glade and the La Plata Mountains to the lower slopes of Weber Mountain. A small herd of bighorn sheep which was released in Mesa Verde National Park in 1946, has been observed here. The area has a population of black bear and bobcat and the highest concentration of mountain lion in Colorado, most likely because

they are not hunted at Mesa Verde and the resulting large population forces the younger lions out of the park.

This WSA contains potential nesting habitat for the threatened and endangered spotted owl and peregrine falcons. Peregrine falcons hunt in the area during summer and habitat is good for hunting by bald eagles in the winter. The WSA may contain at least three federally listed threatened and endangered plant species: *Sclerocactus mesa-verde* (Mesa Verde cactus), *Pediocactus knowltonii* (Knowlton miniature cactus), and *Astrogalus humillimus* (Mancos milkvetch). These plants are from the desert zones to the south and are indicative of the unique transition ecosystem that exists in Weber WSA.

Man's only imprint in the WSA is an old, silted-in water catchment along a drainage in the center of the area. The pond was 20 feet wide and 40 feet long with a three foot high dam. It contains no water and is revegetated with perennial and annual shrubs. There is no access way to the reservoir and its affect on the naturalness of the area is negligible.

### *Solitude*

Due to the topography and vegetative screening of the area, Weber Mountain WSA offers outstanding opportunities for solitude. Access into the area is possible through a series of canyons interspersed throughout the WSA and separated from one another by steep slopes and cliffs. This limited access due to the rugged topography of the area would tend to disperse users throughout the canyons. Since the mountain top is more of a ridge-like spine, there are no distinguishable focal points that would concentrate use in one area. (See Photo 2)

Topographic isolation and screening within the canyons create numerous secluded sites. Along the slopes and ridges of the mountain, rocky outcrops and overhangs provide isolated alcoves. (See Photo 3) Vegetative screening within the pinyon-juniper and oakbrush further enhances opportunities for solitude.

Along the ridge top, topographic and vegetative screening are lessened. The vastness of the view, however, gives one the feeling of remoteness, contributing to the sense of solitude. (See Photo 3)

### *Primitive and Unconfined Recreation*

Weber Mountain WSA provides outstanding

opportunities for primitive and unconfined recreation. The rugged terrain provides challenges for the hiker, backpacker, and climber. Some of the drainages get increasingly difficult to hike as one approaches the higher elevations and in a few places, technical climbing can be done. Though access to the top of the mountain is strenuous, the visitor is rewarded with panoramic views including the La Plata Mountains, Lone Cone, Dolores Peaks and Mesa Verde - all in Colorado; the Abajo Mountains in Utah; the Carrizo and Chuska Mountains, and Shiprock in New Mexico.

Recreation opportunities include hunting, sightseeing, photography, exploring and bird watching. The exceptional scenic vistas, chance encounters with wildlife such as bighorn sheep and mountain lion, and the archaeological sites all enhance the area's outstanding opportunities for primitive and unconfined recreation.

### *Special Features*

Weber Mountain WSA is a continuation of the geologic landform upon which sits Mesa Verde National Park; isolated from the park by the Mancos River. The Mesa Verde Wilderness Area (8,105 acres) is in some places contiguous to Weber WSA. As Mesa Verde Wilderness Area is closed to the public because of fragile and important archeological values, Weber offers a unique opportunity for ecological and archeological visitation and study by the public. Weber Mountain is largely uninventoried for cultural resources. Out of a total of 6,303 acres, only 375 acres have been intensively inventoried and nine prehistoric sites have been recorded. Four of the sites are habitations and the remainder are limited activity sites. Some unrecorded pictographs have been found within the WSA by local users. Early land surveys in this area (1870's) did mention several large and significant sites on the lower slopes of Weber Mountain. Important sites are expected to exist but the area does not have a high potential for a large number of sites because the terrain is much more rugged and lacks the tableland aspect of Mesa Verde.

### **DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

#### *Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilder-

ness Preservation System, although Weber's transition zone aspect is unique. The WSA is in the transition between and contains two ecosystems: the Colorado Plateau Province and the Rocky Mountain Forest Province (Bailey-Kuchler classification system). Weber contains the pinyon/juniper woodland vegetation zone (4,646 acres) from the Colorado Plateau Province and this ecosystem is

represented by only one designated wilderness area in Colorado, Mesa Verde National Park Wilderness Area, which is closed to the public. Weber also contains the pine/Douglas fir zone from both the Rocky Mountain (1,230 acres) and Colorado Plateau Province (427 acres). The Colorado Plateau, pine-Douglas fir ecosystem is not represented in Colorado by any designated wilderness areas. (See Table 2)

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u> Province/Potential Natural Vegetation	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<b>Nationwide</b>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	11	1,401,745	85	2,142,602
Pine-Douglas Fir	6	125,523	8	18,930
<u>Rocky Mountain Forest Province</u>				
Pine-Douglas Fir Forest	10	210,751	13	93,601
<b>Colorado</b>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	1	8,105	17	293,837
Pine-Douglas Fir	0	0	3	855
<u>Rocky Mountain Forest Province</u>				
Pine-Douglas Fir Forest	4	98,531	12	92,316

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The Weber Mountain WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area).

*Balancing the geographic distribution of wilderness areas*

The Weber Mountain WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The

nearest designated wilderness area (Mesa Verde National Park Wilderness; 8,105 acres) is contiguous to the west. Mesa Verde Wilderness is not open to the public due to important archeological values. Two hours to the north of Weber is Forest Service Lizard Head (41,189 acres) and Mt. Sneffels (16,210 acres) Wilderness Areas; areas of high mountain landform and ecosystem and thereby unavailable for most public use during winter and spring. Three hours to the north is the BLM Dolores River Canyon WSA which contains 29,415 acres recommended for wilderness designation. Because of its near year-round accessibility and Colorado

Plateau/Rocky Mountain Forest ecosystem, Weber Mountain WSA would expand and balance opportunities to attain diverse wilderness experiences.

### MANAGEABILITY

The Weber Mountain WSA could be effectively managed to preserve its wilderness character yet complex and expensive management problems could occur - management conflicts associated with 2 pre-FLPMA oil and gas leases and management problems associated with the peripheral, flat-land parcels (see *Recommendations and Rationale*, for a complete discussion). The Weber WSA Environmental Impact Statement included a partial wilderness alternative which could enhance the manageability of the area. This alternative discussed deleting the several flat-land parcels (941 total acres). This would also eliminate some but not all of the pre-FLPMA oil and gas lease acreage and would use the base of the mountain as a more natural and easily identifiable topographic boundary.

There are no other major manageability problems or

resource conflicts which would result from wilderness designation. The entire WSA is BLM land; no inholdings. There are no patented or unpatented mining claims within the WSA. The WSA contains portions of four grazing allotments totaling 95 animal unit months (AUM's); however, most use occurs on the lower slopes and no range improvement projects have been proposed within the WSA. The eastern side of the WSA is unallotted.

### ENERGY AND MINERAL RESOURCE VALUES

Weber Mountain WSA energy and mineral resources were evaluated in *GEM (Geological, Energy, and Minerals); Resource Assessment for Region 4, Colorado Plateau* - submitted to BLM by Mountain States Mineral Enterprises Inc. in May 1983, and the *Mineral Summaries*, a U.S. Geological Survey and Bureau of Mines report prepared for BLM in February, 1990.

Hydrocarbons (oil, gas, carbon dioxide, helium): There are no known deposits in the WSA, but there is a moderate probability that the resources could be



Photo 3. Weber Mountain WSA. From a high point on the west side of Weber Mountain, looking south.

found in the northeast tip of the WSA which is near the Sierra Oil and Gas Field, a small field of limited production. Both accessibility and economic potential for this resource is rated poor.

Coal: No known deposits but there is high probability that coal exists in the WSA (Weber is partially in a Known Recoverable Coal Resource Area). Accessibility and economic potential for coal is rated as poor. There are no coal leases in the WSA.

Energy and related minerals (uranium, vanadium): No known deposits and low potential for occurrence as the Jurassic Morrison Formation (the uranium/vanadium bearing formation) is not exposed in the WSA. Accessibility and economic potential are not rated.

Precious and base metals (copper, gold, silver, lead, zinc): No known deposits and no potential that deposits exist.

Clays and cut sandstone: No known deposits, but a high probability that deposits exist. However, accessibility and economic potential are listed at low to moderate.

Overall, Weber Mountain WSA is considered to have limited economic potential for mineral resource development, which is reflected in the absence of actual development.

**IMPACTS ON RESOURCES**

The following comparative impact table (Table 3) summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

**Table 3 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Wilderness Values</i>	<i>Under this alternative, wilderness values would remain largely unchanged in the 4,680 acres that are managed with the ORV restrictions and NSO stipulation. Naturalness could be irretrievably lost on the remaining 1,623 acres that are not managed with the ORV closure or NSO stipulation. However, because no ORV or mineral activity is projected, wilderness values are not expected to diminish.</i>	<i>Wilderness designation would provide statutory, long-term protection for wilderness values on 6,303 acres. Natural and supplemental values would be maintained by the prohibition of motorized recreational use and mineral development. Opportunities for solitude and primitive, unconfined recreation would be maintained because the anticipated increase in visitor use associated with wilderness designation would be so incidental.</i>	<i>Under this alternative, the wilderness values in the 5,362 acres designated as suitable for wilderness would be permanently protected. Opportunities for primitive, unconfined recreation would not be diminished as a result of the anticipated increase in visitor use associated with wilderness designation. The wilderness values on the remaining 941 acres designated as nonsuitable could be irretrievably lost if these areas were to receive motorized use or were developed for minerals. However, since no activity is projected, wilderness values in these areas would not change.</i>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

<b>Impact Topics</b>	<b>Recommendation: No Wilderness Alternative</b>	<b>All Wilderness Alternative</b>	<b>Partial Wilderness Alternative</b>
<i>Impacts on Cultural Resources</i>	<i>Under this alternative, there would be no impact on the cultural resources protected by the management restrictions on ORV use and the NSO stipulation. And, since no ORV or mineral activity is projected in the remaining 1,623 acres not carrying these restrictions, there would be no impact on these cultural resources either.</i>	<i>Under this alternative, the cultural resources in the WSA would be well protected by wilderness management. Wilderness designation provides for the WSA-wide exclusion of motorized recreational use and by the mineral withdrawal. As such, this alternative would provide comprehensive protection for the cultural resources in the entire 6,303 acre WSA.</i>	<i>The cultural resources in the suitable portion of the WSA (5,362 acres) would be protected by wilderness management and restrictions on motorized recreational use and mineral development. There are no known cultural resources in the remaining 941 acres designated as nonsuitable. Any sites that may exist would be protected by natural terrain limitations, as well as ORV closure and NSO stipulation on parts of the area.</i>
<i>Impacts on Recreational Opportunities and Use</i>	<i>Approximately 400 user days of non-motorized, backcountry recreation use (hiking, horseback riding, hunting, backpacking) would be maintained under this alternative. Of the WSA, 4,680 acres (74 percent) are protected by the ORV closure and NSO stipulation. Since ORV recreation and mineral activity is not projected, recreation opportunities and use on the remaining 1,623 acres will not be diminished.</i>	<i>Recreational use would increase slightly over a 10-year period. Excellent opportunities will be preserved for non-motorized, backcountry recreational activities.</i>	<p><i>Recreational use in the 5,362 acres designated as suitable for wilderness would increase slightly over a 10-year period. This increase would be so incidental that it would not affect the character of recreational use in this area. Excellent opportunities will be preserved for non-motorized recreational use through exclusion of motorized use and mineral development.</i></p> <p><i>Recreational use in the remaining 941 acres designated as nonsuitable would not be impacted. Excellent opportunities would exist for non-motorized recreational use because of the restrictions to motorized use and mineral development in parts of the area and natural terrain limitations for ORV use.</i></p>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Energy and Mineral Exploration and Production</i>	<i>Seventy-four percent of the WSA has no surface occupancy; the remaining 26 percent is open. However, it is projected that the oil and gas reserves under the WSA would remain undeveloped. Production of locatable metal, coal, energy minerals, and mineral materials is not projected to occur.</i>	<i>Under the All Wilderness Alternative, there would be no impact on production of energy or minerals in the WSA. Exploration would be precluded. The two pre-FLPMA leases are not projected to be developed. And since there are no mining claims or coal leases and no projected development for these resources, the restriction on mineral development would have no impact on future exploration and production.</i>	<i>There would be no exploration or production for energy or minerals in the 5,362 acres designated as suitable, even on the two pre-FLPMA leases. And since there are no mining claims or coal leases and no projected development for these resources, the restriction on mineral development would not affect future exploration and production. Further, there would be no development or production for either energy or minerals in the remaining 941 acres designated as non-suitable. There could be exploration and production in these areas, however, no mineral activity is projected in these areas, even on the two pre-FLPMA leases.</i>
<i>Impacts on Wildlife Habitat and Populations</i>	<i>Under this alternative, the existing habitat and forage conditions would be maintained for wildlife populations, including 200 deer and 40 elk. Restrictions on ORV use and mineral development would protect wildlife habitat and populations on 4,680 acres of the WSA. These resources would remain stable in the long-term on the remaining 1,623 acres without these restrictions since motorized use and mineral activity are not projected.</i>	<i>Under this alternative, the existing habitat and forage conditions would be maintained for wildlife populations including approximately 200 deer and 40 elk. Prohibiting ORV use and mineral development would protect wildlife habitat and populations.</i>	<i>The existing habitat and forage conditions would be maintained for wildlife populations including approximately 200 deer and 40 elk. Restrictions on ORV use and mineral development would permanently protect wildlife habitat and populations on 5,362 acres of the WSA. The slight increase in visitor use would not affect the wildlife habitat or populations in this area.  Wildlife habitat and populations in the 941 acre nonsuitable area would remain stable since ORV and mineral activity is not projected.</i>

### LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS

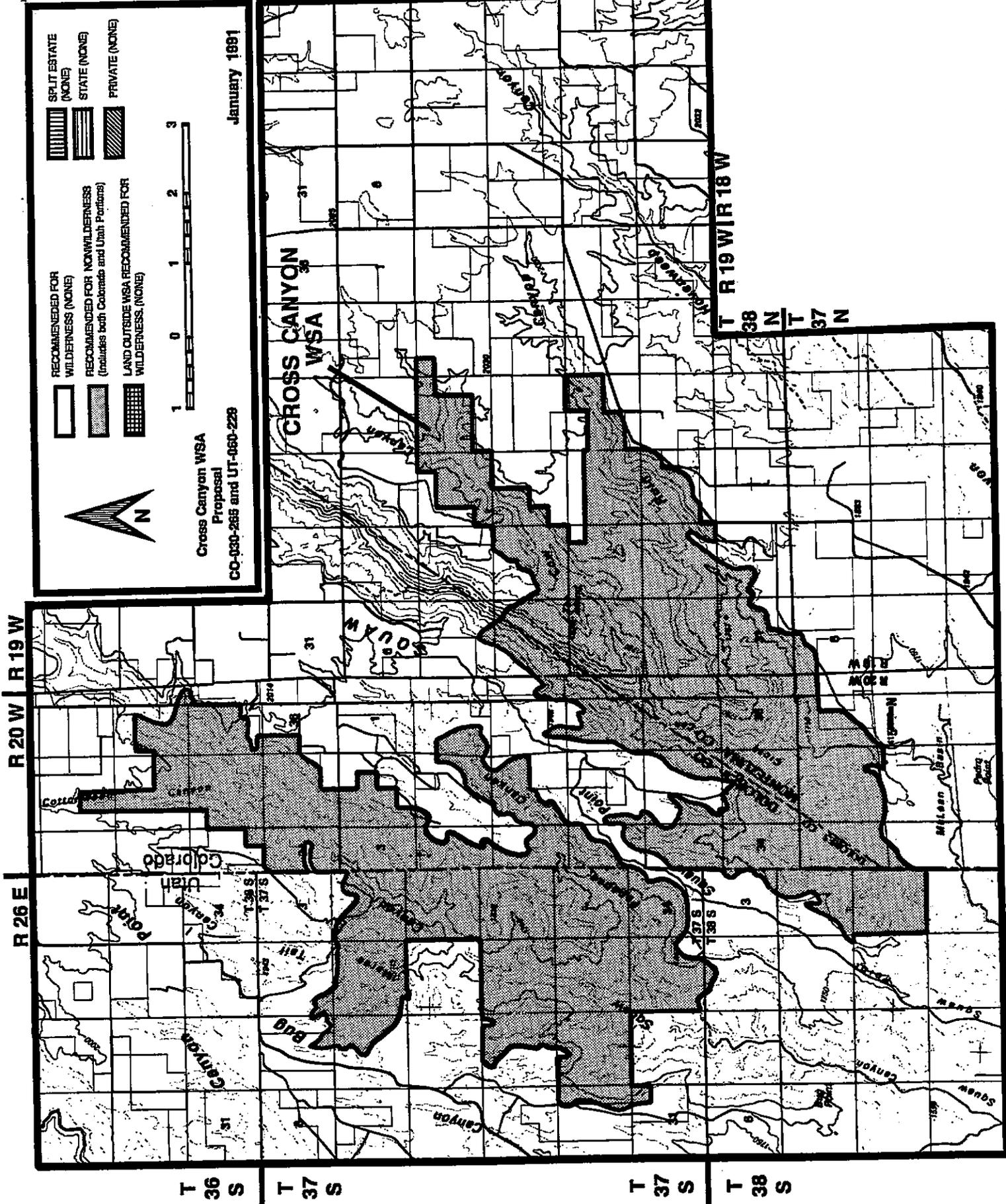
Designation or non-designation of this WSA as wilderness would have negligible impacts on local economic conditions. Social factors were not considered a significant issue in the study.

### SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the Draft EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values.

During formal public review of the Draft Environmental Impact Statement, a total of 100 comments

were received which specifically addressed this WSA - 57 were written and 43 were oral statements received at public hearings. In general, 96 commenters supported wilderness designation and 4 favored releasing the area for other uses (no wilderness). Specific comments by those favoring wilderness designation centered on the preservation of natural habitat for wildlife. Protection of ecological diversity and scenic beauty were also major concerns. Solitude, the primitive character of Weber Mountain, and the proximity of Mesa Verde were all mentioned in several comments. Those opposing wilderness designation were concerned that wilderness would preclude oil, gas and coal development, or that there were range related conflicts. No comments specifically addressing this WSA were received from Federal, state or local agencies.



T 36 S

T 37 S

T 37 S

T 38 S

R 20 W

R 26 E

R 19 W

R 18 W

T 39 N

T 38 N

T 38 N

T 37 N

- SPLIT ESTATE (NONE)
- STATE (NONE)
- PRIVATE (NONE)

- RECOMMENDED FOR WILDERNESS (NONE)
- RECOMMENDED FOR NONWILDERNESS (Includes both Colorado and Utah Portions)
- LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (NONE)



Cross Canyon WSA  
 Proposal  
 CO-930-265 and UT-060-228

January 1991

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## CROSS CANYON

### WILDERNESS STUDY AREA

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#### **The Study Area -- 12,588 acres**

The Cross Canyon WSA (CO-030-265 and UT-060-229) is located in Dolores and Montezuma Counties, Colorado (11,580 acres) and in San Juan County, Utah (1,008 acres). The area is approximately 14 miles southwest of Cahone, Colorado, about one mile southwest of Lowry Pueblo Ruins National Historic Landmark, and five miles north of Hovenweep National Monument. There are no inholdings in this WSA; all 12,588 acres are BLM. The area centers on the Cross, Cow, and Ruin Canyon system. The boundary extends southwest, down-canyon to the point where two roads visually impact the area. Boundaries extend north and east, up canyon only to the point in each of the three canyons where roads, mines, private agriculture and human activity are encountered. The WSA is surrounded by a mixture of public and private land. The area is shown on the map.

The topography of the WSA includes portions of three main canyons (Cross, Ruin, and Cow), which are the topographic continuation of the Cahone Canyon WSA, separated by previous oil and gas activity and uranium mining and exploration. The perennial streams of Cow and Ruin Canyon enter the WSA at elevations of between 6200 and 6400 feet, while Cross Canyon stream enters at 5560 feet. The canyon/stream systems join and leave the WSA as one perennial drainage at 5140 feet. The relatively flat plateau through which these canyons are cut has a gentle southwest down-tilt from its 6500 feet elevation at the northeast boundary of the WSA. Numerous ledges, rock outcrops, and cliffs are exposed in the stair-stepped canyons which range in depth from 300 feet to 900 feet. Vegetation is thick pinyon pine-juniper woodland on the slopes and canyon rim, with sage parks and riparian growth along the canyon bottom. (See Photo 1.) Also present in Cross Canyon WSA are numerous and significant archeological sites related to the Anasazi culture - communities of prehistoric farmers who lived in earthen and stone structures, 6-20 centuries ago. (See Photo 3.)

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the San Juan/San Miguel Planning Area Final Wilderness Environmental Impact Statement published November, 1990. Three alternatives were analyzed in the EIS: all wilderness (12,588 acres), partial wilderness (12,272 acres - the result of 933 acres deleted and 617 acres added from outside the WSA boundary), and a no wilderness alternative which is the recommendation of this report.

#### **Recommendation and Rationale**

0 acres recommended for wilderness

12,588 acres recommended for nonwilderness.

The recommendation is to not designate Cross Canyon WSA as wilderness and to release the area for uses other than wilderness. The all wilderness alternative is the environmentally preferable alternative since its implementation would result in the least change to the natural environment over the long term.

The primary reason for the no wilderness recommendation is the existence of 36 oil and gas leases dating from before the Federal Land Policy and Management Act of 1976 (pre-FLPMA oil and gas leases). Pre-FLPMA leases are not subject to the regulations that FLPMA created and therefore lease holders could develop these leases by building a road to, drilling from, and occupying a drill pad, all on the ground-surface of the lease. These 36 leases comprise 8875 acres or 71 percent of the total acreage in the WSA. These 36 leases and much of Cross WSA are in the Sand Canyon Known Geologic Structure (KGS); an area of known production of oil and gas. The leases are consolidated by unit agreements with producing leases outside the WSA - "held by production" - they will not expire as long as other wells in the unit agreement are producing. Even though the leases are in a KGS and extensive seismic exploration has been done in the WSA, no development of these leases has occurred, even in years of high oil and gas prices. It may be that even

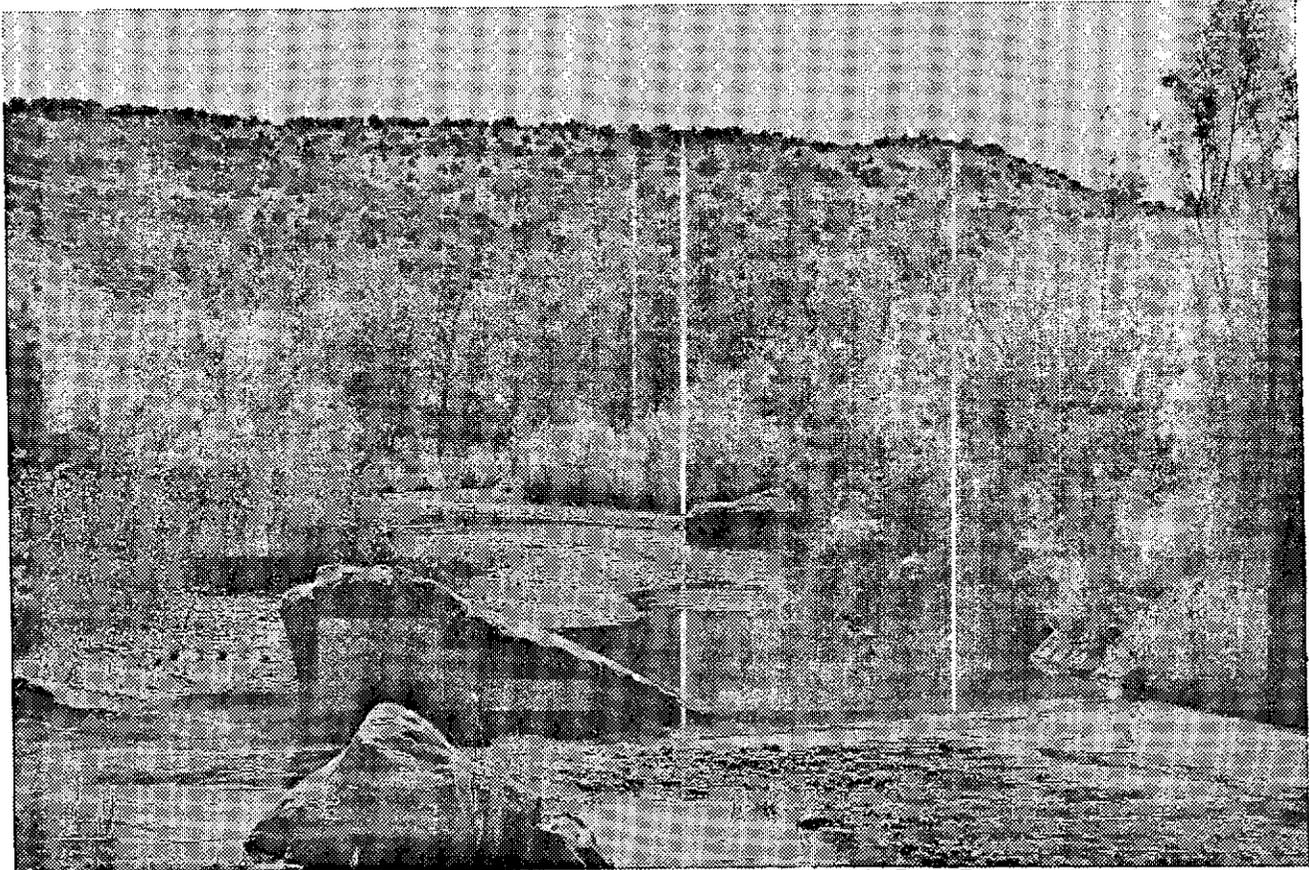
if oil and gas are present, profitable recovery is not possible, but it cannot be assumed that these leases will never be developed.

Because the leases are pre-FLPMA, and "no surface occupancy" stipulations cannot be imposed, management to preserve the wilderness characteristics of Cross Canyon WSA would be complex, difficult, and expensive. It is estimated that a total of 51 acres of surface disturbance in 1 to 2-acre scattered parcels (drill pads plus access roads) would occur if all 36 leases were developed. Some of the drill pads might be located within the canyon itself which would visually impact a large area, not just the directly disturbed small parcels. Solitude, naturalness, and opportunity for primitive and unconfined recreation would all be impacted in a large portion of the WSA because of the sights and sounds of well site construction.

Under the current management plan, BLM does require that there be no long-term visual impairment of the area by lease development. Because of the rugged, rocky topography and old growth pinyon-juniper woodland, total and acceptable reclamation

can be a long and expensive process requiring great effort by both the lease holder and BLM. As a result of these stringent restrictions, the lease holder may find it to be more economical to use directional drilling (slant drilling) from outside the WSA boundary to hit a target under the WSA. As Cross Canyon widens near the Utah state line, directional drilling becomes less efficient; rigs drilling from the mesa tops outside the WSA cannot tap reserves under the canyon bottoms as the offset angle is too great. (See Photo 2.) This leads to an estimate of 30-40 percent reserve recovery in the lower stretches of the WSA, yet it is estimated that 70 to 80 percent of reserves could be recovered in the WSA as a whole using this drilling technique. But it cannot be assumed that directional drilling would be the method employed in all 36 leases as this method is not actually stipulated in the pre-FLPMA lease agreements.

An additional reason for the no-wilderness recommendation is that wilderness management of Cross Canyon would be made difficult by the inclusion in the WSA of several parcels of land (933 total acres) which are up on and extend away from the canyon



*Photo 1. Cross Canyon WSA. Thick riparian vegetation along the main stream in Cross Canyon.*

rim on the periphery of the WSA. The wilderness inventory process identified roadless natural areas which resulted in the 12,588 acre Cross Canyon WSA. This roadless area included several undisturbed yet flat land parcels which extend away from the canyon rims and abut roads, chainings, and cultivated fields. These parcels have a lowered wilderness quality and an increased potential for management conflicts due to sights and sounds of

road traffic, the working of farm machinery, and other peripheral non wilderness uses such as trespass firewood cutting and illegal dumping.

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Colorado Acreage</u>	<u>Utah Acreage</u>	<u>Total Acreage</u>
BLM (surface and subsurface)	11,580	1,008	12,588
Split Estate (BLM surface only)	0	0	0
Inholdings (State, Private)	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total</b>	<b>11,580</b>	<b>1,008</b>	<b>12,588</b>
<u>Within the Recommended Wilderness Boundary</u>			
BLM (within WSA)	0	0	0
BLM (outside WSA)	0	0	0
Split Estate (within WSA)	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total BLM Land Recommended for Wilderness</b>	<b>0</b>	<b>0</b>	<b>0</b>
Inholdings (State, Private)	0	0	0
<u>Within the Area Not Recommended for Wilderness</u>			
BLM	11,580	1,008	12,588
Split Estate	<u>0</u>	<u>0</u>	<u>0</u>
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>11,580</b>	<b>1,008</b>	<b>12,588</b>
Inholdings (State, Private)	0	0	0

## Criteria Considered in Developing the Wilderness Recommendations

### WILDERNESS CHARACTERISTICS

#### *Naturalness*

The Cross Canyon WSA is predominantly natural in character with negligible human imprints. The dominant natural feature of this area is the confluence of three deep canyons (Cross, Cow, and Ruin), plus numerous smaller tributary canyons that have been cut by water-flow erosion into the Morrison Formation and Dakota Sandstone. The stair-step canyon slopes range in depth from 300 to 900 feet and are marked by shallow, rocky soils, numerous rock outcrops, and talus slopes. Sandstone cliffs and ledges line the canyon rims. Winding canyon bottoms support riparian vegetation including cottonwood, boxelder, Russian olive, willow, tamarisk and various shrubs. (See Photo 1) Dense pinyon pine-juniper woodland dominates the canyon sides and rim with sage and shrub understory including mormon tea, mountain mahogany, rabbitbrush, cliffrose and antelope bitterbrush.

Cross Canyon broadens as it reaches Utah and the landform gradually changes from semi-desert canyon to a large eroded basin with badland-type formations. (See Photo 2) Vegetation thins as the low eroded hills support only sparse pinyon-juniper with scattered sage, rabbitbrush and grasses. The perennial stream of Cross Canyon retains its character in these lower reaches with dense cottonwood and riparian vegetation.

Although the ecosystem of Cross WSA is in some respects similar to that of other canyons in the region, when considered in the context of the surrounding lands, these WSA canyons take on a greater ecological significance. The plain-like highlands above the canyons were once covered by expansive pinyon/juniper forests, but most of that semi-desert forest habitat has been radically modified in the last century. Nearly all of the private land in the area is now cultivated for dryland farming of beans, wheat and alfalfa. Much of the public land has been chained--the pygmy evergreen forest removed in hopes of improving the range for domestic livestock grazing. The result has been the elimination of much of the natural flora in the region. The rugged, nearly inaccessible canyons in this area

however, were left untouched and constitute refuges where indigenous flora and fauna are still abundant.

In addition, the riparian communities found in the canyon bottoms play a crucial role in arid ecosystems. (See Photo 1) They provide water and cover as well as a travel corridor for animals such as mule deer, that summer in higher country but winter in the canyons. Black bear, mountain lion, coyote and bobcat also use these canyon refuges, some as home territory and others as seasonal range. The riparian plant communities also support a diversity of animals that would otherwise not exist in the area, such as shorebirds and passerine birds that nest in and migrate through the canyons.

Rocky cliffs in the canyons offer nesting sites for raptors such as red-tailed and Cooper's hawks, various owls, golden eagles and prairie falcons. Two endangered raptors, the peregrine falcon and the bald eagle, have been sighted in the WSA and, although neither nests there, it appears that falcons and wintering bald eagles do utilize habitat in the area. Cross Canyon contains potential habitat for the BLM sensitive, federal candidate species *Astragalus naturitensis* (Naturita milkvetch). A 1989 baseline biological study of Cross Canyon found a previously unidentified species of fish which was given automatic BLM special protection status. The study also confirmed that this canyon system is the northern-most example of the Upper Sonoran ecosystem as documented by the identification of the gray hawk, desert spiny lizard, western ribbon snake and the Ord's kangaroo rat.

Three vehicle ways are the only imprints of modern-man. These ways are revegetating and are screened by the surrounding pinyon-juniper woodland - they do not significantly impair the naturalness of the area.

#### *Solitude*

Topographic and vegetative screening combine to provide outstanding solitude opportunities throughout the canyons of the WSA. The mesa-top parcels of the WSA (see *Recommendation and Rationale*, this report) are undisturbed and therefore offer natural vegetative screening but because of the flat topography and nearness to heavily impacted areas outside the WSA, do offer a wilderness quality and solitude of lesser value than that of the canyons. In

the canyon, rugged terrain, stair-stepped deep winding canyons, numerous rock outcrops, and boulder strewn slopes provide topographic screening. The dense cover of pinyon-juniper on the slopes and canyon rims plus riparian growth in the canyon bottoms provide vegetative screening. The canyon-interior configuration of this WSA gives the visitor a feeling of isolation from the sights and sounds of human activity outside the canyon.

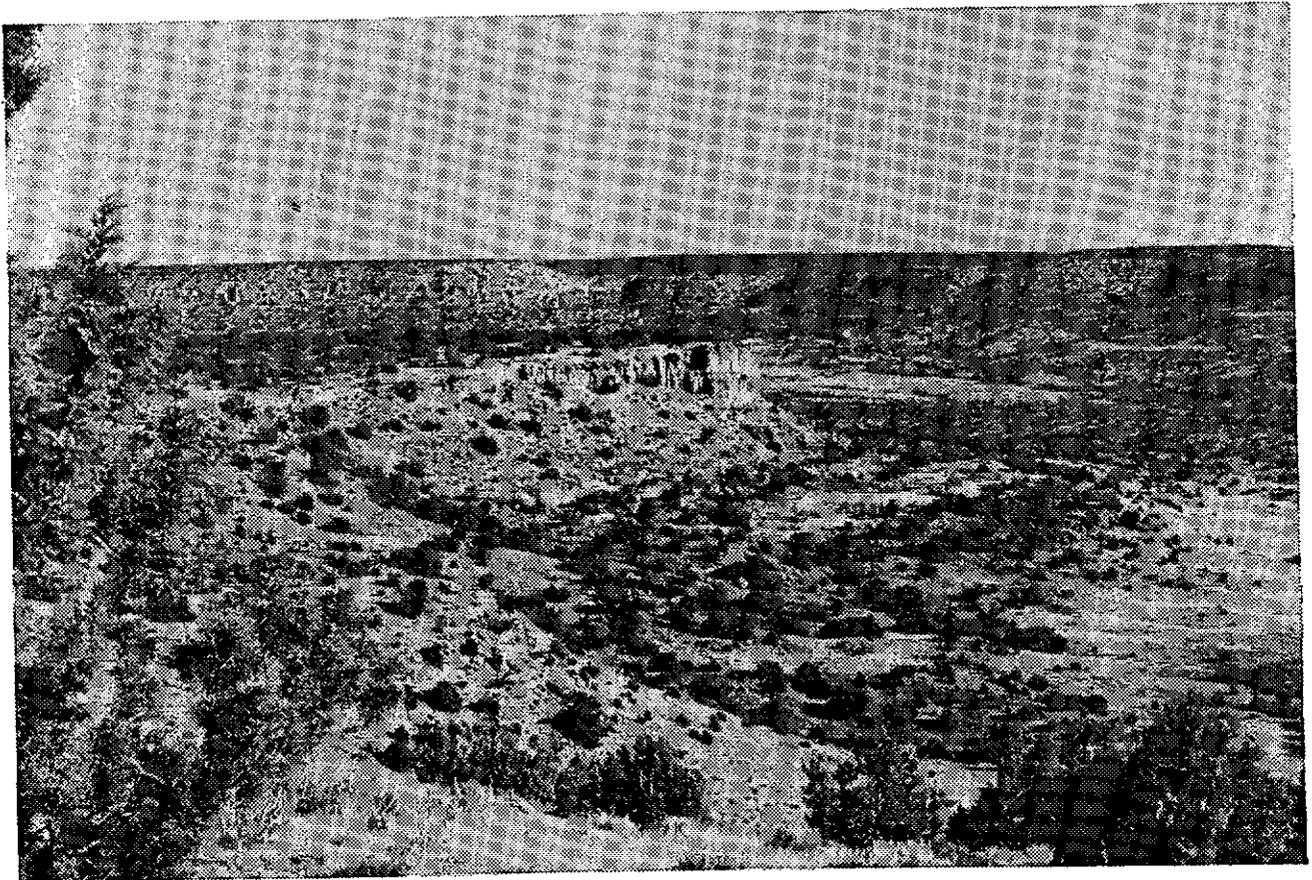
#### *Primitive and Unconfined Recreation*

Cross Canyon WSA provides outstanding opportunities for primitive and unconfined recreation. The canyon bottoms provide routes for hiking or horse-back riding; the area's geological and archeological features and wildlife offer scenic subject matter for photography and sightseeing; the rugged canyon slopes are a challenge for climbing and rock scrambling; and hunting is a historic use. Numerous secluded camping spots are available. From a mesa or cliff-top, the panorama is of Cross Canyon itself as well as other striking landforms in the area such as the Abajo Mountains to the northwest and

Sleeping Ute Mountain to the southeast. (See Photo 2) The dark green woodland and contrasting tan, gray, and black stained cliffs provide a scenic backdrop for all recreation activities.

#### *Special Features*

Even though only 6 percent of the Colorado acreage has been intensively inventoried, it is known that the area has a high archeological site density. The area was heavily used by the Anasazi culture as it flourished from A.D. 450 to 1300 and some sites suggest that paleo-man may have roamed these canyons as early as 10,000 B.C. Anasazi pueblo habitation sites, rock shelters, cliff dwellings, great kivas, towers and water control devices are numerous. (See Photo 3) These sites are isolated from access and therefore have not yet been impacted by collectors and vandals. Also unique to the canyon because of its ruggedness and remoteness are a large number of historic Indian and European sites. Numerous outlaw and sheep camps, Navajo habitations and old homesteads can be found along the canyon bottoms and steep slopes. The interpre-



*Photo 2. Cross Canyon WSA. Lower Cross Canyon as it widens into Utah. Looking east with Sleeping Ute Mountain in background.*

tative and scientific potential of this canyon is as yet untapped.

In Colorado, Cross Canyon WSA is managed as a Cultural Resource Emphasis Area within the Anasazi Culture Multiple Use Area of Critical Environmental Concern (internal BLM designation, 1986). Management direction prioritizes the preservation and enhancement of the cultural resource properties found within the area. Emphasis is focused on measures needed to protect the soil, vegetation, scenic, cultural, and wildlife resources and thereby the entire cultural resource setting.

Geological formations are well exposed for scientific and educational study: the Summerville and Morrison Formations of the Jurassic Period outcrop and are overlain by Burro Canyon and Dakota Formations of the Upper Cretaceous. The Morrison is rich in fossilized wood and plant remains as well as fossil vertebrate bones. These values are important to many recreation users who note that such a combination of archeological and educational values, scenic beauty and ruggedness can be found in few places.

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

*Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. The WSA is in the Colorado Plateau Province (Bailey-Kuchler classification system) and contains pinyon-juniper woodland (11,588 acres) and Great Basin sagebrush (1,000 acres) vegetative zones. The pinyon-juniper woodland ecosystem is represented by only one wilderness area in Colorado; that being in Mesa Verde National Park and closed to public recreation, and one in Utah (Box-Death Hollow). The Great Basin sagebrush ecosystem is represented by two areas in the National Wilderness Preservation System, neither of which are in Colorado and one being partially in Utah. (See Table 2).

