

study of alternatives



ANASAZI NATIONAL MONUMENT • COLORADO

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United States Department of the Interior  
NATIONAL PARK SERVICE  
Mesa Verde National Park  
Colorado 81330



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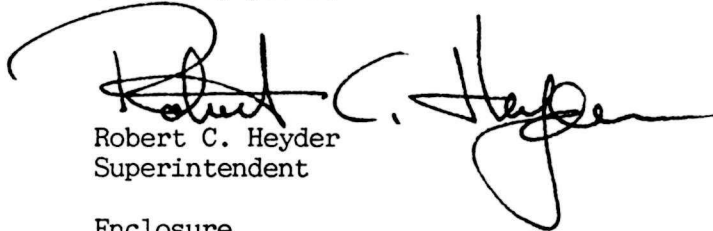
November 2, 1990

Dear Interested Parties:

Enclosed for your information is a copy of the evaluation report, Anasazi National Monument Study of Alternatives, which has been transmitted to Congress. This report was prepared following public information meetings and a public comment period in 1989. Mailings of this document began in June, 1990. Because of the interest in this issue, a second printing was recently completed for distribution.

A study team comprised of representatives from the National Park Service, Bureau of Land Management, U.S. Forest Service, and the State of Colorado evaluated five alternative strategies for commemorating the Anasazi by protecting archeological resources and encouraging public visitation. The benefits and tradeoffs associated with each alternative are described in the report.

Sincerely yours,



Robert C. Heyder  
Superintendent

Enclosure

# study of alternatives

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september 1989

**ANASAZI NATIONAL MONUMENT • COLORADO**

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UNITED STATES DEPARTMENT OF THE INTERIOR / NATIONAL PARK SERVICE

### **ACKNOWLEDGEMENT**

The National Park Service gratefully acknowledges the cooperation and assistance of the Bureau of Land Management, the U.S. Forest Service, the state of Colorado, and the public in carrying out this *Study of Alternatives* for an Anasazi National Monument.



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## INTRODUCTION

The Anasazi – the Ancient Ones – built a complex civilization in the southwestern United States from about 200 B.C. to A.D. 1300. At the zenith of their culture, architects built multistoried, elaborately designed stone cities that were interconnected by roads. Farmers tilled terraced fields, irrigated by intricate water management systems. Craftsmen made fine pots that they decorated with striking motifs. And priests conducted ceremonies in underground chambers called kivas. Then in the late 1200s the Anasazi began to desert their towns and cities, leaving clues to their civilization buried in the abandoned ruins.

Today, ruins in southwestern Colorado provide an exceptional opportunity to undertake a comprehensive study of the Northern San Juan (Mesa Verde) branch of the Anasazi, who lived north of the San Juan River. Sites representing the full continuum of occupation – from Basketmaker II through Pueblo III – are present in this area. Mesa Verde is one of the most spectacular and best-known of the Northern San Juan Anasazi areas, but archeologists now know that most of the northern Anasazi population, estimated at 30,000 to 40,000 people, lived in the Montezuma Valley to the north. Literally thousands of sites exist throughout this area, allowing us to learn not only about the minor details of everyday life, but also the development of the culture over hundreds of years and the social, political, economic, and ceremonial dynamics that energized the entire civilization.

### STUDY BACKGROUND AND LIMITATIONS

In 1988 Congress directed the National Park Service to evaluate proposals for establishing an Anasazi National Monument in southwestern Colorado (House Conference Report accompanying Public Law 100-448). In directing the Park Service to do the study, Congress did not stipulate a completion date, but the National Park Service has scheduled completion by September 1989. The study was completed with the following limitations:

- First, only sites in southwestern Colorado were considered. Anasazi sites in other areas of the Four Corners region may require future study, depending on the outcome of this initial effort.
- Second, proposals in the Hovenweep National Monument *Draft General Management Plan and Development Concept Plan* (December 1987) were not reassessed, in part because several of the monument's units are in Utah, outside the study area. However, that draft plan did recommend separate consideration for Goodman Point, which is recognized as being more similar to the large pueblos in Montezuma Valley than the rest of the Hovenweep complex. Therefore, Goodman Point is included in this *Study of Alternatives*.
- Third, a full range of management and development alternatives were examined, but no preferred alternative has been selected.
- Fourth, the Anasazi Heritage Center, which is within the study area and is operated by the Bureau of Land Management (BLM), will continue to be operated by that agency. In 1987 the bureau and the National Park Service cooperated in a study to review the management of the center "to ensure that the Department is managing this Cultural Center in the most effective, efficient manner." The joint study analyzed several management alternatives and recommended continued BLM management of the center, with technical assistance from the National Park Service. This *Study of Alternatives* explores possible relationships between the BLM facility and other potential interpretive activities in the study area.
- Finally, resources on native American lands were excluded from the study.

## STUDY PROCEDURES

A study area for this project was defined based on the study constraints, the known extent of major Anasazi occupation in Colorado, and the southwestern Colorado study region as described in the *Southwest Colorado Prehistoric Context* (Eddy, Kane, and Nickens 1984). The study area is bounded by the Colorado state line on the west, the Ute Mountain Ute and Southern Ute reservations on the south, and the San Juan Mountains on the north and east (see Study Area map).

This *Study of Alternatives* – which has been undertaken with assistance from the U.S. Forest Service (USFS), the Bureau of Land Management, the state of Colorado, and the public – has been carried out in two steps. First, the many Anasazi archeological resources within the study area were assessed to determine whether they meet the criteria for national significance as defined by the NPS *Management Policies*, thus making them eligible for designation as a national monument. Second, a broad range of alternative strategies for managing Anasazi resources were evaluated. The two steps are summarized below.

### Archeological Resource Evaluation and Statement of Significance

An archeological resource evaluation and a statement of significance were prepared to evaluate the entire range of sites in southwestern Colorado against established NPS criteria for significance, suitability, and feasibility. A determination was also made as to whether the significance of the resources warrants their preservation on the national level (NPS, Anderson 1989). This determination is documented in the statement of significance.

Several problems had to be addressed during the course of the resource evaluation. First was the number of sites. More than 14,000 Anasazi sites are recorded in Montezuma County alone, making the magnitude of the study overwhelming. Second was the compressed study schedule, which required much of the fieldwork to be done during winter. Third was the vast federal and private acreage that has

never been surveyed and for which there is little or no archeological information. Although there are rumors of great sites, specific information needed for a comprehensive evaluation is lacking (that is, information about site integrity, physical condition, intensity and types of impacts, protection needs, access, and especially boundaries).

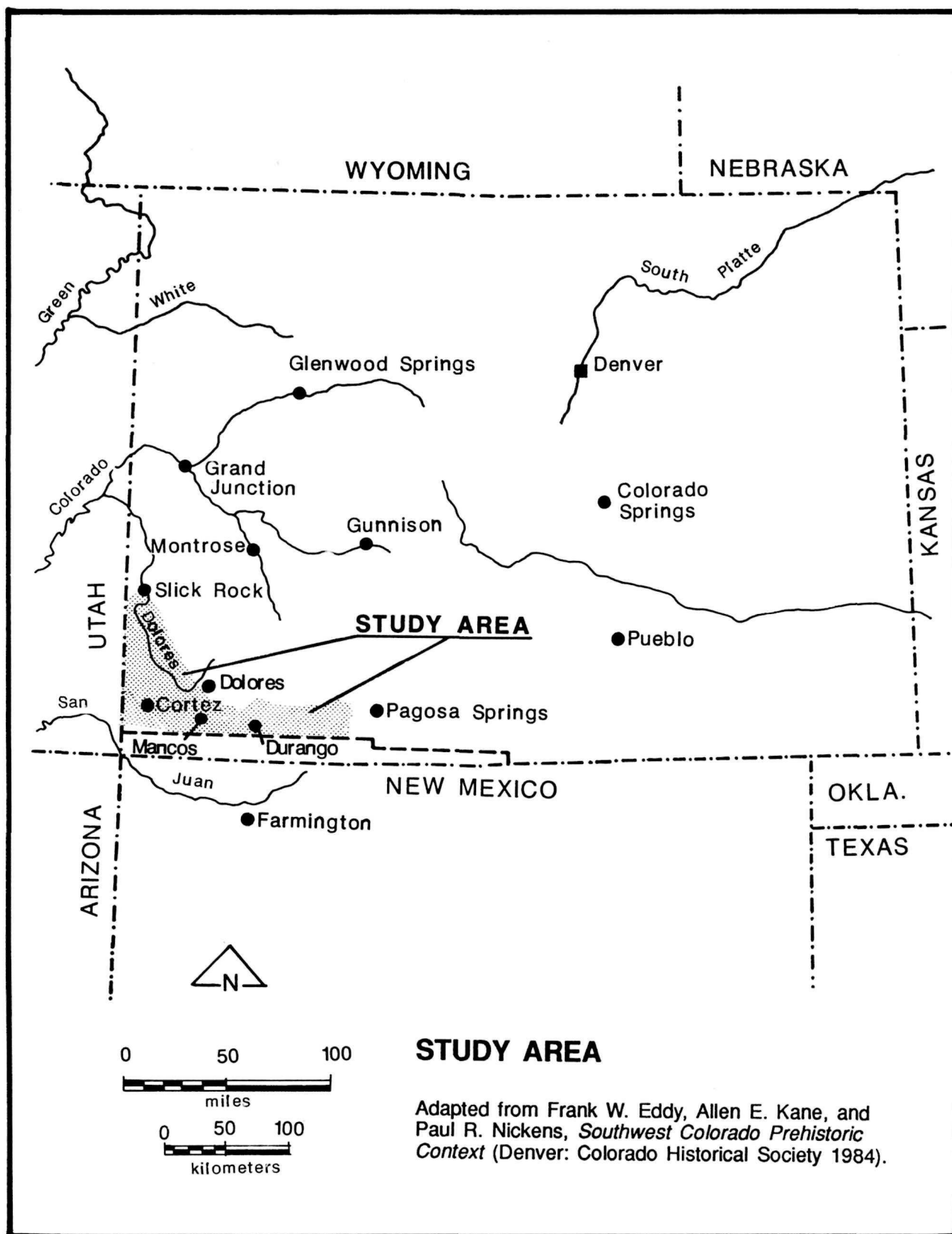
For these reasons, the archeological resource evaluation is not a definitive analysis of all resources in the study area. Sites were selected and evaluated as described below. These sites may require additional assessment before further action is taken.

**Sites Evaluated.** Four types of areas were initially evaluated – (1) sites and districts listed on the National Register of Historic Places, (2) areas that because of their importance are already being protected by various federal agencies, (3) sites that are owned by the Archaeological Conservancy and that were selected for purchase by the nonprofit organization because of their significance, and (4) sites owned by persons interested in ensuring their protection. It was also agreed that in order to appropriately represent the Northern San Juan Anasazi, sites representing the entire 1,300 years of Formative period occupation in southwestern Colorado should be studied.

Numerous professional archeologists who are most familiar with the area fully cooperated with the study and made many sound suggestions. There was a consensus among these individuals about the areas that should be evaluated. Nevertheless, many unique, significant sites were not evaluated for the reasons noted above.

**Evaluation Criteria.** A natural, cultural, or recreation resource is considered to be nationally significant if it meets all of the following criteria:

- It is an outstanding example of a particular type of resource.
- It possesses exceptional value or quality in illustrating or interpreting the natural or cultural themes of our nation's heritage.



## STUDY AREA

Adapted from Frank W. Eddy, Allen E. Kane, and Paul R. Nickens, *Southwest Colorado Prehistoric Context* (Denver: Colorado Historical Society 1984).

- It offers superlative opportunities for recreation, public use, and enjoyment or for scientific study.
- It retains a high degree of integrity as a true, accurate, and relatively unspoiled example of a resource.

Table 1 shows how the archeological sites that were evaluated meet the criteria. The sites were also surveyed to determine their physical condition, as well as protection and preservation needs (see appendix A).

**Statement of Significance.** Collectively, the 21 site complexes evaluated for this *Study of Alternatives* make a significant contribution to the cultural distinctiveness of the northern San Juan area. Along with Mesa Verde National Park and Hovenweep National Monument, these

sites present a fairly complete picture of Anasazi life north of the San Juan River, as well as unique aspects of prehistoric life that are not represented elsewhere in the national park system.

Mesa Verde National Park and Hovenweep National Monument depict facets of the Northern San Juan Anasazi that are not represented in the sites evaluated for this study, particularly the spectacular cliff dwellings in Mesa Verde and the superb and distinctive Hovenweep-style of canyonhead architecture. With the exception of the cliff-sheltered Lost Canyon Archeological District, all the site complexes evaluated are in the open on ridge-tops or along canyon edges, clearly indicating that the northern San Juan Anasazi preferred not to live in cliff dwellings.

**Table 1: Site Evaluation by Nationally Significant Criteria**

	Evaluation Criteria			
	Outstanding Resource Example	Exceptional Interpretive Value	Public Opportunities/Scientific Study	High Degree of Integrity
Albert Porter Ruin			o	o
Anasazi Archeological District	o	o	o	o
Ansel Hall Ruin	o		o	o
Cannonball Ruin	o	o	o	o
Chimney Rock Archeological District	o	o	o	o
Durango Rock-Shelters	o	o	o	o
Easter Ruin	o	o	o	o
Escalante Complex		o	o	o
Goodman Point Complex	o	o	o	o
Lakeview Complex	o	o		
Lancaster Ruin	o	o	o	o
Lost Canyon Archeological District		o	o	o
Lowry Complex	o	o	o	o
McLean Basin Towers Complex	o	o	o	o
Mitchell Springs Ruin*				
Mud Springs Ruin	o	o	o	o
Reservoir Complex	o	o	o	o
Sand/East Rock Canyons			o	o
Sand Canyon Pueblo	o	o	o	o
Spring Creek Archeological District	o		o	o
Yellowjacket Complex	o	o	o	o
Yucca House	o	o	o	o

o Meets evaluation criteria.

\* Insufficient information for site evaluation.



Other national park system areas on the Colorado Plateau preserve prehistoric remains that reflect the distinctive Chaco Canyon branch, the Kayenta branch, and the Virgin River or Western branch, each with its inherent, easily identifiable differences, particularly in architecture, material culture, and village layout.

Beyond the unique San Juan Anasazi characteristics of the 21 site complexes evaluated, some of the more distinctive and unusual aspects focus on the sociopolitical organization of the Northern San Juan Anasazi, and these aspects are not completely represented elsewhere in the existing national park system. The extensive towns and support systems (for example Goodman Point, Yellowjacket, and Lancaster) are the largest known examples of prehistoric town aggregations. These include interrelated hamlets, impressive tri-wall structures, agricultural fields, reservoirs, great kivas, intrasite roadways, shrines, clay sources, and other support features on a scale not represented elsewhere.

The mere presence north of the San Juan River of many great kivas and tri-wall structures, which are inferred to be ceremonial in nature, suggests a high degree of social integration among the Anasazi living here. Five tri-wall structures and at least seven great kivas exist within the 21 site complexes. The only excavated tri-wall structure was dug by Gordon Vivian in 1953 at Aztec National Monument, and there is a tri-wall at Pueblo del Arroyo in Chaco Canyon and a similar structure at a small ruin near Pueblo Pintado, New Mexico. The Aztec and Chaco tri-walls are the only such structures within the national park system, and at Aztec the structure is associated with the late use of the site by the Northern San Juan Anasazi as they withdrew from the Montezuma Valley to the north. The role these structures played in Anasazi life is poorly understood.

The great kivas, similarly tied to Anasazi ceremonialism, are architecturally very different between the Chaco and Northern San Juan branches, and great kivas are unknown from the Kayenta and Western branches. No great kiva of the Northern San Juan Anasazi has been excavated.

The evaluated sites are extensive ruins, only three of which have been partially excavated and stabilized, and they offer a rare opportunity for visitors to see both excavated and unexcavated Anasazi towns. Even to the casual visitor, the multistory nature of some room blocks, courtyards, kivas, and other features is readily apparent under the piles of building rubble. Nine ruins appear to represent only one time period of occupation, which provides an important consideration in designing interpretive and research programs because habitation of the area is not masked by more recent utilization.

Another distinctive aspect of at least seven of the 21 site complexes is the architectural incorporation of features and construction styles traditionally associated with the Chaco branch, such as at the Escalante ruin, Chimney Rock, and the Lowry complex. This provides a unique opportunity to address the poorly understood interaction between these two branches.

Another area of distinctiveness within the 21 site complexes is the documented and well-accepted presence of astronomical features at Yellowjacket and Chimney Rock. Similar features are documented at Hovenweep National Monument and are more tentatively known at sites within Chaco Canyon.

In summary, there are limited examples in the national park system of the major regional centers, extensive water management systems, roadways, and other villages and features that represent the culmination of Anasazi life north of the San Juan River. Without some of the Northern San Juan Anasazi sites that contain Chacoan elements, it is not possible to study and interpret the social dynamics associated with the extensive trade network developed by the Anasazi or the possible population migration that culminated in the 11th century Chaco "intrusion" into what is now southwestern Colorado. The national park system is also lacking sites that represent the northernmost extension of Anasazi life during all time periods, particularly from the early Basketmaker and early Pueblo stages.



## Study of Alternatives

The purpose of this *Study of Alternatives* is to present and analyze various resource protection, management, and visitor use options that can be considered by Congress. This is a conceptual document, not a plan. It analyzes various approaches to meeting the project goals for resource protection and visitor use; it does not contain decisions or recommendations. The alternatives were developed in cooperation with the Bureau of Land Management, the U.S. Forest Service, the state of Colorado, and the public, as described in the "Consultation and Coordination" section. The following is the range of alternatives considered:

*Alternative A: Create a Northern Anasazi National Park As an Extension of Mesa Verde National Park* – This alternative would create a new unit of the national park system that would be under the management of Mesa Verde National Park; significant sites owned by other federal agencies could be affiliated with the national park or transferred to the National Park Service.

*Alternative B: Establish a Northern Anasazi Cultural Reserve* – A cooperative management system involving both public and private entities would be established in order to provide coordinated preservation, research, and development efforts.

