NEW MEXICO
WILDERNESS STUDY REPORT

Department of the Interior
Bureau of Land Management

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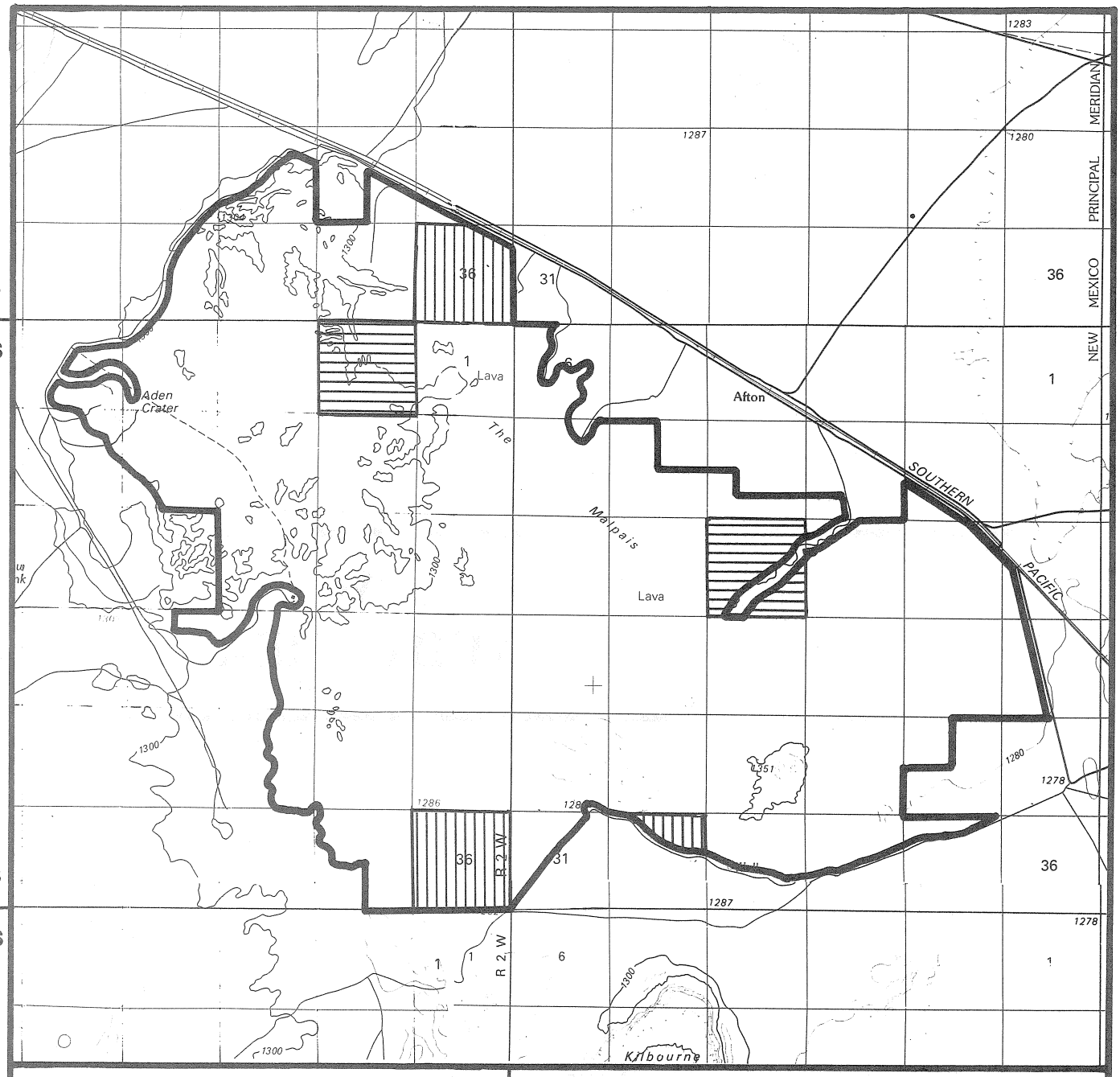
ADEN LAVA FLOW WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS

RECOMMENDED FOR NONWILDERNESS (None)

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE

STATE

PRIVATE (None)

N

Aden Lava Flow Proposal

NM-030-053

April 1990

ADEN LAVA FLOW
WILDERNESS STUDY AREA

THE STUDY AREA – 25,287 Acres

The Aden Lava Flow Wilderness Study Area (WSA), NM-030-053, is located in the southwest quarter of Dona Ana County, 21 miles southwest of Las Cruces, New Mexico. The WSA contains 25,287 acres of Bureau of Land Management (BLM) land including 1,430 acres of split-estate and 1,280 acres of State inholdings. (See Table 1 for land status and acreage summary of the study area.) The WSA is bounded by County Roads B02 and BO19 on the northeast and the east sides. Private and State lands abut the WSA on the east and north side. The remainder of the WSA is bounded primarily by BLM land with boundaries being formed by ranch roads and the edge of the lava flow.

The majority of the WSA (about 77 percent) is covered by the Aden Lava Flow. The lava flow is nearly flat with average elevations ranging from 4,225 feet to 4,300 feet. The interior relief of the flow is extremely varied. Steep-walled depressions in the lava occur in varying slopes and sizes up to 100 feet in diameter and 40-50 feet deep. Crevices up to 5 feet wide and 20-30 feet deep are numerous. Other structures within the flow include pressure ridges and lava tubes. The Aden Crater and Afton volcanoes are the most prominent topographic features in the lava flow.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Two alternatives for the Aden Lava Flow WSA were analyzed in the EIS: An all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

25,287 Acres recommended wilderness

0 Acres recommended nonwilderness

The recommendation for the Aden Lava Flow WSA is to designate the entire area as wilderness (see Map 1). The WSA contains high-quality wilderness values and special ecological and geological features associated with the lava flow. 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. This recommendation for wilderness will further apply to any additional inholding or split-estate acreage acquired through purchase or exchange with willing owners. Appendix 1 lists all inholdings and split-estate tracts and provides additional information on acquisition of inholdings and split-estate minerals.

The majority of the WSA, approximately 77 percent, is covered by the Aden Lava Flow which occurred over 10,000 years ago. The Aden Crater, a shield volcano is located in the northwest corner of the WSA. The rugged terrain of the flow has excluded much human use of the area. As a result, the WSA is exceptionally natural. The varied and rugged interior relief of the Aden Lava Flow also provides outstanding opportunities for solitude throughout much of the WSA.

Approximately 3,688 acres of the WSA are within the Aden Lava Flow Research Natural Area (RNA). This RNA was designated in 1978 to preserve the unique geological and biological phenomena associated

with the Aden Lava Flow and to provide research and educational opportunities. By including this portion of the RNA in wilderness, the special geological, biological, and educational values will clearly enhance the diversity of the National Wilderness Preservation System.

The conflicts with other resource uses in the WSA are limited. Livestock grazing will be allowed to continue. Along the east side of the WSA, 1,200 acres have high potential and 2,300 acres have moderate potential for decorative building stone in the form of slab lava rock. However, because there are abundant sources of this material in the vicinity of the WSA no economic impacts would occur from wilderness designation.

The nature of the lava flow contributes significantly to the management of the area as wilderness. The lava flow defines the boundary of much of the WSA, it virtually eliminates any problems with vehicle use, and it physically restricts livestock use and associated maintenance activities to a small part of the WSA.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	25,287
Split-Estate (BLM Surface Only)	1,430
Inholdings	1,280
Total	27,997
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	25,287
BLM (Outside WSA)	0
Split-Estate (Within WSA)	1,430
Total BLM Land Recommended for Wilderness	25,927
Inholdings	1,280
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	0
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	0
Inholdings	0

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The imprints of man within the 25,827-acre Aden Lava Flow WSA are minimal, consisting of 1 dirt tank, 1 drinking trough, 15 miles of fence, and 6 miles of two-track vehicle ways.

The dirt tank is located just inside the east boundary of the WSA. The fences transect the area north-south and east-west. All have wooden posts which blend in well with the landscape. With the exception of 3 miles of ways extending across the southeast one-third of the WSA, the vehicle ways are located along the perimeter of the lava flow. All of the ways are short and screened topographically.

Due to the low impact and dispersed location of these imprints in relation to the large size and rugged interior relief of the WSA, the cumulative impacts on naturalness are minimal. The quality of the WSA's naturalness is exceptional.

Solitude

The varied and rugged interior relief of the Aden Lava Flow provides outstanding opportunities for solitude throughout the WSA.

These opportunities are further enhanced by the relatively large size and blocked-up configuration of the WSA. The WSA is approximately 7 miles long and 7 miles wide. Foot access into the area is available from all directions. The size, shape, and accessibility of the area would enable visitors to disperse throughout the WSA to avoid the sights and sounds of others.

Opportunities for solitude are somewhat impacted by the cherry-stemmed road into the Crater. As visitor use via motorized access increases, opportunities for solitude in the Crater would diminish proportionately.

Primitive and Unconfined Recreation

Primitive recreation opportunities in the Aden Lava Flow WSA include hiking, backpacking, nature study, and small game hunting. During the intensive inventory, these opportunities were judged to be less than outstanding.

Special Features

The Aden Lava Flow contains special ecological and geological features. The area is important from a scientific and educational point of view to study the interactions of the area's geology, soils, flora, and fauna.

An area of 4,008 acres in the northeast part of the Aden Lava Flow was designated a Research Natural Area (RNA) in 1978. Approximately 3,688 acres of the RNA are within the WSA boundary. Prior to the designation numerous studies were done on carnivores, bats, and other mammals in the lava flow by researchers from the University of Texas at El Paso, other researchers have studied melanistic rodents and reptiles in the lava flow. The area provides opportunities for studies in igneous petrology, volcanism, structural geology, endogenic geomorphology, and quaternary geomorphology and paleontology. A wide spectrum of biological and geological studies is possible in the future.

A nearly complete, well-preserved giant ground sloth was found in the Aden Fumarole in the late 1920's. The specimen is presently housed at the Yale Peabody Museum in New Haven, Connecticut.

Other fumaroles could contain well-preserved late Pleistocene fossils.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Aden Lava Flow WSA lies within the Chihuahuan Desert Province. The potential natural vegetation (PNV) consists of 18,937 acres of grama/tobosa shrubsteppe, 4,529 acres of mesquite/ acacia savanna, and 1,821 acres of creosote bush. Wilderness designation of this WSA would add examples of two ecosystems not presently represented in New Mexico nor in the National Wilderness Preservation System (NWPS). The largest of the three ecosystems, the grama/tobosa shrubsteppe, is represented in two areas in the NWPS as well as 16 other WSAs in the State. This information is summarized in Table 2.

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

The WSA is within 5-hours driving time of Albuquerque and Las Cruces, New Mexico and El Paso, Texas. Table 3 summarizes the number and acreages of designated areas and other BLM study areas within a 5-hour drive of the population centers.

Balancing the geographic distribution of wilderness areas

The Aden Lava Flow WSA would contribute to balancing the geographic distribution of wilderness. The nearest designated wilderness is the Aldo Leopold Wilderness, approximately 100 miles northwest. In addition, there is no wilderness area in the south half of the State which contains a representation of lava flow ecosystems.

Table 2: Ecosystem Representation

	NWPS Areas		Other BLM Studies	
Bailey Kuchler Classification	Areas	Acres	Areas	Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	170,039
Mesquite/Acacia Savanna	0	0	3	38,548
Creosote Bush	0	0	7	79,325
New Mexico				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	170,039
Mesquite/Acacia Savanna	0	0	3	38,548
Creosote Bush	0	0	7	79,325

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Albuquerque	26	1,762,638	31	679,906
Las Cruces	14	1,192,386	35	757,347
Texas				
El Paso	12	1,126,112	25	599,766

Manageability

The Aden Lava Flow could be managed to preserve existing wilderness values in the long-term.

Several characteristics of the Aden Lava Flow WSA contribute favorably to its capability of being managed as wilderness in the long-term. The ruggedness of the lava flow inherently limits and discourages additional rangeland developments, off-road vehicle (ORV) use, and other human intrusions. The WSA's large size and blocked-up configuration enhance the likelihood of the area remaining natural and opportunities for solitude being preserved.

Management of the area as wilderness is minimally complicated by State land. State land within the lava flow limits the degree of BLM control over the WSA. Nonwilderness or incompatible uses on State land would negatively impact wilderness values if development of access required road construction across the lava flow. At the present time, it appears unlikely that mineral development would occur on the State land. Also, the BLM Las Cruces District is currently working with the New Mexico State Land office to exchange approximately 1,990 acres of State land adjacent to the WSA and 1,430 acres of State-owned mineral estate within the WSA. It is expected that this exchange will be completed by 1990.

Continuation of vehicle use on the road into Aden Crater presents a minor manageability concern. As visitor use increases, opportunities for solitude in the Crater would diminish. In addition, the Aden Crater is within the RNA. The RNA management plan requires that ORV use be restricted within the RNA. If the area is designated wilderness, the necessity and feasibility of closing and rehabilitating the road would be determined during development of the wilderness management plan.

Energy and Mineral Resource Values

In 1985, the U.S. Geological Survey and the U.S. Bureau of Mines conducted a mineral resource appraisal of the Aden Lava Flow WSA. This wide-ranging study included an examination of geologic, geochemical, and geophysical data, as well as a review and assessment of local mining activity. The following is a summary of their findings.

The entire Aden Lava Flow WSA has a low mineral resource potential for undiscovered volcanic cinder resources. The WSA has a low mineral and energy resource potential for undiscovered, near-surface base (copper, lead, zinc, tin) and precious metals (gold, silver, platinum), oil and gas, uranium, and geothermal energy resources. Based on currently available data, the mineral resource potential for undiscovered metallic resources in the underlying rocks at depth is unknown.

Impacts on Resources

A comparative summary of impacts by alternative for the Aden Lava Flow WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA - Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Aden Lava Flow area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). This area was among the 10 most commented upon WSAs in the State. About 42 percent of the comments favored wilderness review of the Aden Lava Flow. Reasons cited in support of the recommendation were the area's overall wilderness values. Some 58 percent of the personal letters opposed wilderness review. Reasons for opposition included impacts on naturalness and lack of opportunities for solitude due to the outside sights and sounds of the Southern Pacific Railroad, Interstate 10, and low level aircraft flights.

Wilderness Study Comments

During the public comment period on the *New Mexico Wilderness Supplemental Draft Environmental Assessment* (1983), 29 personal inputs, 13 form letters, 1 petition with 15 signatures, and 52 coupons were received indicating support for wilderness designation of the Aden Lava Flow WSA. There were no comments received opposing wilderness designation for the Aden Lava Flow WSA. Many of the reasons cited in support of wilderness designation were the same as those received in previous comment periods. Several commenters stated that the WSA boundaries should be enlarged, and others pointed out that Aden Lava Flow is important as wilderness due to its proximity to the metropolitan area of Las Cruces, New Mexico and El Paso, Texas.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), 15 commenters

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (Proposed Action; 25,287 Acres Suitable)	No Wilderness (0 Acres Suitable)
Impacts on Wilderness Values	Wilderness protection would maintain the lava flow's outstanding natural character, and outstanding opportunities for solitude. Research and educational opportunities to study melanistic species or volcanic processes would be maintained.	Mineral material sales would degrade naturalness and opportunities for solitude in approximately 15 percent of the WSA on the east side. Naturalness and special features on 3,688 acres covered by the Research Natural Area designation would be maintained.

Appendix 1: Estimated Costs of Acquisition of Non-Federal Holdings Within the Aden Lava Flow WSA[1]

Legal Description (Prior to any Subdivision)	Total Acres	Number of Owners	Type of Ownership by Estate (BLM/ State/ Private) Surface Estate	Subsurface Estate	Proposed for Acquisition (Yes/No)	Preferred Method of Acquisition (Purchase/ Exchange/ Donation)	Estimated Costs of Acquisition[2] Land Costs	Processing Costs
Parcel #1, Sec. 36, T. 25S, R. 2W	560	1	BLM	State	Yes	Exchange	NA	$5,600
Parcel #2, Sec. 16, T. 26S, R. 1W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #3, Sec. 32, T. 26S, R. 1W	230	1	BLM	State	Yes	Exchange	NA	$2,300
Parcel #4, Sec. 2, T. 26S, R. 2W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #5, Sec. 36, T. 26S, R. 2W	640	1	BLM	State	Yes	Exchange	NA	$6,400

[1] The estimated costs listed in this appendix in no way represent a formal appraised value of the land or mineral estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

[2] Where exchange is the proposed acquisition method, only administrative costs of processing the exchange are shown. Processing costs are all miscellaneous expenses other than land costs. These would include work month costs, appraisals, title work, escrow costs, etc. Where direct purchase is proposed, an estimate of both the land costs and the processing costs is provided.

specifically addressed the Aden Lava Flow WSA, and 13 of those favored wilderness designation. Another 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal including Aden Lava Flow and advocated by the New Mexico BLM Wilderness Coalition.

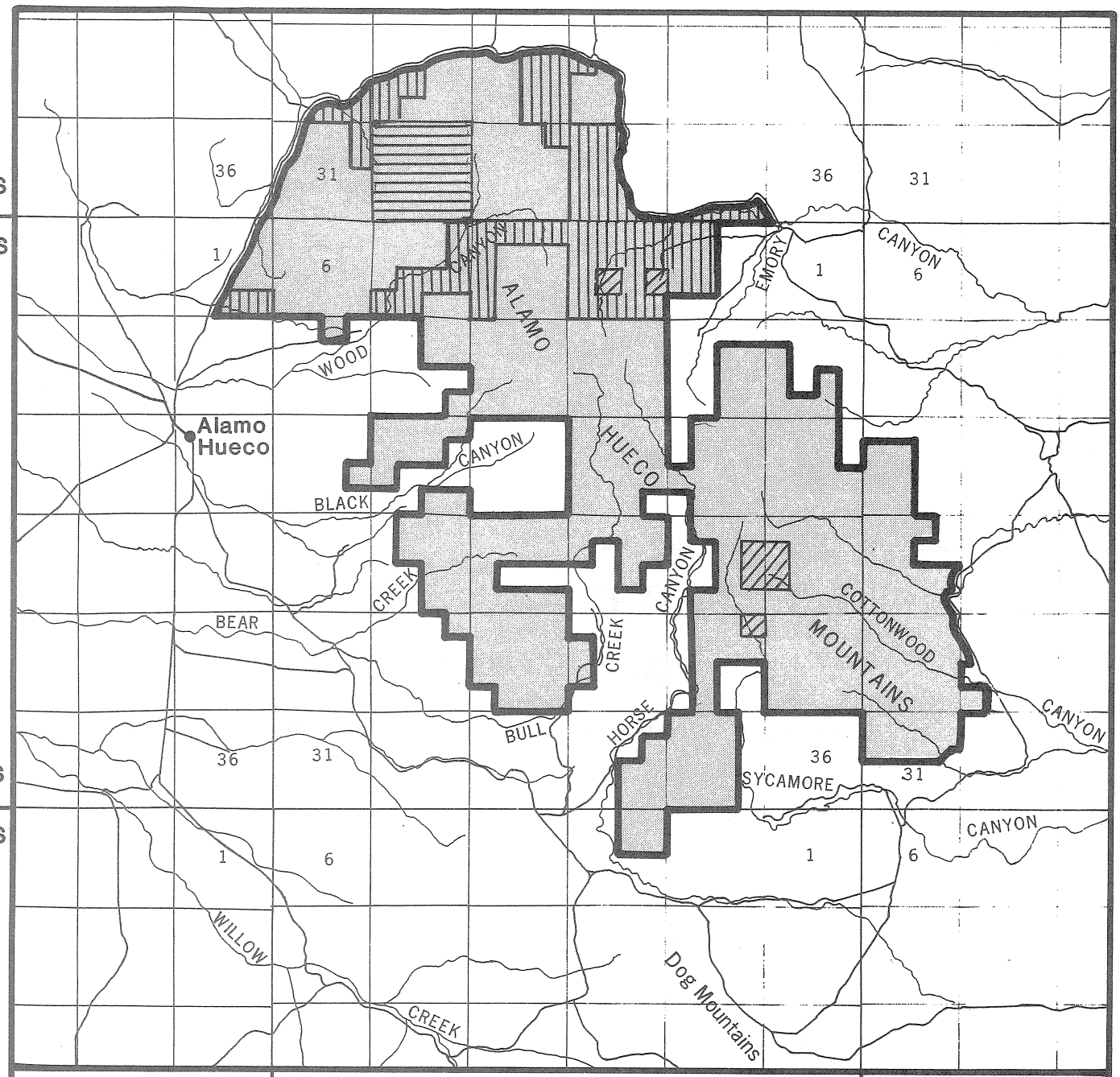
During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), 211 commenters specifically addressed the Aden Lava Flow WSA. Of this total, 15 favored wilderness designation and 196 opposed it. Comment letters opposing wilderness designation included 194 form letters.

Those favoring wilderness designation noted that such designation would protect the area's unique ecosystems and biotic community. Commenters also noted that the area contains high scenic and recreational values. Of particular concern was the size of the WSA and its boundaries. Approximately two-thirds of those favoring wilderness designation felt that the southwest boundary should be expanded to the road running between the West Potrillo Mountains WSA and Aden Lava Flow WSA.

Those opposing wilderness designation were concerned that the initial inventory was inadequate and that numerous intrusions, including rangeland developments, had been overlooked. In addition, these commenters felt that the area did not meet wilderness criteria, especially the naturalness criteria. Of particular concern however, was the difficulties wilderness designation would pose for law enforcement agencies. Due to the WSA's proximity to the U.S.-Mexico border, many commenters felt that if designated wilderness, the area would become a haven for drug smugglers and illegal aliens.

ALAMO HUECO MOUNTAINS WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS (None)

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE

STATE

PRIVATE

N

0 1 2

MILES

Alamo Hueco Mountains Proposal

NM-030-038

April 1990

ALAMO HUECO MOUNTAINS WILDERNESS STUDY AREA

THE STUDY AREA — 16,264 Acres

The Alamo Hueco Mountains Wilderness Study Area (WSA), NM-030-038, is located in southeastern Hidalgo County in the "bootheel" of New Mexico, approximately 70 miles south-southeast of Lordsburg, New Mexico. The WSA contains 13,654 acres of Bureau of Land Management (BLM) land, 2,610 acres of split-estate holdings, 640 acres of State land, and 240 acres of private inholdings. (See Table 1 for land status and acreage summary of the study area.) The northern boundary of the WSA is formed by a maintained dirt road. The remainder of the WSA is bounded almost entirely by private land.

The WSA contains most of the Alamo Hueco Mountains. The mountains are highly eroded volcanics characterized by mesas and vertical cliffs with long, sinuous canyons. Elevations range from about 4,800 feet on the pediment slopes to 6,838 feet on the unnamed peak at the head of Black Canyon. Vegetation consists of grasses, mixed desert shrubs, scattered juniper, and oak brush.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Final Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Two alternatives for the Alamo Hueco Mountains WSA were analyzed in the EIS: An all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
16,264	Acres recommended nonwilderness

The Alamo Hueco Mountains WSA is not recommended for wilderness designation (see Map 1). The recommendation for the WSA is based on the land status pattern in and around the WSA, including the presence of 2,610 acres of split-estate holdings. The boundary around the southern two-thirds of the WSA is very convoluted with many "fingers" of BLM land surrounded by private land.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change in the natural environment over the long-term. The recommendation for this WSA, however, will be implemented in a manner which will use all practical means to avoid or minimize environmental impacts, thereby ensuring no unnecessary or undue degradation will occur in the area.

The WSA offers outstanding opportunities for primitive and unconfined recreation, however, the convoluted land pattern prevents visitors from fully experiencing these opportunities without trespassing on private land. In addition, because there is no legal access, recreational users are not ensured access to the area. The current leaseholder of the

surrounding private land does not readily allow public access to the area.

Even though wilderness recreation values cannot be fully utilized, the lack of legal access provides security for wildlife and maintenance of natural values. The lack of mineral values in the area also tends to eliminate any threats from mineral development. As a result, it is expected that even though the area is not designated wilderness, the natural environment of the area will not change significantly.

In October 1986, the New Mexico Department of Game and Fish (NMDGF), in cooperation with BLM, reintroduced desert bighorn sheep into the Alamo Hueco Mountains. By not designating the area as wilderness, the NMDGF will be able to intensively manage the bighorn herd. Likewise, BLM will be able to prescribe burn selected areas and develop water sources to improve the bighorn sheep habitat without the constraints of wilderness management.

Because of the problems associated with land status in the Alamo Hueco Mountains, wilderness designation would have to be contingent upon acquiring substantial amounts of private land in the area. At the present time, BLM feels it cannot recommend wilderness designation for the WSA without acquiring much of the private land in the Alamo Hueco Mountains.

There is no question the Alamo Hueco Mountains WSA has outstanding wilderness values. This recommendation is not based on the quality of those

Table 1: Land Status and Acreage Summary

Wilderness Study Area	Acres
BLM (Surface and Subsurface)	13,654
Split-Estate (BLM Surface Only)	2,610
Inholdings	880
Total	17,144
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	13,654
Split-estate (BLM Surface Only)	2,610
Total BLM Land Not Recommended for Wilderness	16,264
Inholdings	880

wilderness values, but on the ability of BLM to effectively manage the area. Given the present land status in the Alamo Hueco Mountains, BLM does not feel it could reasonably manage the area as wilderness. In addition, with the lack of projected activities, low mineral potential, and lack of valid existing rights, it is expected that even without wilderness designation, the quality and level of values now found in the WSA would not significantly change.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The Alamo Hueco Mountains are made up of relatively flat-topped ridges and mountains dissected by a series of long, narrow canyons. The canyons and ridges are characterized by numerous cliffs and rock outcrops. These elements combine to form a topographically diverse and highly scenic area. As a result, the WSA generally appears natural. Imprints of man on BLM land within the WSA consist of 5 dirt tanks and two-track vehicle ways in drainages. These imprints are substantially unnoticeable due to the topographic screening provided by the rugged terrain. The rangeland developments outside the WSA boundary on private land in Horse Canyon, Emory Canyon, and on Bull Creek are also substantially unnoticeable because of topographic screening. The outstanding scenery of the Alamo Hueco Mountains further enhance the area's naturalness.

Solitude

Outstanding opportunities for solitude exist throughout the Alamo Hueco Mountains. These opportunities are primarily a result of the rugged topography. The Alamo Hueco Mountains are dissected by numerous steep canyons which provide excellent opportunities to escape the sights and sounds of others. These solitude opportunities are somewhat diminished by the fact that many of the canyons are on private land. However, outstanding opportunities for solitude are available within the WSA.

Primitive and Unconfined Recreation

The Alamo Hueco Mountains offer outstanding opportunities for primitive and unconfined recreation. The scenery, geology, vegetation, and wildlife, as well as the cultural values of these mountains result in an exceptional primitive recreation resource. Recreation opportunities, while limited by the land ownership configuration, include hiking, nontechnical rock climbing, backpacking, hunting, photography, and sightseeing. Because of the convoluted BLM land ownership, it is difficult for visitors to fully utilize the recreation resources of the Alamo Hueco Mountains. Since there is no legal access to the Alamo Hueco Mountains WSA, recreational access cannot be ensured.

Special Features

A number of factors combine in the Alamo Hueco Mountains to make it an extremely valuable area for wildlife. The numerous habitat sites; canyons, cliffs, and caves; springs and riparian areas; and the proximity of the mountains to Mexico all contribute to supporting a wide variety of both game and nongame species in the area. Golden eagles, red-tail hawks, and prairie falcons nest in the cliffs. A good-sized population of javelina is found in the Alamo Hueco Mountains, and there have been numerous sightings of mountain lions. Other game species in the WSA include mule deer and Montezuma quail.

Several threatened or endangered animal species have been found in the Alamo Hueco Mountains. Historically, desert bighorn sheep, a State-listed endangered species, were reported in the area. In October 1986, the NMDGF, in cooperation with BLM, reintroduced a herd of 21 desert bighorn sheep into the area. At the present time, the herd appears to be doing well.

Other State endangered species reported in or near the WSA are the coatimundi, thick-billed kingbird, varied bunting, and giant spotted whiptail. All of these were reported from waters or riparian areas in the canyons which are on private land. However, these areas are so intermingled with BLM land that the endangered animals might be found on the BLM land within the WSA as well.

Two State-listed endangered plant species, night blooming cereus (Cereus greggii) and Scheer pincushion cactus (Coryphantha scheeri), are found in the WSA.

There are a number of known prehistoric sites in and around the area. The caves in these mountains have been identified as eligible for nomination to the National Register of Historic Places as an archeological district. Some of the caves are significant on the National level because they contain stratified deposits containing materials which are usually not found in exposed sites (e.g., basketry, clothes, vegetable remains, and other perishables.)

The Alamo Hueco Mountains have high scenic quality. The rough, craggy mesas and crumbling outcrops in deep shades of reddish-brown present a sharp, visual contrast to the surrounding desert plain.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Alamo Hueco Mountains WSA lies within the Mexican Highlands Shrubsteppe Province. The potential natural vegetation (PNV) consists of 12,391 acres of oak/juniper woodland scrub, 1,665 acres of creosote bush, and 2,208 acres of Trans/Pecos shrub savanna. Due to its proximity to Mexico, the Alamo Hueco Mountains WSA is in a transition zone between vegetation types more typical of Mexico and those found to the north of the WSA. Wilderness designation of this WSA would add examples of three ecosystems not presently represented in the National Wilderness Preservation System (NWPS). The largest of these, the oak/juniper woodland scrub, is also not represented in any other wilderness study area. This information is summarized in Table 2.

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

The WSA is within 5 hours driving time of Las Cruces, New Mexico; Tucson, Arizona; and El Paso, Texas. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The nearest designated wilderness to the Alamo Hueco Mountains is the Chiricahua Wilderness in Arizona, approximately 50 miles to the northwest. The Gila Wilderness is approximately 120 miles north. There are six WSAs, including the Alamo Hueco Mountains WSA, in the bootheel section of New Mexico. Four of these are BLM WSAs and two are on the Coronado National Forest.

Manageability

The manageability of the Alamo Hueco Mountains WSA is significantly affected by the surrounding land status patterns. The land status in the Alamo Hueco Mountains is a mosaic of private and BLM lands. As a result, the boundary around the southern two-thirds of the WSA is very convoluted, consisting of many "fingers" of BLM land surrounded by private land. In this part of the WSA, the mountain tops, mesas, and ridges are BLM land and the canyon bottoms and side slopes are private land. As a result, there is no legal access to the BLM land.

The split-estate land in the northwest portion of the WSA also presents a potential manageability problem. BLM is required to provide reasonable access

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Mexican Highlands Shrubsteppe Province				
Oak/Juniper Woodland Scrub	8	228,285	9	35,451
Creosote Bush	0	0	1	34,046
Trans/Pecos Shrub Savanna	0	0	1	316
New Mexico				
Mexican Highlands Shrubsteppe Province				
Oak/Juniper Woodland Scrub	0	0	3	9,054
Creosote Bush	0	0	1	34,046
Trans/Pecos Shrub Savanna	0	0	1	316

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Las Cruces	14	1,192,386	35	766,370
Arizona				
Tucson	41	2,547,144	78	2,263,137
Texas				
El Paso	12	1,126,112	25	608,789

to private inholdings, including subsurface inholdings within wilderness areas. Any development of the subsurface estate would result in surface disturbance and would require overland access. Management of the surface areas as wilderness could not be ensured if development were to occur. However, it is unlikely that any development would occur, unless industry conditions improve or new information changes the favorability rating for oil and gas.

Because of the land status pattern in and around the Alamo Hueco Mountains WSA, the BLM would have difficulty managing the area to preserve its wilderness characteristics over the long-term. Management of the Alamo Hueco Mountains as wilderness would be facilitated by the acquisition of the surrounding non-Federal lands.

Energy and Mineral Resource Values

The Alamo Hueco Mountains WSA lies within the Pedregosa Basin, a relatively unexplored frontier of oil and gas exploration in New Mexico. This area has attracted much interest because of the stratigraphic similarities of its Paleozoic section with that of the Permian Basin in southeastern New Mexico. The presence of potentially good source and reservoir rocks at depth, combined with favorable geologic structures, makes this area a prime exploration target. Although much of the pediment and basin area adjacent to the WSA does have moderate oil and gas potential and exploration wells have been drilled in the past, most of the WSA does not appear to be favorable due to the thick sequence of volcanic rocks in the Alamo Hueco Mountains. As a result, oil and gas potential for the WSA is rated low by BLM Geologists.

Minor manganese mineralization occurs with travertine deposits in the Bluff Creek formation in the area between the Alamo Hueco Mountains and Dog Mountains south of the WSA. However, there are no known manganese occurrences in the WSA; therefore, the potential for manganese resources in the WSA is rated low by BLM Geologists.

Impacts on Resources

A comparative summary of impacts by alternative for the Alamo Hueco Mountains WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Alamo Hueco Mountains area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). During the public comment periods, comments were received supporting and opposing WSA status of the area. Approximately 60 percent of the personal letters favored wilderness review of the area. Supporting comments cited the size, naturalness, and outstanding opportunities for solitude and primitive recreation as justification. The area's outstanding scenery, cultural values, and abundance of wildlife species were listed as supplemental values.

Approximately 40 percent of the personal letters opposed wilderness review. Existing rangeland developments and access routes were cited as impacts on naturalness. The irregular shape of the WSA and land status patterns were identified as manageability problems. Oil and gas potential and mining were listed as resource conflicts.

Wilderness Study Comments

Due to the split-estate ownership and a decision by Secretary of the Interior James Watt not to study areas with split-estate land, the Alamo Hueco Mountains WSA was not included in the *Draft Environmen-*

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (16,264 Acres Suitable)	No Wilderness (Proposed Action: 0 Acres Suitable)
Impacts on Wilderness Values	Under wilderness designation, the area's existing naturalness, out-standing opportunities for solitude, special cultural features, outstanding scenery, and oak/juniper woodland scrub ecosystems would be maintained. The land status pattern and boundary configuration would, however, restrict public availability of the area as wilderness.	Wilderness values would likely be maintained in the short-term, however, new rangeland developments, constructed to support livestock grazing operations, and proposed wildlife habitat improvement projects, such as water developments and prescribed burns would degrade 10-15 percent of the area's natural values and ecological and scenic features.

tal Assessment Wilderness Study Areas in the Las Cruces District (March 1983). However, during the public comment period on this document, 21 personal letters, 4 form letters, 1 petition with 15 signatures, and 52 coupons were received indicating support for wilderness designation of the Alamo Hueco Mountains WSA. Several of the comments favoring wilderness designation reiterated supporting reasons mentioned in previous public review periods such as natural values and solitude and primitive recreation opportunities. Several respondents indicated support for wilderness designation of an area larger than the WSA, up to 25,000 acres. Many of the pro-wilderness comments also cited the area's scenic, geologic, cultural, wildlife, and botanic values as reasons for favoring wilderness designation.

Several respondents commented on the manageability issues analyzed in the Wilderness Analysis Report. These individuals felt that lack of legal access was not a significant problem and that legal access could be obtained through trades or easements. It was also noted that lack of legal access provides added protection to the area. Several respondents noted that the potential manageability conflicts caused by land status and convoluted boundaries could be resolved through land exchanges.

Four personal letters were received in opposition to wilderness designation. These respondents cited the mineral potential of the area as justification for a nonsuitable wilderness designation.

In August 1983, the Las Cruces District published the *New Mexico Wilderness Supplemental Draft Environmental Assessment*. This document analyzed the wilderness suitability for those WSAs which had split-estate land dropped from consideration as a result of Secretary of the Interior Watt's decision in December 1982. The Alamo Hueco Mountains WSA was included in this Supplemental Draft Environmental Assessment. In response to this document, the Phelps-Dodge Corporation submitted a voluminous comment document including maps and photos. The Corporation disagreed with the discussion of impacts to wilderness values if the

area were left open for mineral exploration and development. They maintained that only a small area would be affected by mineral activity and those sites could be easily rehabilitated. The Corporation also indicated that potentially good oil and gas lands lie within the WSA boundary. The Corporation strongly agreed with BLM's evaluation of the WSA's manageability problems.

Two respondents made general comments supporting some form of special designation for the area in lieu of wilderness designation.

During the public comment period on the *New Mexico Statewide Wilderness Study Draft Environmental Impact Statement* (1985), BLM received 127 comments which specifically addressed the Alamo Hueco Mountains WSA. Of those, 123 supported wilderness designation. Reasons cited in support of designation generally reiterated those of previous commenters, e.g., the area meets wilderness criteria, it contains significant special features, and it has outstanding scenic quality.

In addition, a total of 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal of the New Mexico BLM Wilderness Coalition which included the Alamo Hueco Mountains WSA.

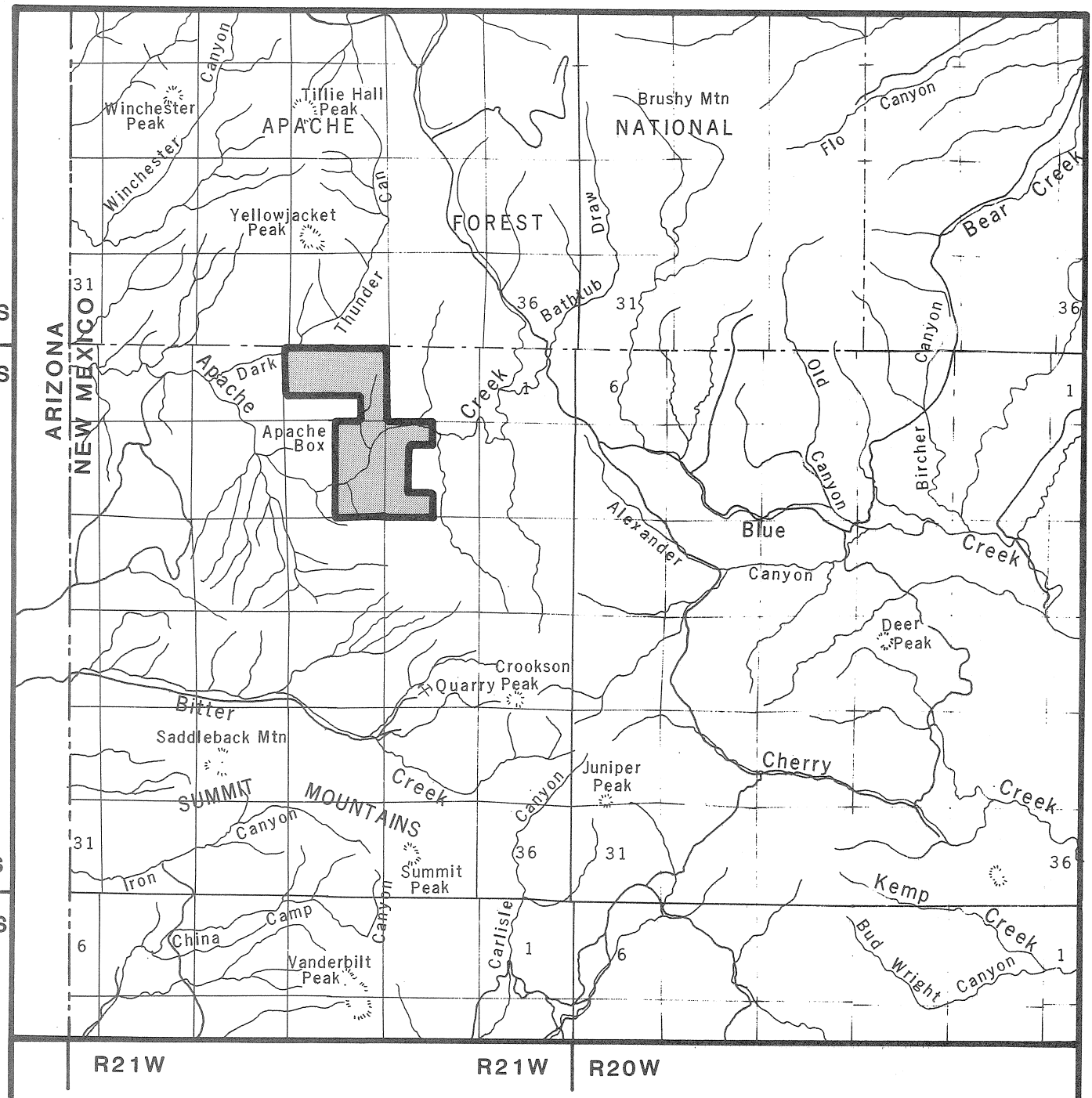
Those opposing wilderness designation once again cited the potential impacts to the mineral industry. In early 1986, public scoping was held on the reinstatement of the split-estate land into the wilderness study process. Seven commenters specifically favored the addition of split-estate land to the affected WSAs and 5 commenters opposed it.

During the public comment period on the *New Mexico Statewide Wilderness StudyRevised Draft Environmental Impact Statement* (1986), 49 commenters specifically addressed the Alamo Hueco Mountains WSA. A total of 48 commenters supported wilderness designation, five of those comments were responded to in the Final EIS. The New Mexico BLM Wilderness Coalition suggested that since the north portion of the WSA was well-blocked BLM land, the entire WSA should be designated wilderness, and public use be confined to the north half until BLM could acquire the private land surrounding the south half. The New Mexico Natural Resources Department suggested that the area be managed as a Research Natural Area or Area of Critical Environmental Concern.

One commenter, the Phelps-Dodge Corporation, opposed wilderness designation, citing potential conflicts with mineral development.

APACHE BOX
WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS (None)

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE (None)

STATE (None)

PRIVATE (None)

N

0 1 2

MILES

Apache Box Proposal

AZ-4-76

April 1990

APACHE BOX
WILDERNESS STUDY AREA

THE STUDY AREA – 932 Acres

The Apache Box Wilderness Study Area (WSA), AZ-040-76, is located in western Grant County in southwestern New Mexico about 45 miles west of Silver City, New Mexico, and 45 miles east of Safford, Arizona. The WSA contains 932 acres of Bureau of Land Management (BLM) land. (See Table 1 for land status and acreage summary of the study area.) The WSA is bounded on the north by U.S. Forest Service and New Mexico State lands, with private land forming the east, south, and west boundaries. The WSA's northern boundary is contiguous for 1 mile with the U.S. Forest Service administered Hell's Hole WSA. The Hell's Hole WSA is within the Gila National Forest and has been recommended by the U.S. Forest Service for nonwilderness uses.

The primary feature of the WSA is the Apache Box, a deep, narrow canyon through which runs Apache Creek. Sheer cliffs rise 600 feet above the canyon floor and give way to talus slopes and table lands above the canyon. Elevations range from 4,150 feet to 6,540 feet. Vegetation varies from desert shrubs and grasses to mountain shrub and pinyon-juniper. Riparian species line the creek through Apache Box.

The WSA was studied under Section 202 of the Federal Land Policy and Management Act (FLPMA). The Apache Box WSA and the nearby Hoverrocker WSA in Arizona are contiguous with the U.S. Forest Service administered Hell's Hole WSA which is partially within New Mexico and partially within Arizona. For this reason, Arizona was given the lead for the study of the Apache Box WSA. Analysis of the WSA was included in the *Arizona Mohave Final Wilderness Environmental Impact Statement* (EIS). The Final EIS was filed with the Environmental Protection Agency in February 1989. Two alternatives for the Apache Box WSA were analyzed in the EIS: an all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
932	Acres recommended nonwilderness

The Apache Box WSA is not recommended for wilderness designation (see Map 1). The recommendation for the Apache Box WSA is based on the mineral potential of the area, the anticipated likelihood of future mineral development, and the nonwilderness recommendation for the 18,860-acre contiguous U.S. Forest Service administered Hell's Hole WSA. These factors combine to make the Apache Box WSA unmanageable as wilderness.

The All Wilderness Alternative is the environmentally preferable alternative, as its implementation would result in the least change from the natural environment over the long-term. The recommendation for this WSA, while not environmentally preferred, will be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts. Based on past mineral exploration activity and the area's mineral resource potential, it is likely this use will occur in the future. Any mineral exploration activity will, however, be regulated to prevent unnecessary and undue degradation of the environment.

The Apache Box WSA could not be managed to preserve its wilderness character in the long-term. This judgment is based on the area's small size, the fact that it is bounded on three sides by private land, the mineral potential of the area, and the likelihood of further mineral exploration and possible development. Because of the area's small size, any development on adjacent private land would impact wilderness values in the WSA. Mineral exploration and development on the adjacent non-Federal lands are likely to occur in the future. Extensive mineral exploration and some development have occurred in the region in the past. As of November 1986, there were 93 mining claims wholly or partially within the WSA. It is expected that several of these claims would prove valid and would be developed. The entire 932 acres are rated by BLM Geologists as having moderate mineral resource potential.

The wilderness values identified in the Apache Box WSA were determined by BLM to be dependent on the presence of the contiguous U.S. Forest Service administered Hell's Hole WSA. The Hell's Hole WSA is within the Gila National Forest and contains 18,860 acres. The Hell's Hole WSA was recommended nonsuitable for wilderness designation in the *Environmental Impact Statement: Gila National Forest Plan* completed in 1986.

The Hell's Hole WSA was originally part of a larger area that extended into Arizona. The Arizona portion contained an ecosystem that was considered by many to be under represented in the National Wilderness Preservation System (NWPS). As a result, the entire area was designated a Further Planning Area in the Roadless Area Review and Evaluation II (RARE II) process. When the New

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	932
Split-Estate (BLM Surface Only)	0
Inholdings	0
Total	0
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	932
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	932
Inholdings	0

Mexico Wilderness Legislation became law (Public Law 96-550), the Hell's Hole unit was designated by Congress as a WSA. Since that time, the Arizona Wilderness Act released the Arizona portion for other multiple uses. The Arizona lands contained the under represented ecosystem and since existing wilderness on the Gila National Forest already contain vegetation similar to the Hell's Hole WSA, the USFS felt that wilderness designation would not contribute significantly to ecological diversity in the NWPS.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The WSA's 932 acres are generally in a natural condition. Human imprints include two masonry dams, one earthen dam, a windmill, 1/2 mile of fence, an old mining operation, and 1 mile of cherry-stem road leading to the site of recent mineral exploration work. The range facilities, all in the northern part of the WSA, are largely unnoticeable, and do not impair naturalness. The road has a visible impact on naturalness in the southern part of the WSA. The recent mining exploration work was partially rehabilitated and the visual impacts lessened, though they still impact the naturalness in the central part of the WSA.

Solitude

Outstanding opportunities for solitude exist within the WSA. The deep canyon of the Apache Box and the surrounding rugged terrain offer outstanding opportunities to find seclusion from others. These opportunities are, however, limited by the small size of the WSA. The contiguous U.S. Forest Service administered Hell's Hole WSA expands and enhances the solitude opportunities of the Apache Box WSA.

Primitive and Unconfined Recreation

Opportunities for primitive and unconfined types of recreation are available including hiking, hunting, photography, rock climbing, bird watching, and sightseeing. Here again, these opportunities are limited by the small size of the WSA. The adjacent U.S. Forest Service administered Hell's Hole WSA provides additional recreation opportunities and enhances the quality of those found in the Apache Box WSA.