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u>	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
Province/Potential Natural Vegetation	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<i>Nationwide</i>				
<u>Colorado Plateau Province</u>				
Pinyon-juniper Woodland	11	1,401,745	85	2,142,602
Great Basin Sagebrush	2	95,875	5	58,421
<i>Colorado</i>				
<u>Colorado Plateau Province</u>				
Pinyon-juniper woodland	1	8,105	17	293,837
Great Basin sagebrush	0	0	4	57,541

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The Cross Canyon WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area).

*Balancing the geographic distribution of wilderness areas*

The Cross Canyon WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The nearest designated wilderness area (Mesa Verde National Park Wilderness; 8,105 acres) is approximately 1 and 1/2 hours to the southeast. Mesa Verde Wilderness is not open to the public due to important archeological values. Two to three hours to the east of Cross is Forest Service Lizard Head (41,189 acres) and Mt. Sneffels (16,210 acres) Wilderness Areas; areas of high mountain landform and ecosystem and thereby unavailable for most public use during winter and spring. Two hours to the north is the BLM Dolores River Canyon WSA which contains 29,415 acres recommended for wilderness designation. Because of its year-round accessibility and Colorado Plateau ecosystem, Cross Canyon WSA would expand and balance opportunities to attain diverse wilderness experiences.

#### MANAGEABILITY

The Cross Canyon WSA could be effectively managed to preserve its wilderness character yet complex and expensive management problems could occur in two areas: management conflicts associated with 36 pre-FLPMA oil and gas leases and management conflicts associated with peripheral, flat-land parcels (see *Recommendations and Rationale*, above for a complete discussion). The Cross Canyon Environmental Impact Statement included a partial wilderness alternative which would enhance the manageability of this WSA. This alternative discussed deleting the several land parcels (933 total acres) by conforming the WSA boundary to the more easily and topographically identifiable canyon rim. This alternative also included the addition of two parcels totaling 617 acres from outside the WSA which would take advantage of natural topographic features to

improve the identifiability and therefore the manageability of the south WSA boundary.

There are no other major manageability problems or resource conflicts which would result from wilderness designation. The entire WSA is BLM land; no inholdings. There are no patented mining claims within the WSA but there are 9 unpatented post-FLPMA mining claims, most likely for uranium. Since the GEM report for Cross Canyon shows only moderate favorability of uranium occurrence and no known deposits of uranium exist, and since these claims and all future claims are subject to FLPMA generated guidelines, site disturbance associated with access and development of these claims is unlikely (see *Energy and Mineral Resource Values* section below). For the most part, the entire WSA is one grazing allotment with minimal acreage in three other allotments totaling 1000 animal unit months (AUMs); however, no range improvement projects have been proposed within the WSA.

#### ENERGY AND MINERAL RESOURCE VALUES

Cross Canyon energy and mineral resources were evaluated in *GEM (Geological, Energy, and Minerals); Resource Assessment for Region 4, Colorado Plateau* - submitted to BLM by Mountain States Mineral Enterprises Inc. in May 1983, and the *Mineral Summaries* prepared for BLM by the U.S. Geological Survey and Bureau of Mines in February, 1990. Extensive seismic testing has been done in and around the WSA; all in a non-impairing manner mostly by helicopter or on foot.

**Hydrocarbons (oil, gas, carbon dioxide, helium):** There are no known deposits or mineralization present in the WSA (GEM page 111-5). There is high potential that these resources could be found in the WSA, but accessibility and economic potential are unknown (GEM page 111-7). There are also no known deposits of coal in Cross Canyon. There is a low potential that coal is present with accessibility and economic potential unknown.

**Energy and related minerals (uranium and vanadium):** No known deposits in the WSA with a moderate potential for existence; therefore, accessibility and economic potential are unknown.

**Precious and base metals (copper, gold, silver, lead, zinc):** No known deposits and no potential that deposits exist.

Clays and cut sandstone: No known deposits, but a high probability that deposits exist. However, accessibility and economic potential are listed at low to moderate.

Overall, Cross Canyon WSA is considered to have limited potential for mineral discovery and development, which is reflected in the absence of actual development.

**IMPACTS ON RESOURCES**

The following comparative impact table (Table 3) summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

**Table 3 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Wilderness Values</i>	<i>Wilderness values would remain largely unchanged on 12,057 acres under this alternative. However, surface disturbance (51 acres) and impacts from sights and sounds (480 acres) from seismic exploration and wildcat well development would diminish the wilderness values on these 531 acres.</i>	<i>Wilderness designation would provide long-term protection for wilderness values on 12,588 acres. Natural and supplemental values would be maintained by the restrictions to motorized recreational use and mineral development. There would be short-term impacts on 111 acres associated with seismic work and test drilling. However, these disturbances would be reclaimed and substantially unnoticeable after two years. Opportunities for solitude and primitive, unconfined recreation would be maintained because the anticipated increase in visitor use associated with wilderness designation is incidental.</i>	<i>Under this alternative, the wilderness values in the 12,272 acres designated as suitable for wilderness would be protected. There would be short-term impacts on 243 acres associated with seismic work and test well drilling. However, these disturbances would be reclaimed and substantially unnoticeable after two years. Opportunities for primitive, unconfined recreation would be preserved.  The wilderness values in the remaining 933 acres designated as nonsuitable would be protected by the ORV closure and 683 acres of the remaining 933 acres designated as nonsuitable would be protected by the NSO stipulation; this area is expected to remain largely unchanged over the long-term.</i>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Cultural Resources</i>	<p><i>Under this alternative, the cultural resources in the Colorado portion of the WSA would be protected by provisions in the ACEC plan which provide for protection of all sites and stabilization or recovery of information from 75 sites. In addition, cultural resources in this area will be protected through increased knowledge and management presence, as well as by management restrictions on motorized vehicle use and by an NSO stipulation on 9,580 acres. Cultural resources on the remaining 1,008 acres in Utah are expected to remain largely unchanged.</i></p>	<p><i>Under this alternative, the cultural resources in the WSA would be protected by wilderness management and by the ACEC plan which provides for protection for all sites and stabilization, or recovery of information from 75 sites. These protective measures would be further supported by the WSA-wide exclusion of motorized recreational use and by the mineral withdrawal. As such, this alternative would provide comprehensive protection for the cultural resources in the entire 12,588 acres WSA.</i></p>	<p><i>Under this alternative, the cultural resources in the suitable portion of the WSA (12,272 acres) would be protected by the closure to motorized recreational use and by the mineral withdrawal. As such, this alternative would provide comprehensive protection for the cultural resources in this portion of the WSA.</i></p> <p><i>The cultural resources in 250 acres of the portion designated as nonsuitable would also be protected by both the ACEC plan and the closure to motorized recreational use. Although the cultural resources in 683 acres of the non-suitable portion do not have the NSO stipulations, they would continue to be protected by both the ACEC plan and the ORV closure.</i></p>
<i>Impacts on Energy and Mineral Exploration and Production</i>	<p><i>Two projected successful wells in the WSA could produce about 400 bbls of oil and 800 mcf of gas per day during the next 20 years. These wells represent 5 percent of the 40 new wells projected to be drilled and producible within Colorado's Paradox Basin in the next 20 years. It is projected that 85 percent of the recoverable reserves would be produced over time, mostly from more favorable well sites outside the WSA through directional drilling.</i></p>	<p><i>Although some exploration will occur, production of energy or minerals probably will not occur from within the WSA. However, it is projected that 40 percent of the recoverable reserves would be produced over time by directional drilling from outside the WSA.</i></p>	<p><i>Under the Partial Wilderness Alternative, even though exploration will occur, production of energy or minerals probably will not occur from within the WSA. However, it is projected that 50 percent of the recoverable reserves would be produced over time by directional drilling the pre-FLPMA leases from outside the WSA.</i></p>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Recreational Opportunities and Use</i>	<i>Recreational use would increase to 880 user days per year under this alternative. Excellent opportunities for most backcountry recreational activities would continue to exist for most of the WSA.</i>	<i>Under this alternative, recreational use would increase slightly over a 3-5 year period. However, this increase would be so incidental that it would not affect the character of recreation use in this area. Over the long-term, excellent opportunities will be preserved for non-motorized, backcountry recreational activities by eliminating motorized recreational use and mineral development.</i>	<p><i>Under this alternative, recreational use in the 12,272 acres determined suitable for wilderness would increase slightly over a 3-5 year period. However, this increase would be so incidental that it would not affect the character of recreation use in this area. Over the long-term, excellent opportunities will be preserved for non-motorized recreational use through the exclusion of motorized use and mineral development.</i></p> <p><i>The character of recreational use in the 933 acre area designated as non-suitable would not change. In this area, excellent opportunities would still exist for non-motorized recreational use because of the existing closure to motorized use and restrictions on mineral development on 250 acres.</i></p>

**LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS**

Designation or non-designation of this WSA as wilderness would have negligible impacts on local economic conditions. Social factors were not considered a significant issue in the study.

**SUMMARY OF WSA-SPECIFIC PUBLIC COMMENTS**

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the Draft EIS were used to develop significant study issues and various alternatives for the ul-

timinate management of those lands with wilderness values.

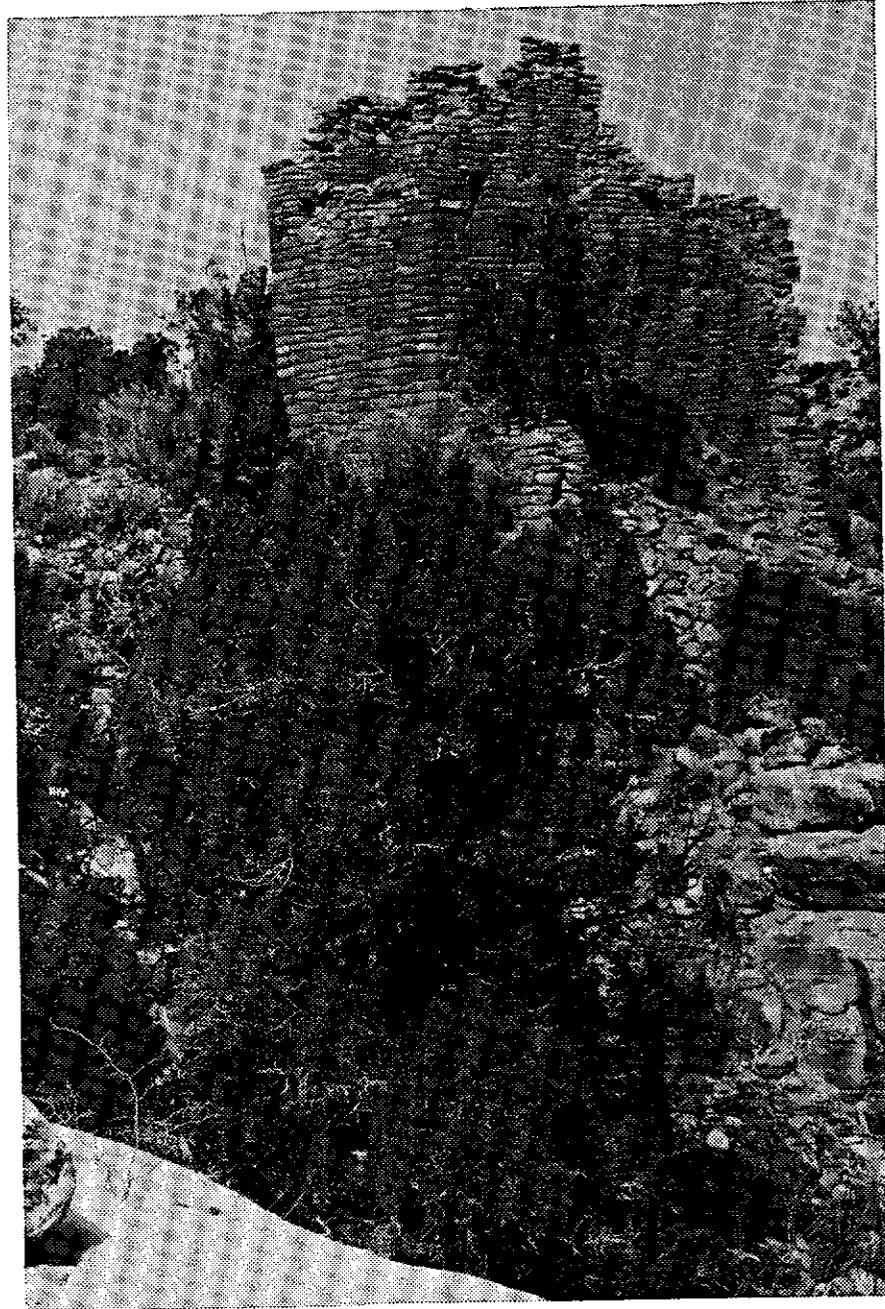
During formal public review of the Draft Environmental Impact Statement, a total of 102 comments were received which specifically addressed this WSA - 59 were written and 43 were oral statements received at public hearings. In general, 97 commenters supported wilderness designation and 5 favored releasing the area for other uses (no wilderness). Specific comments by those favoring wilderness designation centered on the preservation of archeological values (prehistoric and historic). Protection of ecological diversity and geologic beauty were also major concerns. Wildlife and saving a vanishing resource of scientific and educational value for

future generations were both mentioned in several comments.

Those opposing wilderness designation were concerned that wilderness would preclude mineral development and grazing or that the area does not

have wilderness characteristics.

One government agency comment specifically addressed this WSA: State of Colorado Department of Natural Resources supported wilderness designation of Cross Canyon WSA.



*Photo 3. Cross Canyon WSA. Standing wall structure, late Pueblo III Anasazi culture of the Hovenweep style.*



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## SQUAW/PAPOOSE CANYON WILDERNESS STUDY AREA

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### The Study Area – 11,287 acres

The Squaw/Papoose WSA (CO-030-265A and UT-060-277) is located in Dolores County, Colorado (4,611 acres) and San Juan County, Utah (6,676 acres). The area is approximately 12 miles southwest of Dove Creek, Colorado, 5 miles west of Lowry Pueblo Ruins National Historic Landmark and about 8 miles north of Hovenweep National Monument. There are no inholdings in this WSA; all 11,287 acres are BLM. The area centers on Squaw and Papoose Canyons and the narrow mesa that separates the two canyons. The boundary extends southwest, down-canyon to the point where a road visually impacts the area and Utah state land is encountered. Boundaries extend north and east, up-canyon only to the point in both canyons where oil and gas pads, roads or private property and associated development and agriculture are encountered. For the most part, lateral boundaries are the canyon walls. The WSA is surrounded by a mixture of public and private land. The area is shown on the map.

The topography of the WSA includes portions of two main canyons (Squaw, Papoose) and several smaller side drainages. The perennial stream of Squaw Canyon enters the WSA at 6,400 feet and the intermittent Papoose enters at 6,200 feet. The canyon/stream systems join and leave the WSA as one perennial drainage at 5,300 feet. The relatively flat plateau through which these canyons are cut has a gentle southwest down-tilt from its 6,600 feet elevation at the northeast boundary of the WSA. Numerous ledges, rock outcrops, and cliffs are exposed in the stair-stepped canyons which are 600 to 700 feet deep for most of the WSA. Vegetation is thick pinyon pine-juniper woodland on the slopes and canyon rim, with sage parks and riparian growth along the canyon bottom. (See Photo 1) Also present in Squaw/Papoose Canyon WSA are numerous and significant archeological sites related to the Anasazi culture - communities of prehistoric farmers who lived in earthen and stone structures, 6-20 centuries ago.

The WSA was studied under section 603 of the

Federal Land Policy and Management Act (FLPMA) and was included in the San Juan/San Miguel Planning Area Final Wilderness Environmental Impact Statement published November, 1990. Three alternatives were analyzed in the EIS: all wilderness (11,287 acres), partial wilderness (9,933 acres included and 1,354 acres deleted), and a no wilderness alternative which is the recommendation of this report.

### Recommendation and Rationale

0 acres recommended for wilderness

11,287 acres recommended for non wilderness.

The recommendation is to not designate Squaw/Papoose Canyon WSA as wilderness and to release the area for uses other than wilderness. The all wilderness alternative is the environmentally preferable alternative since its implementation would result in the least change to the natural environment over the long term.

The primary reason for the no wilderness recommendation is the existence of 6 oil and gas leases dating from before the Federal Land Policy and Management Act of 1976 (pre-FLPMA oil and gas leases). Pre-FLPMA leases are not subject to the regulations that FLPMA created and therefore lease holders could develop these leases by building a road to, drilling from, and occupying a drill pad, all on the ground-surface of the lease. These 6 leases comprise 1,586 acres or 14 percent of the total acreage in the WSA. The leases are consolidated by unit agreements with producing leases outside the WSA - "held by production" - they will not expire as long as other wells in the unit agreement are producing. Even though the leases are held by production and extensive seismic exploration has been done in the WSA, no development of these leases has occurred, even in years of high oil and gas prices. Squaw/Papoose is not in a KGS (Known Geologic Structure); an area of known production of oil and gas. It may be that even if oil and gas are present, profitable recovery is not possible, but it cannot be assumed that these leases will never be developed.

Because the leases are pre-FLPMA, and "no surface occupancy" stipulations cannot be imposed, management to preserve the wilderness characteristics of the Squaw/Papoose WSA would be complex, difficult, and expensive. It is estimated that a total of 31 acres of surface disturbance in 1 to 2-acre scattered parcels (drill pads plus access roads) would occur if all 6 leases were developed. Some of the drill pads might be located within the canyon itself which would visually impact a large area, not just the directly disturbed small parcels. Solitude, naturalness, and opportunity for primitive and unconfined recreation would all be impacted in an estimated 410 acres of the WSA because of the sights and sounds of well site construction.

Under the current management plan for the Colorado portion of the WSA, BLM does require that there be no long-term visual impairment of the area by lease development. Because of the rugged, rocky topography and old growth pinyon-juniper woodland, total and acceptable reclamation can be a long and expensive process requiring great effort by

both the lease holder and BLM. (See Photo 2) As a result of these stringent restrictions, the lease holder may find it to be more economical to use directional drilling (slant drilling) from outside the WSA boundary to hit a target under the WSA. It is estimated that 80 percent of the carbon dioxide, oil and gas reserves could be recovered using direction drilling techniques, given current technology and market conditions. But it cannot be assumed that directional drilling would be the method employed in any of the leases as this method is not actually stipulated in the pre-FLPMA lease agreement.

An additional reason for the no-wilderness recommendation is that wilderness management of Squaw/Papoose would be made difficult by the inclusion in the WSA of several parcels of land (1,354 total acres) which are up on and extend away from the canyon rim on the periphery of the WSA. The wilderness inventory process identified roadless natural areas which resulted in the 11,287 acre Squaw/Papoose Canyon WSA. This roadless area included several undisturbed yet flat land parcels



*Photo 1. Squaw/Papoose WSA. Looking southwest, down canyon. Undisturbed, old-growth pinyon/juniper on canyon slopes with natural meadows and sage parks along the meandering stream.*

which extend away from the canyon rims and abut roads, chainings, and cultivated fields. These parcels have a lowered wilderness quality and an increased potential for management conflicts due to

sights and sounds of road traffic, the working of farm machinery, and other peripheral non-wilderness uses such as trespass firewood cutting and illegal dumping.

**TABLE 1 - Land Status and Acreage Summary of the Study Area**

	<u>Colorado Acreage</u>	<u>Utah Acreage</u>	<u>Total Acreage</u>
<u>Within Wilderness Study Area</u>			
BLM (surface and subsurface)	4,611	6,676	11,287
Split Estate (BLM surface only)	0	0	0
Inholdings (State, Private)	<u>0</u>	<u>0</u>	<u>0</u>
Total	4,611	6,676	11,287
<u>Within the Recommended Wilderness Boundary</u>			
BLM (within WSA)	0	0	0
BLM (outside WSA)	0	0	0
Split Estate (within WSA)	<u>0</u>	<u>0</u>	<u>0</u>
Total BLM Land Recommended for Wilderness	0	0	0
Inholdings(State,Private)	0	0	0
<u>Within the Area Not Recommended for Wilderness</u>			
BLM	4,611	6,676	11,287
Split Estate	<u>0</u>	<u>0</u>	<u>0</u>
Total BLM Land Not Recommended for Wilderness	4,611	6,676	11,287
Inholdings (State, Private)	0	0	0

## Criteria Considered in Developing the Wilderness Recommendations

### WILDERNESS CHARACTERISTICS

#### *Naturalness*

The Squaw/Papoose WSA is predominantly natural in character with negligible human imprints. The dominant natural feature of this area is the confluence of two deep, nearly parallel canyons (Squaw and Papoose), plus numerous smaller tributary canyons that have been cut by water-flow erosion into the Morrison Formation and Dakota Sandstone. The stair-step canyon slopes range in depth from 300 to 700 feet and are marked by shallow, rocky soils, numerous rock outcrops, and talus slopes. Sandstone cliffs and ledges line the canyon rims. Winding canyon bottoms support riparian vegetation including cottonwood, sedges, rushes, cattail, willow, tamarisk and various shrubs. Dense pinyon pine-juniper woodland dominate the canyon sides and rim with sage and shrub understory including mormon tea, mountain mahogany, rabbitbrush, cliffrose and antelope bitterbrush.

Although the ecosystem of Squaw/Papoose WSA is in some respects similar to that of other canyons in the region, when considered in the context of the surrounding lands, these WSA canyons take on a greater ecological significance. The plain-like highlands above the canyons were once covered by expansive pinyon/juniper forests, but most of that semi-desert forest habitat has been radically modified in the last century. Nearly all of the private land in the area is now cultivated for dryland farming of beans, wheat and alfalfa. Much of the public land has been chained—the pygmy evergreen forest removed in hopes of improving the range for domestic livestock grazing. The result has been the elimination of much of the natural flora in the region. The rugged, nearly inaccessible canyons in this area however, were left untouched and constitute refuges where indigenous flora and fauna are still abundant. (See Photo 1.)

In addition, the riparian communities found in the canyon bottoms play a crucial role in arid ecosystems. They provide water and cover as well as a travel corridor for animals such as mule deer, that summer in higher country but winter in the canyons. Black bear, mountain lion, coyote, grey fox and

bobcat also use these canyon refuges, some as home territory and others as seasonal range. The riparian plant communities also support a diversity of animals that would otherwise not exist in the area, such as shorebirds and passerine birds that nest in and migrate through the canyons and small mammals such as beaver, badger, and long-tailed weasel.

Rocky cliffs in the canyons offer nesting sites for raptors such as red-tailed and Cooper's hawks, various owls, golden eagles and prairie falcons. Two endangered raptors, the peregrine falcon and the bald eagle, have been sighted in the WSA and, although neither nests there, it appears that falcons and wintering bald eagles do utilize habitat in the area. Squaw/Papoose contains potential habitat for the BLM sensitive and federal candidate species *Astragalus naturitensis* (Naturita milkvetch).

One old, eroded and impassable vehicle way and an old fence line are the only imprints of modern-man. These impacts are revegetating and are screened by the surrounding pinyon-juniper woodland - they do not significantly impair the naturalness of the area. (See Photo 2)

#### *Solitude*

Topographic and vegetative screening combine to provide outstanding solitude opportunities throughout the canyons of the WSA. The mesa-top parcels of the WSA (see *Recommendation and Rationale*), are undisturbed and therefore offer natural vegetative screening but because of the flat topography and nearness to heavily impacted areas outside the WSA, do offer a wilderness quality and solitude of lesser value than that of the canyons. In the canyon, rugged terrain, stair-stepped deep winding canyons, numerous rock outcrops, and boulder strewn slopes provide topographic screening. (See Photo 1) The dense cover of pinyon-juniper on the slopes and canyon rims plus riparian growth in the canyon bottoms provide vegetative screening. The canyon-interior configuration of this WSA gives the visitor a feeling of isolation from the sights and sounds of human activity outside the canyon.

#### *Primitive and Unconfined Recreation*

The Squaw/Papoose Canyon WSA provides outstanding opportunities for primitive and unconfined recreation. The canyon bottoms provide routes for hiking or horseback riding; the area's

geological and archeological features and wildlife offer scenic subject matter for photography and sightseeing; the rugged canyon slopes are a challenge for climbing and rock scrambling; and hunting is a historic use. Numerous secluded camping spots are available. From a mesa or cliff-top, the panorama is of the canyons themselves as well as other striking landforms in the area such as the Abajo Mountains to the northwest and Sleeping Ute Mountain to the southeast. (See Photo 1) The dark green woodland and contrasting tan, gray, and black stained cliffs provide a scenic backdrop for all recreation activities.

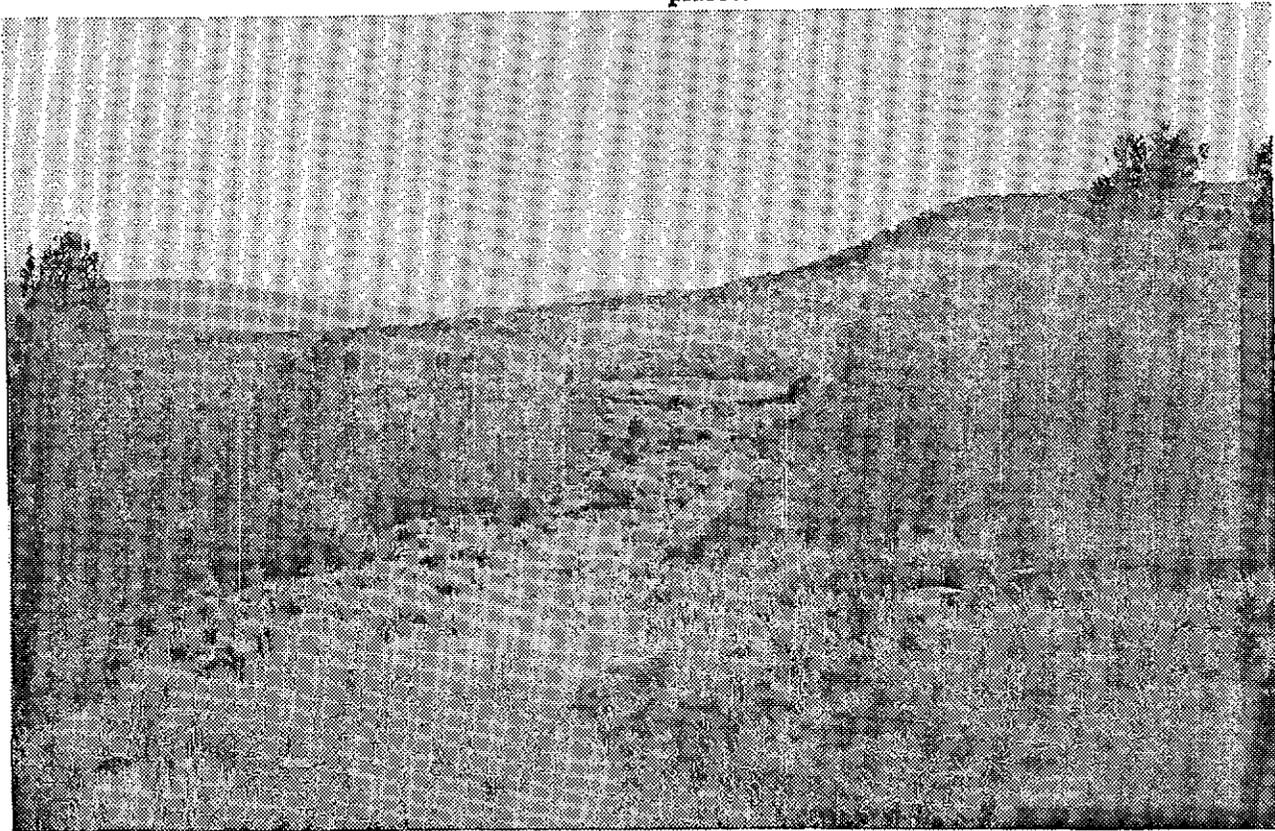
### *Special Features*

Even though a very small percentage of the Squaw/Papoose acreage has been intensively inventoried, it is known that the area has a high archeological site density. The area was heavily used by the Anasazi culture from A.D. 450 to 1300. Anasazi pueblo habitation sites, rock shelters, masonry granaries, tool processing sites and water control devices are numerous. These sites are isolated from access and therefore have not yet been impacted by collectors

and vandals. The interpretative and scientific potential of this canyon is as yet untapped.

In Colorado, the Squaw/Papoose Canyon WSA is managed as a Cultural Resource Emphasis Area within the Anasazi Culture Multiple Use Area of Critical Environmental Concern (internal BLM designation, 1986). Management direction prioritizes the preservation and enhancement of the cultural resource properties found within the area. Emphasis is focused on measures needed to protect the soil, vegetation, scenic, cultural, and wildlife resources and thereby the entire cultural resource setting.

Geological formations are well exposed for scientific and educational study: the Summerville and Morrison Formations of the Jurassic Period outcrop and are overlain by Burro Canyon and Dakota Formations of the Upper Cretaceous. The Morrison is rich in fossilized wood, plant remains and fossil vertebrate bones. These values are important to many recreation users who note that such a combination of archeological and educational values, scenic beauty and ruggedness can be found in few places.



*Photo 2. Squaw/Papoose WSA. Naturalness is not greatly impaired by this old revegetating way but photo does show difficulty of total reclamation.*

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

*Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. The WSA is in the

Colorado Plateau Province (Bailey-Kuchler classification system) and contains pinyon-juniper woodland vegetation type (11,287 acres). The pinyon-juniper woodland ecosystem is represented by only one wilderness area in Colorado; that being in Mesa Verde National Park which is closed to public recreation; and one area in Utah (Box-Death Hollow). (See Table 2)

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u> Province/Potential Natural Vegetation	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<i>Nationwide</i>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	11	1,401,745	85	2,142,602
<i>Colorado</i>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	1	8,105	17	293,837

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The Squaw/Papoose Canyon WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area).

**Balancing the Geographic Distribution of Wilderness Areas**

The Squaw/Papoose Canyon WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The nearest designated wilderness area (Mesa Verde National Park Wilderness; 8,105 acres) is approximately 1 and 1/2 hours to the southeast. Mesa Verde Wilderness is not open to the public due to important archeological values. Two and one-half hours to the east of Squaw/Papoose is Forest Service Lizard Head (41,189 acres) and Mt. Sneffels (16,210 acres) Wilderness Areas; areas of high mountain landform and ecosystem and thereby unavailable for most public use during winter and

spring. Two hours to the north is the BLM Dolores River Canyon WSA which contains 29,415 acres recommended for wilderness designation. Because of its year-round accessibility and Colorado Plateau ecosystem, Squaw/Papoose Canyon WSA would expand and balance opportunities to attain diverse wilderness experiences.

**MANAGEABILITY**

The Squaw/Papoose Canyon WSA could be effectively managed to preserve its wilderness character yet complex and expensive management problems could occur in two areas: management conflicts associated with 6 pre-FLPMA oil and gas leases and management problems with the peripheral, flat land parcels (see *Recommendations and Rationale*). The Squaw/Papoose Canyon Environmental Impact Statement included a partial wilderness alternative which would enhance the manageability of this WSA. This alternative discussed deleting the several flat-land parcels (1,354 total acres), conforming the WSA boundary to the more easily identifiable canyon rim and thereby enhancing

the manageability of the area. Two of the six pre-FLPMA oil and gas leases are totally included within these peripheral parcels therefore deletion of these parcels would greatly reduce potential wilderness management problems associated with possible lease development. In addition, the then remaining four leases are in a very narrow section of the WSA which would allow for efficient reserve recovery using slant drilling from outside the WSA.

There are no other major manageability problems or resource conflicts which would result from wilderness designation. The entire WSA is BLM land; no inholdings. There are no patented mining claims within the WSA but there are 22 unpatented post-FLPMA mining claims, most likely for uranium. Since the GEM report for Squaw/Papoose Canyon shows only moderate favorability of uranium occurrence and no known deposits of uranium exist, and because these claims and all future claims are subject to FLPMA generated guidelines, site disturbance associated with access and development of these claims is unlikely (see *Energy and Mineral Resource Values* section below). The WSA contains portions of two grazing allotments administered in Utah and portions of three allotments administered in Colorado. There are approximately 455 animal unit months (AUMs) in use throughout the entire WSA and no range improvement projects have been proposed.

#### ENERGY AND MINERAL RESOURCE VALUES

Squaw/Papoose Canyon energy and mineral resources were evaluated in *GEM Geological, Energy, and Minerals; Resource Assessment for Region 4, Colorado Plateau* - submitted to BLM by Mountain States Mineral Enterprises Inc. in May 1983, and the *Mineral Summaries*, prepared for BLM by the U.S. Geological Survey and Bureau of

Mines in February, 1990. Extensive seismic testing has been done in and around the WSA; all in a non-impairing manner mostly by helicopter or on foot.

Hydrocarbons (oil, gas, carbon dioxide, helium): No known deposits but a high potential that these resources could be found in the WSA; accessibility and economic potential are rated good (GEM page 111-7). There are no known deposits of coal in Squaw/Papoose WSA. There is a low potential that coal is present with accessibility and economic potential unknown.

Energy and related minerals (uranium and vanadium): No known deposits in the WSA with a moderate potential for existence; therefore, accessibility and economic potential are unknown.

Precious and base metals (copper, gold, silver, lead, zinc): No known deposits and no potential that deposits exist.

Clays and cut sandstone: No known deposits, but a high probability that deposits exist. However, accessibility and economic potential are listed at low to moderate.

In summary, there is no present production of any mineral, oil or gas within the WSA, although there are two producing oil wells near the WSA boundary. Existence and quantity of these resources is unknown but potential for occurrence is moderate to high.

#### IMPACTS ON RESOURCES

The following comparative impact table (Table 3) summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

**Table 3 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Wilderness Values</i>	<i>Wilderness values would remain largely unchanged on 10,846 acres under this alternative. However, surface disturbance (31 acres) and impacts from sights and sounds (410 acres) from seismic exploration and wildcat well development would diminish the wilderness values on these 441 acres.</i>	<i>Wilderness designation would provide long-term protection for wilderness values on 11,287 acres. Natural and supplemental values would be maintained by the restrictions to motorized recreational use and mineral development. There would be short-term impacts on 146 acres associated with seismic work and test drilling. However, these disturbances would be reclaimed and substantially unnoticeable after two years. Opportunities for solitude and primitive, unconfined recreation would be maintained because the anticipated increase in visitor use associated with wilderness designation is incidental.</i>	<i>Under this alternative, the wilderness values in the 9,933 acres designated as suitable for wilderness would be protected. There would be short-term impacts on 291 acres associated with seismic work and test well drilling. However, these disturbances would be reclaimed and substantially unnoticeable after two years. Opportunities for primitive, unconfined recreation would be preserved.  The wilderness values in most of the remaining 1,354 acres designated as non-suitable would be protected by the ORV closure. 655 acres of the remaining 1,354 acres designated as non-suitable would be protected by the NSO stipulation. This area is expected to remain largely unchanged over the long-term.</i>
<i>Impacts on Cultural Resources</i>	<i>Under this alternative, the cultural resources in the Colorado portion of the WSA would be protected by provisions in the ACEC plan which provide for protection of all sites and stabilization or recovery of information from 84 sites. In addition, cultural resources in this area will be protected through increased knowledge and management presence, as well as by management restrictions on motorized vehicle use and by an NSO stipulation on 4,026 acres. Cultural resources on the remaining 6,676 acres in Utah are expected to remain largely unchanged.</i>	<i>Under this alternative, the cultural resources in the WSA would be protected by wilderness management and by the ACEC plan which provides for protection for all sites and stabilization, or recovery of information from 84 sites. These protective measures would be further supported by the WSA-wide exclusion of motorized recreational use and by the mineral withdrawal. As such, this alternative would provide comprehensive protection for the cultural resources in the entire 11,287 acres WSA.</i>	<i>Under this alternative, cultural resources on 11,142 acres would be protected, either by wilderness designation or ORV closure. Cultural resources on the remaining 145 acres would remain largely unchanged.</i>

Table 3 - Comparative Summary of the Impacts by Alternative (continued)

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Recreational Opportunities and Use</i>	<i>Recreational use would remain at 400 user days per year under this alternative. Excellent opportunities for most backcountry recreational activities would continue to exist for most of the WSA.</i>	<i>Under this alternative, recreational use would increase slightly over a 3-5 year period. However, this increase would be so incidental that it would not affect the character of recreation use in this area. Over the long-term, excellent opportunities will be preserved for non-motorized, backcountry recreational activities by eliminating motorized recreational use and mineral development.</i>	<i>Under this alternative, recreational use would increase slightly over a 3-5 year period. However, this increase would be so incidental that it would not affect the character of recreation use in this area. Over the long-term, excellent opportunities will be preserved for non-motorized recreational use.</i>
<i>Impacts on Energy and Mineral Exploration and Production</i>	<i>One projected successful well in the WSA could produce about 200 bbls of oil and 800 mcf of gas per day during the next 20 years. This well represents 2 1/2 percent of the 40 new wells projected to be drilled and producible within Colorado's Paradox Basin in the next 20 years. In addition, it is projected that 75 percent of the recoverable reserves would be produced over time, mostly from more favorable well sites outside the WSA through directional drilling.</i>	<i>Although some exploration will occur, production of energy or minerals will not occur from within the WSA. However, it is projected that 60 percent of the recoverable reserves would be produced over time by directional drilling from outside the WSA.</i>	<i>Under the Partial Wilderness Alternative, even though exploration will occur, production of energy or minerals will not occur from within the WSA. However, it is projected that 65 percent of the recoverable reserves would be produced over time by directional drilling the pre-FLPMA leases from outside the WSA.</i>

### LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS

Designation or non-designation of this WSA as wilderness would have negligible impacts on local economic conditions. Social factors were not considered a significant issue in the study.

### SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the Draft EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values. Of the 27 public comments received during the inventory phase; 13 favored WSA designation and 14 were opposed to WSA designation. Of these 14, most pointed out impacts of man which they felt interfered with wilderness characteristics of the area. BLM used this information in eliminating

impacted areas and developing boundaries which give the WSA its primarily natural character.