*Alternative C: Designate a Northern Anasazi Conservation Area* – Multiple resource management and use would be continued, with the U.S. Forest Service and the Bureau of Land Management taking the lead in planning, administering, and managing the conservation area.

*Alternative D: Develop an Anasazi Cultural Heritage Partnership* – A cooperative public/private partnership would be established, and a commission would promote the preservation of resources, encourage related economic development, and coordinate public and private activities.

*Alternative E: Foster a Southwestern Colorado Tourism Marketing Partnership* – Archeological resources would continue under current management, but appropriate orientation and interpretation services would be coordinated to encourage regional tourism.

## STUDY AREA OVERVIEW

In 1859 U.S. Army Captain J. N. Macomb led the first topographical survey through southwestern Colorado. Moved by what he saw, he wrote, "There is scarcely a more beautiful place on the face of the earth."

Southwestern Colorado contains more than scenery, however. A variety of cultures – the Northern San Juan Anasazi, the Utes, the Navajos, Spanish priests, French trappers, mountainmen, outlaws, homesteaders, farmers, cowboys, and prospectors – have all left their mark here.

Today, long-abandoned cliff dwellings and pueblos are proof that the mysterious Anasazi once lived here, while narrow-gauge railroad tracks that cling to steep mountainsides, ghost towns hidden in valleys, and the remains of gold and silver mines in the hills attest to more recent residents. The old mining towns have been revitalized into summer and winter resorts; national forests and recreation areas are sportsmen's playgrounds; and scenic highways, deserts, alpine peaks, and deep valleys fulfill sightseers' dreams.

### THE ANASAZI CULTURE

The core of the southwestern Anasazi culture was the Four Corners area, where Colorado, Utah, New Mexico, and Arizona meet. It includes high mountains such as the La Platas and Sleeping Ute Mountain in Colorado; the La Sals and Abajos in Utah; and the Carrizo, Lukachukai, and Navajo mountains in Arizona. It is dominated by hundreds of well-defined mesas, buttes, deep sheer-walled canyons, and river valleys of the Colorado, San Juan, Dolores, La Plata, Animas, and Mancos, among others.

The Anasazi occupied this area from about 200 B.C. to A.D. 1300. They were designated "Anasazi" by archeologist Alfred V. Kidder in the 1930s. The word is from the Navajo language and has been construed to mean "the old ones" or "the ancient ones."

### Cultural Phases

During the time the Anasazi occupied southwestern Colorado, they evolved from a migratory to a sedentary lifeway. Archeologists have given descriptive names to the different developmental phases. They are listed below, along with very general characteristics.

*Basketmaker II* – Basketmaker II is applied to the earliest Anasazi farming groups. They domesticated corn and squash, used the atlatl and milling stone, and made distinctive sandals and baskets. Two structural designs are associated with this period: a slab-lined cist used for storage and burials, and a circular structure with a saucer-shaped floor rising at the edges used for habitation.

*Basketmaker III* – People of this period used many of the same artifacts as Basketmaker II people, with the addition of pottery that was either plain or had black-on-gray decoration. They cultivated corn, beans, and squash, and they constructed subterranean or semi-subterranean pit structures for habitation.

*Pueblo I* – The Pueblo I period was the beginning of village life. Aboveground structures were built, with shared walls and adjoining rooms. Kivas were developed and used as the center of village and ceremonial life. Pottery was developed and included a neck-banded gray ware, red-on-orange bowls, and effigies. The bow and arrow had replaced the atlatl as the principal hunting weapon by the beginning of Pueblo I times.

*Pueblo II* – The early Pueblo II period was marked by dispersed sites and small settlements; settlement patterns gradually became more clustered in late Pueblo II times, resulting in larger villages. Villages generally had a central kiva and work plaza and housed from 10 to 40 people, with three to 20 rooms per site. Roads and water control projects were constructed, and there is evidence of a well-organized, extensive trading system. Ceramics included pots decorated with black-on-white designs and

corrugated cooking vessels. The bow and arrow remained in use, but side-notched points replaced the corner-notched types that characterized the Pueblo I period.

*Pueblo III* – The trend toward larger, well-planned, elaborate villages continued during the Pueblo III period, culminating in the impressive cliff dwellings of Mesa Verde and Canyon de Chelly and the multistory pueblos and great kivas of Chaco Canyon. Other characteristics include extremely well-executed ceramics and other crafts; a widespread, well-organized, and apparently very formalized system of trading and communication between different Anasazi centers; and well-functioning irrigation and water management systems.

The transition from one period to the next was gradual; consequently, some sites exhibit characteristics of one period while other contemporary regional sites may show examples of the next period. The Basketmaker II period lasted from about 100 B.C. to A.D. 400. The Basketmaker III / Pueblo I periods (sometimes referred to as Modified Basketmaker) lasted from about A.D. 400 to 900, the Pueblo II period (Developmental Pueblo) from about A.D. 900 to 1050, and the late Pueblo II / Pueblo III period (Great Pueblo period) from around 1050 to about 1300. The sites evaluated for this study include examples from all these periods.

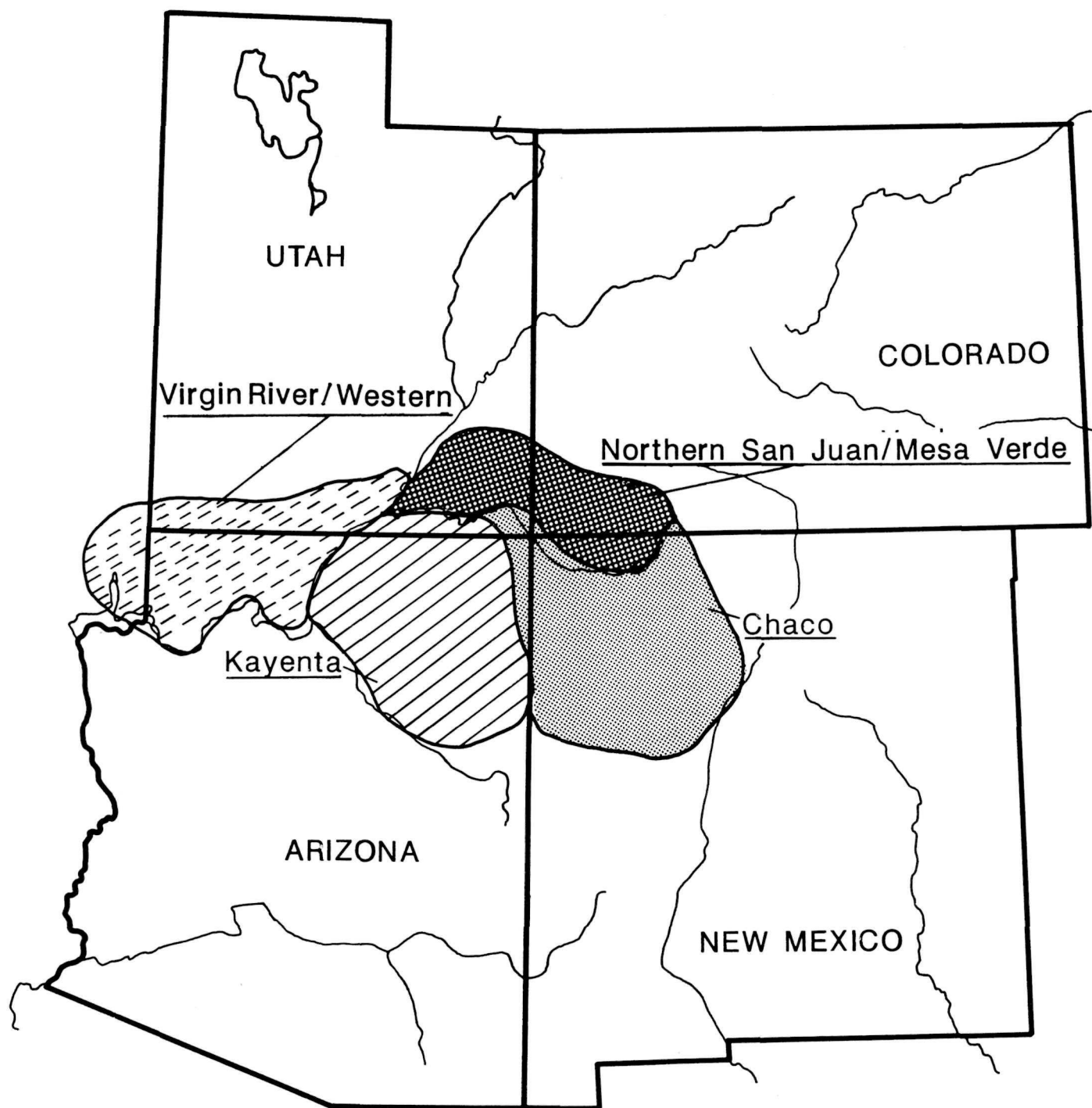
Beginning during the Pueblo II period, regional variations among the Four Corners Anasazi began to appear. These variations have led to a classification by archeologists of different cultural branches. These major branches include the Chaco Anasazi in northwestern New Mexico, the Kayenta Anasazi in northeastern Arizona, the Northern San Juan Anasazi in southwestern Colorado and parts of southeastern Utah, and the Virgin River/Western Anasazi north of the Grand Canyon in Arizona and southern Utah. The branches are recognized by similarities in ceramics and other artifact remains, as well as in architectural forms (basic masonry technology, room size, village configurations, and kiva styles). The branches may also reflect differences in rituals, agricultural technologies, and perhaps languages.

The Northern San Juan branch developed largely on the broad mesas and valleys of southwestern Colorado and southeastern Utah, but it also extended as far south as Canyon de Chelly in northeastern Arizona. This cultural branch was originally named and defined based on the types of sites found on the Mesa Verde, including the well-known cliff ruins in the canyons. The name has been changed to Northern San Juan Anasazi in recent years because archeologists now know that most of the people lived in the Montezuma Valley north of Mesa Verde and on the mesa lands west to Cedar Mesa in Utah. This northern Anasazi branch may have been a great "bread basket" for the Four Corners region. Some archeologists theorize that the Chaco trade system may have developed in order to share some of the produce of this and similar areas.

### Archeological Sites

Twenty-one site complexes were selected for study on the basis of the archeological resource evaluation and the statement of significance. These are among the most outstanding examples of the northern Anasazi tradition in southwestern Colorado. In conjunction with the prehistoric remains at Mesa Verde National Park, Yucca House National Monument, and Hovenweep National Monument, these sites represent most of the approximately 1,300 years of Anasazi occupation in this region.

This period saw the evolution of local peoples from a migratory hunting-and-gathering lifeway to a sedentary lifeway characterized by highly developed architectural and artistic skills. At the height of this culture a network of interrelated towns, villages, and hamlets featured complex, multistory, dressed stone structures, ceremonial complexes and shrines, and possible astronomical features. Agricultural fields were terraced, and intricate water-management systems, consisting of check dams and reservoirs, were engineered to conserve precious water. Murals in kivas and wall paintings, along with skillfully decorated and finely made pottery, indicate a highly developed artistic sense.



## BRANCHES OF THE ANASAZI CULTURE

An integrated study of these interrelated site complexes would provide important information for understanding the social, political, and ceremonial dynamics of the Northern San Juan Anasazi. To date there has been no synthesis or comprehensive study and interpretation of these extensive remains. The large complexes contain information that, when combined with data from the smaller sites, will help scientists understand the regional cultural dynamics of prehistoric life north of the San Juan River.

Each site or complex has unique features that would be useful in addressing specific aspects of northern Anasazi life while also contributing to the larger picture of regional cultural dynamics that requires site-specific information as well as information about the interrelationships among sites.

The 21 sites are described below and are shown on the various alternative maps. Additional information about the condition and integrity of the ruins, current impacts, and protection and preservation needs are included in appendix A. Sites representing the Basketmaker II period are not well represented in this study. This is due in part to the study limitations that were previously discussed, in part to an inadequate understanding of this period by archeologists, and perhaps in part to the limited number of known sites from this time period. Table 2 shows the general periods that the sites were occupied.

**Albert Porter Ruin** – A continuously occupied village from Basketmaker III through Pueblo III (Pueblo I occupation has not yet been adequately documented). The pueblo itself has 30-35 rooms, 21 kivas, three towers, and a pit structure, plus depressions and extensive middens. This would be a good site to study in terms of village plan and architecture because of the apparent change through time in habitation structure arrangement.

**Anasazi Archeological District** – A district containing 500 sites that are representative of the Basketmaker III through Pueblo I periods and that are above the high waterline of McPhee Reservoir. The district is listed on the National Register of Historic Places and is significant for its Pueblo I architectural

variation, site settlement layout, illustration of demographic trends, and potential for studying urban settlement organization and responses to climatic stress. Several large Pueblo I sites exist in this district, which is unusual in this portion of the study area (such sites are known farther east and farther west). Unexcavated sites would likely contain information important to interpreting the enigmatic Pueblo I period.

**Ansel Hall Ruin** – A Pueblo II-early Pueblo III village site with an unusual layout, consisting of a series of discrete units with individual kivas, at least one multistory D-shaped structure, an intermediate-sized kiva, and extensive middens. It is thought to have Chacoan characteristics. This site is extremely important for research because evidence of the Pueblo II occupation has not been compromised by later occupations.

**Cannonball Ruin** – This ruin is on Cannonball Mesa, overlooking Yellowjacket Canyon. It is visually impressive and consists of both standing multistory rooms and rubble mounds, several kivas, towers, and a probable water management system. It is significant because it is an extensive residential complex of a style not found elsewhere.

**Chimney Rock Archeological District** – This archeological district contains at least 91 high-altitude sites dating from Pueblo II and Pueblo III times. There are 36 large kivas and possible astronomical alignments. The Chimney Rock Pueblo is built in a Chacoan style and is considered to be one of the Chaco outliers. This site may have been established because timbers that were needed for Chaco Canyon 100 miles to the south were available.

**Durango Rock-Shelters** – The rock-shelters are one of the earliest known Basketmaker II sites in the study area. In the late 1930s a number of skeletons and mummies were found that are considered to be the best preserved prehistoric human remains ever recovered in the United States. Also found were good quality sandals, other articles of clothing, baskets, beads, a twined bag, and scattered rock art. The site is significant for its scientific potential and its previous contribution to the understanding of the Basketmaker period Anasazi.



**Easter Ruin** – This Pueblo II-Pueblo III agricultural village is perched at the very rim of Yellowjacket Canyon. A series of check dams and a "wall" on one side of the ruin probably served as a water management system to both protect the habitation structures from sheetwash and to channel this runoff to the check dams. The site is important for further investigation of the water management system.

**Escalante Complex** – This village cluster of related Pueblo II and Pueblo III period sites surrounds the Anasazi Heritage Center. These are the pueblos probably noted by Fathers Dominguez and Escalante in 1776. The Escalante complex and the Reservoir complex (discussed below) are among the northernmost Pueblo II sites in the region, and they may represent the last stage of Pueblo I occupation. The sites are significant for understanding population movements and paleoenvironmental conditions in the region.

**Goodman Point Complex** – Goodman Point is among the largest ruin complexes dating from the late 1100s and is considered one of the prehistoric regional centers for the Montezuma Valley. Based on ceramic evidence, the site was occupied from Basketmaker III through Pueblo III, but occupation focused on the latter period. There are multistory room blocks, plazas, an estimated 100 kivas and two great kivas, and multiple water management features. The complex is important for its long period of occupation, for its relation to Sand Canyon Pueblo a short distance to the southwest (evidence indicates a possible roadway), and for understanding the nonmaterial aspects of prehistoric Anasazi life. The site was set aside for protection in 1889, and in 1951 the Goodman Point Pueblo became part of Hovenweep National Monument.

**Lakeview Complex** – This complex overlooks the Totten Reservoir just east of Cortez, and it contains a number of Basketmaker III, Pueblo II, and Pueblo III villages. Most of the sites contain distinctive Chacoan characteristics, and this may have been a Chaco outlier, like Chimney Rock. There is evidence of what may have been a roadway, but the major villages have been almost completely destroyed.

**Lancaster Ruin** – The Lancaster ruin is an extensive town dating from the late Pueblo II through the late Pueblo III periods. It is estimated to cover at least 40 acres and has a unique detached room block that is not fully understood and a linear room block that may be the most extensive one known. The site's excellent preservation and many distinctive features make it significant for its research potential.

**Lost Canyon Archeological District** – This district, listed on the National Register of Historic Places, contains 24 sites, rock-shelters with coursed masonry, open sites with masonry, rock art, and kivas dating to the late Pueblo II-Pueblo III periods. The sites are at an elevation of 8,000 feet and are outside the expected range of the agriculturally oriented San Juan Anasazi habitation. The Lost Canyon sites are significant because of their potential to support research into how the Anasazi used the environment, the diversity of subsistence strategies, cultural interaction systems, demographic distribution, and regional abandonment.

**Lowry Complex** – The Lowry site complex consists of at least 40 documented sites dating from the Pueblo II-Pueblo III periods. It was one of the largest Montezuma Valley towns, covering 15 square miles. There are 108 kivas, 24 habitations with an estimated 1,200 rooms, three prehistoric road segments, towers, a community reservoir and terraced fields, a walled unit, and shrines. One of the sites – the Lowry ruin – is a 50-room, multistory pueblo, with a great kiva and Chacoan characteristics. It was designated a national historic landmark in 1964 and has been stabilized; it is interpreted to the public by the Bureau of Land Management. The complex is significant because it includes documented remains of a wide range of prehistoric activities.

**McLean Basin Towers Complex** – These two standing towers are noted for their distinctive and decorative banding, and they are associated with a Pueblo II-Pueblo III village. There is a unique water management system that consists of a large check dam with a spillway and a channel below the spillway that leads to a virtually intact stone and earthen dam.

***Mitchell Springs Ruin*** – This Pueblo III town is located on the outskirts of Cortez. The archeological remains consist of a central kiva surrounded by rooms, nine house mounds, residential complexes, a double-walled tower, and a rare tri-wall structure. It is an important site on McElmo Creek.