Special Features

Special features within the WSA include the perennial Apache Creek, the associated riparian vegetation and the extremely scenic area of the canyon. The high cliffs provide nesting habitat for various raptors. Peregrine falcons, a Federally-listed endangered species, have been observed in the area.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Apache Box WSA lies within the Mexican Highland Shrubsteppe Province with a potential natural vegetation (PNV) of 932 acres of grama/tobosa shrubsteppe. Table 2 summarizes the ecosystem information for designated wilderness areas and other BLM study areas.

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

The WSA is within 5-hours driving time of Las Cruces, New Mexico and Tucson, Arizona. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of the population centers.

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Mexican Highlands Shrubsteppe Province				
Grama/Tobosa Shrubsteppe	0	0	14	67,860
New Mexico				
Mexican Highlands Shrubsteppe Province				
Grama/Tobosa Shrubsteppe	0	0	4	7,335

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Las Cruces	14	1,192,386	35	781,702
Arizona				
Tucson	41	2,547,144	78	2,263,137

Balancing the geographic distribution of wilderness areas

The WSA adjoins the Hell's Hole WSA on the Gila National Forest to the north. The 557,873-acre Gila Wilderness is approximately 30 miles to the northeast.

Manageability

The Apache Box WSA could not be managed to preserve its wilderness character in the long-term. This judgment is based on the area's small size, the fact that it is bounded on three sides by private land, the mineral potential of the area, and the likelihood of further mineral exploration and possible development in the future.

Because of the area's small size, any development on adjacent private land would impact wilderness values in the WSA. Mineral exploration and development on the adjacent non-Federal lands are likely to occur in the future. Extensive mineral exploration and some development have occurred in the region in the past.

The entire 932 acres of the WSA is rated by BLM Geologists as having moderate mineral potential for base and precious metals. As of November 1986, there were 93 mining claims within the WSA. It is expected that several of these claims would prove valid and would be developed. Mineral exploration in the form of core drilling has occurred almost annually since 1984 in the canyon in the WSA and within the cherry-stemmed road. It is expected that this exploration will continue and development is likely to occur. These activities would hinder BLM's ability to manage the area as wilderness, and because of the area's small size, mineral development would destroy the area's wilderness character.

Energy and Mineral Resource Values

As of November 1986, there were 93 mining claims wholly or partially within this WSA. Fluorspar, gold, silver, and manganese (all strategic minerals) have been produced from mines in similar geological structures near the WSA. Although no records are known, gold has reportedly been shipped from the WSA. Mineral exploration in the form of core drilling has occurred on several occasions since 1984. This exploration is aimed primarily at precious metals and copper. BLM Geologists have rated the area as having moderate potential for base and precious metals.

The WSA has been rated by BLM Geologists as low for the potential occurrence of oil and gas and geothermal resources. There have not been any leases issued for lands in the WSA.

Impacts on Resources

A comparative summary of impacts by alternative for the Apache Box WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments generally supported BLM's proposal to designate the Apache Box a WSA. Supporting comments noted the area's special features and the fact the WSA was contiguous to the U.S. Forest Service administered Hell's Hole WSA. Comments opposing wilderness study addressed the area's small size and rangeland improvements.

Wilderness Study Comments

The Apache Box WSA was one of 15 WSAs administered by BLM in Arizona which were dropped from study by a decision of the Secretary of the Interior in 1982. As a result of a court decision in 1985 (Sierra Club vs. Watt), these 15 areas were reinstated in the study process.

During the public comment period on the *Arizona Mohave Draft Wilderness Environmental Impact Statement* (1987), BLM received comments from 10 individuals who specifically addressed the Apache Box WSA. Five commenters supported wilderness designation, four opposed it, and one offered no position. Those supporting wilderness designation cited the area's outstanding scenery, protection of

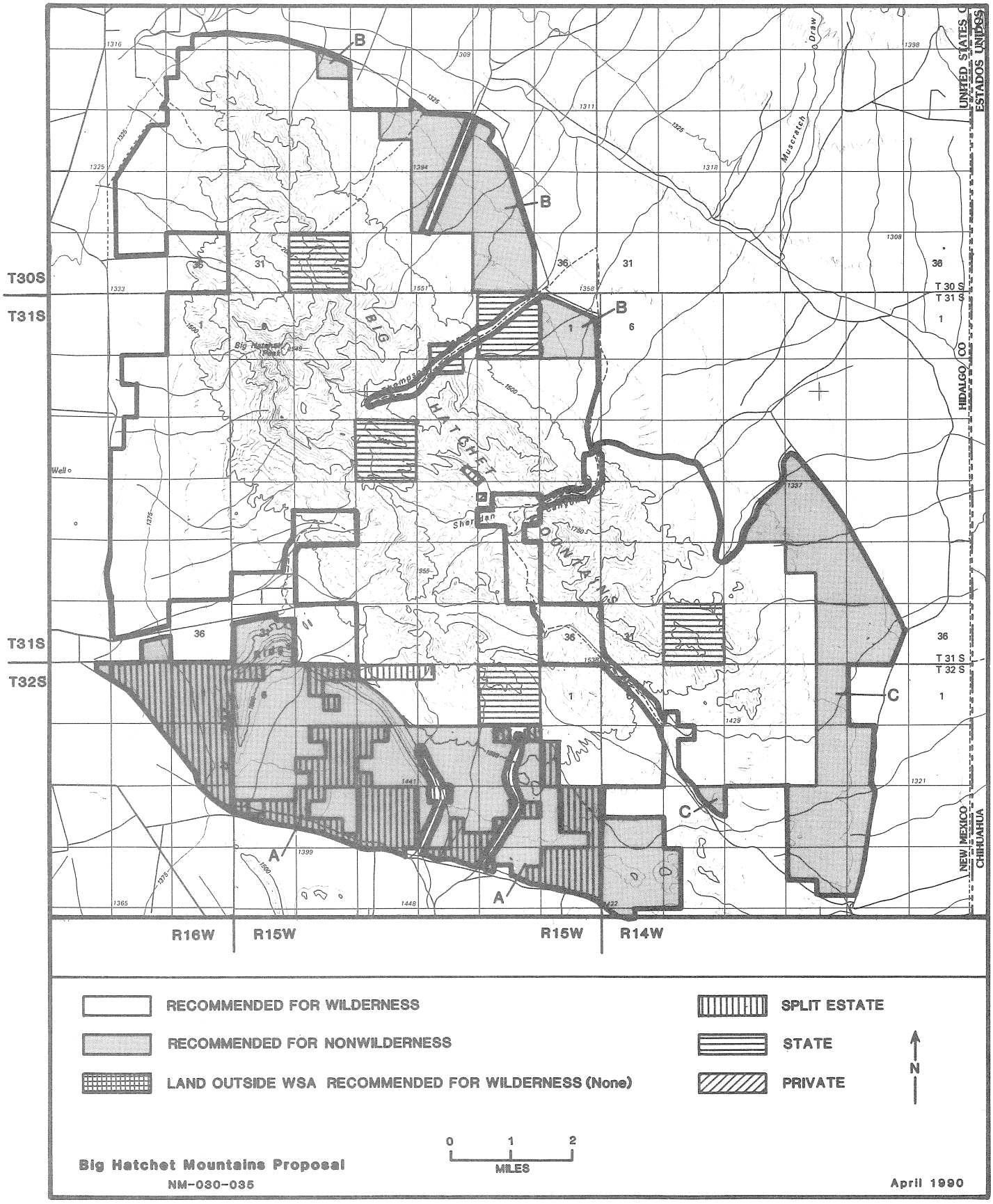
Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (932 Acres Suitable)	No Wilderness Proposed Action; 0 Acres Suitable)
Impacts on Wilderness Values	Wilderness designation would maintain the wilderness values of naturalness, solitude, and primitive recreation across the WSA.	Motorized vehicle use and mining exploration activity would cause a loss or impairment of the wilderness values of naturalness, solitude, and primitive recreation opportunities on about 100 acres of the WSA.
Impacts on Minerals Development	Future exploration projects would be stopped but mineral production would not be affected as none is expected.	Mineral entry onto all of the Federal minerals in the area would be allowed.
Impacts on Recreation Use	Opportunities for nonmotorized recreation use on 932 acres would be enhanced.	Opportunities for recreation use would not change.
Impacts on Cultural Resources	Wilderness designation would have a beneficial impact on cultural resources by restricting or prohibiting impact causing activities.	Nondesignation would result in continued and new adverse impacts resulting from construction, mining, and visitor use.

cultural resources, and proximity of the Hell's Hole WSA. Those opposing wilderness designation cited the area's small size and potential for conflict with mineral exploration and development as supporting reasons.

BIG HATCHET MOUNTAINS WILDERNESS STUDY AREA

MAP 1



T30S
T31S
T31S
T32S
R16W
R15W
R15W
R14W
T 30 S
T 31 S
T 31 S
T 32 S
UNITED STATES
ESTADOS UNIDOS
HIDALGO CO
NEW MEXICO
CHIHUAHUA
BIG HATCHET MOUNTAINS
Big Hatchet Peak
Sheridan Canyon
Muscratch Draw
Well
A
B
C
RECOMMENDED FOR WILDERNESS
RECOMMENDED FOR NONWILDERNESS
LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)
SPLIT ESTATE
STATE
PRIVATE
N
0 1 2
MILES
Big Hatchet Mountains Proposal
NM-030-035
April 1990

BIG HATCHET MOUNTAINS WILDERNESS STUDY AREA

THE STUDY AREA — 65,872 Acres

The Big Hatchet Mountains Wilderness Study Area (WSA), NM-030-035, is located in southeastern Hidalgo County in the bootheel region of southwestern New Mexico, approximately 50 miles southeast of Lordsburg, New Mexico. The WSA includes 60,019 acres of Bureau of Land Management (BLM) land plus 5,853 acres of split-estate land (BLM surface with non-BLM minerals). There are 6,580 acres of State inholdings and 46 acres of private inholdings within the WSA. (See Table 1 for land status and acreage summary of the study area.)

The WSA is an isolated mountain range with steep rugged terrain and includes rolling toe-slopes on all sides of the range. Elevations range from 4,400 feet along the lower toe-slopes to 8,366 feet atop Big Hatchet Peak. The WSA contains a variety of vegetation types including mixed desert shrubs surrounding the mountains, grass and mountain shrub types along the lower mountains, and pinyon-juniper communities with scattered Chihuahua pine at higher elevations.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Three alternatives for the Big Hatchet Mountains WSA were analyzed in the Final EIS: an all wilderness alternative, an amended boundary alternative, and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

45,374	Acres recommended wilderness
20,498	Acres recommended nonwilderness

The recommendation for the Big Hatchet Mountains WSA is to designate 45,374 acres as wilderness and release the remaining 20,498 acres for uses other than wilderness (see Map 1). This recommendation is based on the outstanding wilderness character in the central and western portions of the WSA, and the presence of split-estate land and marginal wilderness quality in the remainder of the WSA. This recommendation for wilderness will further apply to any additional inholding or split-estate acreage acquired through purchase or exchange with willing owners. Appendix 1 lists all inholdings and split-estate tracts and provides additional information on acquisition of inholdings and split-estate minerals.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change from the natural environment over the long-term. The recommendation, while not the environmentally preferred, will be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts. The majority of this WSA is recommended as wilderness. In the 20,498 acres not recommended for wilderness, there are no surface disturbing activities presently proposed. There is a possibility of oil and gas exploration impacting the natural environment of the north-central, southeast, and south-central portions of the area.

The recommended area provides outstanding opportunities for solitude based on the remoteness of the area and the topographic screening created by the rugged canyons and jagged peaks. Opportunities for dispersed recreation are also outstanding and include hiking, backpacking, wildlife observation, and photography.

The lands recommended for wilderness designation are characterized by outstanding scenic qualities and valuable wildlife habitat supporting the State-listed endangered desert bighorn sheep. Because of the sensitivity of desert bighorn sheep to development and disturbance, wilderness designation will provide a valuable, long-term benefit to maintaining the habitat requirements of this State-listed endangered species.

Boundaries for the area recommended for wilderness are formed by a combination of roads, land ownership boundaries, and section lines that approximate topographic boundaries. The area can be managed to preserve the quality of the wilderness characteristics. The topography and vegetation of the area and the absence of conflicting land uses or private rights would allow the BLM to manage the area to ensure its preservation and use as wilderness in an unimpaired condition.

Conflicts with other resource uses in the area recommended for wilderness designation are limited. Grazing use will be allowed to continue and facility maintenance needs in the WSA are minimal. There are no proposed livestock developments which would be foregone.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	60,019
Split-Estate (BLM Surface Only)	5,853
Inholdings	6,626
Total	72,498
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	45,174
BLM (Outside WSA)	0
Split-Estate (Within WSA)	200
Total BLM Land Recommended for Wilderness	45,374
Inholdings	2,446
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	14,845
Split-estate (BLM Surface Only)	5,653
Total BLM Land Not Recommended for Wilderness	20,498
Inholdings	4,180

The mineral survey conducted by U.S. Geological Survey and U.S. Bureau of Mines revealed two mineralized areas in the central part of the WSA which contain subeconomic mineral resources. On two patented mining claims at the Sheridan Mine, about 4,500 short tons of material were identified with average grades of 3.2 percent lead, 2.2 percent zinc, and 0.4 ounces of silver per ton. The Lead Queen mine showed an identified resource of 2,900 short tons of material with an average grade of 1.1 percent lead, 0.5 percent zinc, and 0.22 ounces of silver per ton. In neither case was the combination of tonnage and grade sufficient to identify a mineral resource of more than subeconomic value.

With the exception of the two identified resources, the entire WSA was determined to have low mineral resource potential for copper, lead, silver, zinc, uranium, and industrial rocks and minerals. The entire WSA was determined to have a low potential for the occurrence of oil and gas.

The 20,498 acres not recommended for wilderness designation are in three separate parcels on the south, northeast, and southeast sides of the WSA (see Map 1). Parcel A contains 5,653 acres of split-estate land in the southwest portion of the WSA. Much of the mineral estate is owned by the State of New Mexico. The State is not willing to exchange the subsurface estate because of the perceived mineral potential of the area. Any mineral exploration and development of the subsurface estate would negatively impact BLM's ability to manage the surface estate as wilderness in this portion of the WSA.

In addition, parcels A, B, and C are all of a somewhat different character than the rest of the WSA. Because of the lack of variety of terrain features and vegetation, parcels A, B, and C do not provide the quality of opportunities for solitude and primitive recreation that are available in the portion of the WSA recommended for wilderness designation. Human imprints are more numerous and more noticeable in these parcels. Parcel A contains 4 miles of cherry-stemmed roads, 2 dirt tanks, and 3 erosion control dikes. Parcel A also contains several parcels of State and private lands which have not been identified for acquisition. Parcel B contains a fence, 1 1/2 miles of cherry-stemmed road, and a dirt tank. BLM Geologists identified parcels A, B, and C as having moderate potential for oil and gas. However, the U.S. Geological Survey (USGS) and Bureau of Mines evaluation of the WSA did not support this determination.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The Big Hatchet Mountains WSA possess very high quality naturalness values. The WSA appears to have been affected primarily by the forces of nature. The core of the WSA, which consists of the Big Hatchet Mountain range, is especially natural. The imprints of man are substantially unnoticeable because of the large size and rugged topography of the WSA.

Rangeland developments within the WSA include dirt tanks, storage tanks and drinking troughs, and fences. The fences and the majority of the dirt tanks are in the lower elevations. Nine wildlife waters are dispersed throughout the mountain range. The impacts of these developments are mitigated by the large size of the WSA, the dispersed locations of the developments, and topographic screening. Despite the large number of developments, locations of these imprints within the rugged topography keep developments hidden from view except in the more open terrain of the lower slopes. The developments are not substantially noticeable in the area as a whole.

Solitude

The Big Hatchet Mountains WSA offers outstanding opportunities for solitude. The large size of the WSA and generally well-blocked land con-

figuration allows visitors to disperse and avoid the sights and sounds of others. The rugged topography of the Big Hatchet Mountains enhance the solitude opportunities. The area is characterized by numerous secluded canyons and ridges, many of which provide excellent vegetation screening. In addition, the sweeping vistas of northern Mexico and the bootheel of New Mexico accentuate the feeling of solitude. The remoteness of the region and the rugged topography of the interior of the WSA with its secluded canyons and peaks combine to provide solitude superior to most other BLM areas in New Mexico. The quality of solitude opportunities on the lower toe slopes is somewhat less because of the open terrain and lack of vegetation screening.

Primitive and Unconfined Recreation

The rugged mountain environment, with its pinyon-juniper forest and numerous small canyons, provides an outstanding setting for hiking, camping, photography, and other forms of backcountry recreation. Hiking accounts for most of the current recreational use in the WSA with other uses limited by the distance from population centers and limited public knowledge of the area. The WSA also provides opportunities for sightseeing of such wildlife species as large raptors, desert bighorn sheep, and mountain lions. The scenic vistas of adjacent mountain ranges and valleys in New Mexico, Arizona, and Chihuahua add greatly to the quality of any recreational experiences in the WSA. The toe slopes provide less variety and quality of recreation opportunities because of a lack of variety of topographic features and vegetation. Recreation opportunities on the lower slopes and flats are similar to those available on any parcel of relatively remote, undeveloped BLM land.

Special Features

The WSA contains special ecological and scenic features. The ecological features include both vegetation and wildlife values of scientific and educational interest. The Big Hatchet Mountains provide habitat for two State-listed endangered plant species (Scheer's pincushion cactus and night-blooming cereus) and one State-listed endangered animal (desert bighorn sheep), plus special habitat features such as cliffs for nesting raptors and caves which provide shelter for a variety of wildlife. The desert bighorn sheep in the Big Hatchet Mountains have been studied extensively by the New Mexico Department of Game and Fish.

Scenic values are outstanding because of the massive, irregularly folded, and striated cliffs and hills with colors ranging from pink to buff to gray. The numerous caves and rock outcrops create shadow mosaics along the western and northern escarpments that change constantly throughout the day. There are also several small prehistoric sites and at least one large, undisturbed prehistoric site consisting of a large collection of ring middens and associated features.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Big Hatchet Mountains WSA lies within the Mexican Highlands Shrubsteppe Province. The potential natural vegetation (PNV) consists of 28,752 acres of mountain mahogany/oak scrub; 34,046 acres of creosote bush; 316 acres of Trans/Pecos shrub savanna; and 2,758 acres of grama/tobosa shrubsteppe. Wilderness designation would add examples of these ecosystems to the National Wilderness Preservation System (NWPS). This information is summarized in Table 2.

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

The WSA is within 5-hours driving time of Las Cruces, New Mexico; Tucson, Arizona; and El Paso, Texas. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Mexican Highlands Shrubsteppe Province				
Mountain Mahogany/Oak Scrub	0	0	1	6,289
Creosote Bush	0	0	1	1,665
Trans/Pecos Shrub Savanna	0	0	1	2,208
Grama/Tobosa Shrubsteppe	0	0	14	66,034
New Mexico				
Mexican Highlands Shrubsteppe Province				
Mountain Mahogany/Oak Scrub	0	0	1	6,289
Creosote Bush	0	0	1	1,665
Trans/Pecos Shrub Savanna	0	0	1	2,208
Grama/Tobosa Shrubsteppe	0	0	4	5,509

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Las Cruces	14	1,192,386	35	719,762
Arizona				
Tucson	41	2,547,144	78	2,263,137
Texas				
El Paso	12	1,126,112	25	559,181

Balancing the geographic distribution of wilderness areas

The nearest designated wilderness to the Big Hatchet Mountains WSA is the Chiricahua Wilderness in Arizona, approximately 50 miles to the northwest. The Gila Wilderness is approximately 100 miles north. There are six WSAs within a 35-mile radius of the Big Hatchet Mountains. Four of these are BLM WSAs and two are on the Coronado National Forest.

Manageability

The Big Hatchet Mountains WSA could be managed to preserve the wilderness values which presently exist. Manageability is a judgment made by the BLM after considering such factors as private and State inholdings, valid existing rights, topography, and the overall land ownership pattern.

The "topographic island" character of the Big Hatchet Mountains enhances wilderness management. The limited private and State inholdings and private mineral rights within the WSA add to the BLM's ability to manage the area as wilderness. The isolated mountain character of the Big Hatchet Mountains results in a WSA with good physiographic integrity.

Grandfathered livestock operations in the WSA are compatible with wilderness management. Required access for ranch operations would not create problems for wilderness management.

There are 46 acres of private inholdings, patented mining claims, within the WSA. Granting vehicular access to these patented lands, should it be necessary in the future, would not pose manageability problems. The parcels are less than 1 mile from the Sheridan Canyon road.

Administrative conflicts are a concern on 5,653 acres of split-estate land. Any development of the subsurface estate would result in surface disturbance and would require overland access. It is projected that some oil and gas exploration and development may occur. As a result, the surface could not be managed to preserve its wilderness character. This portion of the WSA is not recommended for wilderness designation.

The recommended area could be managed to preserve its wilderness character. However, management would be enhanced by the acquisition of 1,920 acres of State inholdings and 46 acres of private inholdings.

Energy and Mineral Resource Values

In 1985 and 1986, the U.S. Geological Survey and the U.S. Bureau of Mines conducted a mineral resource appraisal of the Big Hatchet Mountains WSA. This wide-ranging study included an examination of geologic, geochemical, and geophysical data, as well as a review and assessment of local mining activity. The following is a summary of the findings of that survey.

Two mineralized areas in the central part of the WSA contain subeconomic mineral resources. On two patented mining claims at the Sheridan Mine, about 4,500 short tons of material were identified with average grades of 3.2 percent lead, 2.2 percent zinc, and 0.4 ounces of silver per ton. The Lead Queen mine showed an identified resource of 2,900 short tons of material with an average grade of 1.1 percent lead, 0.5 percent zinc, and 0.22 ounces of silver per ton. In neither case was the combination of tonnage and grade sufficient to identify a mineral resource of more than subeconomic value. With the exception of the two identified resources, the entire WSA was determined to have low mineral resource potential for copper, lead, silver, zinc, uranium, and industrial rocks and minerals.

BLM Geologists originally rated 11,700 acres as having moderate potential for oil and gas in the southwest, southeast and northeast portions of the WSA. This assessment was based on favorable and stratigraphic traps within the sorrounding Pedregosa Basin and shows of gas in nearby wildcat

wells. However, the USGS and U.S. Bureau of Mines survey determined that the mineral potential for hydrocarbons (coal and oil and gas) is low for shallower targets and unknown for deeper targets. The study found that geologic features are only mildly favorable for oil and gas potential. Porosity and permeability conditions of certain Paleozoic formations are probably favorable for hydrocarbon reservoir conditions. However, these rocks lie mainly near the surface and thus offer almost no conditions for entrapment. Based on this assessment, mineral resource potential for oil and gas is rated as low.

Impacts on Resources

A comparative summary of impacts by alternative for the Big Hatchet Mountains WSA is shown in Table 4. This information is taken from the Final EIS. However, the 1985 AND 1986, U.S. Geological Survey and U.S. Bureau of Mines mineral appraisal lowered the BLM estimate of potential for oil and gas from moderate on 11,700 acres to low for the entire WSA. This more recent data is reflected in Table 4.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study, and therefore, will not be discussed in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Big Hatchet Mountains area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). Numerous personal letters, form letters, and petitions were received on the Big Hatchet Mountains WSA. The WSA proposal was among the 10 most commented on recommendations in the State.

Approximately 58 percent of the personal letters supported wilderness review of the Big Hatchet Mountains. The supporting comments concentrated on outstanding opportunities for solitude and primitive recreation and the supplemental geological, scenic, and wildlife values of the area.

Approximately 42 percent of the personal letters opposed wilderness review of the area. Opposing comments cited oil and gas potential, hardrock minerals, non-Federal land inholdings, low potential for rehabilitation, and lack of basic wilderness criteria as reasons for no wilderness revisions.

Wilderness Study Comments

During the public comment period on the *New Mexico Wilderness Supplemental Draft Environmental Assessment* (1983), 33 personal inputs, 13 form letters, 1 petition with 15 signatures, and 52 coupons were received indicating support for wilderness designation of the Big Hatchet Mountains WSA. The form letters, petition, and coupons listed no supporting reasons. The coupons indicated support for designation of 41,293 acres as described in the Amended Boundary Alternative. Four personal inputs opposing wilderness designation were submitted.

Several of the comments favoring wilderness designation reiterated supporting reasons mentioned in previous public review periods such as primitive recreation opportunities, scenic values, and desert bighorn sheep habitat.

Those opposing wilderness designation stated that the scenery and solitude of the Big Hatchet Mountains could be protected under existing BLM programs. The values protected by wilderness designation could be protected through less restrictive management. Commenters also cited the area's mineral potential as a reason for opposing wilderness designation.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (65,872 Acres Suitable)	No Wilderness (0 Acres Suitable)	Amended Boundary (Proposed Action; 45,374 Acres Suitable
Impact on Wilderness Values	Wilderness designation would protect the high quality naturalness, out-standing opportunities for solitude and primitive recreation, the desert bighorn sheep herd, and the high quality scenery of the Big Hatchet Mountains. Naturalness and opportunities for solitude would be adversely impacted by oil and gas exploration on non-Federal mineral estate.	Naturalness and solitude would be impacted by oil and gas geophysical activities and exploration drilling. Installation of proposed habitat improvement pro-jects and rangeland de-velopments would degrade natural values. Overall naturalness and solitude opportunities would be di-minished by 30-40 percent.	The central portion of the Big Hatchet Mountains which is essentially natural, has outstanding opportunities for solitude and primitive recreation and provides habitat for the desert bighorn sheep. The herd would be protected as described under the All Wil-derness Alternative. Naturalness and solitude oppor- tunities would be lost on 20,498 acres recommended nonsuitable.
Impacts on Desert Bighorn Sheep	Restrictions of wilderness management would provide legislative protection for 44,670 acres of desert bighorn sheep habitat, enhancing long-term opportunities for an increase in the current bighorn sheep population of 85 animals to approximately 150 in the future.	Oil and gas exploration could reduce bighorn sheep population levels by up to 20 percent below those existing before exploration activities.	Wilderness management would provide legislative protection for 37,993 acres of desert bighorn sheep habitat, enhancing opportunities for an increase in the bighorn sheep population. Oil and gas exploration could prevent sheep movement between Big Hatchet and Alamo Hueco Mountains, thereby reducing the potential increase to approximately 100 animals.

The Phelps-Dodge Corporation submitted a voluminous document including photographs and maps. Many of the comments in the document addressed what Phelps-Dodge considered deficiencies in the *New Mexico Wilderness Supplemental Draft Environmental Assessment* (1983).

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), BLM received 111 comments which specifically addressed the Big Hatchet Mountains WSA. Of those, 106 supported wilderness designation and 5 opposed. In addition, 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico BLM Wilderness Coalition, which recommended wilderness designation for the entire WSA plus additional acreage

Table 4: Comparative Summary of Impacts by Alternative (Concluded)

Issue Topics	All Wilderness (65,872 Acres Suitable)	No Wilderness (0 Acres Suitable)	Amended Boundary (Proposed Action; 45,374 Acres Suitable
Impacts on Oil and Gas Exploration and Development	When 11,700 acres of the WSA were considered to have a moderate potential for oil and gas, wilderness designation was expected over the long-term to preclude the opportunity to make a full determination of the area's potential. A recently published report by the USGS and Bureau of Mines downgraded the BLM's evaluation of oil and gas potential which was identified in the Final EIS as moderate. The resource potential for oil and gas is now considered to be low, therefore, this is no longer considered an issue.	No significant impacts.	Under this alternative, 11,600 acres were identified as having a moderate potential for oil and gas. Due to the downgrading of BLM's rating of oil and gas potential from moderate to low by the USGS and Bureau of Mines, oil and gas are no longer considered an issue.

around the periphery. Supporters generally cited the area's wilderness values, high quality scenery, and special features. Those opposing wilderness designation including Phelps-Dodge Corporation, cited potential conflicts with mineral exploration and development and conflicts with livestock grazing.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), 49 commenters specifically addressed the Big Hatchet Mountains WSA. Of that total, 46 supported wilderness designation and 3 opposed. The New Mexico BLM Wilderness Coalition advocated designation of the entire area plus additional acreage to protect the desert bighorn sheep. Phelps-Dodge Corporation opposed wilderness designation because of a lack of adequate mineral survey and possible impacts to its nearby Playas Smelter. Other opposing comments cited impacts to livestock grazing.

Appendix 1: Estimated Costs of Acquisition of Non-Federal Holdings Within the Big Hatchet Mountains WSA[1]

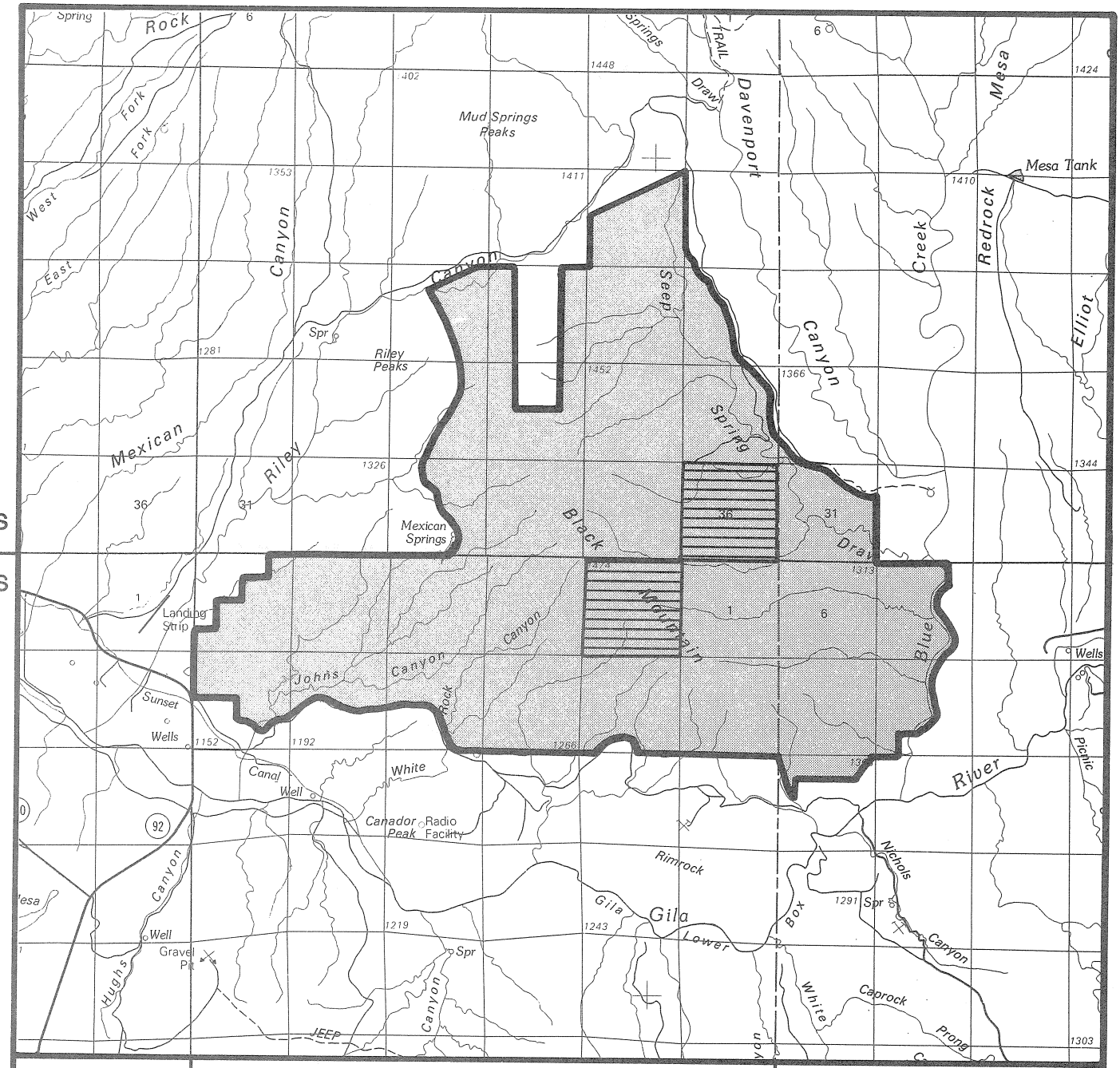
Legal Description (Prior to any Subdivision)	Total Acres	Number of Owners	Type of Ownership by Estate (BLM/ State/ Private) Surface Estate	Subsurface Estate	Proposed for Acquisition (Yes/No)	Preferred Method of Acquisition (Purchase/ Exchange/ Donation)	Estimated Costs of Acquisition[2] Land Costs	Processing Costs
Parcel # 1, Sec. 32, T. 30S, R. 5W	640	1	State	State	Yes	Exchange	N/A	$6,400
Parcel # 2, Sec. 6, T. 31S, R. 15W	640	1	State	State	Yes	Exchange	N/A	$6,400
Parcel # 3, Sec. 3, T. 31S, R. 15W	80	1	State	State	Yes	Exchange	N/A	$1,000
Parcel # 4, Sec. 10, T. 31S, R. 15W	80	1	State	State	Yes	Exchange	N/A	$1,000
Parcel # 5, Sec. 20, T. 31S, R. 15W	320	1	State	State	Yes	Exchange	N/A	$3,200
Parcel # 6, Sec. 32, T. 31S, R. 14W	640	1	State	State	Yes	Exchange	N/A	$6,400
Parcel # 7, Sec. 15, T. 31S, R. 15W	41	1	Private	Private	Yes	Purchase	$5,000	$1,000
Parcel # 8, Sec. 23, T. 31S, R. 15W	5	1	Private	Private	Yes	Purchase	$1,200	$1,000
Parcel # 9, Sec. 3, T. 32S, R. 15W	40	1	BLM	State	Yes	Exchange	N/A	$1,000
Parcel #10, Sec. 4, T. 32S, R. 15W	160	1	BLM	State	Yes	Exchange	N/A	$1,000

[1] The estimated costs listed in this appendix in no way represent a formal appraised value of the land or mineral estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

[2] Where exchange is the proposed acquisition method, only administrative costs of processing the exchange are shown. Processing costs are all miscellaneous expenses other than land costs. These would include work month costs, appraisals, title work, escrow costs, etc. Where direct purchase is proposed, an estimate of both the land costs and the processing costs is provided.

BLUE CREEK
WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS (None)

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE (None)

STATE

PRIVATE (None)

N

0 1 2

MILES

Blue Creek Proposal

NM-030-026

April 1990

BLUE CREEK
WILDERNESS STUDY AREA

THE STUDY AREA - 14,896 Acres

The Blue Creek Wilderness Study Area (WSA), NM-030-026, is located in northern Hidalgo and southwestern Grant Counties, 24 miles northwest of Lordsburg, New Mexico. The WSA includes 14,896 acres of Bureau of Land Management (BLM) land and 1,280 acres of State inholdings. (See Table 1 for land status and acreage summary of the study area.)

The WSA is bounded by a powerline and private land on the north and west sides, by a county road on the south, and by Blue Creek Arroyo and a dirt road on the east side.

The WSA is dominated by Black Mountain, an elongated, northwest trending mountain of black basalt. Slopes are gentle to moderate. Elevation varies from about 4,000 feet on the western edge of the WSA to nearly 5,600 feet on the top of Black Mountain. Vegetation is primarily desert shrubs, mixed mountain shrubs, and scattered juniper trees at the higher elevation.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide EIS was filed with the Environmental Protection Agency in February 1988. Two alternatives for the Blue Creek WSA were analyzed in the EIS: An all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
14,896	Acres recommended nonwilderness

The Blue Creek WSA is not recommended for wilderness designation (see Map 1). While the area contains the values necessary for study, they are not considered to be of a quality to merit inclusion in the National Wilderness Preservation System (NWPS).

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change to the natural environment over the long-term. The recommendation, while not environmentally preferred, will be implemented in a manner which would utilize all practicable means to avoid or minimize environmental impacts. There are no known or projected surface disturbance activities for the WSA as no significant impacts to natural values are expected.

The Blue Creek WSA marginally meets the naturalness criterion. Numerous rangeland and watershed developments and 6 miles of vehicle ways are located within the WSA. These imprints are concentrated in locations that are very noticeable from areas in the WSA most likely to receive visitor use. These developments are located on Black Mountain's northeast slopes and in Seep Springs Draw and Blue Creek, and degrade the natural appearance of these key topographic features.

Although there are outstanding opportunities for solitude in the WSA, these characteristics exist primarily as a result of the remoteness of the region and the lack of special features in the WSA to attract visitors, rather than any intrinsic qualities contained in the WSA.

Although outstanding opportunities exist for primitive and unconfined recreation, there are better opportunities available in a nearby area. Only 3 miles to the south is the Gila Lower Box WSA which contains 5,835 acres recommended for wilderness designation. The Gila Lower Box provides better opportunities for primitive and unconfined recreation because this area contains a combination of desert scenery, riparian vegetation, wildlife diversity, and cultural values. In terms of outstanding opportunities for primitive and unconfined recreation, the Blue Creek WSA is not comparable to the Gila Lower Box WSA.

In summary, the naturalness and opportunities for solitude and primitive and unconfined recreation in the Blue Creek WSA are not exceptional and are similar to what would be available on any similar parcel of remote, relatively undeveloped BLM-administered land located throughout southwestern New Mexico.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	14,896
Split-Estate (BLM Surface Only)	0
Inholdings	1,280
Total	16,176
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	14,896
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	14,896
Inholdings	1,280

There are no known special habitats or wildlife species in the WSA that would depend upon wilderness designation. While there are primitive recreation values, better and more diverse opportunities are being recommended for preservation on nearby BLM land. In the Blue Creek WSA, there are no known or projected activities, no known mineral potential, and no valid rights of others in the WSA. Therefore, even without wilderness designation, the quality and level of the values now found in the WSA are not expected to significantly change.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

Following the inventory of the Blue Creek WSA in 1978, BLM identified several additional rangeland developments which had been previously overlooked in the inventory. While the area still meets the minimum criteria to be a WSA, the study of this area has generated more accurate and detailed information to assess the quality of the area's wilderness characteristics.

The Blue Creek WSA marginally meets the required naturalness criterion, with numerous rangeland and watershed developments located within its boundaries. These include 2 dirt tanks, 2 corrals, 6 drinking troughs, 2 miles of pipeline, a windmill, 2 storage tanks, 17 miles of fence, and 2 debris basins associated with the Sunset Ditch flood control project. These imprints are concentrated primarily on Black Mountain's northeast slopes, in Seep Springs Draw, and Blue Creek Arroyo. These imprints degrade the naturalness of these topographic features, particularly from places most likely to be seen by visitors using the area. However, the cumulative impacts of these developments were considered to be substantially unnoticeable when considering the Blue Creek WSA as a whole.

Solitude

Opportunities exist for a visitor to feel isolated from the evidence of other people within the WSA. These opportunities are considered outstanding and are primarily the result of the remoteness of the area and, to a lesser degree, the WSA's topographic features. The opportunities for solitude are not unique to the WSA. The open expanses of relatively undeveloped lands adjacent to the WSA offer similar opportunities for solitude.

Primitive and Unconfined Recreation

The area provides outstanding opportunities for primitive and unconfined recreation. However, the quality of these opportunities does not compare to nearby opportunities available in the Gila Lower Box WSA, the Big Hatchet Mountains WSA, the Cowboy Spring WSA, and the U.S. Forest Service 558,065-acre Gila Wilderness.

Land ownership patterns in the WSA disrupt the continuity of Black Mountain. The northern end of Black Mountain and part of the surrounding foothills (T. 18 S., R. 20 W., part of Sections 22 and 27) are in private ownership. Two State sections, T. 19 S., R. 20 W., Section 2, and T. 18 S., R. 19 W., Section 36, are located in the center of Black Mountain. This combination of State and private lands reduces the opportunity to enjoy an unconfined recreational experience in the WSA. Users of the area are unable to hike around the base or along the ridge of Black Mountain without crossing State or private lands.

The locations of rangeland developments impact each of the WSA's major topographic features which in turn affects the quality of hiking or backpacking opportunities. Visitors hiking along the eastern slopes of Black Mountain can easily see the dirt tanks located in T. 18 S., R. 20 W., Sections 23 and 36 (State inholding). When the hiker is below or north of the peak in Section 34, two of the tanks come into view. Visual intrusions located close to

the mountain reduce the feeling of being isolated or in an isolated area.

While hiking in the bottom or along the rims of the WSA's two major canyons (Blue Creek and Seep Springs Draw), visitors again see rangeland developments. Several drinking toughs and a pipeline are located in Seep Springs Draw. A windmill, storage tank, and corrals are located in the canyon of Blue Creek.

The 17 miles of grazing allotment boundary and interior pasture fences within the WSA limit opportunities for horseback riding. An interior pasture fence runs along the spine of Black Mountain, restricting movement between the east and west sides of the mountain. Fences are also located in the eastern and southwestern parts of the WSA.

Special Features

The WSA does not contain significant special features. It does provide habitat for Cereus greggii, a plant species listed as endangered by the State of New Mexico and a candidate for Federal listing. Although not abundant at any one location, the plant is widely scattered and occurs in a number of localities in southwestern New Mexico

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Blue Creek WSA lies within the Chihuahuan Desert Province. The potential natural vegetation (PNV) consists of 7,276 acres of mountain mahogany/oak scrub and 7,620 acres of creosote bush. Wilderness designation of the Blue Creek WSA would add examples of two ecosystems not presently represented in New Mexico nor in the NWPS. The mountain mahogany/oak scrub ecosystem is represented in three other New Mexico BLM WSAs and the creosote bush ecosystem is represented in seven other New Mexico BLM WSAs. This information is summarized in Table 2.

Table 2: Ecosystem Representation

	NWPS Areas		Other BLM Studies	
Bailey-Kuchler Classification	Areas	Acres	Areas	Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Mountain Mahogany/Oak Scrub	0	0	3	23,367
Creosote Bush	0	0	7	73,526
New Mexico				
Chihuahuan Desert Province				
Mountain Mahogany/Oak Scrub	0	0	3	23,367
Creosote Bush	0	0	7	73,526

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

The WSA is within 5-hours driving time of Las Cruces, New Mexico; El Paso, Texas; and Tucson, Arizona. Table 3 summarizes the number and acreages of designated areas and other BLM study areas within a 5-hour drive of these population centers.

manageability is assessed in terms of its relationship to the major topographic features of the WSA.

The primary topographic feature of the WSA is Black Mountain. The mountain dominates the WSA and provides the majority of opportunities for solitude and primitive recreation. Topographic features of secondary importance are Blue Creek and Seep Springs Draw. The northern end of Black Mountain is in private ownership, and the center of Black

Table 3: Wilderness Opportunities for Residents of Major Population Centers

	NWPS Areas		Other BLM Studies	
Population Centers	Areas	Acres	Areas	Acres
New Mexico				
Las Cruces	14	1,192,386	35	767,738
Arizona				
Tucson	41	2,547,144	78	2,263,137
Texas				
El Paso	12	1,126,112	25	610,157

Balancing geographic distribution of wilderness areas

Designating the Blue Creek WSA as wilderness would not contribute significantly to balancing the geographic distribution of wilderness. The Gila Wilderness, the largest in New Mexico, is 25 miles northeast of Blue Creek. The Aldo Leopold Wilderness is approximately 60 miles to the northeast.

Manageability

The area can be managed as wilderness, however, manageability of the Blue Creek WSA is affected by land ownership. The effect of this factor on

Mountain and portions of Blue Creek are in State ownership.

The existing natural values on the BLM land in the WSA could not be maintained if nonwilderness uses on the adjacent private land or State inholdings result in additional accumulation of human caused imprints. Management of the Blue Creek WSA as wilderness would require acquisition of adjacent private land and State inholdings.

Energy and Mineral Resource Values

The potential for occurrence of mineral resources, both energy and non-energy, is rated by BLM Geologists to be low in the Blue Creek WSA.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (14,896 Acres Suitable)	No Wilderness (Proposed Action: 0 Acres Suitable)
Impacts on Wilderness Values	Wilderness protection would maintain the natural character of the juniper and desert shrub covered mountain and opportunities for solitude, hiking, camping, and photography. Naturalness would improve by 10 percent as a result of closing 6 miles of vehicle ways and allowing natural revegetation to occur.	In the short-term, the natural character of this juniper and desert shrub covered mountain would be maintained. Continued use of 6 miles of vehicle ways would, over the long-term, result in a 10 percent reduction in the quality of naturalness and opportunities to experience solitude.

Impacts on Resources

A comparative summary of impacts by alternative for the Blue Creek WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Blue Creek area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). The majority of the initial inventory comments opposed wilderness review of the area. The rationale cited lack of basic wilderness characteristics, poor configuration for management, and resource conflicts with minerals and grazing. The majority of comments on the WSA proposals supported wilderness review of the area, listing the presence of basic wilderness criteria as rationale.

Wilderness Study Comments

During the public comment period on the *Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District* (1983), 23 personal inputs were received on the Blue Creek WSA. The majority of these comments (14) favored wilderness designation of the area. The comments favoring designation listed basic wilderness values and supplemental values as rationale. Still other commenters cited the lack of resource conflicts as support for wilderness. Those opposing wilderness designation indicated agreement with the BLM's assessment of the area and the nonsuitable recommendation.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), 20 commenters specifically address the Blue Creek WSA, with all favoring wilderness designation for the area. Commenters reiterated the basic wilderness values and supplemental features of the area as supporting reasons. Another 340 commenters supported Alter-

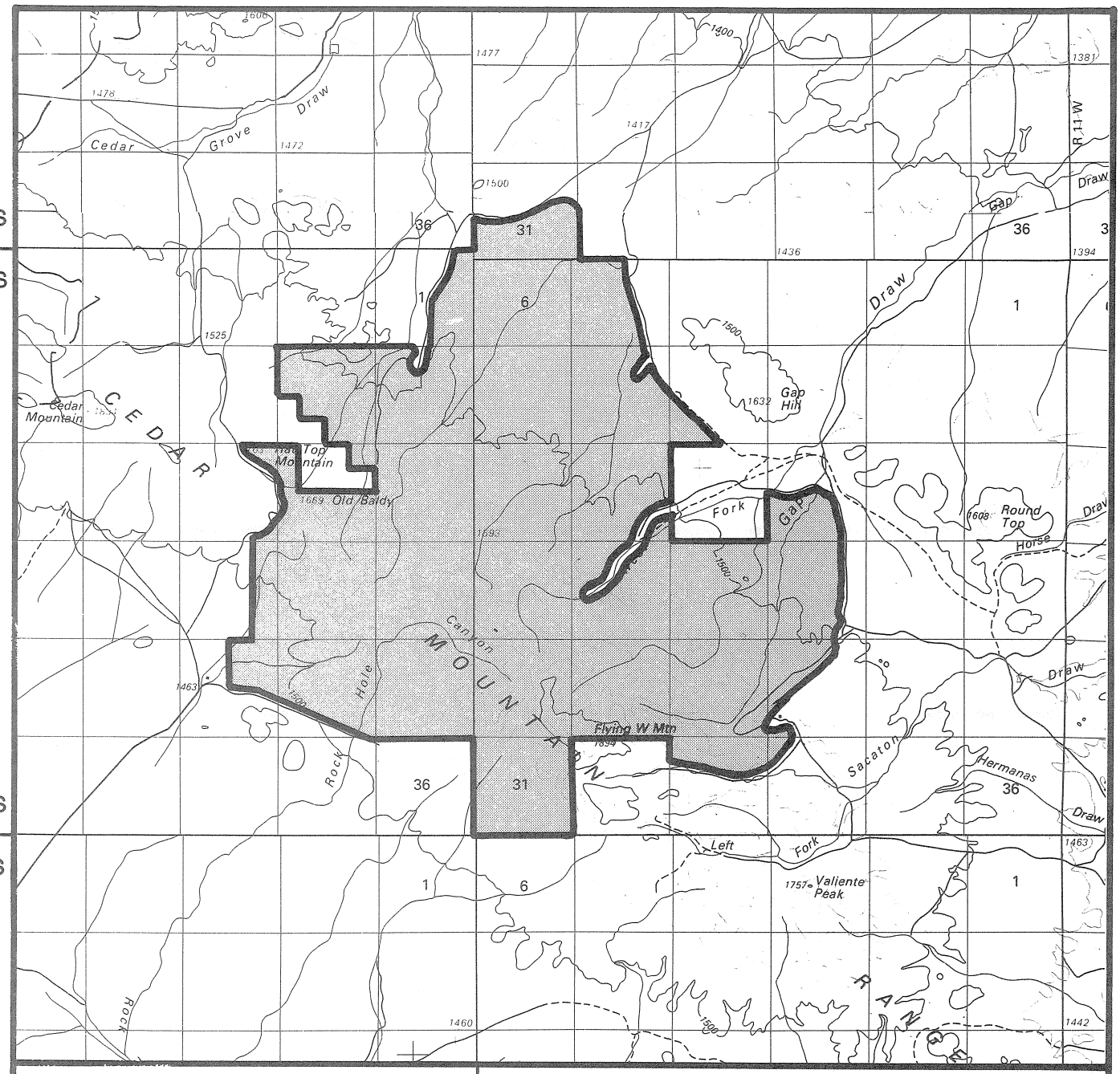
native W, a 1.3 million-acre wilderness proposal which included Blue Creek and was advocated by the New Mexico BLM Wilderness Coalition.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), 37 commenters specifically addressed the Blue Creek WSA. All 37 favored wilderness designation for the area.