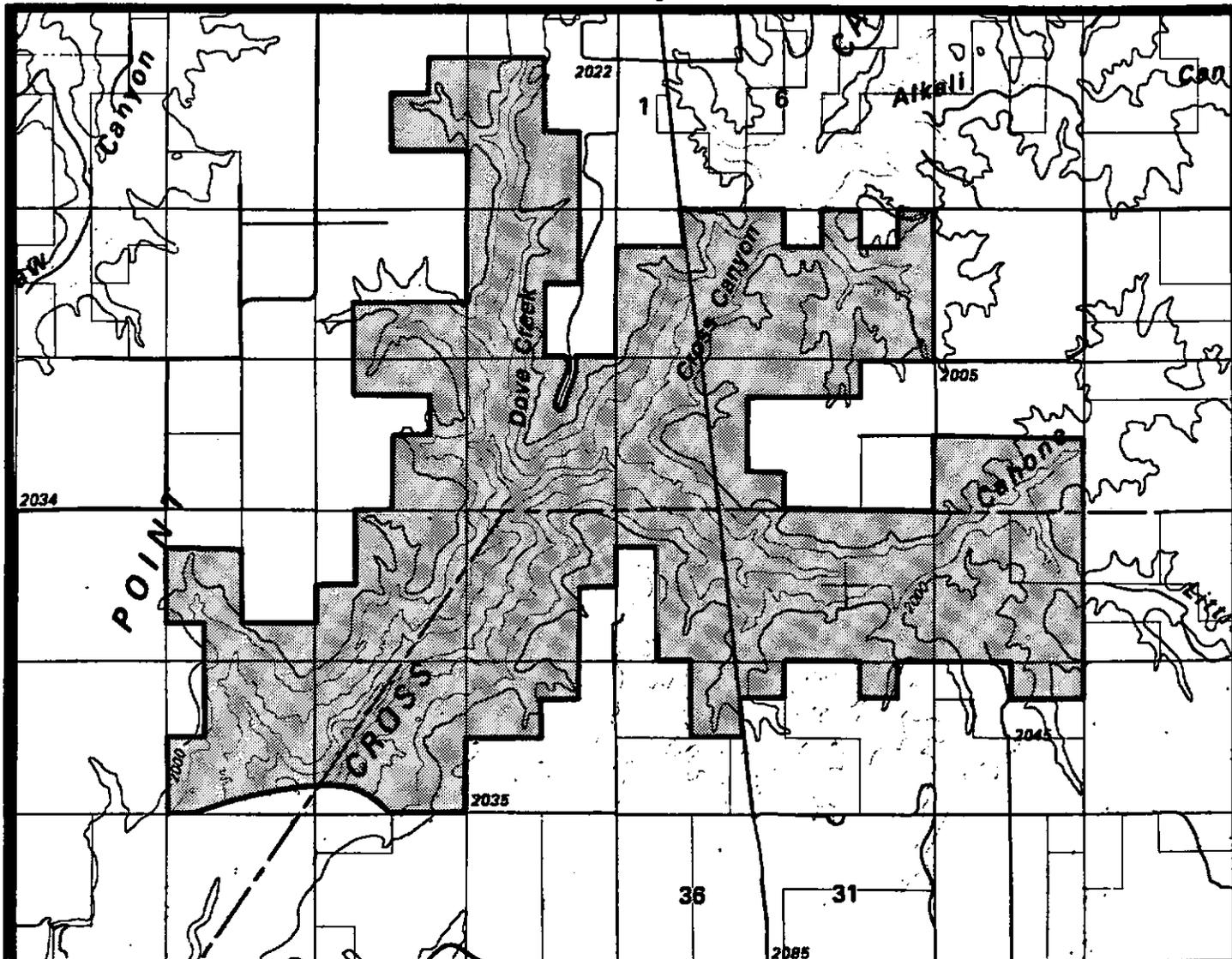
During formal public review of the Draft Environmental Impact Statement, a total of 99 comments were received which specifically addressed this WSA - 55 were written and 44 were oral statements received at public hearings. In general, 94 commenters supported wilderness designation and 5 favored releasing the area for other uses (no wilderness). Specific comments by those favoring wilderness designation centered on the preservation of archeological values. Protection of ecological diversity and geologic beauty were also major concerns. Wildlife and saving a vanishing reserve of scientific and educational value for future generations were both mentioned in several comments.

Those opposing wilderness designation were concerned that wilderness would preclude mineral development and grazing or that the area does not have wilderness characteristics. No comments specifically addressing this WSA were received from Federal, state, or local agencies.



R 19 W | R 18 W

T 39 N



T 39 N

R 19 W | R 18 W

RECOMMENDED FOR WILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS.

STATE

RECOMMENDED FOR NONWILDERNESS

SPLIT ESTATE

PRIVATE (None)

Scale 1:37500



Cahone Canyon Proposal CO-030-265D



January 1991

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## CAHONE CANYON

### WILDERNESS STUDY AREA

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#### The Study Area – 8,960 acres

The Cahone Canyon WSA (CO-030-265D) is located in Dolores and Montezuma Counties, approximately 4 miles west of Cahone, Colorado. The WSA is one mile north of Lowry Pueblo Ruins National Historic Landmark. There are no inholdings in this WSA; all 8,960 acres are BLM. The area centers on the Cross, Cahone and Dove Creek Canyon system. The boundary extends southwest, down-canyon to the point where road and oil well disturbances visually impact the area and separate this area from the Cross Canyon WSA. Boundaries extend north and east, up-canyon only to the point in each of the three canyons where agriculture and human activity are encountered. The WSA is surrounded by a mixture of public and private land. The area is shown on the map.

The dominant natural feature of this WSA is the confluence of three deep canyons marked by stair-stepped walls, sandstone cliffs and winding canyon bottoms. The three intermittent streams enter the WSA at elevations of 6,400 to 6,500 feet and leave the area as one stream at 5,900 feet. The streams have cut the canyon system through a flat plateau with an elevation of 6,600 feet causing the canyon walls to gradually rise downstream to a height of 700 feet. (See Photo 1) Vegetation is thick pinyon pine-juniper woodland on the slopes and canyon rim, with sage parks and riparian growth along the canyon bottom. (See Photo 2)

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the San Juan/San Miguel Planning Area Final Wilderness Environmental Impact Statement published November, 1990.

Three alternatives were analyzed in the EIS: all-wilderness (8,960 acres), partial wilderness (7,548 acres included, 1,412 acres deleted), and a no-wilderness alternative which is the recommendation of this report.

#### Recommendation and Rationale

0 acres recommended for wilderness

8,960 acres recommended for nonwilderness

The recommendation is to not designate Cahone Canyon WSA as wilderness and to release the area for uses other than wilderness. The all-wilderness alternative is the environmentally preferable alternative since its implementation would result in the least change to the natural environment over the long term.

The primary reason for the no-wilderness recommendation is the existence of 12 oil and gas leases dating from before the Federal Land Policy and Management Act of 1976 (pre-FLPMA oil and gas leases). Pre-FLPMA leases are not subject to the regulations that FLPMA created and therefore the lease holder could develop these leases by building a road to, drilling from, and occupying a drill pad, all on the ground-surface of the lease. These 12 leases comprise 2,360 acres or 26 percent of the total acreage in the WSA. These 12 leases and much of Cahone WSA are in the Sand Canyon Known Geologic Structure (KGS); an area of known production of oil and gas. The leases are consolidated by unit agreements with producing leases outside the WSA - "held by production" - they will not expire as long as other wells in the unit agreements are producing. Even though the leases are in a KGS and extensive seismic exploration has been done in the WSA, no development of these leases has occurred, even in years of high oil and gas prices. The WSA is on the extreme northern margin of the KGS and it may be that if oil and gas are present, profitable recovery is not possible. But it cannot be assumed that these leases will never be developed.

Because the leases are pre-FLPMA, and "no surface occupancy" stipulations cannot be imposed, management to preserve the wilderness characteristics of Cahone Canyon WSA would be complex, difficult, and expensive. It is estimated that a total of 25 acres of surface disturbance in 1 to 2-acre

scattered parcels (drill pads plus access roads) would occur if all 12 leases were developed. Some of the drill pads might be located within the canyon itself which would visually impact a large area, not just the directly disturbed small parcels. Solitude, naturalness, and opportunity for primitive and unconfined recreation would all be impacted in a large portion of the WSA because of the sights and sounds of well site construction.

Under the current management plan, BLM does require that there be no long-term visual impairment of the area by lease development. Because of the rugged, rocky topography and old growth pinyon-juniper woodland, total and acceptable reclamation can be a long and expensive process requiring great effort by both the lease holder and BLM. As a result of these stringent restrictions, the lease holder may find it to be more economical to use directional drilling (slant drilling) from outside the WSA boundary to hit a target under the WSA. It is estimated that 70 to 80 percent of reserves could be recovered

using this drilling technique. But it cannot be assumed that directional drilling would be the method employed in all 12 leases as this method is not actually stipulated in the lease agreements.

An additional reason for the no-wilderness recommendation is that wilderness management of Cahone Canyon would be made difficult by the inclusion in the WSA of several parcels of land (1,412 total acres) which are up on and extend away from the canyon rim on the periphery of the WSA. The wilderness inventory process identified roadless natural areas which resulted in the 8,960 acre Cahone Canyon WSA. This roadless area included several undisturbed yet flat land parcels which extend away from the canyon rims and abut roads and cultivated fields. These parcels have a lowered wilderness quality and an increased potential for management conflicts due to sights and sounds of road traffic, the working of farm machinery, and other peripheral non-wilderness uses such as trespass fuel wood cutting and illegal dumping.

**TABLE 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	8,960
Split Estate (BLM surface only)	0
Inholdings (State, private)	0
<b>Total</b>	<b>8,960</b>
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
<b>Total BLM Land Recommended for Wilderness</b>	<b>0</b>
Inholdings(State, Private)	0
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	8,960
Split Estate	0
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>8,960</b>
Inholdings (State, Private)	0

## Criteria Considered in Developing the Wilderness Recommendations

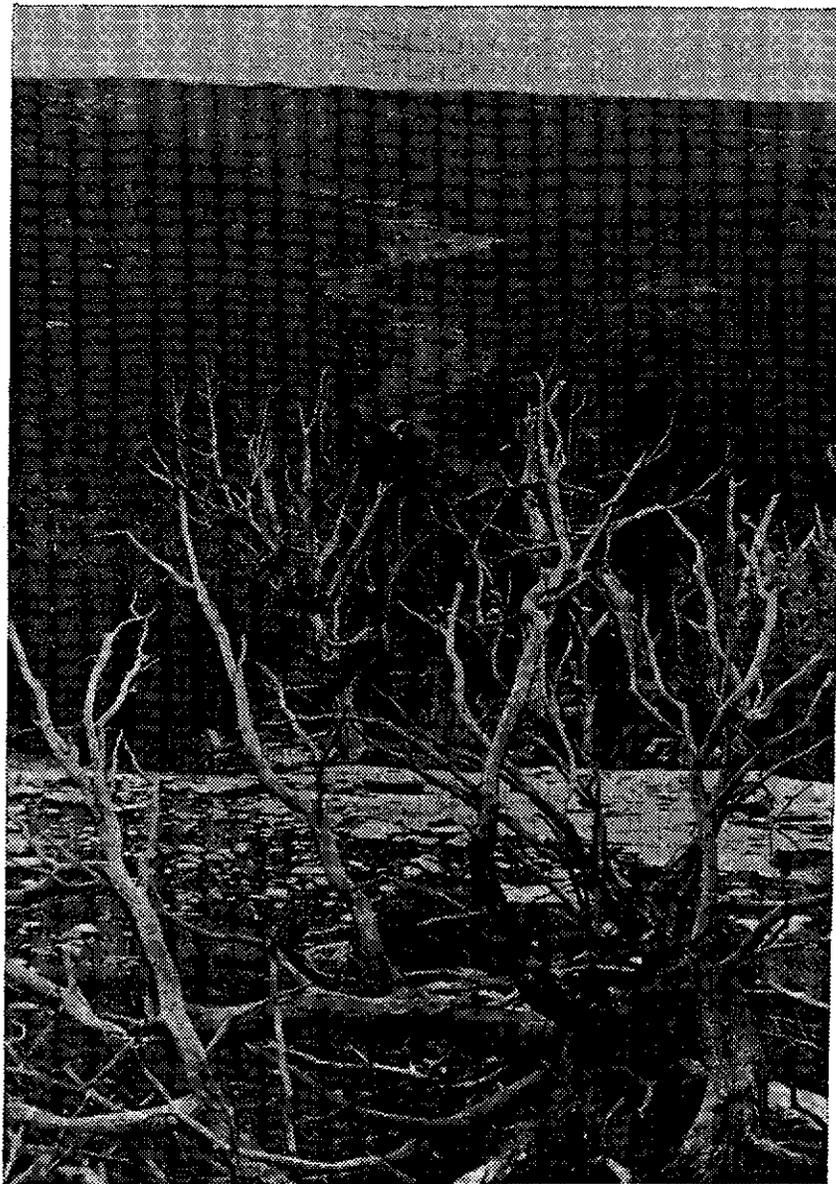
### WILDERNESS CHARACTERISTICS

#### *Naturalness*

The Cahone Canyon WSA is predominantly natural in character with negligible human imprints. The dominant natural feature of this area is the confluence of three deep canyons (Cross, Cahone, and Dove Creek) that have been cut by water-flow erosion into the Morrison Formation and Dakota Sandstone. The stair-step canyon slopes are

marked by shallow, rocky soils, numerous rock outcrops, and talus slopes. Sandstone cliffs and ledges line the canyon rims. (See Photo 1) Winding canyon bottoms support cottonwood, boxelder, Russian olive, willow, tamarisk and various shrubs. (See Photo 2) Pinyon pine-juniper woodland with sage and shrub understory dominate the canyon sides.

The area's unroaded character and riparian habitat make it ideal as a natural refuge for native flora and fauna that have been displaced from neighboring areas by agriculture and other human activities. The habitat values which make this area more productive for deer and other fur-bearers than nearby



*Photo 1. Cahone Canyon WSA. Undisturbed oldgrowth pinyon/juniper on slopes, natural meadows and sage parks along a meandering stream.*

BLM lands are the secluded alluvial benches and bottoms which serve as birthing and nursery habitat; highly productive alluvial and riparian sites which provide foraging habitat; and hiding cover provided by the unroaded, natural terrain. Small mammals (beaver and badgers), predators (mountain lion, bobcat, and red fox), and raptors (red-tailed and Cooper's hawks, great horned owls, and golden eagles) all use the area. Bald eagles winter-roost in the area and the habitat is ideal for the BLM sensitive and federal candidate species *Astragalus naturitensis* (Naturita milkvetch).

Two vehicle ways are the only imprints of present-day man; one on the southern rim and one on the northern rim of Cahone Canyon. These ways are revegetating and are screened by the surrounding pinyon-juniper woodland - they do not significantly impair the naturalness of the area.

### *Solitude*

Topographic and vegetative screening combine to provide outstanding solitude opportunities throughout the WSA. The mesa-top parcels of the WSA (see *Recommendation and Rationale*, this report) are undisturbed and therefore offer natural vegetative screening but because of the flat topography and nearness to heavily impacted areas outside the WSA, do offer a wilderness quality and solitude of lesser value than that of the canyons. In the canyon, rugged terrain, stair-stepped deep winding canyons, numerous rock outcrops, and boulder strewn slopes provide topographic screening. The dense cover of pinyon-juniper on the slopes and canyon rims plus riparian growth in the canyon bottoms provide vegetative screening. (See Photos 1 and 2) The canyon-interior configuration of this WSA gives the visitor a feeling of isolation from the sights and sounds of human activity outside the canyon.

### *Primitive and Unconfined Recreation*

Cahone Canyon WSA provides outstanding opportunities for primitive and unconfined recreation. The canyon bottoms provide routes for hiking or horseback riding; the area's geological and archeological features offer scenic subject matter for photography and sightseeing; the rugged canyon slopes are a challenge for climbing and rock scrambling; and hunting. Numerous secluded camping spots are available. The dark green woodland and contrasting tan, gray, and black stained cliffs provide a scenic backdrop for all recreation activities.

### *Special Features*

Even though only four percent of the WSA has been intensively inventoried, it is known that the area has a high archeological site density. The area was heavily used by the Anasazi culture as it flourished from A.D. 450 to 1300. Smaller pueblo habitations, cliff dwellings, masonry granaries, and water control devices are numerous. These sites are isolated from access and therefore have not yet been impacted by collectors and vandals. The pristine quality of these sites makes them highly important and potential exists for future discovery, scientific study, and interpretation.

Cross Canyon is managed as a Cultural Resource Emphasis Area within the Anasazi Culture Multiple Use Area of Critical Environmental Concern (internal BLM designation, 1986). Management direction prioritizes the preservation and enhancement of the cultural resource properties found within the area. Emphasis is focused on measures needed to protect the soil, vegetation, scenic, cultural, and wildlife resources and thereby the entire cultural resource setting.

Geological formations are well exposed for scientific and educational study: strata reveal the historic/geological processes of portions of the Jurassic and Cretaceous Periods. In addition, the Morrison Formation is rich in fossil plants and vertebrates.

### **DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

#### *Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. The WSA is in the Colorado Plateau Province (Bailey-Kuchler classification system) and contains pinyon-juniper woodland (8,204 acres) and Great Basin sagebrush zones (756 acres). The pinyon-juniper woodland ecosystem is represented by only one other wilderness area in Colorado, Mesa Verde National Park which is closed to public recreation. The Great Basin sagebrush ecosystem is represented by two areas in the National Wilderness Preservation System neither of which are in Colorado. (See Table 2)

Table 2 - Ecosystem Representation

<u>Bailey-Kuchler Classification</u> Province/Potential Natural Vegetation	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<i>Nationwide</i>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	11	1,401,745	85	2,142,602
Great Basin Sagebrush	2	95,875	5	58,421
<i>Colorado</i>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	1	8,105	17	293,837
Great Basin Sagebrush	0	0	4	57,541

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The Cahone Canyon WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area).

*Balancing the Geographic Distribution of Wilderness Areas*

The Cahone Canyon WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The nearest designated wilderness area (Mesa Verde National Park Wilderness; 8,105 acres) is approximately 1 and 1/2 hours to the southeast. Mesa Verde Wilderness is not open to the public due to important archeological values. Two to three hours to the east of Cahone are the Forest Service Lizard Head (41,189 acres) and Mt. Sneffels (16,210 acres) Wilderness Areas; areas of high mountain landform and ecosystem and thereby unavailable for most public use during winter and spring. Two hours to the north is the BLM Dolores River Canyon WSA which contains 29,415 acres recommended for wilderness designation. Because of its year-round accessibility and Colorado Plateau ecosystem, Cahone Canyon WSA would expand and balance opportunities to attain diverse wilderness experiences.

#### MANAGEABILITY

The Cahone Canyon WSA could be effectively managed to preserve its wilderness character yet complex and expensive management problems could occur in two areas: management conflicts associated with 12 pre-FLPMA oil and gas leases and management conflicts associated with peripheral, flat-land parcels (see *Recommendations and Rationale* for a complete discussion). The Cahone Canyon Environmental Impact Statement included a partial wilderness alternative which would enhance the manageability of this WSA. This alternative discussed deleting several land parcels (1,412 total acres), conforming the WSA boundary to the more easily identifiable canyon rim and thereby enhancing the manageability of the area.

There are no other major manageability problems or resource conflicts which would result from wilderness designation. The entire WSA is BLM land; no inholdings. There are no patented or unpatented mining claims within the WSA. The WSA does contain all of one and a small portion of another grazing allotment totaling approximately 415 animal unit months (AUM), however, no range improvement projects have been proposed within the WSA.

### ENERGY AND MINERAL RESOURCE VALUES

Cahone Canyon energy and mineral resources were evaluated in *GEM (Geological, Energy, and Minerals); Resource Assessment for Region 4, Colorado Plateau* - submitted to BLM by Mountain States Mineral Enterprises Inc., in May 1983 and the *Mineral Summaries* prepared for BLM by the U.S. Geological Survey and Bureau of Mines in February, 1990. Extensive seismic testing has been done in and around the WSA; all in a non-impairing manner mostly by helicopter or on foot.

**Hydrocarbons (oil, gas, carbon dioxide, helium):** There are no known deposits or mineralization present in the WSA (GEM page 111-3). There is high potential that these resources could be found in the WSA, but accessibility and economic potential are unknown (GEM page 111-7). There are also no known deposits of coal in Cahone Canyon. There is a moderate potential that coal is present with accessibility and economic potential unknown.

Energy and related minerals (uranium and

vanadium): No known deposits in the WSA with a low potential for existence; therefore, accessibility and economic potential were not rated.

**Precious and base metals (copper, gold, silver, lead, zinc):** No known deposits and no potential that deposits exist.

**Clays and cut sandstone:** No known deposits, but a high probability that deposits exist. However, accessibility and economic potential are listed at low to moderate.

Overall, Cahone Canyon WSA is considered to have limited potential for mineral discovery and development, probably because the canyon system is not in the central area but on the northern extreme of the Sand Canyon KGS (Known Geologic Structure).

### IMPACTS ON RESOURCES

The following comparative impact table (Table 3) summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

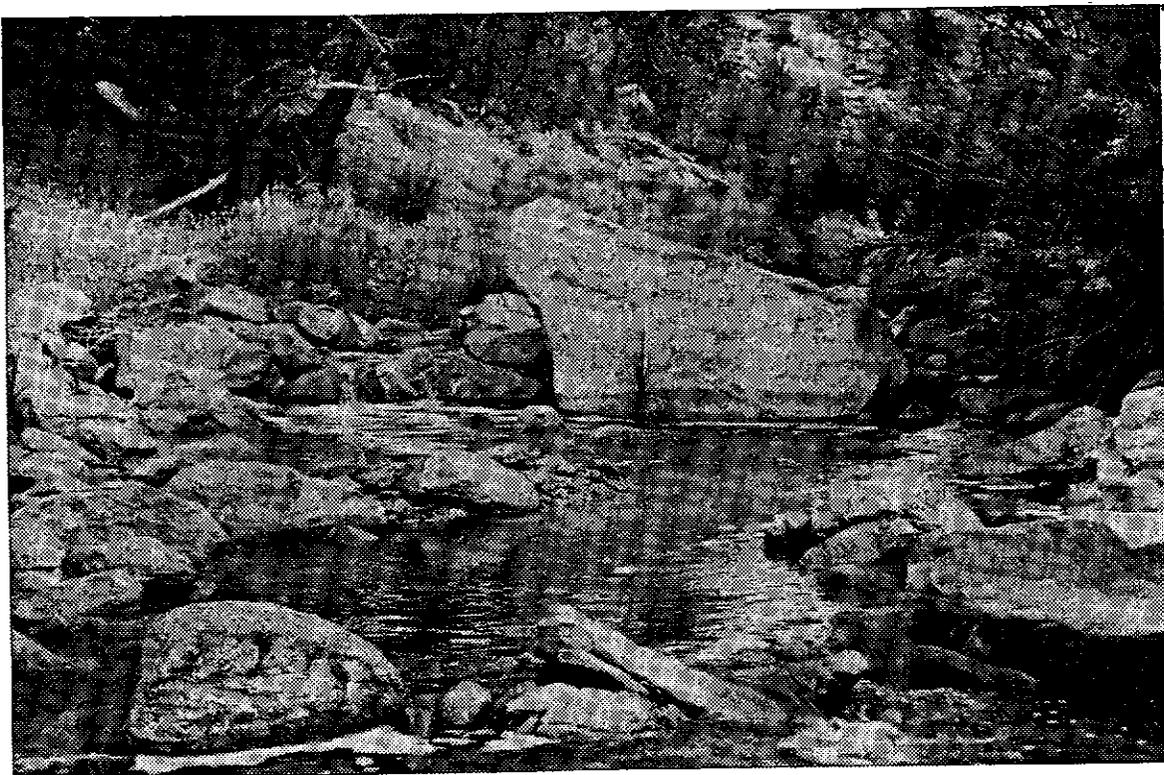


Photo 2. Cahone Canyon WSA. Lush riparian along stream in this semi-desert canyon.

**Table 3 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on Wilderness Values</i>	<i>Wilderness values would remain largely unchanged on 8,579 acres under this alternative. However, surface disturbance (21 acres) and impacts from sights and sounds (360 acres) from seismic exploration and wildcat well development would diminish the wilderness values on these 381 acres.</i>	<i>Wilderness designation would provide long-term protection for wilderness values on 8,960 acres. Natural and supplemental values would be maintained by the restrictions to motorized recreational use and mineral development. Wilderness values would remain unchanged from the seismic exploration activity. Opportunities for solitude and primitive, unconfined recreation would be maintained because the anticipated increase in visitor use associated with wilderness designation would be so incidental.</i>	<i>Under this alternative, the wilderness values in the 7,548 acres designated as suitable for wilderness would be protected. There would be short-term impacts on 191 acres associated with seismic work and test well drilling. However, these disturbances would be reclaimed and substantially unnoticeable after two years. Opportunities for primitive, unconfined recreation would be preserved.  The wilderness values on the remaining 1,412 acres designated as nonsuitable would be protected by the ORV closure on the entire area and by the NSO stipulation on 739 acres. This area is expected to remain largely unchanged over the long-term.</i>
<i>Impacts on Energy and Mineral Exploration and Production</i>	<i>One projected successful well in the WSA could produce about 200 bbls of oil and 400 mcf of gas per day during the next 20 years. This well represents 2 1/2 percent of the 40 new wells projected to be drilled and producible within Colorado's Paradox Basin the next 20 years. In addition, it is projected that 80 percent of the recoverable reserves would be produced over time, mostly from more favorable well-sites outside the WSA through directional drilling.</i>	<i>Although some exploration will occur, production of energy or minerals will not occur from within the WSA. However, it is projected that 60 percent of the recoverable reserves would be produced over time by directional drilling from outside the WSA.</i>	<i>Under the Partial Wilderness Alternative, even though exploration will occur, production of energy or minerals will not occur from within the WSA. However, it is projected that 70 percent of the recoverable reserves would be produced over time by directional drilling the pre-FLPMA leases from outside the WSA.</i>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<b>Impacts on Cultural Resources</b>	<p><i>Under this alternative, the cultural resources in the WSA would be protected by provisions in the ACEC plan which provide for protection of all sites and stabilization or recovery of information from 28 sites. In addition, cultural resources will be protected through increased knowledge and management presence, as well as by management restrictions on motorized vehicle use (entire WSA is closed) and by an NSO stipulation on 7,851 acres.</i></p>	<p><i>Under this alternative, the cultural resources in the WSA would be protected by wilderness management and by the ACEC plan which provides for protection for all sites and stabilization, or recovery of information from 28 sites. These protective measures would be further supported by the WSA-wide exclusion of motorized recreational use and by the mineral withdrawal. As such this alternative would provide comprehensive protection for the cultural resources in the entire 8,960 acre WSA.</i></p>	<p><i>Under this alternative, all cultural sites in the suitable portion would be protected by provisions in the ACEC plan which provide for protection of all sites and stabilization or recovery of information from 28 sites. The cultural resources in the suitable portion of the WSA (7,548 acres) would be protected by the closure to motorized recreational use and by the mineral withdrawal. As such, this alternative would provide comprehensive protection for the cultural resources in this portion of the WSA.</i></p> <p><i>The cultural resources in 739 acres of the portion designated as nonsuitable would also be protected by both the ACEC plan and the closure to motorized recreational use. Although, the cultural resources in 673 acres of the nonsuitable portion do not have the NSO stipulation, they would continue to be protected by both the ACEC plan and the ORV closure.</i></p>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative Impact
<i>Impacts on Recreational Opportunities and Use</i>	<i>Recreational use would remain less than 400 user days per year under this alternative. Excellent opportunities would continue to exist for non-motorized, backcountry recreational activities because of the closure to motorized recreational use (entire WSA is closed) and restrictions on mineral development (7,851 acres with NSO).</i>	<i>Under this alternative, recreational use would increase slightly over a 10-year period. However, this increase would be so incidental that it would not affect the character of recreation use in this area. Over the long-term, excellent opportunities will be preserved for non-motorized, backcountry recreational activities by eliminating motorized recreational use and mineral development.</i>	<p><i>Under this alternative, recreational use in the 7,548 acres determined suitable for wilderness would increase slightly over a 10-year period. However, this increase would be so incidental that it would not affect the character of recreation use in this area. Over the long-term, excellent opportunities will be preserved for non-motorized recreational use through the exclusion of motorized use and mineral development.</i></p> <p><i>The character of recreational use in the 1,412 acre area designated as non-suitable would not change. In this area, excellent opportunities would still exist for non-motorized recreational use because of the existing closure to motorized use and restrictions on mineral development on 739 acres.</i></p>

### LOCAL SOCIAL AND ECONOMIC EFFECTS

Designation or non-designation of this WSA as wilderness would have negligible impacts on local economic conditions. Social factors were not considered a significant issue in the study.

#### SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the draft EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values.

During formal public review of the draft Environmental Impact Statement, a total of 97 comments were received which specifically addressed this

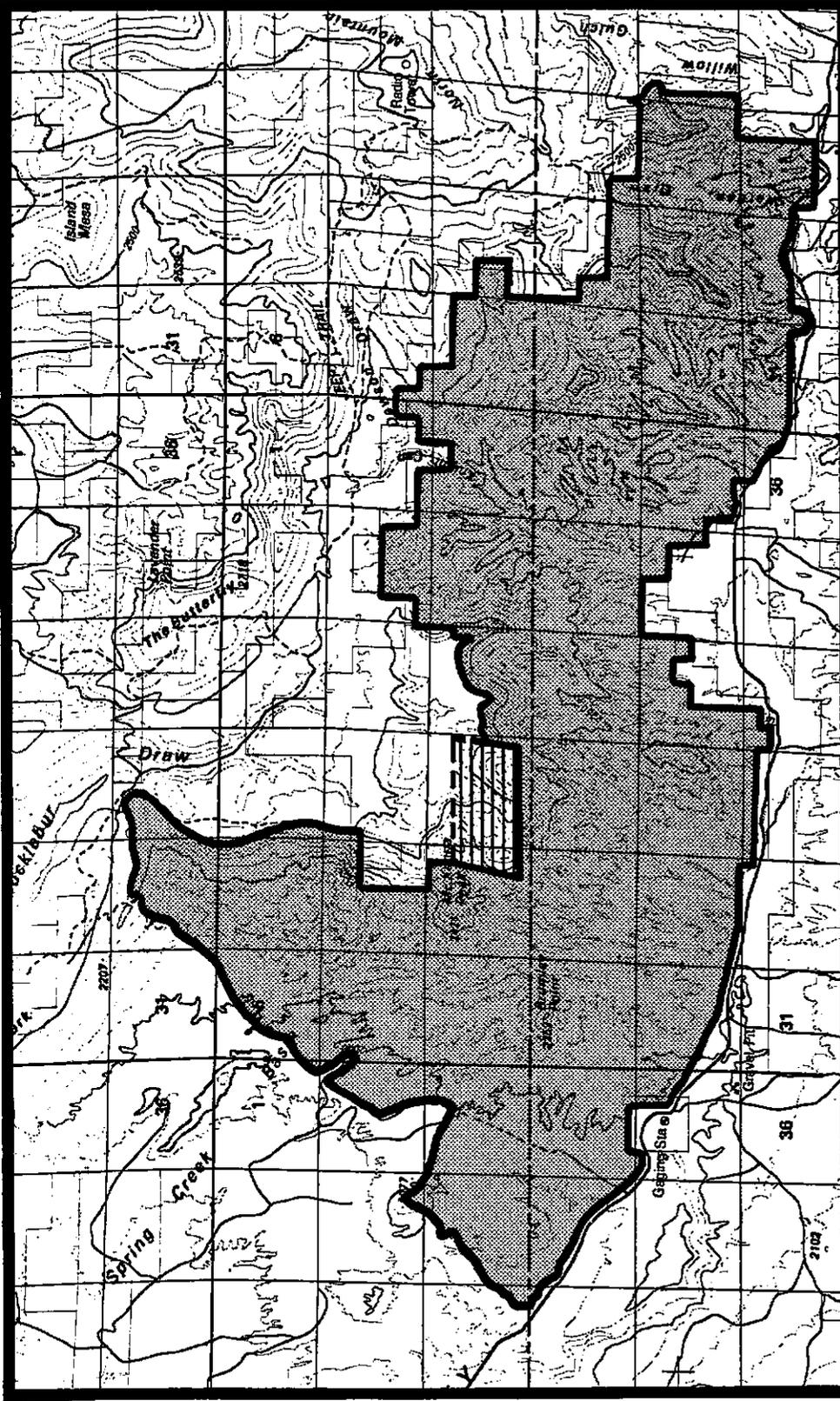
WSA - 54 were written and 43 were oral statements received at public hearings. In general, 93 commenters supported wilderness designation and 4 favored releasing the area for other uses (no wilderness). Specific comments by those favoring wilderness designation centered on the preservation of archeological values (prehistoric and historic). Protection of ecological diversity and geologic beauty were also major concerns. Wildlife and saving a vanishing reserve of scientific and educational value for future generations were both mentioned in several comments.

Those opposing wilderness designation were concerned that wilderness would preclude mineral development and grazing or that the area does not have wilderness characteristics.

No comments specifically addressing this WSA were received from Federal, State, or local government agencies.



T 43 N  
T 42 N



R 16 W      R 15 W      R 15 W      R 14 W

- |   |  |   |                               |
|---|--|---|-------------------------------|
|  | RECOMMENDED FOR WILDERNESS (NONE)            |  | SPLIT ESTATE (NONE)           |
|  | RECOMMENDED FOR NONWILDERNESS                |  | STATE (NONE WITHIN THE WSA)   |
|  | LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS. |  | PRIVATE (NONE WITHIN THE WSA) |



McKenna Peak WSA  
Proposal  
CO-030-286

January 1991

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## MCKENNA PEAK WILDERNESS STUDY AREA

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### THE STUDY AREA -- 19,398 acres

The McKenna Peak WSA (CO-030-286) is located in San Miguel and Dolores Counties approximately 45 miles northeast of Dove Creek, Colorado. All 19,398 acres are administered by BLM. The area is bounded on the south by the Disappointment Valley Road and the private property that runs along that road. The west boundary (from south to north) is a drainage beyond which are roads and stock ponds; a fence line; and an impassable but visible jeep trail. The north boundary is the top of a sheer sandstone cliff which in most places corresponds with the BLM/private property lines or a Colorado State land section. The narrow east boundary is the BLM/private property line. The area is shown on the map.

Topography consists of Mancos shale badlands, sandstone cliffs, canyons, mesas and rolling hills. (See Photo 1) Elevations range from 6,300 feet along Disappointment Creek in the south up to 8,600 feet on the Mesa Verde Sandstone promontory at the north central part of the WSA. The predominant topographic features of the WSA are McKenna Peak rising 1,000 feet above the surrounding terrain, and the Mesa Verde Sandstone cliff formation. Vegetation varies with altitude and soil: no vegetation or sparse desert forbs, shrubs, and grasses at lower elevations and on the badland slopes; pinyon pine/juniper woodland in the middle elevations; on up to Douglas fir stands with an understory of oak and mountain mahogany at the higher elevations. (See Photo 2)

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the San Juan/San Miguel Planning Area Final Wilderness Environmental Impact Statement published November, 1990. Three alternatives were analyzed in the EIS: all-wilderness (19,398 acres), a partial wilderness alternative (18,472 acres included and 926 acres deleted), and a no-wilderness alternative which is the recommendation of this report.

### Recommendation and Rationale

0 acres recommended for wilderness

19,398 acres recommended for nonwilderness

The recommendation is to not designate McKenna Peak WSA as wilderness and to release the area for uses other than wilderness. The all-wilderness alternative is the environmentally preferable alternative since its implementation would result in the least change to the natural environment over the long term.

The primary reason for the no-wilderness recommendation is that during the study phase of the wilderness review process, BLM management decided that the wilderness values contained in this area were not of an overall quality and significance to warrant inclusion in the National Wilderness Preservation System. BLM did feel that these wilderness values were and will remain, locally, or in some cases regionally important and therefore current management plans were devised to protect the sensitive resources found in McKenna Peak WSA. BLM feels that the majority of primary values identified by the public as wilderness related (roadless, visual, wildlife habitat, etc.) can be managed in a nonwilderness management scheme through professional application of the principles of multiple-use management.

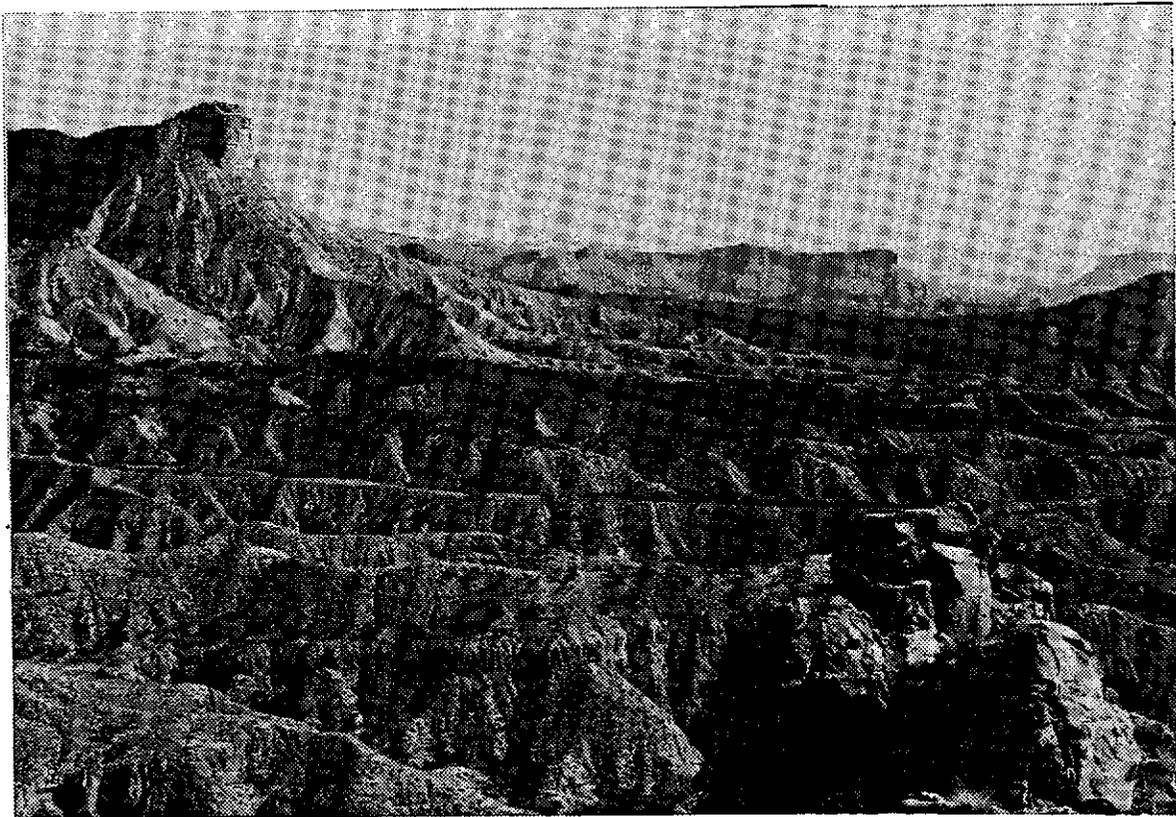
The San Juan/San Miguel Planning Area Resource Management Plan, September 1985, states that the McKenna Peak WSA is to be managed for watershed improvement, wildlife values, livestock grazing and off-road-vehicle restrictions (use of existing, designated routes only). A main concern in the McKenna area is watershed improvement and the entire WSA is included in the Spring Creek Basin/Disappointment Valley Watershed Activity Plan (CO-030,SJ86-87). Salinity of the Colorado River is a major downstream problem and the Dolores River has been identified as the major salinity contributing tributary of the Colorado. The Disappointment Creek is identified as the major salinity contributor to the Dolores and salinity concentrations of Disappointment Creek increase greatly as it moves

through the area drained by Salt Arroyo, Alkali Wash, and Warden Draw all of which are located in McKenna Peak WSA. The Watershed Activity Plan gives highest priority to land surface and vegetative rehabilitation by developing a grazing system which will increase vegetative cover and reduce erosion and salinity of runoff by protecting key forage species during the critical spring growing season. Only if this proves insufficient, the plan proposes several structural projects including pond/pit dike systems, water retention pits, check dams, and retention dams. These projects are given low priority because of WSA status and because the terrain and soil types are only marginally conducive to structural control devices. Although these projects would involve very little surface area or disturbance, mechanized equipment could be required which would conflict with wilderness management of the area.

Off-road-vehicle restrictions are in place for the area covered by the Watershed Activity Plan which includes the entire WSA. Vehicle use is limited to existing, designated routes and trails. As there are

no such designated routes within the WSA, off-road-vehicles are not allowed in the WSA. The objective of these restrictions is to reduce soil surface disturbance therefore slowing water runoff, reducing both erosion and salinity within the drainages resulting in the improved ecology of the area.

In addition, the no-wilderness recommendation reduces management conflicts arising from the construction of various range improvement projects that are proposed within the WSA. These fence and stock pond projects are designed to allow BLM to better manage both livestock and the wild horse herd that utilize the area (control herd movement and dispersal to reduce negative impact of concentrated grazing). The wild horse herd requires intensive management to control both numbers and location. The management plan designated a particular boundary for the herd and an average herd size of 50 (upper limit 65). Part of the designated horse range includes the western one-third of the WSA. Two and 1/4 mile of fencing in the WSA was built in 1989 to complete the horse range perimeter fence after an environmental assessment



*Photo 1. McKenna Peak WSA. Ribbed badlands and WSA north boundary cliffs. Looking east up Disappointment Valley. Lone Cone Peak in mid-background.*

indicated it could be built within the WSA Interim Management Policy nonimpairment guidelines. Proposed fencing and stock ponds are needed to disperse the herd and relieve the pressure on sensitive riparian areas which are critical to the large number of bald eagles that utilize this area as roosting sites. Objectives common to all the range projects include: improve ecological condition; increase and improve forage and habitat for wildlife, wild horses, and livestock; improve watershed condition and runoff water quality; and, maintain or improve riparian vegetation. Even though the proposed fences would be built using foot and pack animal traffic, the ponds would require heavy equipment and both types of projects could cause conflict with wilderness management.