***Mud Springs Ruin*** – Mud Springs ruin is an extensive Pueblo III town consisting of an estimated 1,800-2,000 individual rooms in 17 or 18 room blocks (some of which were multistory), 86 kivas, remains of check dams and a deep impoundment, and a rare tri-wall structure. The complex covers 50 acres and is considered among the most extensive in the Montezuma Valley. One rubble mound probably dates from the Pueblo II period, but it is covered by later occupation ruins.

***Reservoir Complex*** – This cluster of sites is east of the Anasazi Heritage Center and may be a continuation of the Escalante complex. Of the two major sites, one is a Basketmaker III-Pueblo II multicomponent village with two room blocks, kivas, possibly a great kiva, and an extensive midden; the other is a Pueblo I-Pueblo III site that includes a large, unique tri-wall, a multistory rubble mound room block, and kivas. The sites are important because of their late association with the Dolores drainage and their northern position during Pueblo II times.

***Sand / East Rock Canyons*** – These two adjacent tributary canyons to the McElmo drainage are distinctive for the region and are reminiscent of the canyonlands country farther west. At least 89 sites ranging from Basketmaker III to Pueblo III have been documented, including the significant Sand Canyon Pueblo, which was one of the major population centers north of the San Juan River and possibly a regional ceremonial center. The pueblo is a distinctive "walled" complex, with 15 discrete architectural units, plazas, 90 kivas, and a D-shaped structure that may be a tri-wall. The pueblo is a single component site dating from A.D. 1230-1280, based on 137 tree-ring dates. It is among the most important sites in the Montezuma Valley for understanding some of the integrative aspects of the Anasazi culture. The other sites consist of small open

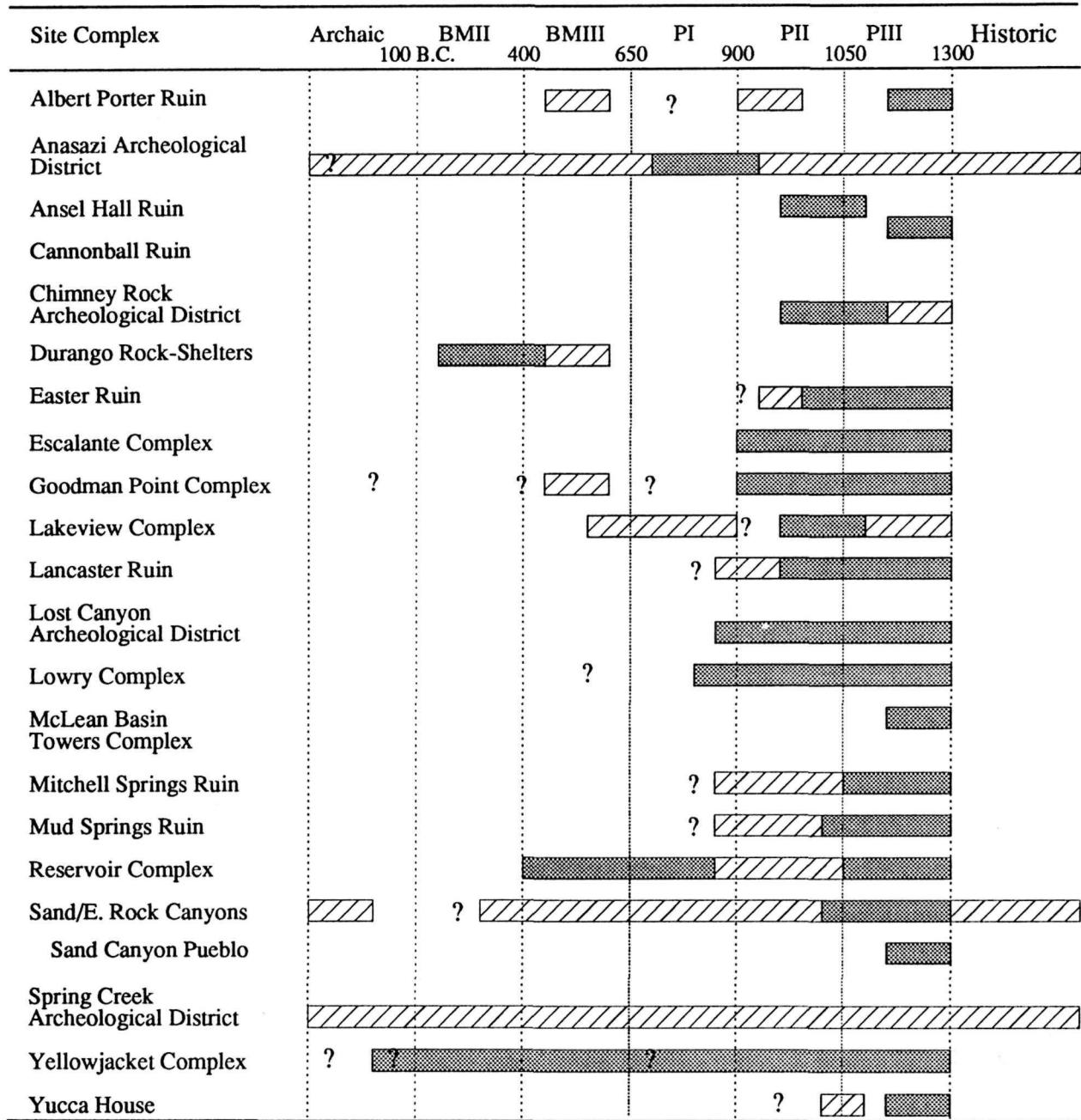
hamlets of various ages, towers, check dams, storage rooms, and farmsteads in shallow rock-shelters.

***Spring Creek Archeological District*** – This archeological district is listed on the National Register of Historic Places. It consists of 25 significant village sites, mainly Basketmaker II and Basketmaker III, that contain good potential for providing chronological, paleoenvironmental, and paleohuman ecological information helpful in understanding the earliest development of the Northern San Juan Anasazi.

***Yellowjacket Complex*** – The Yellowjacket complex is considered by archeologists familiar with the Montezuma Valley sites to be the largest and probably the most important settlement in the region. It consists of eight documented sites, plus a large number of unrecorded sites, suggesting a total of 25-30 villages associated with the larger Yellowjacket townsite. The townsite has an estimated 1,800-2,000 rooms, 128 kivas, a great kiva, 27 towers, a great tower, water collection and management devices, shrines, ceremonial caves, plazas, lanes between room blocks, and what are considered by some to be astronomical features. It is assumed that the site was occupied from the Basketmaker III period through the Pueblo III period. The Yellowjacket complex is significant because of its potential to yield extremely important information about the social, political, economic, ceremonial, and astronomical aspects of the northern Anasazi, as well as providing an understanding of the organization and structure of a large regional center.

***Yucca House*** – Yucca House ruin became a national monument in 1919 and was listed on the National Register of Historic Places in 1966. It is a compact site with several room blocks, a multistory structure with kivas organized around a spring/plaza area, and a southern room block that includes a great kiva or dance platform. Its location at the southern entrance to Montezuma Valley, possible Chacoan characteristics, and perhaps a roadway to the south suggest that the site may be one of the keys to understanding the relationship between the Montezuma Valley and the Chaco branch of the Anasazi to the south.

Table 2: General Period of Occupation of Evaluated Sites



Heaviest Occupation



Low level of occupation



Possible occupation ?

Time periods (based on available information):

BMII - Basketmaker II

BMIII - Basketmaker III

PI - Pueblo I

PII - Pueblo II

PIII - Pueblo III



## LANDOWNERSHIP AND MANAGEMENT

Many archeological remains throughout the study area lie on tracts of federally owned land, generally under the jurisdiction of the National Park Service, the U.S. Forest Service, or the Bureau of Land Management (see table 3).

Mesa Verde National Park, with a national and international visitation of 750,000 people per year, is managed by the National Park Service. Many Anasazi cliff dwellings and subsurface ruins are stabilized and interpreted. Hovenweep National Monument, with a visitation of 22,000 people per year, straddles the Colorado/Utah border and preserves spectacular Anasazi canyonhead complexes, which generally include masonry towers. Yucca House National Monument, just south of Cortez, is a largely unexcavated site that is open to the public but is not interpreted.

The U.S. Forest Service and the Bureau of Land Management administer the remainder of the federally owned sites, and their management strategies call for multiple-resource use, including the protection of important visual and cultural resources.

The Forest Service provides an interpretive display and guided walks in the summer at the excavated and stabilized Chimney Rock Pueblo in the Chimney Rock Archeological District.

The Bureau of Land Management provides interpretation at the Lowry ruin, an excavated and stabilized Anasazi site that was visited by over 15,000 people in 1988, and at Sand/East Rock canyons (Sand Canyon Pueblo), where the Crow Canyon Archaeological Center is currently doing excavation and research and answering questions for over 3,200 visitors per year.

Table 3: Site Ownership

	Ownership				Archaeological Conservancy
	Private	USFS	BLM	NPS	
Albert Porter Ruin					o
Anasazi Archeological District		o			
Ansel Hall Ruin	o				
Cannonball Ruin			o		
Chimney Rock Archeological District		o			
Durango Rock-Shelters		o			
Easter Ruin			o		
Escalante Complex			o		
Goodman Point Complex	o		o	o	
Lakeview Complex	o				
Lancaster Ruin	o				
Lost Canyon Archeological District		o			
Lowry Complex	o		o		
McLean Basin Towers Complex			o		
Mitchell Springs Ruin	o				
Mud Springs Ruin					o
Reservoir Complex		o			
Sand/East Rock Canyons (including Sand Canyon Pueblo)			o		
Spring Creek Archeological District		o			
Yellowjacket Complex	o				o
Yucca House*				o	

\* Ruins associated with Yucca House are not entirely encompassed within the monument's present boundary.

The BLM-operated Anasazi Heritage Center near Dolores is both a museum and federal repository that exhibits archeological artifacts excavated throughout southwestern Colorado. The museum opened in July 1988, and 50,000 visitors were expected in 1989.

The Dolores Project is a Bureau of Reclamation reservoir/water diversion project that resulted in the construction of McPhee Reservoir and the Anasazi Heritage Center. The extensive archeological resources located in the flood pool of McPhee Reservoir were excavated and the artifacts are housed in the center.

## **ECONOMIC CHARACTERISTICS**

The study area consists of open, sparsely populated land that is mostly under federal management and is dotted with small, historic towns. Population and employment are concentrated in Cortez, Durango, and surrounding areas. The most important economic sectors are services, retail, and government. These sectors continue to grow, in part due to the importance of tourism. Agriculture and forestry no longer play a major role in the economy. The mining sector has fluctuated in importance during the last decade. (See appendix B.)

## DESCRIPTION AND ANALYSIS OF THE ALTERNATIVES

This section describes five alternative strategies for commemorating the Northern San Juan Anasazi in southwestern Colorado by protecting archeological resources and encouraging public visitation. The benefits and tradeoffs associated with each alternative are also described. At the conclusion of the section are tables that compare some key aspects of the alternatives.

### CONCEPTUAL OVERVIEW

The alternatives are described in terms of a general approach to management, resource protection, visitor use, and cooperation with entities other than the federal government. However, the alternative strategies are not mutually exclusive. Each alternative could stand on its own, or one alternative could be combined with other strategies, or individual elements within them, and implemented in phases.

The alternatives emphasize the protection of sites that are as representative as possible of the full chronology and variety of Northern San Juan Anasazi culture, while minimizing the federal acquisition of private lands. Because of the number of sites and site complexes in the study area, and because of their complexity, no single strategy will ensure the total protection of all northern Anasazi resources. The potential for federal acquisition of private lands is minimal; nevertheless, the fear of condemnation is leading some landowners to destroy their sites, and some site loss could occur before the implementation of specific protection actions.

The identification of specific sites could inadvertently lead some people to believe that these sites are more important than others, thereby making it that much harder to protect the other sites and to seek funding for research and protection. The identification of specific site complexes in this study should in no way imply that other sites are not important or are not worthy of protection. Given the information constraints inherent in this study, it is impossible to predict which sites or groups of sites may contain information critical to our

greater understanding of the Northern San Juan Anasazi culture.

### Management Considerations

The study area includes an assortment of scattered and vulnerable resources, with various landowners and complex access patterns. This situation will present management challenges in terms of both resource protection and visitor use. The wide distribution of sites will be a primary management factor. It will be difficult to patrol remote sites adequately to prevent vandalism of archeological resources or of any facilities that may be developed. Law enforcement staffing needs will be high, as will maintenance costs and staffing needs. Staff will have to travel considerable distances, and multiple staging and storage areas may be needed for maintenance equipment and supplies.

Planning for visitor use and interpretation will have to consider the personal commitment that will be required of visitors to drive the distances and spend the time necessary to visit a full range of sites; realistically, visitors can be expected to visit only a few sites. Therefore, it is likely that visitor centers may need to carry much interpretive responsibility, as well as extensive orientation programs to assist visitors in organizing site visits.

Intermixed landownership patterns will require managers to be flexible in order to respond to various needs, limitations, and potentially sensitive issues. Providing opportunities for quality visitor experiences at, around, and between sites will require interaction and cooperation among several governmental agencies and private landowners. Maintenance of access roads may fall under a variety of jurisdictions, thus requiring coordination and cooperation to ensure safe and dependable visitor access.

Interpreting large, sensitive archeological resources will present its own challenges. Visitors may not fully appreciate sites that merely appear to be rubble piles, yet extensive

excavation is not financially realistic nor is it desirable in view of the resource impacts. Foot traffic on and around ruins can also be highly destructive and will have to be controlled in some way. Unless a high level of staffing is possible, interpretation will largely depend on nonpersonal services (media), placing even more importance on high-quality, well-planned interpretive programs.

### **Required Actions**

The following actions should be implemented regardless of the alternative eventually selected or implemented:

- More specific information would help provide for site protection, management, and interpretation. This means that any project implementation should include funding for archeological background studies appropriate to the management and use strategy. Archeological studies should be directed by a research design developed cooperatively by managing agencies, the state of Colorado, and the Advisory Council on Historic Preservation.
- Long-term funding commitments are needed to ensure site stabilization and cyclic maintenance. Many sites, such as the Cannonball ruin and the McLean Basin Towers complex, need immediate stabilization to preserve distinctive features and to bring the structures up to more easily maintainable standards. Subsequently, each site must receive at least annual preservation monitoring and cyclic maintenance in order to preserve its integrity and value as a scientific and interpretive resource. These activities should be directed by stabilization assessments (historic structure reports) and stabilization plans (historic structure preservation guides) prepared for each site.
- A long-term commitment is needed to provide annual funding for cataloging, curation, and appropriate storage of extant collections and artifacts, as well as archival records and artifacts from future excavations.

## **ALTERNATIVE A: ESTABLISH A NORTHERN ANASAZI NATIONAL PARK AREA AS AN EXTENSION OF MESA VERDE NATIONAL PARK**

### **General Description**

Under alternative A a Northern Anasazi National Park would be established as a new unit of the national park system, and it would be administered by the National Park Service, with possible assistance from the Bureau of Land Management and the U.S. Forest Service. The new area could be an extension of Mesa Verde National Park, or it could be established as a separate area but under the administration of Mesa Verde. Mesa Verde is a designated world heritage site, with a well-known resource preservation record and international name recognition. Hovenweep National Monument would also retain its identity as a separate national park system unit that is administered by Mesa Verde, consistent with the *Draft General Management Plan* for that area.

This alternative would emphasize the federal ownership and protection of archeological sites associated with the Northern San Juan Anasazi. Opportunities would be provided for the visiting public to experience sites that represent the full chronology and variety of northern Anasazi sites. Visitors would drive to various dispersed sites to learn about all aspects of this culture.

**Resource Protection and Management.** To ensure consistency in the management and interpretation of all the sites in the park, selected sites currently managed by the Bureau of Land Management or U.S. Forest Service could be either affiliated with the national park system or transferred to the National Park Service.

With affiliation, the National Park Service would enter into cooperative agreements with the respective agencies to define appropriate responsibilities and levels of management that are consistent with the national park system. The Park Service would provide technical assistance as needed and as funding would allow. Ownership and responsibility for planning, management, and interpretation of the sites would remain with the other agencies, as would the

commitment for necessary funding for site preservation (see appendix D). Management objectives for each agency would make cultural resource protection the highest priority, which would be consistent with NPS mission statements. Uses that retained the integrity of the cultural resources could be allowed. This option would require additional annual operational funds for the National Park Service and the other participating agencies.

With the transfer of sites, the full resources of the National Park Service would be available for site protection and management.

For nonfederal sites, the National Park Service would purchase additional sites that represent portions of the northern Anasazi story not currently represented on publicly owned lands. Site complexes that could be acquired include the Yellowjacket complex, Mud Springs ruin,

Lancaster ruin, Ansel Hall ruin, and the non-NPS portions of the Goodman Point complex.

A research and planning priority under this alternative would be to evaluate additional Basketmaker and early Pueblo sites for affiliation or possible acquisition. As previously described, not all important sites from these time periods have been identified. Scientific research would continue under federal guidelines, and it would be guided by a research design cooperatively developed by the National Park Service, the U.S. Forest Service, the Bureau of Land Management, the state of Colorado, and the Advisory Council on Historic Preservation.

Table 4 shows a possible combination of NPS-operated, NPS-affiliated, and other sites that could make up a comprehensive, federally protected park for research and public visitation.

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**Table 4: Sites Potentially Included in a Northern Anasazi National Park Area**

<u>Sites</u>	<u>Current Ownership</u>
<u>Current NPS Sites</u>	
Goodman Point Complex (part)	National Park Service
Yucca House	National Park Service
<u>Possible NPS-Acquisition Sites</u>	
Ansel Hall Ruin	Private
Goodman Point Complex (part)	Bureau of Land Management/Private
Lancaster Ruin	Private
Mud Springs Ruin	Archaeological Conservancy
Yellowjacket Complex	Archaeological Conservancy/Private
Other Basketmaker & Early Pueblo Sites*	Various
<u>Affiliated or Transferred Sites</u>	
Anasazi Archeological District	U.S. Forest Service
Cannonball Ruin	Bureau of Land Management
Chimney Rock Archeological District	U.S. Forest Service
Durango Rock-Shelters	U.S. Forest Service
Easter Ruin	Bureau of Land Management
Escalante Complex	Bureau of Land Management
Lost Canyon Archeological District	U.S. Forest Service
Lowry Complex	Bureau of Land Management/Fort Lewis College
McLean Basin Towers Complex	Bureau of Land Management
Reservoir Complex	U.S. Forest Service
Sand Canyon Pueblo	Bureau of Land Management
Spring Creek Archeological District	U.S. Forest Service

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\* May include sites not evaluated in this study.