Generally, those who favored wilderness designation felt that the area met the criteria for wilderness and that designation would protect the area's unique natural values. The New Mexico BLM Wilderness Coalition commented that "BLM has overemphasized the impacts of the few rangeland and watershed developments in the WSA." The Coalition also commented that the area should also be considered for designation because of it "being a defacto extension of the Gila Lower Box in terms of visual resources and wildlife."

CEDAR MOUNTAINS
WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS (None)

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE (None)

STATE (None)

PRIVATE (None)

N

0 1 2

MILES

Cedar Mountains Proposal

NM-030-042

April 1990

CEDAR MOUNTAINS
WILDERNESS STUDY AREA

THE STUDY AREA – 14,911 Acres

The Cedar Mountains Wilderness Study Area (WSA), NM-030-042, is located in southwestern Luna County approximately 20 miles southwest of Deming, New Mexico. The WSA contains 14,911 acres of Bureau of Land Management Land (BLM) land. There are no State or private lands within the WSA boundary. (See Table 1 for land status and acreage summary of the study area.) The northern and eastern boundary of the WSA are formed primarily by graded dirt roads. The southern and western boundaries are formed by State and private lands and approximately 3 miles of graded dirt roads.

The Cedar Mountains WSA contains a 4-mile segment of the Cedar Mountain Range. This mountain range is essentially a northwest-southwest trending ridge with scattered peaks. Drainages are steep and rocky at their origins along the mountain ridge. The lower elevations are characterized by more rolling, rounded hills and broader drainages. Elevations range from 4,700 feet in the northeast portion to 6,215 feet atop Flying W Mountain in the southern end of the WSA.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Final Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Two alternatives for the Cedar Mountains WSA were analyzed in the EIS: An all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
14,911	Acres recommended nonwilderness

The Cedar Mountains WSA is not recommended for wilderness designation (see Map 1). The quality of the wilderness values was the key consideration in the recommendation. While the WSA contained the wilderness values necessary for study, they are not considered to be of a quality to merit the area's inclusion in the National Wilderness Preservation System (NWPS).

The All Wilderness Alternative is the environmentally preferable alternative, as its implementation would result in the least change to the natural environment over the long-term. The recommendation, while not the environmentally preferred, will be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts. While resource development activities within the WSA are not projected, there is a possibility for oil and gas exploration. If exploration were to occur, it is expected to result in two or three additional seismic lines in the area. However, very minor changes to the natural environment are expected.

The WSA generally appears natural but there are several site-specific signs of man, primarily rangeland developments, which impact naturalness locally. Solitude opportunities available in the WSA are similar to those afforded by the thousands of acres of land adjacent to the WSA. These opportunities

are due to the remoteness and lack of human activity in the area and are not due to any intrinsic values unique to the WSA. The WSA does not offer outstanding opportunities for primitive and unconfined recreation. There are no significant wildlife species or habitats, geologic features, or scientific and educational values in the area that would benefit from wilderness designation. There is one State-listed plant, night blooming cereus (Cereus greggii), and one cultural feature that have been identified, and these features will receive special protection from any surface disturbing activity.

At the present time, there is little threat to the existing naturalness of the area. There are no known or projected activities, no known mineral potential, and no valid rights of others in the WSA. Therefore, even without wilderness designation, the quality and level of values now found in the WSA are not expected to significantly change.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	14,911
Split-Estate (BLM Surface Only)	0
Inholdings	0
Total	14,911
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	14,911
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	14,911
Inholdings	0

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The Cedar Mountains WSA generally appears natural. Imprints of man associated with the WSA include: 7 vehicle ways, approximately 10 miles of fences, 2 metal storage tanks, and erosion control dikes. The seven vehicle ways, totalling 10 miles in length, generally follow drainages and are topographically screened from view. The fences, storage tanks, and erosion control dikes are substantially unnoticeable within the WSA.

Solitude

The Cedar Mountains WSA provides outstanding opportunities for solitude. In the mountainous portion of the WSA, several small canyons provide topographic screening which enhances the solitude opportunities. In the northern part of the WSA, long views of rolling, grass covered hills outside the WSA promotes the feeling of solitude. However, these opportunities are primarily the result of the remoteness of the area and the lack of development and human activity in the region. The WSA is surrounded by thousands of acres of relatively undeveloped Federal lands which provide much of the same type of solitude opportunities that are available in the WSA.

Primitive and Unconfined Recreation

Primitive and unconfined recreation opportunities in the Cedar Mountains WSA were judged as not being outstanding either in terms of diversity or quality of the recreation experiences available.

Special Features

The Cedar Mountains WSA provides habitat for the night blooming cereus (Cereus greggii), a cactus species listed as State endangered and a candidate for Federal listing. This species is widespread in the region but is not abundant at any one location. The cultural feature of this area consists of Animas phase pueblo sites that may be eligible for listing on the National Register of Historic Places.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Cedar Mountains WSA is within the Chihuahuan Desert Province. The potential natural vegetation (PNV) consists of mountain mahogany/oak scrub, 6,106 acres; creosote bush, 7,599 acres; and grama/tobosa shrubsteppe, 1,206 acres. While these vegetation types are not currently represented in the NWPS, there are similar or better representations within the State which are recommended for wilderness designation. This information is summarized in Table 2.

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

The WSA is within 5-hours driving time from Las Cruces, New Mexico, El Paso, Texas, and Tucson, Arizona. Table 3 summarizes the number and acreages of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

Designating the Cedar Mountains WSA as wilderness would contribute to balancing the geographic distribution of wilderness. The nearest designated wilderness is the U.S. Forest Service Gila Wilderness, approximately 75 miles north. Currently, there is no designated wilderness south of Interstate 10 in southern New Mexico. However, there

Table 2: Ecosystem Representation

Bailey-Kuchler	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Mountain Mahogany/Oak Scrub	0	0	3	24,537
Creosote Bush	0	0	7	73,547
Grama/Tobosa Shrubsteppe	2	39,907	16	187,770
New Mexico				
Chihuahuan Desert Province				
Mountain Mahogany/Oak Scrub	0	0	3	24,537
Creosote Bush	0	0	7	73,547
Grama/Tobosa Shrubsteppe	2	39,907	16	187,770

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
New Mexico				
Las Cruces	14	1,192,386	35	767,723
Arizona				
Tucson	41	2,547,144	78	2,263,137
Texas				
El Paso	12	1,126,112	25	610,142

are a total of 10 BLM WSAs in this region and 5 of these have been recommended for wilderness designation.

Manageability

The Cedar Mountains WSA could be managed to preserve existing wilderness values in the long-term. There are no resource uses nor prior existing rights that would significantly affect the management of the area as wilderness. Much of the southern and western boundaries are along property lines and adjoining State or private lands. These boundaries are not readily identifiable on the ground and extensive signing would be necessary to establish an identifiable boundary.

Energy and Mineral Resource Values

The Cedar Mountains WSA is classified by BLM Geologists as having a low potential for energy and mineral resource values.

The Cedar Mountains lie along the northeast margin of the Pedregosa Basin. The Basin contains potentially good petroleum and reservoir rocks, however, there have been no oil and gas wells drilled in the vicinity of the WSA. Based on the geologic and economic factors, the WSA is classified as having low potential for oil and gas resources.

There are no known metallic mineral occurrences in the Cedar Mountains. The WSA has low potential for the occurrence of base and precious metals.

Impacts on Resources

A comparative summary of impacts by alternative for the Cedar Mountains WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Cedar Mountains area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). During the public comment periods, comments were received supporting and opposing WSA status of the area. Many of the comments on the WSA proposals opposed WSA status for the Cedar Mountains. The commenters were upset that the area was being reevaluated for wilderness characteristics. Opposing comments cited rangeland developments, lack of outstanding opportunities for solitude or recreation, and conflicts with the ranching business and rockhounds. Comments favoring WSA status for this area stated that a portion of the area has basic wilderness values and cited the supplemental values of a biological ecotone along the Mexican border.

Wilderness Study Comments

During the public comment period on the *Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District* (1983), 25 personal inputs were received on the Cedar Mountains WSA, with the ,majority favoring wilderness designation of the area. These comments fell into three major categories of criticism of BLM's evaluation of the area: (1) wilderness values; (2) manageability; and (3) ecological values.

Most of the comments listed the area's wilderness values as reasons for favoring wilderness designation for the area. Several comments indicated support for wilderness designation of an area greater than the 14,911-acre WSA. The acreage figures ranged from 40,000 to 95,000 acres. In addition to the general comment that the Cedar Mountains

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (11,911 Acres Suitable)	No Wilderness (Proposed Action: 0 Acres Suitable)
Impacts on Wilderness Values	Wilderness protection would maintain the area's rolling, grass and brush covered hills, outstanding opportunities for solitude, special ecological conditions for night blooming cereus (State-listed endangered species) and Animas phase pueblo sites.	Wilderness values would not receive long-term Congressional protection. In the short-term, the area would likely retain its natural appearance and outstanding opportunities for solitude. However, in the long-term, the construction of rangeland developments and roads associated with livestock grazing operations along with oil and gas exploration would degrade the area's naturalness and outstanding oppor-tunities for solitude.

WSA is manageable as wilderness, several commenters suggested solutions to manageability conflicts such as land exchanges for contiguous State land, adopting a long-term plan for eliminating existing fences, and closure of cherry-stemmed roads.

Comments submitted by the State of New Mexico Natural Resources Department (NMNRD) indicated inadequacies in the plant data presented in the Wilderness Analysis Report (WAR) and listed a number of State sensitive and Federal candidate plant species possibility occurring in the WSA. The NMNRD's comments also indicated that there is a high probability of finding Mexican peripheral plant species and communities in the WSA as well as peripheral animal species from Mexico.

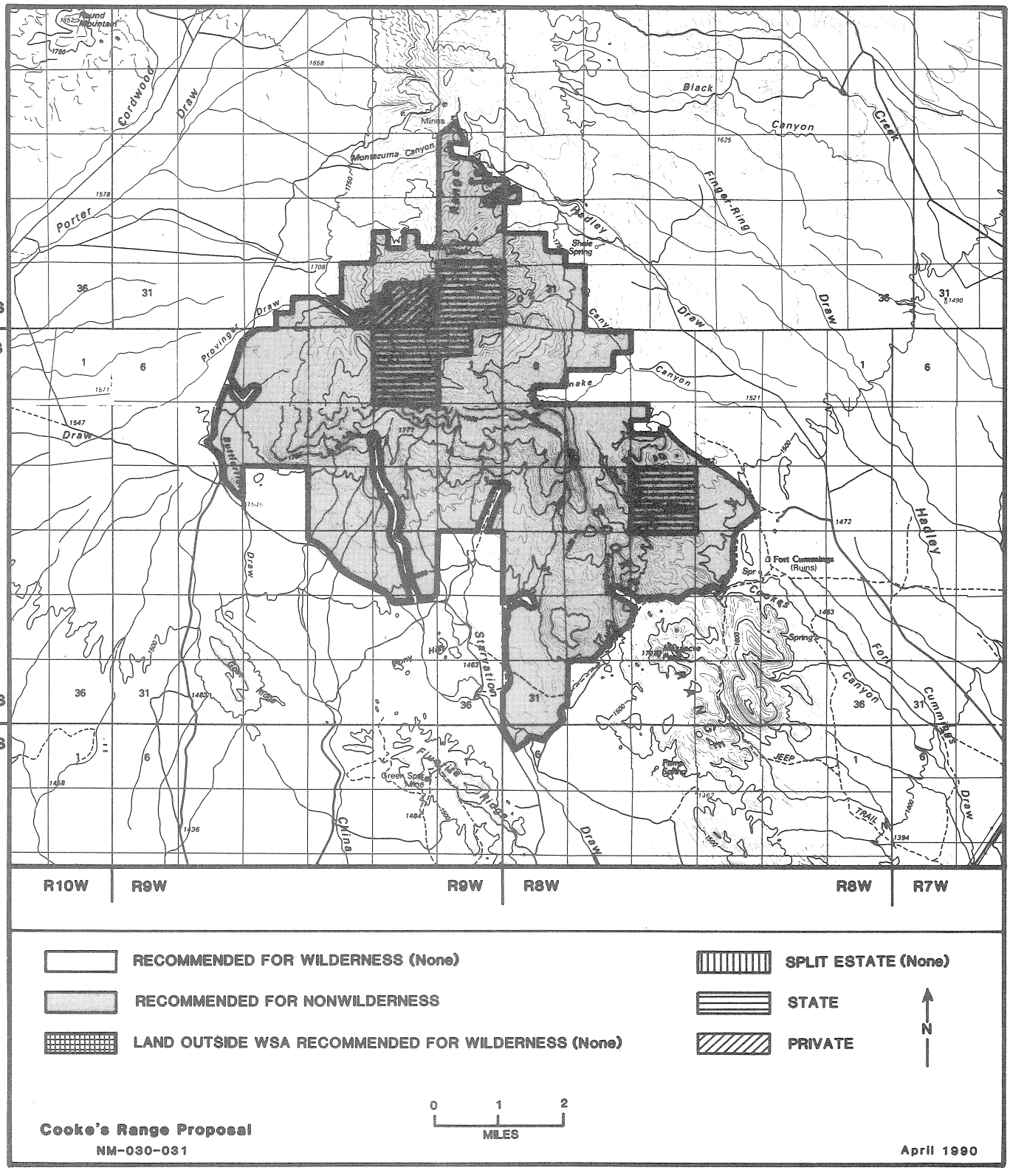
Comments opposing wilderness designation for the area either indicated agreement with the BLM's assessment and proposed action for the WSA or listed potential mineral resources as the reason for opposing wilderness designation.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico BLM Wilderness Coalition which included the Cedar Mountains WSA. Twenty-three commenters specifically addressed the Cedar Mountains WSA, with 20 supporting wilderness designation. The WSA's basic wilderness values and special features were cited as supporting reasons. Three commenters opposed wilderness designation because of impacts to the minerals industry.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), 53 commenters specifically addressed the Cedar Mountains WSA. Forty-three commenters favored wilderness designation and 13 opposed it. Those favoring designation felt that the area meets wilderness criteria and that designation was necessary to protect what they perceived to be the area's unique qualities and features. The New Mexico BLM Wilderness Coalition stated that a total of 106,081 acres should be designated and that BLM had wrongly deleted this acreage during the study. The 13 commenters opposing wilderness designation cited no specific reasons for their position.

COOKE'S RANGE
WILDERNESS STUDY AREA

MAP 1



T20S
T21S
T21S
T22S
R10W
R9W
R9W
R8W
R8W
R7W
Round Mountain
Cordwood
Draw
Porter
Mines
Montezuma Canyon
Black
Canyon
Creek
Finger-Ring
Hadley
Shale Spring
Provinger
Draw
Canyon
Draw
Draw
Hadley
Fort Cummings (Ruins)
Cookes
Spring
Fort
Canyon
Cummings
Draw
Starvation
Green Spring Mine
Fluorite Ridge
China
Draw
JEEP
TRAIL
Pump Spring
RECOMMENDED FOR WILDERNESS (None)
RECOMMENDED FOR NONWILDERNESS
LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)
SPLIT ESTATE (None)
STATE
PRIVATE
N
0
1
2
MILES
Cooke's Range Proposal
NM-030-031
April 1990

COOKE'S RANGE
WILDERNESS STUDY AREA

THE STUDY AREA – 19,608 Acres

The Cooke's Range Wilderness Study Area (WSA), NM-030-031, is located in Luna County, approximately 15 miles north of Deming, New Mexico. The WSA contains 19,608 acres of Bureau of Land Management (BLM) land, 2,080 acres of State inholdings, and 480 acres of private inholdings. (See Table 1 for land status and acreage summary of the study area.) The boundary for the southern half of the WSA is primarily dirt roads, with some State land. The northern boundary is formed by State and private lands.

Cooke's Peak, with an elevation of 8,400 feet, rises over 3,600 feet above the surrounding plains and dominates the landscape for miles around. Portions of the north and east slopes of Cooke's Peak are within the boundaries of the WSA; however, much of the south and southwest slopes are on cherry-stemmed State and private lands. Several ridges, rising between 1,000 and 3,000 feet above the surrounding terrain, run the length of the WSA. These ridges, which form the backbone of the Range, are dissected by dozens of drainages and secondary ridges. Several steep-walled canyons and drop-offs are located in the WSA.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide EIS was filed with the Environmental Protection Agency in February 1988. Two alternatives for the Cooke's Range WSA were analyzed in the EIS: An all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
19,608	Acres recommended nonwilderness

The Cooke's Range WSA is not recommended for wilderness designation (see Map 1). The recommendation is based on the mineral potential of the area, the anticipated likelihood of future mineral development, and the presence of a large block of non-Federal land in the central portion of the WSA. These factors combine to make the Cooke's Range WSA unmanageable as wilderness.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change to the natural environment over the long-term. The recommendation, while not environmentally preferred, will be implemented in a manner which would utilize all practicable means to avoid or minimize environmental impacts. There are no surface disturbing activities presently proposed, however, mineral exploration and development may occur in the future. Any mining activity would be regulated to prevent unnecessary or undue degradation of the natural environment.

The WSA contains approximately 4,800 acres which were rated as moderate or high mineral resource potential for base and precious metals. Some 92 mining claims have been located in the WSA. It is expected that several of these claims would prove valid, and that some development would occur. The exercise of valid rights on the mining claims in the

WSA would degrade naturalness and impact solitude opportunities in the area. This would hinder BLM's ability to preserve the wilderness characteristics in the vicinity of the mining claims. Two old mining districts are adjacent to the northern part of the WSA. The resumption of mining in these districts is possible in the future. Any such activity would also impair BLM's ability to manage the northern portion of the WSA as wilderness.

Much of the focal point of the WSA, Cooke's Peak, is in non-Federal ownership. A total of 1,920 acres of State and private lands on the south and southwest slopes of Cooke's Peak are excluded from the WSA. Full recreation use of the north-central portion of the WSA would not be possible without traversing or trespassing on these lands. The lands are in an area of moderate potential for minerals. Any mineral development on these lands would impact the solitude opportunities of the surrounding WSA, and would hinder BLM's ability to preserve the area's wilderness characteristics in the long-term.

There is no question the Cooke's Range WSA has outstanding wilderness values. This recommendation is not based on the quality of those wilderness values, but on the ability of BLM to effectively manage the area as wilderness. Given the mineral resource potential and the presence of over 260 mining claims in the historic mining districts in and around the Cooke's Range, BLM does not feel it could reasonably manage the area as wilderness.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	19,608
Split-Estate (BLM Surface Only)	0
Inholdings	2,560
Total	22,168
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	19,608
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	19,608
Inholdings	2,560

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The Cooke's Range WSA generally appears natural. However, naturalness is impacted locally by a variety of imprints including access routes, rangeland developments, evidence of mining activity, and a telephone line.

Access routes include several vehicle ways (approximately 8 miles) in the southern half of the WSA and six roads cherry-stemmed into the WSA from various points along the boundary. The ways have generally insignificant impacts on naturalness due to vegetation and topographic screening. The cherry-stemmed roads are also substantially unnoticeable. The rangeland developments located at the end of these cherry-stemmed roads impact naturalness locally.

Mining activity in the northern portion of the WSA impacts naturalness. Although there are mine shafts, small tailings piles, and an abandoned tramway, the impacts are mitigated by vegetation and topographic screening.

The single-wire telephone line which crosses through the southeast portion of the WSA can be seen in the immediate area, but its impact on naturalness is reduced by topographic screening and use of native materials.

Solitude

The WSA's size, configuration, and topography are the most important factors in determining the area's opportunities for solitude. The major portion of the WSA in and around Cooke's Range provides outstanding opportunities for solitude. The combination of ridges and drainages creates a great deal of topographic relief and provides opportunities for seclusion in almost every drainage and on many of the ridges.

Opportunities for solitude in the creosote bush flats in the south and southwestern portion of the WSA are less than outstanding due to the lack of topographic and vegetation screening.

Primitive and Unconfined Recreation

The Cooke's Range WSA offers a variety of primitive recreational opportunities. The area is large enough to support a 3 or 4 day pack trip. Opportunities also exist for rock climbing, horseback riding, and photography. Opportunities for deer hunting are good. Primitive recreation opportunities are enhanced by the size of the WSA and the diversity of vegetation and topography found in the WSA.

The State and private lands south of Cooke's Peak detract from the quality of opportunities for primitive recreation in the WSA. Hikers cannot climb the peak from the south nor can they hike directly through the WSA without traversing or trespassing on these State and private lands.

Special Features

The Cooke's Range WSA contains special ecological, cultural, and scenic features.

The WSA provides habitat for night blooming cereus (Cereus greggii), a State endangered species and a candidate for Federal listing. This species is widespread but is not common in any one locality. In addition, red figwort (Scrophularia macrantha), a Federal endangered species, has been found approximately 1 mile north of the WSA boundary and may occur in the WSA.

The variety of vegetation in the WSA results in a diverse wildlife community. Raptors which inhabit the WSA include golden eagles, Cooper's hawk, great horned owls, and prairie falcons. Unusual and unique lizard species are also found in the WSA.

A significant petroglyph site is located near Frying Pan Spring in the southeast part of the WSA. Several historic sites are associated with Cooke's Range including the Butterfield Trail which forms the southeast boundary. Fort Cummings, about 1/2 mile east of the WSA, was garrisoned periodically from about 1863 to the early 1880's. In 1882, the mining town of Cooke was established near the present northeastern boundary of the WSA.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems: The Cooke's Range WSA lies within the Chihuahuan Desert Province. The potential natural vegetation (PNV) consists of 13,899 acres of mountain mahogany/oak scrub, 3,068 acres of creosote bush, 879 acres of grama/tobosa shrubsteppe, and 1,762 acres of Trans/Pecos shrub savanna. Wilderness designation of this WSA would add examples of these four ecosystems which are not presently represented in New Mexico nor in the National Wilderness Preservation System (NWPS). This information is summarized in Table 2.

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

The WSA is within 5-hours driving time of Las Cruces, New Mexico; Tucson, Arizona; and El Paso, Texas. Table 3 summarizes the number and acreages of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Mountain Mahogany/Oak Scrub	0	0	3	16,744
Creosote Bush	0	0	7	78,078
Grama/Tobosa Shrubsteppe	2	39,907	16	188,097
Trans/Pecos Shrub Savanna	2	77,774	7	76,788
New Mexico				
Chihuahuan Desert Province				
Mountain Mahogany/Oak Scrub	0	0	3	16,744
Creosote Bush	0	0	7	78,078
Grama/Tobosa Shrubsteppe	2	39,907	16	188,097
Trans/Pecos Shrub Savanna	1	30,344	7	76,788

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Las Cruces	14	1,192,386	35	763,026
Arizona				
Tucson	41	2,547,144	78	2,263,137
Texas				
El Paso	12	1,126,112	25	605,445

Balancing the geographic distribution of wilderness areas

Designating the Cooke's Range WSA as wilderness would contribute to balancing the geographic distribution of wilderness. The nearest designated wilderness are the Aldo Leopold Wilderness and the Gila Wilderness, approximately 30 miles north and 40 miles northwest, respectively.

Manageability

The rugged topography and large size of the Cooke's Range WSA would positively affect manageability of the area as wilderness. The area is large and rough enough to accommodate visitors without compromising opportunities for solitude and recreation.

Numerous roads are cherry-stemmed into the WSA. Vehicle use on these roads in combination with the local impacts of rangeland developments diminish the naturalness and solitude in the vicinity of the cherry-stemmed roads and thus affects the BLM's ability to manage the WSA to preserve wilderness values.

There are also numerous mining claims within the Cooke's Range WSA. If these claims are developed before or after wilderness designation, wilderness values could be degraded.

Much of the WSA boundary is not readily identifiable on the ground. As a result, extensive signing would be necessary to establish an identifiable boundary.

Energy and Mineral Resource Values

The Jose and Cooke's Peak Mining Districts, just north of the WSA, produced lead, silver, zinc, copper, and gold as late as 1947. The Silver Cave Mine near Cooke's Peak and in the WSA is said to have produced silver ore with minor amounts of lead and zinc. Because of the proximity of the Mining Districts and the location of mineral bearing geologic formations, some 1,100 acres in the northern part of the WSA is rated by BLM Geologists as having high potential for base and precious metals. Another 3,700 acres to the south and west of Cooke's Peak is rated by BLM Geologists as having moderate potential for base and precious metals.

Impacts on Resources

A comparative summary of impacts by alternative for the Cooke's Range WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (19,608 Acres Suitable)	No Wilderness (Proposed Action: 0 Acres Suitable)
Impacts on Wilderness Values	The area's rugged canyons and steep ridges, opportunities for solitude, rock climbing, photography and hunting, and habitat for numerous raptors, mule deer, and unusual reptile species would be maintained. Petroglyphs, Mimbres habitation sites, and sites associated with the Butterfield Trail would be maintained. Solitude opportunities and naturalness would be impacted on approximately 20 percent of the WSA as a result of projected development of valid existing mining claims.	Over the long-term, new roads and ways, drill pads, and surface disturbance associated with mineral exploration and a low level of development would result in 50-100 acres of surface disturbance and up to 12 miles of new roads. This would degrade naturalness and opportunities for solitude and primitive recreation in the north end of the WSA. The scenic character would change from substantially natural to semi-developed. Portions of the WSA could be partitioned into roadless areas less than 5,000 acres in size. Approximately 50 percent of the area would be affected by mineral activities. In the short-term, wilderness values would be protected on 2,493 acres segregated from mineral entry in the southern portion of the WSA.
Impacts on Exploration and Development of Metallic Minerals	Exploration and development of mining claims without valid existing rights on 1,100 acres with high potential and 3,700 acres with moderate potential for base and precious metals would be foregone. This would preclude drilling 35-70 test holes to explore and to fully evaluate the area's mineral potential.	No significant impacts. Mineral exploration for base and precious metals is anticipated to occur on 1,100 acres having high favorability and 3,700 acres having moderate favorability. A low level of development would result from drilling 35-70 test holes to fully access the area's mineral potential.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Cooke's Range area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). The WSA proposal for Cooke's Range was the second most commented on recommendation in the State. Comments opposing WSA status slightly exceeded comments favoring WSA status for the area.

Comments favoring wilderness study cited the Range's naturalness and outstanding opportunities for solitude and primitive types of recreation. The scenic, cultural, historical, and wildlife supplemental values of the area also were discussed.

Almost half of those comments opposing wilderness study cited mineral resource conflicts. Others discussed impacts resulting from rangeland management activities, non-public land inholdings, irregular boundary, and jet plane fly-overs.

Wilderness Study Comments

During the public comment period on the *Draft Environmental Assessment(DEA) Wilderness Study Areas in the Las Cruces District* (1983), the majority of the inputs (27 personal letters and 49 form letters) favored wilderness designation for the Cooke's Range WSA. Reasons for favoring wilderness designation fell into five categories: (1) basic wilderness values, (2) supplemental values, (3) size, (4) manageability, and (5) resource conflicts.

Comments regarding the area's basic wilderness values and supplemental values generally reiterated comments made in past public review periods. The Continental Divide Trail Society's comments stated that they favor routing the Continental Divide Trail through the Mimbres Mountains, along the east side of the Cooke's Range to Fort Cummings, Deming, and Columbus. The Society feels that this route would be superior to keeping the Trail along the actual Divide through the "bootheel." They favor wilderness designation for the Cooke's Range WSA so as to minimize the likelihood of developments that would detract from the recreational experience along the Trail.

Two comments indicated support for wilderness designation of an area greater than the 19,608-acre WSA. The acreage figures listed were 30,000 acres and 35,000 acres. Three other comments indicated that the WSA should be expanded to the north to include the endemic stand of Arizona cypress.

Comments regarding the manageability of the Cooke's Range WSA as wilderness varied. These included the general comment that the area is manageable and disagreement with the use of manageability conflicts as the rationale for a non-suitable wilderness recommendation. Several commenters indicated that the remoteness and ruggedness of the WSA would enhance wilderness management and the impacts of any future mining activities would be mitigated by vegetation and topographic screening, just as the existing impacts of past mining activities are now. Two comments expressed the opinion that cherry-stemmed private land in the WSA is not a manageability problem because it cannot be developed because of access and water problems, and the Federal mineral estate underlying the private surface cannot be mined without Government approval. Additional comments pertaining to the effects of the area's mineral values on manageability included: Congress can open the area if strategic minerals are needed in the future, BLM should only allow the development of existing claims and prevent further exploration, and the impending deadline for filing claims and the nature of the Cooke's Range will keep mining to a minimum. Several commenters suggested solutions to manageability conflicts. These included land exchanges for inholdings or contiguous non-Federal lands and closure of cherry-stemmed roads.

Pro-wilderness comments on resource conflicts in the Cooke's Range WSA all related to the area's

mineral potential. The predominant attitude expressed in these comments was that the wilderness values of the Cooke's Range WSA outweigh mineral values. One commenter expressed the opinion that the conclusion in the Wilderness Analysis Report (WAR) that there is high potential for nonenergy minerals at depth is not based on hard evidence that economic deposits exist. The comment went on to state that the extraction would be expensive and economic benefit questionable. Other comments included: the area has alternative sites in the region for those minerals found in the Cooke's Range, and Government should not be concerned with the effects of wilderness on the value of valid claims in the WSA.

Fifteen personal letters were received opposing wilderness designation for the Cooke's Range WSA. More letters of opposition were received for this WSA than any other in the DEA. The reasons cited for opposing wilderness designation included: lack of naturalness due to mining activities and rangeland developments, the area has more roads than shown on the map, and the area would be difficult to manage because of State and private inholdings.

Most of the comments listed the area's excellent potential for lead, zinc, and silver and past production of these minerals as reasons for opposing wilderness designation. One comment cited the area's oil, gas, and geothermal potential. Several comments expressed the opinion that additional exploration is needed to fully assess the area's mineral potential and wilderness designation would restrict mining activities too severely to allow continued development.

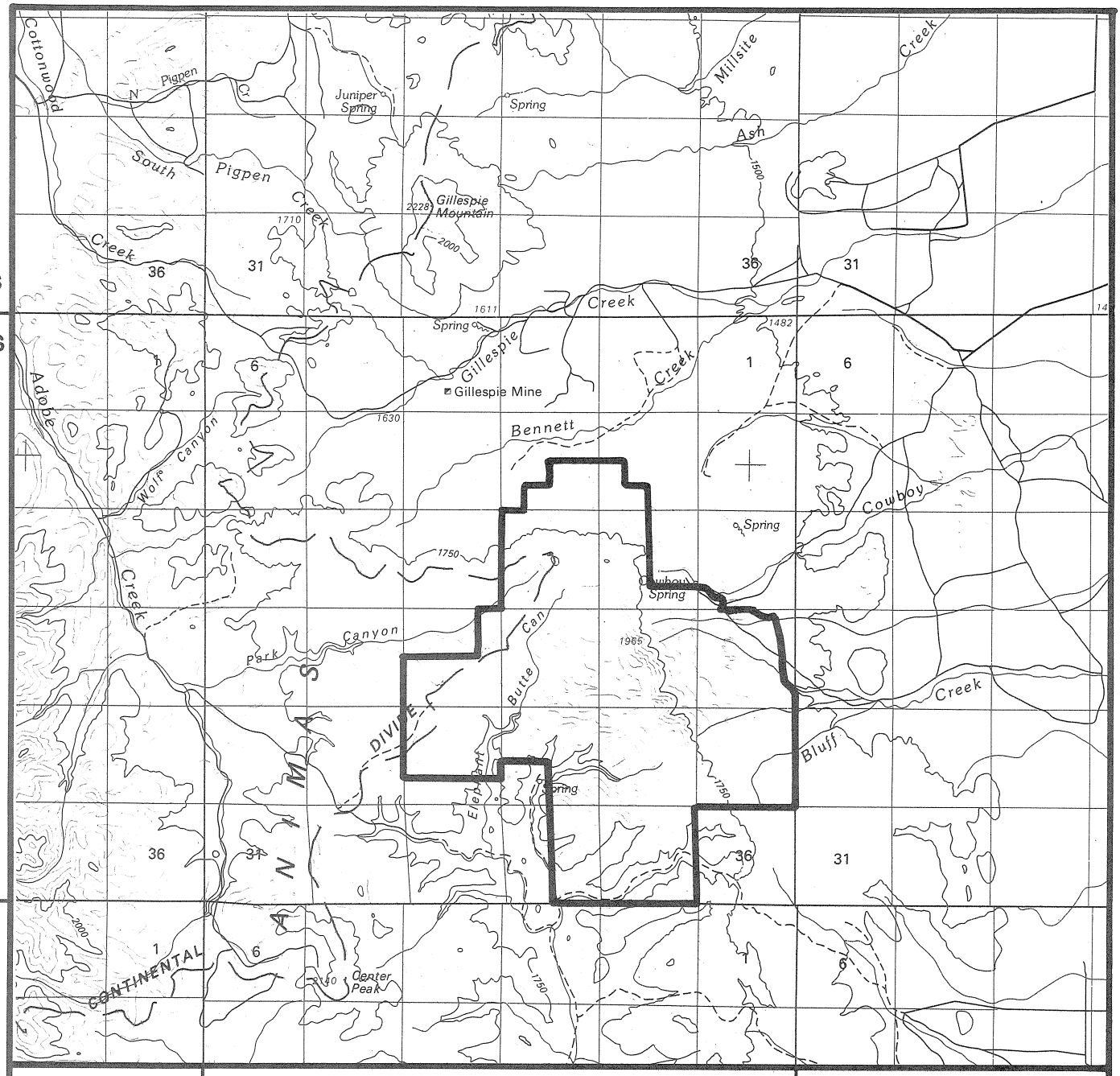
Other opposing comments speculated that wilderness would limit or ban access and collecting in this popular rockhound area and the area should remain open to the public. One commenter suggested that a recreation area be established in the Cooke's Range area to protect the Frying Pan Spring Petroglyphs and Pony Hills withdrawal from grazing. The New Mexico Natural History Institute agreed that resource conflicts and manageability problems render the area a less than ideal wilderness, but "Strong management provisions to protect outstanding biological values should come by other means."

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), BLM received 465 comments in the form of letters and testimony at public hearings. A total of 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico BLM Wilderness Coalition included the Cooke's Range WSA. Thirty commenters specifically addressed the Cooke's Range WSA with 24 commenters favoring wilderness designation and five opposing. The WSA's basic wilderness characteristics and supplemental values were cited as supporting reasons. Those opposing stated designation would adversely impact the minerals industry, individual mining operations, livestock grazing industry, and individual livestock operations. Other opposing reasons stated the Cooke's Range WSA contained too many intrusions, it is located too close to a population center, and designation was incompatible with the multiple-use concept.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), specific comments were directed to the Cooke's Range WSA by 98 commenters.

COWBOY SPRING
WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS

RECOMMENDED FOR NONWILDERNESS (None)

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE (None)

STATE (None)

PRIVATE (None)

N

0 1 2

MILES

Cowboy Spring Proposal

NM-030 -007

April 1990

COWBOY SPRING
WILDERNESS STUDY AREA

THE STUDY AREA – 6,699 Acres

The Cowboy Spring Wilderness Study Area (WSA), NM-030-007, is located in southern Hidalgo County, approximately 50 miles south of Lordsburg, New Mexico. The WSA contains 6,699 acres of Bureau of Land Management (BLM) land. There are no State or private inholdings. (See Table 1 for land status and acreage summary of the study area.) A portion of the northeast boundary is formed by Cowboy Rim. The remainder of the WSA is bounded by State and private lands.

The WSA is dominated by Cowboy Rim, a prominent ridge 6,300 feet in elevation, running generally north-south through the east half of the WSA and curving to the west in the northern one-third of the WSA. The western portion of the WSA consists of the upper reaches of several canyons which drain to the southwest. The most prominent of these canyons is Elephant Butte Canyon which is about 325 feet deep.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Three alternatives for the Cowboy Spring WSA were analyzed in the EIS: an all wilderness alternative, a no wilderness alternative, and a research natural area alternative.

RECOMMENDATION AND RATIONALE

6,699	Acres recommended wilderness
0	Acres recommended nonwilderness

The recommendation for the Cowboy Spring WSA is to designate all 6,699 acres as wilderness (see Map 1). The basis for this recommendation is the area's exceptional naturalness, outstanding opportunities for solitude and primitive recreation, and unparalleled ecological diversity. The All Wilderness Alternative is the environmentally preferable alternative, as it will result in the least change to the natural environment over the long-term.

The ecological diversity of the Cowboy Spring WSA is unequaled by any other WSA in New Mexico. Biotic influences from the Chihuahuan Desert, the Rocky Mountains, the Sierra Madre, and the Sonoran Desert give the Cowboy Spring WSA and surrounding Animas Mountains a greater number of mammals than any National Park or Wildlife Refuge in the United States and the greatest concentration of State- or Federally-listed endangered species in New Mexico. The WSA supports approximately 130 species of birds, 60 species of mammals, and 40 species of reptiles. The two ecosystems found within the WSA are the Mexican Highlands grama-tobosa shrubsteppe and evergreen woodland types. The evergreen woodland is classified as a

mountain mahogany-oak scrub type but is manifested as a mature savannah forest of evergreen oaks with gallery woodlands of oaks and occasional deciduous trees along watercourses.

The WSA is extremely natural, containing only 1 1/2 miles of livestock fence and 1 mile of vehicle trail in the entire area. Opportunities for solitude are exceptional because of the remoteness of the Animas Mountains and lack of population centers in southern Hidalgo County. The Phelps Dodge Development Corporation has a smelter at Playas, approximately 9 miles northeast of the WSA, that is visible from 20 percent of the WSA along the northern and northeastern portions. The rugged topography of the Cowboy Rim precludes views of the smelter from the remaining 80 percent of the WSA.

Solitude is enhanced by topographic screening created by the Cowboy Rim and the numerous small drainages and ridges northeast and southwest of the rim as well as oak groves and trees.

The recreational values of the WSA are also exceptional, including opportunities for hiking, bird watching, and hunting for such species as Montezuma quail, javelina, and Coue's whitetail deer.

Conflicts with other resource uses in this WSA are limited. Livestock grazing currently occurs seasonally and will be allowed to continue. The entire WSA was rated by the U.S. Geological Survey and U.S. Bureau of Mines as having low potential for occurrence of undiscovered metals, fluorspar, oil and gas, and geothermal energy.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	6,699
Split-Estate (BLM Surface Only)	0
Inholdings	0
Total	6,699
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	6,699
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	6,699
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	0
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	0
Inholdings	0

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The imprints of man within the 6,699-acre WSA are minimal. Two fences within the area are constructed with wooden posts and are substantially unnoticeable. A vehicle way enters the WSA from the southwest providing the only access to the Park, an old homestead adjacent to the northwest boundary. Approximately 1 mile of the way crosses the western part of the WSA. Approximately 1 1/2 miles of a two-track way crosses just inside the southern boundary of the WSA. With the exception of these few imprints, the WSA is virtually pristine and appears to have been affected primarily by the forces of nature.

Solitude

The Cowboy Spring WSA provides outstanding opportunities for solitude. Most of the area is rugged and its remoteness from any habitation enhances the solitude opportunities. The topographic relief and vegetation screening provides secluded niches where visitors might escape the sights and sounds of others in the WSA; however, the small size of the area would make it difficult to avoid other visitors.

The Cowboy Spring WSA is surrounded on the north, south, and west by vast undeveloped areas of the rugged, and in places, densely vegetated Animas Mountains. Because of its west trending topographic aspect and small size, perceptions of outstanding solitude within most of the WSA (west of Cowboy Rim) are, to a large degree, dependent on these undeveloped non-Federal lands.

Primitive and Unconfined Recreation

This WSA provides outstanding opportunities for primitive and unconfined recreation. The rugged topography, isolation, and lack of legal access preclude the use of vehicles in the area for motorized recreation. Opportunities exist for hiking, horseback riding, deer hunting, climbing, and photography. The opportunities for day hiking are excellent since the area can be traversed in a day. Although numerous small canyons are available for exploration from a base camp, backpacking and horsepacking opportunities are limited by the size of the WSA. Because of the small size of the WSA, the quality and diversity of recreation opportunities are less than they would be for a similar area of larger size.

Special Features

The WSA contains a variety of wildlife due to a wide diversity of vegetation and habitats. The area provides habitat for Mexican turkey, a State-listed endangered species. Golden eagles are fairly common in the area as are mountain lions, javelina, and Coues' whitetail deer. Montezuma quail and coatimundi, both uncommon species, have been observed in the WSA. Night blooming cereus, Cereus greggii, a State-listed endangered species and a candidate for Federal listing is also found in the area.

The Animas Mountains, including Cowboy Spring are located at the transition point between the Colorado Plateau to the north and the Sierra Madre Occidental of Mexico to the south. As a result of this location, a wide variety of plant and animal species representative of both of these provinces can be found in the Animas Mountains. The WSA itself is part of a transition zone between the Madrean evergreen woodland of Animas Mountains to the west and the semi-desert grasslands to the east. As

a result, the area hosts a unique assemblage of flora and fauna. In addition, the WSA is the largest BLM-administered parcel of Madrean evergreen woodland in the State. Preserving a sample of this ecosystem would provide opportunities for scientific and educational research.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Cowboy Spring WSA lies within the Mexican Highlands Shrubsteppe Province. The potential natural vegetation (PNV) consists of 6,289 acres of mountain mahogany/oak scrub and 410 acres of grama/tobosa shrubsteppe. Designation of this WSA as wilderness would add examples of two ecosystems presently not represented in the National Wilderness Preservation System (NWPS). The WSA contains a unique assemblage of flora and fauna that would enhance the NWPS. This information is summarized in Table 2.

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

The WSA is within 5-hours driving time of Las Cruces, New Mexico; Tucson, Arizona; and El Paso, Texas. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The Cowboy Spring WSA would contribute to balancing the geographic distribution of wilderness. The Gila Wilderness, administered by the Gila National Forest, is approximately 100 miles north of the WSA. The Chiricahua Wilderness Area, administered by the Coronado National Forest, is approximately 40 miles northwest of the WSA. Two BLM-administered WSAs are located 15 miles east and southeast of Cowboy Spring.

Manageability

The Cowboy Spring WSA is manageable as wilderness in the long-term. Potential manageability problems could be associated with mining claims in the WSA. After wilderness designation, development would be allowed only on those claims determined to be valid. However, due to the low mineral potential of the area, the likelihood any of the 18 claims in the WSA proving valid and being developed is remote.

Most of the boundaries of the WSA are along property lines, and consequently are not readily identifiable on the ground. Signing of this boundary, especially along the two vehicle ways which enter the WSA on the south and west sides would be necessary to prevent inadvertent intrusion by motorized vehicles. Signing, however, would not have to be extensive since the WSA is remote and relatively inaccessible. Unauthorized vehicular intrusion would not be a significant management concern.

Energy and Mineral Resource Values

As required by the Federal Land Policy and Management Act, the U.S. Geological Survey and U.S. Bureau of Mines conducted a survey of the mineral resource values of the Cowboy Spring WSA. The results of that survey were published in 1989. Following is a summary of that report.

Modest amounts of silver, gold, copper, and fluorite were reported to have been produced from the Gillespie mine, approximately 1.5 miles northwest of the study area. Silver and lead were produced from the Red Hill mine, approximately 4 miles northeast of the study area. The mineralized rock formations at the Gillespie mine and the Red Hill mine do not crop out in the study area. Consequently, no mineral resources were identified nor were any mines, prospects, or mineralized areas found within the study area.

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Mexican Highlands Shrubsteppe Province				
Mountain Mahogany/Oak Scrub	0	0	1	28,752
Grama/Tobosa Shrubsteppe	0	0	14	68,382
New Mexico				
Mexican Highlands Shrubsteppe Province				
Mountain Mahogany/Oak Scrub	0	0	1	28,752
Grama/Tobosa Shrubsteppe	0	0	4	7,857

Table 3: Wilderness Opportunities for Residents of Major Metropolitan Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Las Cruces	14	1,192,386	35	775,935
Arizona				
Tucson	41	2,547,144	78	2,263,137
Texas				
El Paso	12	1,126,112	25	617,770

Evaluation of the geologic, geophysical, and geochemical data indicated that the mineral resource potential for undiscovered metals, fluorspar, oil and gas, and geothermal energy in the Cowboy Spring WSA is low.

Impacts on Resources

A comparative summary of the impacts by alternative for the Cowboy Spring WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Cowboy Spring area during the public review periods on the *New Mexico Wilderness Review Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Decisions* (November 1980). Comments opposing wilderness review of the area dealt with resource and management conflicts such as visitor versus rancher, oil and gas potential, and conflicts with the Clean Air Act and the Phelps-Dodge copper smelter, 9 miles north of the WSA in the Playas Valley.

