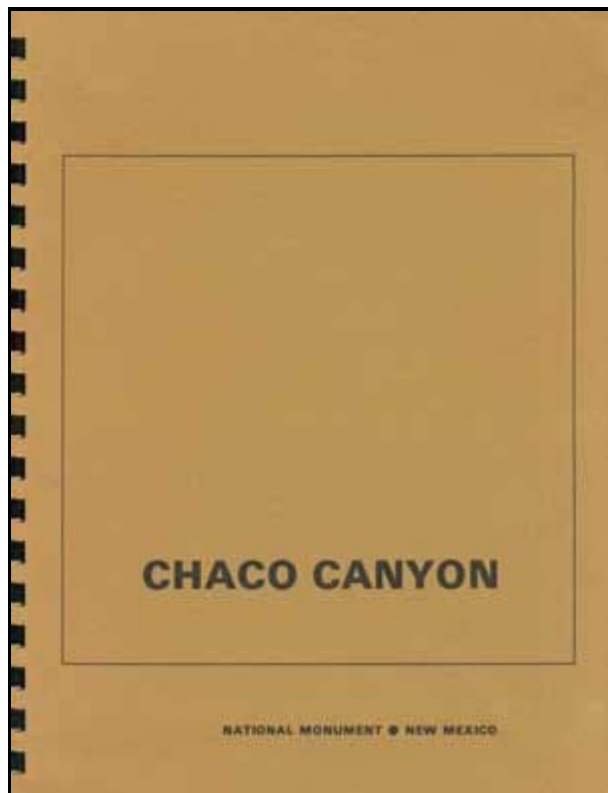


CHACO CULTURE

Master Plan

Chaco Canyon National Monument, New Mexico



MASTER PLAN

Chaco Canyon National Monument, New Mexico

1968

U.S. Department of the Interior
National Park Service

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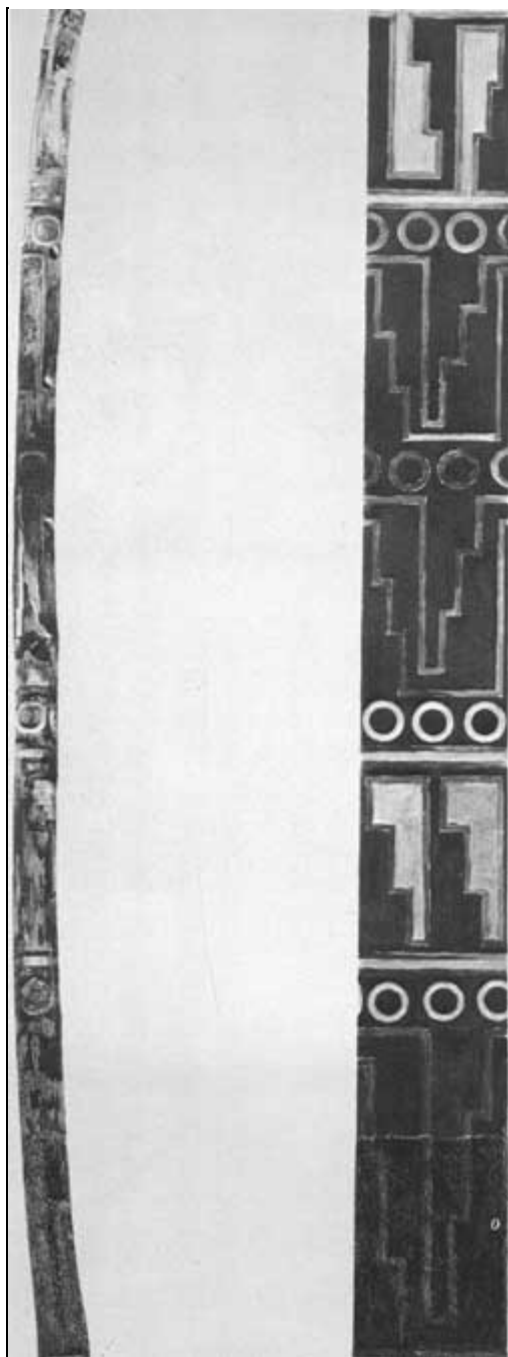
RECOMMENDED BY:

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Acting Regional Director, Southwest
August 5, 1968

Edward A. Hummel
Assistant Director, Operations
September 4, 1968

Theodor R. Swem





Painted wooden flute, on its right, the intricate design is projected or flattened out. (*Courtesy of the American Museum of Natural History*)

Assistant Director, Cooperative Activities
September 4, 1968

Charles E. Krueger
Assistant Director, Design and
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Ernest A. Connally
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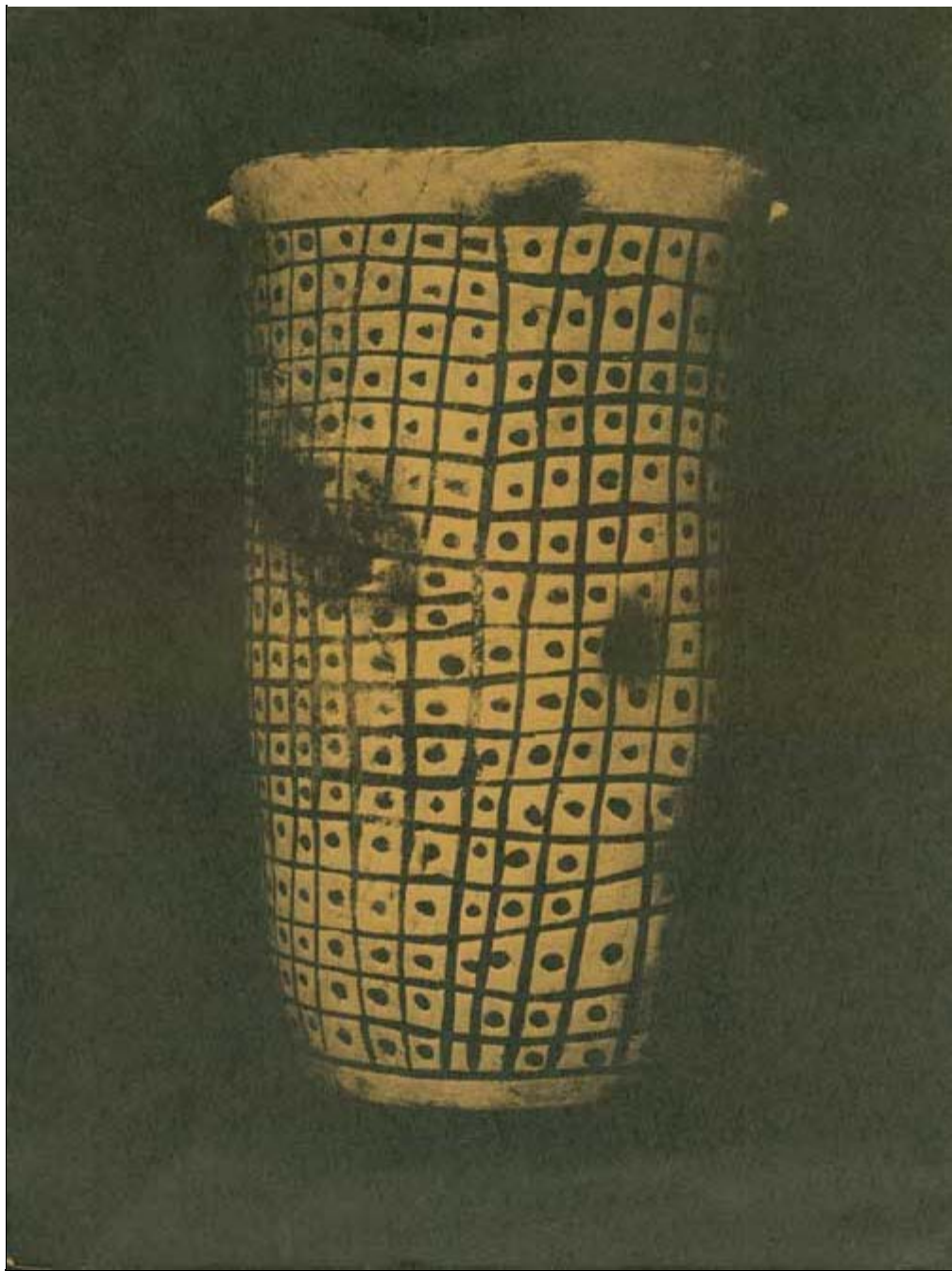
OTHER NATIONAL PARK SERVICE PARTICIPANTS

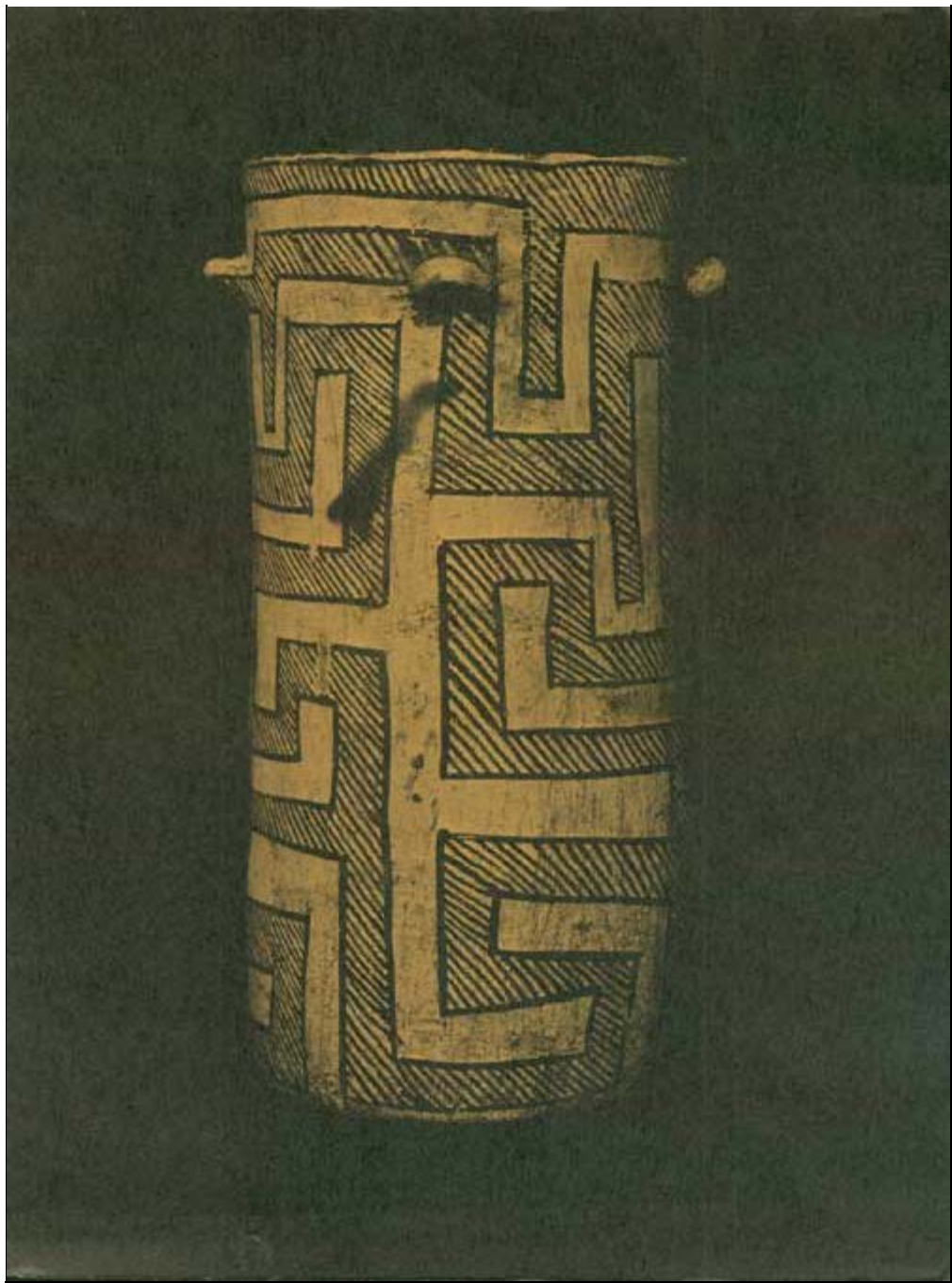
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Warren H. Patton
Engineer, RPSSC