In addition, wilderness management of McKenna would be made difficult by the inclusion in the WSA of several parcels of land (926 acres total) which are easily accessible in motorized vehicles and are of a lesser wilderness quality than most of the WSA. The wilderness inventory process identified roadless

natural areas which resulted in the 19,398 acre McKenna Peak WSA. This roadless area included several flat drainage bottoms that open onto the Disappointment Valley Road along the south boundary of the WSA. Along the north boundary, there are five small parcels which are actually on the flat mesa-top above the cliff edge. All of these parcels, both north and south, are easily accessible by vehicle and, in fact, several have been tracked by vehicles during the fall hunting season.

In conclusion, by not recommending McKenna Peak WSA for wilderness designation, BLM will be less limited in the methods used to improve water quality and riparian habitat in the area. Other improvement projects will reduce impacts of livestock grazing and in the long term, increase quantity and quality of forage available to livestock and wildlife as well as wild horses. The no wilderness recommendation also eliminates potential management problems associated with the scattered land parcels having vehicular access.

**TABLE 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	19,398
Split Estate (BLM surface only)	0
Inholdings (State, private)	0
<b>Total</b>	<b>19,398</b>
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
<b>Total BLM Land Recommended for Wilderness</b>	<b>0</b>
<b>Inholdings</b>	<b>0</b>
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	19,398
Split Estate	0
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>19,398</b>

## Criteria Considered in Developing the Wilderness Recommendations

### WILDERNESS CHARACTERISTICS

#### *Naturalness*

The McKenna Peak WSA is predominantly natural in character with negligible human imprints. The majority of human imprints associated with ranching activities - access routes, fences and stock ponds - were excluded during the inventory process. The few short ways present within the WSA are no longer kept open by the passage of vehicles (except those described in the *Recommendation and Rationale*, noted earlier in this section) and are screened and revegetating to a natural condition. An old ranch line camp, corral, and fence are screened by rugged topography and thick pinyon-juniper vegetation. Two old stock ponds are silted in and revegetated and therefore not noticeable except in the immediate vicinity. The cumulative impact of the ways and range improvements upon the WSA's naturalness is negligible because the few imprints present are widely dispersed and do not dominate the landscape.

The McKenna Peak WSA encompasses a varied topography, from highlands forested with ponderosa pine to intricately-eroded badlands carved of Mancos shale. Ribbed hills of shale adobe cover the lower elevations, accenting the diversity of physical geography which is one of the WSA's most impressive attributes. (See Photo 1) McKenna Peak, the landform for which the area is named, is a conspicuous cone-shaped mountain nearly 8,000 feet in elevation that is but one of a number of eroded highlands in the central part of the WSA. The Mesa Verde sandstone cap-rock has not broken down and eroded away along the northern edge of the area, creating massive buttress-like cliffs. (See Photo 2)

Vegetation is also diverse and varies with altitude and soil stability. The gray-black adobe badlands support little or no vegetation. Less steep lowland terrain supports desert forbs, grasses and shrubs such as shadscale, and the saltbush-greasewood ecosystem. The mid-elevation central part of the WSA is covered by thick pinyon-juniper woodland. Higher elevations leading up to and on top of the high bluffs, support ponderosa pine and Douglas fir stands with a mountain mahogany-gamble oak understory. The WSA does contain federally

threatened or endangered plant species: *Sclerocactus glaucus* (Uinta Basin hookless cactus), *Echinocereus triglochidiatus* (spineless hedgehog cactus), and the BLM sensitive *Astragalus naturitensis* (Naturita milkvetch). The limited riparian vegetation along the numerous intermittent streams provides valuable and diverse habitat for many wildlife species and is a vital component of the WSA environment.

This topographic and vegetative diversity together with the roadless aspect of the WSA make it ideal habitat for numerous wildlife species. Mule deer use the area year round but their population increases greatly during the winter. Elk also migrate down into the WSA from the mountains to the east and McKenna is a crucial wintering area. Pronghorn antelope are found here in unknown numbers. Predators that live in or utilize the area include mountain lion, black bear, bobcat, coyote and long tailed weasel. Raptors include the red tailed hawk, and kestrel. The cliffs are designated potential nesting habitat for the threatened and endangered peregrine falcon which do hunt the area. Bald and golden eagle winter in the lower reaches of the area where abundant, low vegetation supports a large prey base for the raptors.

#### *Solitude*

The rugged topography and numerous groupings of vegetation create settings which allow for outstanding solitude experiences throughout most of the WSA. The rugged badland topography and narrow, twisting arroyos between dominant landforms promote a sense of physical isolation near the McKenna Peak/Brumley Point area. From Spring Creek Basin, many small canyons and ridges lead into the northern portion of the WSA. There, extremely dense pinyon/juniper forests, steep-walled canyons, and rock outcrops create a visual and physical maze that isolates the individual. Continuing upward and northward, one gradually enters the high mesa and ridge country dominated by mature stands of ponderosa pine and Douglas fir. Beneath this canopy are dense stands of Gambel's oak, four to twelve feet in height. These thickets are penetrated only by game trails and contribute to the ample, vegetative screening of the area. From ridges and high points, panoramic vistas give the feeling of vastness which enhance the sense of solitude.

### *Primitive and Unconfined Recreation*

Because of the diversity of topography and vegetation, the area provides outstanding opportunities for primitive and unconfined recreation. Both the varied terrain and the large size of the WSA afford outstanding opportunities for hiking and horseback riding excursions. The deeply eroded Mancos shale of the badlands provides challenging crosscountry trips for either the equestrian or the hiker. Extended overnight backpacking and horseback trips would provide more time to explore the contrasting terrain.

Vertical sandstone cliffs of varying heights and large sandstone boulders are found stretching across the central portion of the area. These rock outcrops provide opportunities for rock climbing in varying degrees of difficulty. Both the amateur or the expert climber can find challenging multi-pitch climbs.

The area provides excellent opportunities for exploring, birdwatching (especially for raptors), photography, and sightseeing. Because of the large numbers of big game in the area, hunting is a popular and historic use. The long light of sunset casting a red contrast to the black badlands and tan cliffs offers a spectacular backdrop for any recreation activity.

### *Special Features*

The unique geologic features of the McKenna Peak WSA may be its most significant supplemental value. The geologic history of the McKenna Peak landscape dates back roughly 100 million years to the Upper Cretaceous era when much of what is now southwestern Colorado was covered by shallow seas and estuarine areas. The fine sediments laid down formed what is now the light grey to black Mancos shale. This strata is rich in fossil marine invertebrates. Fossil clams and brachiopods are extraordinarily abundant throughout the WSA in arroyo beds and where shale strata are abruptly exposed.

As the seas began to recede from the area, sandstones of the Mesa Verde group were deposited. These sandstones and the scattered shale beds occasionally present therein indicate that beaches, marshes and swamps dominated the region at that time. When the last arms of that prehistoric sea dried up, large deposits of gypsum and other evaporite salts accumulated to form a series of salt domes in southwest Colorado. Collapse of the

local salt dome created Disappointment Valley and localized uplifting began the breakdown of the sandstone cap rock, allowing shale erosion and the resulting badland formations. (See Photo 1)

An additional special feature of the McKenna Peak WSA is the presence of wild horses. Wild horses have been present in the area at least since the turn of the century. A long-time resident of the Disappointment Valley remembered a herd of over 200 horses in the 1930's before many of them were rounded up for the Federal government. It is estimated that several dozen horses now inhabit the WSA. The uncommon opportunity to observe and study wild horses in a setting where their contact with people is negligible may interest animal behavior and range management students.

### **DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

#### *Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System, although McKenna's transition zone aspect is unique and not well represented. The WSA is in the transition between and contains two ecosystems: the Colorado Plateau Province and the Rocky Mountain Forest Province, and four associated vegetation types (Bailey-Kuchler classification system). McKenna contains the pinyon-juniper woodland vegetation type from both the Colorado Plateau Province (4,390 acres) and the Rocky Mountain Forest Province (3,848 acres). These ecosystems are represented by only two other designated wilderness areas in Colorado, one being Mesa Verde National Park Wilderness Area which is closed to the public. From the Rocky Mountain Forest Province, McKenna contains the saltbush-greasewood vegetation type (10,410 acres) which occurs in only one designated wilderness (Great Sand Dunes National Monument). McKenna also contains the mountain mahogany-oak scrub zone (628 acres) from the Rocky Mountain Province which is represented in the National Wilderness Preservation System by only 80,852 acres, none of which are in Colorado. McKenna contains the pine-Douglas fir vegetation type from both the Colorado Plateau (60 acres and not represented in Colorado) and Rocky Mountain Forest Provinces (62 acres). (See Table 2)

Table 2 - Ecosystem Representation

<u>Bailey-Kuchler Classification</u> Province/Potential Natural Vegetation	NWPS Areas		Other BLM Studies	
	areas	acres	areas	acres
<i>Nationwide</i>				
<u>Colorado Plateau Province</u>				
Pinyon-juniper woodland	11	1,401,745	85	2,142,602
Pine-Douglas fir	6	125,523	8	18,930
<u>Rocky Mountain Forest Province</u>				
Mountain Mahogany-Oak Scrub	7	80,852	7	35,840
Saltbush-Greasewood	1	33,445	5	26,867
Pinyon-Juniper Woodland	2	41,451	22	167,864
Pine-Douglas fir	10	210,751	13	93,601
<i>Colorado</i>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	1	8,105	17	293,837
Pine-Douglas fir	0	0	3	855
<u>Rocky Mountain Forest Province</u>				
Mountain Mahogany-Oak Scrub	0	0	5	30,495
Saltbush-Greasewood	1	33,445	5	26,867
Pinyon Juniper-Woodland	1	11,181	16	119,424
Pine-Douglas Fir	4	98,531	12	92,316

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The McKenna Peak WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area).

*Balancing the Geographic Distribution of Wilderness Areas*

The McKenna Peak WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The

nearest designated wilderness area (Mesa Verde National Park Wilderness; 8,105 acres) is two hours to the south. Mesa Verde Wilderness is not open to the public due to important archeological values. Three hours to the east of McKenna is Forest Service Lizard Head (41,189 acres) and Mt. Sneffels (16,210 acres) Wilderness Areas; areas of high mountain landform and ecosystem and thereby unavailable for most public use during winter and spring. Forty-five minutes to the northwest is the BLM Dolores River Canyon WSA which contains 29,415 acres recommended for wilderness designation. Because of its near year-round accessibility

and Colorado Plateau/Rocky Mountain Forest transition ecosystem, McKenna Peak WSA would expand and balance opportunities to attain diverse wilderness experiences.

### MANAGEABILITY

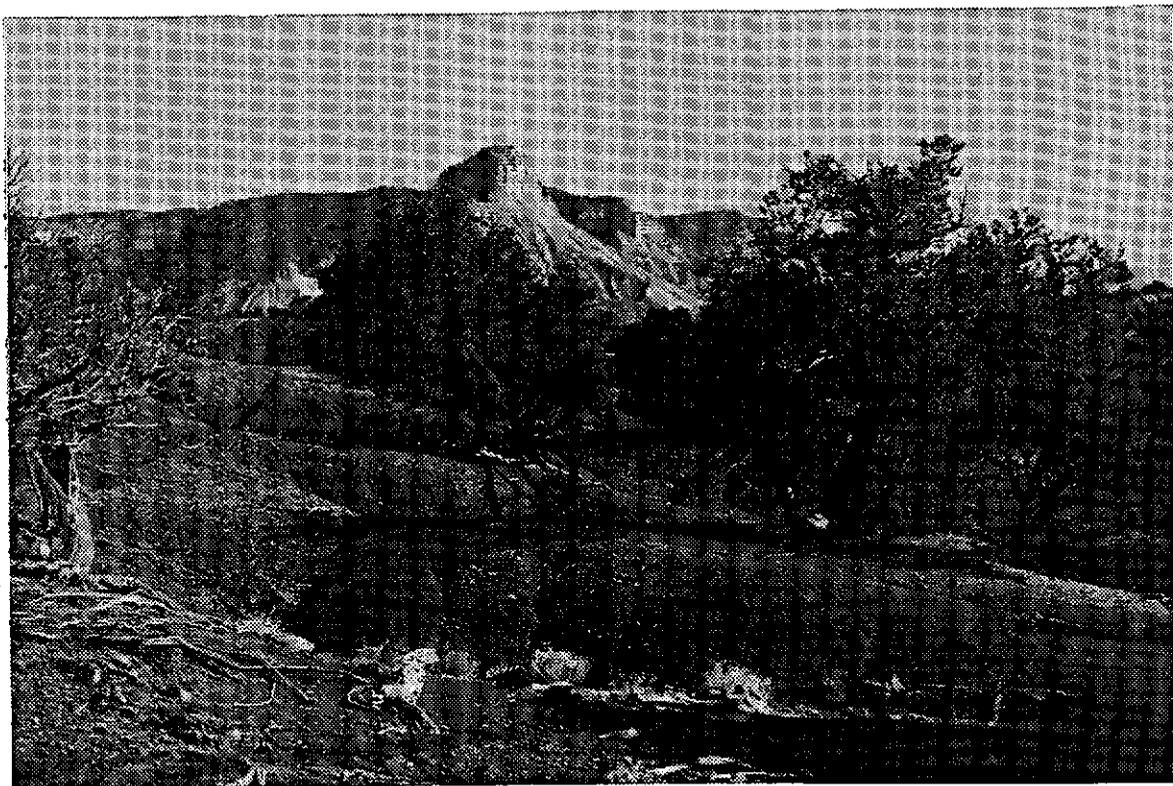
The McKenna Peak WSA could be effectively managed to preserve its wilderness character. There are no pre FLPMA or post FLPMA oil and gas leases, no coal leases, and no patented mining claims within the WSA. There are several unpatented mining claims, most likely for uranium, but because energy mineral potential is low (see *Energy and Mineral Resource Values*, this section), potential for conflict with wilderness management is low. There are 6 grazing allotments in the WSA (1 complete and 5 partial) with an approximate total of 853 animal unit months (AUM's). There are several livestock and wild horse range improvement projects existing and planned as well as several water quality improvement and riparian habitat improvement projects planned. Many of these

projects could conflict with wilderness management of the WSA and this is discussed in more detail under *Recommendation and Rationale* section, this report.

Wilderness management conflicts could occur with the inclusion of several vehicular accessible peripheral parcels within the WSA. The McKenna WSA Environmental Impact Statement included a partial wilderness alternative which would enhance the manageability of this WSA. This alternative discussed deleting the several land parcels (926 total acres) which could present management problems.

### ENERGY AND MINERAL RESOURCE VALUES

McKenna Peak WSA energy and mineral resources were evaluated in *GEM (Geological, Energy, and Minerals); Resource Assessment for Region 4, Colorado Plateau* - submitted to BLM by Mountain States Mineral Enterprises Inc. in May 1983, and the *Minerals Summaries* prepared for BLM by the U.S. Geological Survey and Bureau of Mines in February, 1990.



*Photo 2. McKenna Peak WSA. Sparse vegetation on the Mancos shale badlands. Mesa Verde sandstone cliffs in background are north WSA boundary.*

**Hydrocarbons (oil, gas, carbon dioxide, helium):** There are no known deposits within the WSA and there is moderate potential for occurrence. Accessibility and economic potential for these resources is termed poor.

**Coal:** no known deposits within the WSA and a lack of coal-bearing formations in the WSA, therefore; no rating for accessibility and economic potential.

**Energy and related minerals (uranium, vanadium):** No known deposits within the WSA and a low potential for occurrence. No rating for accessibility and economic potential.

**Precious and base metals (copper, gold, silver, lead, zinc):** No known deposits and no potential for occurrence.

**Clays and cut sandstone:** No known deposits within the WSA but high potential that deposits of structural clays are present. Accessibility was not rated, but economic potential rated as moderate.

Overall, McKenna Peak WSA is considered to have low economic potential for mineral resource development, which is reflected in the absence of actual development.

**IMPACTS ON RESOURCES**

The following comparative impact table (Table 3) summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

**Table 3 - Comparative Summary of the Impacts by Alternative**

<b>Impact Topics</b>	<b>Recommendation: No Wilderness Alternative</b>	<b>All Wilderness Alternative</b>	<b>Partial Wilderness Alternative</b>
<i>Impacts on Wilderness Values</i>	<i>Under this alternative, long-term legislative protection of wilderness values would not be provided. Wilderness values would be lost on 7,000 acres as a result of cumulative impacts from existing range and wild horse projects and from proposed range and watershed projects.</i>	<i>Wilderness designation would provide statutory, long-term protection for wilderness values on the 19,398 acre WSA. Natural and supplemental values would be maintained by the prohibition of motorized recreational use and mineral development. Wilderness values would be temporarily impaired on 500 acres from range projects. The range projects would be substantially unnoticeable within 3 years following construction.</i>	<i>Wilderness designation would provide statutory, long-term protection for wilderness values on 18,472 acres of the WSA. Natural and supplemental values would be maintained by the prohibition of motorized recreational use and mineral development. Wilderness values would be temporarily impaired on 500 acres from range projects. The range projects would be substantially unnoticeable within 3 years following construction.</i>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative	Partial Wilderness Alternative
<i>Impacts on the Watershed Resource</i>	<i>The construction of 17 watershed projects would result in a reduction of salt (2,061 tons) and sediment yields (68,694 tons) in Disappointment Creek (and ultimately the Colorado River System); improve wildlife habitat (cover); provide seasonal water for wildlife, wild horses, and livestock; and increase vegetative production to improve watershed conditions and provide forage for wild horses, wildlife and livestock.</i>	<i>Under the All Wilderness Alternative, no watershed restoration projects would be undertaken unless some problem were identified that posed an imminent danger to life or property. However, the quality of the watershed resources in the area would not change.</i>	<i>Under the Partial Wilderness Alternative, no watershed restoration projects would be undertaken unless some problem were identified that posed an imminent danger to life or property. However, the existing quality of the watershed resources in the area would not change.</i>
<i>Impacts on Livestock Operations</i>	<i>Constructing 2 stock ponds, building 1/4 mile of fence, and maintaining 4 other stock ponds would improve the distribution of livestock in the WSA. There would be no increase in AUMs. Restrictions on ORV use and livestock grazing use would continue to protect the grazing allotments from disturbance and erosion.</i>	<i>Building 1/4 mile of fence, and maintaining 4 other stock ponds would improve the distribution of livestock in the WSA. There would be no increase in AUMs. Restrictions on ORV use and livestock grazing use would continue to protect the grazing allotments from disturbance and erosion.</i>	<i>Building 1/4 mile of fence, and maintaining 4 other stock ponds would improve the distribution of livestock in the WSA. There would be no increase in AUMs. Restrictions on ORV use and livestock grazing use would continue to protect the grazing allotments from disturbance and erosion.</i>
<i>Impacts on Wild Horse Management and Operations</i>	<i>Under the No Wilderness Alternative, the management of the wild horse herd would not change. Wild horses will still be managed under the Spring Creek Basin Wild Horse Herd Management Plan which provides for an average herd size of 50 horses.</i>	<i>Under the All Wilderness Alternative, the management of the wild horse herds would not change. They would still be managed under the Spring Creek Basin Wild Horse Herd Management Plan which calls for maintaining an average herd size of 50 horses.</i>	<i>Under the Partial Wilderness Alternative, the management of the wild horse herd would not change. Wild horses would still be managed under the Spring Creek Basin Wild Horse Herd Management Plan which calls for maintaining an average herd size of 50 horses.</i>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

<b>Impact Topics</b>	<b>Recommendation: No Wilderness Alternative</b>	<b>All Wilderness Alternative</b>	<b>Partial Wilderness Alternative</b>
<i>Impacts on Recreation Opportunities and Use</i>	<i>Recreation use would remain at less than 400 users per year under this alternative. Opportunities would continue to exist for non-motorized, backcountry recreational activities, especially big game hunting.</i>	<i>Under this alternative, recreational use would increase by 10 percent over a 3-5 year period. Opportunities would continue to exist for non-motorized, backcountry recreational activities because of the restrictions on motorized recreational use.</i>	<i>Under this alternative, recreational use would increase by 10 percent over a 3-5 year period. Opportunities would continue to exist for non-motorized, backcountry recreational activities because of the restrictions on motorized recreational use.</i>

### **LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS**

Designation or non-designation of this WSA as wilderness would have negligible impacts on local economic conditions. Social factors were not considered a significant issue in the study.

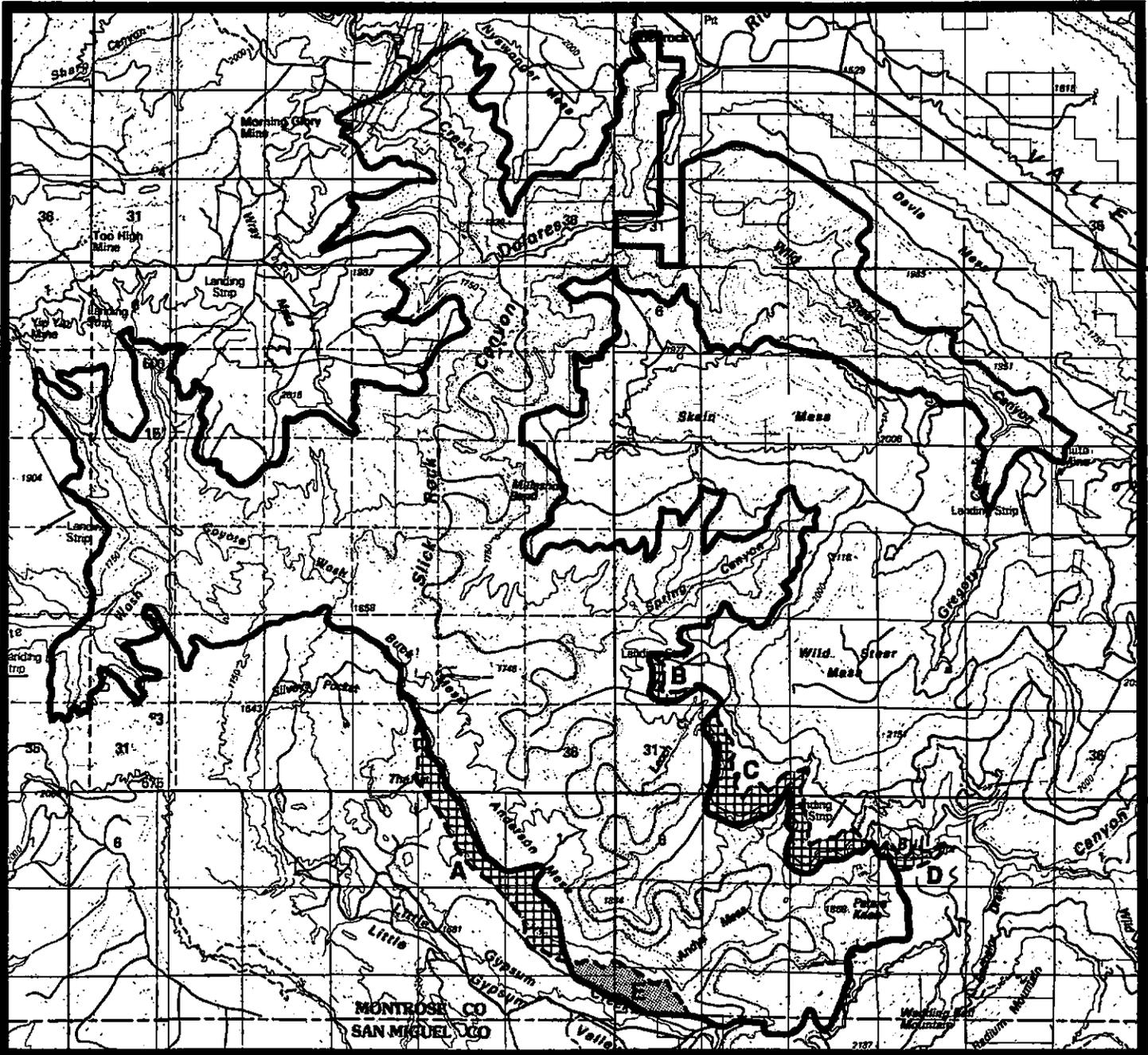
### **SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS**

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the draft EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values. A total of 22 comments were received during the initial and intensive inventory stages, with 13 supporting WSA designation and 9 against WSA designation.

During formal public review of the draft Environmental Impact Statement, a total of 98 comments were received which specifically addressed this WSA - 52 were written and 43 were oral statements received at public hearings. In general, 95 commenters supported wilderness designation and 3 favored releasing the area for other uses (no wilderness). Specific comments by those favoring wilderness designation centered on the preservation of natural habitat for wildlife and the wild horses specifically. Protection of ecological diversity and unique scenic beauty were also major concerns. Several comments mentioned the importance of protecting archeological resources and the fossils. Those opposing wilderness designation were concerned that wilderness would preclude oil, gas, and mineral development, or that there were range related conflicts.

The State of Colorado, Department of Natural Resources, supported wilderness designation of McKenna Peak WSA. No other Federal, state, or local agency comments were received.





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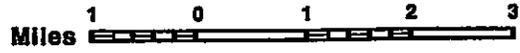


 RECOMMENDED FOR WILDERNESS  
 RECOMMENDED FOR NONWILDERNESS

 LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS.  
 SPLIT ESTATE (NONE)

 PRIVATE (NONE)  
 STATE (NONE)

Dolores River Canyon Proposal  
CO-030-280



January 1991

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## DOLORES RIVER CANYON WILDERNESS STUDY AREA

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### The Study Area — 28,668 acres

The Dolores River Canyon WSA (CO-030-290) is located in Montrose County, Colorado, approximately 17 miles west of Naturita and 28 miles north of Dove Creek, Colorado. All 28,668 acres are BLM lands and the area is surrounded by a mixture of public and private lands. The south boundary is the canyon opening as the Dolores River leaves the Little Gypsum Valley. The area centers on approximately 30 miles of deeply cut meandering canyon and includes those tributary canyons and surrounding rimlands that are primarily natural in character. The north boundary roughly follows the cessation of this canyon terrain as the river breaks into the Paradox Valley. The WSA is shown on the map.

The rugged canyons are cut through a series of sedimentary strata resulting in a vertical-walled canyon system with colorful ledges and massive cliffs. (See Photo 1) River elevation drops from 5300 feet to 5000 feet within the WSA. Benches of bedrock and rocky ridges rise 500 to 700 feet above the canyon bottom while the rim is approximately 1100 feet above the river. Vegetation in the area varies with terrain and elevation. The rim and mesa areas support pinyon-juniper woodlands with mixed desert shrubs on the canyon slopes while the canyon bottoms support thick desert riparian vegetation. There are scattered enclaves of cottonwood, ponderosa pine, aspen, and spruce-fir within the area.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the San Juan/San Miguel Planning Area Final Wilderness Environmental Impact Statement (EIS) published in November, 1990. Three alternatives were analyzed in the EIS: all-wilderness, no-wilderness, and an enhanced all-wilderness, which is the recommendation of this report (29,415 acres—28,668 acres from the original WSA, plus an additional 947 acres from outside the WSA boundary and a deletion of 200 acres to be released for other uses).

### Recommendations and Rationale

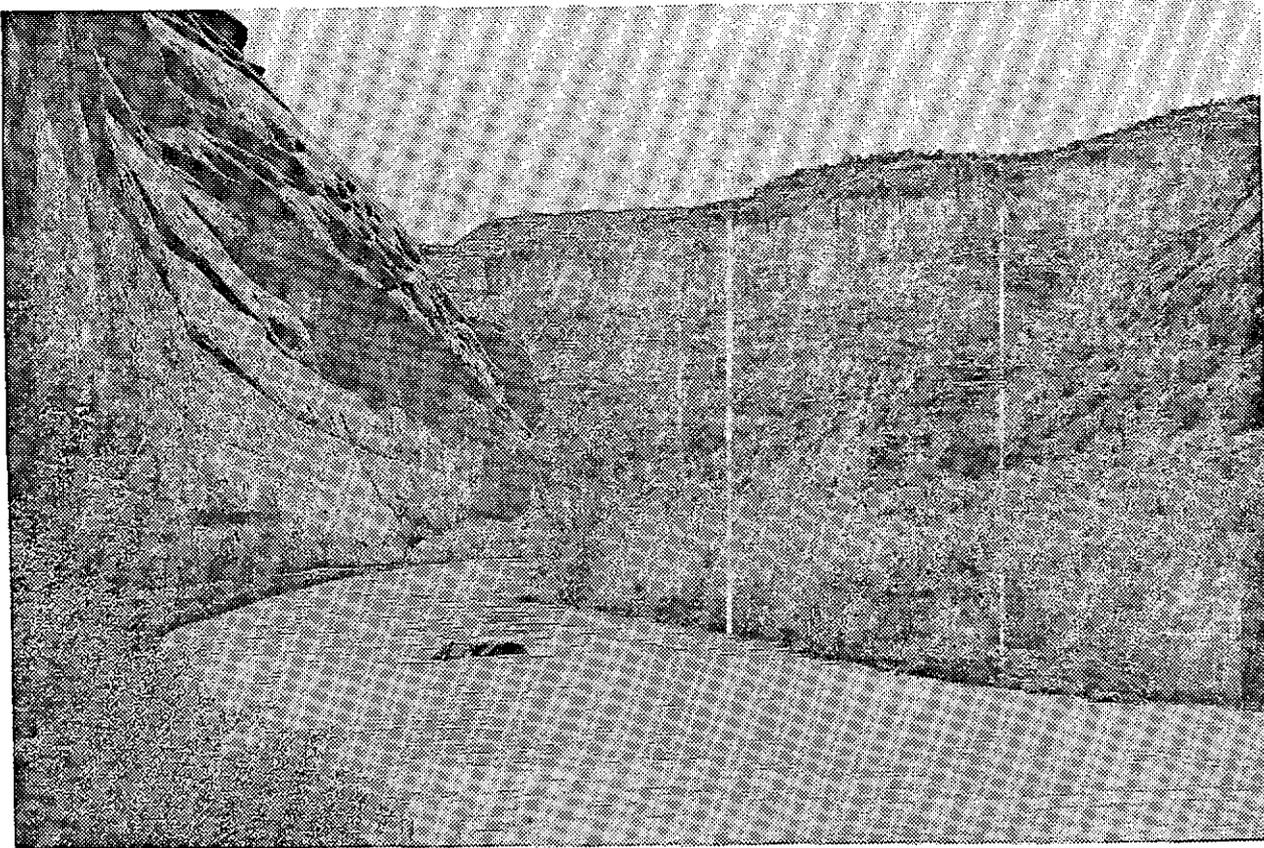
29,415 acres recommended for wilderness  
(includes an additional 947 acres from  
outside the WSA boundary)

200 acres recommended for nonwilderness

It is recommended that 29,415 acres of the Dolores River Canyon WSA be designated as wilderness. This includes an additional 947 adjacent BLM acres from outside the WSA boundary which enhance the manageability of the area (parcels A, B, C, and D). Two hundred acres would be released for uses other than wilderness (parcel E). These areas are shown on the map. An environmentally preferable alternative would be to designate the entire 29,615 acres as wilderness since this would result in the least change to the natural environment over the long term.

The 29,415 acre enhanced WSA is recommended for wilderness designation primarily because of its outstanding natural scenery, opportunities for solitude and primitive, unconfined recreation, and for its ecological diversity. Designation of the Dolores River Canyon WSA as wilderness would preserve the scenic geological grandeur of one of the most spectacular desert river canyons in the United States. The focal point of the area is the Dolores River Canyon characterized by massive, sheer canyon walls interspersed with several individually unique side canyons such as Bull, Leach, Spring, Coyote Wash, LaSal, and Wild Steer. The rugged canyon system is cut through a series of sedimentary strata (layers laid down by running water, wind, or by ancient shallow seas), which results in many colorful ledges and massive cliffs interspersed with talus slope. (See Photo 1) The rock sequence exposed along the river corridor covers a period of 160 million years.

Designation of this WSA as wilderness would preserve forever the opportunity for solitude and primitive, unconfined recreation, as well as the outstanding scenic beauty of the canyon system. The area is relatively low in elevation and can be reached by maintained roads on both the north and south boundaries making it accessible for year-



*Photo 1. Dolores River WSA. River-cut massive sandstone walls and riverbank riparian vegetation.*

round wilderness recreation opportunities such as hiking, backpacking, photography, geologic study, hunting, and rock climbing. This 30-mile stretch of river was recommended for inclusion in the Wild and Scenic River System in 1976, and historically, float-boating has been the major recreation use. (See Photo 3) The nature of the river and rapids requires minimal technical skill or equipment, and yet there are many particular spots that might challenge the more experienced boater. The rugged meandering topography of the WSA allows ample opportunities for solitude even if recreational use of the area does increase. The Dolores River Corridor, Management Plan(1990) allocates the amount and type of recreational boating use in the canyon.

Designation of this WSA as wilderness would preserve and enhance the ecological diversity of the National Wilderness Preservation System. The Dolores River WSA lies within the Colorado Plateau Province. Pinyon pine-juniper woodland and Great Basin sagebrush are the two primary vegetation types. The Colorado Plateau pinyon-juniper vegetation type occurs in only one designated wilderness

area in Colorado (Mesa Verde National Park). The Great Basin sagebrush ecosystem is not represented by the wilderness system in Colorado. The size, ruggedness, and ecological diversity of the area combine to provide ideal habitat for many wildlife species including mountain lion, bobcat, and the recently reintroduced desert bighorn sheep and the state endangered river otter. There are confirmed nesting pairs of the endangered peregrine falcon within the area. The area contains 63 miles of aquatic and desert riparian habitat. The steep rugged nature of the canyon system has precluded most livestock grazing. This has resulted in relic areas (untouched by grazing) which are ideal habitat for rare plant study. The area contains or may contain at least seven species of plants and animals that are currently listed as federal candidate, threatened or endangered. This includes the federally endangered spineless hedgehog cactus. The WSA is a use area for bald eagles and contains hunting and nesting habitat for golden eagles.

No major manageability problems or resource conflicts would result from wilderness designation.

The entire WSA is BLM land; no inholdings. There are no pre-FLPMA oil and gas leases within the WSA, yet there are several mining claims, probably for uranium, vanadium, and the base and precious metals. These are located primarily in LaSal Creek, Wild Steer Canyon, Coyote Wash, and near Buck Mesa—peripheral areas and not in the main river canyon. However, *Department of the Interior, Bureau of Mines, Mineral Land Assessment Report, 1987*, states that within the WSA, the main uranium formations are mostly absent, copper-silver veins are localized and do not extend into the WSA, gold potential is low, and no significant amounts of oil and gas have been discovered near the WSA. Therefore, no site disturbance associated with access to or development of mining claims is anticipated.

The WSA also contains all or portions of five grazing allotments totaling approximately 580 animal unit months (AUM). However, no range improvement projects have been proposed within the recommended area and no conflicts with range management are expected.

It is recommended that one parcel of land totaling 200 acres be released for uses other than wilderness. This parcel (parcel E on the map) is located on the periphery of the WSA, below the southwest edge of Andy's Mesa. The original boundary here was a jeep road. Excluding parcel E from wilderness designation would allow utilization of a natural topographic feature (the base of a cliff) as the area boundary. This will reduce potential conflicts along the jeep road thereby aiding manageability. This parcel has high potential for range improvement projects such as discing and seeding because it is flat and easily accessible by road.

It is recommended that four parcels totaling 947 acres of adjacent BLM land from outside the study area be added for designation as wilderness (see map). Parcel A (415 acres) is a sloping hillside leading up to Anderson Mesa. Adding this parcel would enhance manageability of the area by moving this boundary to a ridgeline on the slope; a natural topographical feature. Similarly, adding parcels B (61 acres) and C (411 acres) at the base of Wild

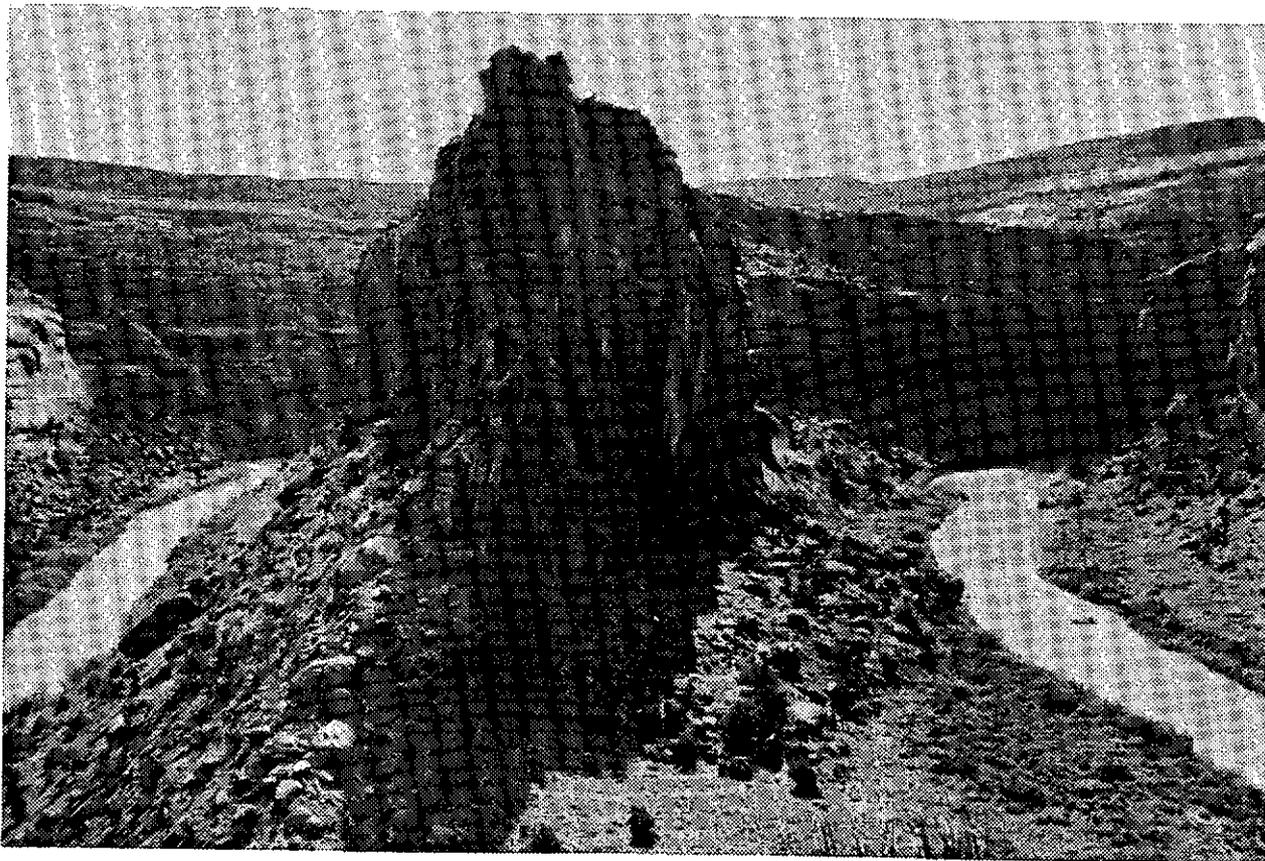


Photo 2. Dolores River WSA. Wingate sandstone fin forms the Muleshoe Bend; one hour float brings you back to the same spot.