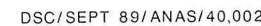
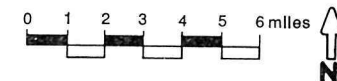
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<u>CURRENT NPS SITES (165 A)</u>	<u>POSSIBLE AFFILIATED OR TRANSFERRED SITES (13,000 A)</u>	
GOODMAN POINT COMPLEX (PART) YUCCA HOUSE	<u>BLM</u>	<u>USFS</u>
<u>POSSIBLE NPS-ACQUISITION SITES (2,000 A)</u>	CANNONBALL RUIN EASTER RUIN ESCALANTE COMPLEX LOWRY COMPLEX MCLEAN BASIN TOWERS COMPLEX SAND CANYON PUEBLO	ANASAZI ARCHEOLOGICAL DISTRICT CHIMNEY ROCK ARCHEOLOGICAL DISTRICT DURANGO ROCK-SHELTERS LOST CANYON ARCHEOLOGICAL DISTRICT SPRING CREEK ARCHEOLOGICAL DISTRICT RESERVOIR COMPLEX
ANSEL HALL RUIN GOODMAN POINT COMPLEX (ADDITIONAL ACREAGE) LANCASTER RUIN MUD SPRINGS RUIN YELLOWJACKET COMPLEX ADDITIONAL BASKETMAKER / EARLY PUEBLO SITES - TO BE DETERMINED		

**LEGEND**

☒ SITE INCLUDED WITHIN THE NATIONAL PARK

☐ OTHER SITE





**Visitor Use.** A visitor center/headquarters would be located near the entrance to Mesa Verde National Park and would orient visitors to Mesa Verde as well the northern Anasazi park. Depending on future planning, small interpretation and orientation centers could be located at major sites or site clusters. These could range from minimal facilities, such as a sign dispenser for trail brochures, to staffed buildings with small exhibit areas and spaces for audiovisual presentations. Such visitor centers would orient visitors to each major site or area, interpret each site in the context of the northern Anasazi story, and direct visitors to additional sites.

**Planning and Operations.** The National Park Service would prepare a general management plan as well as any required environmental compliance document, with the U.S. Forest Service and the Bureau of Land Management providing assistance for any affiliated sites. The plan would prescribe specific strategies for resource protection and management, park administration, visitor use and interpretation, and related facility development. It would also identify specific boundaries for site acquisition, and it would explore the mechanics of affiliating or transferring appropriate sites. Public involvement would play a key role in the preparation of the general management plan.

## Analysis

This alternative presents a national park concept that emphasizes administration by a single agency. This would result in a less complicated administrative framework than under some of the other alternatives, but it would require substantial funding for land acquisition, and a substantial increase in the NPS budget for annual operations and needed studies. Unlike some of the other alternatives, this alternative could be implemented without substantial prior planning, but general management planning would be required following authorization of the park.

Private lands or interests in lands would be acquired at the Yellowjacket complex, the Goodman Point complex, Lancaster ruin, and Ansel Hall ruin, and potentially at additional

Basketmaker II, Pueblo I, and Pueblo II sites, as they were identified. Acquisition could include surrounding protection areas or additional acreage for visitor services or administrative facilities. This acquisition would affect landowners and would remove lands from the county tax base, although counties would receive federal payments in lieu of taxes. Some people would continue to fear additional federal land acquisition.

In previous planning efforts, the Bureau of Land Management has identified archeological sites and has excluded them from multiple resource uses, such as mining and grazing. The purchase of such sites by the National Park Service would have little effect on such multiple uses. In cases, however, where protection areas or additional acreages for facilities were acquired, some multiple uses could be limited or eliminated if they would be inconsistent with NPS management.

Not all of the sites identified for this study would be protected under alternative A, and potentially significant sites that could not be evaluated because of incomplete information could be excluded. If funding allowed adequate staffing, however, then a high level of protection would be afforded to park sites as a result of the presence of NPS rangers. The National Park Service could provide technical assistance to enhance management and interpretation of transferred or affiliated sites, as appropriate and as funded. Based on the traditional programs and priorities of the different agencies, more sites would probably be developed for visitation and interpretation under this alternative than under the others.

Depending on the marketing effort under this alternative, visitation could increase by 750,000 to 900,000 visitor-days after 10 years. This could represent an annual tourist expenditure of \$13.5 million to \$16.2 million. Other annual expenditures (operations and archeology) could total \$2,460,000. One-time expenditures (land acquisition, construction, and planning) could total \$8,800,000. (This preliminary estimate of economic effects was derived from data contained in appendix C.)

## **ALTERNATIVE B: ESTABLISH A NORTHERN ANASAZI CULTURAL RESERVE**

### **General Description**

Alternative B would call for the creation of a northern Anasazi cultural reserve in southwestern Colorado. The management of the reserve would be modeled after the Chaco archeological protection site system, which calls for continued cooperation among public and private entities with interests in the area to achieve coordinated preservation, research, and development efforts throughout the San Juan Basin (see appendix E).

An interagency management group, consisting of representatives of the National Park Service, the U.S. Forest Service, the Bureau of Land Management, the state of Colorado, and other landowners, as appropriate, would be established to coordinate management actions. This group would evaluate sites for inclusion in the reserve and would direct management and use of those sites as well as any new sites that might be added to the system.

The interagency management group would receive funding to coordinate research, overall planning, administration, and interpretation efforts among all participating entities. A comprehensive management plan and a cooperative research design to guide archeological studies would also be prepared.

**Resource Protection and Management.** Current ownership and management of publicly owned sites would remain as now. To ensure the preservation of additional archeological resources, while recognizing the valid existing rights of private landowners, private owners would be encouraged to cooperate with the agencies by means of cooperative agreements. Lands or interests in lands could be acquired by agencies, which would be determined on a case-by-case basis.

**Visitor Use.** Visitors would go to the various agency sites and centers to learn about opportunities throughout the region to visit additional Anasazi resources. Information and interpretive programs would be coordinated

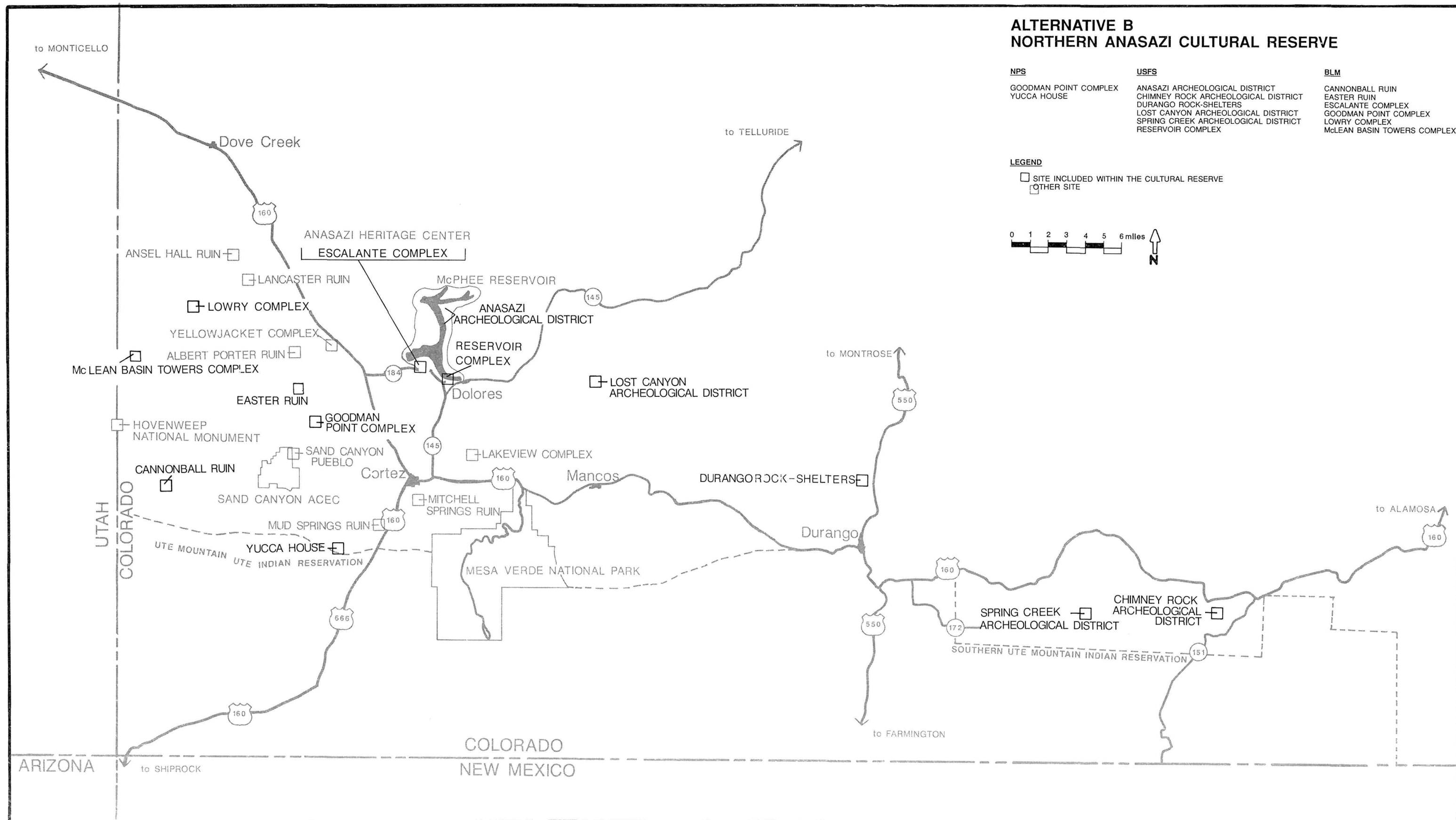
among the participating agencies, who might wish to explore opportunities for establishing a joint visitor orientation/interpretive facility.

**Planning and Operations.** The interagency management group would identify a lead agency to oversee the preparation of an interagency plan. Resource management, visitor use, and interpretation would be addressed in the plan, as well as needs for new facilities and funds necessary for immediate protection. The interagency plan would take into consideration existing plans of all participating agencies. As an example of the scope of the plan, the following objectives were established for the Chaco interagency management plan:

- Identify, manage, protect, and interpret a representative sample of the prehistoric Chacoan cultural system.
- Achieve a balance between energy exploration/development and protection of the Chacoan system.
- Develop a systematic approach for resolving potential conflicts between cultural resource preservation, visitor use, and energy development on and near the protection sites.
- Develop guidelines for preparing individual site management plans (including resource management, interpretation and visitor use, and land protection, emphasizing less-than-fee acquisition methods).
- Establish a step-by-step procedure for dealing with newly discovered sites – from discovery through evaluation and designation to implementation of management and protection measures.

This alternative would be implemented in three phases. Phase one would consist of an in-depth evaluation of Northern San Juan Anasazi sites in southwestern Colorado and a preliminary identification of sites to be included in the project. This has been partially accomplished by step one of this study. Also, funding needs would be identified to address immediate protection needs.





Phase two would include the establishment of an interagency management group and the preparation of the interagency management plan, which would be completed within five years after authorization. The plan would be based on extensive public involvement, and it would include a regional research design to guide future archeological studies. Based on the plan's recommendations, sites could be added to or deleted from the system.

Phase three would establish a coordination and funding strategy to implement the interagency plan and to ensure ongoing support for site protection, management, and planning.

### **Analysis**

Interagency cooperation and coordination would be essential to integrate planning, interpretation, resource protection, research, and visitor services and facilities. By involving several entities, the potential scope of resource protection would be expanded, and site management and visitor interpretation would be more comprehensive and consistent than at present. However, not all significant sites would be federally managed and protected under this alternative. The administrative framework would be complex.

Visitors to the region could be confused if there was no central location for orientation and information, but this could be offset by the agencies standardizing orientation materials and signing. Visitor awareness of resources and opportunities to visit them would certainly be greater than at present.

To be effective, the management group would have to receive adequate funding for interagency planning and program implementation. If annual appropriations for each agency had to be relied on, then funding requests to support an agency's commitment to the interagency plan would have to compete with other programs. In the case of the Chaco interagency management program, some agencies have had difficulty implementing actions identified in the interagency plan because of inconsistent funding and competing priorities.

Multiple use of resources adjacent to some sites could be reduced if threats to archeological resources were identified in the interagency plan.

Depending on the marketing effort, visitation could increase by 400,000 to 480,000 visitor-days after 10 years. This could represent an annual tourist expenditure of \$7.2 million to \$8.6 million. Other annual expenditures (operations and archeology) could total \$2,375,000. One-time expenditures (land acquisition, construction, and planning) could total \$7,540,000. (See appendix C.)

## **ALTERNATIVE C: ESTABLISH A NORTHERN ANASAZI CONSERVATION AREA**

### **General Description**

Alternative C emphasizes the continuation of multiple resource management and use, while pursuing the long-term protection of significant cultural resources. The U.S. Forest Service and the Bureau of Land Management would be the lead agencies for this alternative. The Federal Land Policy and Management Act formally recognizes and establishes the concept of a national conservation area, thus enabling special designation and management. The conservation area might be composed of several areas under one designation.

The conservation area would be one way of focusing attention on specific areas within a multiple use context (and, therefore, of providing more secure funding), as compared to the prospect of management under general multiple use mandates. Some objectives of the conservation area would include the following:

- Provide greater public visibility of nationally significant resources through designation and direction by Congress.
- Increase the identity and recognition of specific areas by defining boundaries.
- Develop a sharper focus for broad public involvement in planning and decision-making.

- Seek funding support specifically targeted to the needs and demands of the area.
- Provide for the recognition of specific values while at the same time allowing other uses.
- Ensure the protection and management of a greater diversity and number of Northern San Juan Anasazi sites.

**Resource Protection and Management.** Sites related to the Northern San Juan Anasazi would be evaluated and designated for preservation, research, interpretation, or other appropriate uses and management strategies by the Bureau of Land Management and the U.S. Forest Service. To ensure the protection of designated sites that are privately owned, cooperative agreements with the owners would be pursued, or the acquisition of lands or interests in lands on a case-by-case basis could be considered. Private lands would not be included in the conservation area.

The conservation area could encompass approximately 10,600 acres of USFS land (incorporating six areas), and approximately 156,000 acres of BLM land (incorporating 14 archeological complexes, only some of which were evaluated for this study; see table 5). The conservation area could correspond to the Anasazi Cultural Multiple Use Area of Critical

Environmental Concern identified in the BLM resource management plan for the San Juan/San Miguel resource areas. Scenic corridors could be managed along visitor access routes to retain high-quality landscape conditions consistent with prehistoric and historic agricultural uses.

Goodman Point would be expanded and managed by the National Park Service as described in the *Draft General Management Plan* for Hovenweep National Monument.

The Bureau of Land Management and the Forest Service, with assistance from the Park Service and the state of Colorado, would develop a research design for the region.

**Visitor Use.** The BLM Anasazi Heritage Center would be the focus for visitor orientation and interpretation, research, and artifact storage. Additional facilities would be developed if needs were identified in the plan.

**Planning and Operations.** The Forest Service and Bureau of Land Management would take the lead to plan, administer, and manage this large multiple-use conservation area. Implementing this alternative would require immediate funds for archeological studies, site preservation and stabilization, and planning. Existing agency plans would be augmented under this alternative. Mesa Verde, Yucca House, and Hovenweep would continue under NPS management.

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**Table 5: BLM and USFS Sites Included in a Northern Anasazi Conservation Area**

**BLM Archeological Complexes**

Cannonball Ruin  
Cow Mesa\*  
Cross/Cahone Canyons\*  
Easter Ruin  
Escalante Complex  
Hamilton Mesa\*  
Lightning Tree Tower Complex\*  
Lowry Complex  
McLean Basin Towers Complex  
Mockingbird Mesa\*  
Painted Hand Petroglyphs\*

Painted Hand Ruin\*  
Sand/East Rock Canyons  
Squaw Papoose Canyons\*

**USFS Archeological Complexes**

Anasazi Archeological District  
Chimney Rock Archeological District  
Durango Rock-Shelters  
Lost Canyon Archeological District  
Reservoir Complex  
Spring Creek Archeological District

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\* Site not evaluated in this study.