Albert H. Schroeder
Interpretive Archeologist, Southwest
Region





Cylindrical vase or jar with four pierced "handles" near the rim. These handled pitchers with their intricate geometric designs represent a pinnacle of the pottery making ability of the Chacoans. *(Courtesy of the American Museum of Natural History)*

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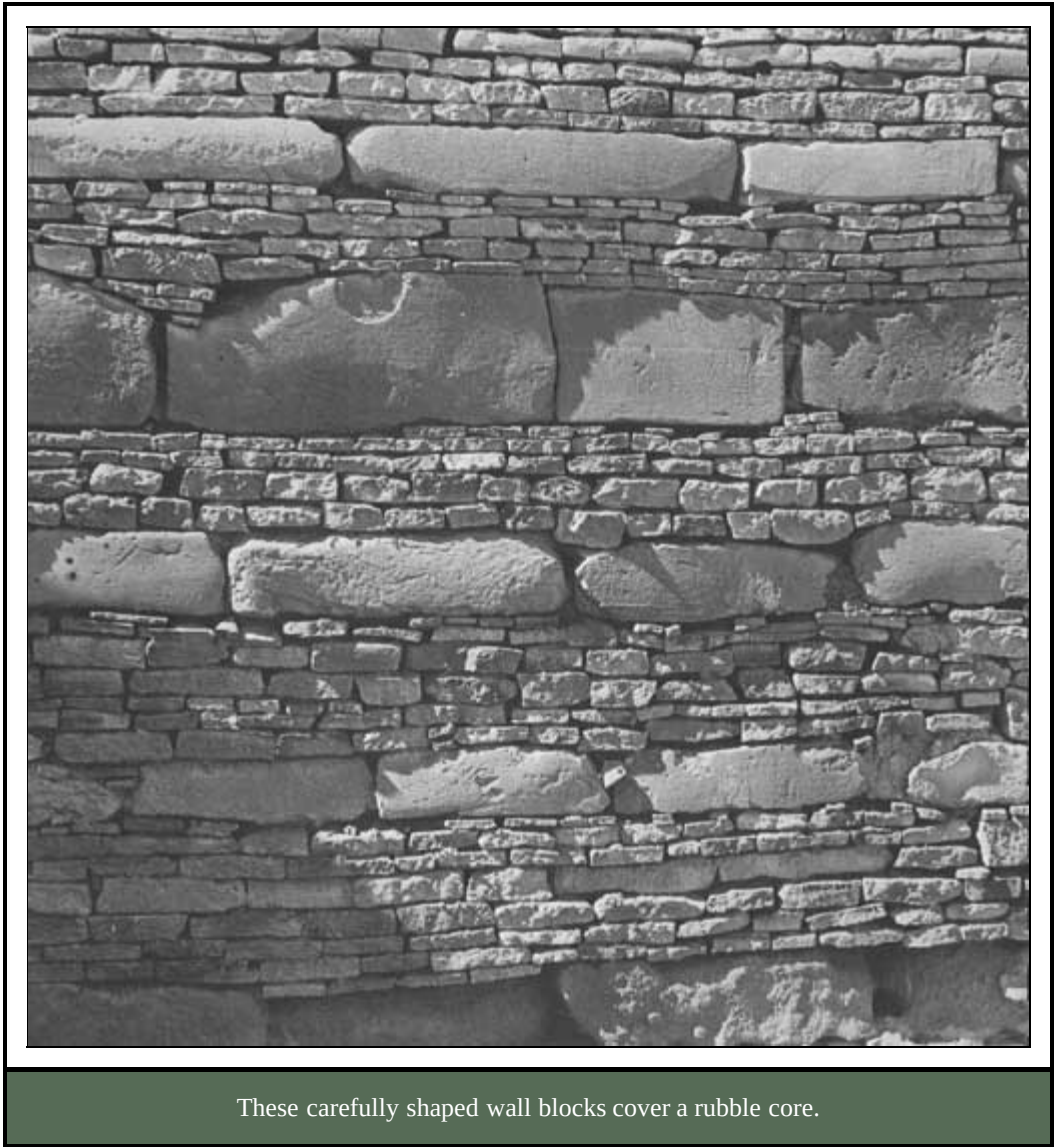
Master Plan
Chaco Canyon National Monument, New Mexico



INTRODUCTION

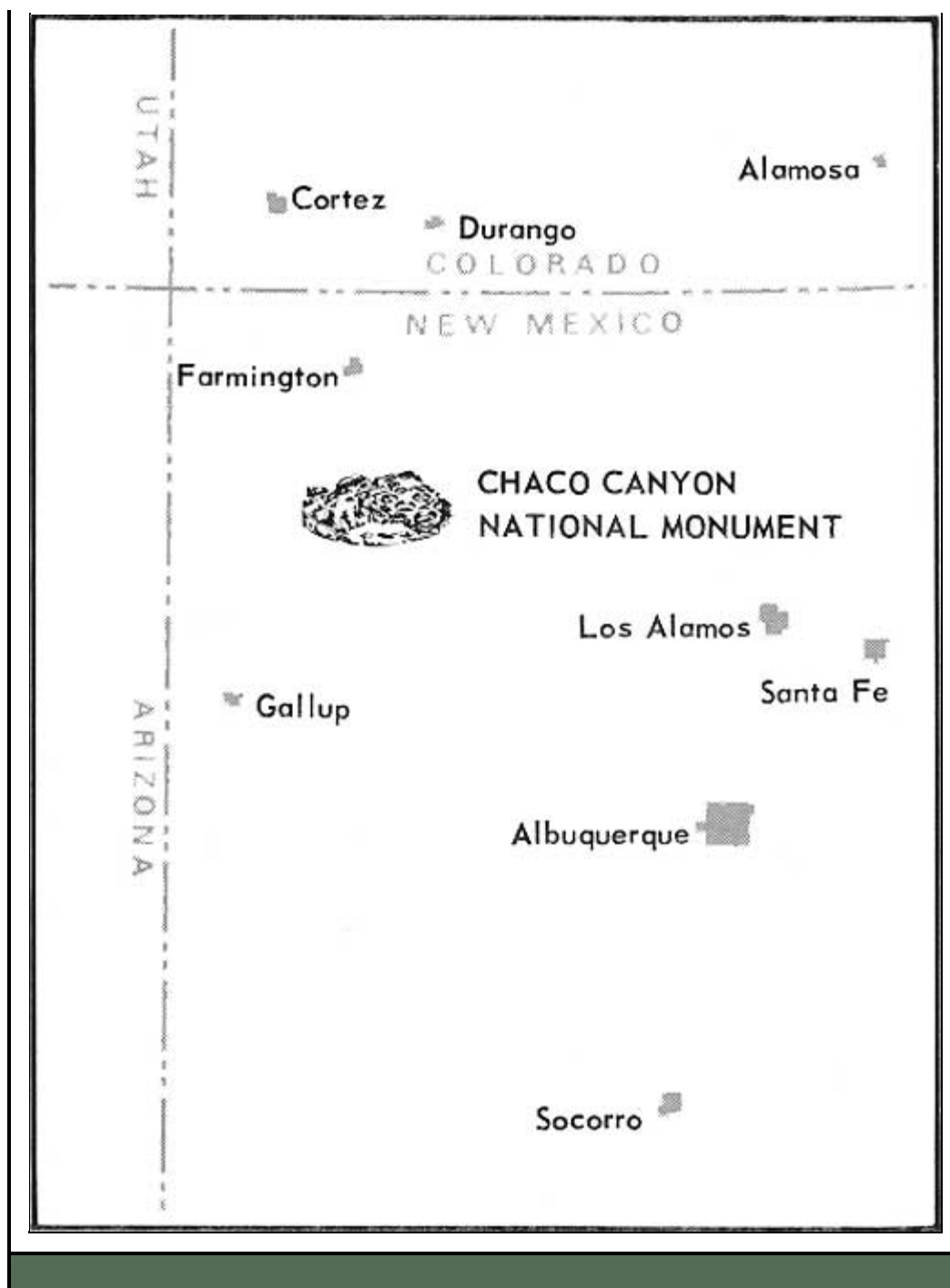
PURPOSE

The purpose of Chaco Canyon National Monument is to preserve outstanding prehistoric remains of Basketmaker and Pueblo Indian ruins dating primarily from A.D. 700-1200, and to provide for the fullest degree of public educational and inspirational benefit from these remains as is consistent with their preservation.



These carefully shaped wall blocks cover a rubble core.

MANAGEMENT CATEGORY: Historical



OBJECTIVES

To achieve the monument purposes, the National Park Service establishes the following objectives:

Conservation of Historical Resources

Preserve the outstanding historic and prehistoric sites, structures, and objects from direct or indirect damage from natural forces or human activities through effective programs of ruins stabilization, soil erosion control, and supervision of public use.

Conservation of Natural Resources

Conserve the natural resources of the monument through a sound land management program.

In cooperation with the Navajo Tribe and other nearby land-managing agencies in the area, develop a comprehensive soil and moisture conservation program for adjacent lands.

Research

Encourage broad scientific research to support and strengthen the interpretive and resource management programs. Special attention should be given to filling voids in the interpretive story and to developing the most effective soil and moisture conservation and ruins preservation practices.

Interpretation

Cooperate closely with others in the field of historical interpretation in developing and maintaining an informational and interpretive program that will make the significance of the Chaco Canyon resources most meaningful to the visitor. Concentrate interpretive efforts on the outstanding resources in the central portion of the monument, reserving outlying sites for archeological research and possible future interpretive use if and when required by increased visitation.