Steer Mesa would utilize an easily identifiable natural feature, a cliff, as the WSA boundary. It is recommended that parcel D (60 acres) in Bull Canyon be added to further extend the area bound-

ary up Bull Canyon. This brings Cummings Spring into the WSA which will add riparian habitat and enhance wildlife characteristics of the recommended wilderness area.

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	
BLM (surface and subsurface)	28,668
Split Estate (BLM surface only)	0
Inholdings (State, private)	<u>0</u>
<b>Total</b>	<b>28,668</b>
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	28,468
BLM (outside WSA)	947
Split Estate (within WSA)	<u>0</u>
<b>Total BLM Land Recommended for Wilderness</b>	<b>29,415</b>
Inholdings (State, Private)	0
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	200
Split Estate	<u>0</u>
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>200</b>
Inholdings (State, Private)	0

**Criteria Considered in Developing the Wilderness Recommendations**

**WILDERNESS CHARACTERISTICS**

*Naturalness*

The Dolores River Canyon WSA is predominantly natural with negligible human imprints. This WSA centers on the deeply incised, meandering Dolores River Canyon, and includes tributary canyons and surrounding canyon rimlands. The rugged canyons are cut through an anticline (an elongated uplifted dome of bedded sedimentary rock) resulting in a vertical-walled canyon system with colorful ledges and massive cliffs interspersed with talus slopes. (See Photo 2) Approximately 30 miles of the

Dolores River are included in the WSA. As a result of the National Wild and Scenic River Study conducted in 1976, the BLM has proposed that the section of river from Gypsum Valley to Bedrock be designated a "wild" river. This recommendation has been made by the President to Congress on several occasions with no results.

Vegetation in the area varies with terrain and elevation. The rim and mesa areas support pinyon-juniper woodlands with occasional sage parks. There is a mixture of low desert shrubs on the canyon slopes: sagebrush, Mormon tea, squaw bush, and buffalo berry. Cottonwoods and ponderosa pine grow at water seeps just below the canyon rim. Enclaves of aspen, ponderosa pine, and spruce-

fir are scattered within the area. The bottom of the main canyon and some of the tributary canyons support thick riparian growth including cottonwoods and willow. The 63 miles of riparian vegetation provide valuable and diverse habitat for many wildlife species and is a vital component of the canyon environment.

The area's diversity, unroaded isolation, and riparian habitat make it ideal for numerous wildlife species including waterfowl, the collared lizard, coyote, mountain lion, bobcat, and muledeer. Raptor species include bald and golden eagle (hunting and nesting habitat for golden eagles), red-tailed hawk, and the endangered peregrine falcon. Colorado Division of Wildlife has recently transplanted desert bighorn sheep and the Colorado State endangered river otter into the Dolores River Canyon.

The majority of man's imprints associated with past mining activity and access routes were excluded from the WSA during the wilderness inventory process. The resulting WSA is primarily natural. Imprints of man within the area consist of unmaintained ways on the periphery which are becoming overgrown with vegetation and do not significantly impair the pristine quality of the area.

### *Solitude*

The rugged topography and vegetation groupings create settings which allow outstanding opportunities for solitude throughout most of the WSA. The deep meandering canyons with sheer walls, many rock outcrops, ledges, and talus fields with large boulders, block out sights and sounds and create many secluded settings. (See Photo 2) The numerous tributary canyons are often very narrow, sheer walled and boulder choked, leading up to hidden grotto pools of clear cool water with hanging ferns and other non-desert vegetation. These side trips from the main river canyon offer even more areas of solitude. Vegetative screening is provided by pinyon-juniper woodlands on the mesa tops and benches and by riparian vegetation along the river.

### *Primitive and Unconfined Recreation*

The Dolores River Canyon WSA provides outstanding opportunities for primitive and unconfined recreation. Historically, the Dolores River has provided scenic whitewater river opportunities for float boating, kayakers and canoeists. (See Photo 3) The rugged canyon system offers challenging cross-country hiking and backpacking, while numerous

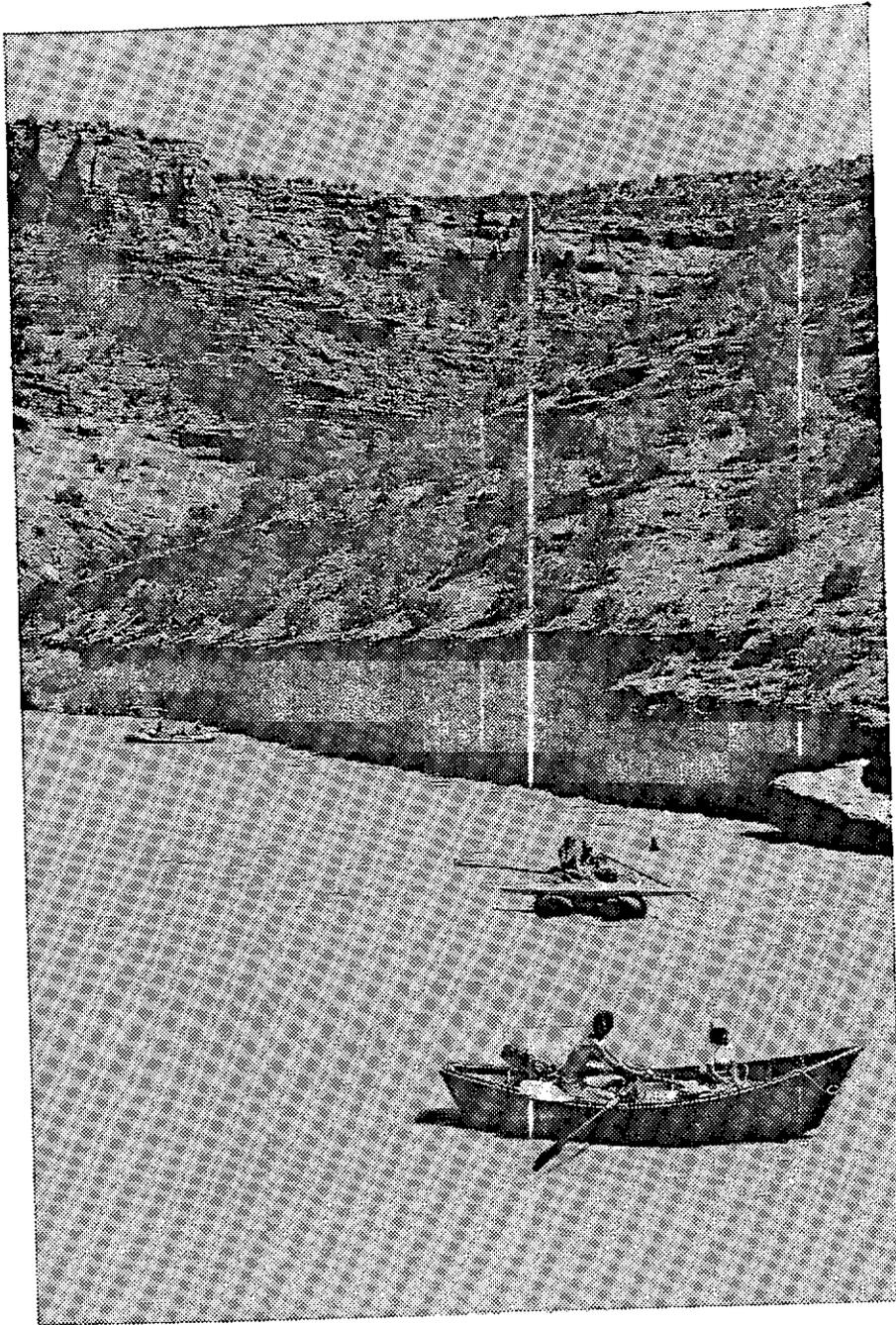
high cliffs provide outstanding rock climbing opportunities. The view from the rim is of an immense red and buff-colored slick rock maze with sparse contrasting green vegetation and the changing water - a scenic backdrop for camping, sightseeing, nature photography, and geological study.

### *Special Features*

This WSA has several special features which enhance its wilderness quality. In conjunction with the Dolores River Corridor Management Plan (completed in 1990), an intensive cultural resource (archeological site) inventory of areas immediately adjacent to the river will be completed. River terraces, talus slopes, several of the major tributary areas, and portions of accessible canyon rims were inventoried during the 1988 and 1989 summer field season. This study should be completed by the end of the 1992 field season. Prehistoric sites thus far inventoried include tool production areas, many large rock art panels, and highly important stratified rock shelter habitation sites. Paleontological resources include rare triassic-age fish and armored crocodile fossils.

The geologic history of the area is clearly exposed by the deep cutting action of the river, offering students of geology a 160-million-year exhibit beginning with the oldest exposed rock; limestones of the Pennsylvanian Period (formed 300 million years ago) and progressing up to the youngest exposed material—outcrops of the Entrada Sandstone from the Jurassic Period formed some 140 million years ago. The predominant exposure is sedimentary rocks of the Cretaceous and Triassic Ages; Navajo Sandstone, the Kayenta Formation, Wingate Sandstone, the Chinle Formation (red siltstone), and the Entrada Sandstone.

There are three species of federally listed threatened or endangered animals which occur or may occur in the WSA: bald eagle (*Haliaeetus leucocephalus*), black-footed ferret (*Mustela nigripes*), and the peregrine falcon (*Falco peregrinus*). The spineless hedgehog cactus (*Echinocereus triglochidiatus var. inermis*), a federally endangered plant species, may also be found in this WSA. In addition to the federally listed species, the U.S. Fish and Wildlife Service indicates that the following species are candidates for official listing as threatened or endangered: kachina daisy (*Erigeron kachinensis*), Paradox lupine (*Lupinus crassus*), and southwestern otter (*Lutra canadensis sonora*). Coyote Wash and Bull Canyon contain populations



*Photo 3. Dolores River Canyon WSA. Boating is the major recreation use in the WSA.*

of the candidate kachina daisy and also eastwood's monkeyflower (*Mimulus eastwoodiae*), a species of special interest to the state of Colorado. These plants occur in hanging gardens frequently visited by recreation users. Paradox lupine may also occur within the WSA and the otters have been reintroduced to the river system.

The WSA contains one known peregrine falcon eyrie and the possibility of at least one other eyrie.

Bald eagles are known to use this WSA for winter hunting. BLM inventories conducted in the early 1980's, identified five areas within the WSA which contain relic grassland plant communities. The presence of such a wide array of rare plant and animal species indicates that this area serves as a refuge for native flora and fauna that have been displaced from surrounding areas by agriculture, grazing, mining, and other human activity.

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

*Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. The WSA is in the Colorado Plateau Province (Bailey-Kuchler classification system) and contains pinyon-juniper woodland (27,173 acres) and Great Basin sagebrush (1,495 acres) vegetation zones. The pinyon-juniper woodland ecosystem is represented by only one other wilderness area in Colorado; that being the Mesa Verde National Park Wilderness Area which is closed to public recreation. The Great Basin sagebrush ecosystem is represented by two areas in the National Wilderness Preservation System, neither of which are in Colorado (see Table 2).

tem and thereby unavailable for most public use in winter and spring. Four hours northeast of the Dolores is the Black Canyon of the Gunnison Wilderness Area (11,180 acres). Although the Black Canyon is a river canyon, the geology and ecosystem are of the Rocky Mountain province, not the Colorado Plateau as is the Dolores Canyon. Due to the unique year-round recreation opportunity of a desert river canyon in the Colorado Plateau ecosystem, the Dolores River WSA will expand and balance opportunities to attain diverse wilderness experiences.

**Table 2 - Ecosystem Representation**

<u>Bailey -Kuchler Classification</u> Province/Potential Natural Vegetation	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<i>Nationwide</i>				
<u>Colorado Plateau Province</u>				
Pinyon-juniper woodland	11	1,401,745	85	2,142,602
Great Basin sagebrush	2	95,875	5	58,421
<i>Colorado</i>				
<u>Colorado Plateau Province</u>				
Pinyon-juniper woodland	1	8,105	17	293,837
Great Basin sagebrush	0	0	4	57,541

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The Dolores River Canyon WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area).

*Balancing the Geographic Distribution of Wilderness Areas*

The Dolores River Canyon WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. There are four designated wilderness areas within four hours of the Dolores WSA. Three hours south is Mesa Verde Wilderness Area (8,105 acres). Mesa Verde is not similar in landform to the Dolores, but does contain areas of similar vegetation. Mesa Verde Wilderness Area is not open to the public due to important archeological values. Three to four hours east of the Dolores is Lizard Head (41,189 acres) and Mt. Sneffels (16,210 acres) Wilderness Areas, areas of high mountain landform and ecosys-

**MANAGEABILITY**

The Dolores River Canyon WSA, with boundaries as recommended in this report (see *Recommendation and Rationale* section above for a discussion of parcel addition and deletion), can be managed for wilderness values. There are no private inholdings and no pre-FLPMA leases; all minerals within the WSA are federally owned. There are several mining claims within the WSA, but with the Bureau

of Mines recording low potential for discovery and development of minerals, site disturbance associated with access and development of these mining claims is unlikely.

**ENERGY AND MINERAL RESOURCE VALUES**

The Department of the Interior, Bureau of Mines prepared a mineral assessment for the Dolores River Canyon WSA in 1987. The study area lies in the Uravan mineral belt. Commodities produced or prospected for in and near the WSA include uranium, vanadium, radium, copper, silver, and gold. The uranium-bearing Morrison Formation is mostly absent from the study area. Where it does underlie the area, the Morrison gives no surface indication of significant uranium or vanadium occurrences.

Small copper-silver deposits, in faults, are found in close proximity to the WSA at the Cashin and Cliffdweller mines (see Map, upper northwest corner of WSA). For the most part, mineral-bearing structures do not extend into the study area, but where they do, their exposures indicate little mineralization has taken place. Detailed subsurface ex-

ploration would be required to fully evaluate fault zones in the WSA.

Panned-concentrate placer sampling along the Dolores River indicate low gold content and a moderate resource potential, but no resources were delineated in river gravels and terrace deposits in the Dolores River Canyon WSA.

Development of the sand and gravel, sandstone, or evaporite mineral occurrences in the WSA is unlikely since ample and more easily accessible resources of these materials are available elsewhere in the region.

No significant amounts of hydrocarbons have been discovered in the study area, but there is a lack of information regarding subsurface structures in the region. There is moderate resource potential for the occurrence of oil and gas and no potential for coal.

**IMPACTS ON RESOURCES**

The following comparative impact table (Table 3) summarizes the effects on pertinent resources for the three alternatives considered for this WSA.

**Table 3 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Recommendation: Enhanced All Wilderness Alternative	All Wilderness Alternative	No Wilderness Alternative
<i>Impacts on Wilderness Values</i>	<i>Wilderness designation would provide statutory, long-term protection for wilderness values on 29,415 acres. Wilderness values on the 200 acres not designated will remain largely unchanged.</i>	<i>Wilderness designation would provide statutory, long-term protection for wilderness values on 28,668 acres.</i>	<i>Under this alternative, wilderness values would remain largely unchanged in the 28,668 acres of the WSA, although they would not be legislatively protected. These values would be maintained by the guidelines in the Dolores River Corridor RAMP and the restrictions to motorized recreation use. No impact from mineral development is anticipated.</i>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

Impact Topics	Recommendation: Enhanced All Wilderness Alternative	All Wilderness Alternative	No Wilderness Alternative
<i>Impacts on Recreational Opportunities and Use</i>	<i>Under the Enhanced All Wilderness Alternative, a 33 percent increase in visitor use is anticipated. However, in accordance with the Dolores River Corridor RAMP, this increase would be limited to carrying capacity to preserve the pristine and primitive character of the canyon. In conjunction with the prohibitions on motorized recreation use and mineral development associated with wilderness designation, the existing opportunities and type of recreation use would be maintained.</i>	<i>Under the All Wilderness Alternative, a 33 percent increase in visitor use is an- ticipated. However, in accordance with the Dolores River Corridor RAMP, this increase would be limited to carrying capacity to preserve the pristine and primitive character of the canyon. In conjunction with the prohibitions on motorized recreation use and mineral development associated with wilderness designa- tion, the opportunities and type of recreation use would be maintained.</i>	<i>Under the No Wilderness Alternative, an increase in visitor use of approxi- mately 25 percent is anticipated. However, in accordance with the RAMP, any increase would be monitored and limited to carrying capacity to preserve the pristine and primitive character of the canyon. These manage- ment guidelines in conjunc- tion with the ORV closure that has been in place since 1985 would continue to preserve the excellent op- portunities and type of recreation use in this area.</i>

**LOCAL SOCIAL AND ECONOMIC EFFECTS**  
Designation of the WSA as wilderness would have minimal impacts on local economic conditions. Social factors were not considered a significant issue in the study.

**SUMMARY OF WSA  
SPECIFIC PUBLIC COMMENTS**

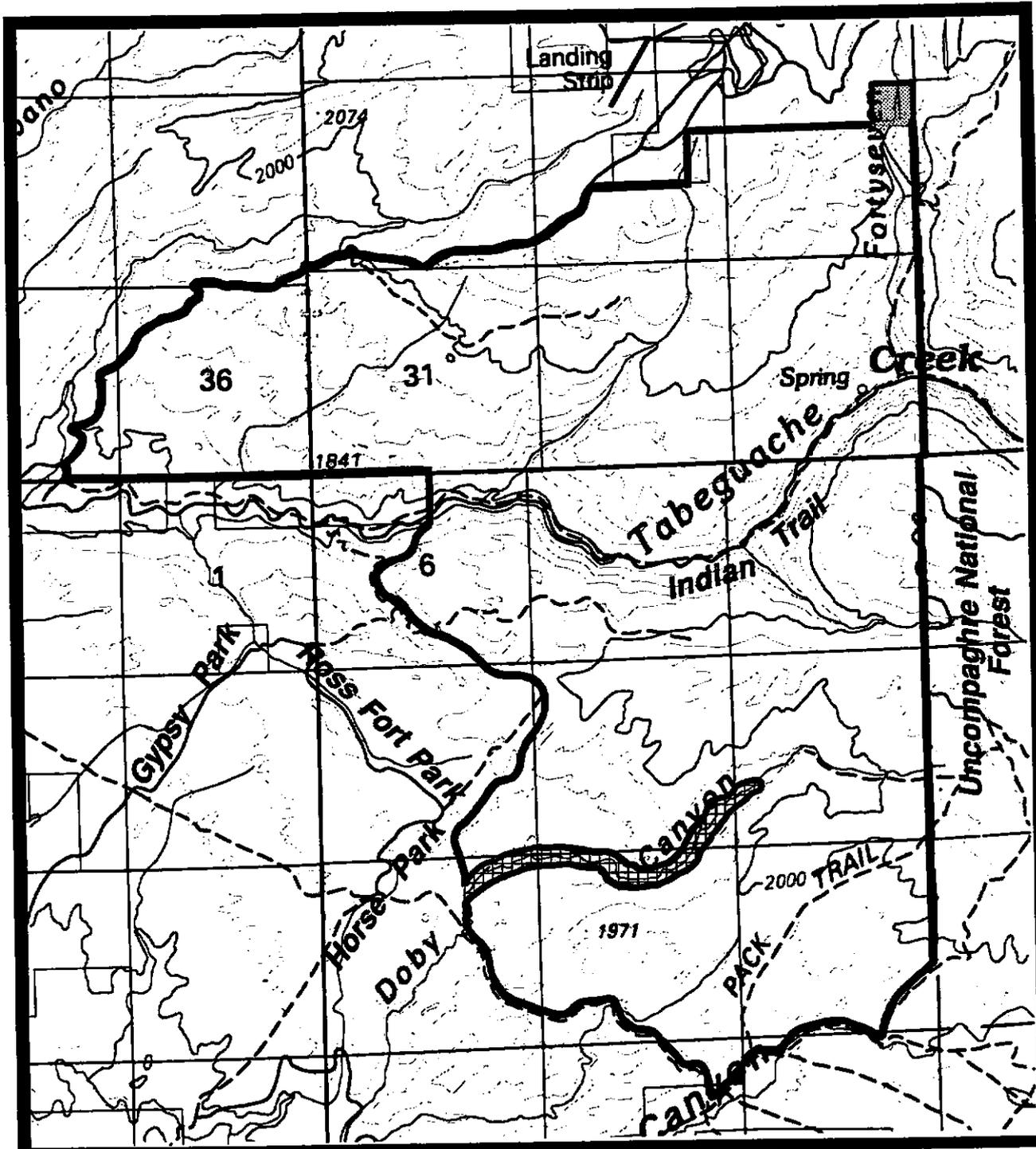
Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values.

During formal public review of the draft Environmental Impact Statement, a total of 115 comments addressing this WSA were received. 65 were written and 50 were oral statements received at public hearings on the EIS. In general, 101 commenters supported even more wilderness acreage than the draft EIS recommendation; 2 commenters supported wilderness as recommended. Twelve

commenters supported no wilderness or less acreage than the draft EIS.

Those favoring wilderness designation commented on the undisturbed, pristine quality of the WSA and the high recreational values associated with the river. The number of comments supporting increased wilderness acreage led to a reevaluation of wilderness and other resource values for three parcels which had been recommended for release to other uses. This resulted in the recommendation that these areas totaling nearly 800 acres be included for wilderness designation.

Those opposing wilderness designation were concerned that wilderness would preclude mineral development and grazing. The Board of Montrose County Commissioners opposed wilderness designation. The Bureau of Reclamation recommended an alternative wilderness boundary, reducing the WSA by 160 acres to accommodate their salinity injection wells. They have since acquired the needed land from other sources. The State of Colorado Department of Natural Resources supported wilderness designation.



T 48 N  
T 47 N

R 16 W    R 15 W

- |   |  |  |                               |
|---|--|--|-------------------------------|
|  | RECOMMENDED FOR WILDERNESS                   |  | SPLIT ESTATE (NONE)           |
|  | RECOMMENDED FOR NONWILDERNESS                |  | STATE (NONE)                  |
|  | LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS. |  | PRIVATE (NONE WITHIN THE WSA) |

TABEGUACHE CREEK  
PROPOSAL  
CO-030-300



January 1991

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## TABEGUACHE CREEK WILDERNESS STUDY AREA

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### The Study Area – 7,743 acres

The Tabeguache Creek WSA (CO-030-300) is located in Montrose County, approximately 4 miles north of Nucla, Colorado. All 7,743 acres are BLM lands and the WSA is surrounded by a mixture of public and private lands. The area is bounded on the east by the Uncompahgre National Forest. The north boundary is approximately one and one half miles of private property line and the Meadows Trail Road. A small portion of the west boundary along Tabeguache Creek is a public/private property line. The remainder of the west and south boundary is drawn to exclude old dirt tracks and the chainings in the Ross Fort Park and Horse Park area. The WSA is shown on the map.

Centered on Tabeguache Creek and its 400 to 800 foot cut into the surrounding terrain, the topography of the WSA is characterized by ridges and mesas incised by rugged tributary canyons. (See Photo 2) Elevations within the WSA range from 5,600 feet along the lower reaches of Tabeguache Creek in the west, up to 6,800 feet in the east as the land rises onto the Uncompahgre Plateau. Pinyon/juniper woodland is the dominant vegetative cover except for the riparian zone along Tabeguache Creek.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the San Juan/San Miguel Planning Area Final Wilderness Environmental Impact Statement (EIS) published November, 1990. Two alternatives were analyzed in the EIS: the no-wilderness alternative, and an all-wilderness alternative which is the recommendation of this report (7,748 acres - comprised of the original WSA, 7,743 acres, plus 26 acres of a previously cherrystemmed way and minus 21 acres in minor boundary adjustments). See Table 1.

### Recommendations and Rationale

7,748 acres recommended for wilderness

21 acres recommended for nonwilderness

The recommendation for Tabeguache Creek WSA is to designate the entire area as wilderness (see map). This is also considered to be the environmentally preferable alternative as it will result in the least change to the natural environment over the long term. The 7,748 acre WSA is recommended for wilderness designation primarily because of its outstanding natural scenery, opportunities for solitude and primitive, unconfined recreation, and for its ecological diversity.

Designation of Tabeguache Creek WSA as wilderness would preserve one of the last pristine canyons along the Uncompahgre Plateau. The focal point of the area is the Tabeguache Creek Canyon containing a perennial stream and characterized by steep talus slopes and rocky ledges of Wingate and Entrada sandstone. (See Photo 1) Several steep, rugged side canyons cut into the benchlands that border Tabeguache Canyon on both the north and south. This rugged terrain has excluded most human use of the area while enhancing opportunities for solitude. The perennial stream, lush riparian vegetation, steep canyon walls and the semi-desert benchland beyond the main canyon, make this a scenic and diverse area for hiking, backpacking, hunting and fishing. (See Photo 2) The WSA's relatively low elevation makes it easily accessible for wilderness recreation opportunities throughout most of the year.

Designation of this WSA as wilderness would preserve and enhance the ecological diversity of the National Wilderness Preservation System. The narrow ribbon of canyon bottom riparian vegetation consisting of cottonwood, willow, wild rose, various shrubs and scattered ponderosa pine contrasts with the semi-desert, pinyon pine/juniper forest of the Colorado Plateau Province ecosystem which covers most of the WSA. (See Photo 2) The Colorado Plateau pinyon/juniper vegetation type occurs in only one designated wilderness area in Colorado (Mesa Verde which is closed to public use). As elevation increases to the east, the WSA becomes a transition zone from the pinyon/juniper to the dense pine, spruce, and fir forest of the Uncompahgre Plateau. Much of the WSA's eastern boundary

abuts Forest Service lands which were identified for wilderness review. BLM's Tabeguache Canyon WSA is part of a much larger pristine natural area which contains three different forest ecosystems and the riparian zone.

Designation of this WSA as wilderness would preserve an area of valuable wildlife habitat. The availability of year-round water together with the pristine character and ecological diversity of the area combine to provide ideal habitat for mountain lion, black bear, bobcat, red fox, raptors and snakes. Ecologically, the area is significant as an undisturbed refuge for indigenous flora and fauna in a region that has been greatly modified by man.

No major manageability problems or resource

conflicts would result from wilderness designation. The entire WSA is BLM land; no inholdings. There are no pre-FLPMA oil and gas leases and no patented mining claims within the WSA. The 1990 *Mineral Summaries* by the U.S. Geological Survey and Bureau of Mines indicates that as of December, 1989 there were no unpatented mining claims within the WSA and that there is low mineral potential for uranium and vanadium. Therefore, no site disturbance associated with access to or development of any future mining claim is anticipated.

The WSA contains all or portions of 4 grazing allotments totalling 286 animal unit months (AUM). No range improvement projects have been proposed and no conflicts with range management are expected.

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	
BLM (surface and subsurface)	7,769
Split Estate (BLM surface only)	0
Inholdings (State, private)	<u>0</u>
<b>Total</b>	<b>7,769</b>
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	7,722
BLM (outside WSA)	26
Split Estate (within WSA)	<u>0</u>
<b>Total BLM Land Recommended for Wilderness</b>	<b>7,748</b>
Inholdings (State, Private)	0
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	21
Split Estate	<u>0</u>
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>21</b>
Inholdings (State, Private)	0

## Criteria Considered in Developing the Wilderness Recommendations

### WILDERNESS CHARACTERISTICS

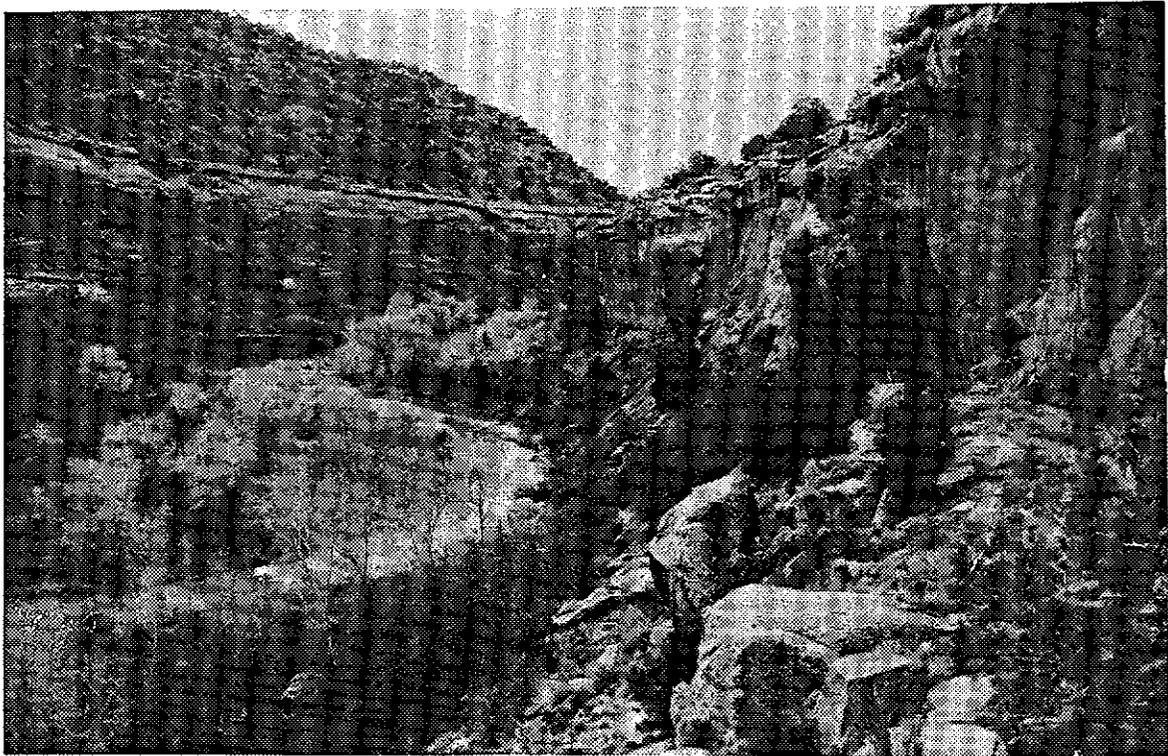
#### *Naturalness*

The Tabeguache Creek Canyon WSA is predominantly natural with negligible human imprints. The dominant natural feature of the area is Tabeguache Creek, a perennial stream running east to west through the center of the WSA, which has cut a deep canyon (400 to 800 feet) into the underlying sedimentary formations of the area. (See Photo 2) The walls of Tabeguache Creek Canyon generally consist of steep talus slopes and rocky ledges. In the eastern end of the canyon where Wingate and Entrada Sandstones are exposed, there are higher, more massive cliffs.

Both to the north and south of Tabeguache Creek and up out of the canyon itself, intermittent streams and drainages have cut several steep, rugged side

canyons into the surrounding benchlands. Combined with numerous smaller washes and gullies, this has created an eroded terrain of canyons, cliffs, ridges and mesas. In the area south of Tabeguache Creek, the drainage pattern is divided by an east/west running ridge. North of the ridge a few intermittent streams drain into Tabeguache Creek. South of the ridge, longer and more numerous washes flow southwest into Doby and Coal Canyons. A few flat, open parks are located in the vicinity of Ross Fort Park and Horse Park.

Between Tabeguache Creek and Ross Fort Park there is an area of "badlands" topography eroded into the Morrison Formation. The exposed rock and soil which is nearly devoid of vegetation is colored with shades of gray, purple and yellow. In the southern portion of the WSA, north of Coal Canyon, there are a few areas of exposed "slickrock" - smooth expanses of sandstone without soil or vegetative cover. Approximately 100 million years of sedimentary formation is exposed in the WSA.



*Photo 1. Tabeguache Creek WSA. Autumn along perennial Tabeguache Creek. Talus slopes and rocky ledges of Wingate and Entrada sandstone. Note hikers on far right, under cliff.*

Vegetation in the WSA consists primarily of a dense cover of pinyon and juniper trees, with some open areas supporting a growth of grasses, sagebrush and other desert shrubs. The exception to this is along Tabeguache Creek where there is a lush riparian growth of cottonwoods, willow, oaks, boxelder, mountain mahogany, and numerous other shrubs. (See Photos 1 and 2)

The availability of year round water and the unroaded character of this area, make it ideal habitat for numerous wildlife species including mule deer (dense population), black bear, mountain lion, bobcat, elk (incidental winter use), red fox and a variety of raptors and snakes.

The majority of man's imprints associated with past mining activity, vegetative manipulation for livestock, and access routes, were excluded from the WSA during the wilderness inventory process. The resulting WSA is primarily natural. Imprints of man within the area consist of four short, unmaintained ways and some ditching which are screened by vegetation and are themselves being eroded away, revegetated, and do not significantly impair the pristine quality of the area.

### *Solitude*

Topographic and vegetative screening combine to provide outstanding opportunities for solitude throughout the WSA. The benchlands with their numerous canyons, washes, and ravines provide excellent topographic screening. With the exception of a few open park, badland, and slickrock areas, this upland portion of the WSA is covered with a pinyon/juniper forest which provides a dense vegetative screen. From the higher mesa and rim areas in the benchlands, there are wide-ranging vistas of plateaus, canyons and the distant mountains which impart a feeling of vastness and enhance opportunities for solitude. Winding, narrow Tabeguache Creek Canyon with its lush riparian vegetation provides both topographic and vegetative screening. (See Photos 1 and 2)

### *Primitive and Unconfined Recreation*

Tabeguache Creek WSA provides outstanding opportunities for primitive and unconfined recreation. Tabeguache Canyon and the perennial creek within provide the scenic backdrop for hiking, horseback riding, backpacking, camping, and

fishing (the creek contains rainbow and brown trout). The old Indian trail along Tabeguache Creek provides access onto the Uncompahgre Plateau. The many cliffs and rock ledges provide interesting technical rock climbing and "bouldering" opportunities. (See Photo 1)

Benchlands above the canyon offer more challenging travel routes. Photography and sightseeing opportunities are available throughout the WSA and are enhanced by the geological and archeological features in the area. Hunting is an historic as well as prehistoric use of the area.

### *Special Features*

Tabeguache Creek WSA contains special features for scientific and educational study. Within the area, erosion of gently-dipping sedimentary strata has exposed the Dakota Sandstone, Morrison Formation, Entrada Sandstone, Wingate Sandstone and the Chinle Formation. These strata represent a time span of approximately 100 million years. On the steeper canyon slopes (especially in Tabeguache Canyon) where vegetation is very sparse, these strata are easily visible allowing excellent opportunities for study of geological and geomorphic features and processes.

Although no formal intensive archeological inventories have been done in the WSA, there is high potential for the existence of important archeological sites due to the topography, year-round water supply and proximity to Tabeguache Cave II. Tabeguache Cave II is on the creek just outside the WSA. A partial excavation in the 1930's by C.T. Hurst, yielded remains of three distinct cultural groups: the Archaic, Basketmaker II, and a later Ute occupation. It is known that the Tabeguache Creek Canyon served as a trail up onto the Uncompahgre Plateau for the Fremont Culture and Tabeguache Ute Indians but the existence of Archaic cultural remains indicates that the trail's use may extend back for seven thousand years. Hurst also found Anasazi Pueblo II pottery in the area which may support the idea of Anasazi Culture-Fremont Culture contact. The WSA has great potential for future archeological discovery, scientific study, and interpretation and BLM has proposed the canyon itself for designation as an Outstanding Natural Area (ONA) in order to protect the archeological and natural values of this area.

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

*Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. This WSA is in the

Colorado Plateau Province (Bailey-Kuchler classification system) and contains the pinyon-juniper woodland vegetation type (7,748 acres). The pinyon-juniper woodland ecosystem is represented by only one designated wilderness area in Colorado; that being in Mesa Verde National Park and closed to public recreation. See Table 2. The abundance of water in this WSA does make Tabeguache unique among Colorado Plateau, pinyon/juniper WSA's.

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u> Province/Potential Natural Vegetation	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<i>Nationwide</i>				
<u>Colorado Plateau Province</u>				
Pinyon-juniper woodland	11	1,401,745	85	2,142,602
<i>Colorado</i>				
<u>Colorado Plateau Province</u>				
Pinyon-juniper woodland	1	8,105	17	293,837

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The Tabeguache Canyon WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area).

***Balancing the Geographic Distribution of Wilderness Areas***

The Tabeguache Creek WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The nearest designated wilderness areas (Lizard Head Wilderness; 41,189 acres and Mount Sneffels Wilderness; 16,210 acres) are approximately 2 to 3 hours to the southeast and are areas of high mountain landform and ecosystem and thereby unavailable for most public use in winter and spring. Three hours south is Mesa Verde Wilderness Area (8,105 acres). Mesa Verde is not similar in landform to

Tabeguache, but does contain areas of similar vegetation. Mesa Verde Wilderness Area is not open to the public due to important archeological values. BLM's Dolores River Canyon WSA (29,415 acres recommended for wilderness designation) is one hour to the southwest. Due to the year-round access, archeological values, and the unique qualities of a lush riparian canyon within the semi-desert Colorado Plateau ecosystem, Tabeguache Creek WSA will expand and balance opportunities to attain diverse wilderness experiences.

**MANAGEABILITY**

Tabeguache Creek WSA can be managed for wilderness values. Within the WSA, there are no private inholdings, pre-FLPMA oil and gas leases, patented or unpatented mining claims and all minerals are federally owned. The ruggedness of the terrain inherently limits and discourages rangeland developments, off-road-vehicle (ORV) use, and

other human intrusions. This enhances the likelihood of the area remaining natural with opportunities for solitude preserved.

#### ENERGY AND MINERAL RESOURCE VALUES

Tabeguache Creek WSA energy and mineral resources were evaluated in "*Mineral Summaries, BLM Wilderness Study Areas in Colorado, February, 1990*", prepared by the U.S. Geological Survey and the U.S. Bureau of Mines. In addition, several oil and gas seismic tests have been done in the area; all in a non-impairing manner (primarily by helicopter). The WSA has no known mineral resources. Sand and gravel for road work are found but are more accessible outside the WSA.

**Hydrocarbons (oil, gas, carbon dioxide, helium):** No known resources and a moderate potential for undiscovered deposits. There is no resource potential for coal.

**Energy and related minerals (uranium and vanadium):** No known deposits and low potential for undiscovered resources.

**Precious and base metals (gold, silver, copper, lead, zinc):** No known deposits and low potential for undiscovered resources.

#### IMPACTS ON RESOURCES

The following comparative impact table (Table 3) summarizes the effects on pertinent resources for the two alternatives considered for this WSA.



*Photo 2. Tabeguache Creek WSA. Looking east, upstream with Uncompahgre Plateau in background. Lush riparian vegetation of the creek contrasts with pinon/juniper of the surrounding benchlands.*

**Table 3 - Comparative Summary of the Impacts by Alternative**

<b>Impact Topics</b>	<b>Recommendation: All Wilderness Alternative</b>	<b>No Wilderness Alternative</b>
<b><i>Impacts on Wilderness Values</i></b>	<i>Wilderness designation would provide statutory, long-term protection for wilderness values on 7,748 acres. Natural and supplemental values would be maintained by the restrictions to motorized recreational use and mineral development. Opportunities for solitude and primitive, unconfined recreation would be maintained because the anticipated increase in visitor use associated with wilderness designation would be so incidental.</i>	<i>Under this alternative, wilderness values would remain largely unchanged in the 3,100 acres that would continue to be managed with the ORV closure and potential ONA designation. Wilderness values on 4,643 acres could be temporarily impaired by sights and sounds from ORV activity. However, no off-road vehicle activity or mineral exploration or production is projected in that area, so the wilderness values would not be diminished.</i>
<b><i>Impacts on Cultural Resources</i></b>	<i>Under this alternative, the cultural resources in the WSA would be protected by wilderness management. This protective measure would be further supported by the elimination of motorized recreational use and mineral development. Cultural resources would benefit from the additional management presence and funding that wilderness designation would carry with it. In addition to protection by wilderness designation, the cultural resources would be protected by the recovery of information from 4 sites.</i>	<i>Under this alternative, cultural resources on 3,100 acres would be protected by the management restriction on ORV use, NSO stipulations, and potential Outstanding Natural Area designation. Although 4,643 acres in the WSA have no protective measures and are not subject to any restrictive management, impacts to cultural resources are not projected from the potential of increased site accessibility resulting from ORV or mineral activity.</i>
<b><i>Impacts on Recreational Opportunities and Use</i></b>	<i>Under this alternative, overall recreational use levels would remain at approximately 750 user days per year. Excellent opportunities would continue to exist for non-motorized, backcountry recreational activities and they will be preserved by eliminating motorized recreational use and mineral development.</i>	<i>Approximately 750 user days of backcountry recreation use (hiking, horseback riding, hunting, backpacking, and archeological resource appreciation) would be maintained under this alternative. Of the WSA, 3,100 acres are protected by the ORV closure and 4,643 acres have no restrictions.</i>

### LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS

Designation of the WSA as wilderness would have negligible impacts on local economic conditions. Social factors were not considered a significant issue in the study.

### SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS

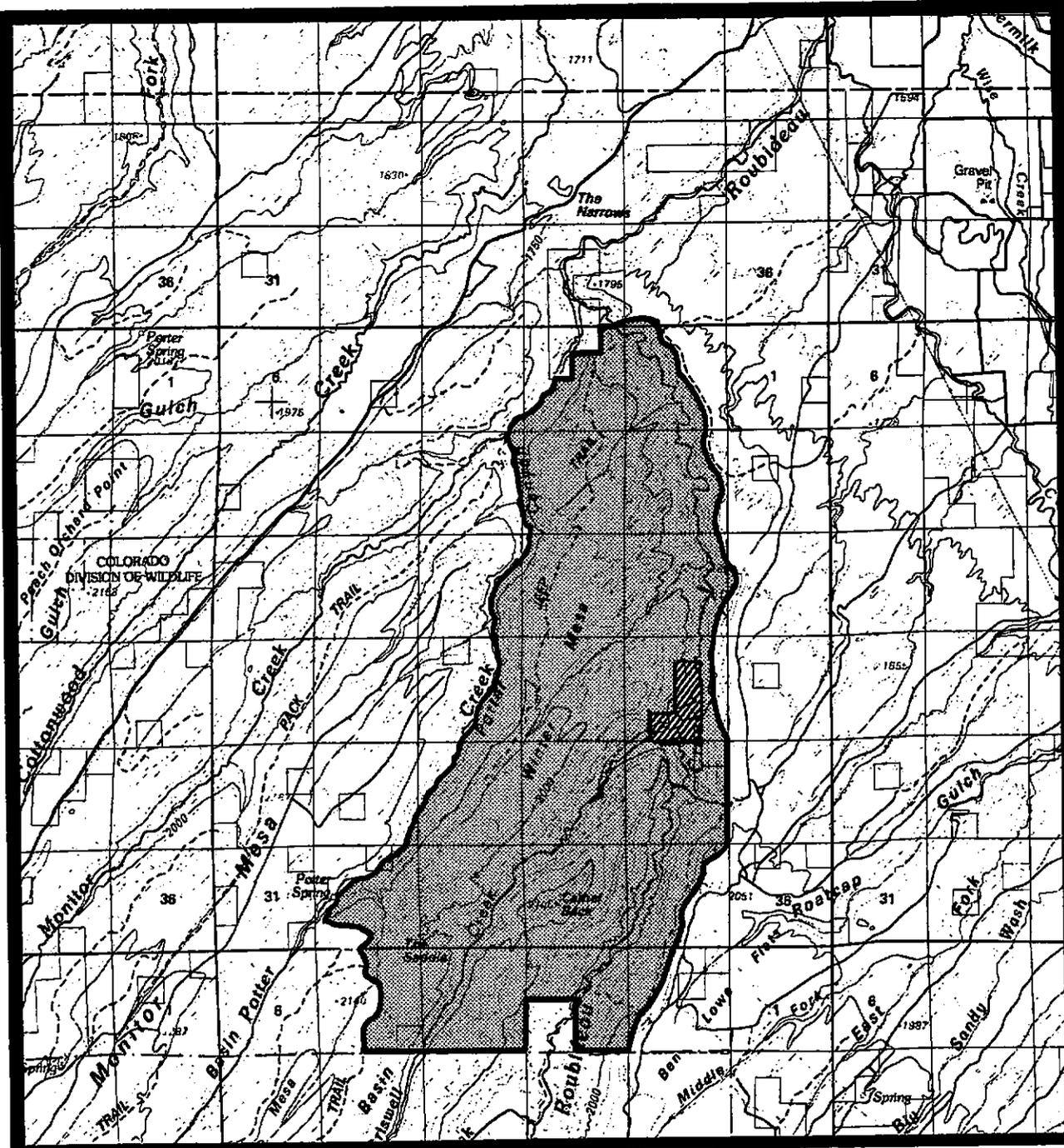
The final San Juan/San Miguel Resource Management Plan and Environmental Impact Statement was issued in December, 1984. That document included the BLM's preliminary recommendations for the eight WSA's in the San Juan Resource Area. Tabeguache Creek was not recommended for wilderness designation at that time. In light of the substantial public comment generated during the review process and the continued interest in the preliminary recommendations, the BLM re-evaluated those recommendations. As a result, BLM changed the recommendation for Tabeguache. A *Federal Register Notice*, July 20, 1988, stated that Tabeguache Creek WSA was recommended for wilderness designation. BLM received 28 letters in response to the change in recommendation: 25 in support and 3 opposed.

During formal public review of the draft Wilderness Environmental Impact Statement, a total of 98 comments were received which specifically addressed this WSA - 53 were written and 45 were oral statements received at public hearings. In general, 94 commenters supported wilderness designation and 4 favored releasing the area for other uses (no-wilderness). Specific comments by those favoring wilderness designation centered on the preservation of archeological values and the protection of the ecological diversity and wildlife. Several commenters also focused on the unique scenic beauty, recreation values (tourist economy) and the primitive character (solitude) of Tabeguache.

Those opposing wilderness designation were concerned that wilderness would preclude oil, gas and mineral development or conflict with grazing.

The Board of Montrose County Commissioners opposed wilderness designation for Tabeguache Creek WSA. No comments specifically addressing this WSA were received from other federal or state agencies.

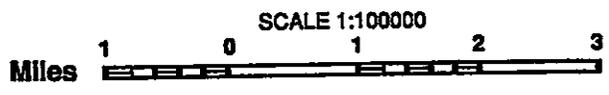




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|---|--|---|--------------|
|  | RECOMMENDED FOR WILDERNESS                   |  | SPLIT ESTATE |
|  | RECOMMENDED FOR NONWILDERNESS                |  | STATE        |
|  | LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS. |  | PRIVATE      |



Camel Back WSA  
Proposal  
CO-030-353

January 1991

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## CAMEL BACK WILDERNESS STUDY AREA

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### The Study Area -- 10,402 acres

The Camel Back WSA (CO-030-353) is located in southwestern Colorado in northwestern Montrose County, approximately nine miles southwest of Delta and 20 miles northwest of Montrose. The area contains 10,402 acres of public land and a 160-acre private inholding, and is surrounded by a mixture of public and private lands.

The WSA's northern boundary follows the cliff line of the east rim of Roubideau Canyon and private land boundaries. Its southern boundary is contiguous with the Uncompahgre National Forest. Private property also makes up a small part of the southern boundary. An unimproved jeep trail delineates approximately 6 miles of the area's western boundary. The eastern boundary is defined by a variety of noticeable human imprints, including approximately 4 miles of unimproved jeep trail, extensive areas of contour furrowing, and a large chaining area. The Camel Back WSA is depicted on the map across from this page.

The Camel Back WSA is characterized by a series of deep canyons and extensive mesas, sculptured by perennial and intermittent streams. These streams, which are oriented in a predominately north to south direction, have cut canyons with massive cliffs, amphitheaters, and talus slopes, and have isolated numerous highlands as mesas and buttes. Elevations range from 5,400 feet along Roubideau Creek to approximately 7,000 feet on Winter Mesa, the largest mesa in the area.

The canyon bottoms of the WSA are typical riparian areas with a grass and forb understory beneath cottonwoods, willows, tamarisk, and skunkbrush. Ponderosa pine and Douglas fir occur in the overstory in the upper reaches of the canyons. Slopes are vegetated with sparse pinyon-juniper and sagebrush. Mesa tops are mostly pinyon-juniper woodlands with sagebrush and grasslands parks, some of which are fairly large.

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Uncompahgre Basin Re-

source Area Final Resource Management Plan and Environmental Impact Statement (RMP/EIS) published September, 1988. Two alternatives were analyzed in the EIS: all wilderness (10,402 acres), and no wilderness, which is the recommendation of this report.

### Recommendation and Rationale

0 acres recommended for wilderness

10,402 acres recommended for nonwilderness

It is recommended that the entire 10,402 acres of the Camel Back WSA not be designated as wilderness and instead be released for uses other than wilderness. The environmentally preferred alternative would be to designate the entire 10,402 acres as wilderness since this would result in the least change from the natural environment over the long term.

While the BLM recognizes that the Camel Back WSA meets the minimum wilderness criteria, it does not feel that the area's wilderness qualities are of an overall quality and significance to warrant inclusion in the NWPS. The limited extent of wilderness qualities within the WSA, and the BLM's preference for other options for managing the area, are the primary reasons for recommending that it be released for uses other than wilderness.

Although the WSA does have some rugged terrain and outstanding natural features, the majority of its features are very common to lands throughout southern Colorado, and there is nothing to really set the area apart. (See Photo 1) There are some scenic vistas afforded from the top of the higher mesas and buttes in the WSA, however, these views are marred by the presence of large wildlife chainings, areas of contour furrowing, and numerous roads and ways on the west, east, and north boundaries of the area.

The naturalness and scenic qualities of Winter Mesa, the predominate formation in the WSA, are impaired by the presence of the Winter Mesa Way, a 6 mile jeep trail which essentially bisects the top of the mesa. The sparse vegetation and flat topogra-



*Photo 1. Camel Back WSA. Although the WSA does have some rugged terrain and outstanding natural features, such as the Camel Back ridge, shown here, the majority of its features are very common to lands throughout southern Colorado.*

phy of the mesa top provide very little screening for the Way, or for a number of range improvements in the area. These improvements include 1.25 miles of fence, water troughs ( See Photo 2), three stock reservoirs, each covering approximately 1,300 square feet, and a large fenced water catchment facility, covering one third acre in the southwest portion of the area.

The catchment facility, which was added after the wilderness inventory process, is a highly visible imprint of human use in the area, and significantly

impacts the area's naturalness. ( See Photo 3) Extensive spring and fall grazing also detract from the aesthetic and scenic values of the WSA.

Although portions of the Camel Back provide opportunities for solitude and primitive, unconfined recreation, very little of the use which actually occurs in and around the area is wilderness-related. Hunting is popular in the pinyon-juniper woodlands of the area, however, this use has always been associated with motorized vehicles.



*Photo 2. Camel Back WSA. The sparse vegetation and flat topography of the mesa tops provide very little screening for range improvements in the area.*

The WSA is rarely used for hiking, backpacking, nature study, or other primitive recreational activities. The primary reason for this is that there is an abundance of public lands in the vicinity of the WSA that are considered more scenic, and geologically interesting. These areas, such as Grand Mesa, the Gunnison Gorge WSA, and the adjacent Dominguez WSA, also offer a wider range of recreational opportunities, including whitewater rafting, canoeing, and fishing, which are not available in the Camel Back.

In addition, several factors detract from the overall quality of the recreational opportunities that are available in the area. The WSA is considered too hot and dry during the summer months, and very few recreationists venture into the WSA from late June through September. Winter snows and high spring runoff in the Potter and Roubideau creeks drainages restrict access to the majority of the WSA, further limiting the season of use.

Runoff from summer thunderstorm activity increases the turbidity in these streams and reduces their visual qualities. Although Roubideau Creek does contain some game fish, the fishery is considered poor due primarily to the wide fluctuations in flow levels and the poor condition of the riparian habitat.

The recreational use which does occur in the WSA is primarily by the residents of Delta and Olathe who picnic and occasionally fish or car camp along Roubideau Creek in late spring and hunt in the fall. Since cattle tend to concentrate in the riparian areas, which are the preferred areas for picnicking and camping, and since the periods of cattle use coincide with the times of highest recreational use (spring and fall), the result is a lower quality recreational experience for the users.

The WSA is also popular with the locals for unauthorized ORV use and fuelwood cutting. In the years since the original wilderness inventory was

completed, there has been an increase in ORV use in and along the numerous roads and ways which border the WSA. In addition to being both visually and audibly distracting, ORV use has resulted in a significant reduction of the WSA's wilderness qualities, particularly those of solitude and naturalness.

Besides providing recreation for nearby residents, the Camel Back is also important for grazing and wildlife habitat management. By releasing the area for uses other than wilderness, approximately 76 percent of the WSA would continue to be managed for intensive livestock grazing. The remaining 24 percent of the area would be managed primarily for wildlife habitat, with an emphasis on riparian habitat improvement on approximately 680 acres.

It is also recommended that the entire Camel Back area (10,402 acres) would be closed to recreational ORV use to prevent accidental destruction of threatened and endangered plants, to protect visual qualities, and to reduce active erosion. Although wilderness designation would also provide protection for these resources by eliminating motor vehicle use in the area, the BLM prefers to manage the entire Camel Back area for these purposes under the more flexible guidance of multiple use principles. These principles would also allow for greater manageability of the grazing, wildlife, and riparian resources.

Approximately 514 Animal Unit Months (AUMs) of cattle use is authorized within the WSA. The existing range facilities, availability of early and late season forage, and the relatively flat terrain on top of Winter Mesa greatly contribute to the WSA's value for spring and fall grazing use. Twelve additional water developments are projected for the Camel Back in the EIS. These developments are intended to redistribute cattle use and relieve the pressure on sensitive riparian areas.

While four of these projects meet wilderness criteria for construction, the remaining eight developments would be precluded if the area is designated. The no wilderness recommendation reduces the management conflicts arising from the construction of these eight projects, and as such, increases the manageability of an important resource use of the area.

Approximately 2,482 acres in the Camel Back Ridge and Upper Roubideau Creek drainage areas, located in the south-eastern portion of the WSA would be designated a Wildlife Management Area. These areas, which are heavily vegetated in pinyon-juniper woodlands interspersed with pockets of open grassy parks, provide excellent winter range and habitat conditions for deer and elk. (See Photo 4)

Management of the wildlife area will consist primarily of an intensified level of monitoring of population levels and documenting changes in habitat and range conditions which are achieved through the grazing management program.

Improvement of riparian habitat would be emphasized on approximately 680 acres of perennial creek drainages in the area. Although there are no specific plans for wildlife treatments or riparian improvements at this time, the BLM wishes to continue to have the ability to construct projects in the future without the constraints of wilderness criteria.

In conclusion, by not recommending the Camel Back WSA for wilderness designation, the BLM will be less limited in the methods it chooses to improve livestock, wildlife, and riparian management, while still protecting other important scenic and natural resources in the area. This greater flexibility could, over the long term, reduce many of the impacts of livestock grazing, increase the quality of forage available to livestock and wildlife, and, most importantly, improve the manageability of the entire area.

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	10,402
Split Estate (BLM surface only)	0
Inholdings (Private)	<u>160</u>
Total	10,562
<hr/>	
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	<u>0</u>
Total BLM Land Recommended for Wilderness	0
Inholdings	0
<hr/>	
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	10,402
Split Estate	<u>0</u>
Total BLM Land Not Recommended for Wilderness	10,402
Inholdings (State, Private)	160

**Criteria Considered in Developing the Wilderness Recommendations**

**WILDERNESS CHARACTERISTICS**

*Naturalness*

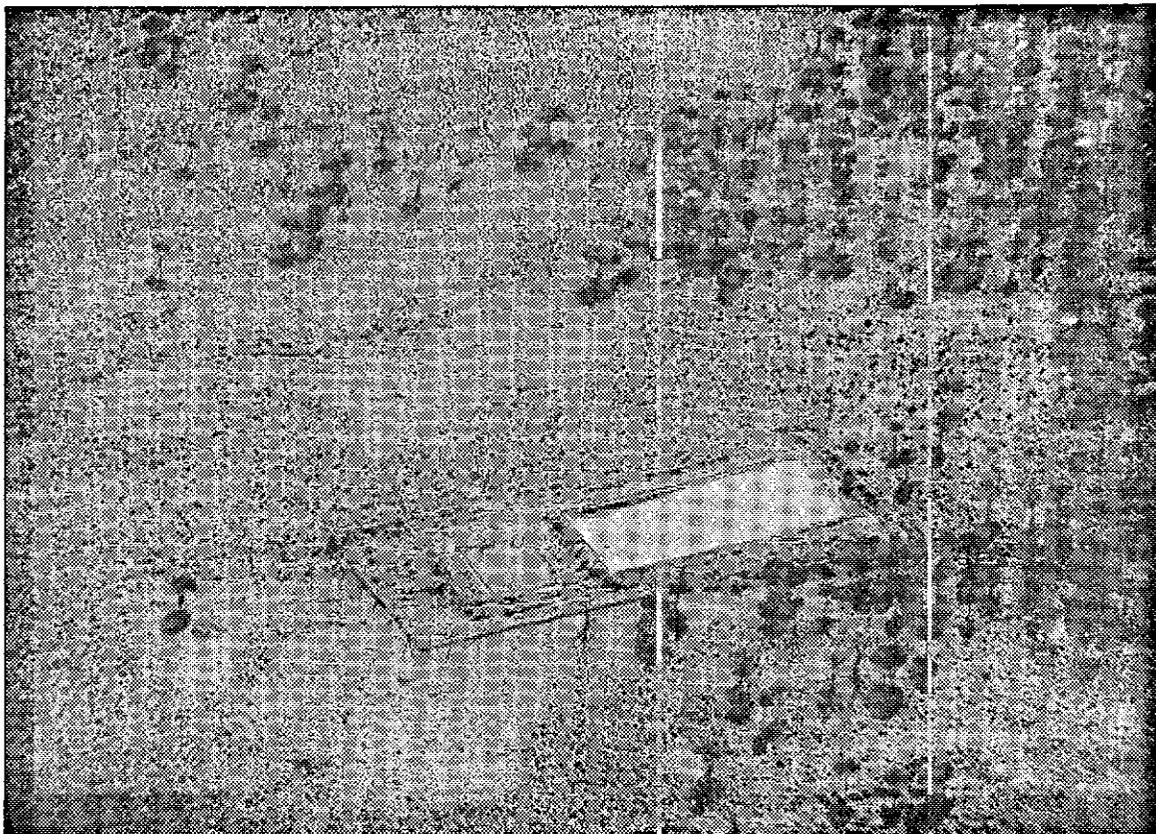
The dominating geomorphic features of the Camel Back WSA are canyons, mesas, and the Camel Back ridge. The majority of human imprints, including large wildlife chainings, roads, areas of contour furrowing, and numerous roads and ways on the west, east, and north boundaries of the area, were excluded from the WSA during the wilderness inventory process. These imprints remain visible, however, from the majority of the vantage points along the high mesas in the WSA.

Human imprints which remain in the WSA include one 6 mile long way, three stock reservoirs, each

covering approximately 1,300 square feet, one water catchment which covers approximately one third of an acre, and 1.25 miles of fence.

The Winter Mesa Way, a 6 mile long jeep trail, essentially bisects the top of the mesa, and detracts from the naturalness and scenic qualities of the WSA. The sparse vegetation and flat topography of the mesa top provide very little screening for the way or for the three stock reservoirs located adjacent to the way.

In the years since the original wilderness inventory was completed, there has been an increase in ORV use along this way, as well as along the numerous roads and ways which border the WSA. In addition to being both visually and audibly distracting, this intensified ORV use has resulted in a significant reduction of the WSA's wilderness qualities, particularly those of solitude and naturalness.



*Photo 3. Camel Back WSA. The catchment facility is a highly visible imprint of human use in the area, and significantly impacts the area's naturalness.*

The water catchment facility, also located on Winter Mesa, is a highly visible imprint, due primarily to its size, and its location in the middle of a wide, open grassland park, with limited topographic or vegetative screening in the vicinity.

### ***Solitude***

The Camel Back does offer opportunities for solitude, in the more remote portions of the area. Vegetation and topographic screening produce feelings of intimacy and isolation in the canyon bottoms and along the perennial streams. On the mesa tops, where vegetation is sparse, the topography, size, and configuration of the area promote solitude. Solitude, however, is often affected by ORV use occurring in and along the borders of the WSA.

### ***Primitive and Unconfined Recreation***

The Camel Back WSA does provide opportunities for primitive and unconfined recreation. The canyons and gulches provide easy to moderate cross-

country hiking and horseback riding routes, while the steeper slopes offer more challenging hiking and rock climbing opportunities. The streams have produced alluvial deposits that provide secluded camping spots. Hunting is an historic use of the area. The many vantage points from the rims and mesas, although somewhat marred by the presence of human uses in the vicinity, do offer opportunities for photographers and sightseers.

### ***Special Features***

The Camel Back WSA possesses several special features which enhance its wilderness qualities. Because the Camel Back is a transition zone between two unique ecosystems, it contains a diverse array of flora and fauna which makes the area valuable for educational, interpretive, and scientific study purposes.

The area contains numerous populations of the endangered spineless hedgehog cactus (*Echinocereus triglochidiatus var. inermis*). Although the threat-

ened Unita Basin hookless cactus (*Sclerocactus glaucus*) has not yet been discovered, it may occur on lower elevation benches throughout the area.

The Camel Back area provides crucial deer and elk winter range, and also important habitat for coyotes, raccoons, mountain lions, rabbits, and numerous non-game birds. The WSA also contains potential habitat for desert bighorn sheep, and bighorn will be reintroduced into the area if suitability studies prove positive.

There are a number of known cultural sites within the WSA, including one site which has been determined "field eligible" for listing on the National Register of Historic Places (NRHP) by BLM personnel.

Wilderness Preservation System. The WSA is a transition between two ecosystems and two associated vegetation types: the Colorado Plateau Province and the Rocky Mountain Forest Province (Bailey-Kuchler classification system).

Camel Back contains the pinyon-juniper woodland vegetation type from the Colorado Plateau Province. The pinyon-juniper woodland ecosystem is represented by only one other designated wilderness areas in Colorado: the Mesa Verde National Park Wilderness Area, which is closed to the public. The saltbrush-greasewood vegetation types, representative of the Rocky Mountain Forest Province, occurs in only one designated wilderness (Great Sand Dunes National Monument). (See Table 2)

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

*Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem and landform to the National

**Table 2 - Ecosystem Representation**

<u>Bailey Kuchler Classification</u>	<u>NWPS Areas</u>		<u>Other BLM Studies</u>	
<u>Province/Potential Natural Vegetation</u>	<u>areas</u>	<u>acres</u>	<u>areas</u>	<u>acres</u>
<i>Nationwide</i>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	11	1,401,745	85	2,142,602
<u>Rocky Mountain Forest Province</u>				
Saltbush-Greasewood	1	33,445	5	26,867
<i>Colorado</i>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	1	8,105	17	293,837
<u>Rocky Mountain Forest Province</u>				
Saltbush-Greasewood	1	33,445	5	26,867

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

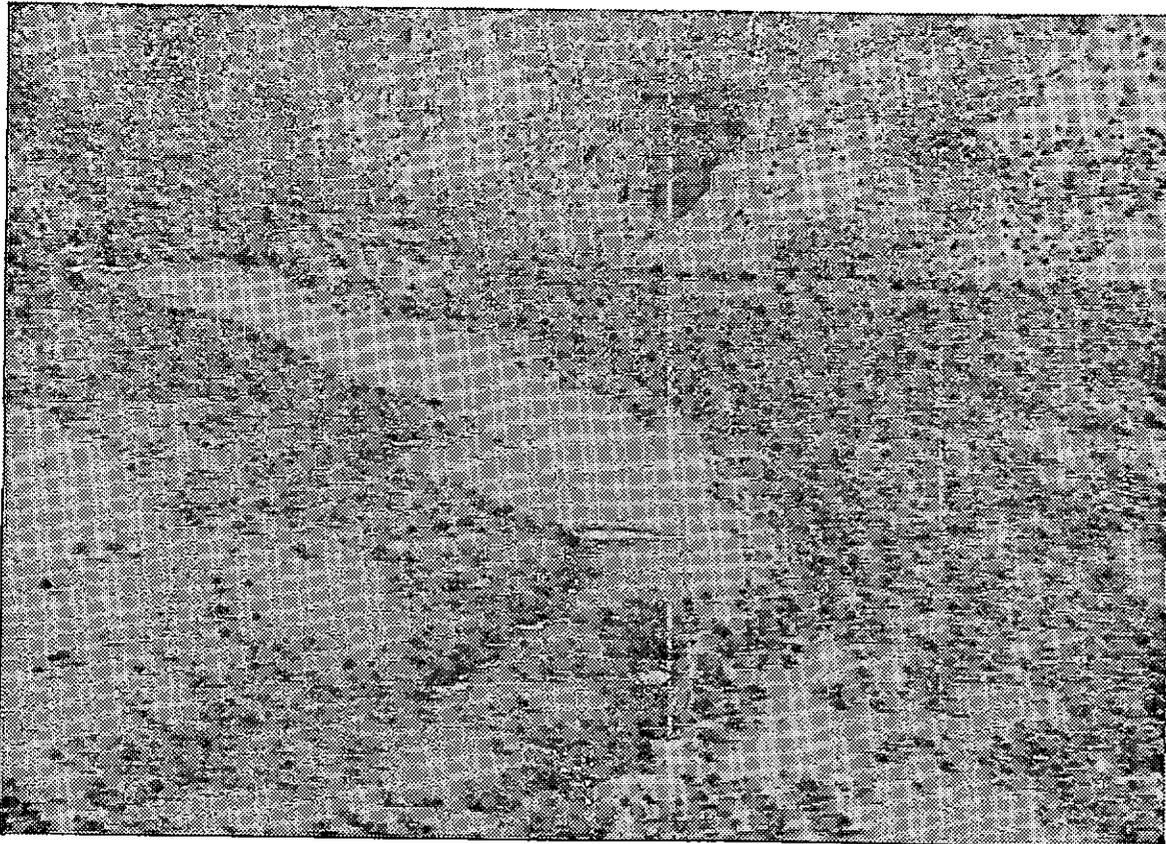
The Camel Back WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area).

*Balancing the geographic distribution of wilderness areas*

The Camel Back WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. There are 3 designated wilderness areas within 4 hours of the Camel Back WSA. Approximately 3 hours south of the Camel Back WSA is the Lizard Head Wilderness Area (41,189 acres); an area of high mountain landform and ecosystem, closed to public use in winter and spring.

Mesa Verde Wilderness Area (8,105 acres) is approximately 4 hours south of the WSA. Mesa Verde is not similar in landform to the Camel Back, but does contain areas of similar vegetation. The Wilderness Area is not open to the public due to important archeological values.

Approximately 1 hour southeast of the Camel Back is the Black Canyon of the Gunnison Wilderness Area (11,180 acres). The Black Canyon is a river canyon, and its geology and ecosystem are representative of the Rocky Mountain province, not a mixture of Colorado Plateau and Rocky Mountain provinces, as is the Camel Back. Because of its Colorado Plateau/Rocky Mountain Forest transition ecosystem, the Camel Back WSA would expand and balance opportunities to attain diverse wilderness experiences.



*Photo 4. Camel Back WSA. Approximately 2,482 acres of the WSA would be designated a Wildlife Management Area. These areas of pinyon-juniper woodlands and open grassy parks provide excellent winter range and habitat conditions for deer and elk.*

**MANAGEABILITY**

The Camel Back WSA is manageable as wilderness. Except for a 160 acre private inholding, the entire area is BLM land. The boundaries of the WSA are defined primarily by existing roads and ways and perennial stream drainages with steep canyon sides. These man-made and natural topographic features provide the WSA with distinct, manageable boundaries.

There are no oil or gas leases, coal leases, or mining claims within the WSA, and no development is expected due to the area's lack of mineral resources.

**ENERGY AND MINERAL RESOURCE VALUES**

The Geological, Energy and Miners (GEM) Report for the Camel Back WSA is *Phase 1: GEM Resource Assessment for Region 4, Colorado Plateau, Dominguez Canyon/Adobe Badlands/Camel Back Area, GRA 6,1983, MSME/Wallaby Enterprises*, on the mineral potential of leasable, locatable, and saleable minerals in the WSA.

According to the GEM report, there are no known mineral deposits in the WSA. The area has only a low favorability for the accumulation of locatable minerals, including base metals (copper, lead, and zinc) and precious metals (gold and silver), and, as such, a poor economic potential for production. There are no unpatented or patented mining claims located in the WSA.

Uranium and vanadium deposits are known to occur in the Morrison and Chinle geologic formations which are present in the WSA and throughout western Colorado and eastern Utah. Based on the extensive presence of these formations in the WSA, the GEM reports states that the geologic environment of the WSA indicates moderate favorability for the accumulation of uranium and vanadium. However, no uranium-vanadium deposits are known to occur within the boundaries of the WSA, and there has been no interest in exploration.

There are no oil and gas leases within the WSA. Although sedimentary formations found within the WSA have produced oil and gas in other regions of southwestern Colorado, the GEM report indicates only low favorability for oil and gas deposits. This low rating is due primarily to the shallowness of the sedimentary rock structure found in the Camel Back, which is unfavorable for the accumulation of oil and gas in any marketable quantities.

Although coal normally occurs in the outcrops of Dakota Formation, such as those found extensively in the WSA, there are no known coal seams of commercial value.

**IMPACTS ON RESOURCES**

The following comparative impact table summarizes the effects on pertinent resources for the no wilderness (Recommendation) and all wilderness alternatives considered for the Camel Back WSA.

**Table 4 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative
<i>Impacts on Wilderness Values</i>	Wilderness values would remain largely unchanged on 10,402 acres. Opportunities for solitude, and primitive, unconfined types of recreation use would be increased by recreational ORV closures in the WSA. Twelve range improvement projects would slightly degrade naturalness on approximately one-quarter acre (10,800 square feet) of total area.	Wilderness designation would provide statutory, long-term protection for wilderness values on 10,562 acres. Opportunities for solitude and primitive, unconfined types of recreation would be increased by recreational ORV closures in the WSA. Eight range improvement projects would slightly degrade naturalness on approximately 5,200 square feet of total area.

**Table 4 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative
<i>Impacts on Wildlife Habitat and Populations</i>	<i>Habitat and forage conditions would be maintained for the area's present yearlong population of 33 deer, and an additional 292 deer and 28 elk during the winter. ORV closures, range improvements and management actions to improve vegetative conditions would result in an overall improvement in herd condition and a gradual increase of 8 to 12 animals in the resident deer herd and 8 to 15 animals in the winter deer herd size. Habitat conditions necessary for a desert bighorn sheep reintroduction would be maintained, and possibly improved.</i>	<i>Habitat and forage conditions would be maintained for the area's present yearlong population of 33 deer, and an additional 292 deer and 28 elk during the winter. ORV closures, range improvements and management actions to improve vegetative conditions would result in an overall improvement in herd condition and a gradual increase of 8 to 12 animals in the resident deer herd and 8 to 15 animals in the winter deer herd size. Habitat conditions necessary for a desert bighorn sheep reintroduction would be maintained, and possibly improved.</i>
<i>Impacts on Recreation Opportunities and Use</i>	<i>Recreational use would decrease by 250 user days, or 50 percent, from the present level of 500 user days to 250 user days, as a result of ORV closures. Approximately 300 motorized recreational user days would be eliminated, and use would shift from predominately motorized use to non-motorized primitive use. The overall quality of recreational use would remain high.</i>	<i>Recreational use would increase by 100 user days, or 20 percent, from the present level of 500 user days to 600 user days, as a result of designation. Approximately 300 motorized recreational user days would be eliminated, and use would shift from predominately motorized use to nonmotorized primitive use. The overall quality of recreational use would remain high.</i>
<i>Impacts on Livestock Grazing and Management</i>	<i>Livestock grazing would be precluded from March 1 through range readiness and trailing use would be limited in riparian areas, resulting in increased trailing time and operating costs. Four stock reservoirs and eight depression ponds would be constructed to increase water supplies and redistribute concentrated grazing use away from riparian areas. Grazing allocations would continue at the present level of 514 AUMs, but could be reduced by 150 to 200 AUMS as a result of implementing a 35 percent utilization limit to further improve riparian conditions.</i>	<i>Livestock grazing would be precluded from March 1 through range readiness and trailing use would be limited in riparian areas, resulting in increased trailing time and operating costs. Four stock reservoirs would be constructed to increase water supplies and redistribute concentrated grazing use away from riparian areas. Eight depression ponds would not be constructed. Grazing allocations would continue at the present level of 514 AUMs, but could be reduced by 150 to 200 AUMS as a result of implementing a 35 percent utilization limit to further improve riparian conditions.</i>

## LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS

Designation of the WSA as wilderness would have minimal impacts on local economic conditions. Social factors were not considered a significant issue in the study.

## SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values.

During formal public review of the Draft Environmental Impact Statement, a total of 176 oral and written comments specifically addressing this WSA were received. Of those, 142 were written and 34 were oral statements received at three public hearings on the EIS. In general, 53 comments supported the proposed no wilderness recommendation; 123 comments supported wilderness recommendation for the WSA.

Those favoring wilderness designation commented on the undisturbed, pristine quality of the WSA, its scenic qualities, and the high recreational values associated with the area. The majority of the comments in favor of designation were from environmental groups and organizations. Of particular concern to these groups was the need to protect

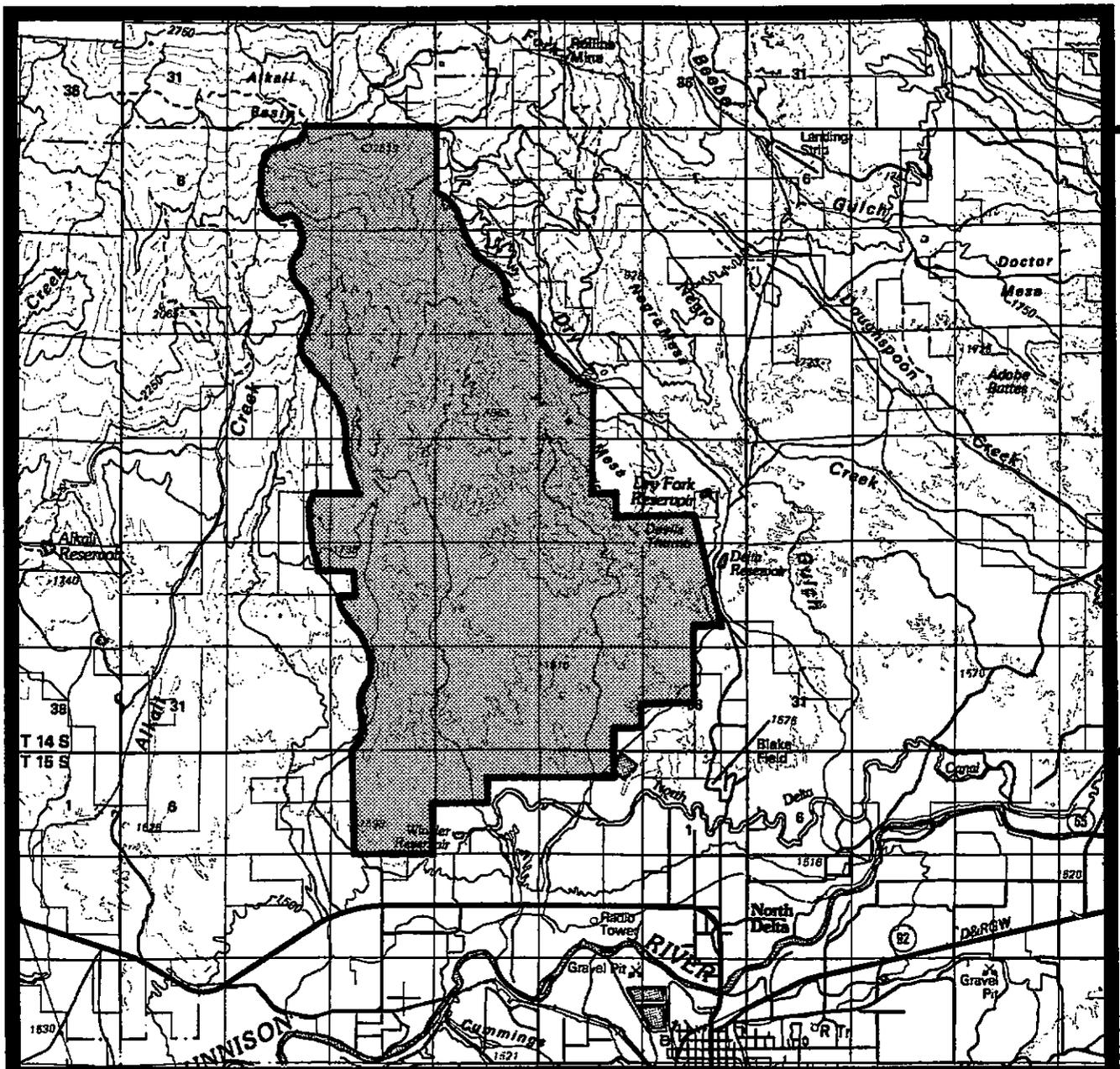
known populations and habitat of threatened and endangered cactus species which occur in the WSA.

Those opposing designation were concerned that wilderness would preclude the development of minerals in the area, and would conflict with or eliminate grazing in the WSA.

Written comments were received from the following federal, state, and local agencies: the National Park Service, Forest Service, Environmental Protection Agency (EPA), Bureau of Reclamation, U.S. Geological Survey, U. S. Bureau of Mines, U. S. Air Force, U.S. Fish and Wildlife Service, the Colorado Department of Natural Resources, and the City of Delta.

The U. S. Bureau of Mines stated that the geology and mineral resource descriptions for the Camel Back lacked a discussion of the uranium potential of the area. The Air Force supported the overall wilderness area concept, but was concerned that designation would adversely affect or restrict their use of low altitude airspace over a wilderness area. The EPA requested a clarification of how wilderness management would affect aquatic habitat, streambank stability, and water quality in the WSA. The State Department of Natural Resources supported wilderness designation for the area.

The other agencies did not identify a specific jurisdictional conflict with either the no wilderness or the all wilderness alternative for the Camel Back WSA.



R 97 W

R 96 W

R 96 W

R 95 W



RECOMMENDED FOR WILDERNESS (NONE)



RECOMMENDED FOR NONWILDERNESS



LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (NONE)



SPLIT ESTATE (NONE)

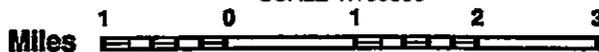


STATE (NONE)



PRIVATE (NONE)

SCALE 1:100000



Adobe Badlands WSA  
Proposal  
CO-010-370 b



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## ADOBE      BADLANDS

### WILDERNESS      STUDY      AREA

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#### The Study Area -- 10,425 acres

The Adobe Badlands WSA (CO-030-370B) is located in western Delta County in southwestern Colorado, approximately three miles northwest of Delta and 1.5 miles north of U.S. Highway 50. The WSA contains 10,425 acres of public land with no non-public inholdings. The area is surrounded by public and non-public lands. The northern boundary is contiguous with the Grand Mesa National Forest. The area's western boundary is defined primarily by a vehicle route which crosses both private and BLM public lands until it reaches the National Forest to the north. The southern and eastern boundaries follow BLM and non-public land boundaries. The area is shown on the map.

The topography of the area is characterized by abrupt sloping hills dissected by rugged serpentine canyons. Approximately 8,498 acres, or 82 percent, of the Adobe Badlands WSA is composed of the badlands-type Mancos shale formations known locally as the "adobes". This badlands area is very sparsely vegetated with low saltbush, desert trumpet, and buckwheat. The northern 18 percent of the WSA is characterized by the relatively steep foothills of Grand Mesa, and is heavily vegetated with pinyon-juniper woodlands and small, scattered grassland parks.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Uncompahgre Basin Resource Area Final Resource Management Plan and Environmental Impact Statement (RMP/EIS) published September, 1988. Two alternatives were analyzed in the EIS: all wilderness (10,402 acres), and no wilderness which is the recommendation of this report.