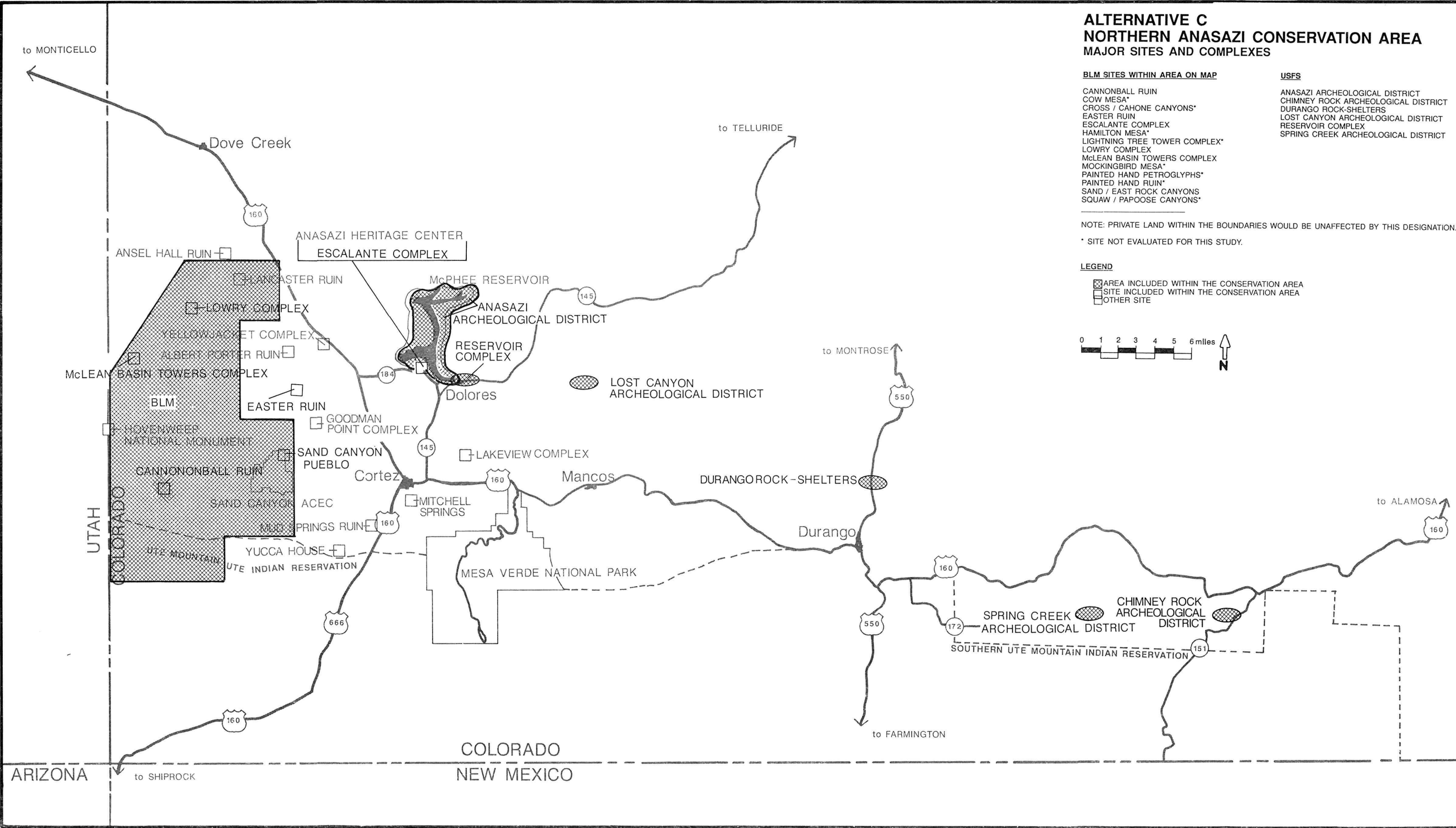
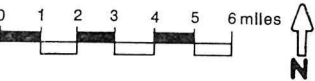
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ALTERNATIVE C  
NORTHERN ANASAZI CONSERVATION AREA  
MAJOR SITES AND COMPLEXES

BLM SITES WITHIN AREA ON MAP	USFS
CANNONBALL RUIN	ANASAZI ARCHEOLOGICAL DISTRICT
COW MESA*	CHIMNEY ROCK ARCHEOLOGICAL DISTRICT
CROSS / CAHONE CANYONS*	DURANGO ROCK-SHELTERS
EASTER RUIN	LOST CANYON ARCHEOLOGICAL DISTRICT
ESCALANTE COMPLEX	RESERVOIR COMPLEX
HAMILTON MESA*	SPRING CREEK ARCHEOLOGICAL DISTRICT
LIGHTNING TREE TOWER COMPLEX*	
LOWRY COMPLEX	
McLEAN BASIN TOWERS COMPLEX	
MOCKINGBIRD MESA*	
PAINTED HAND PETROGLYPHS*	
PAINTED HAND RUIN*	
SAND / EAST ROCK CANYONS	
SQUAW / PAPOOSE CANYONS*	

NOTE: PRIVATE LAND WITHIN THE BOUNDARIES WOULD BE UNAFFECTED BY THIS DESIGNATION.  
\* SITE NOT EVALUATED FOR THIS STUDY.

LEGEND
AREA INCLUDED WITHIN THE CONSERVATION AREA
SITE INCLUDED WITHIN THE CONSERVATION AREA
OTHER SITE



## Analysis

Alternative C would least disturb present and future multiple-use resources on BLM and USFS lands, although some impacts on lessees could occur if unacceptable impacts on cultural resources were identified. Anasazi sites on private lands might not receive federal protection, but because of the extent of the conservation area, isolated archeological units that could be better managed under federal ownership would be recommended for acquisition.

This alternative would also result in a greater level of protection for many sites under the jurisdiction of the Bureau of Land Management, regardless of their level of significance. Based on traditional agency programs and priorities, fewer sites for visitation and interpretation would probably be developed than under alternative A, and the level of protection and management could be less than that afforded under alternative A. The protection of scenic corridors, if feasible, would help provide continuity for the visitor experience.

The conservation area concept would not be administratively complicated because both the Bureau of Land Management and the U.S. Forest Service operate under multiple-use mandates. However, this alternative would require substantial increases in USFS and BLM expertise and funding for operations, management, acquisition, and archeological studies related to cultural resources because of the increased priority placed on resource protection and interpretation.

Depending on the marketing effort, visitation could be expected to increase by 550,000 to 660,000 visitor-days after 10 years. This could represent an annual tourist expenditure of \$9.9 million to \$11.9 million. Other annual expenditures (operations and archeology) could total \$2,475,000. One-time expenditures (land acquisition, construction, and planning) could total \$7,140,000. (See appendix C.)

## ALTERNATIVE D: DEVELOP AN ANASAZI CULTURAL HERITAGE PARTNERSHIP

### General Description

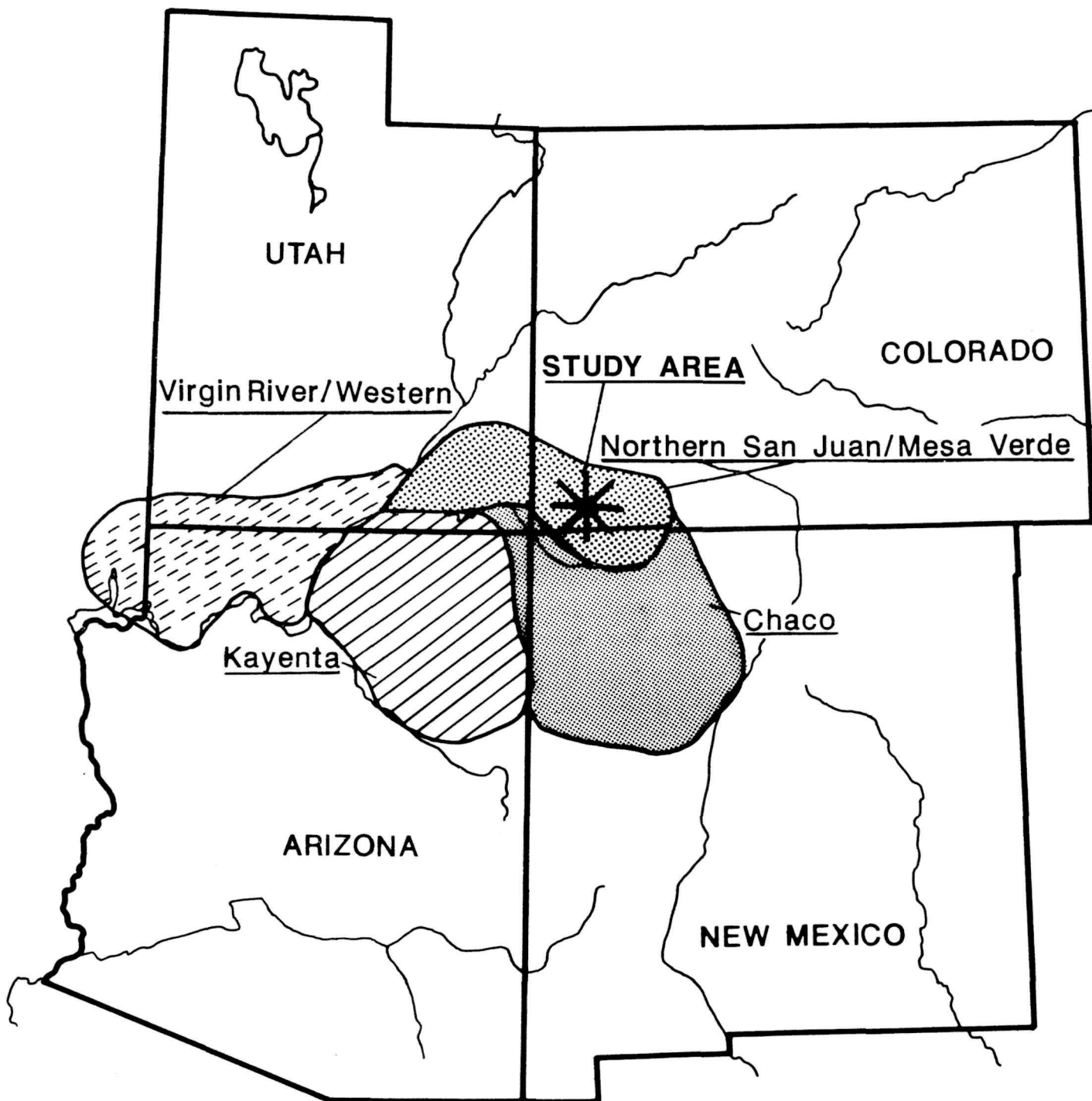
Alternative D would seek to commemorate the entire Anasazi culture through a cooperative public/private partnership to coordinate resource management, research, and interpretation. Initially, only the Northern San Juan Anasazi sites in southwestern Colorado would be included in the partnership. However, the concept could be expanded to include the entire Anasazi cultural region if Utah, Arizona, and New Mexico chose to participate (see Alternative D map).

A commission would be appointed and would require funding by an annual congressional appropriation. It would be empowered to coordinate the project, similar to the America's Industrial Heritage Project in western Pennsylvania (see appendix F). The primary purposes of the commission would be as follows:

- Promote the preservation of resources significant to the Anasazi story.
- Encourage economic development associated with the preservation and interpretation (visitor use) of those resources.
- Direct coordination efforts among local, state, and federal governmental units and the private sector.

**Resource Protection and Management.** The commission would establish criteria and recommend which sites should be protected through the partnership. It would also develop guidelines and standards for site preservation and coordinated interpretation, and it would oversee the preparation of a regional research design. Privately owned sites, as well as publicly owned sites, could be associated with the system if approved by the commission and in accordance with established criteria and standards. Additional sites could be purchased by individual agencies, as appropriate, following their own planning and mandates.





**ALTERNATIVE D  
ANASAZI CULTURAL HERITAGE PARTNERSHIP**

**Visitor Use.** A functional headquarters and visitor orientation center for southwestern Colorado would be established in or near Cortez. In-depth interpretation would be provided at the Anasazi Heritage Center or at a new visitor center near the entrance to Mesa Verde National Park. As previously mentioned, the scope of the project could be broadened to include the entire Anasazi cultural region in Utah, Arizona, and New Mexico. If these states agreed to participate, additional research and interpretation centers could be identified for each cultural branch or area, such as Chaco Culture National Historical Park (New Mexico), the Museum of Northern Arizona, and Edge of Cedars State Park (Utah).

**Planning and Operations.** Planning for the Anasazi cultural heritage partnership would be under the auspices of the commission, and it would have the authority to hire staff and to secure the facilities and equipment necessary to operate. A technical advisory group – composed of local, state, and federal agencies and organizations represented within the project region – would also be formed to provide technical advice to the commission and to facilitate coordination and communication among the various agencies regarding project-related activities.

With the assistance of the technical advisory group, an action plan would be prepared by the commission to (1) establish project goals and objectives, (2) develop role, function, and operational guidelines for the commission, and (3) develop strategies for project implementation. Funding for individual programs would be sought by the commission by such means as investigating and creating opportunities for area preservation interests to receive grants and loans, developing criteria for allocating public funds for preservation, soliciting donations, and encouraging the establishment of private organizations or foundations to finance projects through grants and/or a revolving loan fund program.

Besides recommending sites to be protected and developing preservation guidelines and standards, the commission and its technical advisory group could pursue the following functions:

- Recommend actions for visitor use and associated economic development in the region.
- Encourage visitation, and coordinate visitor experience packages.
- Provide advice and technical assistance in response to local/regional needs and proposals, and assist local/regional interests in preparing grant or loan applications for preservation projects.
- Seek involvement from area citizens and organizations in the region, and encourage stewardship through public information and education programs.
- Encourage the development of regional promotion programs and materials related to Anasazi culture.
- Visit various communities and locales throughout the region to view area resources, provide suggestions, and hear local concerns.
- Coordinate regional research designs and assist in publishing findings.

Congressional appropriations would be sought to operate the commission and to establish a preservation grant and loan fund for the project region.

## Analysis

Alternative D would rely on education and increased awareness as a primary protection tool. Sites included in the system would be managed according to a mutually agreed upon set of management and preservation guidelines. This alternative would provide a focal point for Anasazi-related activities, and management, interpretation, and research would be coordinated. Existing knowledge about the entire Anasazi cultural area could be consolidated, thus enhancing public recognition and understanding of this ancient culture.

The quality and scope of resource protection and management could largely be determined

by the dynamics and expertise of the commission and by the cooperation and good will of private landowners. Sites currently under public ownership would be managed and used much as now.

The use of a public/private commission would foster partnerships that could be flexible in directing money and would offer opportunities for private sector incentives and involvement. However, administration would be extremely complex and would depend on adequate base funding for the commission as well as on dynamic input from the commission members.

This concept would contain a risk of failure because of the many entities involved and the difficulty in agreeing on objectives and management strategies. In order for agencies to interact with and assist the commission, additional staff could be required.

The implementation of this alternative would require significant planning and evaluation time, and even after the commission was formalized, some time would elapse before the program could become active.

Depending on the marketing effort, visitation could increase by 450,000 to 540,000 visitor-days after 10 years. This could represent an annual tourism expenditure of \$8.1 million to \$9.7 million. Other annual expenditures (operations and archeology) could total \$1,300,000. One-time expenditures (land acquisition, construction, and planning) could total \$540,000. (See appendix C.)

#### **ALTERNATIVE E: FOSTER A SOUTHWESTERN COLORADO TOURISM MARKETING PARTNERSHIP**

##### **General Description**

The intent of this minimum action alternative would be to enhance regional visitation by coordinating federal agency orientation and interpretation services. Goals of the program would be to encourage visitors to extend and make the most of their stays in the region, as well as to increase public appreciation for the significance of regional natural and cultural

resources. This alternative could stand alone, or it could be combined with any of the other alternatives. Appropriate interagency projects could include increasing the availability and effectiveness of visitor information and orientation strategies, jointly producing informational and interpretive literature to assist visitors in trip planning; and coordinating the content of interpretive media to help visitors understand the relationships among various sites and to encourage them to visit a variety of sites.

**Resource Protection and Management.** Archeological sites and resources related to the Northern San Juan Anasazi would continue under present ownership and management. No specific guidelines would be developed to help ensure the protection of sites, unless this alternative was combined with one of the other alternatives.

**Visitor Use.** Many cooperative efforts are currently made to ensure public awareness of visitor opportunities. This concept, however, calls for a formalized effort that would require specific staffing and funding by the participating agencies and organizations. In addition to supplementing agency visitor services, these programs would supplement, and should be coordinated with, the state of Colorado's major national and international tourism development efforts.

**Planning and Operations.** The marketing partnership could be expanded to include coordination with other area tourist-related groups and businesses, such as local chambers of commerce, museums, the narrow-gauge railroad, and nearby ski areas. A work group made up of representatives from participating entities would be organized to generate joint projects that would increase visitation and encourage appropriate high-quality tourist development. Activities could include producing information and marketing materials, developing visitation or tour packages, jointly staffing information stations or centers, and participating in tourism studies. Federal agency representatives would provide information, technical and professional expertise, and otherwise participate as appropriate and feasible, depending on agency funding.



## Analysis

This alternative could be implemented quickly and at little cost to any one agency. Some additional funding by each agency would be required, however, to cover staff time and other expenses such as the printing of informational materials.

Expanding this concept to include coordination with other tourism entities could increase the needed funding. Some additional operational costs could also be anticipated because more widespread information would likely increase visitation to some sites and facilities.

While this alternative would enhance regional visitation and would help visitors enrich their stays in the region, it would do little to protect archeological resources, aside from some advantage from increased public awareness. If visitation increased at some sites, the potential for impacts on resources could also increase.

Depending on the marketing effort, visitation could increase by 350,000 to 420,000 visitor-days after 10 years. This could represent an annual tourist expenditure of \$6.3 million to \$7.6 million. Other expenditures would include \$100,000 for the marketing program. (See appendix C.)