Architectural Theme

Structural motifs derived from the remaining stonework dominate the entire area. Few new buildings are planned or needed and their importance should not be overestimated. The proposed new interpretive facility could well be of concrete block masonry walls and a flat roof compatible with and subtly echoing but not imitating or competing with the indigenous architecture.

Interpretive Theme

The heart of the interpretive theme is the story of prehistoric man and his relation to the natural and cultural environment of Chaco Canyon. The story will trace the cultural shift from small scattered farm villages to large, highly urbanized communities, pointing out the accompanying changes and developments in settlement patterns, housing facilities, water control devices, trade, crafts, and religious developments. It will also point out that by the late 1000's Chaco Canyon had become a major center of pueblo culture, a position it maintained for another 100 years. Although the cause of abandonment is not definitely known, the interpretive story should point out possible causes, including abuse of the land and resources which, coupled with drought, apparently resulted in serious soil depletion and erosion; harassment by other Indians; internal bickering; or a combination of these and other influences.

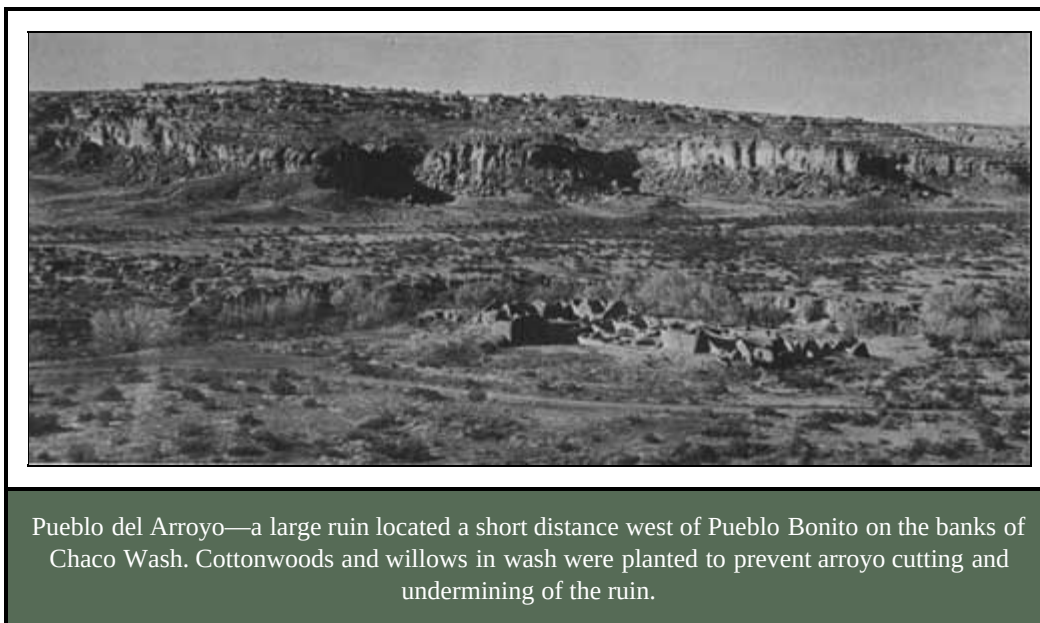
The story would also include the reoccupation of this area by other Pueblo Indians and, later, by the Navajo. Because the Navajo are still living in the area there should be at least a minimal treatment of the Navajo story in the interpretive program.

Visitor Use

Develop the monument's historic preservation and interpretation programs. Continue to provide camping facilities in the monument only until such time as suitable accommodations and camping facilities are developed in the vicinity by the Navajo Tribe or others. Encourage these developments outside the monument as soon as visitor use increases to the point where economically feasible.

Scope of Museum Collections

The existing limited museum collection should be expanded to provide needed museum specimens and representative study collections of pottery and other artifacts showing the progression of the Chacoan Culture from the archaic sites to the climax Pueblo Culture. As a secondary, but important sub-theme, the refugee and Navajo cultures should also be represented. The return of sample collections from excavations made by others in the past should be sought. Avoid materials that are unrelated to Chaco's story.



Pueblo del Arroyo—a large ruin located a short distance west of Pueblo Bonito on the banks of Chaco Wash. Cottonwoods and willows in wash were planted to prevent arroyo cutting and undermining of the ruin.

SUMMARY

Chaco Canyon National Monument contains a great number and a great variety of prehistoric remains including some of the largest and most imposing ruins in the United States. From these remains, which cover a period of approximately ten centuries, it has been possible to trace the growth and development of the Anasazi or Pueblo Culture from its simple primitive beginnings to its complex and highly urbanized peak development. As a result, the area offers excellent opportunities for not only preserving outstanding relics of the past, but also for studying and interpreting one of our country's most spectacular and interesting prehistoric cultures.

As in previous master plans, the existing access and circulation road system is recognized as a major obstacle to effective preservation and interpretation. This plan advocates prompt correction of this situation by eliminating the existing access road, which passes through the major ruins area, and replacing it with a new access utilizing the Gallo Wash which is just upstream from the visitor center and well removed from the major ruins area. Visitor access to the ruins area would be by means of a one-way loop road designed and developed primarily as an interpretive facility. The wealth of prehistoric remains makes possible the development of additional in-place archeological exhibits located along this loop road in such a way that the interpretive story can be told in a chronologically ordered sequence—starting with the earliest sites and developing to the climax at a major interpretive center in the vicinity of Pueblo Bonito. Roadside exhibits along the return route will highlight specific and distinctive features of interest not covered elsewhere on the loop road.

In addition to this proposed major revamping of the access and circulation road developments, this master plan points out the need for a strong research program to support both the interpretive and resource management programs. A great deal of interpretive research has already been accomplished; most of it has been concerned with the broad picture. There still remains a great need for the problem-oriented type of research which will

provide the detailed information of social and cultural life that would probably be of most interest to the visitor and would better enable him most meaningfully to relate himself with these prehistoric people.

There is also a great need for research in the field of resource management—particularly as it relates to ruins preservation measures and soil and moisture conservation methods. As a means of encouraging and facilitating research activities, the establishment of an archeological research station in the monument is proposed.

This master plan also points out the need for the early acquisition of inholdings and the extension of boundaries in order to insure the preservation of several outstanding ruins. At the same time, the deletion of archeologically insignificant lands from the monument and the exchange of these lands for needed additional lands is proposed.

The need for close cooperation with other land managing agencies, particularly the Bureau of Indian Affairs and the Navajo Tribe, is also recognized by this master plan. Such cooperation is particularly important in regard to the monument's needs for adequate access roads, for a comprehensive soil and moisture program covering lands beyond monument boundaries, for research, and for the development of visitor accommodations in the vicinity.

Because of its spectacular and nationally significant resources, Chaco Canyon is one of the outstanding archeological areas in the National Park System. In addition, the area is located in a section of the country which is rapidly becoming important as a recreational vacationland. With improved accessibility, Chaco Canyon and the many other Service areas in this region can be expected to receive substantial increases in visitor use. The development and management proposals covered by this plan should adequately provide for high quality public use, not only at the present levels, but at considerably increased future levels. With minor modifications (shuttle bus service in the canyon in lieu of private automobile transportation) even greater increases in visitor use can be handled with little or no reduction in the quality of their experience.

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THE REGION

REGIONAL CHARACTERISTICS

Location

Chaco Canyon National Monument is located in northwestern New Mexico, some 45 airline miles southeast of Farmington and 57 miles northeast of Gallup. In addition to the main section of the monument along Chaco Canyon, there are six small detached areas from 6 to 40 miles to the south, southeast, and southwest.

Access

Major highways serving the general area are New Mexico State Route 44, which passes some 20 airline miles to the northeast of the monument; U.S. 666 which is some 40 miles to the west; and Interstate 40 (U.S. Route 66) about 50 miles to the south.

Access to the monument from the south and west is generally by way of Crownpoint, which can be reached by paved road from both U.S. 666 and Interstate 40. From Crownpoint to the monument, access is provided by 40 miles of low-standard graded dirt road (Indian Service Routes 9 and 14). The road then passes through the central portion of the monument and continues 28 miles further, as State Route 56, to connect with State Route 44 at the Blanco Trading Post.

About 6.5 miles north of the monument, Indian Service Route 45 branches off State Route 56 and connects with State Route 44 at Nageesi. This provides a slightly shorter alternate access from the north. Because it has recently been gravelled, it is generally a little better road during wet weather, when travel on State Route 56 is sometimes quite difficult.

The Bureau of Indian Affairs has recently paved Indian Service Route 9 from U.S. 666, north of Gallup, to Crownpoint and plans to continue paving this route eastward to Torreon and Cuba. When completed this will reduce the amount of unpaved access from the south to approximately 20 miles.

Indian Service Route 9 between Crownpoint and Torreon passes within a mile of the detached Pueblo Pintado section of the monument. Therefore, the paving of Route 9 will also greatly facilitate access to this prehistoric site.

Paving of State Route 371 from Crownpoint north to Farmington by way of Bisti is now underway. This route will pass approximately 4 miles west of the detached Kin Biniola Section of the monument and approximately 15 miles west of the South entrance to the monument.

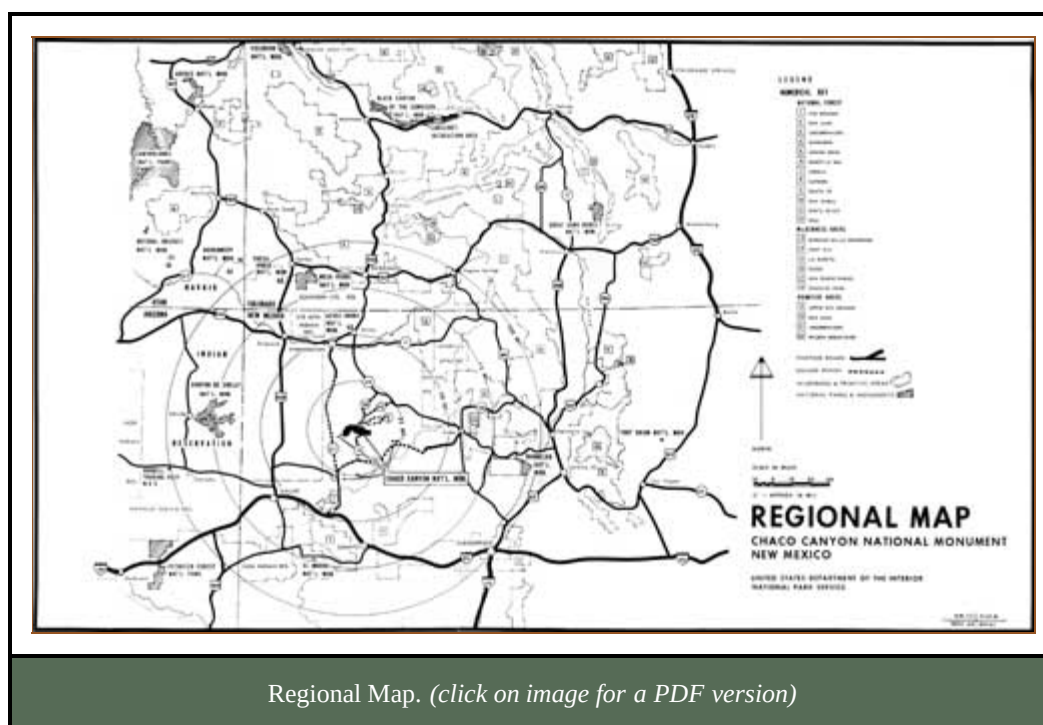
The detached Kin Ya-ah Section is located approximately 2-1/2 miles southeast of Crownpoint and is within one mile of the paved Crownpoint-Thoreau Highway.