Wilderness Study Comments

During the public comment period on the *Draft Environmental Assessment of Wilderness Study Areas in the Las Cruces District* (1983), 60 public comments were received on the Cowboy Spring WSA. Nine of the comment letters opposed wilderness designation. The majority cited the mineral potential of the area or agreed with the rationale outlined in the Draft Wilderness Analysis Report. The vast majority of the comment letters (29 personal letters and 27 form letters) favored wilderness designation for the Cowboy Spring area. Two primary categories were cited as supporting reasons: (1) disagreement with BLM's assessment of potential wilderness manageability conflicts, and (2) the ecological values of the area.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), 27 comments specifically addressed the Cowboy Spring WSA. Of this total, 25 commenters favored wilderness designation and 2 opposed. Once again, those favoring wilderness designation cited the area's unique ecological and wilderness values and disagreed with BLM's assessment of manageability problems. In addition, another 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico BLM Wilderness Coalition which included Cowboy Spring.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft EIS* (1986), BLM received 22 comments on the Cowboy Spring WSA. Nineteen commenters supported wilderness designation and 3 opposed. Supporting reasons cited once again included the areas unique ecological values. Several commenters, including the BLM New Mexico Wilderness Coalition, suggested that the State land to the east and south of the WSA should be included as wilderness which would reduce future threats to the area's naturalness and significantly enhance recreation opportunities.

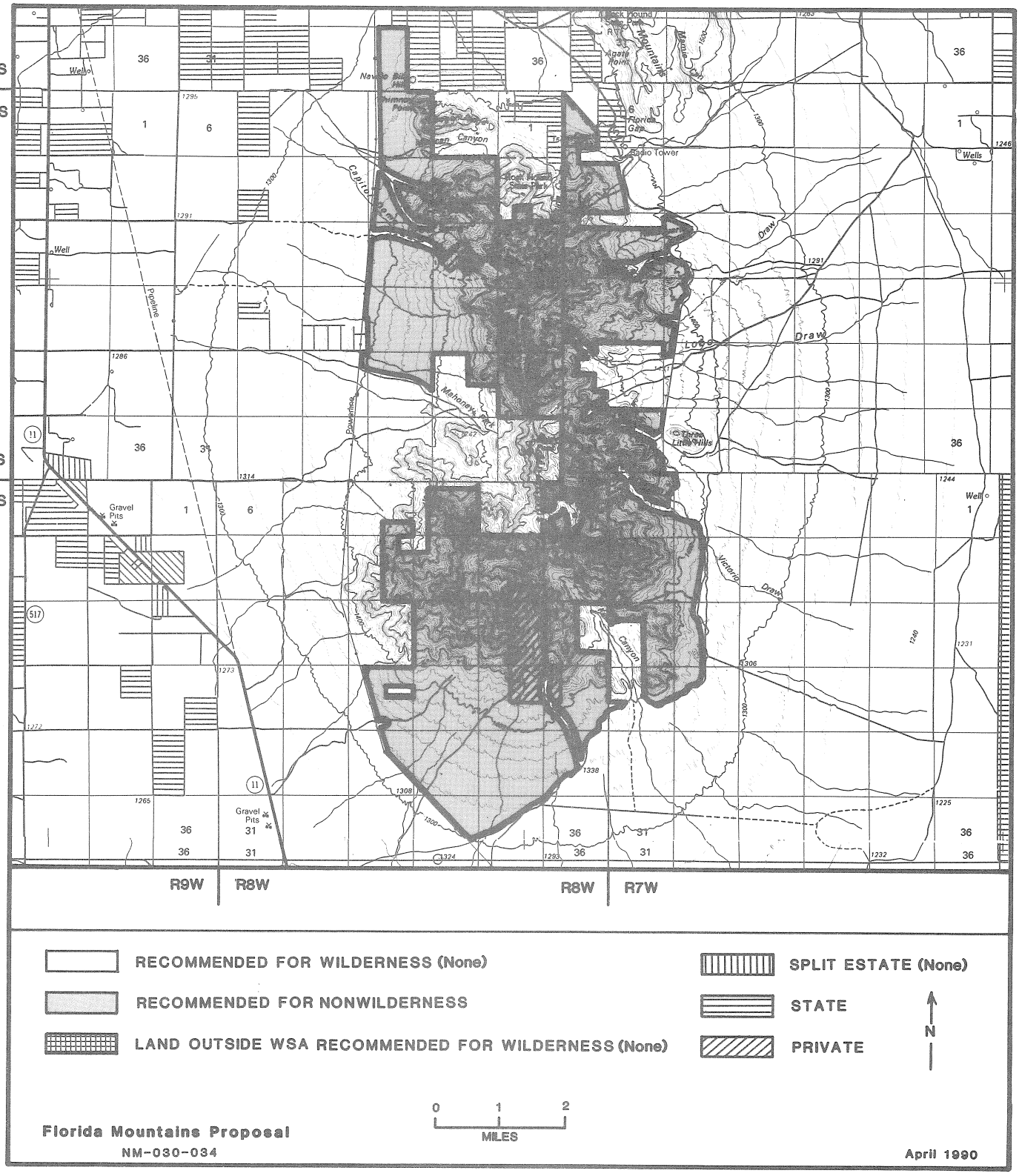
Those opposing wilderness designation of the WSA felt that livestock grazing would be threatened; that no adequate mineral survey had been done; and that Clean Air Act requirements for wilderness management would threaten the continued existence of the Phelps-Dodge smelter in the nearby Playas Valley.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (Proposed Action; 6,699 Acres Suitable	No Wilderness (0 Acres Suitable)	Research Natural Area (0 Acres Suitable)
Impacts on Wilderness Values	The natural character of this mountain mahogany/ oak scrub covered ridge, the outstanding opportunities for solitude, hiking, deer hunting, climbing, and photography would be maintained. Habitat for javelina, Coue's whitetail deer, golden eagles, and Montezuma quail would be maintained in a natural condition. In addition, habitat for 3 State-listed endangered species would be maintained.	In the long-term, continued livestock grazing operations and vehicle use in the area would reduce naturalness and opportunities for solitude in 15 percent of the WSA.	Outstanding opportunities for solitude and primitive and unconfined recreation would be reduced in 10 percent of the WSA due to continued vehicle use. The area's natural character, unique vegetation features, and diverse wildlife habitat sites would be maintained. The State-listed endangered species and research and education opportunities would be protected.

FLORIDA MOUNTAINS WILDERNESS STUDY AREA

MAP 1


T24S
T25S
T25S
T26S
R9W
R8W
R8W
R7W
RECOMMENDED FOR WILDERNESS (None)
RECOMMENDED FOR NONWILDERNESS
LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)
SPLIT ESTATE (None)
STATE
PRIVATE
N
0 1 2
MILES
Florida Mountains Proposal
NM-030-034
April 1990

FLORIDA MOUNTAINS WILDERNESS STUDY AREA

THE STUDY AREA – 22,336 Acres

The Florida Mountains Wilderness Study Area (WSA), NM-030-034A, is located in southeast Luna County, approximately 10 miles southeast of Deming, New Mexico. The WSA includes 22,336 acres of Bureau of Land Management (BLM) land, 80 acres of State inholdings, and 27 acres of private inholdings. The WSA is bounded on the north by State and private lands. (See Table 1 for land status and acreage summary of the study area.) The eastern and southeast boundaries are formed by County Road B023 and ranch roads extending south from the county road. The western boundary is formed by a powerline right-of-way and by State and private lands in the Mahoney Park area.

The WSA consists of steep, rocky terrain dissected by numerous canyons. Elevations range from about 4,300 feet to over 7,000 feet. Vegetation is primarily grasses and mixed desert shrubs at the lower elevations to scattered juniper and mountain shrubs on the peaks and ridges.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Two alternatives for the Florida Mountains WSA were analyzed in the EIS: An all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
22,336	Acres recommended nonwilderness

The Florida Mountains WSA is not recommended for wilderness designation (see Map 1). The recommendation is based on the area's mineral resource potential, probable mineral development on valid mining claims, and numerous site-specific impacts on naturalness.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change to the natural environment over the long-term. The recommendation, while not the environmentally preferred, will be implemented in a manner which would utilize all practicable means to avoid or minimize environmental impacts. Mining is occurring on adjacent areas outside the WSA and is likely to occur in the WSA in the future. Any mining activity proposed for the area would be regulated to prevent unnecessary or undue degradation of the natural environment.

Strategic minerals are known to occur in the Florida Mountains, and there has been past production of lead, zinc, copper, gold, silver, molybdenum, and manganese from mines in the WSA. If the area was designated as wilderness, prospecting and location

of new claims would be prohibited and only existing valid claims could be developed. Mineral trends could not be followed out of the existing valid claim boundaries. The full potential of the area for strategic minerals could not be assessed and exploited. The recommendation eliminates conflicts with mineral development.

Overall, the Florida Mountains WSA appears natural, but portions of the WSA are cumulatively impacted by evidence of past mining activity, cherry-stemmed roads, and rangeland developments. Mining activity has had the greatest impact on the naturalness in the Florida Mountains, especially in the northeast and east-central portions of the WSA. Mining impacts include open shafts and adits, prospect pits and trenches, mine dumps, tailings piles, the remains of old structures, structures such as headframes, and junked vehicles. These imprints of man are found in virtually every major canyon on the east side of the mountain range. While some of the actual physical impacts have been excluded from the WSA by cherry-stemming, they still impact the perception of naturalness in the canyons in which they are located. Mining activity is being conducted along the central ridge of the mountains on claims that have been cherry-stemmed. There is potential that this activity could be expanded into the WSA.

Eleven roads are cherry-stemmed out of the WSA. These roads lead to private land, mining areas, or windmills. Rangeland developments in the WSA

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	22,336
Split-Estate (BLM Surface Only)	0
Inholdings	107
Total	22,443
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	22,336
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	22,336
Inholdings	107

include 8 improved springs with troughs and 17 miles of fence. Three wells with windmills and associated facilities are cherry-stemmed out of the WSA. The WSA also contains four wildlife waters. By themselves, these facilities do not have a significant impact on the WSA. However, because they are dispersed throughout the area, it is difficult not to be constantly reminded of man's past presence in the WSA. Only in an area of 3,000 acres, in the most rugged part of the WSA around South Peak, can one escape all signs of man.

The quality of opportunities for solitude along the east slopes of the Florida Mountains is somewhat diminished by cherry-stemmed roads to rangeland developments and past mining activity.

There are no known special habitats or wildlife species dependent upon wilderness designation.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

Overall the Florida Mountains WSA generally appears natural. The quality of naturalness is locally impacted by a variety of the imprints of man. These imprints include wildlife waters, rangeland developments, vehicle ways, cherry-stemmed roads, and mining activity.

Two wildlife waters in the northwest part of the WSA are the guzzler type, and have a minimal impact on naturalness. The vehicle trails accessing the waters have a slightly greater impact on naturalness than the wildlife waters. There are two umbrella catchments, made of galvanized metal, within the WSA. They are located at high elevations north of Baldy Peak and north of South Peak. Access to these waters is on foot, by horseback, or by helicopter. They also have a minimal impact on naturalness.

Rangeland developments in the WSA include 8 improved springs with troughs, 4 dirt tanks, and approximately 17 miles of fence which do not greatly impact naturalness. Three wells with associated facilities are cherry-stemmed along the east side of the Florida Mountains. The developments at these wells include windmills, storage tanks, drinking troughs, corrals, and loading chutes.

Mining activity has had the greatest impact on the naturalness of the Florida Mountains WSA, especially in the northeast and east-central portions of the WSA. The Stub Mine and Birchfield-Bradley Mine are located in the northeast part of the WSA. The Stub Mine consists of two shafts and is accessed by a 1 1/2 mile long jeep trail. The Birchfield-Bradley Mine area and access road are cherry-stemmed. Although within the cherry-stem, two buildings, several junked vehicles, mine structures, two mine shafts, and prospect trenches impact naturalness in this area.

Approximately 1 mile southwest of the Birchfield-Bradley Mine is the Atir and Barite of America (BOA) Mines. Several mine shafts, prospects, and the remains of old mine buildings are located in and around Lobo Draw in T. 25 S., R. 7 W., Section 19, SW1/4. The access route up Lobo Draw is cherry-stemmed.

Mining impacts affect the quality of the apparent naturalness in the 3-square mile area north of Gym Peak. The imprints of man in this area include approximately 20 prospects and open cuts, tailings piles, two inclined shafts, the remains of a headframe, and vehicle trails. The Mahoney Mine, located in T. 26 S., R. 8 W., Section 1, is accessed by a cherry-stemmed road climbing the west side of the Florida Mountains from Mahoney Park. Although cherry-stemmed, tunnels, dumps, several vertical shafts, the remnants of loading facilities, and a stone cabin used by the miner impact the quality of naturalness in this area. Mining activities are currently proceeding on the group of claims in this area.

About 600 feet of an existing vehicle trail was improved by clearing brush and light blasting, and an exploration adit is being driven. These activities impact the naturalness of the ridge running south from Baldy Peak and the upper reaches of Copper Kettle Canyon. The dumping resulting from the new adit will be visible from parts of Victorio Canyon and Gym Peak.

South of Gym Peak and in the upper end of Copper Kettle Canyon is the Priser Mine. Imprints of man around this mine include an old cabin, a steel storage tank, two adits, and five prospects. The Silver Cave patented mine is approximately 1/2 mile southeast of the Priser Mine. In addition to the mine shaft located on the patented inholding, there are about l0 prospects on the unpatented claims in the area. The surface disturbance associated with these old mines affect the apparent naturalness of the lower southern slopes of Gym Peak and Middle Copper Kettle Canyon.

The southwest and southern parts of the WSA are the most natural. An area of approximately 3,000 acres in the rugged, mountainous southwest part of the WSA around South Peak is natural except for an umbrella catchment to the northwest of the Peak. Imprints affecting the alluvial fans and creosote flats, 1 1/2 miles south of South Peak, include 3 1/2 miles of jeep trails and 4 miles of fence.

The apparent naturalness of the northwest part of the WSA is impacted by three cherry-stemmed roads, two jeep trails, and evidence of past mining activity. Many of the mining impacts in this part of the WSA are on the cherry-stemmed Copper Queen and Capitol Dome patented mines. Mining imprints on the unpatented claims adjacent to Capitol Dome include six shafts, three adits, and several prospect pits.

Solitude

Portions of the Florida Mountains WSA provide outstanding opportunities for solitude. The large size of the WSA allows visitors to disperse and avoid the sights and sounds of others, and the rugged topography provides numerous secluded canyons and ridges. The highest quality opportunities for solitude are in the area around South Peak and in the north-central part of the WSA along the spine of the mountain. These areas are away from roads and other imprints of man.

The quality of opportunities for solitude along the east slopes of the Florida Mountains is somewhat diminished by cherry-stemmed roads to rangeland developments and past mining activity.

The Florida Mountains lie in a major east-west airline traffic route as well as in the approach and departure path for air traffic to and from El Paso International Airport. As a result, numerous aircraft, as many as 15 to 20 per hour (during peak traffic), fly over the area. The noise from this traffic intermittently impacts solitude in the WSA, however, this impact is not significant.

Opportunities for solitude are less than outstanding in the creosote flats in the southern part of the WSA and in the area southwest of the Copper Queen patented mine due to the lack of topographic and vegetation screening.

Primitive and Unconfined Recreation

The Florida Mountains WSA offers a variety of outstanding primitive recreational opportunities. The area is large enough to support a 3 or 4-day pack trip. Opportunities also exist for rock climbing, horseback riding, nature study, photography, and hunting. The rugged mountain range, with its steep ridges and canyons, offers an excellent opportunity to use outdoor skills and to interact with a natural environment. Opportunities for primitive recreation are enhanced by the size of the WSA and the diversity of vegetation and topography.

The State and private lands adjacent to the central part of the WSA in and around Mahoney Park and Baldy Peak and in Box Canyon and Copper Kettle Canyon detract from the quality of opportunities for

primitive recreation in the WSA. These non-Federal lands cut across the topographic features of the area such as peaks, ridges, canyons, and arroyos which serve as natural hiking routes. The location of these tracts consequently limits destination points for visitors.

Special Features

The Florida Mountains WSA contains special ecological and scenic features. The plant species in the WSA are numerous and diverse. The WSA provides habitat for a State-listed plant species proposed for Federal listing, night blooming cereus (Cereus greggii). This cactus is widespread throughout southwest New Mexico but is not numerous in any one location.

Most of the WSA, 18,336 acres composed of the peaks and slopes of the mountains, has high scenic quality. The higher elevations are characterized by steep, angular rock outcroppings, with jagged, vertical intrusions dominating the highest peaks. A variety of reds and grays are the predominant landform colors. The vegetation is diverse in random irregular patterns. Low shrubs and grasses are dominant at the lower elevations, with dark green juniper increasingly scattered in the higher elevations. Vegetation colors range from yellow to green.

The southern part of the WSA, approximately 4,000 acres, has moderate scenic quality. This area is a flat to gently rolling alluvial plain. Coloration is typically light reddish brown. The vegetation is primarily grasses and low shrubs in muted greens and light browns. Unusually large barrel cacti are located in this part of the WSA.

There are two known prehistoric sites in the Florida Mountains WSA. They consist of a series of bedrock mortars and a fair sized campsite. The campsite is somewhat unusual due to its large size. There has been little survey in this area and none in the higher elevations.

Historic use of the WSA has been limited to ranching, which left few remains, and mining. It is not known if any of the structures remaining from this period have historical value.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Florida Mountains WSA lies within the Chihuahuan Desert Province. The potential natural vegetation (PNV) consists of 20,731 acres of grama/tobosa shrubsteppe, 1,289 acres of mesquite/acacia savanna, and 316 acres of Trans/Pecos shrub savanna. Wilderness designation of this WSA would add one ecosystem not presently represented in New Mexico nor in the National Wilderness Preservation System (NWPS). All three ecosystems in the WSA are represented in several other BLM areas under wilderness study in the State. All are very similar in degree of naturalness. This information is summarized in Table 2.

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

The WSA is within 5-hours driving time of Las Cruces, New Mexico, and Tuscon, Arizona, and El Paso, Texas. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The Florida Mountains WSA would contribute to balancing the geographic distribution of wilderness. The nearest designated wilderness areas are the U.S. Forest Service Aldo Leopold Wilderness and the Gila Wilderness, approximately 60 miles north.

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	168,245
Mesquite/Acacia Savanna	0	0	3	41,788
Trans/Pecos Shrub Savanna	2	77,744	7	78,234
New Mexico				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	168,245
Mesquite/Acacia Savanna	0	0	3	41,788
Trans/Pecos Shrub Savanna	1	30,344	7	78,234

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Albuquerque	26	1,762,638	31	682,857
Las Cruces	14	1,192,386	35	760,298
Arizona				
Tucson	41	2,547,144	78	2,263,137
Texas				
El Paso	12	1,126,112	25	602,717

Manageability

It is unlikely that the Florida Mountains WSA could be managed to preserve its existing wilderness values in the long-term. Several factors including patented mines, existing mining claims, and land status affect the potential of the WSA to be managed as wilderness.

Strategic and critical minerals are known to occur in the Florida Mountains, and there has been past production from mines in the area. Future mineral activities in the Florida Mountains are probable. The Copper Queen and Capitol Dome patented mines are cherry-stemmed out of the northwest part of the WSA, and the Silver Cave patented mine is an inholding of approximately 30 acres in the southeast part of the WSA. These mines are all in areas of moderate potential for metallic minerals. Mining activities at the patented mines could degrade wilderness values in the northwest or southeast parts of the WSA. The projected upgrading of the existing jeep trail in T. 26 S., R. 7 W., Sections 7, 8, and 18, to provide better access to the Silver Cave Mine inholding would also degrade wilderness values.

It is estimated that approximately 10 of the 263 mining claims scattered throughout the WSA would prove to be valid and that a low level of development would occur on these claims. As a result, wilderness values in the vicinity of the claims would be degraded.

The land status in the Florida Mountains also affects the manageability of the area as wilderness. The land status is a mosaic of State, private, and BLM lands. As a result, the WSA boundary is very convoluted. For example, fairly large parcels of private land are cherry-stemmed in Copper Kettle and Box Canyons in the south and southeast parts of the WSA. The subsurface mineral estate on these particular parcels is in Federal ownership. Split-estate parcels of this kind are also located adjacent to the WSA boundary in and around Windmill Canyon and Lobo Draw (T. 25 S., R. 7 W., Sections 18 and 30, respectively) and Lovers' Leap Canyon and Mahoney Park (T. 25 S., R. 8 W., Sections 12 and 26, respectively). These split-estate parcels represent manageability problems because of the parcels' proximity to areas with moderate mineral potential. The Federal Government has no regulatory authority for surface management of mining activities on private surface/Federal subsurface lands. Restrictions on surface disturbance and plans for reclamation would be totally dependent upon agreements reached between the private surface landowner and the mining claimant.

Based on the likelihood for development of minerals with moderate and high potential and the likelihood of developing valid mining claims, management of the Florida Mountains to preserve existing wilderness values in the long-term could not be ensured. The only way management could be ensured is through an extensive land acquisition program. Approximately 6,750 acres of private and State lands would need to be acquired to ensure the manageability of the area.

Energy and Mineral Resource Values

Approximately 263 mining claims are present within the boundary of the Florida Mountains WSA. Sixty-two of the claims were located prior to the enactment of FLPMA (October 21, 1976).

Base and precious metals (including lead, zinc, copper, gold, and silver) have been mined intermittently in the Florida Mountains since 1880. Although the potential for small deposits of metallic minerals is high due to the presence of known deposits of this kind, there is less potential for the discovery of large, economically exploitable deposits of metallic resources. The potential for the occurrence of base and precious metals is rated high by BLM Geologists on about 500 acres in the central and southeast portions of the WSA, and moderate on 1,000 acres in the same vicinity.

Fluorspar mineralization is evident in the Florida Mountains WSA in several areas. Underground exploration for metallics and fluorspar is occurring on

the group of pre-FLPMA unpatented mining claims in the central part of the WSA. The current mining activities are grandfathered uses permissible under the Interim Management Policy. Approximately 400 acres in this vicinity have been rated by BLM Geologists as moderate for the potential occurrence of fluorspar.

Manganese ore production from the Florida Mountains began in 1942 and continued intermittently until 1958. The potential for the occurrence of manganese ore is rated by BLM Geologists as moderate on approximately 13,00 acres in the east-central and south-central portions of the WSA.

Impacts on Resources

A comparative summary of impacts by alternative for the Florida Mountains WSA is shown on Table 4. This information is taken from the Final EIS.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (22,236 Acres Suitable)	No Wilderness (Proposed Action: 0 Acres Suitable)
Impacts on Wilderness Values	The area's rugged topography, numerous secluded canyons and ridges, outstanding opportunities for hiking, backpacking, rock climbing, and hunting and scenic special features would be maintained over most of the area. These values would be locally impacted by development of an estimated 10 valid mining claims, involving approximately 50 acres and 5 miles of new road.	Wilderness values, particularly naturalness, would be adversely affected by mineral exploration and low level development. Approximately 30 percent of the WSA would be affected by mineral development on up to 200 acres. The 8 to 15 miles of new access roads would result in increased off-road vehicle use causing a degradation of the area's outstanding opportunities for solitude.
Impacts on Exploration and Development of Base and Precious Metals, Fluorspar, and Manganese	Opportunities for exploration and low level development activities would be foregone in the following areas: 500 acres with high potential and 1,000 acres with moderate potential for base and precious metals, 400 acres with moderate potential for fluorspar, and 1,300 acres with moderate potential for manganese. Development of an estimated 10 valid mining claims would result in 5 miles of new road and approximately 50 acres of surface disturbance.	No significant impacts. Mineral exploration and low level development would be allowed.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Since the beginning of the BLM wilderness review, the determination of wilderness characteristics in the Florida Mountains has been especially difficult and controversial.

After completion of the initial inventory, the BLM proposed in the *Wilderness Review New Mexico Situation Summaries* (April 1979) that the Florida Mountains be dropped from further wilderness inventory. However, during the public review of the Situation Summaries, many people disagreed with BLM's original recommendation. More public comments were received on the Florida Mountains unit than any other unit in the Las Cruces District. The District acknowledged that portions of the area may contain wilderness characteristics and that the area would be intensively inventoried to confirm public comment.

Public comments were received on the Florida Mountains area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). During the public comment periods, comments were received supporting and opposing WSA status of the area.

In the WSA proposals, an area of 18,904 acres was suggested for designation as a WSA. During the ensuing public review period, 43 personal letters supported WSA status for the Florida Mountains because of the area's supplemental values and outstanding opportunities for solitude and primitive recreation. Thirty-nine personal letters opposed WSA status primarily because of mining and grazing impacts on naturalness.

After a reevaluation of the Florida Mountains wilderness characteristics based on public comments, additional field checks, and all inventory information, BLM released the entire Florida Mountains unit from further wilderness review in the *New Mexico Wilderness Study Area Decisions*. This decision was based on BLM's judgment that because of the cumulative effects of impacts in the area, the unit did not appear natural. This decision was subsequently protested by two parties. The BLM New Mexico State Director denied both protests and both parties appealed to the Interior Board of Land Appeals (IBLA). IBLA remanded subunit NM-030-034A to BLM for reconsideration of that subunit's naturalness. BLM's denial of the protest on the remainder of the Florida Mountains was affirmed. After reevaluation of the naturalness of subunit NM-030-034A as directed by the IBLA, BLM concluded that the area met the minimum naturalness criterion for a WSA.

Wilderness Study Comments

During the public comment period on the *Las Cruces District Wilderness Supplemental Draft Environmental Assessment* (EA) (May 1984), 36 personal letters were received indicating support for wilderness designation of the Florida Mountains WSA. Fifteen personal letters opposing wilderness designation were submitted.

Most of the letters supporting wilderness designation cited the area's basic wilderness characteristics. Commenters felt that impacts on naturalness were not significant and that topography of the mountains mitigated those impacts. Comments on mineral resource conflicts generally reflected the attitudes that the Florida Mountains wilderness values outweigh mineral values and that the mineral potential was greatly exaggerated in the Draft Wilderness Analysis Report and EA.

Those opposing wilderness designation of the Florida Mountain WSA generally reiterated BLM's rationale for recommending the area nonsuitable for wilderness designation.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), 130 commenters specifically addressed the Florida Mountains WSA, with 123 supporting wilderness designation and 7 opposing. In addition, a total of 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico BLM Wilderness Coalition, which recommended wilderness designation for the entire Florida Mountains WSA.

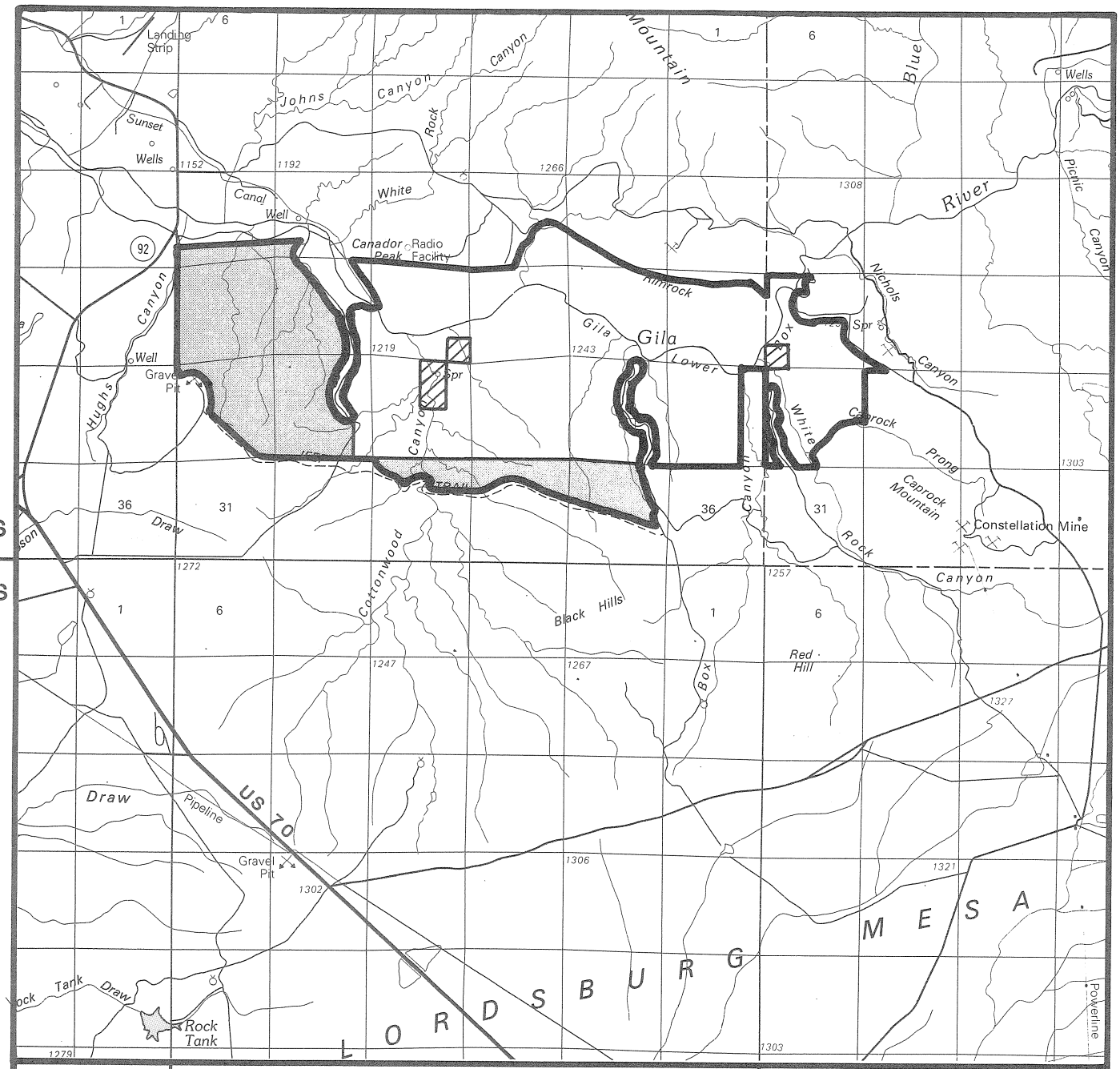
During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), 65 individuals or organizations specifically addressed the Florida Mountains WSA, with 50 supporting wilderness designation and 15 opposing.

The reasons cited for supporting or opposing wilderness designation were similar for both draft documents cited above. Those who supported wilderness designation contended that the area had obvious wilderness characteristics including high scenic quality, special supplemental values, and outstanding opportunities for solitude and primitive recreation. Once again, commenters stated that wilderness values outweighed mineral values and that BLM overstated mineral potential in the WSA.

Those opposing wilderness designation of the Florida Mountains cited reasons concerning the area's mineral potential, conflicts with valid mining claims and grandfathered uses, existing impacts on naturalness, and land status.

GILA LOWER BOX
WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE (None)

STATE (None)

PRIVATE

N

0 1 2

MILES

Gila Lower Box Proposal

NM-030-023

April 1990

GILA LOWER BOX
WILDERNESS STUDY AREA

THE STUDY AREA – 8,555 Acres

The Gila Lower Box Wilderness Study Area (WSA), (NM-030-023), is located 23 miles northwest of Lordsburg, New Mexico in northern Hidalgo County. The WSA contains 8,555 acres of Bureau of Land Management (BLM) land and 160 acres of private inholdings. (See Table 1 for land status and acreage summary of the study area.) The western boundary and a portion of the northern boundary are formed by private and State lands. The remainder of the northern boundary is formed by the rock escarpment on the north canyon wall of the box. The eastern and southern boundaries are formed primarily by roads and State land.

The WSA contains a portion of the Gila River and the Lower Box Canyon. The WSA is characterized by steep canyon walls; numerous short, steep-walled, side canyons; a narrow canyon bottom and sides that rise abruptly from the river's edge. Structural benches and erosional columns, or hoodoos, occur in various places along the river. The southern portion of the WSA away from the canyon contains gently rolling hills and drainages into the Gila River.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Three alternatives for the Gila Lower Box WSA were analyzed in the EIS: an all wilderness, an amended boundary, and a no wilderness.

RECOMMENDATION AND RATIONALE

5,835	Acres recommended wilderness
2,720	Acres recommended nonwilderness

The recommendation for the Gila Lower Box WSA is to designate 5,835 acres as wilderness and release the remaining 2,720 acres for uses other than wilderness (see Map 1). The area recommended for wilderness designation includes the highest wilderness values of naturalness, solitude, and primitive recreation and the most important special features. The 2,720 acres not recommended for wilderness designation are of a different character and contain lower quality wilderness values. This recommendation for wilderness will further apply to any additional inholding acreage acquired through purchase or exchange with willing owners. Appendix 1 lists all inholdings and provides additional information on acquisition of inholdings.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change from the natural environment over the long-term. The recommendation, while not the environmentally preferred, will be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts. The majority of this WSA is recommended as wilderness. In the 2,720 acres not recommended as wilderness, there are no surface disturbing activities presently proposed.

The lands recommended for designation are characterized by outstanding scenic qualities associated with the river canyon, side canyons, the river itself, and riparian vegetation. The recommended area provides habitat for a variety of wildlife species including raptors, other birds, mule deer, javelina, and several fish species. As many as half of the vertebrate species which occur in New Mexico can be found in the Lower Gila River system. Most of these species occur in the WSA. Peregrine falcons, bald eagles, and golden eagles have been observed in the area. Several State-endangered species are also found in the recommended area. Wilderness designation will ensure long-term protection of habitat for endangered species as well as the highly important riparian habitat found in the canyon bottoms.

The recreation opportunities offered in the recommended wilderness are unique and outstanding. These opportunities include float boating, fishing in a wild setting, and a variety of other activities made possible by a combination of the canyon, river, vegetation, and scenery.

The Gila River was the center of activity for primitive peoples in the past. The recommended wilderness area contains evidence of their presence including petroglyph panels and rock shelters. Wilderness designation would help to ensure protection of these significant resources.

Designation of the area recommended for wilderness would protect a river system in an arid environment. Such a system is not common in New Mexico

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	8,555
Split-Estate (BLM Surface Only)	0
Inholdings	160
Total	8,715
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	5,835
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	5,835
Inholdings	160
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	2,720
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	2,720
Inholdings	0

and much of the desert Southwest. The area's naturalness, outstanding wilderness values, diversity of wildlife species and other special features would make a valuable addition to the National Wilderness Preservation System (NWPS).

The area recommended for wilderness can be managed to preserve the quality of the wilderness characteristics. The boundaries on about half of the area are along natural terrain or man-made features. The southern boundary is along section lines. This boundary could be signed at intervals to identify it on the ground.

The conflicts with other resource uses of lands recommended for wilderness designation in this WSA are limited. Grazing use will be allowed to continue. Maintenance requirements for rangeland developments are minimal and no new projects would be foregone. The private inholdings in the recommended wilderness area are used in association with livestock grazing. Continued use of these inholdings will not hinder BLM's ability to manage the area to preserve its wilderness characteristics.

The U.S. Geological Survey (USGS) and the U.S. Bureau of Mines rated the WSA as having moderate and high mineral potential for manganese. This rating is based on the presence of manganese in shallow veins within 1/4 mile of the study area. Minor amounts of manganese were found in prospect pits within the study area, but were not considered economical. Therefore, even though the mineral resource potential is moderate and high for the occurrence of manganese, it is unlikely that any development will occur in the foreseeable future. In addition, BLM feels the value of the area as wilderness outweighs the potential mineral values that would be foregone under wilderness designation.

The 2,720 acres not recommended for wilderness designation are of a different physical character and have less wilderness qualities than the recommended area. This area is characterized by rolling hills, arroyos, and desert shrub vegetation. The more open country provides a different type of solitude than that associated with the steep walls and canyons of the Gila Lower Box. There are no special features associated with the 2,720 acres. The area is less natural than the portion of the WSA recommended for wilderness designation. The area contains erosion control dikes, corrals, and several fences. The recommendation would also exclude a 1 mile long cherry-stem road in the western portion of the WSA.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The most outstanding feature of the WSA is the relatively narrow, steep-walled river canyon, the Gila Lower Box, which is over 600 feet deep in some places. The canyon is virtually pristine with little or no evidence of man's intrusion. Both ends of the Gila Lower Box Canyon are minimally impacted by developments along the WSA boundary. The USGS old gauging station is approximately 400 feet from the northeast boundary of the WSA. The new USGS gauging station was painted to blend in with the surrounding landscape and does not impair the naturalness of the river canyon. A concrete dam which diverts water from the river into the nearby Sunset Ditch Company's irrigation canal is just outside the west boundary of the WSA.

Several impacts of man are located in the WSA south of the canyon. A vehicle way approximately 1 1/2 miles long provides access to the private inholding in T. 19 S., R. 20 W., Section 21, SE1/4 SE1/4. Two prospect pits are located on the mining claims in Section 20. Several fences are also located in this portion of the WSA.

There are some impacts of man in the area not recommended for wilderness designation. These

include several erosion control dikes and 2 miles of pasture fence in the western portion and corrals and a drinking trough in the south portion.

Solitude

The Gila Lower Box WSA offers outstanding opportunities for solitude. The WSA is composed of two distinct types of topography; the rugged Gila Lower Box Canyon, rimrock, and side canyons, and the less rugged rolling upland hills to the south. These different types of topography have different potentials for solitude.

The Gila Lower Box and side canyons offer numerous secluded spots. In the canyons, visitors are surrounded by the works of nature. The feeling of solitude comes quickly in this environment. The entire Lower Box Canyon and side canyons provide outstanding opportunities of this type. The impacts caused by the USGS old and new gauging stations or the ditches and canals outside the WSA disappear from view after rounding the river's first bend.

The rolling upland hills south of the Lower Box Canyon offer a different type of solitude. A visitor here has a longer view with fairly open and distant horizons. Traveling across the rolling hills, a visitor may occasionally encounter evidence of man's work, such as fences. Since the hills have no topographic features to funnel visitors into a small area, groups would generally fan out into different areas. Interaction with other groups would be unlikely.

The potential for solitude in the nonsuitable portion of the WSA west of the cherry-stemmed road in T. 19 S., R. 20 W., Sections 20 and 29 is impacted somewhat by the sights and sounds of Highway 82 and the farming along the Gila River. Noise from the highway may enter the western edges of this portion of the WSA.

Primitive and Unconfined Recreation

The Gila Lower Box WSA offers outstanding opportunities for primitive and unconfined recreation. The combination of the desert scenery, riparian vegetation, wildlife diversity, and cultural values within the canyon provides a recreational opportunity unique in the region. Any primitive activity is enhanced by this variety of resources. Specific recreational opportunities include hiking, camping, picnicking, nature study, sightseeing, photography, bird hunting, bird watching, swimming, and during the spring runoff, floating the river with rafts, canoes, or kayaks.

The location and topography of the WSA improves opportunities for recreation. Vehicular access at the ends of the canyon and at Spring on the Bluff and Fisherman's Point allows the user to choose the desired hiking distance. Users may park at any number of access points and hike into the canyon. Trips can vary from short day hikes to overnight trips of different lengths. The combination of several access points and numerous side canyons allows variety and diversity in each visit to the area.

There are less than outstanding primitive and unconfined recreation opportunities, both in quality and quantity in the area not recommended for wilderness designation. Recreation opportunities in this area consist primarily of hiking, hunting, camping, and picnicking. This portion of the WSA does not offer the variety of recreation opportunities associated with the river canyon.

The Gila Lower Box offers a unique variety and quality of recreational opportunities within a publicly accessible area. These opportunities are truly outstanding because of both the quality and diversity of opportunities within a pristine environment.

Special Features

The Gila Lower Box is extremely important for wildlife because it encompasses 587 acres of riparian habitat which supports the most diverse wildlife community of any habitat site. In addition, the Gila River provides a natural pathway for wildlife species since it extends from the Mogollon plateau to the north, through the Chihuahuan Desert, and

into the Sonoran Desert in the south. As a result, almost half the vertebrate species which occur in New Mexico can be found along the Lower Gila River. Most of these species are also found in the WSA.

In the Lower Gila Valley, between Arizona and the Gila National Forest, 265 species of birds have been recorded. As many as 116 species may breed there. Most of these species can be found in the WSA.

A total of 67 mammal species, 12 amphibians, and 54 reptiles are found in or near the Lower Gila River Valley. Many of these species are near their geographical distribution limits. Most of these species can be found from time to time in the WSA.

The WSA also provides habitat for a number of threatened or endangered species. The peregrine falcon and the bald eagle, both Federally-endangered species, use the area but are not known to breed there. Several State-endangered species are found in this part of the river valley including the gray hawk, the black hawk, the Gila woodpecker, and Bell's vireo. The latter two species nest in the WSA. The Gila monster and narrow-headed garter snake have been seen in the WSA. Two fish species, the loach minnow and the spikedace, are found in the river within the WSA.

The Gila Lower Box WSA contains several large petroglyph panels of the Mogollon style. A number of small rock shelters and rock structures are present throughout the WSA. They contain evidence of occupation and at least one granary. The rock structures are significant in that such remains are very rare in this portion of the Southwest.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Gila Lower Box WSA lies within the Chihuahuan Desert Province. The potential natural vegetation (PNV) consists of 2,138 acres of grama/tobosa shrubsteppe; 3,380 acres of creosote bush; 2,583 acres of Trans/Pecos shrub savanna; and 454 acres of mesquite/acacia savanna. Designation of the Gila Lower Box WSA as wilderness would add examples of four ecosystems not presently represented in New Mexico nor in the NWPS. This information is summarized in Table 2.

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

The WSA is within 5-hours driving time of Las Cruces, New Mexico; Tucson, Arizona; and El Paso, Texas. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The U.S. Forest Service Gila Wilderness, the largest in New Mexico, is approximately 30 miles to the northeast of the Gila Lower Box. The Aldo Leopold Wilderness is approximately 60 miles to the northeast. One BLM WSA, Blue Creek, is approximately 1 mile north of the Gila Lower Box.

Manageability

The Gila Lower Box WSA could be managed to preserve its wilderness character. The highest quality wilderness values in the WSA are concentrated in the Lower Box and its side canyons. These values revolve around the Gila River and the associated riparian vegetation. All of the values and special features of the WSA could be preserved over the long-term under wilderness management.

There is no vehicular access to the 80-acre private inholding in Cottonwood Canyon. The inholding contains a spring which is currently used for livestock watering. This continued use would not affect the manageability of the WSA. Providing surface

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	186,838
Creosote Bush	0	0	7	77,766
Trans/Pecos Shrub Savanna	2	77,744	7	75,967
Mesquite/Acacia Shrub Savanna	0	0	3	42,623
New Mexico				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	186,838
Creosote Bush	0	0	7	77,766
Trans/Pecos Shrub Savanna	1	30,344	7	75,967
Mesquite/Acacia Shrub Savanna	0	0	3	42,623

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Las Cruces	14	1,192,386	35	774,079
Arizona				
Tucson	41	2,547,144	78	2,263,137
Texas				
El Paso	12	1,126,112	25	616,498

access to this inholding would have an impact on naturalness, but would not impact manageability of the area. Access would be restricted to the landowner or the designated users of the parcel.

The 40 acres of private land in T. 19 S., R. 20 W., Section 22 are used as a salting ground by the owner. A vehicle way provides the existing access to the private inholding. Continued use of the parcel and vehicle way would not significantly affect the manageability of the WSA.

The San Carlos Indian Irrigation Project and other powersite withdrawals are within the WSA. The San Carlos Project withdrawals do not pose a manageability problem. The management restrictions of wilderness would not conflict with the purpose of this withdrawal, which is watershed protection. The powersite withdrawal does not pose a manageability problem. The issue of powersite development versus wilderness would either be settled administratively by a revocation of the withdrawals before the recommendation reaches Congress, or the issue will be settled by Congress as it decides whether the WSA will be dedicated to wilderness or power development.

Energy and Mineral Resource Values

In 1985, the USGS and the U.S. Bureau of Mines conducted a mineral resource appraisal of the Gila Lower Box WSA. This wide-ranging study included an examination of geologic, geochemical, and geophysical data, as well as a review and assessment of local mining activity. The following is a summary of their findings.

The USGS and Bureau of Mines rated the mineral resource potential for manganese in the eastern two-thirds of the area as high, while the western one-third of the area was rated as moderate. These determinations were based on the presence of nearby manganese vein deposits as well as the presence of suitable structures and bedrock exposures especially in the eastern part of the study area. Minor amounts of manganese were found in prospects within the WSA, but none are economic value. There are ~~no mines or claims~~ 2 unpatented mining claims and no mines. in the WSA. Identified resources of manganese, which have been mined in the past, occur within 1/4 mile of the WSA boundary. Identified resources of manganese are in shallow veins in the Caprock Mining District, 2 miles southeast of the WSA, as well as in veins only 1/4 mile east and north of the WSA. The Caprock Mining District produced 5,000 tons of manganese oxide in the 1950's. The ore is in discontinuous veins in volcanic conglomerate. The Consolation Mine, 1/4 mile east of the WSA, produced 10,000 tons of ore from a fault zone. The structures which produced the manganese in the Consolation Mine do not project into the study area. The Black Bob prospect, 1/4 mile north of the WSA, has had no known production, although the property has a 75 foot deep shaft.

A geochemical study found only one sample containing tin, barium, and chromium in anomalous amounts. Although this sample was collected within the WSA, it actually represents sediment from a drainage largely outside the WSA, and the anomalous values are assumed to represent rocks outside the WSA. Based on geophysical and geochemical data, the mineral and energy resource potential is low for other metals, oil and gas, and geothermal energy.

Impacts on Resources

A comparative summary of impacts by alternative for the Gila Lower Box WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (8,555 Acres Suitable)	No Wilderness (0 Acres Suitable)	Amended Boundary (Proposed Action; 5,835 Acres)
Impacts on Wilderness Values	Naturalness of the river canyon and uplands and opportunities for solitude, hiking, fishing, bird watching, float boating, and camping would be maintained.	Wilderness values and special features within the ACEC would be maintained in the short-term. In the long-term, naturalness, solitude, hiking, and camping opportunities would diminish in quality by 10 percent. In the portion of the WSA outside the ACEC boundaries, the installation of the proposed fences, dirt tank, pipeline, and trough would degrade wilderness values by 10 percent.	Same as All Wilderness Alternative. Marginal quality of wilderness values in the 2,720 acres not recommended for wilderness designation would be degraded by 10 percent.
Impacts on Wildlife Habitat and Threatened or Endangered Species	Riparian habitat beneficial to raptors. Gila woodpecker, and numerous songbirds would be maintained in a natural condition. Riparian and aquatic habitat would be improved by 30 percent.	Because of the low resource development potential, impacts to wildlife would be the same under each alternative.	Same as All Wilderness.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Gila Lower Box area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). This area was one of the 10 most discussed units during the comment period on the WSA proposals. The majority of the commenters supported WSA status for the area citing the area's wilderness characteristics and the value of a large natural riparian area in a desert setting. Letters opposed to wilderness study of the area primarily cited resource conflicts such as mining, recreational use, and ranching activities.

Wilderness Study Comments

During the public comment period on the *Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District* (1983), 32 public inputs

were received on the Gila Lower Box WSA. Six of the inputs opposed wilderness designation. Most of the opposing comments were from the minerals industry and cited impacts to mining, mineral exploration, ranch economics, and local water supply as reason for opposing wilderness designation.