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**Table 6: Comparison of Alternative Actions**

	<b><u>Alternative A: National Park</u></b>	<b><u>Alternative B: Cultural Reserve</u></b>	<b><u>Alternative C: Conservation Area</u></b>	<b><u>Alternative D: Cultural Heritage Partnership</u></b>	<b><u>Alternative E: Tourism Marketing Partnership</u></b>
<b>Lead Agency</b>	NPS	Interagency and private	BLM/USFS	Interagency/private commission	Interagency and private
<b>Scope of Site Preservation</b>	Enhanced protection of selected federal sites	Broad public/private protection under existing programs	Broad federal protection	Broad public/private protection	N/A
<b>Preliminary Planning</b>	General management plan after authorization	Joint plan before action	BLM/USFS plan after authorization	Preliminary action plan	N/A
<b>Interagency Research Design</b>	Yes	Yes	Yes	Yes	No

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**Table 7: Comparison of Alternative Impacts**

	<b><u>Alternative A: National Park</u></b>	<b><u>Alternative B: Cultural Reserve</u></b>	<b><u>Alternative C: Conservation Area</u></b>	<b><u>Alternative D: Cultural Heritage Partnership</u></b>	<b><u>Alternative E: Tourism Marketing Partnership</u></b>
<b>Private Land Acquisition</b>	Some	Minimal	Minimal	None anticipated	N/A
<b>Impact on Multiple-Use Management of Federal Lands</b>	Some land removed from multiple use management	Potential for some reduction	Little change	Little change	N/A
<b>Level of Resource Protection</b>	High level of protection for selected sites	Compared to alterna- tive A, widespread but less intensive protection of federal and some private sites	Compared to alterna- tive A, widespread but less intensive protection of federal and some private sites	Site protection largely dependent on private sector	Little additional site protection, compared to present conditions
<b>Implementation Timing</b>	Immediate	5-year lag time during joint planning	Immediate	2-5 year lag time during planning and start up	Immediate, visible results
<b>Visitation Increase</b>	Concentrated at selected sites	Widespread	Widespread	Widespread in Four Corners area	Sites other than Anasazi promoted
• Visitor-days	750,000–900,000	400,000–480,000	550,000–600,000	450,000–540,000	350,000–420,000
• Visitor expenditures	\$13,500,000– \$16,200,000	\$7,200,000– \$8,600,000	\$ 9,900,000– \$11,900,000	\$8,100,000– \$9,700,000	\$6,300,000– \$7,600,000
<b>Operations Expenditures</b>					
• Annual	\$2,460,000	\$2,375,000	\$2,475,000	\$1,300,000	\$100,000
• One-time	\$8,800,000	\$7,540,000	\$7,140,000	\$ 540,000	N/A

## PUBLIC CONSULTATION AND COORDINATION

The public was consulted during the preparation of the alternatives presented in this study. Public information workshops were held to explain the study process, to discuss how resources in the study area fit into the Anasazi story, and to hear public comments and thoughts on the project. Three newsletters were also distributed. The first newsletter, sent to over 850 people, provided orientation to the study and announced the dates and locations of the public information workshops. The second newsletter summarized the results of the workshops plus the written comments received in response to the first newsletter; it also clarified the purpose of the study and reviewed the study schedule. The third newsletter summarized this *Study of Alternatives*.

Public response to the first newsletter and the series of workshops demonstrated a keen interest in the telling of the Anasazi story in southwestern Colorado. More than 90 people attended the Cortez workshop on March 14, 30 attended in Durango on March 15, and 10 came to the Denver meeting on March 17. Also over 100 written comments were returned in response to the first newsletter.

A primary concern was the study area's limited size – southwestern Colorado, excluding tribal lands – instead of the entire Anasazi cultural region, which includes parts of Utah, Arizona, and New Mexico. Some people pointed out the importance of continued multiple use on all lands, while others felt that more restrictive NPS management is needed to protect archeological sites. Concern was also expressed about potential detrimental impacts of increased visitation at the sites, and some people suggested that sites should be fenced and access restricted. Others said they would like to see sites excavated and stabilized for interpretation.

There was a general consensus that interpretation and education are effective tools in preserving these sites. Many people pointed out that in addition to the sites themselves, sufficient areas surrounding them should also be set aside to serve as protection zones. Some people attending the Cortez workshop requested

that Cortez be considered as a site for a visitor center/area operations facility. Some also suggested that the historic Wetherill Ranch (also known as the Alamo Ranch) in Mancos be included in the study.

In all three meetings and in the written comments, many people expressed concern that sites not set aside would be considered "unnecessary" or "throw away" sites. They emphasized that each of the Anasazi sites can tell part of the story, and that all sites are important. There is some concern among the general public and professional archeological community that not enough information is known about the Anasazi to determine which sites are most significant and, therefore, deserving of inclusion in this study.

Some people questioned if the National Park Service would evaluate the impacts of the alternatives on landowners adjacent to the candidate sites. These impacts include increased traffic, potential land acquisition, and visitor use management. There was some concern about how communities could replace revenue that might be lost if future oil and gas production was restricted in some areas.

Some participants in the Cortez workshop were enthusiastic about the development of an alternative that would explore a private/public cooperative approach, with a commission coordinating development, promoting tourism, and serving as a clearinghouse for Anasazi research, and with federal agencies providing technical assistance.

Some people are quite concerned about the potential for federal acquisition of large blocks of private land. They believe this perception is responsible for the increase in archeological site destruction on private lands. The NPS representatives responded that sites being evaluated for the study are primarily on existing public and Archaeological Conservancy lands and that study alternatives will minimize impacts on private landowners.

## APPENDIX A: SITE-SPECIFIC EVALUATIONS

Description										Impacts			
Site/Ownership	Time Period	Characteristics and Features	Status	State Context	Condition/Integrity	Access	Current Interpretation	Location of Collections	References	Impacts	Protection Needs	Preservation Needs	Study Needs
Albert Porter Ruin (SMT123) / Archaeological Conservancy (13 ac)	BMIII-PIII (PI?) – Developmental Pueblo through Great Pueblo	Village – 30- to 35-room pueblo, 21 kivas, three towers, pit structure, depressions, extensive middens; continuous occupancy from BMIII through PIII (rare)		Formative – Mc-Elmo drainage unit; Yellowjacket district	Good/Good	County road, then AC land	None; needs to be excavated for good interpretation	CU (1965 BLM survey)	Chenault 1987	Moderate – extensive pothunting in past; plowing and grazing; pipeline through area (does not cross features)	Fencing and signs		Detailed base map; excavation to interpret chronology
Anasazi Archeological District / USFS	Paleo-Indian through Historic, especially BMIII-PI	500 sites above high waterline in McPhee Reservoir are intact (977 within district); good quality investigations	NRHP (1984) – 15,977 ac	Formative – Dolores drainage unit			Information from DAP available at AHC	DAP collection at AHC					
• Cline Crest (SMT2263)	PI	Large village – horseshoe-shaped room block with plaza and possible great kiva; check dams			Good/Good								
• House Creek (SMT2320)	PI				Good/Good		Could be interpreted near camp-ground						
• May Canyon (SMT6794)	BMIII-PII				Good/Good								
• Windy Ruin (SMT4353)/Private	PI				Good/Good								
Ansel Hall Ruin / Private: Bill Winkler	PII-early PIII (AD 997-1079) – Developmental Pueblo	Village – One multistory D-shaped structure, at least 25 occupancy units, intermediate kiva, estimated 20 ac, extensive middens, dry-laid muddled masonry; Chacoan characteristics (possible Great House); Cross Canyon springs, permanent water; excavated by Explorers' Camp; (Ansel Hall was first NPS chief interpreter, began Mesa Verde Company)		Formative – Mc-Elmo drainage unit; Yellowjacket district	Fair/Good	Easement for access across fields	None; not accessible by general public from developed roads	CFM; Laboratory of Tree Ring Research; Mesa Verde NP	Güthe 1949; Robinson and Harrill 1974; Leh 1940	Low – fairly recent pothunting; shaker screen on site; minor plowing; road across site; excavation	Fencing, signs, ranger presence, patrols, protection from grazing	Stabilization and/or backfilling of potholes; documentation and backfilling of reconstructed and now deteriorating kiva; elimination of road through site	Detailed site map; stabilization assessment
Cannonball Ruin (5MT338) / BLM	PIII	Village – canyonhead multistory complex, kivas, towers, water management system	BLM protective withdrawal	Formative – Mc-Elmo drainage unit	Fair/Good	Four-wheel-drive road across Cannonball Mesa from McElmo Road	None; needs to be stabilized for safety before interpretation	AHC (one bag artifacts, photos, photo logs, field notebooks, stabilization records); CFM (Morley's collection and notes); CSHS (68 entries for Cannonball); UCM	Fewkes 1917a; Tipps 1978; Morley 1908	Moderate – excavation, stabilization, erosion, structural decay, signs of grazing	12 ac fenced by BLM; needs ranger presence and signs	Immediate stabilization for safety and structure preservation; structures stabilized in 1978 need repair	Detailed site map; stabilization assessment
Chimney Rock Archeological District / USFS	PII-PIII	Village cluster – 91 sites; 27 temporary camps, 64 habitations (217 buildings); 36 large kivas; high-altitude sites; possible astronomical alignments	NRHP (1977) - 6.12 sq mi; USFS preserve	Formative – Piedra drainage unit	Good/Good	Colorado 151; somewhat strenuous hike to sites	Self-guided hiking tours from CO 151; interpretive signs; several sites stabilized, including SAA83	UCM; Ft. Lewis; CU; CSHS	Jeancon and Roberts 1923, 1924; Eddy 1974, 1977; Truell 1975	Moderate – excavation, stabilization, erosion, structural decay, vandalism, road		Stabilization assessment; historic structures preservation guide	
• Chimney Rock Pueblo (5AA83)	PII (AD 925-1125)	A Chacoan-style site; considered to be one of the Chaco outliers											
• Peterson Gulch Unit													
• Pyramid Mountain Unit													

Site/Ownership	Time Period	Description				Access	Current Interpretation	Location of Collections	References	Impacts			
		Characteristics and Features	Status	State Context	Condition/Integrity					Impacts	Protection Needs	Preservation Needs	Study Needs
Durango Rock-Shelters (SLP1434) / UFSF	BMII (322 BC; earliest known BMII)	Rock-shelters – buried deposits yielding sandals, baskets, human skeletal remains; extensive unexcavated deposits (north shelter intact); rock art; type site for BMII along with Talus Slope village; important as scientific resource	NRHP (1985) – 20 ac	Early formative – La Plata drainage unit	Good/Good		None	Mesa Verde NP	Morris and Burgh 1954; Carlson 1963	Moderate – excavation, vandalism, graffiti			
Easter Ruin (5MT3793) / BLM	PII-PIII – Great Pueblo	Agricultural village with water management system – unique location on north rim of Yellowjacket Canyon and talus slope below; standing Hovenweep-style tower, check dams, exterior "wall" of unknown function, kivas		Formative – Mc-Elmo drainage unit; Yellowjacket district	Good/Excellent	Difficult access across private lands; would need to purchase easement	None	AHC – Chappell collection	None known	Low – very old potholes; structural decay and erosion below canyon rim; picnic area on east end of site; grazing; leased for oil and gas	Fencing and signs; ranger presence and patrols	Stabilization of standing structures, especially tower; removal of picnic area; protection from grazing	Detailed base map (in preparation); stabilization assessment
Escalante Complex / BLM (55 ac); private	PII-PIII – Great Pueblo	Village cluster (9+ sites) – thought to be pueblos mentioned by Dominguez and Escalante in 1776	BLM protective withdrawal (55 ac)	Formative – Dolores drainage unit	Good/Excellent								
• Escalante (5MT2149; BLM)	AD 1075-1200	Two excavated kivas; Chacoan characteristics; nine rooms	NRHP (1975) – 40 ac			Trail from AHC	Interpreted as part of AHC; site stabilized	AHC – records and artifacts	Hallasi 1979; White and Bretemitz 1979	Moderate – excavation, stabilization			Historic structures preservation guide
• Dominguez (5MT2148; BLM)	PII-PIII	Excavated; small room block; high status Chacoan female burial				In front yard of AHC	Interpreted as part of AHC; site stabilized	AHC – records and artifacts	Reed 1979; White and Bretemitz 1979	Moderate – excavation, stabilization			Historic structures preservation guide
Goodman Point Complex / NPS (14.3 ac), BLM (280 ac), private (160 ac)	BMIII-PIII (AD 750-1200) – mostly Great Pueblo (AD 1150-1225) based on ceramics	Town – covers two sections, multistory, great kivas, estimated 100 kivas, two dams and water manipulation, possible road; largest ruin complex from the late 1100s?; bi/tri wall	National monument – 143.3 ac; NRHP (1966); federally protected since 1889, BLM	Formative – Mc-Elmo drainage unit	Good/Excellent	County road P runs through north part of site	Minimal – registration box and map	AHC (1 box, archival material, Chappell collection); Crow Canyon School (3 "chests," materials dug by CMC); Mesa Verde NP		Low – CO <sub>2</sub> pipeline; vandalism, chaining, grazing, plowing, water erosion; CMC excavations; county road P goes through north part of site	NPS portion currently fenced; need elimination of grazing, fencing for entire site, realignment of county road P	Alteration of drainage, minimal structural stabilization; backfilling of open pits from CMC excavations	Detailed site map; stabilization assessment
• Goodman Point Pueblo (5MT604; NPS)									Fewkes 1919b; Pruden 1903				
• 5MT3805													
• 5MT3807 (private)	BMIII-PIII	Multiple component; burial; produced only copper bell in southwest Colorado					None		Hayes and Chappell 1962				
• Mustoe Site (5MT3834; private)	AD 1229-1231								Gould 1980				
• Shield's Ruin (5MT3814; private)	PII-PIII	Rubble mounds/burial?											
Lakeview Complex / Private	BMIII-PIII	Village cluster – multicomponent, multistory; great kiva, reservoir, possible roadway		Formative – Mc-Elmo drainage unit		All private lands	None						
• Carpenter Site (5MT696)	PIII	Room block; kiva			Fair/?			AHC (Chappell collection)					
• Ida Jean (Wilson; 5MT4126)	PII-PIII; tree ring dates AD 1129	Multistory; banded masonry; only kiva remains intact; Chacoan characteristics			Poor/Low?		None	AHC	Brisbin and Brisbin 1973	Bulldozed and eradicated except for great kiva			
• Haynie (5MT1905)	BMIII-PII	Chacoan characteristics			Poor/Low?		None	Landowner has some materials		Systematically being bulldozed, pothunted			
• Snow (5MT3880)	PI (AD 875-925)	Hamlet – large pit structure, burned adobe			Good/Good	Site in owner's yard	None	Crow Canyon School	Adams 1985				
• Wallace (5MT6970)	PII (AD 1045-1125)	Multistory, multicomponent; kivas, roadway, reservoir; Chacoan characteristics			Good/Excellent		None	Landowner holds collections	Bradley 1974, 1984, 1988	Excavation, old pothunting	Fencing; protection from grazing; has protective signs	Backfilling of old potholes	Stabilization assessment
• Reese (5MT3809)	PII-PIII	Lithic manufacture; room block			Good/Excellent		None	AHC (Chappell collection)					

Site/Ownership	Time Period	Description				Access	Current Interpretation	Location of Collections	References	Impacts			
		Characteristics and Features	Status	State Context	Condition/Integrity					Impacts	Protection Needs	Preservation Needs	Study Needs
Lancaster Ruin (5MT4803) / Private: Roy and Judy Crow; unknown woman from Cortez	Late PII-very late PIII – Great Pueblo	Town – estimated 40+ ac; multistory, multistore linear room block, two towers; large, isolated, multistory (3+) structure with small kivas inside, not in front; possibly a Chacoan Great House; extensive spring; research potential	NRHP (1980)	Formative – McElmo drainage unit; Yellowjacket district	Good/Excellent	Access across private fields; would need to purchase	None; could be interpreted as a ruin with signs, map, and guide	CSHS; Fort Lewis?	Martin 1929	Very low – recent, minor pothunting; two root cellars in late unit; plowing; road across site	Fencing and signs; ranger presence; protection from grazing	Backfill/stabilize pothole, leave root cellars alone; eliminate road through site	Detailed site map; stabilization assessment
Lost Canyon Archeological District / USFS	Late PII-PIII (AD 975-1150)	High-altitude archeological district – 24 sites, rock shelters with coursed masonry, open sites with masonry, rock art, kivas; unique topographic location	NRHP (1988)	Formative – Dolores drainage unit	Good/Good	Haycamp Mesa Road (good weather only)	None		Fewkes 1919b; Mann 1921; Emerson 1921; Webster 1985	Low – graffiti, structural decay, old vandalism			Stabilization assessment
• 5MT4587	AD 1121	Subterranean Mesa Verde style kiva with plaster											
Lowry Complex / BLM; private	PII-PIII – Great Pueblo	Town – 40 sites (18 private, 22 BLM); one of the largest prehistoric towns, 15 sq mi; 108 kivas, 24 habitations with an estimated 1,200 rooms, three prehistoric road segments, towers, reservoir, farming terrace system, "walled" unit, shrines		Formative – McElmo drainage unit; Yellowjacket district					Rohn 1984		Ranger presence	Cyclic maintenance of stabilized structures	Detailed site map; historic structure preservation guide; stabilization assessments
• Lowry (5MT1566; BLM)	AD 1089-1120	Multistory 50-room pueblo, great kiva; Chacoan characteristics; 34 tree-ring dates	NHL; NRHP (1966) – 80 ac; BLM protective withdrawal – 260 ac		Good/Good	Dirt road to parking area	Self-guided walking tour with pamphlet and signs; remains of distinctive kiva mural on display; room block and kiva stabilized	CSHS; AHC (18 boxes of artifacts, photos, archival records, mural ?); CFM	Martin 1929, 1936; Lancaster 1967; Robinson and Harrill 1974:17-18; White and Bretermittz 1976; Nickens and Assoc. 1983	Moderate – stabilization, excavation, vandalism, structural decay			
• Pigg (5MT4802; Fort Lewis Foundation; private)		Larger than Lowry room block; great kiva; runs along ridge	NRHP (1980)		Good/Excellent	No general public access; path from Lowry	None	Fort Lewis College	Fewkes 1919a:24; P. Martin 1929; D. Martin 1971	Generally low – private part on north end destroyed by bulldozing			Detailed base map; stabilization assessment
McLean Basin Towers Complex (5MT705) / BLM	PIII – Great Pueblo	Village and water management system – two unique decorative standing towers at corners of village ruins, unique water manipulation complex	BLM protective withdrawal	Formative – McElmo drainage unit	Good/Excellent	Remote, four-wheel-drive access, public lands	None; needs interpretation of water control system	AHC – 1 box of artifacts, photos, photo records, field notebooks, stabilization records	Fewkes 1919a; Tipps 1978	Low – erosion, structural decay, water piping through earthfill and stone dam	Towers fenced by BLM; entire site needs fencing to protect from grazing	Immediate stabilization of dam structure; towers stabilized in 1978 in good condition	Detailed site map; recordation and stabilization assessment of water control system; study and mapping of water control features; stabilization assessment of structures
Water management system		Check dam with spillway, water channel, deep stone and earthfill impoundment											
Mitchell Springs Ruin / Private; Don Dove of Phoenix	PIII – Great Pueblo	Town – central kiva surrounded by rooms like Far View; nine house mounds; residential complexes and double-walled tower, triwall; on McElmo Creek on outskirts of Cortez		Formative – McElmo drainage unit		Where "old road" south out of Cortez (road to dump) crosses McElmo Creek	None		Morgan 1881; Pruden 1914; Jackson 1876; Fewkes 1919a				Detailed site map; stabilization assessment
Mud Springs Ruin (5MT4466; also 5MT6877, 5MT6879, 5MT6880, 5MT6881, 5MT6883; 5MT6884A; 5MT6884B) / Archaeological Conservancy (60 ac)	PII (possibly one block) through PIII – Great Pueblo	Town – 1,800-2,000 rooms in 18 room blocks, some multistory; 86 kivas; unique triwall structure; remains of dam with deep impoundment; check dams; towers; site covers 50 ac; one of the largest prehistoric communities in Colorado	NRHP (1982)	Formative – McElmo drainage unit; McElmo district	Fair (triwall pristine) / Good (80% intact despite extensive erosion and vandalism)	Access easement exists (purchased by AC)	None; would be good for public involvement	AHC (Chappell collection); 2 boxes of artifacts	Holmes 1876; Jackson 1878; Fewkes 1917a, 1918, 1919b; Kane 1981	Moderate – water erosion, old vandalism, structural decay, leakage from irrigation ditch through city room blocks 11 and 13	Fenced by AC; needs signs and patrols	Backfilling using Dolores archeological project personnel (AC has done much); rerouting of irrigation ditch; erosion control in drainage	Detailed site map; stabilization assessment; erosion study