The detached Kin Klizhin Section is accessible only by an existing unimproved truck trail, and the ruin-less Casa Morena Section is still essentially inaccessible.

Commercial transportation service to the area is limited. The most practical means is by rental cars, which are available at Farmington (60 miles), Gallup (90 miles), or Albuquerque (150 miles). Air and bus service are available at all three of these cities and passenger rail service is available at Gallup and Albuquerque. Bus service is also available at Blanco Trading Post and Nageezi and bus and rail service is available at Thoreau, but there is at present no reliable way of reaching the monument from these points.

Population

Chaco Canyon National Monument is located in a sparsely populated section of the country. According to the 1960 census there were less than 50,000 residents within a 50-mile radius. Within a 100-mile radius there were approximately 366,000 residents and within 150 miles there were just over 550,000.



Park and Recreation Facilities

The only recreation facility within a 50-mile radius is the Bureau of Land Management's Angel Peak Recreation Area located approximately 30 miles north of the monument. However, within a 100-mile radius there are a great many Federal, State, and Tribal recreational developments.

The more important include:

- Mesa Verde National Park
- Canyon de Chelly National Monument
- Aztec Ruins National Monument
- Bandelier National Monument
- Hubbell Trading Post National Historic Site
- El Morro National Monument
- Navajo Lake State Park (Recreation Area)

Bluewater Lakes State Park
(8 miles southeast of Thoreau)
Coronado State Monument
(20 miles north of Albuquerque)
El Vado State Park
(40 miles north of Cuba)
Jemez State Monument
(20 miles southeast of Cuba)
Three Turkey Ruin Tribal Park (Navajo)
(5 miles south of Canyon de Chelly National Monument)
Zuni Tribal Park (Zuni)
(20 miles southwest of Gallup)

The Four Corners (only spot in United States where four states come together) is 92 miles northwest of Chaco Canyon.

Numerous camping and recreational developments exist in the following national forests which are located some 50 or more miles to the north and east.

Santa Fe National Forest
(north and east of Cuba)
Cibola National Forest
(south and east of Thoreau)
San Juan National Forest
(north of Durango)
Carson National Forest
(east of Aztec)

Surroundings and Existing Use

Chaco Canyon National Monument is located in the rather barren desert lands of northwestern New Mexico. In general, this country is rough to rolling, with numerous mesas, buttes, and steep-walled arroyos. Vegetation is sparse—mostly low desert shrubs and grass, with occasional pinyon and juniper on the higher elevations.

The monument is approximately 12 miles east of the Navajo Reservation. North of the monument is the "checkerboard" area in which sections of public domain given to Navajo allotments alternate with former railroad sections now in private ownership or with sections retained in Federal or State ownership. Throughout this area the Navajo Tribe has purchased, leased, or otherwise acquired an interest in approximately 200,000 acres of land which is being developed as Navajo ranches. Although there are a great many small Indian allotments in the area, most of the additional lands being acquired are being retained in tribal ownership.

Practically all of the surrounding lands are utilized for the grazing of cattle, sheep, and goats. Considerable efforts are being made by the Bureau of Indian Affairs, the Navajo Tribe, and the Bureau of Land Management to improve grazing conditions by clearing brush, seeding, developing water, and eliminating overuse.

Oil and gas leases are held on most of the lands and there are a great many producing wells in the vicinity. A major producing area is the Bisti development, approximately 20 miles northwest of the monument. In recent months the Red Mesa area, approximately 10 miles southeast of the monument, has shown great promise.

A shallow but extensive coal deposit along the San Juan River a few miles west of Farmington is being strip-mined and utilized in a steam generating plant. Coal deposits

apparently exist under most of this area, including the monument. At the present time, its removal in this area is apparently not economically feasible.

A 110,000-acre irrigation project is being developed about 30 miles north of the monument. Water for this project is being made available from the recently completed Navajo Reservoir on the upper reaches of the San Juan River.

Regional Analysis

The semi-arid northwest corner of New Mexico, in which Chaco Canyon National Monument is located, is but sparsely populated. Although mining activities are carried out in several scattered locations and irrigation farming activities are increasing along the San Juan River, the bulk of the region is utilized only for grazing—a condition which is expected to continue in the foreseeable future. The existing urban centers of Grants, Gallup, Farmington, and Durango are expected to grow at a normal rate, with occasional fluctuations due to mining activities in the region. The major population center of Albuquerque is subject to a great many other factors and is expected to continue to increase at a higher-than-average rate.

The bulk of the outdoor recreational needs of the regional population is currently being handled by the national forests and state parks which are located in the mountainous areas some 50 to 60 miles to the north, south, and east of the monument. These facilities also serve a large segment of the population of southeastern New Mexico and western Texas, where such resources and facilities are not readily available.

On a broader basis, Chaco Canyon is located on the eastern edge of the Colorado Plateau country, a vast region which is noted for its outstanding scenery, its diverse recreational opportunities, and its rich archeological and historical values. This region, which encompasses southeast Utah, southwestern Colorado, northern Arizona, and northwestern New Mexico, contains an incredible number of outstanding features, many of which are being preserved as units of the National Park System. This includes Grand Canyon, Zion, Bryce Canyon, Canyonlands, Petrified Forest, and Mesa Verde National Parks; Cedar Breaks, Capitol Reef, Arches, Natural Bridges, Yucca House, Rainbow Bridge, Hovenweep, Aztec Ruins, Pipe Spring, Canyon de Chelly, Wupatki, Sunset Crater, Colorado, El Morro, Walnut Canyon, and Chaco Canyon National Monuments; Glen Canyon National Recreation Area; and Hubbell Trading Post National Historic Site.

This region is as richly endowed with features of outstanding interest as any in the country. As its resources become better known and more easily accessible, there is little doubt that this region will attract increasing numbers of visitors from all over the nation and develop into a recreational complex of the very highest order. Chaco Canyon National Monument, with its superlative archeological values, would be a key element in any such complex. Although many of the areas within this region will provide for purely recreational activities, recreation at Chaco Canyon will be primarily for the purposes of sightseeing and the enjoyment of archeological values.