#### Recommendation and Rationale

0 acres recommended for wilderness

10,425 acres recommended for nonwilderness.

It is recommended that the entire 10,425 acres of the Adobe Badlands WSA not be designated as wil-

derness and instead be released for uses other than wilderness. The environmentally preferred alternative would be to designate the entire 10,425 acres as wilderness since this would result in the least change from the natural environment over the long term.

While the BLM recognizes that the Adobe Badlands meets the minimum wilderness criteria, it does not feel that the area's wilderness qualities are of an overall quality and significance to warrant inclusion in the NWPS. The limited extent of wilderness qualities within the WSA, in addition to a number of manageability problems, and the BLM's preference for other options for managing the area, are the primary reasons for recommending that the area be released for uses other than wilderness.

Though the WSA does have some fairly rugged terrain and interesting natural features, particularly in the southern "badlands" formation, the majority of its features are very common to lands throughout southern Colorado, and there is nothing to really set the area apart.

There are some scenic vistas afforded from the higher elevations of the area, however, these views are marred by the presence of large areas of contour furrowing, numerous roads and ways along the west and eastern boundaries, and by the North Delta Canal and Highway 50 to the south. Also to the south lies the Delta city reservoir.

A number of structures including houses, barns, corals, and a large trailer park on the area's western boundary are very visible from the majority of the WSA, as is the city of Delta, which lies only 3 miles to the south. The Delta county airport, landfill, sewage settling ponds, a number of county roads, and an abandoned city of Delta reservoir detract from the naturalness of the surroundings along the WSA's eastern border. There are also four vehicle ways totalling 2.5 miles within the WSA boundaries which are particularly noticeable in the southern portion of the WSA due to the lack of vegetation and topographic relief in that area.

Although portions of the WSA do offer opportunities for solitude and primitive, unconfined recreation use,



*Photo 1. Adobe Badlands WSA. Motorcycle use up the faces and along the ridges of the adobe hills in the "badlands" is particularly pronounced and obtrusive.*

very little of the use which actually occurs in and around the area is wilderness-related. Hunting is popular in the pinyon-juniper woodlands of the northern portion of the WSA, and this use has always been associated with motorized vehicles.

The Adobe Badlands is rarely used for hiking, backpacking, nature study, or other primitive recreational activities. The primary reason for this is that there is an abundance of public lands in the vicinity of the WSA that are considered more scenic and geologically interesting. These areas, such as Grand Mesa and the Gunnison Gorge and Dominguez WSAs, also offer a wider range of recreational opportunities, including whitewater rafting, canoeing, and fishing, which are not available in the Adobe Badlands.

In addition, the quality of the recreational opportunities which are available in the WSA is severely reduced by a number of factors, including the lack of any perennial water sources, the extreme hot and dusty summer climate, and the mancos shale soils which are very difficult to traverse when saturated

with snow melt or rain. A number of unauthorized, non-wilderness uses, described below, also contribute to a lower quality wilderness experience.

The present recreational use in the Adobe Badlands WSA is estimated at only 500 user days annually, 450 of which are unauthorized motorized user days. In the years since the original wilderness inventory was completed, there has been a significant increase in ORV use in the more open portion of the badlands area located in the southern portion of the WSA. Because this area, which encompasses approximately 1,000 acres or 10 percent of the WSA, is relatively low in elevation, and easily accessible from Delta, it has become very popular for year-round ORV use by the area residents.

In addition to being both visually and audibly distracting, increased ORV use in this area has resulted in a significant reduction of the WSA's wilderness qualities, particularly those of solitude and naturalness. Motorcycle use up the faces and along the ridges of the adobe hills in the Devil's Thumb area, in the southern portion of the WSA, has resulted in a

proliferation of unnatural looking scars and tracks. (See Photo 1)

Cross-country four-wheel drive, all terrain vehicle, and motorcycle traffic has created a network of branching ways, radiating out from the two major access routes along the east and west boundaries of the WSA. Numerous deep trenches and ruts have formed where vehicles have become stuck in "adobe clay" while attempting to transverse the many shallow washes and arroyos in the area.

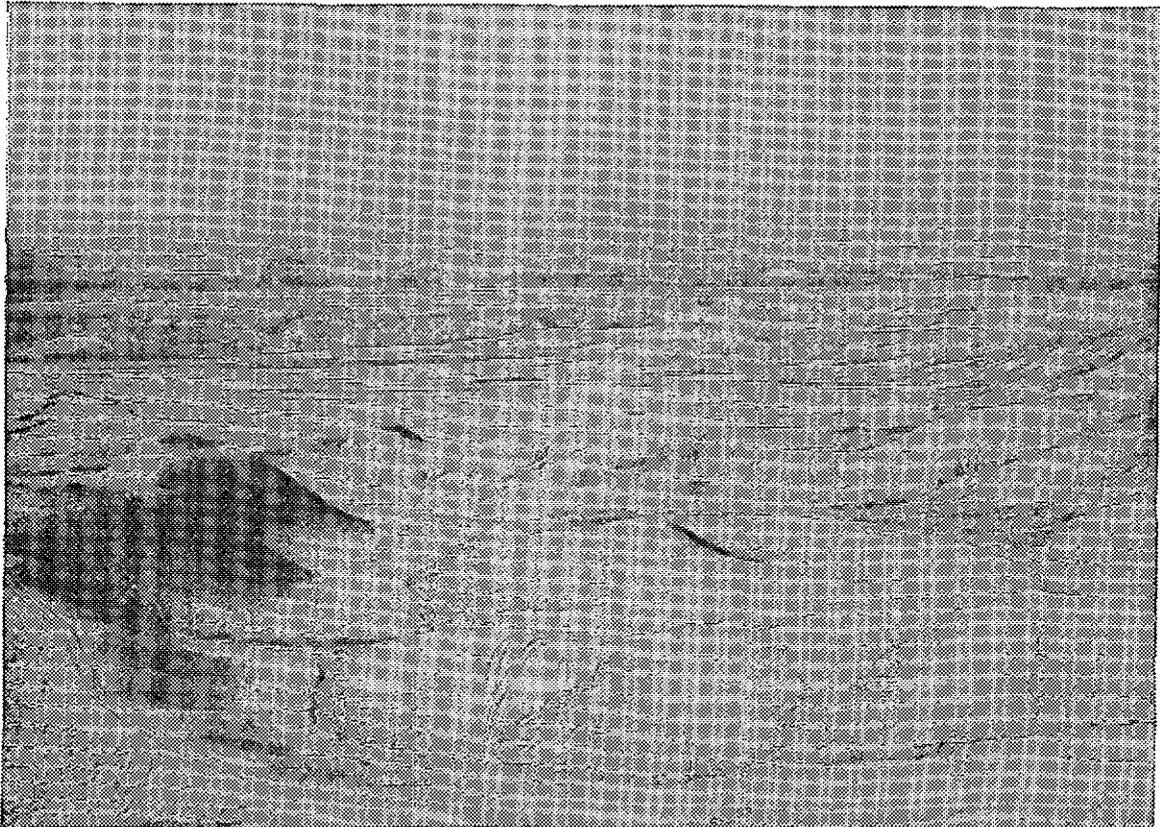
This increased ORV use is also environmentally damaging to the area's highly erodible, saline soils. Use in late fall and early spring, when the soils are saturated, has resulted in a substantial increase in the amount of erosion and saline runoff from the area.

Besides ORV use, the topography of the lower badlands area is also conducive to a number of other "non-wilderness" uses. The area has become popular as a shooting range area, and many of the adobe hills along the south-eastern boundary of the WSA

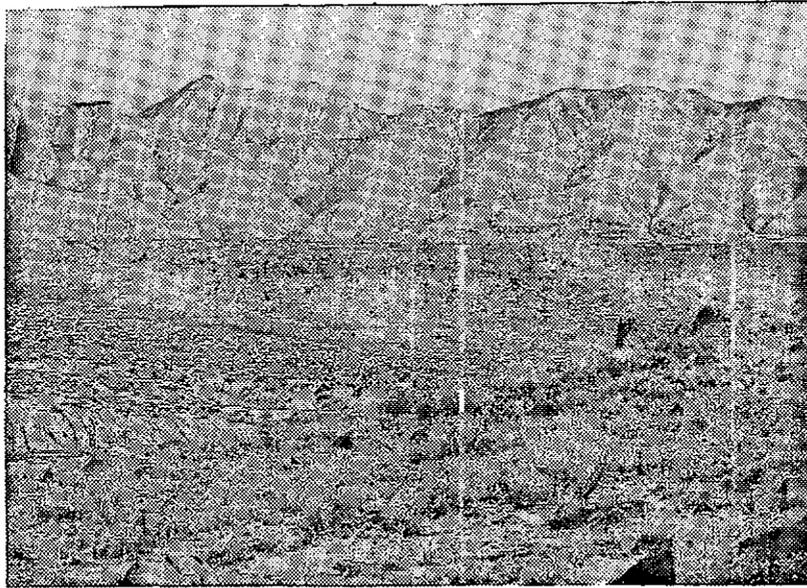
have become splattered with broken glass from bottles used for target-shooting practice.

The numerous secluded washes and ravines along both the east and west boundaries provide ideal trash dump sites and blowing litter from these sites has become a common problem along the WSA's east and west boundaries. The "dobies" as locals refer to the area, is also a popular late-night party place for local teenagers, who build huge bonfires and leave large quantities of trash behind after the festivities.

ORV use, shooting, trash dumping, and large-scale partying in and around the WSA greatly distract from the area's wilderness qualities and significantly lower the quality of the recreational experience for other users in the area. So far, BLM's attempts to restrict ORV use to roads along the WSA boundaries and to eliminate non-wilderness uses from the WSA have met with little success. In some cases, management efforts have resulted in increased problems, such as theft or vandalism of wilderness boundary signs.



*Photo 2. Adobe Badlands WSA. Problems in managing the area are due to the WSA's relatively easy year-round access, and the open, unvegetated nature of the lower badlands area, which provide few natural or manmade barriers for control.*



*Photo 3. Adobe Badlands WSA. ONA/ACEC designation would provide essentially the same protection as wilderness for approximately 6,783 acres of the more outstanding adobe formations located in the central portions of the WSA.*

Problems in managing the area are primarily attributable to the WSA's relatively easy year-round access, and the open, unvegetated nature of the lower badlands area, which provide few natural or man-made barriers for control. In addition, the majority of these activities, (i.e., illegal trash dumping and partying) take place after the normal hours of BLM patrols. Fencing the perimeter and providing round-the-clock patrols for the area are cost prohibitive. Therefore, the BLM is severely limited as to methods for keeping such non-wilderness uses from occurring in the area.

Although the BLM believes that the wilderness qualities of the Adobe Badlands are not significant enough to warrant designation as wilderness, it is felt that the area's interesting landforms, threatened and endangered plants and habitat, and other values are deserving of some form of protection.

The Record of Decision for the Uncompahgre Basin Resource Area Resource Management Plan (RMP) designated 6,783 acres of the WSA as the Adobe Badlands Outstanding Natural Area and Area of Critical Environmental Concern (ONA/ACEC). The ONA/ACEC designation would provide essentially the same protection as wilderness designation for the more outstanding adobe formations located in central portion of the WSA and which

are relatively inaccessible to motorized vehicle. ( See Photo 2) ORV use will be allowed in areas outside the ONA, particularly in the open areas along the east and west boundaries of the WSA where such use is presently occurring.

In addition to the ONA/ACEC designation, approximately 1,927 acres in the northern portion of the WSA would be designated a Wildlife Management Area. This area is heavily vegetated in pinyon-juniper woodlands.

According to the RMP, motorized vehicle use, primarily associated with hunting activities, will be permitted in this wildlife management area. However, the motorized use will be limited to existing roads and ways from December 1 through April 30 to minimize habitat disturbance and reduce stress on wintering herds. Open ORV "play" will be allowed in the area from May through November.

If the area is not designated as wilderness, proposed management actions for the wildlife area include a land treatment project designed to improve crucial deer and elk winter range conditions. It is expected that this project will result in an overall improvement in the condition and health of the existing herd and an increase in both deer and elk herd size over the long term.

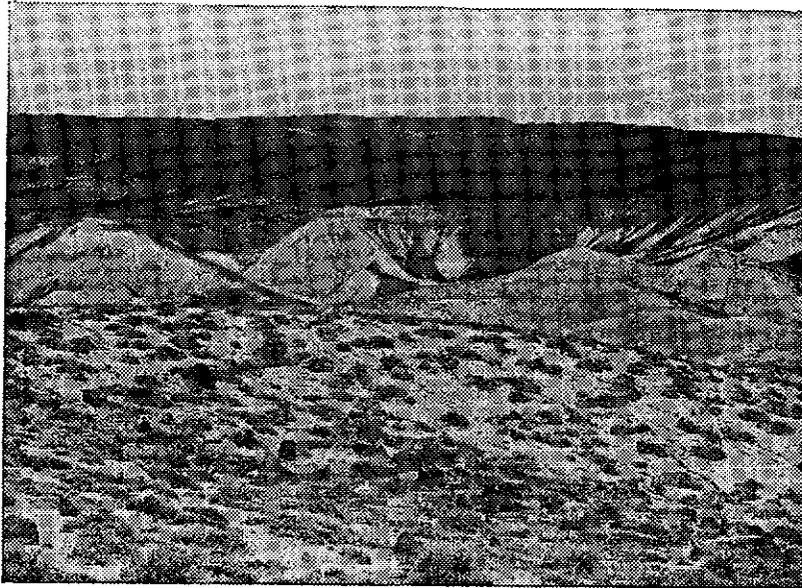
The BLM projects that wilderness designation, which would preclude this project, as well as any similar surface-disturbing projects in the WSA, would result in severe shortages of forage, a reduction in herd vigor, and the possible loss of 15 to 20 deer and 8 to 10 elk over the long term.

Approximately 1,715 acres of highly erodible saline soils throughout the remainder of the area would be managed to control salinity contributions to the Colorado River system. Motorized vehicle use will be allowed in these areas, but will be limited yearlong to designated roads and trails to reduce soil surface disturbance and water runoff. Although there are no specific plans for salinity control projects at this time, the BLM wishes to continue to have the flexibility to construct projects (i.e., check dams and monitoring stations) in the future without the constraints of wilderness criteria.

In conclusion, if the Adobe Badlands WSA is not designated as wilderness, the BLM will be less limited in the management methods it chooses to protect important scenic values, improve wildlife habitat, and control erosion and salinity in the WSA. The BLM also feels that its proposed management offers a better balance of recreational opportunities by providing areas for both primitive, non-motorized recreation in the ONA/ACEC and motorized recreation in the remainder of the area. The greater flexibility provided by multiple use management under the RMP is expected to result in beneficial, rather than negative impacts to deer and elk, fewer user conflicts, lower operation costs, and improved manageability of the entire area.

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	10,425
Split Estate (BLM surface only)	0
Inholdings (Private)	0
<b>Total</b>	<b>10,425</b>
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	0
BLM (outside WSA)	0
Split Estate (within WSA)	0
<b>Total BLM Land Recommended for Wilderness</b>	<b>0</b>
<u>Within the Area Not Recommended For Wilderness</u>	
BLM	10,425
Split Estate	0
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>10,425</b>
Inholdings (State, private)	0



*Photo 4. Adobe Badlands WSA. Under the proposed alternative, 1,927 acres of pinyon-juniper in the northern portion of the WSA would be designated a Wildlife Management Area. A land treatment plan in this area would improve crucial winter range conditions for deer and elk.*

## Criteria Considered in Developing the Wilderness Recommendations

### WILDERNESS CHARACTERISTICS

#### *Naturalness*

Geologically, the Adobe Badlands WSA is highly varied and diversified. Sixty-five percent of the WSA consists of badland-type formations, or "adobe" hills, where coloration changes abruptly with shifts in lighting. "Badlands" topography is characterized by a multitude of steep hills and dissected, rugged serpentine-like canyons. In portions of the unit, wind and water erosion have created isolated small, flat island-like mesas surrounded by a maze of deeply carved canyons, washes, and ravines.

Geologically, the adobe badlands are part of the Mancos shale formation which consists of ancient marine deposits. These deposits are known for their numerous fossils. Vegetation in the badlands section is notably sparse but in places is thickly covered in a mat of desert trumpet, which noticeably changes coloration from green in Spring to red-brown in the fall.

The northwest portion of the WSA which forms the foothills of Grand Mesa is heavily vegetated in pinyon/juniper. It is characterized by rolling, rugged topography and numerous, small drainages running southward into the badland topography. Small pocket-like grazing parks, scattered throughout this area, provide crucial winter feeding areas for deer and elk.

Four vehicle ways totalling 2.5 miles can be found within the area. In the higher elevations of the WSA, these ways are fairly well hidden by a combination of vegetation and topographic relief. In the lower, badlands portion of the WSA, the evidence of ORV use, and the resulting impacts of erosion, are highly visible due to the sparse vegetation and fairly steep topography. Motorcycle use in the area surrounding Devils Thumb, a popular landmark of the WSA, is particularly pronounced and obtrusive.

#### *Solitude*

The Adobe Badlands WSA contains a wide variety and diversity of opportunities for solitude. The numerous, intricate, and maze-like canyons of the central badlands area create feelings of intimacy and solitude. In the upper elevations, rolling, rugged ter-

rain heavily vegetated with pinyon and juniper effectively screen visitors from sights and sounds and foster feelings of seclusion. The ascending topography of the area offers vistas of the lower badlands as well as Grand Mesa, the Uncompahgre Plateau, and the San Juan Mountains and evokes feelings of vastness, remoteness, and solitude.

#### *Primitive and Unconfined Recreation*

The WSA offers yearlong opportunities for hiking, backpacking, horseback riding, photography, and sightseeing. The upper woodland areas also provide excellent hunting opportunities

#### *Special Features*

The Adobe Badlands WSA contains some supplemental values which enhance its wilderness qualities. The WSA's relatively low elevation, mild winters, and close proximity to the City of Delta make it accessible year-round.

The WSA provides year-round habitat for a wide diversity of wildlife including pronghorn antelope, prairie dogs, badgers, coyotes, bobcats, and numerous raptors such as red-tailed hawks and golden eagles. The upper portion of the WSA is crucial deer and elk winter range. The WSA also contains populations of the threatened Uinta Basin hookless cactus (*Sclerocactus glaucus*).

The badlands portion of the WSA changes remarkably with light and shadows offering numerous opportunities for site-seeing and photography. The geological and topographical features of the Mancos shale formation, in combination with the transition-zone ecology of the WSA also provide excellent educational, nature-study opportunities.

## DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM

### *Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem or landform to the National Wilderness Preservation System. Shale-type badlands are presently represented in the NWPS by the Bisti and De-na-zin wilderness areas in New Mexico, both of which are similar in appearance to and within a day's driving distance of the Adobe Badlands WSA. Designation would, however, provide protection for the unique transition-zone ecosystem of the area, composed of two distinct vegetation types with only limited national and/or regional representation in the NWPS.

The Adobe Badlands WSA is a transition between two ecosystems and two associated vegetation types: the Colorado Plateau Province and the Rocky Mountain Forest Province (Bailey-Kuchler classification system). The majority of the WSA contains saltbrush-greasewood vegetation representative of the Rocky Mountain Forest Province.

This vegetation type occurs in only one designated wilderness (Great Sand Dunes National Monument). In addition to the saltbrush-greasewood vegetation indicative of "badlands", the WSA also contains the pinyon-juniper woodland vegetation type from the Colorado Plateau Province. Pinyon-juniper woodlands are currently represented by only one other designated wilderness areas in Colorado; that being Mesa Verde National Park Wilderness Area which is closed to the public. (See Table 2)

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u> Province/Potential Natural Vegetation	<u>NWPS Areas</u> <u>areas</u> <u>acres</u>		<u>Other BLM Studies</u> <u>areas</u> <u>acres</u>	
<i>Nationwide</i>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	11	1,401,745	85	2,145,602
<u>Rocky Mountain Forest Province</u>				
Saltbush-Greasewood	1	33,445	5	26,867
<i>Colorado</i>				
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	1	8,105	17	293,837
<u>Rocky Mountain Forest Province</u>				
Saltbush-Greasewood	1	33,445	5	26,867

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The Adobe Badlands WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area).

*Balancing the geographic distribution of wilderness areas*

The Adobe Badlands WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. There are three designated wilderness areas within four hours of the Adobes Badlands. Approximately three hours south of the WSA is the Lizard Head Wilderness Area (41,189 acres); an area of high mountain landform and ecosystem which is mostly inaccessible for public use in winter and spring.

Mesa Verde Wilderness Area (8,105 acres) is approximately 4 hours south of the WSA. Mesa Verde is not similar in landform to the Adobe Badlands, but does contain areas of similar vegetation. The Mesa Verde Wilderness Area, however, is not open to the public due to important archeological values.

Approximately one hour southeast of the Adobe Badlands is the Black Canyon of the Gunnison Wilderness Area (11,180 acres). The Black Canyon is a river canyon and its geology and ecosystem are representative of the Rocky Mountain province, but not of Colorado Plateau province. Because of its Colorado Plateau/Rocky Mountain Forest transition ecosystem, the Adobe Badlands WSA would expand and balance opportunities for diverse wilderness experiences

**MANAGEABILITY**

As described in the Rationale section of this report, there are some major manageability problems associated with non-wilderness uses (ORV use, shooting, trash dumping, etc.) in the Adobe Badlands WSA. Such problems, however, are fairly well concentrated in relatively small sections of the WSA. With the exception of these areas, there are few resource conflicts throughout the remainder of the WSA that would hinder its management as wilderness.

The entire WSA is administered by the BLM and contains no non-public inholdings. There are no oil, gas, or coal leases within the WSA and no explora-

tion or development is anticipated. Although there are approximately 75 placer mining claims scattered throughout the WSA, there have been no validity exams conducted on these claims and no activity has occurred on them to date. No mineral development is expected due to the area's lack of mineral resources.

There are no range facilities within the boundaries of the WSA, and wilderness designation would not affect the 878 AUMs of winter sheep use presently allocated on three livestock grazing allotments within the boundaries of the Adobe Badlands WSA.

#### ENERGY AND MINERAL RESOURCE VALUES

A Geological, Energy and Minerals (GEM) Report assessing the mineral potential of leasable, locatable, and saleable minerals in the Adobe Badlands WSA was completed in 1983 (*Phase 1: GEM Resource Assessment for Region 4, Colorado Plateau, Dominguez Canyon/Adobe Badlands/Camel Back Area, GRA 6, 1983, MSME/Wallaby Enterprises*). According to this report, there are no known mineral deposits in the WSA. The area has only a low favorability for the accumulation locatable minerals. There are approximately 75 placer mining claims scattered throughout the WSA. There have been no validity exams conducted on these claims, which were located in 1982 and 1984, and no activity has occurred on them to date.

Uranium and vanadium deposits are known to occur in the Morrison and Chinle geologic formations throughout western Colorado and eastern Utah. These Morrison and Chinle formations underlie the Adobe Badlands WSA at depths of approximately 3,000 to 4,000 feet below the surface. Due to the

depths of these formations, however, the uranium and vanadium occurring in the WSA has been rated as having low potential for development. At present, no uranium-vanadium deposits are known to occur within the boundaries of the WSA.

Approximately 507 acres of the northern portion of the Adobe Badlands WSA lie within the Bookcliffs coal planning area. The Mesaverde formations in this area are estimated to contain approximately 21 million tons of moderate to high development potential coal reserves. Although coal of this type has been mined extensively using underground methods in the Cedaredge and North Fork areas, there are no leases within the WSA. The nearest producing coal mine (idle since 1984) is the Red Canyon Mine, about ten miles to the northeast.

According to the GEM Report, however, the geologic environment of the area indicates moderate favorability for the accumulation of oil and gas. Although there are no Known Geologic Structures (KGSs) within the WSA, three KGSs are within six miles of the WSA boundary. Mancos Shale formations, found extensively in the WSA, have yielded production of oil and gas five miles to the east of the area. The economic potential for production within the WSA is unknown at this time, and there are presently no oil and gas leases in the study area. Four oil and gas wells that were drilled immediately outside the WSA were dry holes.

#### IMPACTS ON RESOURCES

The following table summarizes the effects on pertinent resources for the no wilderness (Recommendation) and all wilderness alternatives considered for the Adobe Badlands WSA.

**Table 3 - Comparative Summary of Impacts by Alternative**

<b>Impact Topics</b>	<b>Recommendation: No Wilderness Alternative</b>	<b>All Wilderness Alternative</b>
<i>Impacts on Wilderness Values</i>	<i>Wilderness values would remain essentially unchanged on 6,783 acres within the ONA/ACEC, but would be slightly reduced on 3,642 acres by ORV use. Naturalness would be irretrievably lost on approximately 145 acres as a result of a wildlife habitat treatment and oil and gas exploration activities.</i>	<i>Wilderness designation would provide statutory, long-term protection for wilderness values for solitude and primitive, unconfined types of recreation would be increased by the elimination of ORV use in the WSA.</i>
<i>Impacts on Wildlife Habitat and Populations</i>	<i>Seasonal restrictions on ORV use would reduce stress and maintain crucial winter range on 1,927 acres for 76 deer and 35 elk. Improved forage conditions on 140 ares could result in improvement in overall herd condition and gradual increase of 5 to 7 deer and 2 to 4 elk over the long term. ORV closures on 6,783 acres and yearlong limitations on 1,715 acres would reduce stress and maintain habitat and forage conditions for approximately 30 resident pronghorn.</i>	<i>Closing the entire area to ORV use and oil and gas exploration would reduce stress and maintain existing habitat and forage conditions for the yearlong population of 30 pronghorn antelope, and 76 deer and 35 elk during the winter. The inability to implement a land treatment project could result in short term shortages of forage and increased stress during severe winters, and over the long term, a reduction in herd vigor and the possible loss of 15 to 20 deer and 8 to 10 elk over the long term.</i>
<i>Impacts on Recreation Opportunities and Use</i>	<i>Recreational use would decrease by 400 user days, or 80 percent, from the present level of 500 user days to 100 user days. Approximately 400 motorized recreational user days would be eliminated by ORV closures within the ONA/ACEC (6,783 acres), but would be recovered on adjacent areas. Opportunities for ORV use would be slightly impacted by yearlong restrictions on 1,715 acres and seasonal limitations on 1,927 acres. Use would shift from predominately motorized recreational activities to primitive recreational activities within the ONA/ACEC.</i>	<i>Recreational use would increase by 100 user days, or 20 percent, from the present level of 500 user days to 600 user days. Approximately 450 motorized user days would be displaced to adjacent areas. Use of the area would shift from less primitive, motorized recreational activities to primitive, nonmotorized recreational activities.</i>

**Table 3 - Comparative Summary of Impacts by Alternative (continued)**

Impact Topics	Recommendation: No Wilderness Alternative	All Wilderness Alternative
<i>Impacts on Energy and Mineral Exploration and Production</i>	<i>The entire 10,425 acres would be open for locatable mineral exploration and development, but there would be no impacts on production since no activity is projected. There would be no impacts on oil or gas production as a result of no surface occupancy stipulations on 6,783 acres in the ONA/ACEC or seasonal stipulations on 1,927 acres of crucial winter range since no exploration or production is anticipated within those areas. Seasonal stipulations on 1,715 acres would increase oil and gas exploration costs for 2-5 wells, however, there would be no impacts on production since none is projected. There would be no impacts on coal production since no activity is anticipated.</i>	<i>The entire 10,425 acres would be closed to energy and mineral exploration and production. There would be no impacts on mineral production since no activity is projected due to the area's lack of mineral potential and the lack of present and future demand. No exploratory oil or gas wells would be drilled, however, there would be no impacts on production since none is projected. There would be no impacts on coal production since no activity is anticipated.</i>

**LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS**

Designation of the WSA as wilderness would have minimal impacts on local economic conditions. Social factors were not considered a significant issue in the study.

**SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS**

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values.

During formal public review of the draft Environmental Impact Statement, a total of 176 oral and written comments specifically addressing this WSA were received. Of those, 142 were written and 34 were oral statements received at three public hearings on the EIS. In general, 53 commentors supported the proposed no wilderness recommenda-

tion; 123 commentors supported wilderness recommendation for the WSA.

The majority of the comments in favor of designation were from environmental groups and organizations. Of particular concern to these groups was the need to protect the known populations and habitat of the threatened Uinta Basin hookless cactus in the WSA.

Those opposing designation were concerned that wilderness would preclude the development of minerals in the area, and would conflict with or eliminate grazing in the WSA. Other stated that the area is used primarily by local residents for ORV recreation, shooting, and hunting, and were opposed to the elimination of these uses under wilderness designation.

Written comments were received from the following federal, state, and local agencies: the National Park Service, Forest Service, Environmental Protection Agency (EPA), Bureau of Reclamation, U.S. Geological Survey, U. S. Bureau of Mines, U. S. Air Force, U.S. Fish and Wildlife Service,

the Colorado Department of Natural Resources, and the City of Delta.

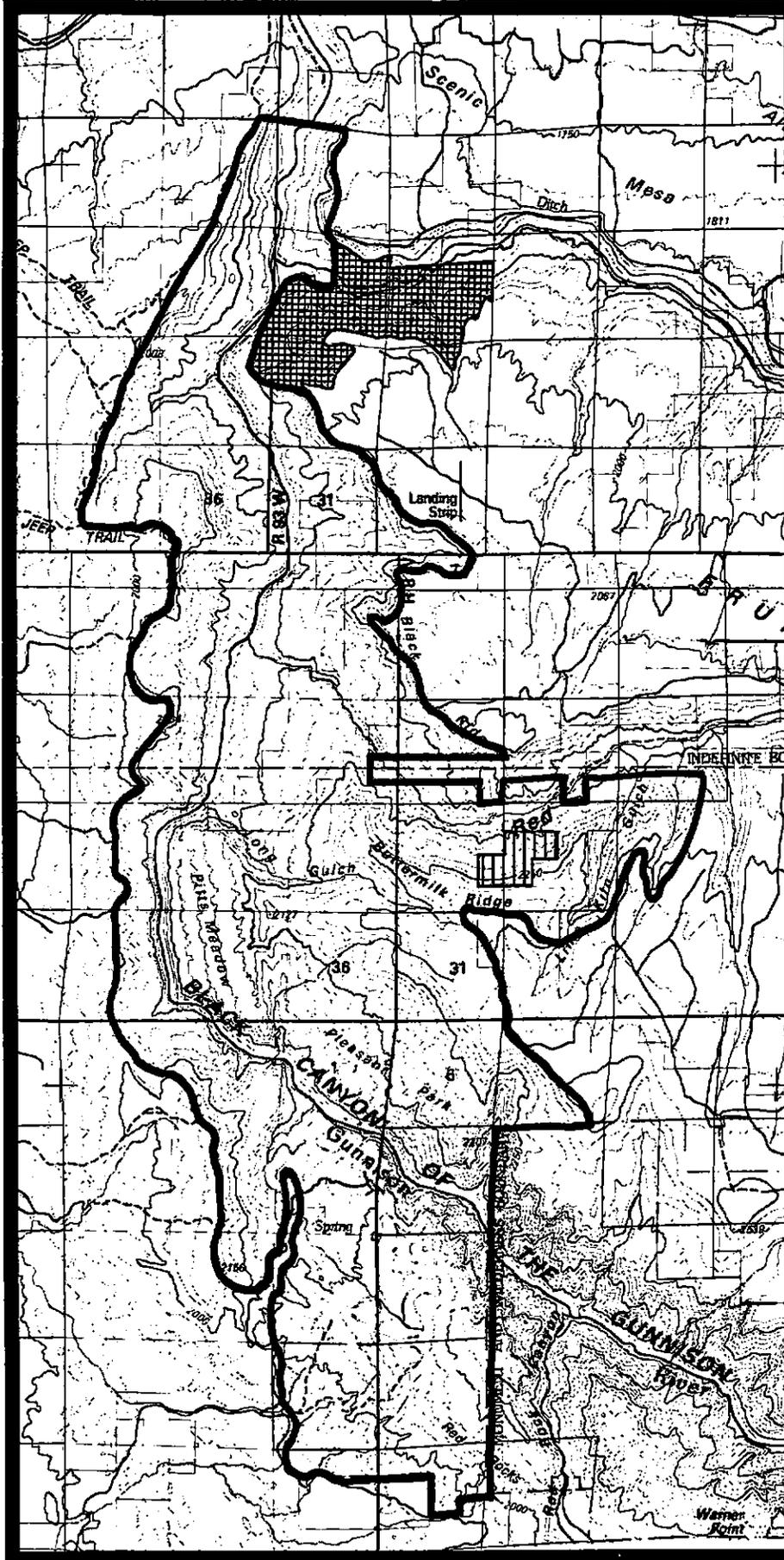
The U. S. Bureau of Mines stated that the geology and mineral resource descriptions for the Adobe Badlands lacked a discussion of the uranium potential of the area. The Air Force supported the overall wilderness area concept, but was concerned that designation would adversely affect or restrict

their use of low altitude airspace over a wilderness area. The State Department of Natural Resources supported wilderness designation for the area.

The other agencies did not identify a specific jurisdictional conflict with either the proposed action or the all wilderness alternative for the Adobe Badlands WSA.



R 94 W | R 93 W



T 51 N | T 51 N | T 51 S

STATE  
PRIVATE (None)

LAND OUTSIDE WSA  
RECOMMENDED FOR WILDERNESS.  
SPLIT ESTATE

RECOMMENDED FOR  
WILDERNESS  
RECOMMENDED FOR  
NONWILDERNESS



January 1991



Gunnison Gorge WSA  
Proposal  
CO-010-030-388

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## GUNNISON GORGE

### WILDERNESS STUDY AREA

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#### The Study Area -- 21,198 acres

The Gunnison Gorge WSA (CO-030-388) is located in Montrose and Delta counties, in southwestern Colorado, approximately 10 miles east of Delta and 7 miles northeast of Montrose. The WSA contains 21,038 acres of public land, 160 acres of split-estate (private subsurface, BLM surface) and no private inholdings. The northern boundary of the WSA is located approximately 2 miles south of the confluence of the Gunnison River and the North Fork Gunnison River, near Hotchkiss, Colorado. The southeastern boundary of the area is contiguous to the Black Canyon of the Gunnison National Monument, administered by the National Park Service. Except for a few parcels of private lands, the remainder of the WSA is surrounded by the Gunnison Gorge Special Recreation Management Area (SRMA) lands which are administered by the BLM. The Gunnison Gorge WSA is depicted on the map.

The Gunnison Gorge WSA is primarily the lower, northern end of the Black Canyon of the Gunnison River, and is a geologic continuation of the Black Canyon of the Gunnison National Monument. The Gorge, however, offers a greater diversity of plant and animal communities than the adjacent monument. The Gorge also contains numerous observable examples of faulting, folding, and geologic inconformity, which are not present in the National Monument.

The WSA is oriented primarily around an extremely rugged double canyon system. This system is composed of a narrow inner canyon where depths vary from 400 to 800 feet and the width ranges from only 800 feet to a quarter of a mile, and a much wider outer canyon, where depths to the river vary from 1,000 to 2,000 feet, and the width is approximately one mile. The steep, narrow, inner canyon is carved into dark Precambrian rock which is streaked, stained and weathered by the elements. The upper canyon is made up of lighter, sedimentary formations.

The dominant geologic feature that is responsible for the existence of the Gunnison Gorge WSA and the Black Canyon National Monument is the still active agent - the Gunnison River. Throughout its 13.5 mile course in the WSA, the Gunnison River drops 300 feet in elevation, from 5400 feet to 5100 feet.

The elevation differential in the WSA ranges from 5,100 feet at river level to over 8,000 feet, with corresponding changes in vegetation types. The WSA is a transition between 2 ecosystems and 2 associated vegetation types; the pinyon-juniper woodland vegetation type of the Colorado Plateau Province, which occurs on the rims and benches of the inner gorge, and the saltbrush-greasewood vegetation types, representative of the Rocky Mountain Forest Province, found along the rim areas of the outer canyon. Riparian vegetation, composed primarily of tall grasses, reeds, and shrubs is found throughout the river corridor.

The WSA was studied under section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Uncompahgre Basin Resource Area Final Resource Management Plan and Environmental Impact Statement (RMP/EIS) published September, 1988. Three alternatives were analyzed in the EIS: enhanced all wilderness (22,078 acres), all wilderness (21,198 acres) and no wilderness. The enhanced all wilderness alternative is the recommendation of this report.

#### Recommendation and Rationale

22,078 acres recommended for wilderness

0 acres recommended for nonwilderness.

It is recommended that the entire Gunnison Gorge WSA, plus an additional 880 acres adjacent to the WSA, and 160 acres of acquired private mineral estate, or 22,078 total acres, be designated as wilderness. The original WSA boundaries, the 880 acre addition, located in Smith Fork Canyon near the northeast boundary of the WSA, and the 160 acres private mineral estate, located in Red Canyon in the

east-central portion of the WSA, are shown on the map.

The environmentally preferred alternative would be to designate the entire 22,078 acres as wilderness since this would result in the least change from the natural environment over the long term.

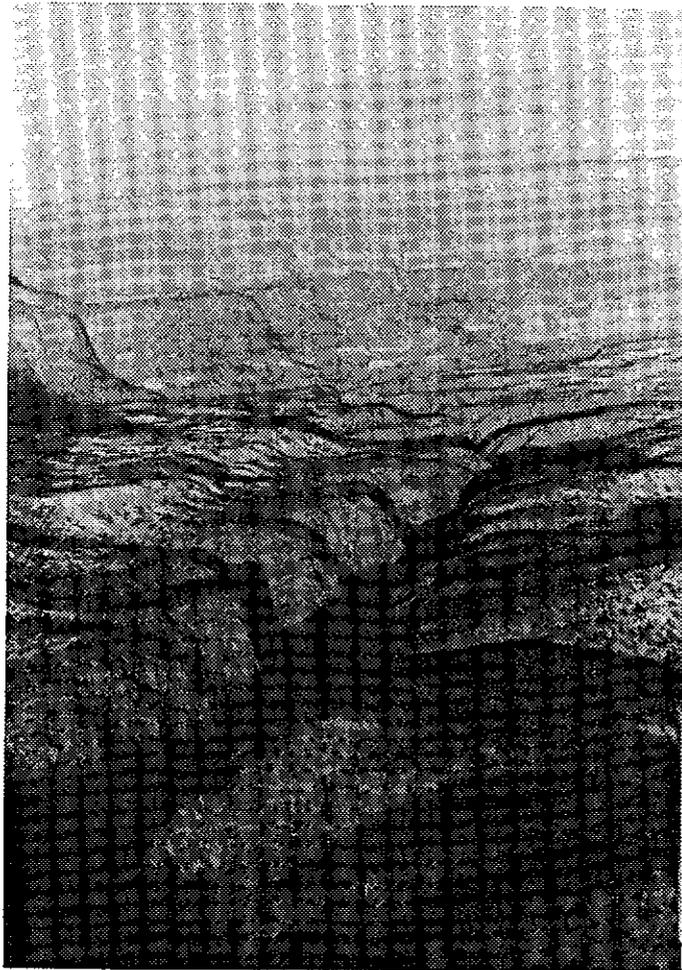
The WSA is recommended for wilderness designation primarily because of its outstanding wilderness values, which include spectacular natural and scenic qualities, geologic and ecologic diversity, and exceptional opportunities for solitude, and primitive, unconfined types of recreation.