Description										Impacts			
Site/Ownership	Time Period	Characteristics and Features	Status	State Context	Condition/Integrity	Access	Current Interpretation	Location of Collections	References	Impacts	Protection Needs	Preservation Needs	Study Needs
Reservoir Complex / USFS; Private	BMIII-PIII	Sites probably first noted by Dominguez and Escalante in 1776	NRHP (1984 – part of Anasazi Archeological District)	Formative – Dolores drainage unit		Over fences and across fields; parking/toilet at McPhee Lake; boat ramp near AHC							
• Reservoir Ruin (5MT4450)	BMIII-PII – Developmental Pueblo	Village – multicomponent habitation, two mounds, kivas, possible great kiva, midden			Good/?		None	AHC – 8 boxes of artifacts (beads), field records	Fewkes 1917b				Detailed site map; stabilization assessment
• Sundial Site (5MT4447)	PI-PIII	Large, possibly multistory rubble mound, kivas, unique triwall			Good/Good		None	AHC – 3 boxes of artifacts, archival material	Fewkes 1917b				Detailed site map; stabilization assessment
Sand / East Rock Canyons (5MT2636-2645) / BLM	BMIII-PIII	247+ sites	BLM protective withdrawal	Formative – McElmo drainage unit; McElmo district		Must hike extent of canyons; no vehicles	Minimal	AHC (1 box of artifacts, photos from C. Martin survey)	Jackson 1876; C. Martin 1976; Tipps 1978; Bradley 1986, 1987, 1988a; Van West, Adler, Huber 1987	Low – vandalism, structural decay, erosion, grazing (now eliminated), oil/gas production	Ranger presence; elimination of oil/gas production	5MT181 stabilized in 1978 is in good condition	Stabilization assessments for standing structures; historic structures preservation guide
• Sand Canyon Pueblo (5MT767)	AD 1230-1280 – Great Pueblo	Town (ceremonial?) – extremely large pueblo enclosing the head of Sand Canyon; 15 discrete architectural units, plazas, kivas, circumscribing wall, 350+ rooms, 90 kivas; ceremonial center in regional system (high kiva to room ratio?); D-shaped triwall; single component site; 137 tree-ring dates	BLM protective withdrawal		Good/Excellent	100 meters south of county road N; on trail through canyon	Ongoing excavation and research by Crow Canyon School, with public involvement; signs, trail guide, and tours in season	AHC (7 bags of artifacts, archival material, 13 organic items)	Pruden 1903; Fewkes 1919a; C. Martin 1976	Low – vandalism, structural decay, erosion, excavation; spring enhancement			
Spring Creek Archeological District / USFS	BMII-PI	25 sites – Archaic, Formative, mainly Basketmaker II and III villages; good potential for providing chronological data (also Ute or Athabascan sites – occupation BMII-Historic)	NRHP (1983; 3,360 ac)	Formative – Pine River drainage unit	Good/Excellent				W. Reed 1980	Oil and gas; coal lease; grazing; timber; roads; powerlines			
Yellowjacket Complex / Archaeological Conservancy; private	BMIII-PIII – Modified Basketmaker, Developmental Pueblo, Great Pueblo	Town – estimated 25-30 associated villages; great kiva; largest and most important to regional history		Formative – McElmo drainage unit; Yellowjacket district	Fair/Excellent			AHC (5MT5, Chappell collection); CU (5MT1, 5MT3); Mesa Verde NP	Pruden 1903; Fewkes 1919a; Hurst and Lotrich 1932; Swedland 1969; Brown 1975; Wheat 1984; Lang, McHaney, Wheat, Chenault 1986	Moderate – plowing, old vandalism, grazing	Fencing, signs, ranger presence and patrols		Detailed survey and mapping to determine extent of complex
• Yellowjacket (5MT5; AC owns 2/3)	BMIII, PII, PIII	Town – estimated 1,800-2,000 rooms, 27 towers, water collection, 128 kivas; permanent water in Yellowjacket Canyon; largest PIII site; great kiva, great tower, astronomical features; intrasite roadways; shrines	NRHP (1985)			Access corridor in fee to AC	None; needs excavation for good interpretation			Moderate – old vandalism, grazing, gravel pit; old stage route and old highway (Fewkes 1919a?)		Protective backfilling	Detailed base map; stabilization assessment of standing structures; excavation to determine cultural chronology and functions
• Stevenson/Porter (5MT1)													
• 5MT2													
• 5MT3	BMIII, PII, PIII	Site with Kokopelli kiva											
• 5MT4													
• 5MT7													
• 5MT8													
• 5MT9													

Site/Ownership	Time Period	Characteristics and Features	Status	Description						Impacts			
				State Context	Condition/Integrity	Access	Current Interpretation	Location of Collections	References	Impacts	Protection Needs	Preservation Needs	Study Needs
<b>Yucca House</b> (5MT5006) / NPS; private (Ismay, very small part of site)	PII-PIII – Great Pueblo	Village – double-walled multistory room block with kivas around spring, great kiva or dance platform, walled smaller room block; thought by some to have Chacoan elements (Great House)	National monument (1919); NRHP (1966)	Formative – Mancos drainage unit	Good (excellent)/Excellent	Dirt road to Ismay ranch and parking, trail to site	As a ruin; sign	Mesa Verde NP	Holmes 1878; Jackson 1876; Fewkes 1918, 1919a, 1919b	Low – spring development, structural decay, stabilization, Ute irrigation ditch	Currently fenced; Ismay caretaker	Stabilization of exposed walls; elimination of dense rabbit brush	Detailed site map; stabilization assessment; study of impacts from Ute drainage ditch

#### General Notes for Site-Specific Evaluations:

**Characteristics and Features:** Very general description—cliff dwelling, ceremonial complex, town, farmstead, village, stockaded village, unit pueblo, number of stories, number of kivas, great kivas, towers; water source and related features—spring, check dams, stone dam, stream; unique features—what contributes must be an "outstanding" example; diversity of site/area—heterogeneity of site/district.

**Time Period:** Basketmaker (BMII) – 100 BC - AD 400  
Modified Basketmaker (BMIII-PI) – AD 400-900  
Developmental Pueblo (PII) – AD 900-1050  
Great Pueblo (Late PII-PIII) – AD 1050-1300

**Status:** Listed on National Register of Historic Places (NRHP) or designated as a national historic landmark (NHL), national park, Bureau of Land Management area of critical environmental concern.

**State Context:** Based on Eddy, Kane, and Nickens, *Southwest Colorado Prehistoric Context: Archaeological Background and Research Directions* (Denver: Colorado Historical Society, 1984).

**Condition:** This does not necessarily address site integrity, but refers to physical condition. A heavily stabilized site can be in good condition but lack integrity. The options are described below:

*Good* – This site shows no clear evidence of major negative disturbance or deterioration (or cumulative minor disturbances having a major effect) by natural or human forces. The site's archeological values are as well preserved as can be expected under the given environmental conditions, and no site treatment actions are required in the near future to maintain its condition. The site has been properly backfilled and stabilized (if appropriate) following approved archeological work.

*Fair* – The site shows clear evidence of minor disturbance and deterioration by natural or human forces, and some degree of corrective action should be carried out fairly soon to protect or stabilize the site and prevent further harm to its archeological values. A site may also be classified in fair condition if minor damage has occurred as a result of ineffective or inadequate backfilling or stabilization following approved archeological work. The cumulative, long-range effect of the disturbances, if left to continue without appropriate corrective action, could cause the site to degrade to a poor condition.

*Poor* – The site shows clear evidence of major disturbance and rapid deterioration by natural or human forces, and immediate corrective action is required to protect and preserve the remaining archeological values. A site may also be classified in poor condition if it has not been backfilled or stabilized (if appropriate) following completion of approved archeological work. Failure to take immediate corrective action will result in the site being lost in whole or in part.

*Destroyed* – The site has been totally destroyed, lost, or entirely excavated. Archeological values and site context no longer exist, and there is no data or research potential. This refers only to known documented losses.

*Unknown* – The condition of the site is not known. Available information is not sufficient to permit a judgment about the site's condition. This designation is appropriate only if evaluation is being carried out in the laboratory.

**Integrity:** Integrity refers to the state of being whole, intact, undiminished, and having the qualities to accurately present the entire picture. It is the degree to which a site is in an unmarred condition.

**Access:** Nature and difficulty of access, and whether additional land acquisition required.

**Current Interpretation:** Suitability for interpretation—what would be needed for minimal interpretation; type of interpretation—backcountry, self-guiding, as ruin, needs development, access to site.

**Location of Collections:**  
AC – Archaeological Conservancy  
AHC – Anasazi Heritage Center  
CFM – Chicago Field Museum of Natural History  
CMC – Colorado Mountain College  
CSHS – Colorado State Historical Society  
CU – University of Colorado  
DAP – Dolores Archeological Project  
UCM – University of Colorado Museum

**References:** Past "studies" of site area. References are to work at site, including stabilization and mention by early travelers.

**Impacts:** This refers to the intensity of impact to a site and the site's apparent degree of integrity. The level of impact is described below:

*Severe* – The resource has been so badly damaged through natural or human causes that its integrity is gone and it can make no contribution to future study or interpretation.

*Moderate* – The resource has been damaged and some integrity lost, but it still has interpretive or information potential; it may be a significant resource and contribute to the understanding of history or prehistory.

*Low* – The resource has received only minor impacts that have not affected its information or interpretive potential; its integrity as an information source remains intact and it may make a significant contribution to the understanding of history or prehistory.

*None* – The resource has not been obviously impacted, such as a "pristine" archeological site.

*Unknown* – Not enough information is available for evaluation purposes. This option is appropriate only if evaluation is being carried out in the laboratory.

**Protection Needs:** If the site was acquired, what would have to be done to protect it (such as increased patrols or fencing).

**Preservation Needs:** If the site was acquired, what would need to be done to protect it (such as stabilization, water diversion, recontour drainage).

**Study Needs:** If the site was acquired, what basic data would have to be acquired (base maps, site map).

## APPENDIX B: POPULATION, EMPLOYMENT, AND INCOME IN THE STUDY AREA

The study area is characteristic of rural counties in western Colorado. The lifestyle is generally oriented to outdoor activities. Thus, the resources managed by the federal government are of interest to much of the population. Many residents value the region's rural character as an important part of their lifestyles, with widespread appreciation for the wide-open spaces, natural values, solitude, and personal freedom. Many residents resent control of land or any kind of outside interference. Government participation in projects is generally solicited only when problems cannot be solved locally.

### POPULATION

The economic planning area includes areas of four counties – Archuleta, Cortez, La Plata, and Montezuma. The majority of the population lives near Durango (La Plata County) and Cortez (Montezuma County). The growth rate has been strongest in Archuleta and La Plata counties. Much of the growth in Archuleta County is due to an influx of retirees. Dolores County has both the lowest population and the lowest growth rate.

Table B-1: Study Area Population

<u>Area</u>	<u>1986 Population</u>	<u>1970-1980 Change</u>	<u>1980-1986 Change</u>
Archuleta County	5,365	+ 34%	+ 44%
Dolores County	1,562	+ 1%	- 6%
La Plata County	30,171	+ 42%	+ 10%
Montezuma County	17,412	+ 27%	+ 4%
Four-County Region	54,510	+ 34%	+ 10%
Colorado	3,266,149	+ 31%	+ 12%

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

### EMPLOYMENT

Most job opportunities are in and near Durango (La Plata County) and Cortez (Montezuma County). Jobs have recently been increasing at a rate twice that experienced by the entire state. A large increase in jobs in Archuleta County appears to be related to the construction of a major retirement community near Pagosa Springs. Table B-2 reports jobs in each county, some of which may be filled by residents of nearby counties.

Table B-2: Total Employment

<u>Area</u>	<u>1986 Employment</u>	<u>1970-1980 Change</u>	<u>1980-1986 Change</u>
Archuleta County	2,463	+ 21%	+119%
Dolores County	772	- 1%	+ 38%
La Plata County	15,113	+ 92%	+ 10%
Montezuma County	8,214	+ 41%	+ 30%
Four-County Region	26,562	+ 66%	+ 22%
Colorado	1,570,003	+ 61%	+ 11%

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

The most important sectors of the regional economy are services, retail trade, and government (see table B-3). Service jobs are primarily restricted to Durango (La Plata County) and Cortez (Montezuma County). Government jobs are especially important in Dolores County. Tourism is not treated as a separate sector, but it is a component of the service, retail trade, and government sectors.

The majority of the mining employment is associated with CO<sub>2</sub> extraction. This industry in Montezuma County produced \$123 million in gas during 1986. About \$40 million of oil and natural gas, produced from wells located throughout the region, was extracted for the same year. A small amount of coal is mined from a single mine.

**Table B-3: 1986 Employment by Sector**

<u>Sector</u>	<u>Archuleta</u>	<u>Dolores</u>	<u>La Plata</u>	<u>Montezuma</u>
Farm	8%	28%	5%	9%
Agricultural Services	1%	*	1%	2%
Mining	2%	*	1%	4%
Construction	*	4%	8%	11%
Manufacturing	2%	*	4%	5%
Transportation and Utilities	2%	2%	3%	4%
Wholesale Trade	*	4%	2%	2%
Retail Trade	19%	16%	21%	19%
Finance and Real Estate	12%	*	8%	5%
Services	*	6%	32%	20%
Government	11%	34%	14%	19%

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

\* Information withheld to avoid disclosure of proprietary data.

## INCOME

All of the counties in this region have a notably lower per capita income than the Colorado average. The change from 1980 to 1986 has been adjusted to account for inflation. The relatively high income in Dolores County may be due to the high percentage of government jobs (see table B-4).

**Table B-4: Per Capita Income**

<u>Area</u>	<u>1986 Income</u>	<u>1980-1986 Change</u>
Archuleta County	\$ 9,566	- 22%
Dolores County	13,194	+ 7%
La Plata County	12,869	+ 7%
Montezuma County	11,471	+ 1%
Four-County Region	12,106	+ 2%
Colorado	15,233	+ 9%

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

## TOURISM

Tourist travel in the study area generates significant levels of income and employment. Travel-related payroll for 1980 was estimated at \$23 million and was responsible for 3,721 jobs (see table B-5). The number of jobs was calculated based on the assumption that one job is generated for each \$29,000 (in 1980 dollars) in visitor expenditures. The payroll estimate was based on an average 1983 tourism-related salary of \$13,478.

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**Table B-5: 1980 Travel-Related Payroll**

<u>Area</u>	<u>Payroll</u>	<u>Jobs</u>
Archuleta County	\$ 3,195,000	529
Dolores County	96,000	13
La Plata County	15,711,000	2,566
Montezuma County	3,758,000	613
Four-County Region	22,760,000	3,721

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Source: Colorado Business Research Division.

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A study of visitors to Mesa Verde in 1987 revealed an average expenditure of \$18 per person. This figure measures total expenditures in the area during the entire visit. Since the total trip length averaged less than a day, the actual daily expenditure would be somewhat greater. Tourism-related employment has probably been increasing in recent years because of an increase in the number of visitors. Future growth could also result from an increase in the length of stay.

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**Table B-6: 1988 Visitation to Anasazi Sites**

<u>Area</u>	<u>Agency</u>	<u>Visitation</u>
Mesa Verde National Park	NPS	772,000
Anasazi Heritage Center	BLM	40,000
Hovenweep National Monument	NPS	22,000
Lowry Complex	BLM	8,000
Sand/East Rock Canyons	BLM	5,000
Chimney Rock Archeological District	USFS	3,000
Miscellaneous backcountry sites	BLM	6,000
Miscellaneous backcountry sites	USFS	1,000
<b>Total</b>		<b>857,000</b>

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The data in table B-6 should be treated as a best estimate; actual visitation was somewhat different. The figure listed for Mesa Verde is the official published NPS statistic. New accounting procedures implemented January 1, 1989, will result in a decrease in future visitation reports. The estimate for Sand/East Rock canyons includes the 3,500 visitors to Sand Canyon Pueblo as well as the 1,500 participants in the Crow Canyon school.

Reported use for the Anasazi Heritage Center is actually a conservative estimate of visitation for the first year (June 1988 through May 1989). Use of this center should be close to 50,000 during 1989. Visitation to the Chimney Rock Archeological District has remained at a relatively low level because of the requirement for advance reservations on guided tours.

No recording devices exist to measure use to the many backcountry Anasazi sites administered by the Bureau of Land Management and the U.S. Forest Service. The figures in table B-6 are a fairly liberal estimate based on general visitation trends.