CHACO CULTURE

Master Plan

Chaco Canyon National Monument, New Mexico



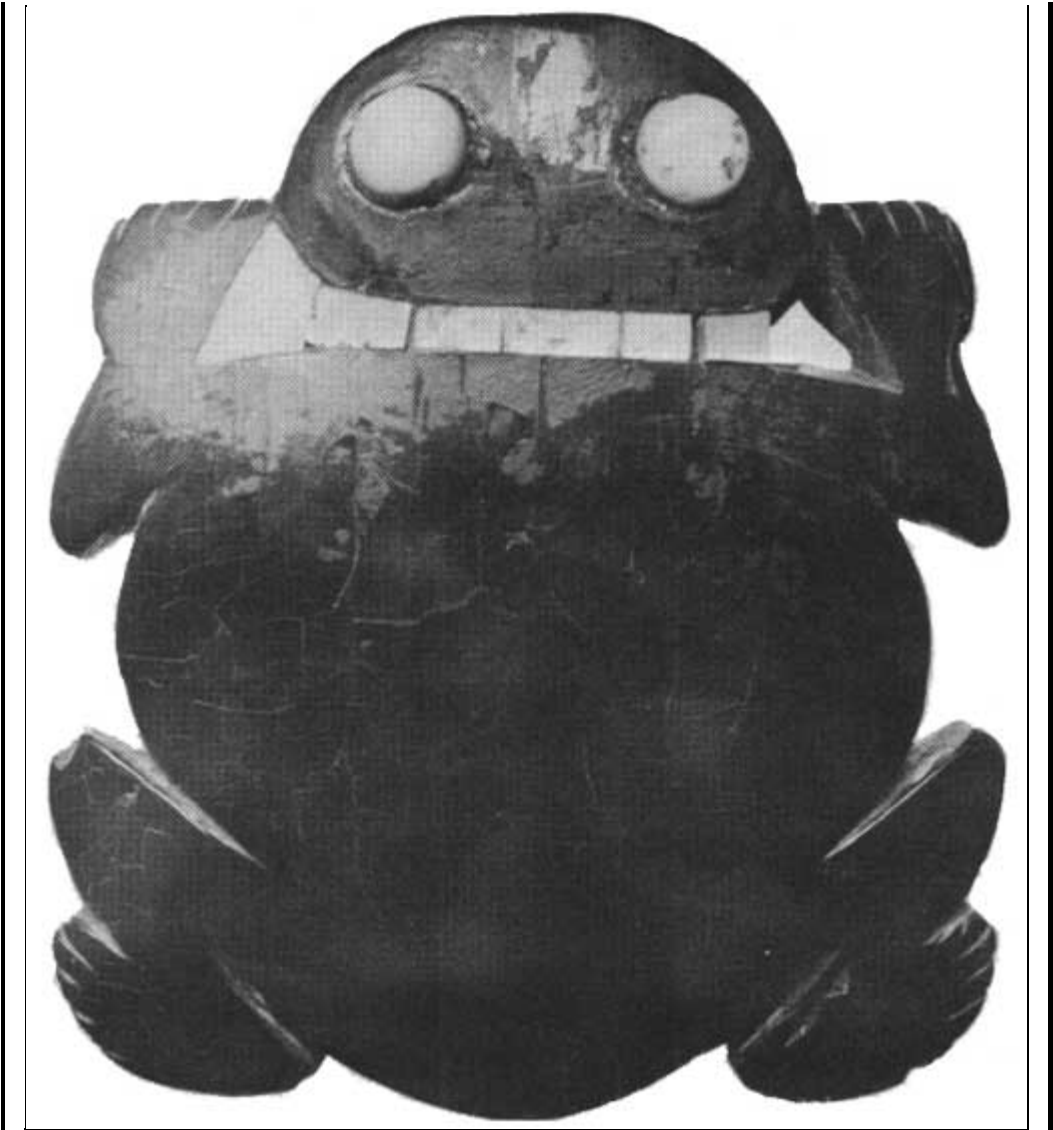
THE RESOURCE

RESOURCE DESCRIPTION AND EVALUATION

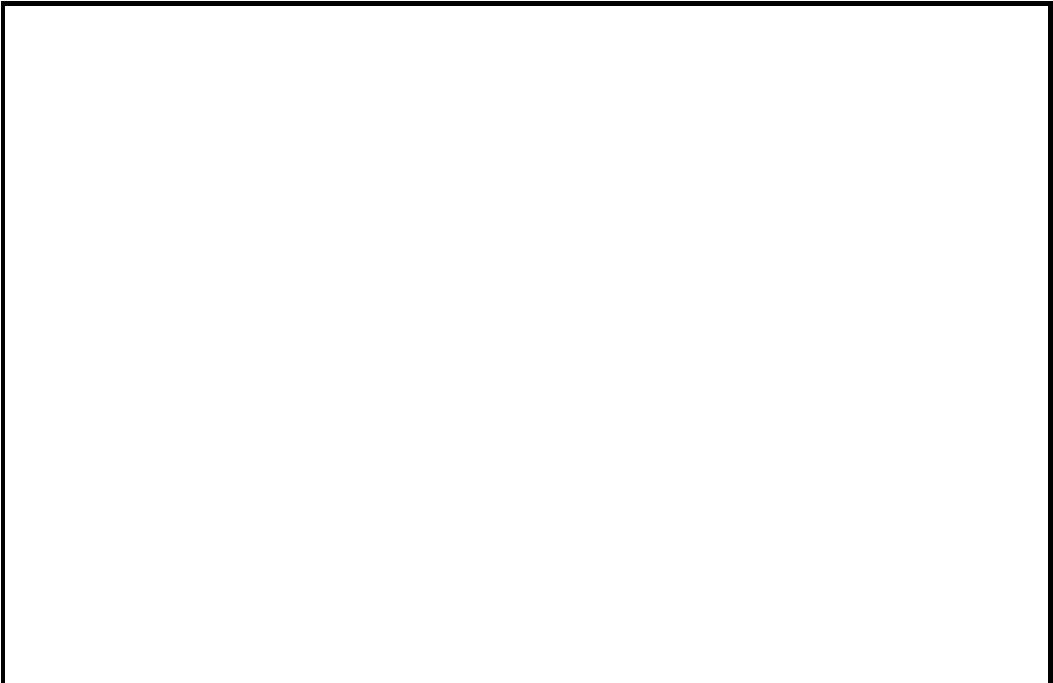
Archeology

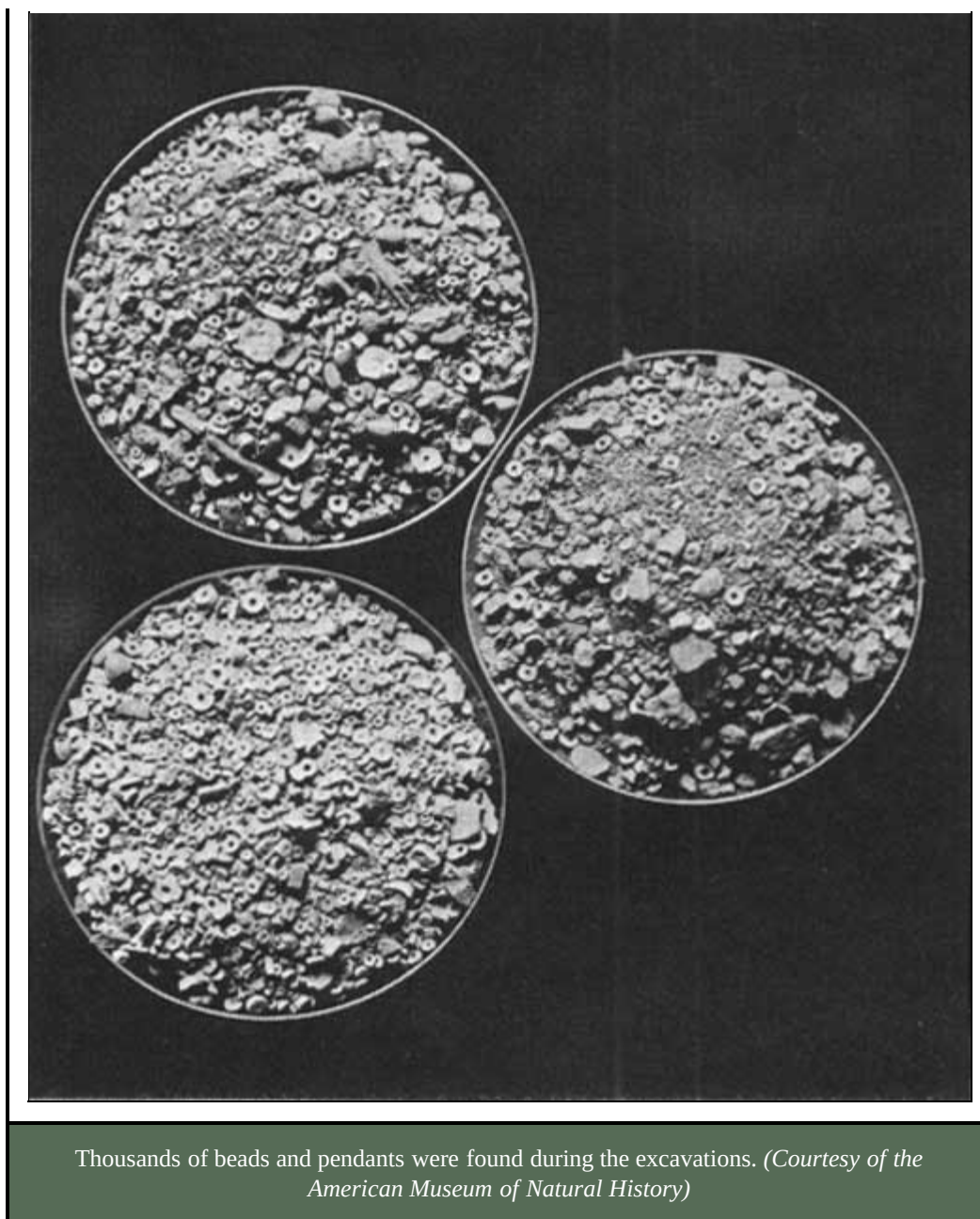
Chaco Canyon National Monument is important primarily because it contains outstanding archeological remains of the Anasazi (Basketmaker-Pueblo) culture. Within the monument there are over 400 recorded archeological sites ranging from simple one-room pithouse dwellings to complex pueblos containing several hundred rooms. In addition to the thousands of living quarters and storage rooms, these archeological sites include ceremonial structures known as kivas and great kivas, pictograph sites, prehistoric stairways carved in the cliffs, and several archeologically important trash mounds. They also include complex water conservation and distribution systems which have only recently come to light. From these sites has come a wealth of stone, bone, clay, and fiber artifacts which, in combination with the physical remains, have been helpful to the archeologist in deciphering the story of man's existence here.





Carved jet frog. (Courtesy of the American Museum of Natural History)



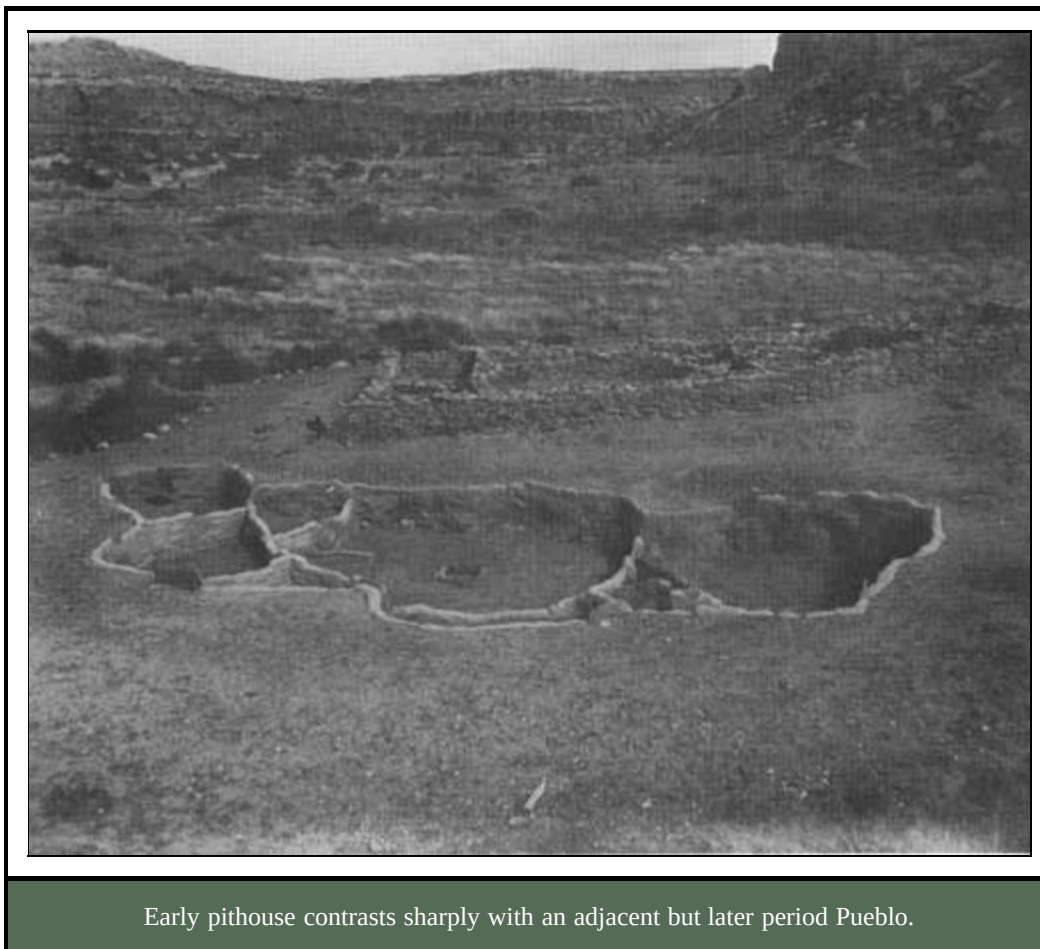


Thousands of beads and pendants were found during the excavations. *(Courtesy of the American Museum of Natural History)*

Occupancy of this area dates from about A.D. 600 to about A.D. 1275, during which time the cultural traits changed quite radically from a simple farming culture to one with a high degree of sophistication. The greatest distinction of these prehistoric people lies in the massiveness of the multi-storied buildings they constructed, the excellence of their stone masonry, the high peak of proficiency shown in their arts and crafts, and the engineering knowledge evidenced by their highly developed water collecting and distribution systems.

Perhaps the most distinctive, yet least known aspect is the highly complex social and religious organization of the community which would have been necessary in achieving all they accomplished.