Designation of the Gunnison Gorge WSA as wilderness would preserve forever the spectacular natural and scenic qualities of this wild, magnificent river canyon. The Gunnison Gorge WSA contains

the most outstanding scenic features in the area, with its rugged and diverse double canyon system composed of a steep, narrow, inner gorge and a much wider outer canyon. ( See Photo 1)

The starkness and grandeur of the sheer black Precambrian walls of the WSA's inner gorge area provide a vivid contrast to the bright, multi-colored sedimentary formations of the upper canyon. In addition to being highly scenic in nature, these canyon systems are also geologically and ecologically significant, due to the many examples of ancient rock formations, geologic unconformities, faulting, and folding and to the ecological diversity found within.

The Gunnison Gorge forms the eastern boundary of the old Uncompahgre Uplift. This uplift is a north-west trending upwarp about 30 miles wide and 100



*Photo 1. The Gunnison Gorge is oriented around an extremely rugged double canyon system composed of a narrow inner canyon carved into dark, Pre-Cambrian rock, and a wider upper canyon made up of lighter, multi-colored sedimentary formations.*



*Photo 2. The WSA contains many examples of exposed fault zones, the most spectacular of which is the eight-mile long Indian Fault Zone located in the northern portion of the area.*

miles long. Precambrian rocks, exposed by the downward cutting of the Gunnison River in the inner Gorge, have been determined to be approximately 1.7 to 2 billion years old and are some of the oldest exposed rocks on earth. According to Wallace Hansen, renowned geologist with the U.S. Geological Survey, there is nowhere in the world where Precambrian rock is better exposed than in the walls and canyon floor of the Gunnison Gorge. The outer canyon system of the WSA is composed of sedimentary rocks from the late Mesozoic to Quaternary periods, which are approximately 170 million years old.

One of the most significant geologic attributes of the Gunnison Gorge is the extent and display of large-scale faulting. The WSA contains many easily observable examples of exposed fault zones, the

most spectacular of which is the Ute Indian Fault Zone, located in the northern portion of the area. This 8-mile long fault zone is considered by many geologists to be one of the best examples of exposed fault zones in the Rocky Mountains. (See Photo 2)

Designation of the Gunnison Gorge as wilderness would preserve forever the outstanding opportunities for solitude and primitive and unconfined recreation which this area offers. Two of the most outstanding recreational opportunities in the Gunnison Gorge WSA are trout fishing and whitewater boating. Other activities include hiking, backpacking, horseback riding, sight-seeing, photography, geologic and nature study, hunting, wildlife viewing, and rock-climbing.

The WSA also contains several archaeological and historical sites that provide excellent

educational opportunities. The area is relatively low in elevation and accessible throughout the majority of the year, thus providing year-round wilderness recreation opportunities.

Numerous opportunities for solitude are provided by the winding course of the Gunnison River and by the sheer steep canyon walls of the narrow inner gorge. Isolated side canyons and gulches add to the feelings of remoteness with their steep slopes, rocky ledges, and numerous boulders. Thick riparian growth along the river corridor provides excellent vegetative screening.

The open ridgetops along the boundaries of the WSA afford sweeping vistas of the West Elk Mountains, the Black Canyon National Monument, Grand Mesa, and the Uncompahgre Plateau which impart feelings of vastness, and, as such, enhance opportunities for solitude as well as for photography and sight-seeing. In years with adequate snowfall, these rim areas also offer some good cross-country skiing and snowshoeing terrain.

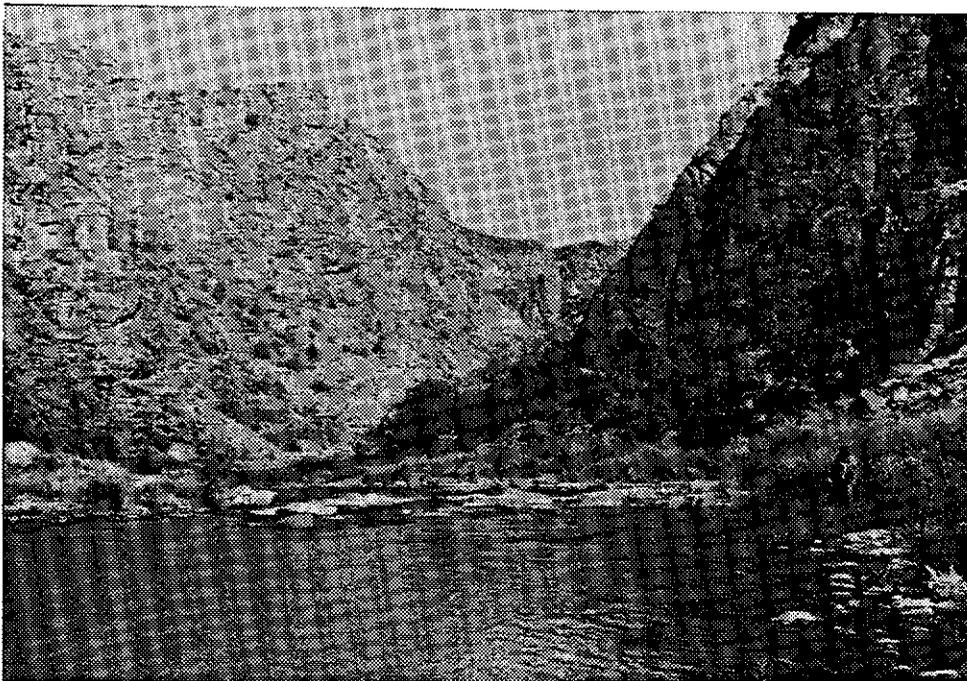
Rugged benches, washes, ravines and scattered pinyon-juniper woodlands provide extensive topographic and vegetative screening throughout the

reaches of the wider, upper canyon, and offer many opportunities for cross-country hiking and horseback riding. Cliffs and rock outcroppings throughout the area present interesting technical rock climbing and "bouldering" opportunities.

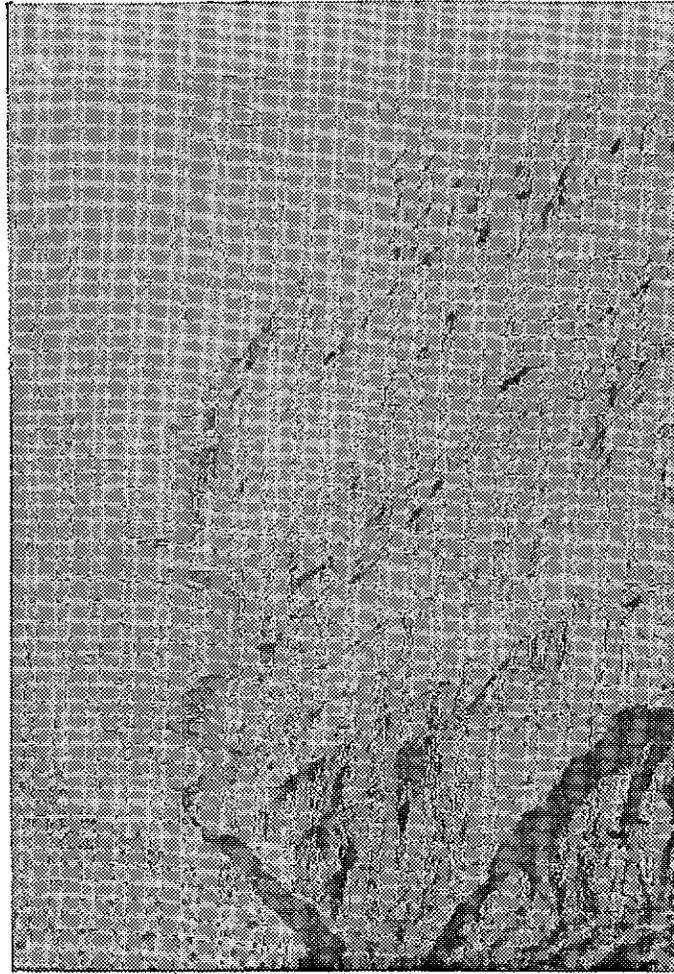
Designation of the Gunnison Gorge as wilderness would provide statutory protection for the spectacular scenic beauty of the Gunnison River and enhance the recreational experience of float-boaters, fishers, and other users in the river corridor. The river's watershed and shoreline are primitive and relatively inaccessible, and possess outstanding scenic, geologic, recreational, and wildlife values.

A number of trails, from the outer canyon rim to the river bottom and along the river corridor, offer challenging hiking opportunities. Small beaches and washes interspersed along the river corridor provide excellent, secluded camping spots for backpackers, fishers, and rafters. (See Photo 3)

Due to its exceptional wilderness qualities, approximately 26 miles of the Gunnison River, in the Black Canyon National Monument and through the WSA, have been proposed for inclusion into the National Wild and Scenic River System (NWSRS) as a wild



*Photo 3. Small beaches and washes interspersed along the river corridor provide excellent, secluded camping spots for backpackers, fishers, and rafters.*



*Photo 4. Due to its exceptional wilderness qualities, approximately 26 miles of the Gunnison River in the WSA and Black Canyon National Monument have been proposed for inclusion in the the National Wild and Scenic River System.*

river. (See Photo 4) President Carter administratively endorsed the Gunnison for inclusion into the NWSRS in 1979 when he forwarded the Wild and Scenic River Report on the river to Congress for a final decision.

The entire length of the Gunnison River in the WSA has been designated a Gold Medal Trout Stream by the Colorado Division of Wildlife (DOW), and is rated as one of the highest quality trout streams in the United States. The free-flowing nature of the river and a series of technical rapids also provide a challenging and unique experience for whitewater rafters, kayakers, and canoeists.

Designation of this WSA as wilderness would preserve and enhance the ecological diversity of the National Wilderness Preservation System (NWPS).

Although the adjacent Black Canyon Wilderness Area is also a river canyon very similar to the Gunnison Gorge, its geology and ecosystem are representative of only the Rocky Mountain province. The Gorge, on the other hand, contains a mixture of both the Colorado Plateau and Rocky Mountain provinces vegetative types.

The Mesa Verde Wilderness Area, located approximately 3 hours to the south of the WSA, does contain the Colorado Plateau pinyon-juniper vegetation type, however, it is totally different in landform to the Gunnison Gorge. In addition, due to important archaeological values, the Mesa Verde Wilderness Area is not open to the public.

The combination of a unique transition ecosystem, and year-round public accessibility offered by the Gunnison Gorge WSA would provide more diverse

wilderness opportunities within the region and enhance and balance the NWPS.

Designation of this WSA as wilderness would preserve important habitat for a wide variety of animals and plants, including a number of threatened, endangered, sensitive, and candidate species. The size, ruggedness and transition zone ecosystem of the Gunnison River corridor and canyon areas provides extremely high quality habitat for both terrestrial and aquatic wildlife species, including the state endangered river otter which was reintroduced by the DOW in 1977.

The inner gorge is considered crucial winter range for deer and elk, and excellent yearlong habitat for a reintroduced population of bighorn sheep. Other inhabitants of the WSA include mountain lion, black bear, coyotes, bobcats, ringtail cats, beaver, mink, and numerous other small mammals and birds.

The Gunnison River corridor provides crucial winter range for a large concentration of federally endangered bald eagles, and is within the hunting range of peregrine falcons which nest upstream in the National Monument. Confirmed resident raptors in the WSA include golden eagles, prairie falcons, ferruginous hawks, red-tailed hawks, kestrels, and turkey vultures. The lower one-third of the river

corridor serves as a resting area and refuge for thousands of ducks in mid-winter, as well as a nesting area for geese.

The WSA also contains populations of the threatened Uinta Basin hookless cactus (*Sclerocactus glaucus*) as well as potential habitat for the endangered clay-loving buckwheat, (*Eriogonum pelinophilum*.) Montrose penstemon, (*Penstemon retrorsus*) and Delta lomatium (*Lomatium concinnum*), candidates for federal listing under the Endangered Species Act (Category 2), could also occur in the area.

Designation of this WSA would not result in any major manageability problems or resource conflicts. There are no private inholdings within the WSA, and the BLM currently manages the surface of the 160 acres of private mineral estate proposed for inclusion under the enhanced all wilderness recommendation. Natural topographic features provide very distinct, manageable boundaries throughout the majority of the WSA. Except for a few parcels of private lands, the WSA is surrounded by the Gunnison Gorge Special Recreation Management Area (SRMA) lands which are administered by the BLM.

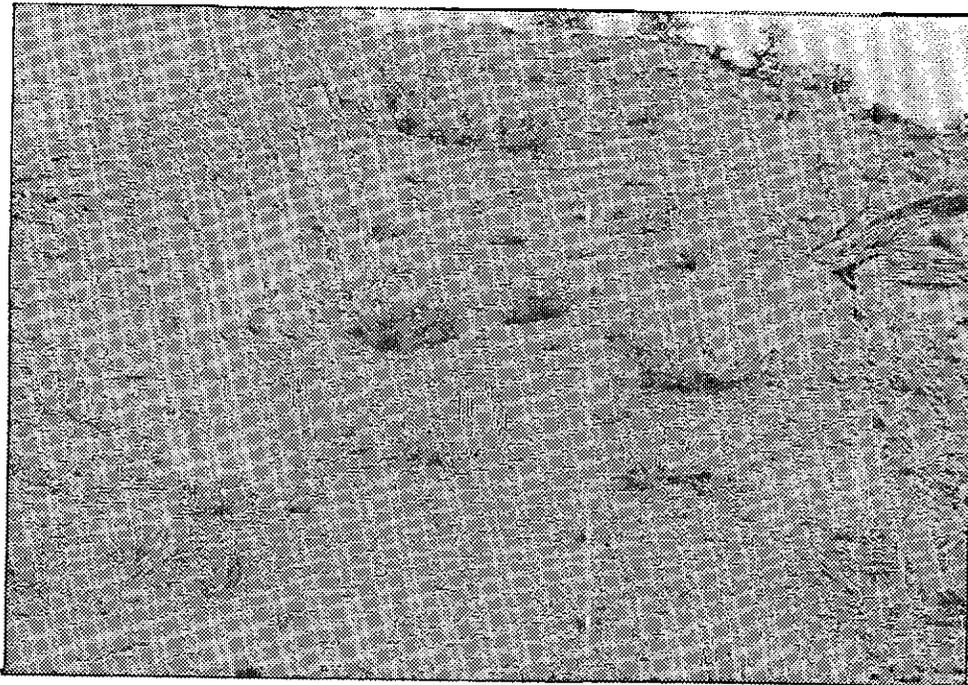


Photo 5. Except for an abandoned vehicle way (center) which would be reclaimed, the 880 acres in the proposed Smith Fork Canyon addition are primarily natural in character and contain significant wilderness qualities.

Current uses of the 880 acres in Smith Fork Canyon, also recommended for inclusion, are compatible with wilderness and are not projected to change. Except for an abandoned vehicle way, which would be reclaimed, these lands are primarily natural in character and offer similar opportunities for solitude, and primitive unconfined recreation as those found in the WSA. (See Photo 5) The inclusion of these lands would extend the boundary of the WSA up to a cliff top, which would provide a more manageable boundary in that area and preclude any future nonconforming uses which might affect wilderness values on adjacent lands.

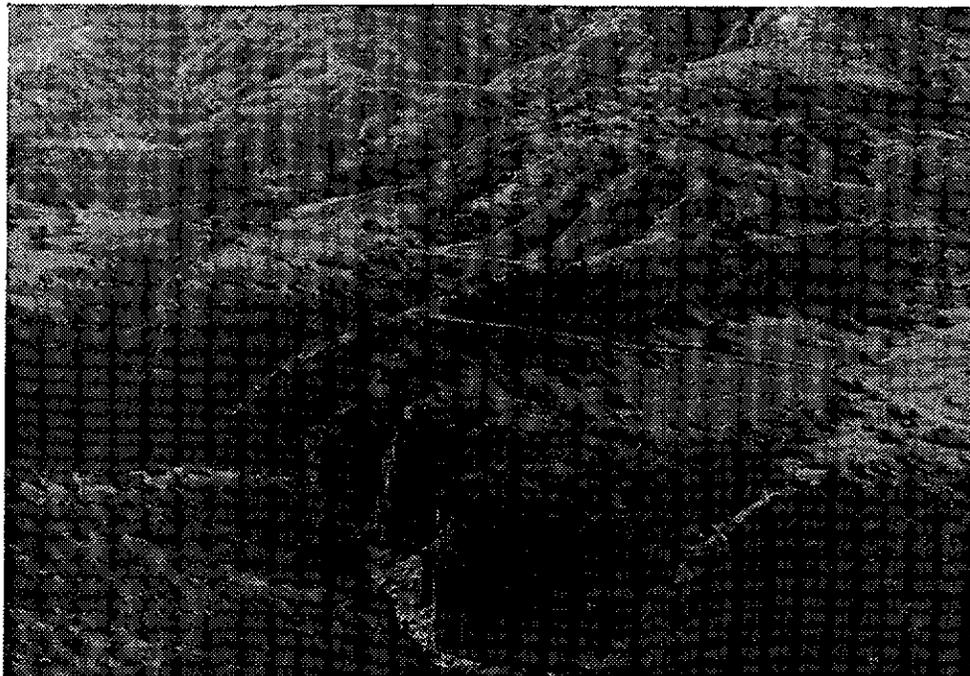
The entire WSA and all the proposed addition areas have been closed to ORV use, the landing of aircraft, and bicycles since 1985 to protect and preserve the natural features. Approximately 15,595 acres of the WSA and approximately 690 acres in the proposed Smith Fork addition have been closed to mineral entry and location under a recreation withdrawal since 1972.

Although there are 18 post-FLPMA placer claims in the southern portion of the WSA outside the with-

drawal area, no activity has occurred on these claims to date. According to the findings in the U. S. Geologic Survey and U. S. Bureau of Mines report, there are no known mineral deposits in the Gunnison Gorge, and the WSA has only a low mineral resource potential. There are no coal, oil or gas leases in the area and the potential for energy exploration and development is rated as zero. Based on the WSA's low potential for energy and mineral resources no site disturbance associated with exploration or development is anticipated.

The BLM has developed specific guidance for management of recreational use within the WSA based on the area's recreational carrying capacity and wilderness management guidelines, and does not anticipate any significant impacts from increased visitation use as a result of designation. Outstanding opportunities for high quality, primitive recreation would be maintained through the continued use of permit systems that limit the amount and degree of recreation use in the area.

The WSA contains portions of 4 grazing allotments totalling approximately 662 animal unit months (AUMs). However, there are no existing



*Photo 6. Erosion and natural revegetation have obliterated the majority of seven vehicle ways (totalling 5 miles) within the WSA. Shown is a portion of an old bulldozed way once used for mineral exploration near the Ute Trailhead.*

**Table 1 - Land Status and Acreage Summary of the Study Area**

<u>Within Wilderness Study Area</u>	<u>Acres</u>
BLM (surface and subsurface)	21,038
Split Estate (BLM surface only)	160
Inholdings (Private)	0
<b>Total</b>	<b>21,198</b>
<u>Within the Recommended Wilderness Boundary</u>	
BLM (within WSA)	21,038
BLM (outside WSA)	880
Split Estate (within WSA)	160
<b>Total BLM Land Recommended for Wilderness</b>	<b>22,078</b>
Inholdings	0
<u>Within the Area Not Recommended for Wilderness</u>	
BLM	0
Split Estate	0
<b>Total BLM Land Not Recommended for Wilderness</b>	<b>0</b>
Inholdings (State, Private)	0

range facilities in the area, and no projects or improvements are planned. Approximately 6,119 acres of the inner gorge are considered unsuitable for livestock grazing due to the steep slopes and low forage production.

There has been very strong public support for designating the Gunnison Gorge WSA as wilderness throughout the entire review process. During the formal review of the draft EIS, 191 of 227 commentors supported wilderness designation for the WSA. Those opposing wilderness were primarily concerned that designation would preclude the use of motorized vehicles in the area and restrict access to handicapped and elderly people, however, there are no roads within the boundaries of the WSA and the entire area has been closed to motorized vehicles since 1985.

**Criteria Considered in Developing the Wilderness Recommendations**

**WILDERNESS CHARACTERISTICS**

*Naturalness*

The Gunnison Gorge WSA is primarily natural in character. The few minor human imprints within the WSA are ways or trails, some mining activity, a small stock pond, and a few old wood and stone structures which add historical value to the area rather than impair its naturalness. The seven ways (totalling 5 miles) in the WSA are sets of tracks which have revegetated and are not substantially noticeable.

Erosion and natural revegetation have almost obliterated a one-half mile of an old bulldozed

trail near the Ute Trailhead. Evidence of this trail is visible only in the immediate vicinity. (See Photo 6) A number of old adits, mine shafts, and exploration pits, located in the southern portion of the WSA, have an insignificant effect on the naturalness of the area.

### *Solitude*

The Gunnison Gorge WSA provides outstanding opportunities for solitude. Factors affecting solitude include vegetation cover, topography, size and configuration of the area, and difficulty of access. Topographic screening is the main factor in the deep, narrow inner gorge. The rugged terrain and scattered pinyon-juniper woodlands of the outer canyon and rim areas contribute to opportunities for solitude.

### *Primitive and Unconfined Recreation*

The Gunnison Gorge WSA provides numerous opportunities for primitive and unconfined recreation, due primarily to its relatively large size, diversity and ruggedness of terrain. Fishing on the Gunnison River is excellent. The river also provides a challenging and unique experience for whitewater boaters. Hiking and backpacking are facilitated by 4 trails which descend from the outer rim to the river. Two of these trails, and a number of rim trails also provide excellent horse-back riding opportunities. The many vantage points, geologic features, and historical and archaeological sites are ideal for photographers, sightseers, and other recreationists.

### *Special Features*

There are numerous special features which enhance the wilderness quality of the Gunnison Gorge WSA.

### *Proposed Wild and Scenic River*

Although the Gunnison River does have major upstream impoundments, it is free-flowing through the Monument and WSA, and its length is sufficient to provide a meaningful experience for floatboaters. There is an adequate volume of high quality water to permit full enjoyment of water-related recreational activities. The river's watershed and shoreline are primitive and relatively inaccessible, and possess

outstanding scenic, geologic, recreational, and wildlife values.

Due to these exceptional attributes, approximately 26 miles of the Gunnison River, in the Black Canyon National Monument and through the WSA, have been proposed for inclusion into the National Wild and Scenic River System (NWSRS) as a wild river. President Carter administratively endorsed the Gunnison for inclusion into the NWSRS in 1979 when he forwarded the Wild and Scenic River Report on the river to Congress for a final decision.

Although there has been no formal designation by Congress, the BLM manages the Gunnison river and its corridor as "eligible" for inclusion according to the guidelines of the Wild and Scenic River Act.

### *Wildlife and Vegetation*

The Gunnison River and canyon area provide high quality wildlife habitat for a wide variety of terrestrial and aquatic species, including a number of threatened, endangered, or sensitive animal species, such as river otters and bald eagles. The gorge is hunting habitat for peregrine falcons. Confirmed resident raptors include golden eagles, prairie falcons, kestrels, red-tailed hawks, and turkey vultures. Wintering waterfowl concentrate in the gorge. The canyon is excellent bighorn sheep habitat.

The WSA also contains populations of the threatened Uinta Basin hookless cactus, (*Sclerocactus glaucus*), and potential habitat for the endangered clay-loving buckwheat, (*Eriogonum peltinophilum*.) Montrose penstemon (*Pentstemon retrorsu*), and Delta lomatium (*Lomatium concinnum*), candidates for federal listing under the Endangered Species Act (Category 2), could also occur in the area.

### *Gold Medal Fishery*

The Gunnison River also provides exceptional fishing opportunities as evidenced by its designation as a Class I Fishery Resource (Gold Medal Trout Fishery) by the Colorado DOW.

### *Educational Values*

The WSA is geologically interesting and contains numerous observable examples of faulting, folding, and geologic unconformities. According to Wallace Hansen, Geologist with the U.S. Geological Survey,

there is nowhere in the world where the Precambrian rock is better exposed than in the walls and canyon floor of the Gunnison Gorge. The WSA also contains several archaeological and historical sites that provide excellent educational opportunities.

**Scenic Quality**

The Gunnison Gorge WSA contains the most outstanding scenic features in the area, with its steep, narrow, inner canyon carved into the dark Precambrian rock which is streaked, stained, and weathered by the elements, in addition to the lighter, multi-colored sedimentary formations of the upper canyon.

**DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM**

*Assessing the diversity of natural systems and features as represented by ecosystems*

Wilderness designation of this WSA would not add a new ecosystem and landform to the National Wilderness Preservation System. The WSA is a transition between 2 ecosystems and 2 associated vegetation types; the pinyon-juniper woodland vegetation type of the Colorado Plateau Province, which occurs on the rims and benches of the inner gorge, and the saltbrush-greasewood vegetation types, representative of the Rocky Mountain Forest Province, found along the rim areas of the outer canyon. As shown in Table 2, these ecosystems are already represented in the NWPS by areas within Colorado and nationwide.

**Table 2 - Ecosystem Representation**

<u>Bailey-Kuchler Classification</u> Potential Natural Vegetation	<i>Nationwide</i>		<i>Colorado</i>	
	NWPS Areas <u>areas</u> · <u>acres</u>		Other BLM Studies <u>areas</u> · <u>acres</u>	
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	11	1,401,745	85	2,142,602
<u>Rocky Mountain Forest Province</u>				
Saltbush-Greasewood	1	33,445	5	26,687
<u>Colorado Plateau Province</u>				
Pinyon-Juniper Woodland	1	8,105	17	293,837
<u>Rocky Mountain Forest Province</u>				
Saltbush-Greasewood	1	33,445	5	27,111

*Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers*

The Gunnison Gorge WSA is not within a five-hour drive of a major population center (Standard Metropolitan Statistical Area of 100,000 or more).

*Balancing the geographic distribution of wilderness areas*

The Gunnison Gorge WSA would contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. There are 3 designated wilderness areas within four hours of the WSA. Approximately two hours south of the Gunnison Gorge WSA is the Lizard Head Wilderness Area (41,189 acres); an area of high mountain landform and ecosystem and thereby mostly inaccessible for public use in winter and spring.

The Mesa Verde Wilderness Area (8,105 acres) is approximately 3 hours south of the WSA. Mesa Verde is not similar in landform to the Gunnison Gorge, but does contain areas of similar vegetation. The Wilderness Area is not open to the public due to important archaeological values.

Immediately adjacent to the WSA's southeastern boundary is the Black Canyon of the Gunnison Wilderness Area (11,180 acres). Although the Black Canyon Wilderness Area is also a river canyon with portions which are very similar to the Gunnison Gorge, its geology and ecosystem are representative of only the Rocky Mountain province. The Gorge, on the other hand, is a mixture of both the Colorado Plateau and Rocky Mountain provinces, with approximately 19,960 acres representative of the Colorado Plateau province, and 1,078 acres representative of the Rocky Mountain province vegetation type.

Because of its Colorado Plateau/Rocky Mountain Forest transition ecosystem, the Gunnison Gorge WSA would expand and balance opportunities to attain diverse wilderness experiences.

#### MANAGEABILITY

The Gunnison Gorge is manageable as wilderness. The boundaries of the WSA are defined primarily

by the steep double-canyon system of the WSA. These natural topographic features provide the WSA with very distinct, manageable boundaries. There are no roads within the WSA, and the four-wheel drive jeep trails in the surrounding area provide access only to the outer canyon rim boundaries. From there, steep downhill terrain prohibits further travel into the WSA, except by foot or horseback.

The majority of the WSA is surrounded by the Gunnison Gorge Special Recreation Management Area (SRMA) lands which are administered by the BLM. There are no private land inholdings within the WSA, and the private lands which do border the area are primarily natural, with little or no development and very few roads or ways.

BLM currently manages the surface of the 160 acres of private mineral estate located in the WSA, and proposed for inclusion under the enhanced all wilderness recommendation. Management of this area is consistent with wilderness management and is not projected to change. Although no private mineral exploration or production activity is projected at this time, official designation would be the only method to assure long term protection of the wilderness values on this acreage.

Current uses of the 880 acres in Smith Fork Canyon, proposed for inclusion under the enhanced all wilderness recommendation, are compatible with wilderness and are not projected to change. These uses consist primarily of primitive recreational activities, including hiking, horseback riding, and sight-seeing. The addition of this acreage, which is primarily natural in character, would further enhance the wilderness resource by including lands with wilderness characteristics and precluding potential future nonconforming uses which might affect wilderness values on the adjacent WSA lands, thereby contributing to the manageability of the entire WSA.

The entire WSA and all the proposed additional areas have been closed to ORV use, the landing of aircraft, and bicycles since 1985 to protect and preserve the natural features. Approximately 15,595 acres of the WSA and approximately 690 acres in the proposed Smith Fork addition have been closed to mineral entry and location under a recreation withdrawal since 1972.

Wilderness designation would close an additional 5,443 acres within the WSA, 690 acres in Smith Fork Canyon, and 160 acres of acquired private mineral estate, or a total of 5,793 acres, to mineral entry, location, and leasing.

There are currently 18 post-FLPMA placer claims in the southern portion of the WSA outside the withdrawal area on which no activity has occurred to date. According to the findings in the U.S. Geologic Survey and U.S. Bureau of Mines report, there are no known mineral deposits in the Gunnison Gorge, and the WSA has only a low mineral resource potential.

There are no coal, oil or gas leases in the area and the potential for energy exploration and development is rated as zero. Based on the WSA's low potential for energy and mineral resources, no exploration, production, or leasing is anticipated.

The BLM already manages recreational use in the WSA according to wilderness management guidelines, and does not anticipate any significant impacts from increased visitation as a result of designation. The recreational carrying capacity of the Gunnison River corridor within the WSA has been set at 75 persons per day. Permits are currently required for all commercial users, including rafting, walk-in fishing, and hunting outfitters.

Floatboating use on the Gunnison is monitored and managed for a maximum of six group encounters per day with other floating parties, and no more than ten combined encounters per day between floating parties and parties on shore. Commercial river outfitter launches are limited to a maximum of two per day. The target figure for private launches is a maximum of four per day. Maximum group size for both commercial and private launches is twelve persons. Low impact camping regulations are enforced throughout the WSA by BLM patrols.

The WSA contains portions of four grazing allotments totalling approximately 662 animal unit months (AUMs). However, there are no existing range facilities in the area, and no projects or improvements are planned. Approximately 6,119 acres of the inner gorge are considered unsuitable for livestock grazing due to the steep slopes and low forage production.

## ENERGY AND MINERAL RESOURCE VALUES

Approximately 15,595 acres, or 74 percent of the WSA have been closed to mineral entry and location under a recreation withdrawal since 1972. Other than some staking of placer claims in the southern portion of the WSA, there has been no energy or mineral activity occurring within the 5,433 acres which remain open to mineral entry and location.

In 1988, the U.S. Geological Survey (USGS) and the U.S. Bureau of Mines (USBM) conducted mineral surveys in the Gunnison Gorge WSA to determine if the area had any mineral values. The results of these extensive geological, geophysical, and geochemical investigations were published in the U.S. Geological Survey Bulletin Number 1715-D, *Mineral Resources of the Gunnison Gorge Wilderness Study Area, Montrose and Delta Counties, Colorado*, (U.S. Government Printing Office, 1989). The information presented in this section is a summary of that report.

According to the USGS/USBM report, the entire study area has a low mineral and energy resource potential for undiscovered base metals (copper, lead, and zinc), precious metals (gold and silver), uranium, and geothermal sources. Geophysical studies failed to identify any structures that may be related to any mineral-deposit-forming processes.

The only evidence of mining activity in the area is a block of 18 unpatented claims in the southern part of the WSA. These claims, which encompass about four square miles, are mostly over Mancos shale, and were presumably staked for gold. Assay results indicate that small amounts of gold do occur in this area. Although this finding may prompt future speculation and exploration for gold in this easily accessible area, it is unlikely that any production would occur based on the WSA's low mineral potential.

Vast quantities of gypsum occur in the Wanakah Formation, which underlies approximately 60 percent of the study area. The gypsum, however, was identified in the study as being an "inferred subeconomic resource" of low development potential. According to the report, the gypsum would be uneconomical to mine because it occurs in relatively thin beds with generally thick overburdens which

make mining cost prohibitive. The remoteness of these beds from markets also make transportation costs prohibitive. There is currently no demand for gypsum in the area and USBM studies indicate that domestic, as well as foreign supplies of this commodity are enormous.

Coal occurs locally in the Dakota Sandstone which crops out over about six square miles in the study area. However, due to the thin and discontinuous nature of these coal seams, the coal in the Gunnison Gorge is not considered to be an economic resource. Therefore, no leasing or production of coal is anticipated.

Special attention was given in the survey to the Morrison Formation which underlies approximately 40 percent of the study area. Although this formation contains vanadium and uranium deposits in other parts of western Colorado, none of the samples taken from the Gorge contained measurable amounts of uranium or vanadium, and there are no known occurrences of these minerals in or near the study area.

Although sedimentary formations found in the WSA have produced oil and gas in other parts of southwestern Colorado, there are no known oil and gas

occurrences in the study area or surrounding area. Due to the absence of hydrocarbon source beds, which provide favorable structures for the accumulation of oil and gas, the oil and gas potential of the WSA is rated as zero.

Some of the sandstone rocks of the study area could be used for common construction purposes. However, these rocks have no unique characteristics to make them more desirable than similar rocks outside the area that are closer to markets.

**IMPACTS ON RESOURCES**

The following table summarizes the effects on pertinent resources for the enhanced all wilderness, the all wilderness, and the no wilderness alternatives considered for the Gunnison Gorge WSA.

**LOCAL SOCIAL AND ECONOMIC CONSIDERATIONS**

Designation of the WSA as wilderness would have minimal impacts on local economic conditions. Social factors were not considered a significant issue in the study.

**Table 3 - Comparative Summary of the Impacts by Alternative**

Impact Topics	Recommendation: Enhanced All Wilderness Alternative	All Wilderness Alternative	No Wilderness Alternative
<i>Impacts on Wilderness Values</i>	<i>Wilderness designation would expand the adjacent Black Canyon of the Gunnison Wilderness Area and provide statutory, long-term protection for wilderness values on 22,078 acres. Outstanding opportunities for solitude and primitive, unconfined recreation would be maintained.</i>	<i>Wilderness designation would expand the adjacent Black Canyon of the Gunnison Wilderness Area and provide statutory, long-term protection for wilderness values on 21,198 acres. Outstanding opportunities for solitude and primitive, unconfined recreation would be maintained.</i>	<i>Naturalness and scenic values would continue to be administratively protected by the ORV closure of the area, the mineral withdrawal on 15,595 acres, and the enforcement of low impact camping regulations. Mineral exploration and assessment work would decrease naturalness on approximately 2-8 acres outside the withdrawal area over the next 20-30 years.</i>

**Table 3 - Comparative Summary of the Impacts by Alternative (continued)**

<b>Impact Topics</b>	<b>Recommendation: Enhanced All Wilderness Alternative</b>	<b>All Wilderness Alternative</b>	<b>No Wilderness Alternative</b>
<b>Impacts on Wildlife Habitat and Populations</b>	<i>Habitat and forage conditions would be maintained for the area's present yearlong population of 50 to 60 bighorn sheep and 35 deer, and an additional 579 deer and 125 elk during the winter. Closure of an additional 5,793 acres to mineral entry would eliminate the possibility of habitat disturbance by mineral exploration activities in those areas. Restrictions on recreational use would reduce stress on both game and non-game species, minimize further habitat disturbance, and encourage continued expansion of the bighorn sheep population.</i>	<i>Habitat and forage conditions would be maintained for the area's present year-long population of 50 to 60 bighorn sheep and 35 deer, and an additional 579 deer and 125 elk during the winter. Closure of an additional 5,603 acres to mineral entry would eliminate the possibility of habitat disturbance by mineral exploration activities in those areas. Restrictions on recreational use would reduce stress on both game and non-game species, minimize further habitat disturbance, and encourage continued expansion of the bighorn sheep population.</i>	<i>Habitat and forage conditions would be maintained for the area's present year-long population of 50 to 60 bighorn sheep and 35 deer, and an additional 579 deer and 125 elk during the winter. Mineral exploration and assessment activities would result in less than 2-8 acres of habitat disturbance over the next 20-30 years. Restrictions on recreational use would reduce stress on both game and non-game species, minimize further habitat disturbance, and encourage continued expansion of the bighorn sheep population.</i>
<b>Impacts on Recreational Opportunities and Use</b>	<i>Recreational use would increase by 2,000 user days, or 40 per cent, from the present level of 5,000 to 7,000 user days. Outstanding opportunities for high quality primitive recreation activities would be maintained. Permit systems would limit the amount and degree of recreation use.</i>	<i>Recreational use would increase by 2,000 user days, or 40 per cent, from the present level of 5,000 to 7,000 user days. Outstanding opportunities for high quality wilderness recreation activities would be maintained. Permit systems would limit the amount and degree of recreation use.</i>	<i>Recreational use would increase by 2,000 user days, or 40 per cent, from the present level of 5,000 to 7,000 user days. Outstanding opportunities for high quality wilderness recreation activities would be maintained. Permit systems would limit the amount and degree of recreation use.</i>
<b>Impacts on Energy and Mineral Exploration and Production</b>	<i>An additional 5,443 acres within the WSA, 190 acres in Smith Fork Canyon, and 160 of acquired private mineral estate (5,793 acres total) would be closed to mineral entry, location, and leasing. There would be no impacts on energy or mineral production, leasing, or disposal since no activity is projected.</i>	<i>An additional 5,443 acres within the WSA, 160 of acquired private mineral estate (5,603 acres total) would be closed to mineral entry, location, and leasing. There would be no impacts on energy or mineral production, leasing, or disposal since no activity is projected.</i>	<i>Approximately 5,603 acres would remain open to mineral entry but no activity beyond exploration is projected due to low potential for development. The entire area would be open to leasing but no exploration or production is anticipated due to low potential for development.</i>

## SUMMARY OF WSA SPECIFIC PUBLIC COMMENTS

Public involvement has occurred throughout the wilderness review process. Certain comments received during the inventory process and early stages of the EIS were used to develop significant study issues and various alternatives for the ultimate management of those lands with wilderness values.

During formal public review of the Draft Environmental Impact Statement (DEIS), a total of 227 oral and written comments specifically addressing this WSA were received. Of those, 173 were written and 54 were oral statements received at three public hearings on the EIS. In general, 191 commenters supported wilderness designation for the WSA, while 36 commenters were opposed to designation.

Those favoring wilderness designation commented on the need to provide statutory protection for the Gunnison Gorge's undisturbed, pristine quality, its outstanding scenic qualities, and the excellent recreational values associated with the area. Many of the letters were from environmental organizations who commented that wilderness designation would also add impetus to their ongoing efforts to secure legislation for Wild and Scenic designation of the Gunnison River.

Those opposing designation were primarily concerned that wilderness would preclude the use of motorized vehicles in the area and restrict access to handicapped and elderly people. Others felt that there were already too many wilderness areas and opposed any new ones being added.

Written comments were received from the following federal, state, and local agencies: the National Park Service, Forest Service, Environmental

Protection Agency, Bureau of Reclamation, U. S. Geological Survey, U. S. Bureau of Mines, U. S. Air Force, U. S. Fish and Wildlife Service, the Colorado Department of Natural Resources, and the City of Delta.

The National Park Service stated that wilderness designation would be compatible with their management of the adjacent Black Canyon of the Gunnison National Monument. The Air Force supported the overall wilderness area concept, but was concerned that designation would adversely affect or restrict their use of low altitude airspace over a wilderness area.

The Colorado Department of Natural Resources supported wilderness designation for the WSA but asked that the BLM continue to work in cooperation with the Division of Wildlife's bighorn sheep reintroduction efforts in the Gorge. The agency also cited a need to maintain and enhance the Gold Medal fishery in the Gorge.

The City of Delta commented that the DEIS failed to adequately identify and discuss the development of hydropower resources in the Gunnison Gorge and the issue of the City of Delta's water right decrees on the Gunnison River.

The other agencies which commented on the DEIS did not identify a specific jurisdictional conflict with either the proposed action or the no wilderness alternative for the Gunnison Gorge WSA.