While the management strategies of some of the alternatives considered in this study are similar to management at Chaco Cultural National Historical Park (see appendix E), there is no correlation in terms of visitor use. In 1988 recreation visitation in the central part of Chaco was 65,398, which amounts to only 8 percent of the visitation to Mesa Verde for the same year.



## APPENDIX C: VISITATION PROJECTIONS AND COST ESTIMATES FOR STUDY ALTERNATIVES

Alternative federal actions proposed in this document would result in a greater increase in visits compared to existing trends. The projected increase for each alternative would depend on the extent that the resource was marketed to visitors.

At well-established sites visitation seems to be increasing at a rate equivalent to 3 percent of 1988 visitation. Visitation at the Anasazi Heritage Center is increasing much more rapidly because it has just opened. Visitation to the Lowry complex is projected to double over the next decade, which seems reasonable because use has doubled during the last two years. Visitation to Hovenweep is projected to double when the access road has been paved. Visitation to Chimney Rock is projected to increase rapidly if visitors are able to visit that site without joining a tour group. (See table C-1.)

**Table C-1: Increase in Visitation to Anasazi Sites  
Projected 10-Year Continuation of Present Trends**

<u>Area</u>	<u>Agency</u>	<u>1988 Visitation</u>	<u>Projected Increase 1988-1998</u>	<u>Projected 1998 Visitation</u>
Mesa Verde National Park	NPS	772,000	200,000	972,000
Anasazi Heritage Center	BLM	40,000	100,000	140,000
Hovenweep National Monument	NPS	22,000	26,000	48,000
Lowry Complex	BLM	8,000	8,000	16,000
Sand/East Rock Canyons	BLM	5,000	2,000	7,000
Chimney Rock Archeological District	USFS	3,000	10,000	13,000
Miscellaneous backcountry sites	BLM	6,000	3,000	9,000
Miscellaneous backcountry sites	USFS	1,000	1,000	2,000
<b>Total</b>		<b>857,000</b>	<b>350,000</b>	<b>1,207,000</b>

The following visitation projections represent a subjective appraisal developed by a group of BLM, NPS, and USFS professionals. Due to the conceptual nature of the alternatives, the visitation projections are imprecise, but their relative magnitude is reasonable.

Previous experience and studies indicate that visitors are extremely interested in observing or participating in archeological excavations. Theoretically, each alternative could be developed to the same level. However, based on traditional programs and priorities of the different agencies, more sites are likely to be developed for visitation and interpretation under alternative A than under the other alternatives. Because of the name recognition associated with "national park," this alternative would likely have the highest projected visitation.

The most recent relevant marketing study was prepared in 1988 for a proposed Cortez Indian Folk Village. The findings of that study were used to project visitation for alternative A. The figures for alternative E (without marketing) represent the projected increase if no action was taken. Projections for the other alternatives were placed between the extremes of alternatives A and E. Most of the increase over present trends would result from encouraging visitors to stay longer. (See table C-2.)

Active promotion of tourism would increase visitor use under any alternative. Results of the Cortez marketing study indicate that the increase might average 20 percent. Promotion could result in dramatic increases at lesser known sites. A very conservative estimate for such sites is a 50 percent increase.

**Table C-2: Projected Increase in Visitation to Anasazi Sites  
(in Visitor-Days)**

<u>Alternative</u>	<u>10-Year Increase</u>		<u>20-Year Increase</u>	
	<u>Without Marketing</u>	<u>With Marketing</u>	<u>Without Marketing</u>	<u>With Marketing</u>
A: National Park	750,000	900,000	1,150,000	1,380,000
B: Cultural Reserve	400,000	480,000	900,000	1,080,000
C: Conservation Area	550,000	660,000	900,000	1,080,000
D: Cultural Heritage Partnership	450,000	540,000	1,000,000	1,200,000
E: Marketing Partnership	350,000	420,000	650,000	780,000

## LAND ACQUISITION

Actual land acquisition requirements cannot be reliably estimated without further planning. However, table C-3 represents the relative magnitude of acquisition for different alternatives. These costs are in addition to the cost of implementing existing plans. Most of these funds would be spent in the local area.

**Table C-3: Estimated Increase in Total Land Acquisition Costs**

<u>Alternative</u>	<u>Cost</u>
A: National Park	\$ 1,000,000
B: Cultural Reserve	500,000
C: Conservation Area	100,000
D: Cultural Heritage Partnership	250,000
E: Marketing Partnership	0

## CONSTRUCTION COSTS

Actual increases in the cost of federal construction cannot be reliably estimated without further planning. Table C-4 represents the relative magnitude of costs for different alternatives. The estimates for alternatives A, B, and C include the construction of 10 miles of new gravel access roads. Alternative A also includes three medium and three small administration/visitor centers. The estimates for alternatives B and C include the construction of small centers at six sites. The construction estimate for alternative D assumes the rehabilitation of an existing building in Cortez. None of the alternatives include the approximate \$6 million required to implement existing plans for Mesa Verde National Park and Hovenweep National Monument.

**Table C-4: Estimated Increase in Federal Construction Costs**

<u>Alternative</u>	<u>Construction</u>
A: National Park	\$ 7,500,000
B: Cultural Reserve	6,840,000
C: Conservation Area	6,840,000
D: Cultural Heritage Partnership	190,000
E: Marketing Partnership	0

## OPERATING COSTS

To develop an estimate of operating costs for the alternatives considered, expenditures at existing parks were reviewed. The 1989 operations cost for Mesa Verde is \$2.4 million, the majority of which is spent locally. The much smaller operation at Hovenweep costs \$76,800. For comparison purposes, the private facility at Crow Canyon has a 1989 budget of \$1.9 million. Much of the operating costs result from such routine tasks as maintenance of access roads, hauling of trash, and cleaning of restrooms.

Most operating funds would be spent in the local area. The actual increase in the cost of federal operations cannot be reliably estimated without further planning. However, table C-5 represents the relative magnitude of costs for different alternatives. None of the alternatives includes the current operating deficit. Authority to hire federal employees (i.e., FTEs) would be required in addition to the funding shown.

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Table C-5: Estimated Increase in Annual Federal Operating Costs

<u>Alternative</u>	<u>Marketing Coordination</u>	<u>Other Operations*</u>
A: National Park	\$ 100,000	\$ 960,000
B: Cultural Reserve	100,000	875,000
C: Conservation Area	100,000	875,000
D: Cultural Heritage Partnership	100,000	200,000
E: Marketing Partnership	100,000	0

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\* The "Other Operations" cost for alternative A was estimated by taking 40 percent of the operating cost for Mesa Verde National Park. The operating costs for alternatives B and C are proportionately lower because there would be less construction. Alternative D might have operating costs similar to alternative A, but funding for the commission would primarily come from the private sector.

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## ARCHEOLOGICAL PROTECTION

The protection of archeological sites consists of three interrelated measures – (1) archeological studies, (2) site stabilization/conservation, and (3) curation. These measures would have to be taken to some degree under each alternative. The appropriate level of work would be determined by interpretation and resource management planning, research design and other management policies and guidelines associated with the alternative selected.

Archeological studies consist of inventory and descriptive documentation of the site complexes and other lands to delineate the extent and depth of the remains and to evaluate areas appropriate for further research, interpretation, and emergency preservation needs. Mapping of all structures and other features is essential to the appropriate management of sites. Test excavations may be conducted to expose specific features for interpretation or research. This would be done as specified in the interpretation plan for the area and in accordance with the regionwide research design that would be prepared under each alternative. Large-scale excavation could conceivably be carried out as an interpretive mechanism, combining research with various interpretive activities.

Site stabilization/conservation consists of a variety of activities to deter loss of a site. This includes activities such as stabilization of the architectural remains as well as conservation through altering drainage patterns and removing trails and roadways across a site. While certain emergency stabilization/conservation needs must be addressed, such as at McLean Basin Towers, these activities must be preceded by a stabilization assessment (historic structure report) to thoroughly evaluate the preservation needs at each complex and to provide reasonable alternatives for undertaking the work.

Stabilization plans (historic structure preservation guides) are also developed to detail the procedures and methods, standards and guidelines, and technology to be used in conducting the preservation work required at each complex. After initial stabilization/conservation needs have been addressed at each site, routine monitoring, housekeeping, and cyclic maintenance must occur to ensure that the remains can be easily and cost-effectively maintained.

Curatorial activities are a routine part of all archeological work. Not only must the materials that have been exposed, documented, and collected as a result of archeological activities be conserved, cataloged, and stored, but the extensive archival documentation resulting from archeological and preservation activities must also be curated. Historic photographs, drawings, journals, and other manuscripts and documents relating to the sites, as well as more recent studies and documentation, are integral to understanding each site, its significance, and its material culture. In the past several years the National Park Service has determined that approximately 10 percent of the cost of each project should be allocated to curatorial activities.

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**Table C-6: Estimated Increase in Annual Federal Archeology Costs**

<u>Alternative</u>	<u>Archeological Studies</u>	<u>Stabilization/Conservation</u>
A: National Park	\$ 700,000	\$ 700,000
B: Cultural Reserve	700,000	700,000
C: Conservation Area	800,000	700,000
D: Cultural Heritage Partnership	500,000	500,000
E: Marketing Partnership	0	0

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## PLANNING COSTS

The actual increase in the cost of federal planning cannot be reliably estimated without further planning. Table C-7 represents the relative magnitude of costs for the different alternatives.

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**Table C-7: Estimated Increase in Total Federal Planning Costs**

<u>Alternative</u>	<u>Planning</u>
A: National Park	\$ 300,000
B: Cultural Reserve	200,000
C: Conservation Area	200,000
D: Cultural Heritage Partnership	100,000
E: Marketing Partnership	0

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## ADVERSE ECONOMIC IMPACTS

The expenditures listed in the previous sections of this appendix would benefit the local economy. It appears that none of the alternatives would create adverse economic impacts such as stopping grazing or purchasing productive lands. Due to the imprecise nature of the alternatives, small economic impacts may have been omitted. In addition, future legislation might implement a different alternative, which could result in adverse economic impacts.

## **SECONDARY ECONOMIC IMPACTS**

Tourist expenditures could rapidly flow out of the planning area to other parts of Colorado and even to adjacent states. To the extent that this happened, any increase in employment and income would be spread over a wide area rather than being concentrated in the region. These secondary economic impacts cannot be calculated at this conceptual level of analysis.

## APPENDIX D: AREAS AFFILIATED WITH THE NATIONAL PARK SYSTEM

Affiliated areas that preserve significant properties outside the national park system occur at various locations in the United States. Some have been recognized by acts of Congress, others have been designated by the secretary of the interior. All draw on varying amounts of technical or financial aid on a case-by-case basis from the National Park Service.

Areas are defined as being affiliated with the national park system if Congress or the secretary of the interior has determined that they meet criteria for national significance, the resources can be most efficiently and effectively managed by a cooperative arrangement with the National Park Service instead of direct operation as a unit of the national park system, and if the Park Service has some continuing responsibility for technical, financial, or management assistance. Congress has asked the National Park Service to prepare a report on criteria for evaluating potential affiliated areas, and that report is currently under review.

Congress recognizes the category of affiliated areas, endorses the criteria for eligibility, and agrees that a study process will precede any designations. The study process is similar to that conducted prior to authorization of new units of the national park system. First, a reconnaissance survey is conducted to determine resource significance, current uses, and potential threats, and second, a study of alternatives is done to assess management options.

Areas to be recognized and identified to the public as affiliated units of the national park system must meet certain basic operational standards. These standards are important to ensure the quality of visitor services and resource management. Cooperative agreements follow a standard outline and address issues including the following:

- planning and technical assistance
- liability and insurance for facilities and employees
- volunteer-in-parks status for staff
- fee rates and collection policies
- hours and days of operation
- review and approval of annual budgets
- use of the NPS logo on signs and literature
- standards for concession operations
- content and scope of interpretive programs
- review and approval of sales items
- limits on uses of appropriated funds for lobbying
- nondiscrimination in employment
- accessibility for disabled visitors

Not all of these criteria apply to every affiliated area. The cooperative agreement defines those issues that are relevant to the resource and the type of arrangement with the National Park Service.

A line-item appropriation may be established for technical assistance; otherwise, funding for these activities is added to base operating funds. The continuation of affiliated status is subject to periodic review for consistency with established standards, and Congress or the secretary could delete areas based on NPS recommendations.



## APPENDIX E: THE CHACO ARCHEOLOGICAL PROTECTION SITE SYSTEM

The San Juan Basin in northwestern New Mexico is an area of major significance in the cultural prehistory of the Anasazi. Chaco Canyon, which was designated as a national monument in 1907, contains spectacular archeological remains that have long been recognized as representing an architectural peak in Anasazi Indian prehistory. At the time of the monument's establishment, numerous archeological sites were known outside the boundary, although their relationship to Chaco Canyon was unclear. Over the years increasing numbers of such sites were documented and studied to determine their place in the prehistoric system. In the late 1920s the boundaries of the monument were enlarged to include additional ruins ascertained to be of Chacoan Anasazi affiliation.

In 1969 a memorandum of agreement was signed between the National Park Service and the University of New Mexico to establish the Chaco Center. This multidisciplinary research unit was established to bring about a better understanding of the prehistoric Indian cultures of the San Juan Basin. The center expanded independent research efforts and coordinated archeological investigations concerning Chaco Canyon and the numerous outlying sites. Through the use of remote sensing, a prehistoric road system was identified, which radiated outward from the canyon and connected numerous communities scattered throughout the region.

As research and discoveries by the Chaco Center and others verified the extent of the prehistoric Chacoan system, the need for a program to adequately protect the outlying sites became increasingly evident. Recognizing the potential for conflicts between resource preservation and energy development, Congress passed legislation to provide for the preservation, protection, research, and interpretation of Chacoan resources in the San Juan Basin (title V of PL 96-550, December 19, 1980).

To ensure the preservation of archeological resources while recognizing valid existing rights of private landowners, Congress defined allowable uses under the intent of the law and identified the primary land protection methods, emphasizing cooperative agreements rather than fee acquisition. In implementing these and other provisions of the law, Congress called for continued cooperation among public and private entities with interests in the area to achieve coordinated preservation, research, and development efforts.

Congress also called for the establishment of an archeological protection site system for 33 outlying sites in the San Juan Basin, totaling 8,768 acres. These sites are not included in the national park system; rather, they are managed by the Bureau of Land Management, the Bureau of Indian Affairs, and the Navajo tribe for resource protection and preservation. The Park Service participates in interagency planning to ensure coordinated planning and management of the park and protection sites. Land uses such as energy exploration and development continue to be permitted on and adjacent to the archeological protection sites as long as they do not endanger the cultural values on the upper surface.

As a first step in coordinating activities regarding the archeological protection sites, the legislation required that a "joint management plan" be developed by those agencies having jurisdiction over or interest in lands containing the sites. The plan was to provide guidelines for identification, preservation, protection, and research at the archeological sites. In response to that mandate, the Chaco Culture Interagency Management Group was established in January 1981. That group – which included representatives from the Bureau of Land Management, the Bureau of Indian Affairs, the state of New Mexico, the Navajo tribe, the U.S. Forest Service, and the National Park Service – met in February 1981 to establish procedures for planning. An interagency planning team was set up to accomplish the project, and during 1981 that team completed data gathering and fieldwork, prepared reconnaissance studies evaluating the sites, and developed recommended guidelines and procedures for the joint management plan. The plan was completed in December 1982. It directs planning, management, and use of the designated archeological protection sites as well as any new sites that may be added to the system. Site-specific strategies for administration, research, stabilization, and interpretation at individual sites are detailed in site management plans.

The Interagency Management Group has overall coordinating responsibility in matters related to planning and managing the archeological protection site system. However, because each site involves one or more public agencies or tribes with jurisdiction over or interests in the lands within the designated boundary, the planning team recommended that the agency or tribe with primary jurisdiction or interest in each site be established as the lead planning/managing entity for that site and that it be responsible for preparing, gaining approval of, and implementing the site management plan. The Bureau of Land Management is responsible for coordinating planning on sites that are predominantly in private, other than tribal fee, ownership.

For further information, see the *Chaco Archeological Protection Site System Joint Management Plan* (NPS 1982).

## **APPENDIX F: AMERICA'S INDUSTRIAL HERITAGE PROJECT**

America's Industrial Heritage Project in southwestern Pennsylvania is overseen by a heritage preservation commission. The commission is composed of regional representatives from industry, government, and area organizations, and it is responsible for overseeing the various programs and activities related to the America's Industrial Heritage Project. It also directs the project's future course and fosters communication and coordination between the various levels of government and the private sector. The commission was established to solicit input from area experts regarding the region's industrial heritage in order to further define, develop, and implement recommendations to preserve theme-related resources and promote tourism. The National Park Service serves as lead agency, provides staff to the commission, and assists in public involvement activities.

The commission was organized into four committees to recommend actions involving the promotion of cultural resources, tourism promotion and marketing, economic development, and transportation.

- The Cultural Resources Committee is developing strategies for preserving and protecting the significant historic sites and resources in the nine-county region. Committee members are representatives from historical societies and museums throughout the project area.
- The Tourism and Marketing Committee is examining ways to coordinate the promotion of tourism in the nine-county region and is developing strategies to market industrial heritage sites so that they will attract a wide variety of visitors. The committee is also exploring how to market the project in concert with promoting other area attractions. The committee is primarily composed of representatives from tourist promotion agencies, chambers of commerce, businesses, and planning agencies in the region.
- The Economic Development Committee is concerned with how tourism can aid the region's overall economy, and it is identifying strategies to integrate historic preservation and economic development goals. Members of the committee are representatives from area businesses, local governments, banks, industrial concerns, chambers of commerce, tourism promotion agencies, and historic preservation societies.
- The Transportation Committee is seeking to improve all modes of regional transportation in order to provide better visitor access to the area. Another function of the committee is to identify auto tour routes in the region that will link the area's historic sites to existing recreational and tourist attractions. Members of the committee are representatives from the state legislature, local governments, planning agencies, area businesses, and chambers of commerce.

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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural and cultural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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