The economy was principally based on floodwater farming—at first corn and squash and later beans. These farm products were supplemented by the gathering of wild plants and seeds and by wild game which was snared or hunted. They did some weaving and made elaborate baskets, jewelry, and pottery. These items formed the basis for a lively trade with peoples in far distant places as indicated by the remains of numerous parrots, macaws, and copper bells.



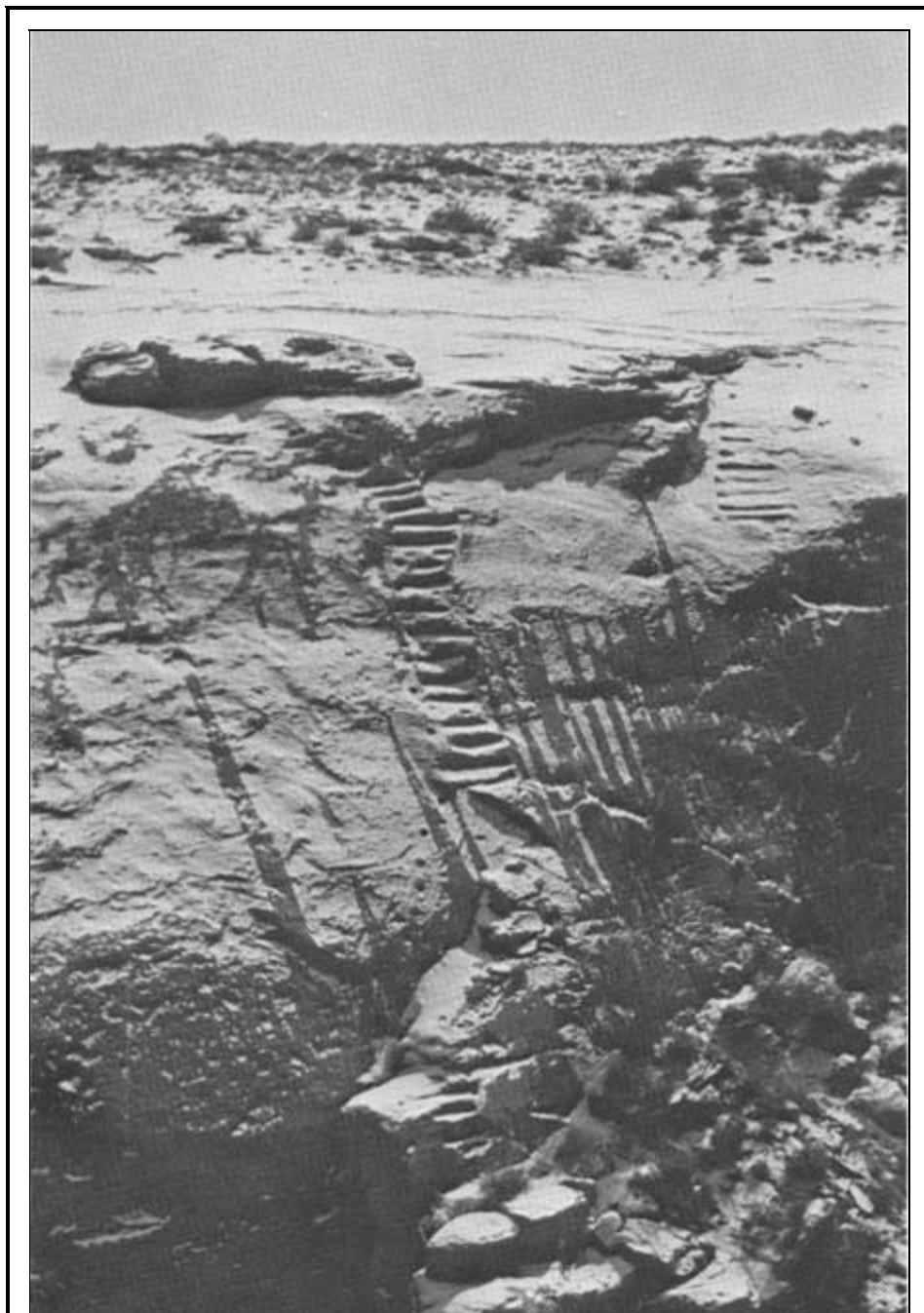
During the earlier Basketmaker periods, these people lived in small circular structures called pithouses (because the floors were 1 to 3 feet below the surrounding ground level). The walls and flat roof were made of poles, chinked with bark and brush, and the whole covered with a thick layer of mud. Later these individual pithouses were replaced by multi-family dwellings built entirely above ground and with walls made of stone laid in adobe mortar. The small rectangular, flat-roofed rooms were at first built in rows or clusters. Later, additional rooms were built beside or on top of the earlier rooms and the development of the great multi-storied, multi-roomed pueblos began.



Pueblo Bonito—one of the most outstanding Indian ruins in the Southwest.

The largest of these villages was Pueblo Bonito which had approximately 800 rooms, including more than 30 kivas and 2 great kivas. This village covered more than 3 acres, in places was 4 or 5 stories high, and may have housed as many as 1,200 people. Other major prehistoric developments include:

Chetro Kettle	Casa Rinconada
Kin Nahasbas	Wijiji
Una Vida	Hungo Pavie
Pueblo Alto (2)	Kin Kletso
Casa Chiquita	Pueblo del Arroyo
Tsin Kletzin	Penasco Blanco
Pueblo Pintado	Kin Ya-ah
Kin Biniola	Kin Klizhin





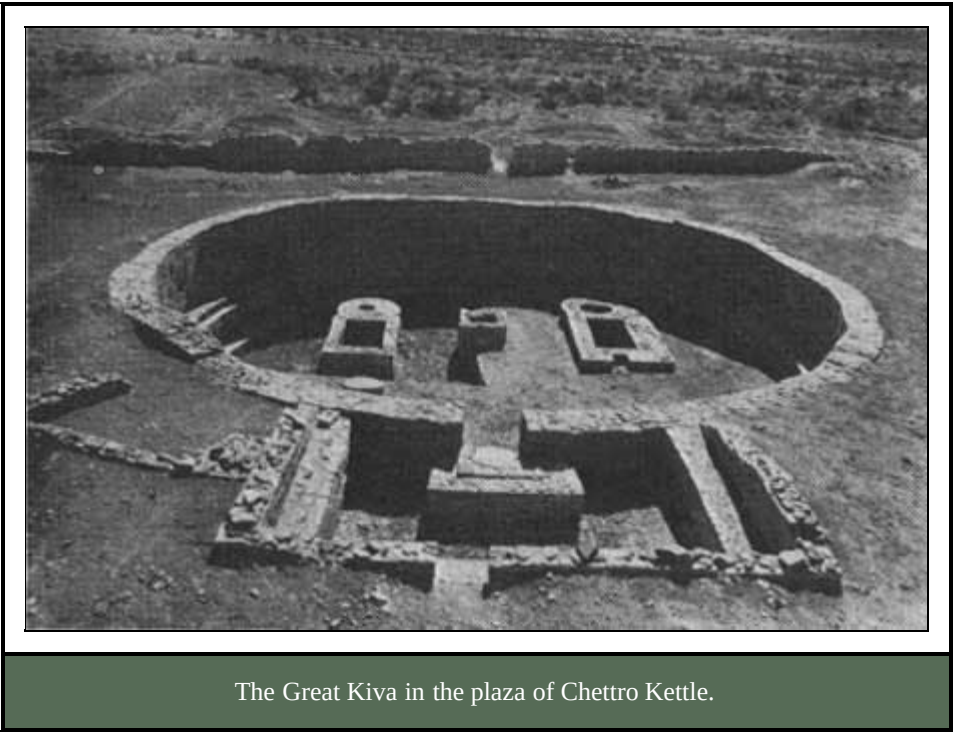
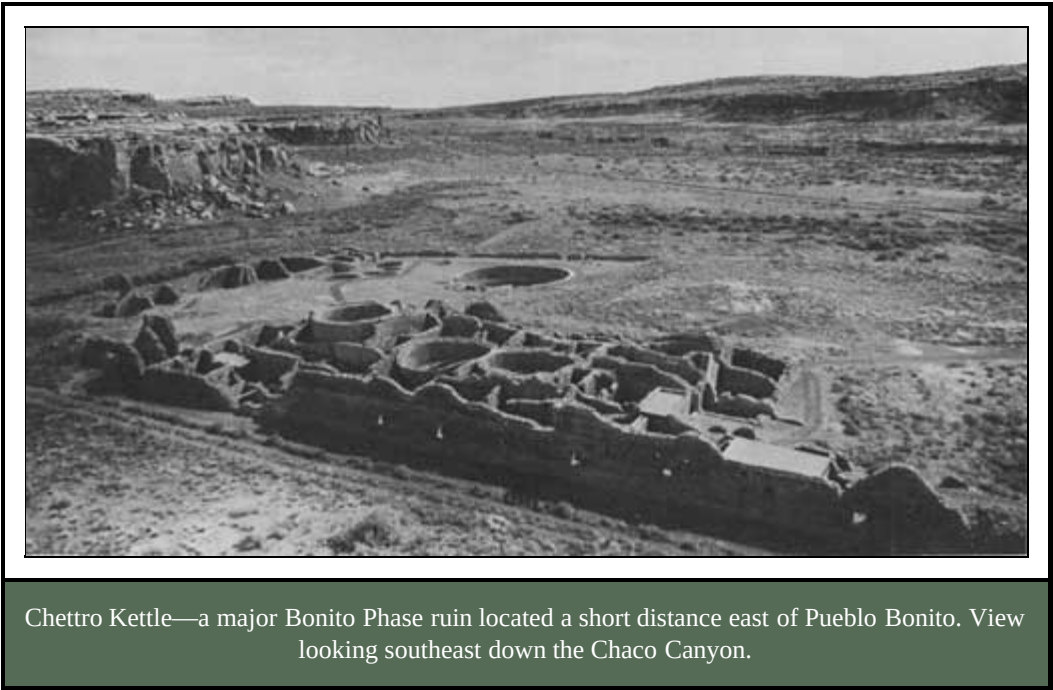
One of several impressive prehistoric stairways to the canyon rims. The size of the steps—often 8- to 10-feet wide—suggest ceremonial use.

In studying the later periods of development at Chaco Canyon, archeologists have identified three main cultural phases, two of which (the Bonito and Hosta Butte) were the end products of long developing traditions in the Chaco area, and the third phase (McElmo) involved migrants who came into the area later.

The Bonito Phase is represented by the large classic villages concentrated mainly on the north side of the canyon (Pueblo Bonito, Chetro Kettle, Pueblo del Arroyo, Hungo Pavi, Una Vida, and Wiji); by the isolated great kivas (Casa Rinconada and Kin Nahasbas); and by certain of the outlying villages (Penasco Blanco, Pueblo Pintado, Old Alto, Kin Biniola, Kin Klizhin, and Kin Ya-ah). Architecture is characterized by preconceived plan, multi-storied structures, "D," "E," or oval-shaped ground plan with open plaza or courtyard area enclosed by rooms. Masonry is heavy, cored and with decorative veneers. Kivas and great kivas were common. The wide rock stairways of possible ceremonial significance and the extensive water conservation and distribution systems are closely associated with this phase. Artifacts from these sites contain a greater number and variety of luxury items such as turquoise mosaics and necklaces, jet or gilsonite inlays, tall cylindrical vases, painted sandstone, parrots, macaws, and copper bells.