The majority of commenters (26) favored wilderness designation for the Gila Lower Box WSA. Favorable comments reiterated the area's wilderness values and special features. The New Mexico Natural History Institute ranked the Gila Lower Box the number one priority for wilderness designation out of nine areas discussed in the draft environmental assessments in terms of natural area planning. Fourteen of the pro-wilderness letters favored the All Wilderness Alternative over the Amended Boundary Alternative.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), BLM received 32 comments on the Gila Lower Box WSA. Thirty commenters supported wilderness designation and two opposed. Once again, those supporting wilderness designation reiterated the area's wilderness values and special features. Those opposing wilderness cited impacts to the minerals industry and the presence of man-made intrusions in the WSA. In addition, 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico BLM Wilderness Coalition which recommended wilderness designation for the entire WSA.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), BLM received 38 comments which specifically addressed the Gila Lower Box WSA. All comments supported wilderness designation. The New Mexico BLM Wilderness Coalition proposed that approximately 10,000 acres south of the WSA be designated wilderness as well as that portion which BLM had recommended as nonsuitable, for a total wilderness area of 16,656 acres.

Appendix 1: Estimated Costs of Acquisition of Non-Federal Holdings Within the Gila Lower Box WSA[1]

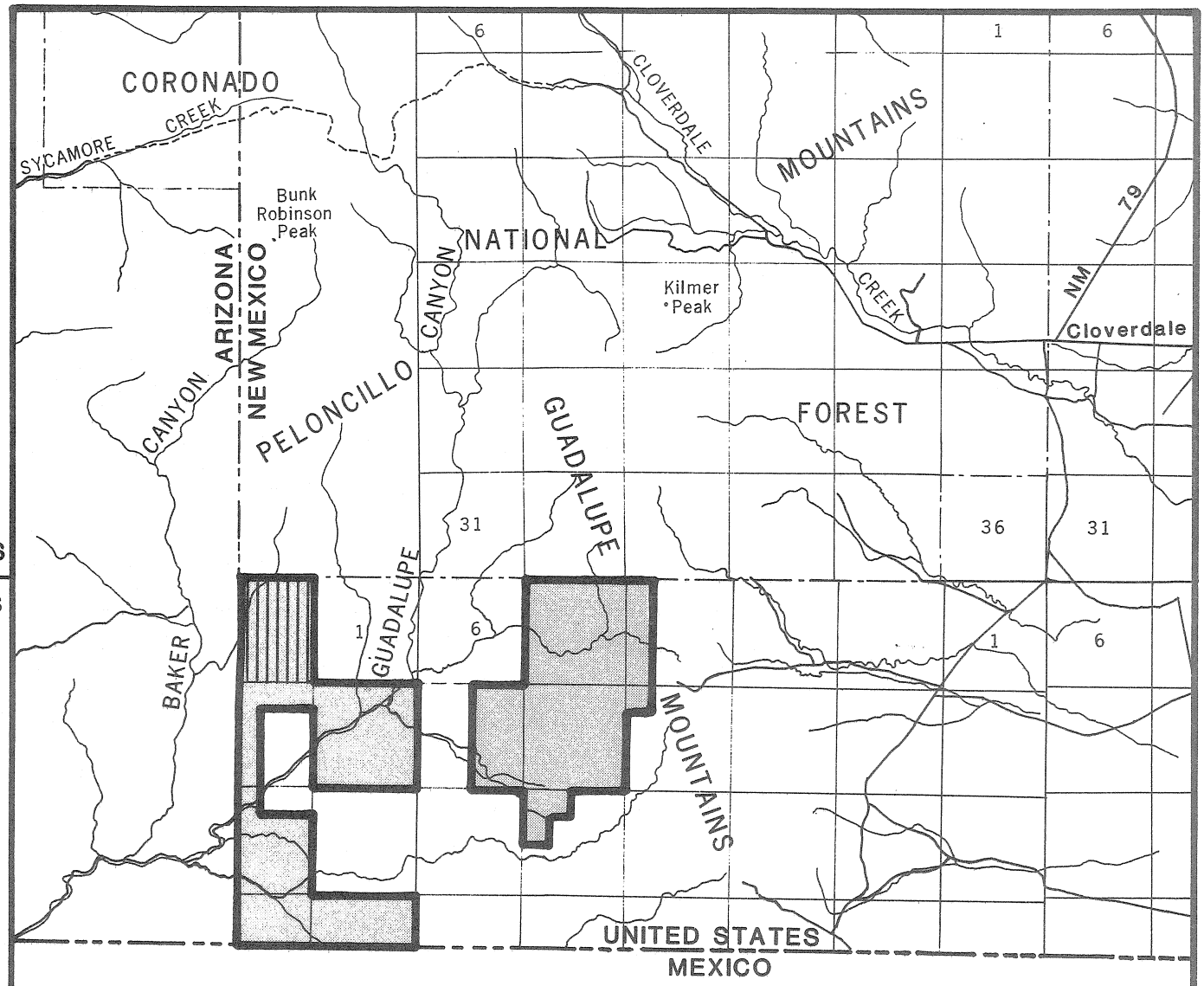
Legal Description (Prior to any Subdivision)	Total Acres	Number of Owners	Type of Ownership by Estate (BLM/ State/ Private) Surface Estate	Subsurface Estate	Proposed for Acquisition (Yes/No)	Preferred Method of Acquisition (Purchase/ Exchange/ Donation)	Estimated Costs of Acquisition[2] Land Costs	Processing Costs
Parcel #1, Sec. 19, T. 19S, R. 19W	40	1	Private	Private	Yes	Purchase	$ 7,000	$1,000
Parcel #2, Sec. 21, T. 19S, R. 20W	40	1	Private	Private	Yes	Purchase	$ 7,000	$1,000
Parcel #3, Sec. 28, T. 19S, R. 20W	80	1	Private	Private	Yes	Purchase	$14,000	$2,000

[1] The estimated costs listed in this appendix in no way represent a formal appraised value of the land or mineral estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

[2] Where exchange is the proposed acquisition method, only administrative costs of processing the exchange are shown. Processing costs are all miscellaneous expenses other than land costs. These would include work month costs, appraisals, title work, escrow costs, etc. Where direct purchase is proposed, an estimate of both the land costs and the processing costs is provided.

GUADALUPE CANYON
INSTANT STUDY AREA

MAP I



T33S

T34S

R22W | R21W | R21W | R20W

RECOMMENDED FOR WILDERNESS (None)

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE

STATE (None)

PRIVATE (None)

N

0 1 2

MILES

Guadalupe Canyon Proposal

NM-ISA-001

April 1990

GUADALUPE CANYON INSTANT STUDY AREA

THE STUDY AREA — 4,146 Acres

The Guadalupe Canyon Instant Study Area (ISA), NM-ISA-001, is located in extreme southwestern Hidalgo County in the southwestern corner of New Mexico, 70 miles south-southwest of Lordsburg, New Mexico and 30 miles east of Douglas, Arizona. The ISA contains the 3,692-acre Guadalupe Canyon Outstanding Natural Area (ONA) and 454 acres of adjacent split-estate (Federal surface/non-Federal subsurface ownership) land. The ISA was studied for wilderness suitability in a joint study with the Coronado National Forest Bunk Robinson Wilderness Study Area (WSA) and the BLM Safford District Baker Canyon WSA. The land status for the ISA is summarized in Table 1. The ISA is bounded by private land on the east, south, and west sides and Forest Service land on the north.

The WSA is dominated by Guadalupe Canyon, a northeast-southeast draining canyon that flows into Bavispe Creek south of the Mexico-Arizona border. It is one of the few creeks in the United States that are part of the Yaqui River drainage. Slopes are gentle to moderate. Elevations vary from 3,980 to 5,715 feet. Vegetation ranges from sycamore riparian forest to mixed desert shrub, grass, and juniper-oak woodland.

The ISA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *Environmental Impact Statement for the Coronado National Forest Plan* issued in July 1986. Two alternatives for the Guadalupe Canyon ISA were analyzed in the EIS: an all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
4,146	Acres recommended nonwilderness

The Guadalupe Canyon ISA is not recommended for wilderness designation (see Map 1). This recommendation is based on the nonsuitable recommendation for the contiguous U.S. Forest Service administered Bunk Robinson WSA. While the Guadalupe Canyon ISA contains high quality wilderness values, BLM believes management of the area as wilderness is contingent upon designating the contiguous Bunk Robinson WSA wilderness.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change to the natural environmental over the long-term. The recommendation will be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts. The current land use plan for the area prohibits the removal of all plant material and restricts motorized vehicle use to designated routes.

The BLM, in developing the San Simon Resource Management Plan (RMP), will also be evaluating the area for designation as an Area of Critical Environmental Concern (ACEC). There are no known or projected surface disturbance activities for the ISA, so no significant impacts to natural values are expected.

The Guadalupe Canyon ISA cannot be managed to preserve its wilderness character without similar management of the Forest Service Bunk Robinson WSA. The small size of the ISA, the presence of a road which bisects the two BLM parcels, split-estate land, and intermingled private land, would make it impossible to manage as wilderness.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The majority of the ISA is natural. The hilly terrain and vegetation tend to screen manmade developments that are in the WSA making their impact very site-specific. The human impacts which exist in the WSA consist of 3 1/2 miles of vehicle routes and a corral. These impacts do not significantly reduce the apparent naturalness of the ISA. The road bisecting the western segment of the ISA provides the only vehicular access to the private land and the associated ranch house. While this road is cherry-stemmed out of the ISA, it significantly affects the overall perception of naturalness in the ISA.

Solitude

The ISA provides outstanding opportunities for solitude. The area is extremely remote from major population centers and is difficult to access because

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	3,692
Split-Estate (BLM Surface Only)	454
Inholdings	0
Total	4,146
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	3,692
Split-estate (BLM Surface Only)	454
Total BLM Land Not Recommended for Wilderness	4,146
Inholdings	0

of locked gates on private land. Legal access exists but requires extensive hiking across BLM land in Arizona or National Forest land in New Mexico. The topography and diverse vegetation including sycamore, oak, and juniper trees help to increase the opportunities for solitude in the area.

Primitive and Unconfined Recreation

The ISA provides excellent opportunities for primitive and unconfined recreation. Guadalupe Canyon is nationally renowned for birdwatching and wildlife photography because of the large number of Mexican wildlife species that only occur in this extremely limited area of the United States. The area provides good hunting for mule deer, white-tailed deer, and javelina. However, these opportunities are similar to those found throughout the southern Peloncillo Mountains.

Special Features

Wildlife values are significant special features of the ISA. This includes habitat for numerous Mexican wildlife species that are found nowhere else in New Mexico and only in the southwestern New Mexico/southeastern Arizona area within the United States. Twenty-three State-listed endangered species are known from Guadalupe Canyon. They include 1 amphibian, 16 birds, 2 mammals, and 4 reptiles. The ISA provides some of the best potential habitat in the State for the Federally endangered Mexican Wolf. The Gila Monster, which is under review for Federal listing, also occurs in the ISA.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Guadalupe Canyon ISA is within the Mexican Highlands Shrubsteppe Province with a potential natural vegetation (PNV) of grama/tobosa shrubsteppe. Due to its proximity to Mexico, the Guadalupe Canyon ISA is in a transition zone between vegetation types more typical of Mexico and those found to the north of the WSA. Wilderness designation would, therefore, expand the diversity of natural systems and features represented in the National Wilderness Preservation System (NWPS). However, these vegetation types are not reflected in the Bailey-Kuchler classification system. A summary of the ecosystems is displayed on Table 2.

Table 2: Ecosystem Representation

Bailey Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Mexican Highlands Shrubsteppe Province				
Grama/Tobosa Shrubsteppe	0	0	14	64,646
New Mexico				
Mexican Highlands Shrubsteppe Province				
Grama/Tobosa Shrubsteppe	0	0	4	4,121

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

The WSA is within 5-hours driving time of Las Cruces, New Mexico; Tucson, Arizona; and El Paso, Texas. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The Guadalupe Canyon ISA would slightly contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System. The Miller Peak Wilderness is 72 miles to the west and the Chiricahua Wilderness is 30 miles to the northwest. These areas total approximately 108,000 acres.

Manageability

The Guadalupe Canyon ISA cannot be managed to preserve its wilderness character without similar management of the Forest Service Bunk Robinson WSA. The small size of the ISA coupled with the road through the western parcel of the ONA, and the disjunct placement of the two BLM parcels with intermediate private land would make it impossible to ensure opportunities for solitude on the 4,146-acre ISA. The ISA is split into three distinct units because of the road and private land; each parcel is less than 2,000 acres in size.

Energy and Mineral Resource Values

There are no known occurrences of energy or non-energy mineral resources in the vicinity of Guadalupe Canyon ISA. The mineral potential of the Guadalupe Canyon is described in the Coronado National Forest Plan EIS as uncertain.

Impacts on Resources

A comparative summary of the impacts by alternative for the Guadalupe Canyon ISA is shown on Table 4.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Las Cruces	14	1,192,386	35	778,488
Arizona				
Tucson	41	2,547,144	78	2,263,137
Texas				
El Paso	12	1,126,112	25	620,907

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (4,146 Acres Suitable)	No Wilderness (Proposed Action; 0 Acres Suitable)	Amended Boundary (2,812 Acres uitable)
Impacts on Wilderness Values	Under wilderness designation, the naturalness, outstanding opportunities for solitude and primitive recreation, and special features of Guadalupe Canyon would be maintained. The area would be managed as three distinct parcels, each less than 2,000 acres in size and totalling 4,146 acres. Two of these parcels would be contiguous to the U.S. Forest Service administered Bunk Robinson WSA.	Wilderness values would not receive long-term Congressional protection. Naturalness, outstanding opportunities for solitude and primitive recreation, and special features of Guadalupe Canyon will be maintained through management as an ONA. Potential designation of Guadalupe Canyon as an ACEC will be addressed during preparation of the San Simon RMP.	The impacts on wilderness values would be identical to the All Wilderness Alternative except that only the 2,812 acres of Guadalupe Canyon in the two parcels contiguous to the Bunk Robinson WSA would receive wilderness designation. Impacts to the remaining 1,334 acres of the Guadalupe Canyon ISA would be identical to the No Wilderness Alternative.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

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

Wilderness Study Comments

During the public comment period on the *Draft Environmental Impact Statement, Proposed Coronado National Forest Plan* (Forest Service 1988), numerous comments were received concerning wilderness designation of the Bunk Robinson/Guadalupe Canyon/Baker Canyon complex. The Forest Service did not summarize comments except to say that the local residents opposed wilderness designation while commentators from over 100 miles away favored wilderness designation.

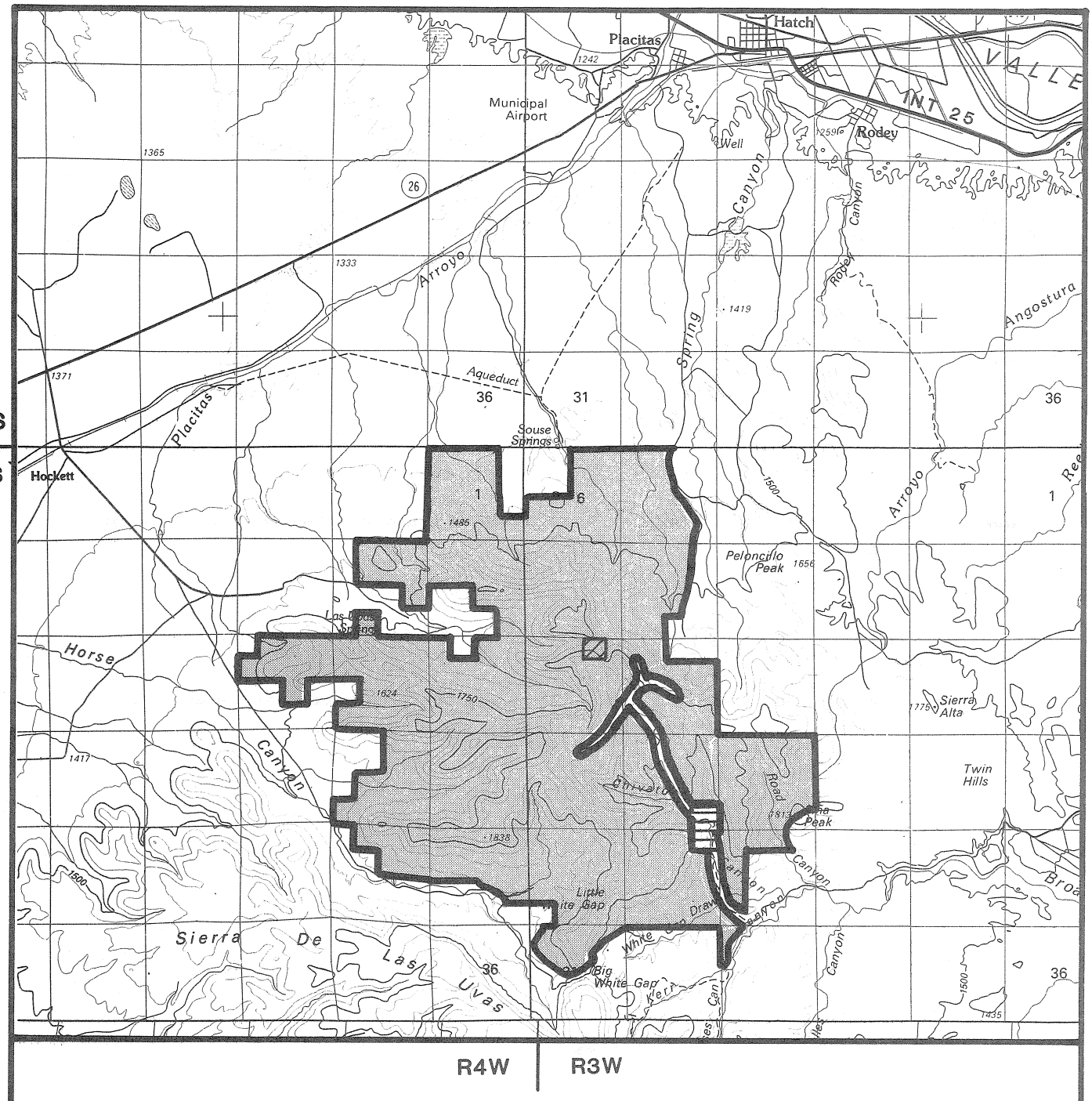
During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (BLM 1986), specific comments on the Guadalupe Canyon ISA were made by 22 commentators. All 22 commenters were in favor of wilderness designation.

Reasons supporting the Guadalupe Canyon area as wilderness included: Value of wilderness values outweighs value of other resources; Nation needs more wilderness; designation will not adversely impact other resources; area favored, but boundaries should be enlarged; high scenic values; value of

wilderness was not adequately considered; need more ecological diversity in the Wilderness system; will protect cultural values; will protect resources from overuse; area meets the wilderness criteria (naturalness, solitude, and size); and complements adjacent designated wilderness areas.

LAS UVAS MOUNTAINS WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS (None)

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE (None)

STATE (None)

PRIVATE

N

0 1 2

MILES

Las Uvas Mountains Proposal

NM-030-065

April 1990

LAS UVAS MOUNTAINS WILDERNESS STUDY AREA

THE STUDY AREA — 11,067 Acres

The Las Uvas Mountains Wilderness Study Area (WSA), NM-030-065, is located in northwestern Dona Ana County, approximately 30 miles northwest of Las Cruces, New Mexico and 7 miles south of Hatch, New Mexico. The WSA contains 11,067 acres of Bureau of Land Management (BLM) land, 40 acres of private inholdings, and 80 acres of State inholdings. (See Table 1 for land status and acreage summary of the study area.) Approximately 80 percent of the WSA is bounded by State and private lands. The remaining boundaries are roads.

This WSA consists of the northwest part of the Sierra de Las Uvas. The Las Uvas Mountains are composed of tilted, bedded volcanic rock with a gentle western slope and cliffs on the east side. The WSA is characterized by mesas, buttes, and canyons. Elevations within the WSA range from 4,600 feet in the northern part of the area to 6,198 feet near Little White Gap in the south. Vegetation is primarily grasses and desert shrubs, with juniper on north facing slopes and at higher elevations.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Two alternatives for the Las Uvas Mountains WSA were analyzed in the EIS: an all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
11,067	Acres recommended nonwilderness

The Las Uvas Mountains WSA is not recommended for wilderness designation (see Map 1). This recommendation is based on the area's marginal naturalness, limited recreation opportunities, and lack of special features.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change to the natural environment over the long-term. The recommendation, while not the environmentally preferred, will be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts. There are no known or projected surface disturbance activities planned for the WSA, and no significant impacts to natural values are expected.

The Las Uvas Mountains WSA marginally meets the wilderness criteria. Naturalness in the WSA is degraded by the presence of several dirt tanks and vehicle ways. The 4-mile long Rustler Fire Trail, although cherry-stemmed out of the area, affects naturalness throughout the heart of the WSA. This road is heavily used by off-highway vehicle enthusiasts and hunters.

Primitive and unconfined recreation opportunities are limited both in terms of quality and diversity. Opportunities for recreation are limited to day hiking and hunting. Current recreation use of the area is associated primarily with motorized vehicles.

There are no known special features, habitats, or wildlife species in the Las Uvas Mountains that would depend upon wilderness designation. In addition, there are no known or projected activities, no known minerals potential, and no valid rights of others in the WSA. As a result, the quality and level of the values now found in the WSA are not expected to significantly change.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The Las Uvas Mountains WSA generally appears natural. Human imprints affecting the naturalness of the WSA include dirt tanks, vehicle ways, and the cherry-stemmed Rustler Fire Trail road.

Seven dirt tanks are within the WSA. The tanks are located on the southwest, south, east, and northeast

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	11,067
Split-Estate (BLM Surface Only)	0
Inholdings	120
Total	11,187
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	11,067
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	11,067
Inholdings	120

edges of the WSA less than 1/4 mile from the boundary. All are accessible by vehicle trails. The dirt tanks are substantially unnoticeable when considering the overall naturalness because they are constructed of soil that generally blends in with the landscape. Approximately 4 miles of the Rustler Fire Trail are cherry-stemmed in the WSA. The Trail is visually noticeable on top of the bluff and when looking north up Chivato Canyon from Chivato Tank. The Trail locally impacts naturalness on the major ridgetops in the heart of the WSA, but does not degrade the overall naturalness of the Las Uvas Mountains WSA.

Solitude

The Las Uvas Mountains WSA provides outstanding opportunities for solitude. The entire WSA contains rugged canyon and mesa type topography which provides plenty of opportunities to escape the sights and sounds of other visitors. The size and shape of the WSA and moderate vegetation screening provided by scattered juniper enhance these opportunities.

Primitive and Unconfined Recreation

The Las Uvas Mountains WSA provides opportunities for hiking, backpacking, horseback riding, and hunting. The area provides outstanding opportunities for day hiking. The area is not large enough for an extended backpacking trip. Horseback riding is somewhat limited due to approximately 13 1/2 miles of grazing allotment boundary and interior pasture fences within the WSA.

Although opportunities are available, the WSA does not offer a wide diversity of high quality primitive recreation opportunities.

Special Features

The Las Uvas Mountains WSA provides habitat for the night blooming cereus, a plant species listed as endangered by the State of New Mexico and a candidate for Federal listing. The plant is widespread but is not common in any one locality.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Las Uvas Mountains WSA lies within the Chihuahuan Desert Province. The potential natural vegetation (PNV) consists of 9,276 acres of grama/tobosa shrubsteppe and 1,791 acres of creosote bush. Table 2 summarizes the amount of these vegetation types in the National Wilderness Preservation System (NWPS) and in other BLM study areas.

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

The WSA is within 5-hours driving time of Albuquerque and Las Cruces, New Mexico; Tucson, Arizona; and El Paso, Texas. Table 3 summarizes the number and acreages of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The nearest designated wilderness to the Las Uvas Mountains WSA are the Aldo Leopold Wilderness and the Gila Wilderness, approximately 45 miles and 65 miles to the northwest, respectively. In addition, there are six BLM WSAs within 40 miles of the Las Uvas Mountains WSA.

Manageability

Two factors affect the capability of the Las Uvas Mountains WSA to be managed as wilderness: land status patterns and the cherry-stemmed Rustler Fire Trail. The WSA is almost totally surrounded by State and private lands. There is a 40-acre private inhold-

Table 2: Ecosystem Representation

Bailey Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	179,700
Creosote Bush	0	0	7	79,355
New Mexico				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	179,700
Creosote Bush	0	0	7	79,355

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Albuquerque	26	1,762,638	31	694,126
Las Cruces	14	1,192,386	35	771,567
Arizona				
Tucson	41	2,547,1442	78	2,263,137
Texas				
El Paso	12	1,126,112	25	613,986

ing in the north-central part of the WSA. In the northern and western parts of the WSA, the boundary is convoluted because of the land status patterns. As a result, the State land is surrounded on three sides by the WSA and is near the center of the area. Nonwilderness or nonconforming uses on these surrounding non-Federal lands, or on the private inholding, would negatively impact wilderness values within the WSA. Should the Las Uvas Mountains WSA be designated wilderness, 120 acres of State and private lands would need to be acquired to enhance BLM's ability to manage the area.

Energy and Mineral Resource Values

There are no known geothermal occurrences in the WSA. The only favorable geologic indicators are the Tertiary igneous history of the Sierra de Las Uvas, the location of the WSA within the Rio Grande rift, and the presence of several fault zones. Without direct geothermal evidence or other favorable geothermal indicators, the WSA is classified by BLM Geologists as having low potential for geothermal resources.

Zeolite minerals occur in tuffs of the Bell Top Formation in the Cedar Hills, about 10 miles southeast of the WSA. The tuffs of the Bell Top formation in the Cedar Hills and the Sierra de Las Uvas have a similar geologic history, so the occurrence of zeolites in the WSA is at least a possibility. For this reason, the WSA is classified by BLM Geologists as having low potential for zeolite resources.

Impacts on Resources

A comparative summary of impacts by alternative for the Las Uvas Mountains WSA is shown on Table4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Las Uvas Mountains area during the public review period on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). In the March 1980 WSA Proposals, BLM proposed to drop this area due to the presence of human imprints, roads, and convoluted configuration of the unit. This decision aroused much controversy. Based on public comments and additional field checks, the BLM determined that the Rustler Fire Trail did not meet the road definition and an area of 11,067 acres was designated the Las Uvas Mountains WSA in the 1980 Decisions. The decision that the fire trail was not a road was appealed to the

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (11,067 Acres Suitable)	No Wilderness (Proposed Action: 0 Acres Suitable)
Impacts on Wilderness Values	The overall existing natural appearance of the desert mesas and canyons as well as the outstanding opportunities for solitude and day hiking would be maintained. Closure of 4 1/2 miles of vehicle ways would improve naturalness on approximately 20 percent of the area.	Use of existing and 2 miles of additional ways in connection with livestock grazing and sales of cacti, ocotillo, and yucca would diminish the quality of the area's naturalness and opportunities for solitude by 10-20 percent.

Interior Board of Land Appeals (IBLA). IBLA remanded the case to BLM for reconsideration. After re-evaluation, BLM determined that the Rustler Fire Trail met the road definition contained in the *Wilderness Inventory Handbook.* The trail was then cherry-stemmed out of the WSA.

Wilderness Study Comments

During the public comment period on the *Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District,* BLM received 17 personal letters on the Las Uvas Mountains WSA. Ten letters favored wilderness designation and 7 opposed. Those favoring wilderness designation cited the area's basic wilderness values, supplemental features, diverse communities of plants and animals, proximity to population centers, and easy access as reasons.

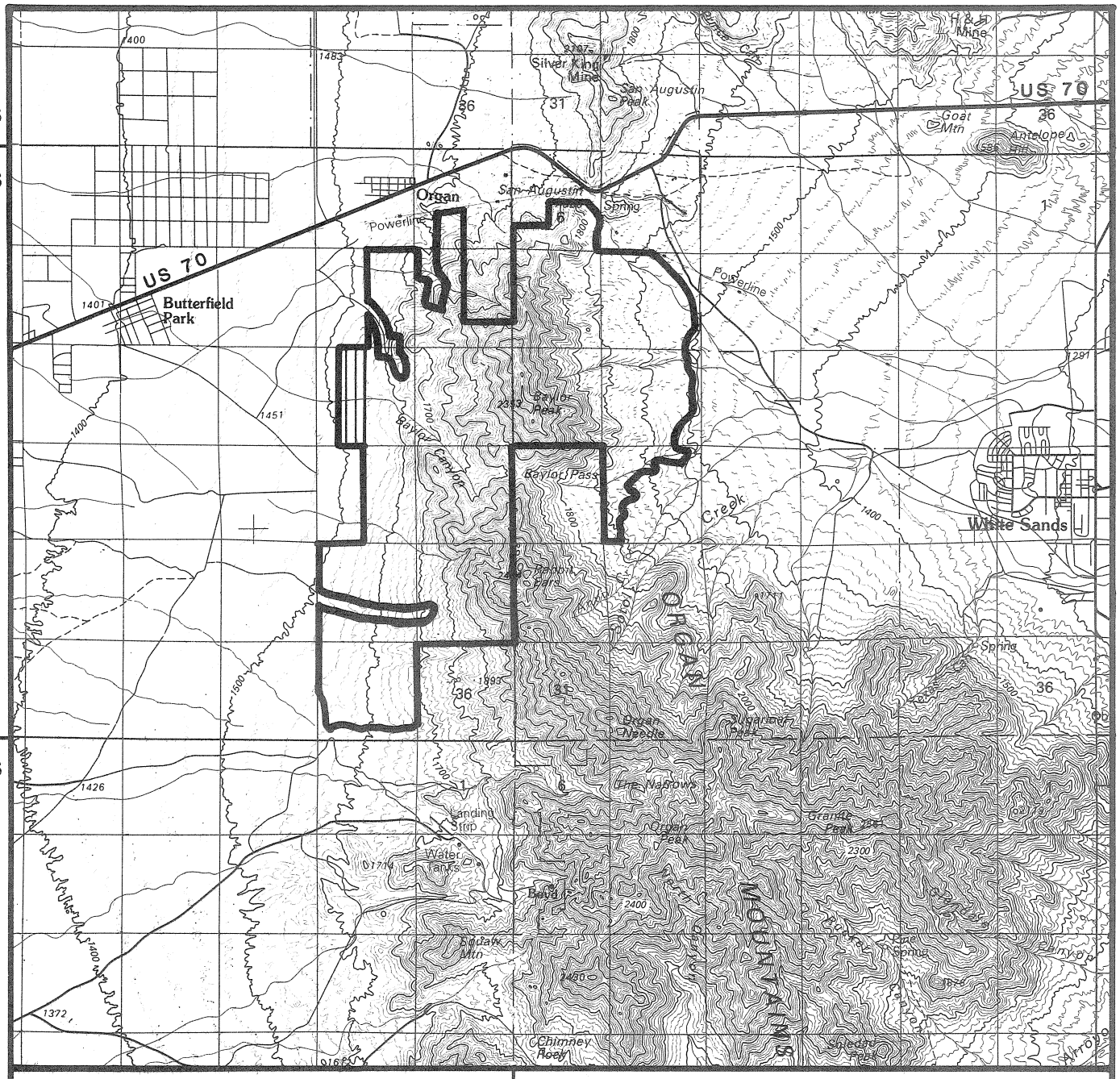
Opposing comments cited potential conflicts with minerals and oil and gas development as reasons for not designating the area wilderness.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), BLM received 12 comments on the Las Uvas Mountains WSA. All 12 commenters favored wilderness designation, once again citing the area's basic wilderness and supplemental features. In addition, 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal including the Las Uvas Mountains WSA advocated by the New Mexico BLM Wilderness Coalition.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), BLM received comments on the Las Uvas Mountains WSA from 226 commenters. Of those, 30 favored wilderness designation and 196 opposed. Those favoring wilderness designation disagreed with BLM's assessment of the area's naturalness and quality of wilderness values. In addition, the New Mexico BLM Wilderness Coalition recommended that a 123,003-acre area be designated wilderness including the Sierra de Las Uvas WSA, the Robledo Mountains WSA, and a large expanse of intervening desert that was evaluated in the initial inventory and dropped in the *New Mexico Wilderness Study Area Decisions* (1980) because of numerous impacts to naturalness in the area. Those opposing designation stated that the area did not meet wilderness criteria and contained too many intrusions.

ORGAN MOUNTAINS WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS

RECOMMENDED FOR NONWILDERNESS (None)

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE

STATE (None)

PRIVATE (None)

N

0 1 2

MILES

Organ Mountains Proposal

NM-030-074

April 1990

ORGAN MOUNTAINS WILDERNESS STUDY AREA

THE STUDY AREA — 7,283 Acres

The Organ Mountains Wilderness Study Area (WSA), NM-030-074, is located in Dona Ana County, approximately 15 miles east of Las Cruces in south-central New Mexico. The WSA includes 7,283 acres of Bureau of Land Management (BLM) land and 131 acres of patented mining claims. (See Table 1 for land status and acreage summary of the area.) The WSA is bounded on the west by a county road, State and private lands, and a powerline; on the north by a powerline; on the east by a paved road, and on the south by New Mexico State University (NMSU) land and a mining road.

The WSA is a portion of a north-south trending fault block mountain range characterized by extremely rugged and steep spires, canyons, and cliffs. Elevations within the WSA range from 5,000 to 8,010 feet. The WSA contains mixed desert shrub, pinyon-juniper-mixed mountain shrub, and Ponderosa pine vegetation types.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Three alternatives for the Organ Mountains WSA were analyzed in the EIS: an all wilderness alternative, an amended boundary alternative, and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

7,283	Acres recommended wilderness
0	Acres recommended nonwilderness

The recommendation for the Organ Mountains WSA is to designate the entire area wilderness (see Map 1). This area is recommended for wilderness designation because of its exceptionally high quality wilderness values including naturalness; opportunities for solitude, primitive recreation and scenic quality; threatened and endangered flora and fauna; wildlife habitat; and manageability as wilderness. The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change in the natural environment in the long-term. This recommendation for wilderness will further apply to any additional inholding or split-estate acreage acquired through purchase or exchange with willing owners. Appendix 1 lists all inholdings and split-estate tracts and provides additional information on acquisition of inholdings and split-estate minerals.

The WSA is generally natural. Human imprints are limited, and viewing areas where these imprints are discernable are all minimized by rugged topography. The major topographic features of the WSA remain unaffected by the imprints of man. The WSA appears to have been affected primarily by the forces of nature and the imprint of man's work is substantially unnoticeable.

The Organ Mountains WSA provides outstanding opportunities for solitude. The rugged mountain range contains numerous major ridges and large canyons with each major topographic feature branching into countless smaller features. These features provide numerous areas to find seclusion from others. The Organ Mountains WSA offers outstanding opportunities for primitive and unconfined types of recreation in terms of both quality and diversity of available opportunities. The WSA offers outstanding opportunities for horseback riding, hiking, hunting, and photography. Rock climbing opportunities in the Organ Mountains are nationally significant. Opportunities for sightseeing geological and botanical features are excellent throughout the WSA. The Baylor Pass National Recreation trail traverses approximately 3 miles of the WSA.

An 8,947-acre portion of the Organ Mountains has been designated as the Organ Mountains Scenic Area of Critical Environmental Concern (ACEC) including approximately 6,040 acres of the WSA. The Organ Mountains are viewed daily by a resident population in excess of 80,000 people. Recreation use within designated areas exceeds 100,000 visits annually. The scenic resources of the Organ Mountains are also important to Las Cruces residents who share the attitude that the Organ Mountains should be preserved and protected, citing them as centers of recreational activity and a source of considerable civic pride.

The WSA provides habitat for two plant species which are candidates for Federal listing and two plant species listed by the New Mexico State

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	7,283
Split-Estate (BLM Surface Only)	0
Inholdings	131
Total	7,314
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	7,283
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	7,283
Inholdings	131
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	0
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	0
Inholdings	0

Forestry Division as endangered and candidates for Federal listing.

The Organ Mountains also have a diverse wildlife community. The WSA provides habitat for the State endangered Colorado chipmunk and four species of endemic molluscs listed as elements of concern by the New Mexico State Forestry Division. The State endangered desert bighorn sheep occurred in the area historically and could be reintroduced.

The area recommended for wilderness can be managed to preserve the quality of the wilderness characteristics. Most boundaries are readily identifiable because of the man-made features. The topography and vegetation of the area and the absence of conflicting land uses or private rights would allow the BLM to manage the area to ensure its preservation and use as wilderness in an unimpaired condition.

Conflicts with other resource uses in this WSA are limited. Grazing use will be allowed to continue and facility maintenance needs in the WSA are minimal. There are no proposed livestock developments which would be foregone as a result of wilderness designation.

The mineral survey conducted by the U.S. Geological Survey and U.S. Bureau of Mines revealed the area contained subeconomic resources of common variety carbonate rock and sand and gravel. Immediately adjacent to and surrounded by the study area, copper resources are present at the Torpedo mine; silver, lead, zinc, and possibly gold resources are present at the Stephenson-Bennett mine; and fluorspar resources are present at the Ruby mine. The Torpedo mine is located a few hundred yards north of the WSA. The Stephenson-Bennett mine and the Ruby mine are cherry-stemmed out of the WSA on the northwest and west sides, respectively.

The mineral resource potential for copper, molybdenum, gold, and silver is high in a small area along the north edge of the WSA. The potential for lead, zinc, copper, silver, gold, and fluorspar resources is moderate along a broad band running north and south on the western edge of the WSA. The mineral resource potential for oil and gas, and for geothermal energy is low throughout the WSA. These findings are similar to those made by BLM geologists.

Designation of the Organ Mountains as wilderness would preclude mineral exploration and development along a zone with moderate potential for fluorspar and moderate and high potential for base and precious metals at depth. However, it was determined that the high wilderness values of the WSA should be preserved even if development of the metallic mineral resources would be foregone.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The majority of the WSA is natural. The mountainous terrain and vegetation tend to screen man-made developments that are in the WSA making their impact very site-specific. The human impacts which exist in the WSA consist of livestock and water control developments. Three developed springs, eight miles of fence, one dirt tank, one rock tank, and a series of three flood control dikes are within the WSA. The springs are all in rugged canyons where topographic features limit visual impacts of the developments to distances under 1/4 mile. The fences are all constructed with neutral-colored posts and blend in well with the boulder-strewn shrublands. The tanks are both small and have over grown with native vegetation that helps hide them. The flood control dikes are on the extreme eastern edge of the WSA where the Aguirre Spring Campground access road forms the WSA boundary.

Solitude

The Organ Mountains WSA rises over 3,000 feet above the surrounding desert and over 4,000 feet above the City of Las Cruces. Despite the visibility

of the city, the town of Organ, and several highways to the west plus the White Sands Missile Range to the east, the WSA provides outstanding opportunities for solitude. The extreme topography with numerous steep and narrow canyons separated by cliffs and mountains allows for feelings of remoteness from human developments. Opportunities for solitude in the northern end of the WSA are slightly impacted by the sounds of traffic on U.S. Highway 70. However, topographic features generally block the sound out of the drainage ways.

Primitive and Unconfined Recreation

The Organ Mountains WSA contains nationally significant opportunities for rock climbing. Approximately 3 miles of the Baylor Pass National Recreation Trail bisects the WSA. The Organ Mountains provide excellent hiking, horseback riding, picnicking, and other recreational pursuits within a close proximity of the El Paso/Las Cruces metropolitan area. In the past, the area has been opened for special deer hunts and may be again in the future.

The topography of the Organ Mountains is so rugged and diverse that visitors travelling off trails have excellent opportunities for challenge and risk. The lack of recreational facilities within the WSA offers excellent opportunities to use outdoor skills and interact with the environment. The Aguirre Spring Campground is 1/4 mile south of the southeast boundary of the WSA. The WSA offers unspoiled recreation opportunities for approximately 120,000 annual visitors to the campground.

Special Features

The majority of the Organ Mountains WSA is within the BLM designated ACEC which was established to protect scenic values. In addition to scenic values, the WSA contains several historic and prehistoric cultural resource sites, habitat for the Organ Mountains race of the Colorado chipmunk (a State-listed endangered species), and nesting and perching habitat for numerous raptor species. The WSA also supports six State-endangered plant species including three that are under review for Federal listing as threatened or endangered species. There is also potential for reintroduction of the State-listed threatened desert bighorn sheep. The Organ Mountains have a diverse wildlife community. This can be largely attributed to the elevation and vegetation differences and to a lesser extent the presence of special habitat features such as springs, seeps, cliffs, and rocky areas.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Organ Mountains WSA is in the Chihuahuan Desert Province with a potential natural vegetation (PNV) of 3,758 acres of Trans Pecos shrub savanna; 3,362 acres of mountain mahogany/oak scrub; and 163 acres of western ponderosa forest. This information is summarized in Table 2.

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

The WSA is within 5-hours driving time of Albuquerque and Las Cruces, New Mexico, and El Paso, Texas. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The Organ Mountains WSA would significantly contribute to balancing the geographic distribution of areas within the National Wilderness Preservation System (NWPS). The Aldo Leopold Wilderness is approximately 80 miles to the northwest, the White Mountains Wilderness is approximately 120 miles to the northeast, and the Carlsbad Wilderness is approximately 120 miles to the southeast. Four other BLM WSAs are within 40 miles of the Organ Mountains WSA.

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Trans/Pecos Shrub Savanna	2	77,744	7	74,792
Mountain Mahogany/Oak Scrub	0	0	3	27,281
Western Ponderosa Forest	0	0	0	0
New Mexico				
Chihuahuan Desert Province				
Trans/Pecos Shrub Savanna	1	30,344	7	74,792
Mountain Mahogany/Oak Scrub	0	0	3	27,281
Western Ponderosa Forest	0	0	0	0

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Albuquerque	26	1,762,638	31	697,910
Las Cruces	14	1,192,386	35	775,351
Texas				
El Paso	12	1,126,112	25	617,770

Manageability

The Organ Mountains WSA could be managed to preserve the wilderness values which presently exist. Manageability is a judgment made by the BLM after considering such factors as: private and State inholdings, valid existing rights, topography, and the overall land ownership pattern.

The "topographic island" character of the Organ Mountains enhances wilderness management. The absence of State inholdings within the WSA adds to

the BLM's ability to manage the area as wilderness. Portions of the WSA have been segregated from appropriation under the mining laws since 1970. There are unpatented mining claims in the WSA. Patented mining claims totalling 131 acres have been excluded from the WSA. Grandfathered livestock operations in the WSA are compatible with wilderness management. Required access for ranch operations would not create problems for wilderness management.

The isolated mountain character of the Organ Mountains results in a WSA with good physiographic integrity. The formation of most boundaries by roads or powerlines allows these man-made features to make the limits of the WSA easily identifiable for managers and users alike.

Additional contiguous acreage belonging to NMSU would add both to the size and manageability of the area as wilderness. A bill was passed in the 100th Congress to allow exchange of BLM land near Las Cruces for the NMSU land. Additional BLM land adjacent to the NMSU land would also make valuable additions to the wilderness, including land recently acquired in both private and State exchanges and a large portion of Fort Bliss.

Energy and Mineral Resource Values

In keeping with the mandate of FLPMA, the U.S. Geological Survey and the U.S. Bureau of Mines surveyed the Organ Mountains WSA to determine mineral values which may be present. Field work of the survey was conducted in 1984 and 1985 and the final report was published in 1989. The wide ranging study included an examination of geologic, geochemical, and geophysical data, as well as a literature review and a review and assessment of local mining activity. The following is a summary of the findings in the report.

Some 83 claims and prospects have been located within and adjacent to the WSA, however, none are presently active. Other than subeconomic resources of common variety carbonate rock and sand and gravel, no other resources are located within the WSA. Immediately adjacent to and surrounded by the study area, copper resources are present at the Torpedo mine; silver, lead, zinc, and possibly gold resources are present at the Stephenson-Bennett mine; and fluorspar resources are present at the Ruby mine. The Torpedo mine is located a few hundred yards north of the WSA. The Stephenson-Bennett mine and the Ruby mine are cherry-stemmed out of the WSA on the northwest and west sides, respectively.

The mineral resource potential for copper, molybdenum, gold, and silver is high in a small area along the north edge of the WSA. The potential for lead, zinc, copper, silver, gold, and fluorspar resources is moderate along a broad band running north and south on the western edge of the WSA. The mineral resource potential for oil and gas, and for geothermal energy is low throughout the WSA. These findings are similar to those made by BLM geologists.

Impacts on Resources

A comparative summary of impacts by alternative for the Organ Mountains WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Organ Mountains area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). During the public comment period, comments were received supporting and opposing WSA status of the area.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (Proposed Action; 7,263 Acres Suitable)	No Wilderness 0 Acres Suitable)	Amended Boundary (7,144 Acres Suitable)
Impacts on Wilderness Values	The area's high quality natural values, outstanding opportunities for solitude and primitive and unconfined recreation, and special ecological and scenic features would be maintained. Naturalness, opportunities for solitude, and scenic features could, however, be degraded on approximately 30 percent of the area if mineral exploration and development of valid mining claims were to occur. Mineral exploration and development could include construction of drill pads, drilling test holes, and construction of up to 2 miles of new roads resulting in approximately 20 acres of surface disturbance.	Management as an ACEC would generally maintain natural values, outstanding opportunities for solitude and primitive recreation, and special ecological and scenic features on 6,699 acres in the short-term. Such designation would not provide long-term protection and wilderness values would be degraded. Wilderness values would be degraded on approximately 30 percent of the area if valid mining claims are developed. Exploration for base and precious metals would adversely affect wilderness values on 593 acres not included in the ACEC. Up to 1 mile of new road would be constructed and approximately 2 acres would be disturbed by the drill holes. This would degrade the quality of naturalness on 10 percent of the area.	Same as All Wilderness Alternative. Naturalness would be affected on 139 acres released; however, opportunities for solitude and primitive recreation in the area are not outstanding. No overall impacts on wilderness values would result. The 139 acres of split-estate was acquired by BLM in 1988.
Impacts on Exploration and Development of Nonenergy Minerals	Opportunities for exploration and development activities would be foregone in the following areas: 200 acres with high potential and 3,600 acres with moderate potential for base and precious metals, and 100 acres with moderate potential for fluorspar.	No impacts.	Same as All Wilderness Alternative, except that access to 139 acres of privately-owned mineral estate with moderate potential for base and precious metals would not be restricted. The 139 acres of split-estate was acquired by BLM in 1988.

Approximately 71 percent of the personal letters favored wilderness review. Supporting reasons included: lack of roads; few imprints of civilization; excellent recreation and solitude; interesting terrain and supplemental values of endangered species. Approximately 29 percent opposed wilderness review. Reasons included: imprints of man's activities; lack of outstanding opportunities for solitude and primitive recreation; and the presence of roads and mining conflicts.

Wilderness Study Comments

During the public comment period on the *Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District* (1983), 26 personal letters and 17 form letters were received indicating support for wilderness designation of the Organ Mountains WSA. Major supporting reasons were: high quality wilderness values; scenic values, diverse wildlife and plant communities, and scientific and educational values. Nine personal letters were received which opposed wilderness primarily because of the area's mineral values.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), BLM received 465 comments in the form of letters and testimony at hearings. A total of 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico BLM Wilderness Coalition. This recommendation supported wilderness designation of the entire WSA.

Forty-one public inputs were received which specifically addressed the Organ Mountains WSA; 37 of the commenters favored wilderness designation and 4 opposed designation. Specific comments in favor of wilderness designation listed the following reasons: value of wilderness values outweighs value of other resources; wilderness boundaries should be enlarged; high scenic values, high recreational values; need more ecological diversity in wilderness system; nondesignation will foreclose future consideration for wilderness; the area is close to population centers where needs exist for wilderness; will protect threatened and endangered plant species, cultural values, and resources from overuse; BLM overstated value of other resources.