The Hosta Butte Phase villages are generally small and scattered along the south side of the canyon. They are characterized by random, irregular clusters of rooms, generally limited to one or two stories. The house blocks enclose kivas of a different type than in the Bonito Phase. There are no open courtyards or plazas and no great kivas. Masonry is thin and fragile, not cored and without decorative veneers. The luxury-type artifacts seen in the Bonito Phase

are absent.

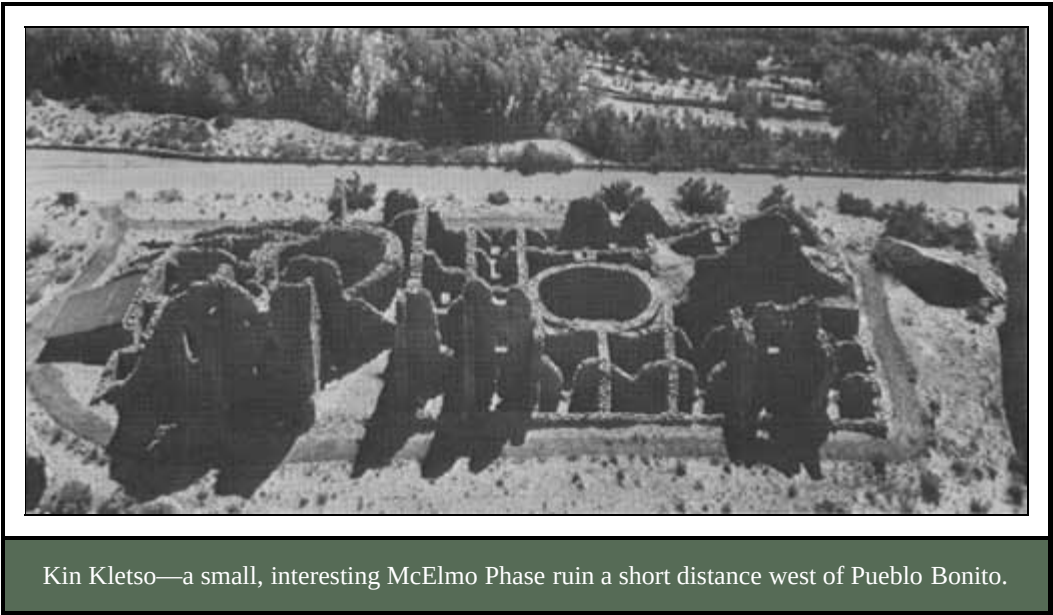




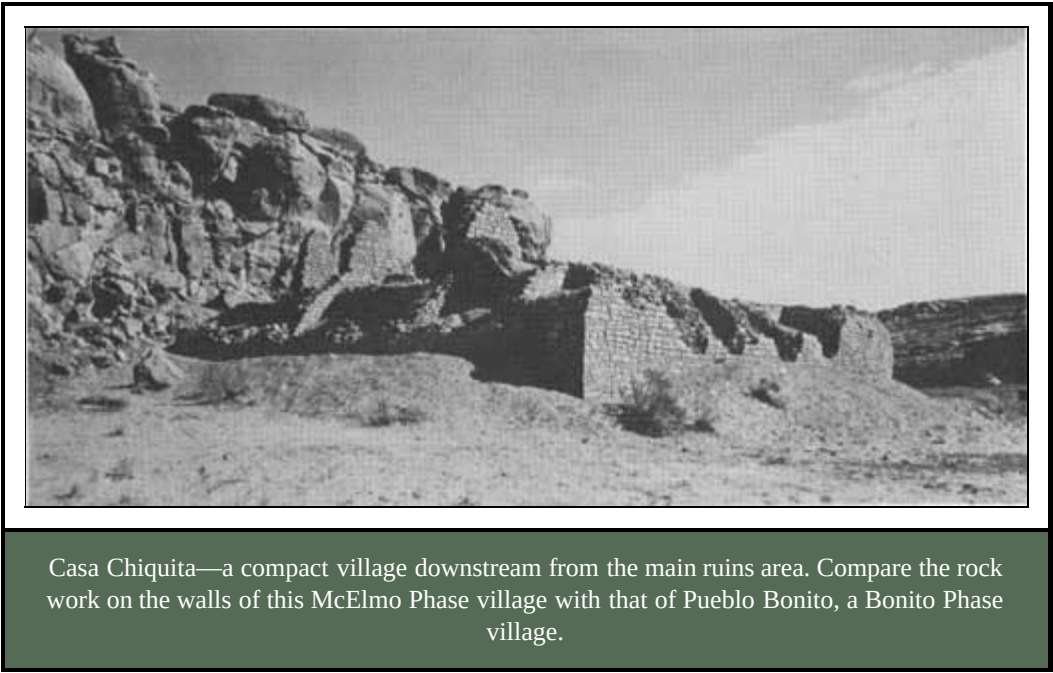
Typical ruin of the Hosta located on the south side of the canyon opposite Pueblo Bonito. Excavated early pithouse site to the left of the main ruin.



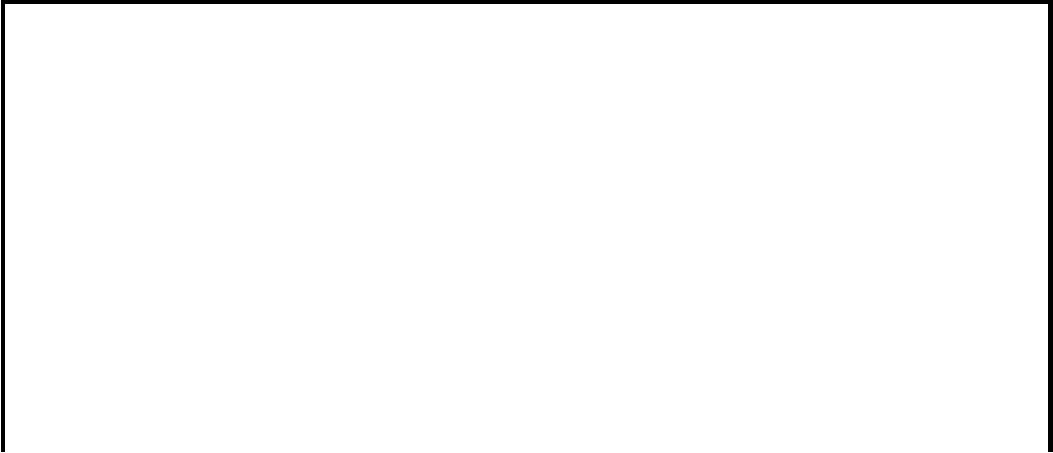
Masonry detail at Pueblo Bonito, showing doorways and the excellent masonry construction representative of the Bonito Phase.



Kin Kletso—a small, interesting McElmo Phase ruin a short distance west of Pueblo Bonito.



Casa Chiquita—a compact village downstream from the main ruins area. Compare the rock work on the walls of this McElmo Phase village with that of Pueblo Bonito, a Bonito Phase village.





This Great Kiva reflects the massive stonework and classic architecture of the Bonito Phase.

The McElmo Phase architecture is characterized by compact, multistoried, planned villages with kivas enclosed in house blocks but no great kivas. Sites representative of this phase are Kin Kletso, Casa Chiquita, New Alto, and Tsin Kletzin. Masonry is cored, thin-walled, and often faced with large blocks of sandstone, pecked and "dimpled," with chinking between stones. Artifacts were generally poor in both quantity and diversity except for the large-scale manufacture of the distinctive McElmo black-on-white pottery.

In summary, the Bonito Phase is represented by the large multiroomed villages concentrated along the north side of the canyon.

The Hosta Butte Phase, which was present at Chaco from nearly the same time as the Bonito Phase, was largely concentrated along the south side of the canyon as small suburban units.

The McElmo Phase sites are viewed as latecomers into the area. The people of this phase were migrants from the San Juan area who came into Chaco during the period 1030-1050, bearing their distinctive architecture and carbon-painted pottery. Their arrival caused no break in activities among the large cities of the Bonito Phase or in the suburbs of the Hosta Butte Phase where these original settlers continued making iron painted pottery and pursued without disruption their own socio-ceremonial, agrarian way of life. All three groups of people henceforth lived cooperatively side by side. The inference is strong that although the urban centers of the Bonito Phase were the directing force in the fields of architecture, town planning, and irrigation systems, the populations of all three phases participated in and benefited from the construction of the wide stone stairways and the extensive irrigation developments.

Between 1150-1200 both natural and man-caused forces acted with equal vigor on the Chaco population, causing them to abandon the area. The urban centers of the Bonito Phase, the suburban Hosta Butte villages, and the intrusive McElmo Phase towns were all abandoned about the same time.



~~Penasco Blanco~~: Pueblo Pintado. A major ruin located on the mesa in the northwest portion of the monument, partially on private inholding.

Although additional research on the reasons for abandonment is needed, past studies seem to indicate that there probably was no single cause but a series of complex and interrelated causes. The Chaco was an area of marginal pine forest interspersed with stand of pinyon and juniper; it was on the edge of the gradual, upward recession of southwestern pine forests that has been in progress from fairly remote times. Coupled with this natural, gradual recession, the forest border was further reduced by the profligate cutting of young trees for construction, most active over a hundred-year period beginning in the early 11th century. Intensive farming, numerous ditches, and the extension of small house sites, with their usual barren environs, out in the canyon floor, eliminated much of the perennial cover there, leaving it particularly susceptible to erosion. Local tree-ring records are not available for the Chaco in post-A.D. 1124 times. Hence it is entirely possible that a localized drought occurred of such intensity as to cause crop failures, to have triggered arroyo cutting, and to have reduced the population. In short, a receding forest, coupled with forest denudation, soil erosion, arroyo cutting, and a probably change in rainfall are viewed as the initial causes for abandonment. With the resulting crop failures would have come famine, lowered resistance to disease and a general reduction in the population. Lacking a sound understanding of the relationship of these causes and effects, this series of apparently unrelated calamities would have raised serious questions as to the effectiveness of the social and ceremonial structure which was supposed to prevent them.

The resulting internal pressures, doubts, and conflicts undoubtedly resulted in at least a partial breakdown in the previously well-organized social structure. Neighboring nomadic tribes may well have taken advantage of these disruptions in carrying out their ceaseless attempts to rob and harass the Chaco villages.

Whatever the cause or causes, the Chaco people gradually left the area and, by about 1200, the numerous villages and farms were abandoned.