Comments opposed to wilderness designation listed that wilderness designation would adversely impact the minerals industry or individual mining claimant.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), 185 commenters supported the 1.88 million-acre New Mexico BLM Wilderness Coalition proposal and 62 commenters supported the Earth First! proposal. Both of these Statewide proposals supported wilderness designation for this WSA. Specific comments on the Organ Mountains WSA were received from 45 commenters with 44 in favor of wilderness designation and one opposed.

Those favoring wilderness designation generally supported BLM's rationale and cited the area's high scenic and recreational values and wildlife diversity. Several supporters indicated that the area should be enlarged to include areas to the southwest and the area within the military withdrawal. The one opposing comment cited potential conflicts with mineral resources in the area.

Appendix 1: Estimated Costs of Acquisition of Non-Federal Holdings Within the Organ Mountains WSA[1]

Legal Description (Prior to any Subdivision)	Total Acres	Number of Owners	Type of Ownership by Estate (BLM/ State/ Private) Surface Estate	Subsurface Estate	Proposed for Acquisition (Yes/No)	Preferred Method of Acquisition (Purchase/ Exchange/ Donation)	Estimated Costs of Acquisition[2] Land Costs	Processing Costs
Parcel #1, Sec. 12, T. 22S, R. 3E	41	1	Private	Private	Yes	Exchange	NA	$4,000
Parcel #2, Sec. 11,13,14, T. 22S, R. 3E	50	1	Private	Private	Yes	Exchange	NA	$5,000
Parcel #3, Sec. 25, T. 22S, R. 3E	40	1	Private	Private	Yes	Exchange	NA	$4,000

[1] The estimated costs listed in this appendix in no way represent a formal appraised value of the land or mineral estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

[2] Where exchange is the proposed acquisition method, only administrative costs of processing the exchange are shown. Processing costs are all miscellaneous expenses other than land costs. These would include work month costs, appraisals, title work, escrow costs, etc. Where direct purchase is proposed, an estimate of both the land costs and the processing costs is provided.

PELONCILLO MOUNTAINS WILDERNESS STUDY AREA

MAP 1

Greenlee County
Graham County
Cochise County
LOS PINOS
McKENZIE PEAK
GOLD HILL
GIDDINGS GRAVE (SITE)
STEINS PEAK
ROOSTERCOMB
San Simon
Pop(Est) 367
EAST SAN SIMON
SOUTHERN PACIFIC COMPANY
MP 385
VANAR
STEINS MOUNTAIN
ARIZONA
NEW MEXICO
T21S
T22S
T23S
T24S
R31E
R32E
R32E AZ
R21W NM
DESIGNATED AS WILDERNESS
RECOMMENDED FOR WILDERNESS(NONE)
RECOMMENDED FOR NONWILDERNESS
LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (NONE)
SPLIT ESTATE (NONE)
STATE (NONE)
PRIVATE (NONE)
N
0
1
2
MILES
PELONCILLO MOUNTAINS PROPOSAL
AZ-040-060
SEPTEMBER 1991

PELONCILLO MOUNTAINS WILDERNESS STUDY AREA

THE STUDY AREA - 4,061 Acres

The Peloncillo Mountains Wilderness Study Area (WSA), AZ-040-60, is located in northeast Hidalgo County, New Mexico along the Arizona State line. Originally, the WSA was contiguous with the Peloncillo Mountains WSA in Arizona. In November 1990, a bill was passed which designated 19,650 acres of the Peloncillo Mountains as wilderness. This included the entire WSA in Arizona. The 4, 061 acres in New Mexico was not affected by this legislation and remains in WSA status. There are no State or private inholdings or split estate in the WSA in New Mexico. (See Table 1.)

In New Mexico, the WSA is bordered on the north by State and private land and on the east and south by public and State land. The WSA boundary follows, almost entirely, legal subdivisions (see Map 1). This boundary was the result of the mixed ownership pattern of public, State, and private land.

The WSA lies in a rugged part of the Peloncillo Mountains, a north-south trending mountain range that roughly parallels the Arizona and New Mexico stateline from Mexico to the Gila River east of Safford. Topographic features of the WSA include rolling hills and steep mountain slopes, with rolling hills and flatlands the predominant aspect of the WSA. Elevations range from 4,325 feet in the eastern part of the WSA to 6,400 feet along the Arizona border.

The original WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the Safford District Wilderness Environmental Impact Statement. The EIS was filed with the Environmental Protection Agency in April 1987. Three alternatives were analyzed in the EIS: the Proposed Action (no wilderness); an all wilderness alternative; and a partial wilderness alternative that would designate 10,418 acres as wilderness and release 1,899 acres for uses other than wilderness.

RECOMMENDATION AND RATIONALE

The portion of the Peloncillo Mountains WSA in New Mexico is not recommended for wilderness designation (see Map 1). While the area contains the necessary values for study, it does not contribute significantly to the wilderness values of the Peloncillo Mountains wilderness in Arizona. In addition, nonwilderness management provides greater flexibility to the BLM and New Mexico Department of Game and Fish in management of the recently reintroduced desert bighorn sheep.

0	Acres recommended wilderness
4,061	Acres recommended nonwilderness

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change to the natural environment over the long-term. The recommendation, while not environmentally preferred, will be implemented in a manner which would use all practicable means to avoid or minimize environmental impacts. There are no known or projected surface disturbing activities for the WSA, and no significant impacts to natural values are expected.

Desert bighorn sheep presently occur in the New Mexico portion of the Peloncillo Mountains. By not designating the area as wilderness, New Mexico

Game and Fish Department will be able to intensively manage the bighorn sheep herds. Necessary management includes the use of helicopters to monitor and track bighorn sheep movements, fire prescriptions for controlled burns to maintain ecosystem integrity/ diversity, and the development of water sources to proivde the sheep with dependable yearlong water.

In the Peloncillo Mountains WSA, there are no existing or projected surface disturbing activities, no valid existing rights, and no projected energy or mineral exploration activities. Therefore, even without wilderness designation, the quality and level of the values now found in the WSA are not expected to significantly change.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The WSA is natural in character. Gentle hills and flatlands are common in the WSA. Elevations range from 4,325 feet in the eastern part of the WSA to 6,400 feet near the Arizona State line. Human imprints include two dirt tanks, approximately 2 miles of fence, and a vehicle way that extends approximately 1/2 mile into the WSA from the northeast. These imprints are moderately well screened and have only a slight and localized impact on naturalness.

Table 1: Land Status and Acreage Summary

	New Mexico
Within Wilderness Study Area	
BLM (Surface and Subsurface)	4,061
Split-Estate (BLM Surface Only)	0
Inholdings	0
Total	4,061
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	4,061
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	4,061
Inholdings	0

Vehicles on the southeastern boundary road can be highly visible from surrounding ridges and can affect the area's apparent naturalness.

Solitude

Due to the small size of the area and the relative lack of relief, opportunities for solitude in the WSA are less than outstanding. Near the road on the WSA's southeastern boundary the terrain is generally flat and vehicles can be seen and heard which disrupts the solitude of the area.

Primitive and Unconfined Recreation

Because of the small size of the WSA and the general lack of topographic relief, the opportunities for primitive and unconfined recreation are less than outstanding. Opportunities for hiking and bird hunting are available on the flat and rolling hills. The three or four high points in the WSA provide vantage points for long distance views.

Special Features

The WSA's surrounding scenery and resident desert bighorn sheep herd enhance the wilderness values of the area.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

Wilderness designation of this WSA will expand the diversity of the National Wilderness Preservation System (NWPS) by adding to an ecosystem now only minimally represented. This WSA represents the Oak-Juniper Woodland ecosystem within the Mexican-Highland Shrub Steppe province. This ecosystem occurs in nine designated wilderness areas and 10 areas under study. The ecosystem is represented and has excellent opportunities for expanded representation. This information is summarized in Table 2.

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

The Peloncillo Mountains WSA is within a days driving time of four major population centers: Las Cruces, New Mexico; Phoenix and Tucson, Arizona; and El Paso, Texas. Designation of Peloncillo Mountains WSA as wilderness will not significantly add to the opportunities for solitude or primitive recreation within a days driving time of these cities. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within 5 hours drive of the four population centers.

Balancing the geographic distribution of wilderness areas

The addition of the Peloncillo Mountains WSA to the NWPS will not bring about an appreciably better balance in the geographic distribution of wilderness areas. There are 53 existing wilderness areas and 24 areas under wilderness study in the region. The designated wilderness areas are administered by both the Forest Service and BLM. Wilderness areas are distributed fairly evenly throughout the region.

Manageability

As an addition to the designated Peloncillo Mountains Wilderness in Arizona, the Peloncillo Mountains WSA can be effectively managed as wilderness. There are no inholdings, valid existing rights, or other encumbrances that would conflict with wilderness.

Energy and Mineral Resource Values

The U.S. Geological Survey and Bureau of Mines have not conducted any survey of this WSA. Mineral information was obtained from the Arizona Bureau of Geology and Mineral Technology.

No known economic minerals are within the WSA. Manganese is found a few miles south of the WSA

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Mexican-Highlands Shrubsteppe Province				
Oak-Juniper Woodland	8	228,285	10	47,842
New Mexico				
Mexican-Highlands Shrubsteppe Province				
Oak-Juniper Woodland	0	0	4	21,445
Arizona				
Mexican-Highlands Shrubsteppe Province				
Oak-Juniper Woodland	10	260,809	4	1,206

along the Arizona and New Mexico stateline. Mines southeast of the WSA in New Mexico have produced lead, zinc, copper, silver, and small amounts of gold and tungsten. A mine 2 miles south of the WSA produced significant amounts of gold and silver. Five mining claims were present in the WSA as of February 1990. The possibility for economic mineralization in the WSA is largely speculative.

Impacts on Resources

This analysis was completed prior to designation of the Arizona portion of the WSA. This summary reflects the analysis completed for the entire WSA. A comparative summary of impacts by alternative for the Peloncillo Mountains WSA is shown on Table 4. This information is taken from the Final EIS.

Local, Social, and Economic Considerations

No local, social, or economic conditions were identified in the Safford District Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Comments

Wilderness Inventory Comments

This summary reflects comments received on the entire WSA, including the portions currently designated as wilderness. The public had several opportunities to participate during the inventory, including attending open houses and making formal comments, protests, and appeals. During the inventory, 40 comments were received on this WSA. Many comments were general in nature. In the specific comments, the following issues were discussed. Twenty comments stated the unit was a

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Las Cruces	15	1,180,583	34	760,523
Arizona				
Phoenix	76	4,067,006	33	2,040,968
Tucson	51	2,543,628	43	1,020,107
Texas				
El Paso	13	1,145,762	25	612,736

valuable earth history study area and a good prospect for mining. Three comments pointed out that the unit is a good rockhound area, and two of them also pointed out the area is being used for cattle ranching. Two comments stated that the handicapped would not be able to use the area if it were wilderness.

Six comments addressed the odd shape of the unit and its relationship with adjacent landowners. Two people thought the boundary was too gerrymandered to be wilderness and surrounded private land. Two comments stated the wilderness should not include State or private inholdings because it could deter development of these lands. One comment stated wilderness users could not enter Little Doubtful Canyon without crossing private land and another comment stated increased visitor use could lead to destruction of private property.

The Arizona State Land Department stated that wilderness should not include State inholdings because it could deter development and lower land values.

Wilderness Study Comments

Eight comments were received during the Management Framework Plan amendment addressing other resource uses wilderness may impact. One comment stated there has been mining activity and there is now ranching activity in the New Mexico portion of the WSA. The comment also stated there were no known vegetation or wildlife elements of importance or unique representative natural features. Three comments addressed State land. The first stated wilderness would place limitations on revenue that could be generated from State lands. Another stated the upcoming EIS should address the effects of wilderness on State land and how BLM proposes to acquire or compensate the State for lands adversely impacted by wilderness. The third comment stated that acquisition of State lands would be necessary to implement wilderness management and avoid resource conflicts. One comment stated that the water sources in each WSA should be identified and the impacts of wilderness on water quality determined. Another comment said the total WSA should be set aside as wilderness and another comment stated the wilderness qualities of the WSA were vastly inferior to existing wil-

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (12,317 Acres Suitable)	No Wilderness (Recommendation; 0 Acres Suitable)	Amended Boundary (10,418 Acres Suitable)
Impacts on Wilderness Values	The natural values and opportunities for solitude and primitive recreation would be preserved. While acquistion of the inholdings has corrected the problems of manageability identified in the EIS, the BLM still believes the area should not be wilderness and is proposing the area as an ACEC in the RMP.	Nondesignation would result in minimal impairment of wilderness values. Planned activities would have small-scale, isolated impacts on the natural qualities of the WSA. Continued ORV use would temporarily impact solitude.	This alternative would preserve 10,418 acres of higher quality wilderness lands, excluding areas impacted by the noise of ORV's.
Impacts on Recreation	There would be little impact on existing uses. ORV use would be prohibited, eliminating 50 recreational visitor days per year. Opportunities for primitive recreation would be enhanced.	There would be no impact on existing uses. Limited ORV travel, rockhounding, and hunting would continue, increasing to about 500 recreation visitor days per year in the next 10 years. Wilderness recreation opportunities would continue in this remote WSA.	Same as All Wilderness Alternative except ORV use would continue on vehicle ways.
Impacts on Desert Bighorn Sheep	Desert bighorn sheep populations would remain at current levels due to the lack of dependable yearlong water sources.	Construction of two livestock waters and maintenance of existing wildlife and livestock developments would enhance wildlife habitat and populations. Desert bighorn sheep populations would increase as a result of developing yearlong water sources	Same as the Proposed Action.

derness areas. A final comment stated that wilderness would benefit wildlife.

BLM further solicited public involvement in the study phase through scoping meetings, a 90-day comment period, and formal hearings on the Safford District Draft Wilderness EIS. The Governor of New Mexico pointed out that the portion of the WSA in New Mexico has mining activity, is now grazed by livestock, has no known important vegetation or wildlife elements, and has no known unique representative natural features. The Arizona State Land Department again expressed their concern with the impacts of wilderness on the use and development of State lands. They wanted BLM to address how they could acquire the affected State land or compensate the State for lands adversely impacted by wilderness. The Arizona Governor's Rangeland Advisory Commission suggests BLM consider eliminating the WSA because of vistas of freeways or mines or lack of water. The Department of the Air Force stated their concerns of the impacts wilderness would have on military training flights and the Environmental Protection Agency stated water sources should be addressed and impacts of wilderness on water quality determined. The Fish and Wildlife Service commented that wilderness would benefit wildlife.

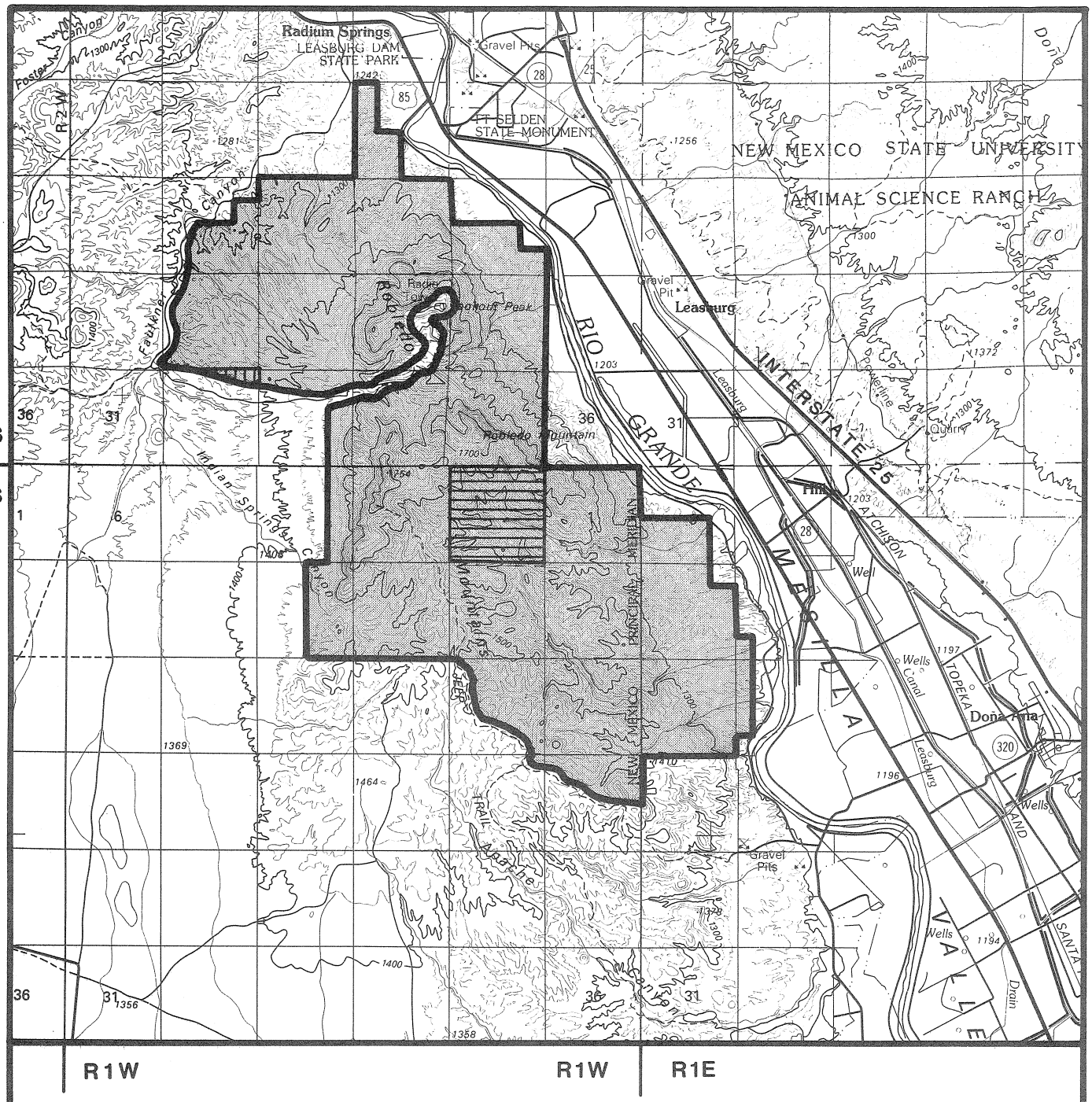
During the comment period and public hearings on the draft EIS, 12 comments specifically addressed the WSA. Five comments discussed the irregular boundary of the WSA. Two comments stated the WSA had the required wilderness characteristics and manageability problems associated with the boundary could be solved through state exchanges. One comment stated the WSA had excellent raptor breeding habitat and the WSA should be designated to preserve this habitat. Another comment pointed out reintroduction of desert bighorn sheep was under consideration and that the bighorn should be identified as probably already occurring in the WSA. One comment supported the All Wilderness Alternative. One comment supported Class I Visual Resources Management as the most manageable alternative. Another comment stated the WSA should be wilderness because it offers solitude and the beautiful scenery should be protected. A final comment stated that the WSA conflicts with a planned utility corridor and supports BLM's non-wilderness proposal.

The New Mexico Department of Fish and Game commented that bighorn sheep presently occur in the New Mexico portion of the Peloncillo Mountains, that reintroduction of desert bighorn sheep in Arizona was under consideration for this WSA, and that the bighorn should be listed in the EIS as already occurring in the WSA.

A comment received after release of the final EIS to the public indicated a preference for the All Wilderness Alternative to preserve the environment.

ROBLEDO MOUNTAINS WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS (None)

RECOMMEDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE

STATE

PRIVATE (None)

N

0 1 2

MILES

Robledo Mountains Proposal

NM-030-063

April 1990

ROBLEDO MOUNTAINS
WILDERNESS STUDY AREA

THE STUDY AREA – 12,946 Acres

The Robledo Mountains Wilderness Study Area (WSA), NM-030-063, is located in central Dona Ana County approximately 8 miles northwest of Las Cruces, New Mexico. The WSA contains 12,811 acres of Bureau of Land Management (BLM) land, 135 acres of split-estate land, and 640 acres of state inholdings. (See Table 1 for land status and acreage summary of the study area.) The WSA is bounded by private and State lands on the north and east sides, and bladed dirt roads and topographic features on the south and west sides.

This WSA contains most of the Robledo Mountains, a north-south trending fault block. Lookout Peak and Robledo Mountain are the prominant topographic features in the WSA. Maximum and minimum elevations within the WSA are 5,876 feet and 4,800 feet, respectively. The WSA is characterized by rugged, steep canyons and southward dipping cuestas. Vegetation consists of grasses and mixed desert shrubs.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Study: Wilderness Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the EPA in February 1988. Two alternatives for the Robledo Mountains WSA were analyzed in the EIS: an all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
12,946	Acres recommended nonwilderness

The Robledo Mountains WSA is not recommended for wilderness designation (see Map 1). While the area contains the values necessary for study, they are not considered to be of a quality to merit inclusion in the National Wilderness Preservation System (NWPS).

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change from the natural environment over the long-term. The recommendation, while not the environmentally preferred, will be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts. The Robledo Mountains WSA contains moderate resource potential for magnesium and high potential for building stone and high-calcium limestone. Any mineral exploration and development activity will be regulated to prevent unnecessary and undue degradation. However, there are no surface disturbing activities presently proposed in the Robledo Mountains WSA, and no significant impacts to natural values are expected.

The Robledo Mountains WSA marginally meets the naturalness criterion. A 1 1/2-mile long vehicle way, a dirt tank, and a 2-mile cherry-stemmed road are located within the WSA. These imprints are in locations that are very noticeable from areas in the WSA most likely to receive visitor use. Although the WSA as a whole is natural, these developments, especially the road to Lookout Peak and the associated communication facilities, detract from the area's naturalness.

While opportunities for solitude in the canyons of the WSA are outstanding, vehicle use on the road to Lookout Peak and overflights by air traffic from Las Cruces International Airport detract from solitude in the WSA. Opportunities for primitive and unconfined recreation in the WSA are not considered by BLM to be outstanding.

There are no known special habitats or wildlife species in the WSA that would depend upon wilderness designation. In the Robledo Mountains WSA, there are no known or projected activities, limited mineral potential, and no valid rights of others in the WSA. Therefore, even without wilderness designation, the quality and level of the values now found in the WSA are not expected to change significantly.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	12,811
Split-Estate (BLM Surface Only)	135
Inholdings	640
Total	13,586
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	12,811
Split-estate (BLM Surface Only)	135
Total BLM Land Not Recommended for Wilderness	12,946
Inholdings	640

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

While the area meets the minimum criteria to be a WSA, the study of this area has generated more accurate and detailed information to assess the quality of the area's wilderness characteristics.

The WSA marginally meets the required naturalness criterion. A 1/2-mile vehicle way, a dirt tank, and a 2-mile cherry-stemmed tract with associated communication facilities atop Lookout Peak are very noticeable from areas in the WSA most likely to receive visitor use. Although the WSA is generally natural, these developments detract from the naturalness of the WSA.

Solitude

Solitude opportunities are considered outstanding in the canyons of the southeast and northwest sides of the WSA. The opportunities for solitude are negatively impacted by vehicle use on the way and on the Lookout Peak Road. The open expanse of relatively undeveloped lands adjacent to the WSA offer similar opportunities for solitude.

Primitive and Unconfined Recreation

Primitive recreation opportunities in the Robledo Mountains WSA include hiking, backpacking, caving, rock hunting, and small game hunting. During the intensive inventory, these opportunities were judged by BLM to be less than outstanding.

Special Features

The WSA contains special ecological and cultural features. It does provide habitat for night blooming cereus (Cereus greggii), a plant species listed as endangered by the State of New Mexico and a candidate for Federal listing. Although not abundant at any one location, the plant is widely scattered and occurs in a number of localities in southwest New Mexico. It has not been verified within the Robledo Mountains WSA.

The WSA contains habitat for the Trans-Pecos rat snake (Elaphe subocularis), which was State-listed as threatened during the EIS preparation period. This snake was removed from the State list in January 1988.

The Robledo Mountains WSA encompasses 20 known historic and prehistoric cultural sites. The area contains high potential for significant prehistoric resources.

Nationally significant fossil trackways from the Pleistocene era were recently discovered in the Ajo Formation of the Robledo Mountains, 1 mile south of the WSA. These trackways are currently being intensively studied by numerous scientific institutions including the Smithsonian Institute and the American Museum of Natural History. There is a good possibility that similar trackways occur in the Ajo Formation within the WSA.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Robledo Mountains WSA is within the Chihuahuan Desert Province. The potential natural vegetation (PNV) consists of 9,060 acres grama/tobosa shrubsteppe, 2,688 acres of creosote bush, and 1,198 acres of Trans-Pecos shrub savanna. The ecosystem information is displayed on Table 2.

Table 2: Ecosystem Representation

Bailey Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	179,916
Creosote Bush	0	0	7	78,458
Trans/Pecos Shrub Savanna	2	77,744	7	77,352
New Mexico				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	179,916
Creosote Bush	0	0	7	78,458
Trans/Pecos Shrub Savanna	2	30,344	7	77,352

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

The WSA is within 5-hours driving time of Albuquerque and Las Cruces, New Mexico; Tucson, Arizona; and El Paso, Texas. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The nearest designated wilderness to the Robledo Mountains WSA are the Aldo Leopold Wilderness and the Gila Wilderness, approximately 55 miles and 75 miles, to the northwest respectively. In addition, there are six BLM WSAs within 40 miles of the Robledo Mountains WSA.

Manageability

The area can be managed as wilderness; however, State land, split-estate, and the Lookout Peak Road would adversely affect manageability of the Robledo Mountains WSA as wilderness.

The 640 acres of State land (T. 22 S., R. 1 W., Section 2) are located in the center of the mountains and disrupt the topographic continuity of the WSA. This limits primitive recreation opportunities because the total Robledo Mountains area is not available to recreational users.

In addition, nonconforming or nonwilderness uses such as geothermal or mineral development on this section would negatively affect wilderness values in the Robledo Mountains. Should the Robledo Mountains WSA be designated wilderness, this section of State land should be considered for acquisition.

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Albuquerque	26	1,762,638	31	692,247
Las Cruces	14	1,192,386	35	769,688
Arizona				
Tucson	41	2,547,144	78	2,263,137
Texas				
El Paso	12	1,126,112	25	612,107

The split-estate ownership of 135 acres in T. 21 S., R. 1 W., Section 32, represents a potential manageability problem. The BLM is required to provide reasonable access to private inholdings, including subsurface inholdings, within wilderness areas. Any development of the subsurface estate would result in surface disturbance and would require overland access. Management of the area as wilderness would be complicated by such development. The split-estate parcel is located on the edge of the WSA, therefore, any development and associated access with resulting manageability problems would be localized and would not be significant in the WSA as a whole. However, due to the low mineral potential of the split-estate land, it is unlikely that any development would occur.

The cherry-stemmed road to Lookout Peak impacts the naturalness and solitude of the local area between Lookout Peak and Robledo Mountain. The continued use of vehicles on this road would result in even more significant impacts on solitude.

Energy and Mineral Resource Values

BLM Geologists have determined the Robledo Mountains WSA to have low potential for the occurrence of oil and gas and geothermal resources.

The BLM Geologists have rated 1,300 acres as having high potential for high quality building stone, 3,700 acres as having high potential for high-calcium limestone, and 200 acres as having moderate potential for occurrence of magnesium. The WSA has been rated by BLM Geologists as having a low potential for the occurrence of sand and gravel, manganese, and iron.

Impact on Resources

A comparative summary of impacts by alternative for the Robledo Mountains WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public involvement has occurred throughout the wilderness review process. Certain comments

Table 4: Comaparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (12,946 Acres Suitable)	No Wilderness (Proposed Action: 0 Acres Suitable)
Impacts on Wilderness Values	Wilderness designation would protect the natural character of the grass and desert shrub dominated mountain range, opportunities for solitude, the raptor nesting habitat and caves along the limestone cliffs, and the prehistoric resources associated with the pithouse village sites.	Mineral exploration and development would result in up to 500 acres of surface disturbance and the addition of 3-6 miles of new roads in the area. These actions would adversely affect naturalness and opportunities for solitude in approximately 40 percent of the WSA. Increased vehicle use as a result of the additional road development would degrade the area's outstanding opportunities for solitude and would further degrade the area's primitive recreation opportunities.
Impacts on Exploration and Development of Geothermal, Building Stone, Magnesium, and High-Calcium Limestone	Opportunities for exploration and development activities would be forgone in the following areas: 2,000 acres within the Radium Springs Know Geothermal Resource Area, 200 acres with moderate potential for magnesium, 3,700 acres with high potential for high-calcium limestone, and 1,300 acres with high potential for building stone.	No significant impacts.

received during the inventory process and early stages of the EIS preparation were used to develop significant study issues and various alternatives for the ultimate management of those lands found to have wilderness values.

Personal letters, form letters, and petitions were received on the Robledo Mountains unit during both the public comment period on the *New Mexico Wilderness Study Area Proposals* (1980) and the *New Mexico Wilderness Study Area Decisions* (1980). Approximately 75 percent of the personal letters supported WSA designation of part of the unit. Comments supporting the BLM's recommendation to drop the Robledo Mountains cited rangeland developments, vehicle trails, and mining activity as negatively impacting the naturalness of the area and detracting from opportunities for solitude or primitive recreation. The area around Lookout Peak and Robledo Mountain was designated a WSA in the November 1980 *New Mexico Wilderness Study Area Decisions*.

Wilderness Study Comments

During the public comment period on the *Draft Environmental Assessment Wilderness Study Areas in the Las Cruces District* (1983), a total of 66 public inputs were received on the Robledo Mountains WSA. Fifty-eight of the inputs favored wilderness designation of the area. Of the 58 inputs favoring wilderness designation, 45 were form letters.

Comments favoring wilderness designation cited four primary supporting reasons: the area's wilderness characteristics, the area's supplemental values, manageability of the area, and lack of conflicts with other resources. Eight commenters opposed wilderness designation and indicated agreement with the BLM's assessment and recommended action, citing potential mineral resource conflicts as the primary reason for opposing wilderness.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Assessment Statement* (1985), BLM received 19 public inputs that specifically addressed the Robledo Mountains WSA. All 19 commenters favored wilderness designation.

Reasons cited in support of wilderness designation were that the wilderness values of the area outweigh the values of other resources, designation would protect other resources, designation would protect unique ecosystems, and nondesignation would foreclose future consideration of the area for wilderness.

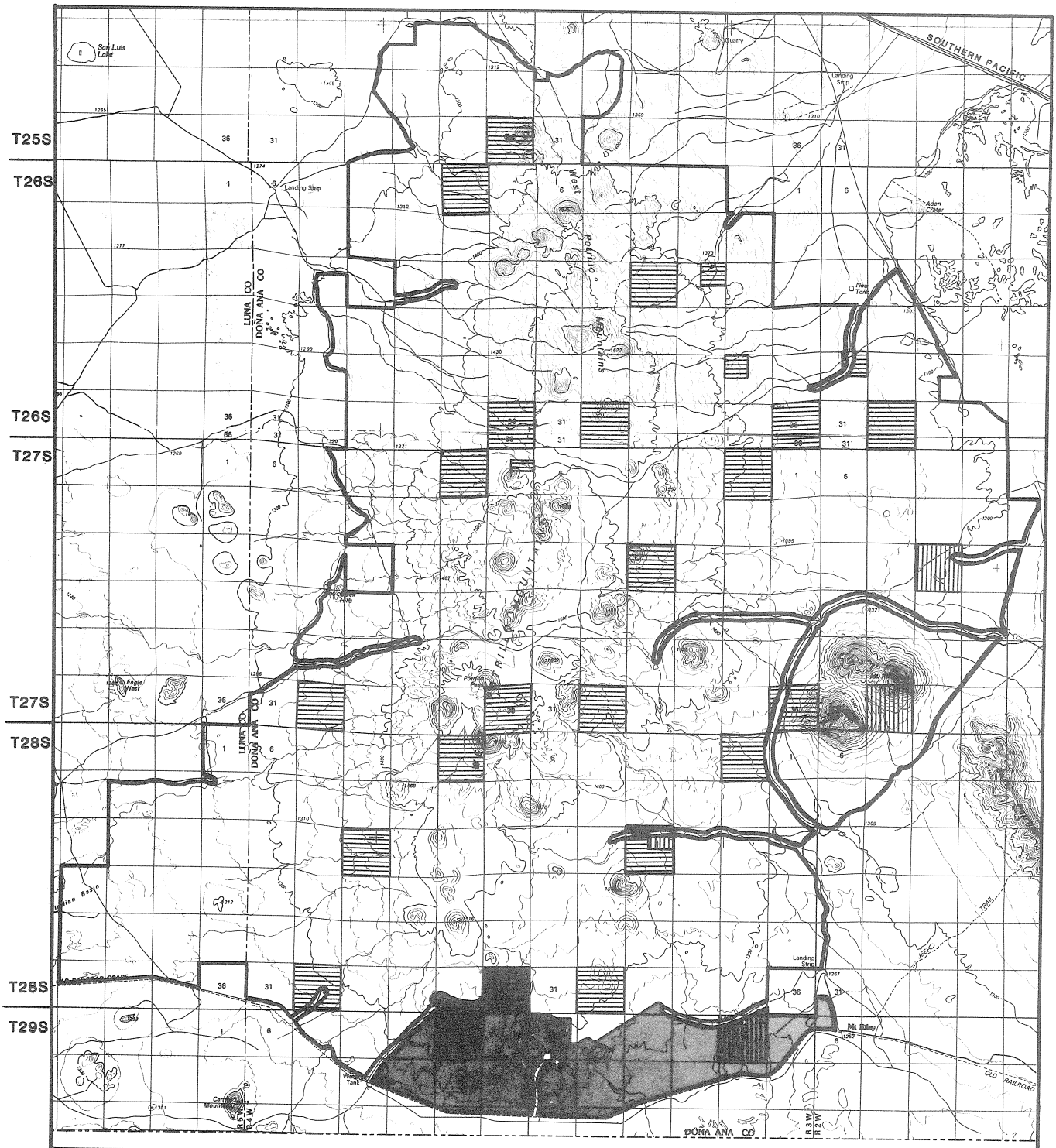
During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), specific comments on the Robledo Mountains WSA were received from 261 commenters. Sixty-four commenters were in favor of wilderness designation while 197 were opposed.

Commenters favoring wilderness designation generally reiterated supporting reasons cited in previous comment periods. Those opposed to wilderness designation cited impacts to livestock grazing and the minerals industry and indicated the area is too small and too close to population centers to be managed as wilderness.

The New Mexico BLM Wilderness Coalition recommended that a 123,003-acre wilderness be designated including the Robledo Mountains WSA, the Las Uvas Mountains WSA, and a large expanse of intervening desert that was evaluated in the initial inventory and dropped in the New Mexico Wilderness Study Area Decisions of 1980 because of numerous impacts to naturalness.

WEST POTRILLO MOUNTAINS/
MT. RILEY
WILDERNESS STUDY AREAS

MAP 1



RECOMMENDED FOR WILDERNESS

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE

STATE

PRIVATE (None)

N

0 1 2
MILES

West Potrillo Mountains / Mount Riley Proposal

NM-030-052

April 1990

WEST POTRILLO MOUNTAINS AND MOUNT RILEY WILDERNESS STUDY AREAS

THE STUDY AREA — 157,185 Acres

The West Potrillo Mountains and Mount Riley Wilderness Study Areas (WSAs) are located in southwestern Dona Ana County and southeastern Luna County. The WSAs are approximately 30 miles southwest of Las Cruces, New Mexico, and 30 miles northwest of El Paso, Texas. The WSAs contain 155,105 acres of Bureau of Land Management (BLM) land, 2,080 acres of split-estate land, and 12,051 acres of State land. (See Table 1 for land status and acreage summary of the study area.) Boundaries are formed by maintained State, county, and ranch roads. Portions of the southwest, northwest, and northeast boundaries are bordered by large blocks of State land.

The West Potrillo Mountains WSA contain some 48 volcanic cones concentrated in a north-south orientation through the center of the WSA. The peaks range in elevation up to 5,400 feet. Broad plains slope gently to the east and west away from the central mountain chain. Wide basins surrounded by volcanic cones are found in the central portion of the WSA.

The Mount Riley WSA contains three high, steep intrusive peaks clustered together east of the West Potrillo Mountains. The highest peak, Mount Riley, reaches an elevation of nearly 6,000 feet. Prominent talus slopes and alluvial fans surround the base of the peak.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Three alternatives for the West Potrillo Mountains and Mount Riley WSAs were analyzed in the Final EIS: an all wilderness alternative, an amended boundary alternative, and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

148,540	Acres recommended wilderness
8,645	Acres recommended nonwilderness

The recommendation for the West Potrillo Mountains and Mount Riley WSAs is to designate 148,540 acres as wilderness and release the remaining 8,645 acres for uses other than wilderness (see Map 1). This recommendation is based on the WSA's high quality wilderness values. The area not recommended for wilderness designation is of a different character with several impacts to naturalness. This recommendation for wilderness will further apply to any additional inholding or split-estate acreage acquired through purchase or exchange with willing owners. Appendix 1 lists all inholdings and split-estate tracts and provides additional information on acquisition of inholdings and split-estate minerals.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change to the natural environment over the long-term. The recommendation, while not the environmentally preferred, will be implemented in a manner which would utilize all practicable means to minimize or avoid adverse environmental impacts. The vast majority of this WSA is recommended for wilderness. In the 8,645 acres not recommended for wilderness, cinder mining, in accordance with valid existing rights, is presently occurring.

The area recommended for designation is characterized by a series of 48 volcanic cones surrounded by broad, relatively flat plains. The peaks of Mount Riley and Mount Cox rise abruptly from the plains on the east side to an elevation of nearly 6,000 feet. These peaks form a strong focal point for the eastern edge of the area recommended for wilderness.

One of the most significant factors for recommending wilderness designation is the area's large size. This is the largest relatively undisturbed and expansive stretch of Chihuahuan Desert in New Mexico. The size, land configuration, and varied topography provide outstanding opportunities for solitude as well as numerous, varied, and outstanding opportunities for primitive and unconfined recreation.

The area's size also contributes to its significance for wildlife. Raptors are common in the area especially during the winter. Golden eagles, great horned owls, and Swainson hawks nest in the WSA. On several occasions, peregrine falcons have been reported.

The area recommended for wilderness can be managed to preserve the quality of the wilderness characteristics. Most of the boundaries follow roads and are, therefore, easily identified. The topography and vegetation of the area and the absence of conflicting land uses or private rights would allow the BLM to manage the area to ensure its preservation and use as wilderness in an unimpaired condition.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	155,105
Split Estate (BLM Surface Only)	2,080
Inholdings	12,051
Total	169,236
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	147,100
BLM (Outside WSA)	0
Split-Estate (Within WSA)	1,440
Total BLM Land Recommended for Wilderness	148,540
Inholdings	10,771
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	8,005
Split Estate (BLM Surface Only)	640
Total BLM Land Not Recommended for Wilderness	8,645
Inholdings	1,280

The conflicts with other resources in the area are limited. Grazing use will be allowed to continue, but maintenance requirements on existing rangeland improvements are minimal and no new projects would be foregone.

The southwest portion of the WSA was rated by BLM Geologists as having moderate potential for oil and gas. However, a more recent evaluation of the mineral potential by the U.S. Geological Survey (USGS) and the Bureau of Mines concluded that this area has a low potential for oil and gas.

The 8,645 acres not recommended for wilderness designation are of a different physical character and have less wilderness quality than the area recommended for wilderness designation. This area contains numerous impacts to naturalness, including 5 miles of cherry-stemmed roads, impacts from past cinder mining, and impacts from the current operation of an ongoing cinder mine on one of the Chaparral cinder claims. This operation is located in the center of the area recommended for nonwilderness use. Mining has occurred on these claims since the early 1950's and it is expected that operations will expand to adjacent undeveloped mining claims in the future.

The recommendation would also exclude three cherry-stemmed roads, 1,280 acres of State land, and 640 acres of split-estate. Two of the three cherry-stemmed roads form a portion of the boundary between the area recommended for wilderness designation and that recommended for nonwilderness use. The remainder of the boundary follows a fence, section lines, and topographic features.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The West Potrillo Mountains and Mount Riley WSAs generally appear natural. Human imprints affecting the naturalness of the West Potrillo Mountains WSA include dirt tanks, vehicle ways, fences, cherry-stemmed roads, and cinder mining activities. The Mount Riley WSA is virtually pristine with the exception of 4 miles of fence.

Ten dirt tanks are within the boundary of the West Potrillo Mountains WSA. Two-track vehicle ways provide access to nine of the dirt tanks. The remaining tank appears to be accessed by cross-country travel.

A web of 72 miles of vehicle ways cover the West Potrillo Mountains WSA. All of these are two-track ways with vegetation growing in the center. The ways are generally unnoticeable unless standing directly on or walking along the routes. The ways provide access to livestock grazing allotments and to rangeland developments.

Approximately 78 miles of fence crisscross the WSAs. All have wooden posts and blend well with the landscape.

Twelve roads are cherry-stemmed into the West Potrillo Mountains WSA. The two longest cherry-stemmed roads penetrate 4 miles into the WSA with the remaining roads penetrating 2 miles or less into the area. These roads provide access to rangeland developments and cinder mining operations.

Cinder mining impacts are found in the southern part of the West Potrillo Mountains WSA in the area recommended nonsuitable for wilderness designation. Currently, cinder mining is taking place on 1 of 6 placer claims in this portion of the WSA. These claims were located in 1947 and operations are proceeding under a valid existing right. At this stage of the mining operations, the mine is topographically screened because of its location and proximity to other cinder cones in the area.

Most of the intrusions in the WSA are associated with livestock grazing and their impacts on naturalness are not significant. The vast size of the WSA in combination with the topographic variation serve to

dilute the effects of the imprints. In addition, the imprints are distributed throughout the WSA which helps to minimize their impacts.

The cumulative impacts of human imprints within the West Potrillo Mountains and Mount Riley WSAs do not greatly affect the quality of overall naturalness in the WSAs.

Solitude

Both the West Potrillo Mountains and Mount Riley WSAs provide outstanding opportunities for solitude. In the Mount Riley WSA, the three separate peaks and the radial drainage ways down the slopes provide topographic screening for visitors. There is, however, some potential for user concentrations in the larger drainages separating Mount Riley and Mount Cox where climbing is less difficult.

Due to the vast size, blocked-up boundary configuration, and varied topography of the West Potrillo Mountains WSA, opportunities to avoid the sights and sounds of others are found throughout the area. Access points into the WSA are numerous and dispersed. This further enhances opportunities for solitude. The quality of solitude opportunities in the West Potrillo Mountains is a major factor in the overall value of the area for wilderness.

Primitive and Unconfined Recreation

The West Potrillo Mountains and Mount Riley WSAs provide outstanding opportunities for primitive and unconfined recreation. These opportunities include hiking, backpacking, horseback riding, hunting, and geological sightseeing. The large size and blocked-up configuration of the WSAs make a 3-4 day pack trip through the area possible. The lack of water and rough and rubble volcanic surfaces make hiking somewhat challenging. The variety of volcanic formations (cinder cones with craters, horseshoe-shaped cones, and spatter cones) add geologic interest. The solitude of the area contributes favorably to primitive recreation experiences.

Climbing opportunities exist in the Mount Riley WSA. Although challenging, these opportunities are not considered outstanding.

Recreation opportunities in the portion of the WSA not recommended suitable for wilderness designation are not considered outstanding. Due to the presence of the Columbus-Anapra road on the southern boundary, this area is readily accessible to the public. However, because of the size of this portion of the WSA, recreation opportunities are limited to hiking and hunting.

Special Features

A special feature of the WSAs is the large size of this relatively undisturbed Chihuahuan Desert. It is the largest such area in New Mexico. The WSAs provide habitat for night blooming cereus, a State-listed endangered plant species. An endemic mollusc, Ashmunella rileyensis is listed as an element of concern by the New Mexico State Department of Forestry and can be found in the WSAs. The WSAs are also important to wildlife in general because of the large size of the areas and number of habitat sites. The area provides excellent winter habitat for a number of bird species including raptors.

Cultural features in the portion recommended for wilderness include Classic Mimbres and El Paso phase sites which provide information regarding settlement in a marginal area.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The West Potrillo Mountains and Mount Riley WSAs lie within the Chihuahuan Desert Province. The potential natural vegetation (PNV) consists of 53,179 acres of creosote bush; 61,812 acres of Trans/Pecos shrub savanna; 36,805 acres of mesquite/acacia savanna; and 5,389 acres of grama/tobosa shrub steppe. Designating the WSAs

as wilderness would add examples of these 4 ecosystems to the National Wilderness Preservation System (NWPS) which are presently not represented in New Mexico nor in the NWPS. This information is summarized in Table 2.

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

The WSA is within 5-hours driving time of Albuquerque and Las Cruces, New Mexico, and El Paso, Texas. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The WSAs are within 30 air miles of two BLM WSAs recommended for wilderness designation. The closest designated areas are the Aldo Leopold Wilderness and the Gila Wilderness approximately 100 miles to the northwest.

Manageability

The manageability of the West Potrillo Mountains and the Mount Riley WSAs as wilderness over the long-term is affected by State land, non-Federal mineral estate, mining claims, and ongoing mining operations.

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Creosote Bush	0	0	7	27,967
Trans-Pecos Shrub Savanna	2	77,744	7	16,738
Mesquite/Acacia Savanna	0	0	3	6,272
Grama/Tobosa Shrubsteppe	2	39,907	16	183,587
New Mexico				
Chihuahuan Desert Province				
Creosote Bush	0	0	7	27,967
Trans/Pecos Shrub Savanna	1	30,344	7	16,738
Mesquite/Acacia Savanna	0	0	3	6,272
Grama/Tobosa Shrubsteppe	2	39,907	16	183,507

Table 3: Wilderness Opportunities for Residents of Major Metropolitan Centers

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
New Mexico				
Albuquerque	26	1,762,638	31	548,008
Las Cruces	14	1,192,386	35	625,449
Texas				
El Paso	12	1,126,112	25	467,868

State land inholdings total 12,051 acres in the West Potrillo Mountains WSA. Three parcels of State subsurface mineral estate, totaling 1,440 acres, are located in the WSA. A 640-acre inholding of State subsurface mineral estate is located in the Mount Riley WSA. The BLM is required to provide reasonable access to private inholdings, including subsurface inholdings, within the wilderness areas. Any development of the subsurface estate would result in surface disturbance and would require overland access. Manageability of the area as wilderness would be impacted by such development. However, due to the low mineral potential of the split-estate land, it is unlikely that any development would occur.

The area recommended suitable for wilderness designation could be managed as wilderness in the long-term. The area recommended nonsuitable for wilderness designation is not manageable as wilderness.

The area not recommended for wilderness designation contains a cinder mining operation which is proceeding under a valid existing right. It is likely the operation will expand to include all six of the Chaparral mining claims in the vicinity of the current operation. Impacts from this mining operation would make this portion of the WSA unmanageable as wilderness.

Energy and Mineral Resource Values

In 1985, the USGS and the U.S. Bureau of Mines conducted a mineral resource appraisal of the West Potrillo Mountains and Mount Riley WSAs. This wide-ranging study included an examination of geologic, geochemical, and geophysical data, as well as a review and assessment of local mining activity. The following is a summary of the findings of that survey.

The West Potrillo Mountains WSA has volcanic cinder deposits at 21 individual sites. Total volume of these deposits is conservatively estimated at 400 million cubic yards. However, lack of access and distance to markets make development of this commodity unlikely in the foreseeable future. The mineral resource potential for volcanic cinder in the remaining portions of the area recommended for wilderness is low.

In the portion of the WSAs not recommended for wilderness, the mineral resource potential for volcanic cinder is high. Mining is presently occurring in the vicinity of the Chaparral cinder claims located in the south central portion of the West Potrillo Mountains WSA on claims under a valid existing right.

Both WSAs have low potential for undiscovered resources of near surface base (copper, lead, zinc, tin) and precious metals such as gold, silver, and platinum.

The accumulation of oil and gas in the WSAs is unlikely due to unfavorable geologic structure and the volcanic activity. The resource potential for undiscovered oil and gas potential is low. The BLM Geologists had previously identified the southwest portion of the West Potrillo Mountains WSA as having a moderate potential for oil and gas. However, the findings of the USGS do not confirm this assessment.

Impacts on Resources

A comparative summary of impacts by alternative for the West Potrillo Mountains and Mount Riley WSAs is shown in Table 4. This information is taken from the Final EIS, however, it has been revised to include data from the 1985 U.S. Geological Survey and U.S. Bureau of Mines mineral survey report. This mineral data indicates there are no areas in the WSA with moderate oil and gas potential. The entire WSA is, therefore, classified as having a low potential for the occurrence of oil and gas.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the West Potrillo Mountains and Mount Riley WSAs during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). The WSA proposals for the West Potrillo Mountains and Mount Riley WSAs were among the 10 most commented upon in the State. Approximately 43 percent of the commenters supported wilderness review of the two areas and the remaining 57 percent opposed.

Those favoring wilderness review cited the areas' naturalness, large size, diverse topography, and proximity to population centers. Those opposing wilderness review cited conflicts with mineral potential, impacts to livestock grazing, presence of rangeland developments and roads, and impacts from outside sights and sounds from the Southern Pacific railroad and Interstate 10.

Wilderness Study Comments

During public review on the *New Mexico Wilderness Supplemental Draft Environmental Assessment* (1985), all but one favored wilderness designation, out of a total of 97 inputs.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), BLM received 465 comments. A total of 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico BLM Wilderness Coalition. The West Potrillo Mountains and Mount Riley WSAs were included within the Coalition's proposal for wilderness. Specific comments on these two WSAs were made by 41 commenters with 33 supporting wilderness and 8 opposing.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1986), of those specifically commenting on these WSAs, 28 favored wilderness designation for West Potrillo Mountains and 19 favored wilderness designation for Mount Riley. Approximately 200 opposed wilderness for either area. Also, 185 commenters supported the 1.8-million acre New Mexico BLM Wilderness Coalition proposal and 62 commenters supported the Earth First! proposal. Both of these proposals advocated wilderness for these WSAs plus adjacent areas.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (157,185 Acres Suitable)	No Wilderness (0 Acres Suitable)	Amended Boundary (Proposed Action; 148,540 Acres Suitable)
Impacts on Wilderness Values	The natural character of the numerous cinder cones, lava flows, outstanding opportunities for hiking, backpacking, hunting, and geologic sightseeing would be maintained as well as cultural resources and habitat for night blooming cereus. Cinder extraction under a valid existing mining claim would degrade wilderness values in the vicinity of the Chaparral cinder claims.	Wilderness values would not receive long-term Congressional protection. The area would probably retain its naturalness, outstanding opportunities for solitude and primitive recreation in the short-term. Mineral exploration activities, mining claim assessment work, and off-road vehicle use would degrade naturalness in 30 to 40 percent of the area over the long-term. It is projected that up to 5 miles of new road would be constructed with mineral exploration.	Wilderness designation would protect the area's high quality wilderness values. Naturalness would be affected on the 8,645 acres not recommended for wilderness, however, this would occur under all alternatives due to valid existing rights.
Impacts on Cinder Development and Oil and Gas Exploration	Mineral material sales on 1,400 acres with high potential and 7,400 acres with moderate potential for cinders would be foregone. When 8,000 acres of the WSAs were rated as having a moderate potential for oil and gas, only exploration was expected to be eliminated. However, no impact is expected now that the USGS has concluded the WSAs have only a low potential for the occurrence of oil and gas.	No significant impacts.	Same as all wilderness except that 1,400 acres with high potential for cinders would be available for development. Five to 10 sales per year would result in 10 to 20 acres of surface disturbance annually.

On the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), the New Mexico BLM Wilderness Coalition advocated eliminating the boundary between Aden Lava Flow and the West Potrillo Mountains WSA, and the areas be combined into one large wilderness. The Coalition also advocated the addition of large parcels of land to the west of the West Potrillo Mountains and recommended that only the cinder claims in the southern part of the WSA be cherry-stemmed and not drop the large area recommended by BLM.

Those opposing wilderness designation stated that the area did not appear natural. The area did not offer outstanding opportunities for solitude, primarily because of outside sights and sounds, man's impacts are numerous and obvious, and many rangeland improvements were overlooked in the original inventories.

Appendix 1: Estimated Costs of Acquisition of Non-Federal Holdings Within the West Potrillo Mountains/Mount Riley WSA[1]

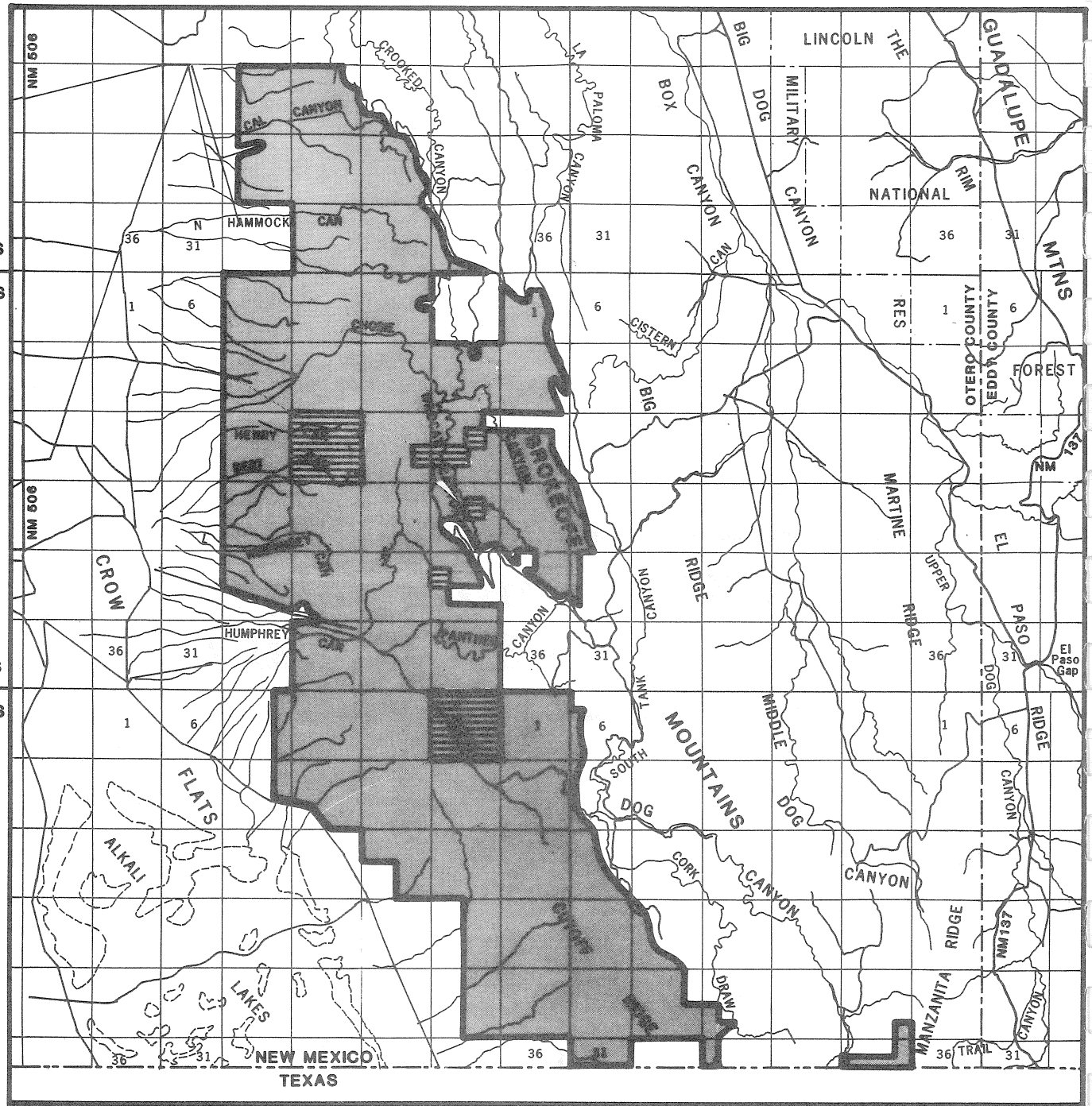
Legal Description (Prior to any Subdivision)	Total Acres	Number of Owners	Type of Ownership by Estate (BLM/ State/ Private) Surface Estate	Subsurface Estate	Proposed for Acquisition (Yes/No)	Preferred Method of Acquisition (Purchase/ Exchange/ Donation)	Estimated Costs of Acquisition[2] Land Costs	Processing Costs
Parcel # 1, Sec. 36, T. 25S, R. 4W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel # 2, Sec. 30, T. 26S, R. 2W	160	1	State	State	Yes	Exchange	NA	$1,600
Parcel # 3, Sec. 32, T. 26S, R. 2W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel # 4, Sec. 15, T. 26S, R. 3W	160	1	State	State	Yes	Exchange	NA	$1,600
Parcel # 5, Sec. 16, T. 26S, R. 3W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel # 6, Sec. 26, T. 26S, R. 3W	160	1	State	State	Yes	Exchange	NA	$1,600
Parcel # 7, Sec. 32, T. 26S, R. 3W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel # 8, Sec. 36, T. 26S, R. 3W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel # 9, Sec. 2, T. 26S, R. 4W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #10, Sec. 36, T. 26S, R. 4W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #11, Sec. 16, T. 27S, R. 2W	640	1	BLM	State	Yes	Exchange	NA	$6,400
Parcel #12, Sec. 32, T. 27S, R. 2W	640	1	BLM	State	Yes	Exchange	NA	$6,400
Parcel #13, Sec. 2, T. 27S, R. 3W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #14, Sec. 16, T. 27S, R. 3W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #15, Sec. 32, T. 27S, R. 3W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #16, Sec. 36, T. 27S, R. 3W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #17, Sec. 1, T. 27S, R. 4W	80	1	State	State	Yes	Exchange	NA	$1,000
Parcel #18, Sec. 2, T. 27S, R. 4W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #19, Sec. 32, T. 27S, R. 4W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #20, Sec. 36, T. 27S, R. 4W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #21, Sec. 2, T. 28S, R. 3W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #22, Sec. 16, T. 28S, R. 3W	160	1	BLM	State	Yes	Exchange	NA	$1,600
Parcel #23, Sec. 16, T. 28S, R. 3W	480	1	State	State	Yes	Exchange	NA	$4,800
Parcel #24, Sec. 32, T. 28S, R. 3W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #25, Sec. 2, T. 28S, R. 4W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #26, Sec. 16, T. 28S, R. 4W	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #27, Sec. 32, T. 28S, R. 4W	640	1	State	State	Yes	Exchange	NA	$6,400

[1] The estimated costs listed in this appendix in no way represent a formal appraised value of the land or mineral estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

[2] Where exchange is the proposed acquisition method, only administrative costs of processing the exchange are shown. Processing costs are all miscellaneous expenses other than land costs. These would include work month costs, appraisals, title work, escrow costs, etc. Where direct purchase is proposed, an estimate of both the land costs and the processing costs is provided.

BROKEOFF MOUNTAINS WILDERNESS STUDY AREA

MAP 1



R18E | R19E | R19E | R20E | R20E | R21E

RECOMMENDED FOR WILDERNESS (None)

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE (None)

STATE

PRIVATE (None)

N

0 1 2
MILES

Brokeoff Mountains Proposal
NM-030-112

April 1990

BROKEOFF MOUNTAINS WILDERNESS STUDY AREA

THE STUDY AREA – 31,606 Acres

The Brokeoff Mountains Wilderness Study Area (WSA), NM-030-112, is located in the southeastern corner of Otero County, New Mexico, approximately 50 miles southwest of Carlsbad, New Mexico. The WSA contains 31,606 acres of Bureau of Land Management (BLM) land and 1,840 acres of State inholdings. (See Table 1 for land status and acreage summary of the study area.) The eastern boundary is formed by bladed dirt roads. The northern and western boundaries are along section lands. The southern boundary is formed by State land and the Texas State line and adjoins a portion of the Guadalupe Mountains National Park.

The WSA consists of a desert mountain range which follows a north-south trend and abuts the southwestern wall of the Guadalupe Escarpment near the New Mexico-Texas State line. The range gradually ascends from an average height of 4,600 feet in the northern half of the WSA to a high point of 6,550 feet on Cutoff Ridge.

Cutoff Ridge and two canyons, each 500-600 feet deep, are the dominant topographic features. In the southernmost portion of the WSA, Cutoff Ridge rises 3,000 feet above the surrounding terrain and leads directly to the Guadalupe Escarpment. Chosie Canyon (with its tributary Wildcat Canyon) and Humphrey Canyon (which splits into Panther and West Dog Canyons) drain to the west. These drainagess engulf the central two-thirds of the WSA. Several smaller ridges and canyons are present in the central and northern portions of the WSA. The western boundary consists of the eastern most edge of Crow Flats.

The WSA was studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement*, (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Three alternatives for the Brokeoff Mountains WSA were analyzed in the EIS: an all wilderness alternative, an amended boundary alternative, and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
31,606	Acres recommended nonwilderness

The Brokeoff Mountains WSA is not recommended for wilderness designation (see Map 1). This recommendation is based on strong local public opposition to wilderness, the availability of other wilderness lands in the regional area, and the localized impacts to naturalness resulting from the presence of rangeland developments.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change in the natural environment over the long-term. The recommendation for this WSA, however, will be implemented in a manner which will use all practical means to avoid or minimize environmental impacts, thereby ensuring that no unnecessary or undue degradation will occur in the area. There are no known or projected surface disturbing activities for the WSA and no significant impacts to natural values are expected.

During the public comment period on the Revised Draft EIS on the Statewide study, local residents voiced strong opposition to designating the area as wilderness. The WSA received the greatest number of opposing comments of any area addressed in the Revised Draft EIS.

The Brokeoff Mountains have outstanding wilderness values; however, similar or superior values are found in nearby designated wilderness areas. The WSA is characterized by a series of limestone hills and ridges covered by desert shrub and grass vegetation. The hills are dissected by numerous canyons. This combination of landforms and vegetation offers outstanding opportunities for solitude and primitive recreation in a relatively large area. However, the Carlsbad Wilderness Area, located less than 20 air miles east of the WSA, offers the same type of opportunities in much the same ecosystem. The Carlsbad Wilderness is approximately the same size as the Brokeoff Mountains WSA and has fewer impacts to naturalness.

The Guadalupe Mountains Wilderness Area, which adjoins the WSA on the south, offers more diverse opportunities for primitive recreation than that found in the WSA.

Although the Brokeoff Mountains generally appear natural, the naturalness is locally impacted by a number of rangeland developments including 5 metal storage tanks, 4 dirt tanks, and 33 miles of

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	31,606
Split-Estate (BLM Surface Only)	0
Inholdings	1,840
Total	33,446
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	31,606
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	31,606
Inholdings	1,840

sheep fence. The WSA also contains 7 miles of vehicle ways. Additional projects including 4 pipelines with drinking troughs, 1 dirt tank, and 2 1/2 miles of fence are proposed to be built in the WSA.

There are no special features, special habitats, or wildlife species in the WSA that would depend upon wilderness designation. In addition, there are no valid existing rights or minerals potential in the WSA. Proposed rangeland improvements would only impact naturalness in localized areas. Therefore, even without wilderness designation, the quality and level of the values now found in the WSA are not expected to significantly change. While the area does contain wilderness values, similar and more diverse values and opportunities are presently preserved in the adjacent Guadalupe Mountains Wilderness Area and the nearby Carlsbad Wilderness Area. For these reasons, the Brokeoff Mountains is not recommended suitable for wilderness designation.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The WSA generally appears natural but there are several site-specific signs of man, primarily vehicle access routes and rangeland developments, which impact naturalness locally. In the northern half of the WSA, there are 4 miles of vehicle access routes. The most noticeable of these is a route which follows a ridgecrest to a dirt tank. The impact of this visual intrusion is compounded by the lack of both vegetation and topographic screening. Additional rangeland developments include 3 metal water storage tanks and 23 miles of sheep fence.

Rangeland developments south of Humphrey Canyon include 3 dirt tanks, an abandoned drinking trough, 2 water storage tanks, 3 miles of vehicle ways, and 10 miles of sheep fence. These developments, however, are topographically screened and create little visual contrast.

Solitude

The area offers outstanding opportunities for solitude which are enhanced primarily by the WSA's size, boundary configuration, and rugged topography and, to a lesser degree, by vegetation screening, remoteness, and designated wilderness to the south.

In the southern half of the WSA, the rugged terrain and lack of vehicular access are the primary factors contributing to the outstanding solitude opportunities. In addition, this area is contiguous with the Guadalupe Mountains Wilderness Area. The rugged terrain of the northern part of the WSA is sufficient to offer ample opportunities for solitude. However, vehicular access is easier and the topography is less challenging.

Primitive and Unconfined Recreation

The WSA offers outstanding opportunities for primitive and unconfined types of recreation. Hiking, backpacking, non-technical rockclimbing, photography, and sightseeing opportunities are available in the WSA. These opportunities are based primarily on the WSA's size and toporgraphic relief. Primitive recreation opportunities are enhanced in the southern part of the WSA because the area is contiguous with the Guadalupe Mountains Wilderness Area.

The WSA is large enough to accommodate a 3-4 day backpacking trip. In addition, the adjacent Guadalupe Mountains Wilderness Area is managed by the National Park Service for primitive and unconfined types of recreation. Longer trips may be taken by continuing into the Guadalupe Mountains Wilderness Area. Scenic vistas are present in the WSA and opportunities exist for sightseeing and photography.

Special Features

The WSA contains outstanding scenic quality and provides habitat for a variety of raptors.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The WSA is in the Chihuahuan Desert Province with a potential natural vegetation of 27,426 acres of grama/tobosa shrubsteppe and 4,180 acres of Trans/Pecos shrub savanna. The National Wilderness Preservation System (NWPS) contains examples of both these ecosystems. The ecosystem information for New Mexico and the Nation is summarized in Table 2.

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

The Brokeoff Mountains WSA is within 5-hours driving time of Las Cruces, New Mexico, and El Paso, Texas. Table 3 summarizes the number and acreage of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The south end of the Brokeoff Mountains WSA adjoins the Guadalupe Mountains Wilderness in the Guadalupe Mountains National Park. The WSA is also within 20 miles of the Carlsbad Wilderness Area in the Carlsbad Caverns National Park.

Manageability

The Brokeoff Mountains WSA is presently capable of being effectively managed to preserve its wilderness character. Three factors influence manageability of the area: land status, existing management and access to inholdings, and management of contiguous National Park Service land.

The WSA contains 31,606 acres of BLM land and 1,840 acres of State inholdings, which includes 320 acres of State land (T. 26 S., R. 20 E., Section 32)

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	161,550
Trans/Pecos Shrub Savanna	2	77,744	7	74,370
New Mexico				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	161,550
Trans/Pecos Shrub Savanna	1	30,344	7	74,370

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas		Other BLM Studies	
	Areas	Acres	Areas	Acres
New Mexico				
Las Cruces	14	1,192,386	35	751,028
Texas				
El Paso	12	1,126,112	25	593,447

surrounded by the WSA on three sides and the Guadalupe Mountains Wilderness Area on the fourth. Grazing is currently the only use of these inholdings and motorized access is available along vehicle ways and arroyo bottoms. Management of these lands does not presently conflict with wilderness preservation.

Manageability of the WSA could be improved by acquisition of the State land, particularly the 320 acres lying between the WSA and the Guadalupe Mountains Wilderness Areas. BLM could then ensure that they continue to be managed in a manner fully compatible with wilderness preservation. This would also increase the acreage contiguous to the wilderness area in the Guadalupe Mountains National Park. The fact that contiguous lands are specifically managed for wilderness purposes enhances the manageability of the Brokeoff Mountains WSA.

There are no other private rights or mineral resource potential that would impact BLM's ability to manage the area as wilderness.

Energy and Mineral Resource Values

As directed by the Federal Land Policy and Management Act (FLPMA), the U.S. Bureau of Mines and the U.S. Geological Survey conducted a mineral survey of the Brokeoff Mountains. The results of that survey were published in a report in 1988 and are summarized below.

There are no mining districts or mining claims in the Brokeoff Mountains area. No metallic mineral occurrences were found in the WSA. As a result, the mineral resource potential for base and precious metals is low. Small amounts of inferred subeconomic gypsum resources occur in the area. Sand and gravel are present in the study area, but have no unique qualities. Development and use of these materials, which are commonly available outside the study area, would depend on local demand.

Oil and gas leases overlay approximately 1,200 acres of the WSA; however, the energy resource potential for oil and gas in the Brokeoff Mountains is low because of the extensive faulting and tilting of the Permian strata that likely destroyed any petroleum trap that may have been present. There are no warm springs or wells in the area that would suggest a high thermal gradient; therefore, the WSA is also given a low resource potential for geothermal energy.

Impacts on Resources

A comparative summary of impacts by alternative for the Brokeoff Mountains WSA is shown in Table4. This information is taken from the Final EIS.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (31,606 Acres Suitable)	No Wilderness (Proposed Action; 0 Acres Suitable)	Amended Boundary (13,236 Acres Suitable)
Impacts on Wilderness Values	The area's natural appearance, scenic quality, and outstanding opportunities for solitude and primitive recreation (including hiking, backpacking, non-technical rock climbing, photography, and sightseeing) would be maintained. There could be a 10-20 percent increase in the quality of naturalness and opportunities for solitude as a result of closing 7 miles of vehicle ways.	The area's natural appearance, outstanding opportunities for solitude and primitive recreation, and scenic quality would probably be retained in the short-term. However, in the long-term, wilderness values would diminish by 20-30 percent as a result of continued livestock grazing operations, con-struction of rangeland developments, and vehicle-related recreation.	The area's highest quality wilderness values would be maintained. The quality of the outstanding opportunities for solitude and primitive recreation (hiking and back-packing) would be reduced by 20 percent since the quality of these values are partially dependent of the area's size. This loss would be offset by proximity of designated wilderness in the Guadalupe Mountains National Park. In the non-suitable area, loss of wilderness values would occur in the long-term as a result of continued livestock grazing operations with associated rangeland developments, and vehicle-related recreation.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Brokeoff Mountains area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). During the public comment period, comments were received supporting and opposing WSA status of the area. General reasons for opposing WSA status included oil and gas activity, minerals potential, and current livestock use.

Wilderness Study Comments

During the public comment period on the *Draft Environmental Assessment Wilderness Study Areas*

in the Las Cruces District (1983), 121 comment letters were received on the Brokeoff Mountains WSA. A total of 116 commenters favored wilderness designation and 5 opposed. Those favoring wilderness designation cited the area's wilderness values and its proximity to the Guadalupe Mountains National Park. The National Park Service supported wilderness designation. Those opposing wilderness designation discussed the area's oil and gas potential or the lack of wilderness values in the area.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), 125 commenters specifically addressed the Brokeoff Mountains WSA. All but one of these commenters favored wilderness designation. The one exception expressed no preference. In addition, 340 commenters supported Alternative W, a 1.3 million-acre wilderness proposal advocated by the New Mexico BLM Wilderness Coalition, which recommended wilderness designation for the entire WSA, plus additional surrounding area.

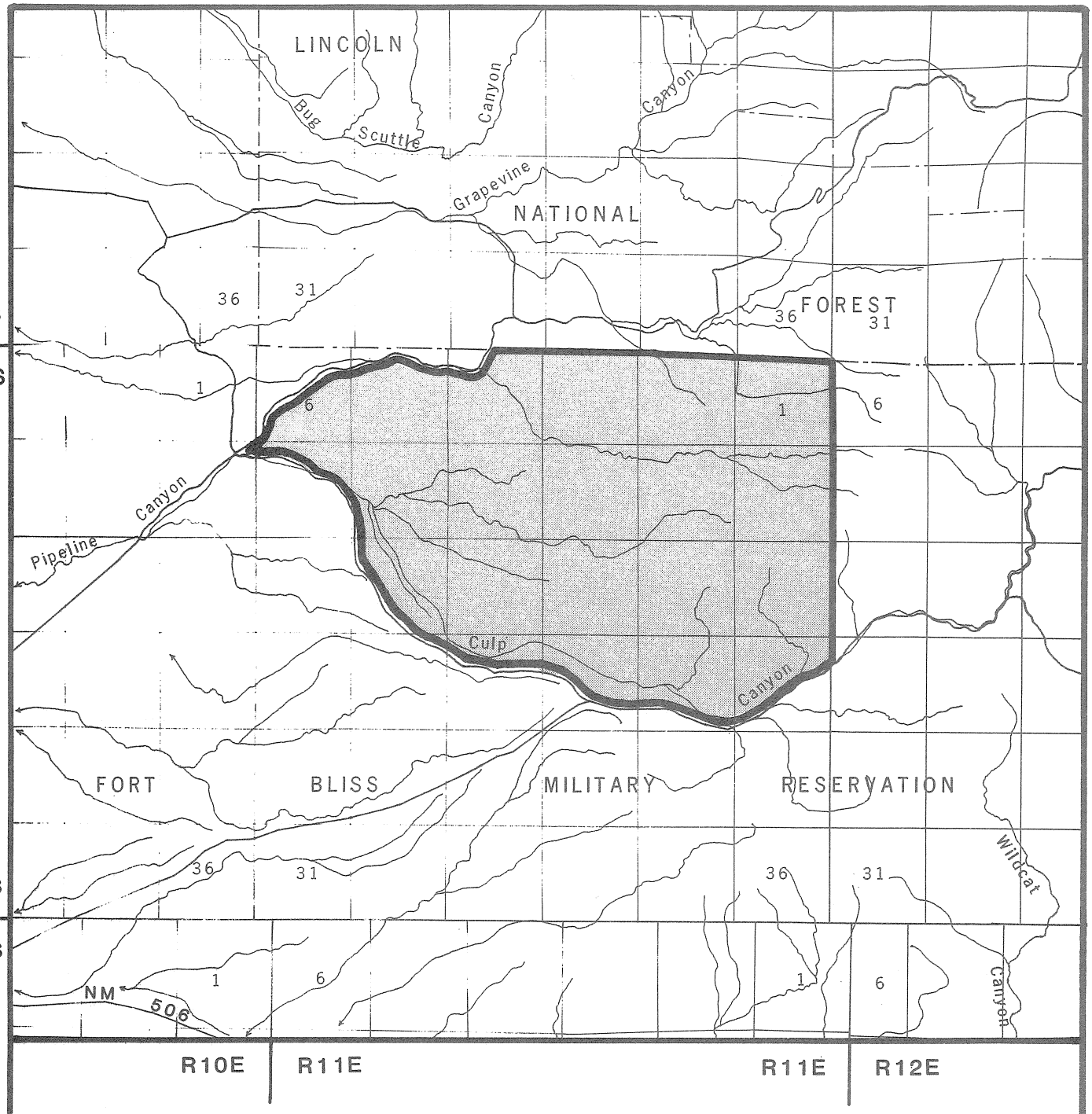
During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Statement* (1986), 308 commenters specifically addressed the WSA. Of those, 27 favored wilderness designation and 281 opposed. Those favoring designation reiterated the values found in the area and the fact that the area adjoins designated wilderness in the Guadalupe Mountains National Park as reasons for designating the area wilderness. In addition, the New Mexico BLM Wilderness Coalition stated that the area should be enlarged to include three adjacent parcels which they felt had wilderness character for a total of 66,350 acres.

This WSA received the greatest amount of opposition comments of any area included in the Revised Draft EIS. These comments came primarily from local ranchers and residents of the Carlsbad, New Mexico area. The reasons cited included impacts to livestock grazing, reductions in grazing capacity because of wilderness, restrictions on hunting and access, restrictions on predator control, and the presence of two existing wilderness areas in the region. Most of these commenters felt that additional wilderness was not needed.

Reasons cited in support of wilderness designation included that the Brokeoff Mountains WSA meets the wilderness criteria, proximity of existing designated wilderness, lack of conflicts with other resources, nondesignation would foreclose future consideration of the area as wilderness, and the value of the area as wilderness outweighs the value of other uses of the area.

CULP CANYON
WILDERNESS STUDY AREA

MAP I



RECOMMENDED FOR WILDERNESS (None)

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE (None)

STATE (None)

PRIVATE (None)

N

0 1 2

MILES

Culp Canyon Proposal

NM-030-152

April 1990

CULP CANYON
WILDERNESS STUDY AREA

THE STUDY AREA – 10,937 Acres

The Culp Canyon Wilderness Study Area (WSA), NM-030-152, is located in south-central Otero County, approximately 22 air miles southeast of Alamogordo, New Mexico. The Culp Canyon WSA includes 10,937 acres of withdrawn Bureau of Land Management (BLM) surface and subsurface land. (See Table 1 for land status and acreage summary of the study area.) The WSA is situated at the north end of McGregor Range, a military reservation controlled by the U.S. Army, Fort Bliss, Texas. The WSA is bordered on the north by the Lincoln National Forest. The southern boundary is formed by a dirt access road maintained by the U.S. Army. The eastern boundary is formed by private land.

The WSA consists of the alluvial fans and foothills of the Sacramento Mountains with an overall downslope from east to west. The area is characterized by gently rolling hills and mountain slopes, dissected by numerous canyons and arroyos. A 300 to 500 foot high escarpment cuts through the southeast corner of the WSA. Culp Canyon, a major drainage of the area, runs along the south and southwest edges of the WSA. Elevation ranges from 4,500 feet on the west side to over 6,500 feet near the eastern boundary of the WSA.

The status of this 10,937-acre area is unique because it is both a WSA and under a military withdrawal. Since 1957, this area has been controlled by the U.S. Army and has been used for artillery and missile firing, troop maneuvers in a desert setting, and other military purposes. Even though the military withdrawal expired in 1979, the U.S. Army continued to use McGregor Range pending a new legislative withdrawal. Nevertheless, because the Range was no longer withdrawn, BLM conducted a wilderness inventory north of State Road 506. It was determined that one area possessed wilderness characteristics and the area was designated as the Culp Canyon WSA in November 1980. Since this area is located at the north end of the McGregor Range, it was possible that the area would be excluded from the boundaries of the pending legislative withdrawal.

The Military Lands Withdrawal Act (Public Law 99-606), enacted on November 6, 1986, withdrew McGregor Range for military purposes. This included the land within the Culp Canyon WSA. The BLM land was withdrawn from all forms of appropriation under the public land laws including the mining, mineral leasing, and geothermal laws. Section 3 of Public Law 99-606 directed the Secretary of the Interior to manage the withdrawn land to permit: (1) the continuation of livestock grazing where permitted on the date of the act; (2) protection of wildlife and wildlife habitats; (3) control of predators; (4) recreation; and (5) prevention and suppression of wildfires resulting from military activity. Section 3 goes on to state that all other non-military uses are subject to restrictions that may be necessary to permit the military use of the land. The legislation also mandated the continued management of the Culp Canyon WSA under the wilderness review provisions of Section 603 of the Federal Land Policy and Management Act (FLPMA).

The WSA was studied under Section 603 of FLPMA and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Two alternatives for the Culp Canyon WSA were analyzed in the EIS: an all wilderness alternative and a no wilderness alternative.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	10,937
Split-Estate (BLM Surface Only)	0
Inholdings	0
Total	10,937
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	10,937
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	10,937
Inholdings	0

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
10,937	Acres not recommended wilderness

The Culp Canyon WSA is not recommended for wilderness designation (see Map 1). The recommendation for the WSA is based primarily on conflicts with military use of the area.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change to the natural environment over the long-term. The recommendation would be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts. There are no surface disturbing activities projected for this WSA. However, continued use of the area for military activities including troop training and weapons testing may result in surface disturbance.

Management of the WSA as wilderness would be difficult if not impossible because of military uses of the area. The Culp Canyon area is used by the Fifth Special Forces for training exercises. The area is also used in conjunction with testing new missiles and new weapon systems. Missile debris and targets are often recovered from the area. In November 1986, Congress enacted legislation withdrawing BLM land within the McGregor Range for military

purposes. These activities would impact the outstanding opportunities for solitude and primitive recreation offered by the area.

Although there are outstanding opportunities for solitude in the WSA, these characteristics exist primarily as a result of the remoteness of the region; the lack of special features in the WSA to attract visitors; and the military restrictions on public access.

In addition, primitive recreation opportunities are impacted by controls on public access. Public access is generally not allowed. Except under certain conditions such as public hunts, individuals must obtain authorization in advance from the Provost Marshall to enter the McGregor Range, including the Culp Canyon WSA. The Provost Marshall's Office is located 80 miles to the south at Ft. Bliss, Texas. Even if public access was convenient, better and more diverse opportunities for primitive recreation are available in the adjacent Lincoln National Forest.

There are no known special features, habitats, or wildlife species in the WSA dependent upon wilderness designation. Other than military activities, there are no projected activities, no provisions for mineral exploration, and no valid rights of others in the WSA. There could be some impacts from military use of the area but the overall quality and level of values now found in the WSA are not expected to significantly change.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The Culp Canyon WSA generally appears natural with the imprints of man being substantially unnoticeable. The developments in the WSA consist of 4 miles of two track ways, 3 storage tanks, 3 dirt tanks (one of which is abandoned), and 4 1/2 miles of fence. These developments have a local impact on naturalness, but are substantially unnoticeable in the WSA due to the topographic screening provided by the hills and numerous canyons.

Solitude

The Culp Canyon WSA provides outstanding opportunities for solitude. These opportunities are primarily a result of the area's topography. The numerous hills, ridges, and drainages provide opportunities to escape the sights and sounds of others within the WSA. The remoteness of the area and the lack of visitor access are major factors which contribute to the solitude opportunities in the WSA. However, the solitude of the area is occasionally disrupted by military activities in and around the WSA including ground troop training exercises and low level helicopter flights.

Primitive and Unconfined Recreation

The Culp Canyon WSA offers outstanding opportunities for primitive and unconfined types of recreation including hiking, hunting, horseback riding, and limited backpacking trips. These opportunities are negatively impacted by military use of the area and controls on public access. Hikers in the WSA may be faced with some challenge and risk in trying to climb the escarpment in the southeast portion of the WSA. Hikers to the top of the escarpment would be rewarded with some outstanding vistas of the Tularosa Basin and the Sacramento Mountains.

Special Features

The Culp Canyon WSA contains special ecological and cultural features. Special ecological features include both vegetation and wildlife values. The area provides habitat for three State-listed endangered plant species. In addition, two State-listed animal species and one Federal endangered species may occur in the area. Twenty-two cultural resource sites are known to exist in the area. These sites consist primarily of lithic scatters, hearths, and

middens. Approximately 10 of these sites may be eligible for National Register status.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Culp Canyon WSA is in the Chihuahuan Desert Province with a potential natural vegetation (PNV) of grama/tobosa shrubsteppe on 10,937 acres. Wilderness designation would add examples of these ecosystems to the National Wilderness Preservation System (NWPS). The ecosystem information is summarized in Table 2.

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

The WSA is within 5-hours driving time of four major population centers. Table 3 summarizes the number and acreages of designated areas and other BLM study areas within a 5-hour drive of the population centers.

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	178,039
New Mexico				
Chihuahuan Desert Province				
Grama/Tobosa Shrubsteppe	2	39,907	16	178,039

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Albuquerque	26	1,762,638	31	694,256
Las Cruces	14	1,192,386	35	771,697
Santa Fe	21	1,422,038	23	385,270
Texas				
El Paso	12	1,126,112	25	614,116

Balancing the geographic distribution of wilderness areas

Designating the Culp Canyon WSA as wilderness would help to balance the geographic distribution of wilderness. The White Mountain Wilderness is approximately 55 miles north of Culp Canyon. The Capitan Wilderness is approximately 75 miles to the northeast. The Carlsbad Wilderness is 75 miles to the southeast. The combined acreage of these three wilderness areas is approximately 118,000 acres. Additionally, there are seven BLM WSAs recommended for wilderness within 90 miles of Culp Canyon. The combined acreage recommended for the BLM areas is 236,631 acres.

Manageability

The WSA contains 10,937 acres of withdrawn BLM land that are within McGregor Range. The Range was originally withdrawn in 1957 as a bombing and gunnery range used by the U.S. Army, Fort Bliss, Texas. The withdrawal was later renewed and eventually expired in 1979. On November 6, 1986, Public Law 99-66 was enacted to withdraw BLM land within McGregor Range for military purposes. The BLM land was withdrawn from all forms of appropriation under the public land laws (including the mining, mineral leasing, and geothermal laws). According to the legislation, any public land in the withdrawal area managed pursuant to Section 603 of FLPMA of 1976 (43 USC 1782) shall continue to be managed under that section until Congress determines otherwise. Therefore, even though the Culp Canyon WSA is within a military withdrawal area, it will continue to be managed as a WSA until Congress either designates the area as wilderness or releases it for other uses.

McGregor Range has been and continues to be used for a variety of military purposes including maneuvers involving ground troops, motorized vehicles, and aircraft. The Range is also used extensively for testing new weapons systems including missiles. The central portion of the Range is a missile impact area. The eastern, western, and northern portions of the Range including the Culp Canyon WSA are secondary danger zones around the primary missile impact areas.

According to Fort Bliss, the Culp Canyon area is continually used by the Fifth Special Forces Group for training exercises. The area is also used in connection with testing of the Patriot Missile System. Aerial bursts of missile warheads occasionally occur over or around the WSA. Missile debris, drones, and targets are often recovered from the area.

In the past, there has been conflict between the interim management policy and the military use of the WSA. It is expected that such conflicts would continue under wilderness management. For this reason, effective management of the Culp Canyon WSA as wilderness would be difficult, if not impossible, because of military use of the McGregor Range.

Energy and Mineral Resource Values

BLM Geologists have rated the Culp Canyon WSA as having low to moderate potential for occurrence of oil and gas resources. The WSA contains Pennsylvanian and Permian limestone that are potential petroleum source and reservoir rocks. The WSA is also situated between the Tularosa Basin and the Otero platform which are both areas of moderate oil and gas potential.

The potential for occurrence of nonenergy minerals is rated as low by BLM Geologists. There are no mining claims located in the WSA. Under both the original McGregor Range withdrawal and Public Law 99-606, the Range was withdrawn from all forms of appropriation under the public land laws, including the mining laws, the mineral leasing laws, and geothermal laws.

Impacts on Resources

A comparative summary of impacts by alternative for the Culp Canyon WSA is shown in Table 4. This information is taken from the Final EIS.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (10,937 Acres Suitable)	No Wilderness (Proposed Action: 0 Acres Suitable)
Impacts on Wilderness Values	The Culp Canyon's natural character, opportunities for solitude, hiking, hunting, and cultural sites would be maintained.	Continuation of rangeland activities and associated low levels of Off-road vehicle use would have no significant impact on wilderness values. In the long-term, wilderness values, particularly naturalness and opportunities for solitude, would be lost as a result of military exercises and weapons testing.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, this issue is not discussed in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Culp Canyon WSA during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). During the public comment period, comments were received supporting and opposing WSA status of the area. One commenter opposed WSA status for the area because of conflicts with military use. Sixteen commenters supported WSA status for Culp Canyon. Supporting reasons included the area's size, naturalness, and wilderness values.

Wilderness Study Comments

The Culp Canyon WSA was not analyzed in the *Draft Environmental Assessment of Wilderness Study Areas in the Las Cruces District* (1983). At the time, it was thought that pending legislation withdrawing the McGregor Range might drop the area from further study. When this did not occur, the WSA was included in the Statewide Wilderness Study in 1986.

During public scoping held in early 1986 on the split-estate issue and the Culp Canyon WSA, 10 commenters specifically addressed the WSA. Six of those favored wilderness designation, two opposed, and two offered no opinion. Reasons given in support of wilderness designation for the area included statements that the area was not needed by the military, it is contiguous with the Sacramento Escarpment, and the area has wilderness qualities.

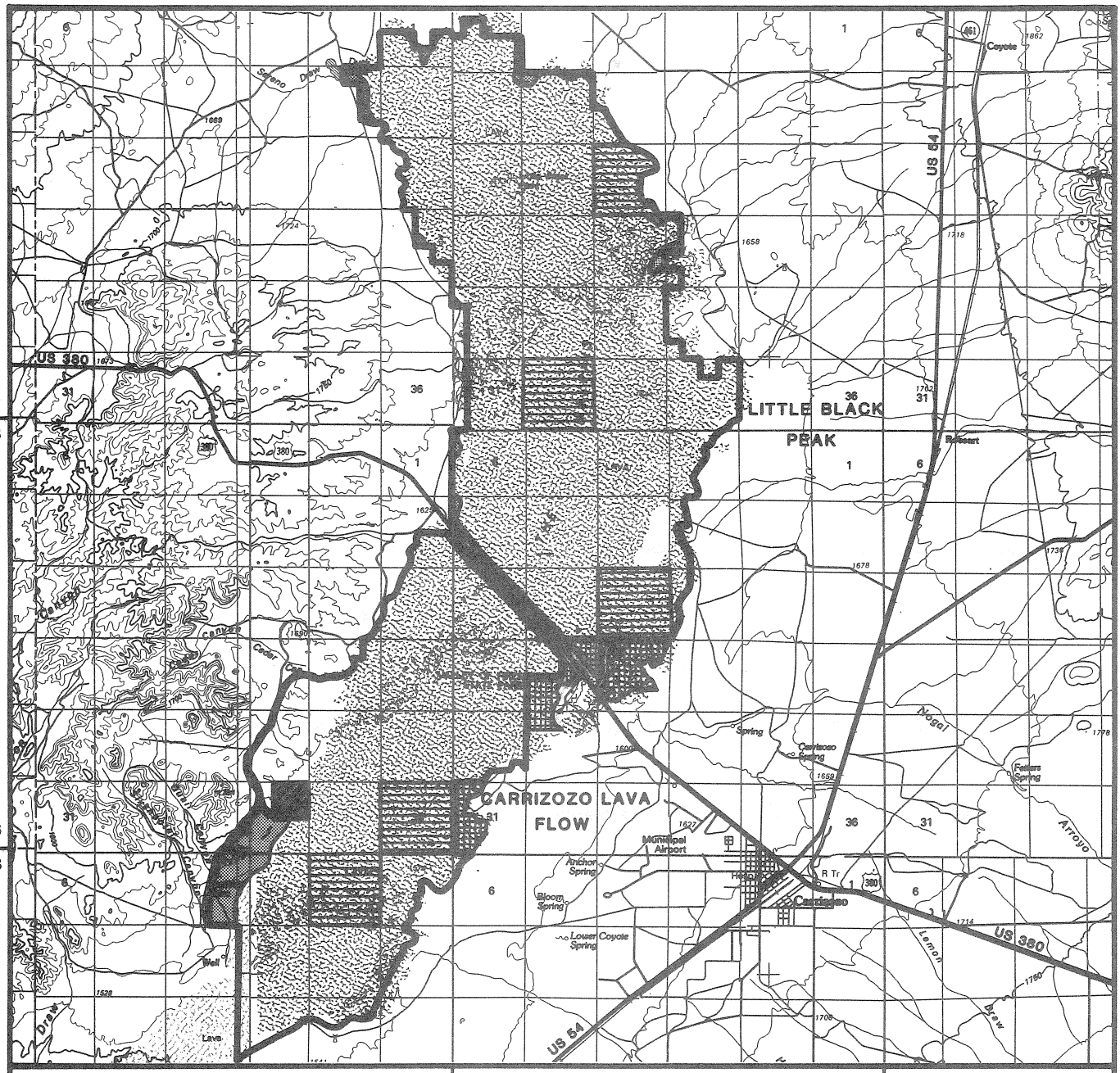
In a letter submitted by the U.S. Army, Ft. Bliss, it was stated that wilderness designation would have

an adverse impact on the Army's mission and would hinder troop training and weapons testing.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), 11 commenters addressed the Culp Canyon WSA. Ten commenters favored wilderness designation and one opposed. Those supporting wilderness designation cited the area's wilderness qualities. Several supporters said the area should be enlarged to include portions of the Lincoln National Forest. The one commenter opposing wilderness designation cited impacts to the minerals industry as a reason.

CARRIZOZO LAVA FLOW/ LITTLE BLACK PEAK WILDERNESS STUDY AREAS

MAP 1



RECOMMENDED FOR WILDERNESS

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS

SPLIT ESTATE (None)

STATE

PRIVATE

N

Proposals

Little Black Peak NM-060-109

Carrizozo Lava Flow NM-060-110A-1

0 1 2

MILES

April 1990

CARRIZOZO LAVA FLOW AND LITTLE BLACK PEAK WILDERNESS STUDY AREAS

THE STUDY AREA - 25,312 Acres

The Carrizozo Lava Flow, NM-060-11OA-1, and Little Black Peak, NM-060-109, Wilderness Study Areas (WSAs) are located in Lincoln County, about 4 miles west of the town of Carrizozo, New Mexico. The Carrizozo Lava Flow WSA contains 10,408 acres of Bureau of Land Management (BLM) land and the Little Black Peak WSA contains 14,904 acres of BLM land. The combined total of BLM land within the study areas is 25,312 acres. Inholdings are 1,280 acres of State land within Carrizozo Lava Flow and 1,706 in Little Black Peak. (See Table 1 for land status and acreage summary of the study areas.) The WSAs are bounded on the north, south, east and west sides by private and State lands and man-made intrusions or physical features on Federal land (see Map 1). The WSAs were studied jointly since they possess similar resource values, existing and potential uses, and share U.S. Highway 380 as their common central boundary and legal access corridor.

The majority of the WSAs consist of the northern third of the Carrizozo Malpais, a recent lava flow in the Tularosa Basin west of Carrizozo, New Mexico. This flow is believed to be one of the most recent in the continental United States and has an estimated age of no more than 1,500 years. The WSAs extend over 7 miles north and south of the U.S. Highway 380, with a combined length of approximately 14 miles. Elevations within the WSAs range from 5,676 feet near the north end to about 4,000 feet at the southern end. Due to the young age of this lava flow, vegetation is sparsely distributed. However, vegetation diversity of desert shrubs and grasses is much greater than in surrounding areas due to the inaccessibility of the rugged lava surface to grazing animals. The interior relief of the flow is extremely varied with steep-sided depressions, crevices, and pressure ridges of jumbled lava. Little Black Peak cinder cone is the most prominent topographic feature in the lava flow. Scattered juniper trees are found throughout the WSAs, with density of tree cover increasing from the more arid south end to the moister north end.

The WSAs were studied under Section 603 of the Federal Land Policy and Management Act (FLPMA) and were included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Three alternatives for the Carrizozo Lava Flow and Little Black Peak WSAs were analyzed in the EIS: an all wilderness alternative, an amended boundary alternative, and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

25,084	Acres recommended wilderness
1,075	Acres recommended nonwilderness

The recommendation for these WSAs is to designate 25,084 acres, including 847 acres of BLM land contiguous to the WSA, as wilderness and release 1,075 acres to other uses (see Map 1). The recommendation would designate as wilderness the area with the highest quality wilderness characteristics, while releasing areas to other uses where wilderness management could not be ensured and to eliminate a conflict with another resource use. This recommendation for wilderness will further apply to any non-Federal inholdings acquired through exchange or purchase from willing owners. Appendix 1 lists

all inholdings and provides additional information on the estimated methods and costs for acquiring non-Federal lands.

The All Wilderness Alternative is the environmentally preferable alternative, as its implementation would result in the least change to the natural environment over the long-term. The recommendation, while not the environmentally preferred, will be implemented in a manner which would utilize all practical means to avoid or minimize environmental impacts.

The land recommended for wilderness designation includes the majority of undisturbed BLM land inside the WSAs. In most cases, where the lava flow edge is located on BLM land, the proposed wilderness boundary coincides with that readily identifiable landform. Only unmanageable areas of BLM land contiguous to the lava flow, and the corridor along U.S. Highway 380 are excluded from the wilderness recommendation. Conformance of the proposed wilderness boundary with the lava flow edge provides a physical barrier to incompatible uses, thereby enhancing manageability.

The apparent high quality naturalness of these WSAs would be readily perceived by the average visitor. In fact, the naturalness of the relatively undisturbed ecosystem inside the lava flow is one of the distinguishing wilderness qualities. Evidences of man are so dispersed and limited that an average visitor would be led to believe they were the first human to set foot on or observe the area. Naturalness of the proposed wilderness would be further

Table 3: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	25,312
Split-Estate (BLM Surface Only)	0
Inholdings	2,986
Total	28,298
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	24,237
BLM (Outside WSA)	847
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	25,084
Inholdings	2,986
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	1,075
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	1,075
Inholdings	0

enhanced since the majority of human imprints (except for rehabilitated mining claim intrusions) are excluded from the area recommended as suitable. Potential conflicts with expansion of U.S. Highway 380 would be avoided since the suitability recommendation excludes a sufficiently wide corridor to accommodate the proposed highway expansion.

Wilderness designation of the study areas would afford long-term protection of the highest quality wilderness values. Special features consist of the unusual diversity and density of vegetation species, melanistic (dark colored) races of rodents and reptiles, volcanic landforms, and stark scenery exhibited by the recent lava flow. Opportunities for scientific research and educational use of special features would be enhanced as a result of wilderness designation.

The recommended wilderness includes 847 acres of BLM land located outside the boundaries of the WSA's. In April 1990, the New Mexico Department of Parks and Recreation reconveyed the Valley of Fires State Park to the BLM. The 331 acres in this area which remain in a natural condition, as well as 516 acres of public land managed by BLM, add valuable lava flow property to the proposed wilderness. Wilderness management will be enhanced by including these lands in the recommended wilderness.

The area recommended for wilderness also includes undisturbed lava flow portions of non-Federal lands within or bordering the WSAs. There are 2,986 acres of State land inholdings which are proposed for acquisition under a voluntary exchange or purchase program. This land would only be acquired with the concurrence of the State of New Mexico. Land acquisitions are proposed for the purpose of enhancing manageability by eliminating potential problems with providing access to inholdings and allowing for consistent management of the lava flow landform.

Land that is recommended nonsuitable for wilderness designation consists of grassland areas bordering the lava flow, alluvial plains, and low limestone hills at the southwestern corner of the Carrizozo Lava Flow WSA. In addition, there is a 600-foot wide strip of lava flow extending 300 feet either side of the centerline parallel to U.S. Highway 380 which is recommended as nonsuitable for wilderness designation.

Removal of the grassland areas, alluvial plains, and low hills would enhance manageability by deleting areas with lower quality wilderness values that are susceptible to potential conflicts associated with vehicle use and motorized camping along the lava flow periphery. Five of the six existing motorized vehicle routes are in gentle terrain in this excluded area.

Removal of a 600-foot wide corridor of WSA land extending 300 feet either side of the U.S. Highway 380 centerline would eliminate conflicts with proposed highway expansion and would enhance manageability by deleting an area that is susceptible to incompatible human activities. This travel influence zone contains an unauthorized trash dump, roadside litter, painted graffiti on lava rocks, and debris from a recent homestead. This area also lacks outstanding opportunities for solitude due to noise caused by vehicles on the nearby highway.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The apparent high quality naturalness of these WSAs would be readily perceived by the average visitor. In fact, the naturalness of the relatively undisturbed ecosystem inside the lava flow is one of the distinguishing wilderness qualities for both WSAs. Evidences of man are so dispersed and limited that an average visitor would be led to believe they were the first human to set foot on or observe most areas in the lava flow.

Imprints of man's work are substantially unnoticeable in the WSAs due to screening qualities of the jumbled, topographically diverse lava flow and associated vegetation. The individual and cumulative effect of human imprints within the WSAs has not impaired their naturalness characteristic. The majority of man's imprints associated with rangeland developments, access routes, and lava rock material sales were excluded from the WSAs during the wilderness inventory process. Existing human intrusions within the WSAs, consisting of graffiti, a trash dump, and a recent homestead alongside U.S. Highway 380 were rehabilitated in 1985. In 1988, mineral exploration intrusions in Little Black Peak WSA also were rehabilitated to enhance naturalness.

Solitude

The rough and broken surface of the lava flow provides an outstanding opportunity for visitors to find solitude. Topographic features such as pressure ridges, fissures, and depressions allow visitors to be screened from one another and from impacts outside the area such as vehicles on U.S. Highway 380. The relatively large size and generally desirable configuration of both WSAs and the presence of a scattered overstory of juniper trees, which are more abundant in the northern WSA, also enhance solitude. Other factors that contribute to solitude opportunities in the WSAs consist of limited legal accessibility for the general public, the lack of water sources needed to support unconfined recreation, and low levels of visitor use. These factors are expected to influence solitude opportunities in the WSAs during the foreseeable future. Portions of the WSAs outside the lava flow do not provide as high a quality setting for solitude. This reduced quality is especially noticeable in the alluvial plains on the southwestern edge of the southern WSA which lack topographic and vegetation screening. An intermittently occupied dwelling on private land borders this portion of the WSA.

The sound of vehicles on U.S. Highway 380 would detract, in varying degrees, from solitude on WSA land bordering this travel route. Noise impacts would vary according to the proximity of visitors to the highway and upon the availability of screening topography that would reduce noise levels. This localized impact is not expected to diminish solitude that is characteristic of the WSAs since users would still be able to find a secluded spot. High noise levels generated by low flying military aircraft that use airspace above the WSAs for training missions would intermittently diminish solitude opportunities. Visitors would not be able to avoid this short duration and infrequent noise impact. However, this activity is not considered to be a barrier to wilderness designation since there are designated wilderness areas that are subject to similar uses.

Although there are some factors that detract from solitude opportunities in the WSAs, their cumulative impact is not considered as being great. The overall quality of this wilderness characteristic is rated as high.

Primitive and Unconfined Recreation

Opportunities for primitive and unconfined types of recreation in the WSAs consist of hunting, hiking, nature study, spelunking, photography, and dispersed sightseeing activities that focus on cultural, geological, botanical, and zoological resources. The intricately broken surface of the lava flow portion of the WSAs is an effective barrier to motorized vehicle use. This physical quality enhances opportunities for primitive recreation experiences.

Lack of water sources inside the WSAs and poorly distributed legal access routes limit the potential for dispersed recreation uses so visitor activities would be confined to the range of carried-in water supplies. Therefore, opportunities for dispersed use are greatest in the central portion of the WSAs and most limited at the northern and southern ends. Opportunities for hiking are very challenging due to the rough and broken topography of the lava flow.

Recreational facilities available at the former Valley of Fires State Park, which was recently reconveyed

to BLM, provide an excellent access point for day hikes into the recommended wilderness. Access from U.S. Highway 380 would disperse use in the recommended wilderness.

Overall, even though there are some resource limitations, the quality of recreation opportunities in both WSAs is rated as outstanding.

Special Features

Scenic quality of the WSAs is high, due to the contrast presented by the black lava rock and diversity of vegetation when compared with the surrounding plains and low hills.

In comparison with adjacent areas, the Carrizozo Malpais supports a remarkably diverse vegetative community. More than twice as many plant species can be found in the lava flow than on the nearby plains and hills.

The lava flow supports a sizeable herd of mule deer, a small band of barbary sheep, as well as a wide diversity of smaller forms of wildlife. An unusual characteristic exhibited by some of the smaller animals inhabiting the lava flow is that they have developed a melanistic, or darker, fur or skin coloration than is typical for their species. There are 12 melanistic races of animals (6 rodent, 5 lizard and 1 species of snake) that inhabit the lava flow.

The WSAs contain a variety of unusual geological features associated with the volcanic landform. The flow contains lava tube caves, extensive fissure systems, pressure ridges, sinkholes and large areas of pahoehoe (ropy textured) basalt.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The WSAs are within the Colorado Plateau Province. The potential natural vegetation (PNV) consists of 25,312 acres of juniper-pinyon woodland. This ecosystem is represented in 11 NWPS areas nationwide, as well as 12 other WSAs in the State. The ecosystem information is summarized in Table 2.

Table 4: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Colorado Plateau Province				
Juniper-Pinyon Woodland	11	1,401,745	83	2,118,362
New Mexico				
Colorado Plateau Province				
Juniper-Pinyon Woodland	4	33,084	12	116,924

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

The WSAs are within 5-hours driving time of Albuquerque and Las Cruces, New Mexico; El Paso and Lubbock, Texas. Table 3 summarizes the number and acreages of designated areas and other BLM study areas with a 5-hour drive of these population centers.

Balancing the geographic distribution of wilderness areas

The WSAs would contribute slightly to balancing the geographic distribution of areas within the NWPS. There are two U.S. Forest Service Wilderness Areas located less than 50 miles east of the WSAs. These areas total 82,879 acres.

Manageability

The portion of the WSAs recommended for wilderness designation is manageable as wilderness. A manageability concern in this area relates to potential access for exploration of mineral leases on State land. Construction of an access road could impair BLM's ability to manage the directly affected land as wilderness. Because of topographic screening in the lava flow, any access road would be visible for only a short distance and would not significantly affect a large portion of the WSAs. It is also possible that road construction will never take place due to the low potential for mineral resource occurrence in the WSAs and difficulty of construction in lava rock terrain.

The portion of the WSAs not recommended for wilderness is judged to be not manageable as wilderness. Portions of the WSAs that lack a lava rock surface or have gentler topography are susceptible to incompatible activities such as motorized vehicle use. The recommended portion of the WSAs near U.S. Highway 380 allows a sufficient area for proposed expansion and major maintenance work on the highway, and eliminates a significant resource conflict.

There are 2,986 acres of State land inholdings which are proposed for acquisition under a voluntary exchange or purchase program. This land would only be acquired with the concurrence of the landowner. Land acquisitions are proposed for the purpose of enhancing manageability by eliminating potential problems with providing access to inholdings and allowing for consistent anagement of the lava flow

Table 3: Wilderness Opportunities for Residents of Major Population Centers

	NWPS Areas		Other BLM Studies	
Population Centers	Areas	Acres	Areas	Acres
New Mexico				
Albuquerque	26	1,762,282	31	679,550
Las Cruces	14	1,192,030	35	756,991
Texas				
El Paso	12	1,125,756	25	599,410
Lubbock	7	181,045	5	6,997

landform. Appendix 1 lists all inholdings and provides additional information on methods and costs of acquisition.

Energy and Mineral Resource Values

In 1985 and 1987, the U.S. Bureau of Mines and the U.S. Geological Survey (USGS) conducted a mineral resource appraisal of the WSAs. This wide-ranging study included an examination of the geologic, geochemical, and geophysical data, as well as a review and assessment of local mining activity. The following is a summary of their findings.

Both WSAs were assessed as having low energy and mineral resource potentials. The only identified resource is the lava of the basalt flows which is classed as an inferred sub-economic resource, but is not likely to be developed due to its remote location and distance from markets.

Impacts on Resources

A comparative summary of impacts by alternative for the WSAs is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic conditions were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (25,312 Acres Suitable)	No Wilderness (0 Acres Suitable)	Amended Boundary (Proposed Action; 25,084 Acres Suitable)
Impacts on Wilderness Values	Wilderness designation would protect the natural character of the lava flow, opportunities for solitude, hiking, spelunking as well as the opportunities to study melanistic species in a natural environment.	Wilderness values, primarily naturalness, would be lost or impaired in limited areas along the lava flow periphery and other areas where surface disturbance occurs (rugged terrain would prevent impacts in most of the WSAs).	Same impacts as the All Wilderness Alternative, except that approximately 134 acres along U.S. Highway 380 would be disturbed to facilitate highway expansion. Impacts to 1,075 acres excluded from designation would be the same as the No Wilderness Alternative.
Impacts to Highway Expansion	Expansion of U.S. Highway 380 would not be allowed and the safety of highway users could be affected if traffic volume increases.	No impacts.	No impacts.

Summary of WSA-Specific Comments

Wilderness Inventory Comments

During the inventory phase of the wilderness review process, 37 comments were received that stated wilderness characteristics were present and supported wilderness study of both WSAs. Nine comments in opposition to wilderness study stated that the WSAs lacked wilderness characteristics.

Wilderness Study Comments

Comments received on the draft environmental assessment are categorized as follows; 27 commenters supported wilderness designation, 5 commenters opposed wilderness designation, and 8 commenters did not offer opinions for or against wilderness designation. Opposing comments cited as supporting reasons that wilderness designation would conflict with exploration or development of mineral resources, and that management of the area by the Federal Government conflicts with a New Mexico State Law that asserts title to Federal land.

During the public comment period on the *New Mexico Statewide Wilderness Study: Draft Environmental Impact Statement* (1985), six comments were made on these WSAs. Five of six commenters supported wilderness designation of the WSAs for various reasons, and one mineral commenter opposed wilderness because it was believed there were potential conflicts and higher favorability for hydrocarbon development than the BLM assessment. BLM previously had analyzed the same mineral data that was used as the basis for this opposing comment. Three supporting comments proposed a wilderness area greater than that contained in the WSAs and two commenters supported BLM's proposed action. No Federal, State, or local government agency commented specifically on these WSAs during this public review period.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), specific comments were directed to the Little Black Peak and Carrizozo Lava Flow WSAs by twelve commenters. All of the commenters favored wilderness designation for these WSAs, but opinions expressed varied from BLM's proposal. One commenter supported the All Wilderness Alternative and eleven comments favored wilderness designation of a larger area than that contained in the WSAs. The commenters noted that wilderness designation would protect the areas' unique ecosystems, biotic community, recreational and scenic values, threatened and endangered species, and cultural resources and would not impact other resource uses.

Appendix 1: Estimated Costs of Acquisition of Non-Federal Holdings Within the Carrizozo Lava Flow/Little black Peak WSAs[1]

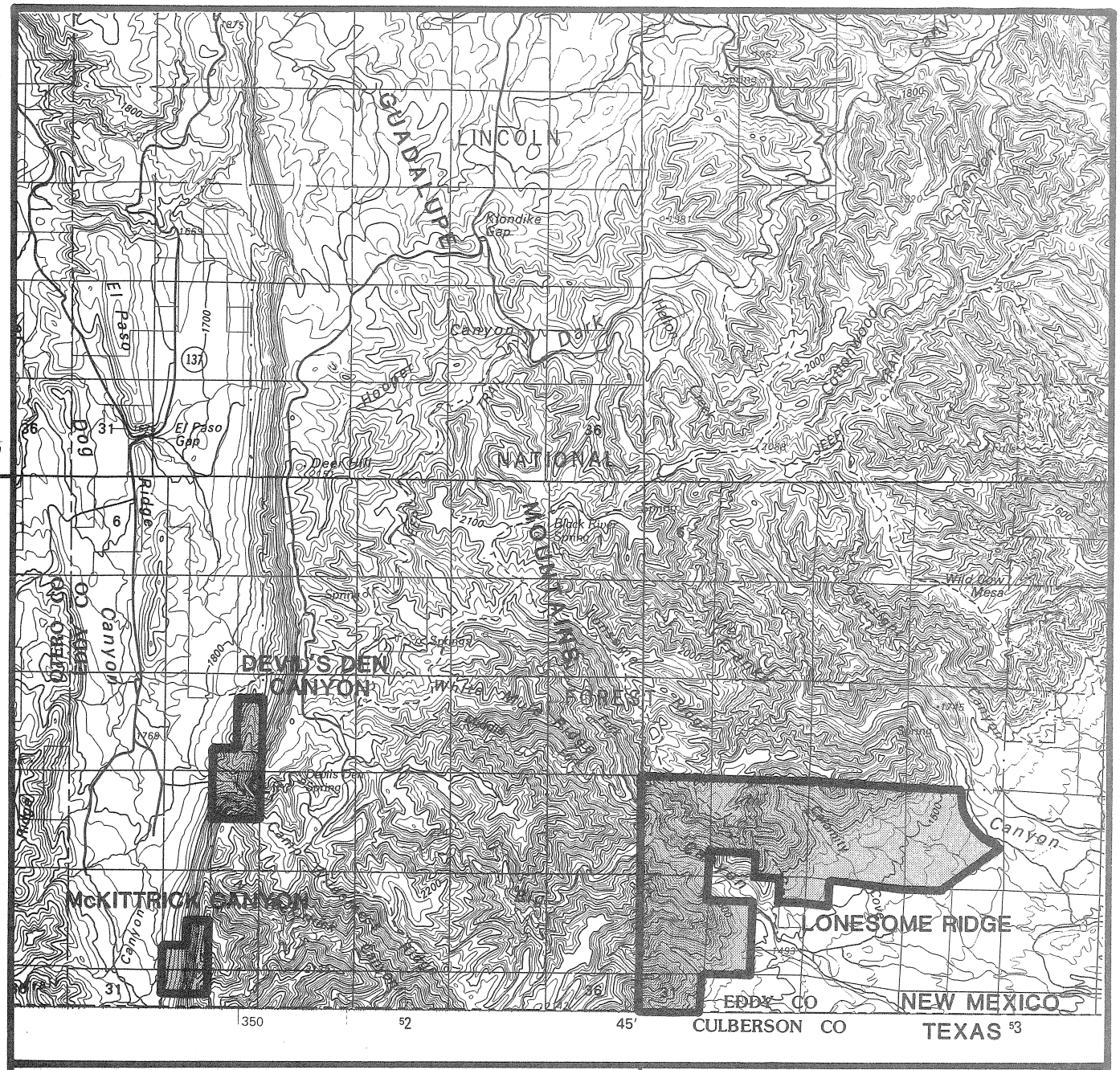
Legal Description (Prior to any Subdivision)	Total Acres	Number of Owners	Type of Ownership by Estate (BLM/ State/ Private) Surface Estate	Subsurface Estate	Proposed for Acquisition (Yes/No)	Preferred Method of Acquisition (Purchase/ Exchange/ Donation)	Estimated Costs of Acquisition[2] Land Costs	Processing Costs
Parcel #1, Sec. 16, T. 6S, R. 10E	410	1	State	State	Yes	Exchange	NA	$4,100
Parcel #2, Sec. 32, T. 6S, R. 10E	640	1	State	State	Yes	Exchange	NA	$6,400
Parcel #3, Sec. 16, T. 7S, R. 10E	656	1	State	State	Yes	Exchange	NA	$6,600
Parcel #4, Sec. 36, T. 7S, R. 9E	639	1	State	State	Yes	Exchange	NA	$6,400
Parcel #5, Sec. 2, T. 8S, R. 9E	640	1	State	State	Yes	Exchange	NA	$6,400

[1] The estimated costs listed in this appendix in no way represent a formal appraised value of the land or mineral estate, but are rough estimates based on sales or exchanges of lands or mineral estates with similar characteristics to those included in the WSA. The estimates are for purposes of establishing a range of potential costs to the government of acquiring non-Federal holdings and in no way represent an offer to purchase or exchange at the cost estimate included in this appendix.

[2] Where exchange is the proposed acquisition method, only administrative costs of processing the exchange are shown. Processing costs are all miscellaneous expenses other than land costs. These would include work month costs, appraisals, title work, escrow costs, etc. Where direct purchase is proposed, an estimate of both the land costs and the processing costs is provided.

LONESOME RIDGE/
DEVIL'S DEN CANYON/
MCKITTRICK CANYON
WILDERNESS STUDY AREAS

MAP I



RECOMMENDED FOR WILDERNESS (None)

RECOMMENDED FOR NONWILDERNESS

LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)

SPLIT ESTATE (None)

STATE (None)

PRIVATE (None)

N

Proposals

Devil's Den Canyon NM-060-145

McKittrick Canyon NM-060-146

Lonesome Ridge NM-060-801

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MILES

April 1990

LONESOME RIDGE, DEVIL'S DEN CANYON, AND McKITTRICK CANYON WILDERNESS STUDY AREAS

THE STUDY AREAS

Lonesome Ridge	**3,505 Acres**
Devil's Den Canyon	**320 Acres**
McKittrick Canyon	**200 Acres**
Total	**4,025 Acres**

The Lonesome Ridge, NM-060-801, Devil's Den Canyon, NM-060-145, and McKittrick Canyon, NM-060-146 Wilderness Study Areas (WSAs) are located in the southwestern corner of Eddy County, approximately 41 miles southwest of Carlsbad, New Mexico. The WSAs include a total of 4,025 acres of Bureau of Land Management (BLM) land; the Lonesome Ridge WSA contains 3,505 acres, the Devil's Den Canyon WSA contains 320 acres, and the McKittrick Canyon WSA contains 200 acres. (See Table 1 for land status and acreage summary of the study areas.) The WSAs are contiguous with the Congressionally designated Guadalupe Escarpment WSA administered by the U.S. Forest Service (USFS). The southern boundary of Lonesome Ridge WSA is contiguous with designated wilderness in the Guadalupe Mountains National Park. The remainder of the boundaries are formed by State and private lands, and by primitive roads on lands administered by the BLM.

The Lonesome Ridge WSA lies at the mouth of Big Canyon, a major drainage which cuts through the 2,000 foot Guadalupe Escarpment. Elevations range from 4,800 feet above sea level on the talus slopes to 6,825 feet at the ridgetop. The spectacular topography of this WSA includes sheer limestone cliffs, serrated ridges, and deep canyons. The McKittrick Canyon WSA is almost entirely on the western slope of the Guadalupe Escarpment. The Devil's Den Canyon WSA encompasses not only the escarpment, but also the mouth of Devil's Den Canyon. This is an unusually deep canyon cutting through the western escarpment of the Guadalupe Mountains. The Devil's Den Canyon carries water following heavy rains. The perennial Devil's Den Spring is located approximately 1/2 mile up the canyon from the WSA on USFS land.

The WSAs were studied under Section 202 of the Federal Land Policy and Management Act (FLPMA) and were included in the U.S. Forest Service *Lincoln National Forest Plan: Environmental Impact Statement* (EIS). The U.S. Forest Service Final EIS was filed with the Environmental Protection Agency in October 1988. Two alternatives for the WSAs were analyzed in the EIS: an all wilderness alternative and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
4,025	Acres recommended nonwilderness

The WSAs are not recommended for wilderness designation (see Map 1). This recommendation is based on the nonsuitable recommendation for the contiguous USFS Guadalupe Escarpment WSA. This recommendation is also based on the fact that the areas are too small to be managed alone and because they lacked strong public support for wilderness designation.

The All Wilderness Alternative is the environmentally preferable alternative as its implementation would result in the least change from the natural environment over the long-term. The recommendation, while not the environmentally preferred, will be implemented in a manner which would utilize all practical means to avoid or minimize environmental

impacts, thereby ensuring no unnecessary or undue degradation will occur in the area. In particular, the BLM decision in the 1988 Carlsbad Resource Management Plan is to manage 2,990 acres of the Lonesome Ridge WSA as an Area of Critical Environmental Concern/Outstanding Natural Area (ACEC/ONA). The ACEC/ONA will be managed to protect the area's scenic, wildlife, plant, geologic, and natural history values. Planned actions include closing the area to mining claim location and mineral material sales, controlling surface use on oil and gas leases, and closing the area to off-road vehicle uses.

Portions of the Devil's Den Canyon and Lonesome Ridge WSAs have been determined to have high wilderness values but are not recommended for wilderness, as the contiguous Guadalupe Escarpment WSA was not recommended for wilderness. In addition, the Devil's Den Canyon WSA was identified by the U.S. Geological Survey as having high potential for occurrence of oil and gas. The 200-acre McKittrick Canyon WSA was judged by BLM as having low quality wilderness values and high potential for occurrence of oil and gas. In all three BLM WSAs and the USFS WSA, strong public opposition to wilderness designation was a primary reason for the recommendation not to designate the areas as wilderness.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Areas	Acres
BLM (Surface and Subsurface)	4,025
Split-Estate (BLM Surface Only)	0
Inholdings	0
Total	4,025
Within the Recommended Wilderness Boundary	
BLM (Within WSAs)	0
BLM (Outside WSAs)	0
Split-Estate (Within WSAs)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Areas Not Recommended for Wilderness	
BLM (Surface and Subsurface)	4,025
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	4,025
Inholdings	0

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

The WSAs appear natural. In the Lonesome Ridge WSA, there are 1.4 miles of fence, the Lonesome Ridge Trail, and a cherry-stem road. The Devil's Den Canyon Trail is located in the Devil's Den Canyon WSA and continues onto USFS administered land. There are no other man-made improvements in the WSAs. The naturalness of the WSAs is enhanced by their proximity to the undisturbed USFS Guadalupe Escarpment WSA and designated wilderness in the Guadalupe Mountains National Park. There are roads and rangeland improvements on private, State, and BLM lands south and east of the WSA, but these are substantially unnoticeable from the WSA.

Solitude

Outstanding opportunities for solitude exist within the Lonesome Ridge WSA. These opportunities are increased when they are combined with the contiguous 21,000-acre USFS Guadalupe Escarpment WSA and with designated wilderness in Guadalupe Mountains National Park. The deep canyons and high, rugged ridges in the majority of the Lonesome Ridge WSA provide screening from other visitors. The views from the ridgetops, where one looks down upon the flat plains to the east, gives one the feeling of being well removed from civilization.

The extremely small size of the Devil's Den Canyon and McKittrick Canyon WSAs limits opportunities for solitude. The canyon mouth of Devil's Den Canyon provides some topographic and vegetation screening from the evidence of civilization, while McKittrick Canyon is almost entirely exposed to the Dog Canyon travel zone.

Primitive and Unconfined Recreation

Opportunities for primitive and unconfined recreation in the WSAs consist of hunting, hiking, backpacking, horseback riding, sightseeing, wildlife observation and caving. The Guadalupe Mountains National Park is rapidly becoming popular for hikers and horseback riders. In future years, some of this use could carry over onto adjacent BLM land, especially if the WSAs were to be designated wilderness.

Overall, primitive and unconfined recreation opportunities are rated as outstanding for these WSAs.

Special Features

Wildlife and scenic values are the WSAs most outstanding special features. The variety of animals, including the spectacular bird life, provides opportunities for public enjoyment.

The Guadalupe Mountains are among the most scenic areas in southeastern New Mexico. U.S. Highway 62-180 and State Highway 137 are heavily used by vacationers and sightseers traveling to and from Carlsbad Caverns and the Guadalupe Mountains National Park. The BLM WSAs can be viewed from these highways.

The Guadalupe Escarpment is a part of the Capitan Reef Complex, which is considered to be the world's foremost example of a Permian-age fossil reef. The Capitan Reef Complex is also known for the many limestone caves it contains, including Carlsbad Caverns. Several scientists have expressed interest in having the Capitan Reef Complex nominated as a World Heritage Site by the United Nations' Educational, Scientific, and Cultural Organization. This designation would enhance international interest in preserving the scientific and educational values of the reef complex which includes the WSAs. Wilderness designation would serve to protect these and other natural values.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The WSAs lie within the Chihuahuan Desert Province. The potential natural vegetation (PNV) consists of 4,025 acres of oak/juniper woodland. This ecosystem is not currently represented by any designated wilderness area. Wilderness designation of these WSAs would add examples of this ecosystem to the National Wilderness Preservation System (NWPS). This information is summarized in Table 2.

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

The WSAs are within 5-hours driving time of Albuquerque and Las Cruces, New Mexico an El Paso and Lubbock, Texas. Table 3 summarizes the number and acreages of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing geographic distribution of wilderness areas

Designating these WSAs as wilderness would contribute slightly to balancing the geographic distribution of wilderness. Five designated wilderness areas, totaling 172,475 acres, are located within a 100-mile radius from the WSAs.

Manageability

The WSAs are manageable as wilderness. However, if the WSAs were combined with the USFS Guadalupe Escarpment WSA, the entire area could be managed more effectively as one unit.

There are no private or State inholdings in the WSAs. There are no valid existing rights nor rights-of-way. Maintenance of existing rangeland improvements would not present a management problem. All mineral leases are post-FLPMA and therefore do not have grandfathered development rights; the area covered by these leases is too small to develop without communitization.

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Oak/Juniper Woodland	0	0	0	0
New Mexico				
Chihuahuan Desert Province				
Oak/Juniper Woodland	0	0	0	0

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Albuquerque	26	1,762,638	31	701,168
Las Cruces	14	1,192,386	35	778,609
Texas				
El Paso	12	1,126,112	25	621,028
Lubbock	6	171,424	4	28,615

Grazing would be expected to continue under wilderness designation as it has in the past, without the use of vehicles or mechanized equipment.

Due to limited legal access and rugged terrain, management of off-road vehicles in the WSAs would not be a problem.

Energy and Mineral Resource Values

In the Lonesome Ridge WSA, BLM Geologists rated the potential for the occurrence of energy mineral resources to be moderate and the potential for locatable minerals to be low. The BLM Geologists have rated the McKittrick Canyon and the Devil's Den Canyon WSAs as having low potential for all minerals.

In 1987, the U.S. Bureau of Mines conducted a mineral resource appraisal on portions of Devil's Den Canyon and McKittrick Canyon WSAs. Oil and gas potential was rated as high for both areas. The Lonesome Ridge WSA had an identified limestone resource. All the WSAs had sand and gravel resources present. However, the U.S. Bureau of Mines stated that sufficient supplies of sand and gravel exist outside the study areas to satisfy local demand.

Impacts on Resources

A comparative summary of impacts by alternative for the WSAs is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic considerations were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Lonesome Ridge, Devil's Den Canyon, McKittrick Canyon areas during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). Opposition to wilderness designation has come from minerals and livestock interests. The main issues raised were the mineral potential of the areas and possible hardships to ranching operations. Some comments were received concerning the small size of

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (4,025 Acres Suitable)	No Wilderness (Proposed Action: 0 Acres Suitable)
Impacts on Wilderness Values	Wilderness designation would maintain the areas' outstanding natural character and outstanding opportunities for primitive and unconfined recreation.	The impacts to wilderness values would be minimal due to the rugged topography and low degree of use in Devil's Den Canyon and McKittrick Canyon WSAs. Wilderness values in most of the Lonesome Ridge WSA would receive long-term protection as an ACEC/ONA as determined in the Carlsbad Resource Management Plan.

the WSAs. Some hunting clubs oppose wilderness designation since they believe it would limit hunting and management of deer populations.

Support for wilderness designation comes from recreational users and those interested in preserving the area. They have stressed the need to preserve for future generations the natural values, including wildlife, scenic values, and cultural resources in the WSAs.

The Secretary of Interior in December 1982 issued a legal notice which removed from wilderness study all areas with Federal surface ownership and private mineral estate, and areas of less than 5,000 acres. These three WSAs were affected by this action since they are all less than 5,000 acres in size. A court decision issued in April 1985 reversed the Secretarial action, resulting in reinstatement of the three WSAs into the BLM wilderness review program.

Wilderness Study Comments

Following reinstatement of Devil's Den Canyon, McKittrick Canyon and Lonesome Ridge WSAs, an interagency agreement between BLM and USFS was approved to jointly study these WSAs in conjunction with study of the Guadalupe Escarpment WSA. The joint study was conducted as part of the Lincoln National Forest Plan and the final EIS was released on October 31, 1986.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), specific comments were directed to the Lonesome Ridge WSA by 2 commenters. Comments were received even though this WSA was not included in the Statewide Wilderness Study.

Wilderness designation for this area was supported to limit impacts from mineral development activities, and to preserve part of the geologic integrity of the Capitan Reef Formation because of the WSA's proximity to existing wilderness in Guadalupe Mountains National Park.

Three general comment letters were received that stated opposition to any new wilderness designations in southern New Mexico. Reasons for opposition were hardship on local ranchers, reduced public utilization of areas, and loss of motorized access for camping, wood collecting, and sightseeing.

MUDGETTS
WILDERNESS STUDY AREA

MAP I

RECOMMENDED FOR WILDERNESS (None)	SPLIT ESTATE (None)
RECOMMENDED FOR NONWILDERNESS	STATE (None)
LAND OUTSIDE WSA RECOMMENDED FOR WILDERNESS (None)	PRIVATE (None)

N

0 1 2
MILES

Mudgetts Proposal

NM-060-819

April 1990

MUDGETTS
WILDERNESS STUDY AREA

THE STUDY AREA - 2,941 Acres

The Mudgetts Wilderness Study Area (WSA), NM-060-819, is located in Eddy County approximately 19 miles southwest of Carlsbad, New Mexico. The WSA contains 2,941 acres of Bureau of Land Management (BLM) land. (See Table 1 for land status and acreage summary of the study area.) The southern boundary of the WSA is contiguous with a designated wilderness area in Carlsbad Caverns National Park. The remainder of the WSA is delineated by a combination of roads and private or State property boundaries.

The Mudgetts WSA is located on the northeastern edge of Guadalupe Ridge, which is a major eastern spur of the Guadalupe Mountains. Elevations range from 4,000 feet to 4,900 feet above sea level. Steeply rolling hills comprise most of the area, with steep cliffs on the western edge which drop as much as 500 feet to the floor of the Serpentine Bends of Dark Canyon. Dark Canyon and Crooked Creek drain the WSA. Both of these drainages carry water only as flash floods following heavy rains.

The WSA was studied under Section 202 of the Federal Land Policy and Management Act (FLPMA) and was included in the *New Mexico Statewide Wilderness Study: Environmental Impact Statement* (EIS). The Statewide Final EIS was filed with the Environmental Protection Agency in February 1988. Three alternatives for the Mudgetts WSA were analyzed in the EIS: an all wilderness alternative, an amended boundary alternative, and a no wilderness alternative.

RECOMMENDATION AND RATIONALE

0	Acres recommended wilderness
2,941	Acres recommended nonwilderness

The Mudgetts WSA is not recommended for wilderness designation (see Map 1). This recommendation is based upon the fact that the area is considered to have high potential for the occurrence of oil and gas resources. The BLM also believes the majority of the area cannot be managed as wilderness due to the presence of valid existing oil and gas leases which are held by production.

The All Wilderness Alternative is the environmentally preferable alternative, as its implementation would result in the least change to the natural environment over the long-term. The recommendation, while not the environmentally preferred, will be implemented in a manner which would use all practicable means to avoid or minimize environmental impacts. In accordance with a decision made in the 1988 Carlsbad Resource Management Plan, 1,480 acres of the WSA were designated as the Dark Canyon Area of Critical Environmental Concern (ACEC). The Dark Canyon ACEC will be managed to protect scenery, caves, and threatened and endangered plant species. Planned actions include closing the area to mineral material sales, limiting oil and gas leases to no surface occupancy, and limiting off-road vehicle use to designated routes.

The determination that the WSA has a high potential for oil and gas was made by BLM mineral specialists based on current production, initial well tests, and known geologic structure status near and within the WSA. The WSA is surrounded by natural gas production and most of the WSA is leased for oil and gas.

The majority of the WSA could not be managed to preserve existing wilderness values in the long-term due to the presence of valid existing oil and gas leases. All six of the oil and gas leases in the WSA are held by production.

CRITERIA CONSIDERED IN DEVELOPING THE WILDERNESS RECOMMENDATIONS

Wilderness Characteristics

Naturalness

Overall, the Mudgetts WSA has an apparently high quality of naturalness with the most intensive imprints of man's work found primarily along the periphery of the WSA.

Table 1: Land Status and Acreage Summary

Within Wilderness Study Area	Acres
BLM (Surface and Subsurface)	2,941
Split-Estate (BLM Surface Only)	0
Inholdings	0
Total	2,941
Within the Recommended Wilderness Boundary	
BLM (Within WSA)	0
BLM (Outside WSA)	0
Split-Estate (Within WSA)	0
Total BLM Land Recommended for Wilderness	0
Inholdings	0
Within the Area Not Recommended for Wilderness	
BLM (Surface and Subsurface)	2,941
Split-estate (BLM Surface Only)	0
Total BLM Land Not Recommended for Wilderness	2,941
Inholdings	0

The imprints of man's work in the WSA include partial or total development of 2 natural gas well drilling pads (1 with production facilities), about 3 miles of vehicular ways, an inverted umbrella wildlife water system with associated wire fencing, about 3 miles of barbed wire fence, and 2 surface gate structures on 2 caves.

Adjacent to the WSA, and along certain portions of its boundary, the imprints of man's work are notably more evident. More than 7 miles of the boundary is formed along roads. Approximately 4 miles of these roads are caliche surfaced and maintained for ongoing natural gas production activities. Currently, five natural gas well pads abut the boundary of the WSA, two of these (Lechuguilla Canyon No. 8 and Guadalupe Federal No. 1) encroached into the WSA as indicated above. Nearly 2 miles of barbed wire fence are along the WSA's south boundary. The south boundary of the WSA is contiguous with the north boundary of Congressionally designated wilderness in Carlsbad Caverns National Park. Rugged topography of the area tends to screen some portions of the WSA from outside man-caused modifications and activities, but ridgetops and the flat northern portion of the WSA are exposed to these visual intrusions.

Solitude

When the WSA is considered in conjunction with contiguous wilderness within the National Park, the opportunity for solitude does exist. The narrow northern portion of the WSA which varies from approximately 300 feet to a 1/2 mile in width does not provide as high a quality setting for solitude. Although the area's topography and generally rugged terrain provides some screening, outstanding opportunities for solitude are rated as moderate to low.

Noise impacts are expected to occur from anticipated future mineral development activities adjacent to or within the WSA on existing "grandfathered" leases. Noise impacts would vary according to the proximity of visitors and upon the availability of screening topography that would reduce noise levels. Noise from drilling activities would be considered a short-term impact while noise caused by the combustion engine used on a producing oil well would have a long-term noise impact. Other factors that contribute to solitude opportunities in the WSA consist of limited legal accessibility for the general public and low levels of visitor use. These factors would influence solitude opportunities in the WSA during the foreseeable future.

Overall, opportunities for solitude in the WSA are considered moderate, with the best opportunities located close to the southern boundary of the unit contiguous with Carlsbad Caverns National Park designated wilderness.

Primitive and Unconfined Recreation

Opportunities for primitive and unconfined types of recreation consist of hunting, hiking, backpacking, equestrian riding, cave exploration (including technical rope climbing), photography, and dispersed sightseeing activities that focus on geological, botanical, and zoological resources. Hunting and cave exploration account for most of the current recreational use. Poorly distributed legal access routes limit the potential for dispersed recreational use, particularly in the Serpentine Bends area of Dark Canyon.

Overall, even though there are some resource limitations, the quality of recreation opportunities in the WSA is rated as outstanding.

Special Features

Scenic values and caves are the most outstanding special features in the WSA. The area contains habitat for two Federal listed and three State listed threatened or endangered plant species. Five State listed endangered animal species may be found within the WSA.

The four known caves in the WSA are important both for recreational caving and for their fragile formations, cultural, and natural history values they possess.

The ridges and canyons of the Guadalupe Mountains are among the most scenic lands in southeastern New Mexico. The Serpentine Bends, in particular, are noted for their impressive limestone cliffs and sweeping bends of the stream course. Vistas to the west of the WSA include higher ridges of the western half of Carlsbad Caverns National Park and the main escarpment of the Guadalupe Mountains in Lincoln National Forest.

Diversity in the National Wilderness Preservation System

Expanding the diversity of natural systems and features as represented by ecosystems

The Mudgetts WSA is within the Chihuahuan Desert Province. The potential natural vegetation (PNV) is 2,941 acres of Trans-Pecos shrub savanna. This ecosystem is not represented in the National Wilderness Preservation System (NWPS), but is present in six other BLM WSAs in New Mexico. The ecosystem information is summarized in Table 2.

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

The Mudgetts WSA is within 5-hours driving time of Las Cruces, New Mexico; El Paso and Lubbock, Texas. Table 3 summarizes the number and acreages of designated areas and other BLM study areas within a 5-hour drive of these population centers.

Balancing geographic distribution of wilderness areas

The Mudgetts WSA would contribute slightly to balancing the geographic distribution of areas within the NWPS. Five designated wilderness areas totaling 172,475 acres are located within a 100-mile radius from the Mudgetts WSA.

Manageability

The majority of the WSA could not be managed to preserve existing wilderness values in the long-term

Table 2: Ecosystem Representation

Bailey-Kuchler Classification	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
Province/Potential Natural Vegetation				
Nationwide				
Chihuahuan Desert Province				
Trans-Pecos Shrub Savanna	0	0	6	75,293
New Mexico				
Chihuahuan Desert Province				
Trans-Pecos Shrub Savanna	0	0	6	75,293

Table 3: Wilderness Opportunities for Residents of Major Population Centers

Population Centers	NWPS Areas	NWPS Acres	Other BLM Studies Areas	Other BLM Studies Acres
New Mexico				
Las Cruces	14	1,192,386	35	757,347
Texas				
El Paso	12	1,126,112	25	599,766
Lubbock	7	181,045	5	7,328

due to the presence of valid existing oil and gas leases. All six of the oil and gas leases in the WSA are held by production.

There are no private or State inholdings in the WSA. The boundary of the WSA was intentionally drawn to include only BLM-administered land. The southern boundary of the WSA is contiguous with existing wilderness in Carlsbad Caverns National Park. Other boundaries are formed by State and private lands or by roads.

Manageability could be enhanced by deleting the northern portion of the WSA from a wilderness recommendation. This narrow area contains a producing gas well and grandfathered mineral leases, and is surrounded by non-Federal lands. The southern portion of the WSA is not affected by grandfathered mineral leases or non-Federal land borders and is contiguous with designated wilderness; therefore, it could be managed as wilderness.

Energy and Mineral Resource Values

The area is considered to have high potential for fluid minerals occurrence. This determination of potential was made by BLM mineral specialists based on current production, initial well tests, and known geologic structure status near and within the WSA.

Impacts on Resources

A comparative summary of impacts by alternative for the Mudgetts WSA is shown on Table 4. This information is taken from the Final EIS.

Local Social and Economic Considerations

No local social or economic conditions were identified in the New Mexico Statewide Wilderness Study; therefore, no further discussion of this topic will occur in this document.

Summary of WSA-Specific Public Comments

Wilderness Inventory Comments

Public comments were received on the Mudgetts area during the public review periods on the *New Mexico Wilderness Study Area Proposals* (March 1980) and the *New Mexico Wilderness Study Area Decisions* (November 1980). During the comment period on wilderness study area proposals, public opinion concerning this WSA was mixed. Nine commenters wanted the area dropped from further study and ten wanted it kept in the wilderness review process.

Table 4: Comparative Summary of Impacts by Alternative

Issue Topics	All Wilderness (2,941 Acres Suitable)	No Wilderness (Proposed Action; 0 Acres Suitable)	Amended Boundary (2,230 Acres Suitable)
Impacts on Wilderness Values	Pre-FLPMA "grandfathered" oil and gas lease development of 3 more gas wells would probably result in a loss of vegetation on up to 20 acres of surface. Impacts on solitude and unconfined recreation would be significant in this portion. Wilderness values would be retained in the southernmost portion of the WSA. Special features of the area, such as the caves and high visual values would be adequately protected. No significant impacts on wilderness recreation demands.	Most impacts to special features would be low with protection provided by ACEC management; reduced opportunities for solitude and primitive and unconfined recreation; quality of recreation experience diminished; reduced naturalness within the area.	Development of two natural gas wells on one pre-FLPMA "grandfathered" oil and gas lease affecting 420 acres of the WSA's northern portion would be allowed. Impacts would be similar to those identified in the All Wilderness Alternative.
Impacts on Existing and Potential Mineral Development	Pre-FLPMA "grandfathered" oil and gas lease development rights would be allowed to continue on 1,131 acres in the area. Three producing gas wells could be developed within the area. Exploration and development would not be allowed on 1,810 acres of post-FLPMA oil and gas leases. Loss of three leases not being developed would be significant for specific leases, but insignificant relative to total regional natural gas production.	No significant impacts.	Two natural gas wells would be allowed to be developed on pre-FLPMA "grandfathered" oil and gas lease. Impacts on post-FLPMA oil and gas leases would be the same as under the All Wilderness Alternative, except for a reduction of 70 acres to 1,756 acres being affected.
Impacts to Caves and Other Sensitive Resources	Caves and all other special features such as high visual values would be preserved.	Impacts to caves and high quality visual resources would be significant due to possible lack of long-term protective management.	Four known caves would be provided maximum protection. Impacts on other sensitive resources would be low.

The Secretary of Interior in December 1982 issued a legal notice which removed from wilderness study all areas with Federal surface ownership and private mineral estate, and areas of less than 5,000 acres. The Mudgetts WSA was affected by this action since it is 2,941 acres in size. A court decision issued in April 1985 reversed the Secretarial action, resulting in the reinstatement of Mudgetts WSA into the BLM wilderness review program.

Wilderness Study Comments

In March 1986, a large mailing was conducted which informed the public of the reinstatement of Mudgetts WSA. Public input was requested concerning three alternatives, and specific impacts these alternatives would have on the resources of this WSA. A total of 100 responses were received. The All Wilderness Alternative was favored by five respondents, no one indicated preference for the Amended Boundary Alternative, while 87 preferred the No Wilderness Alternative. An alternative preference was not indicated by nine respondents.

During the public comment period on the *New Mexico Statewide Wilderness Study: Revised Draft Environmental Impact Statement* (1986), specific comments were directed to the Mudgetts WSA by 23 commenters.

Commenters favored wilderness designation as a method to prevent visual impacts, protect the area from additional surface disturbance by oil development, protect rare plants and animals, unique ecosystems, cultural values, scenery, and recreation. Designation would prevent overuse, be compatible with other uses, and would complement adjacent designated wilderness areas.

Commenters opposing wilderness designation cited reasons such as loss of access, proximity to other wilderness areas, adverse impacts to grazing and mining industries, low wilderness characteristics, and sacrificing maximum utilization of New Mexico areas for use by few people. Additional reasons for opposition included weak recreation and range data, sufficient designated wilderness areas exist in New Mexico, WSA is too close to population centers, current protection is sufficient, and designation would not be compatible with muliple use.

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