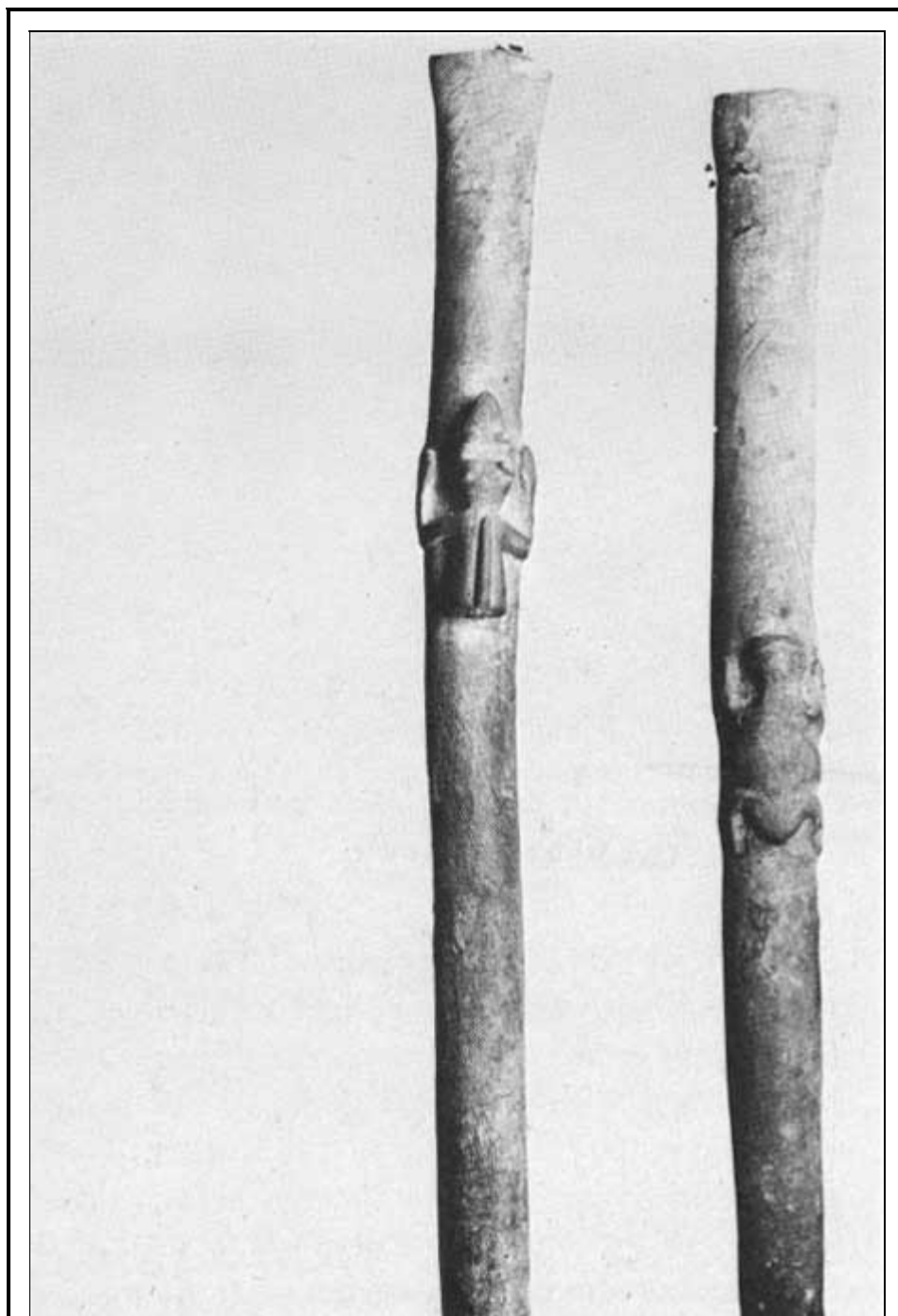
At least a large part of the population who abandoned the Chaco followed the retreating forest border and the retreating arable land upstream beyond the headwaters of the presently entrenched arroyo, reestablishing themselves 25 to 35 miles east of Pueblo Bonito. Some of

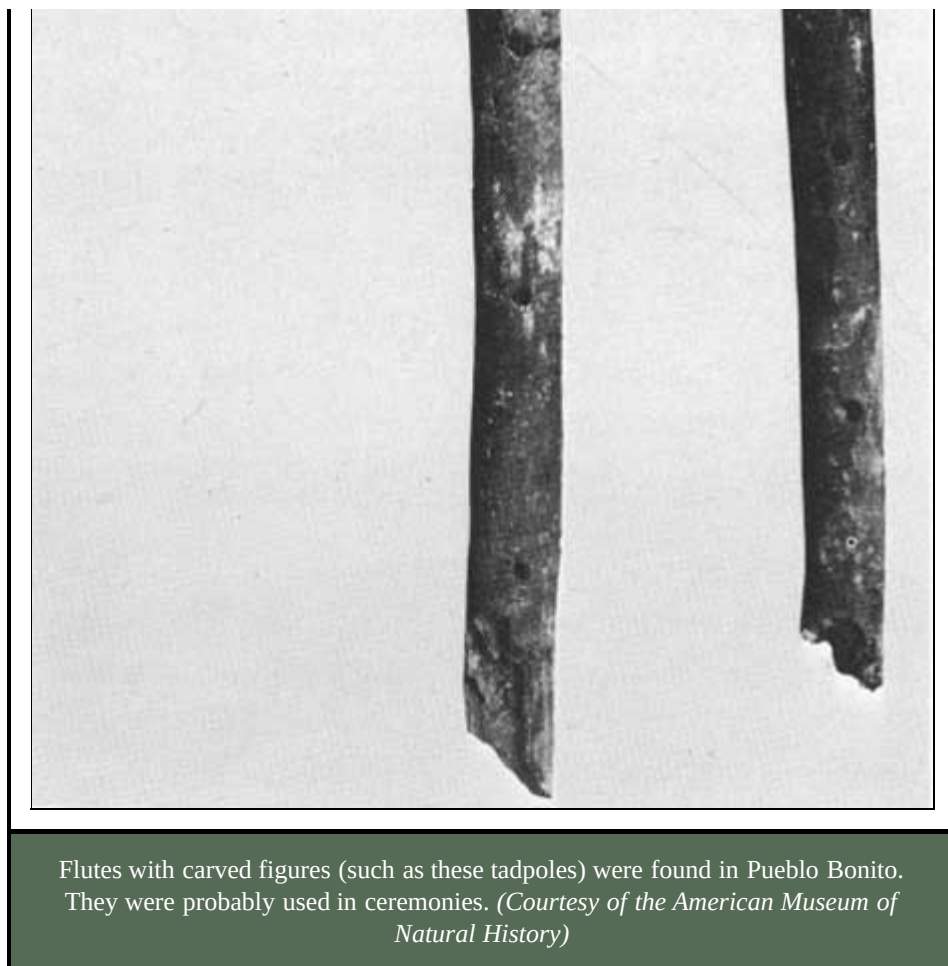
this group may have shortly thereafter continued on to the Rio Grande drainage to the east as forerunners of the general movement from the San Juan to the Rio Grande. Other groups lingered in the extensive area between the Chacra Mesa and the Rio Puerco where they were met by survivors from the San Juan from which some pushed on to the Rio Grande.

Between 1200-1350, small groups of Mesa Verde migrants drifted in and out of Chaco, either reoccupying some classic Chaco sites or constructing small, new units.

During the period 1350-1745, Pueblo peoples fleeing the Spaniards after the Rebellion of 1680 commingled with the Navajos, built fortified sites, lived in Navajo occupied country for awhile, and eventually returned to their original homes.

During the period 1772 to 1889 the Chaco region was populated by scattered Navajo families. Actually, this occupation extends to the present day and represents the last Indian occupation of the region.





Flutes with carved figures (such as these tadpoles) were found in Pueblo Bonito. They were probably used in ceremonies. (Courtesy of the American Museum of Natural History)

History

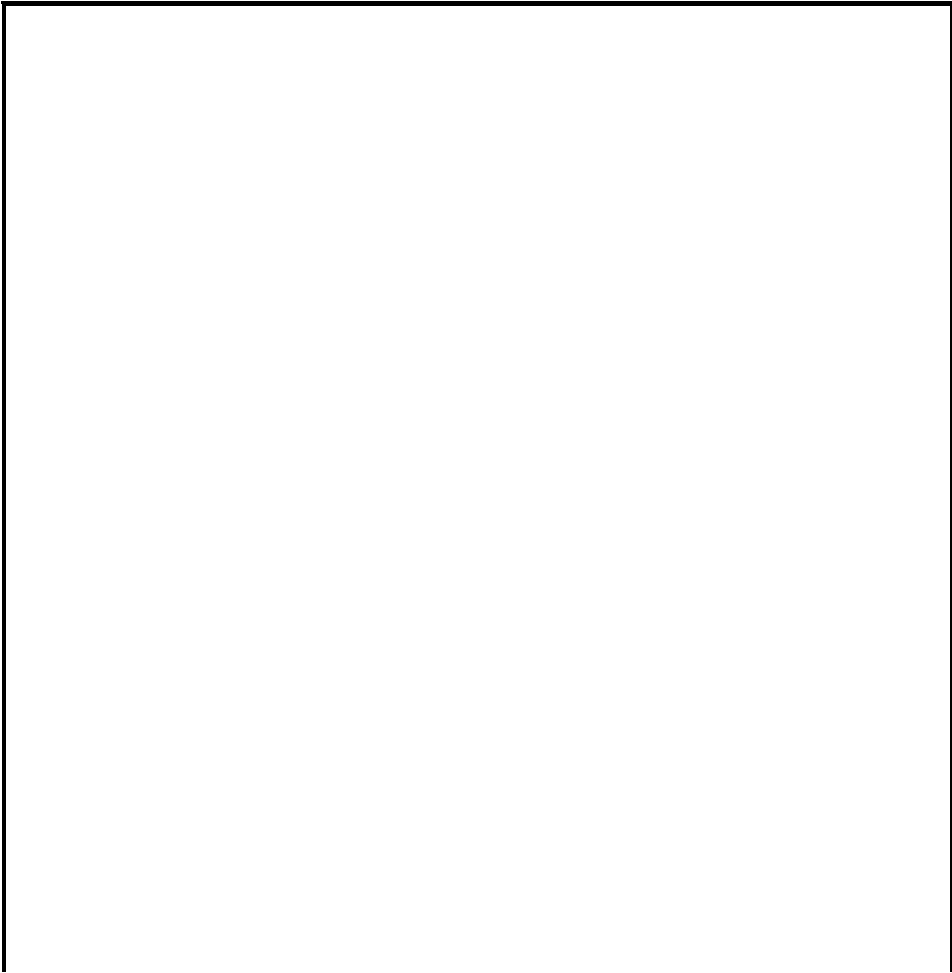
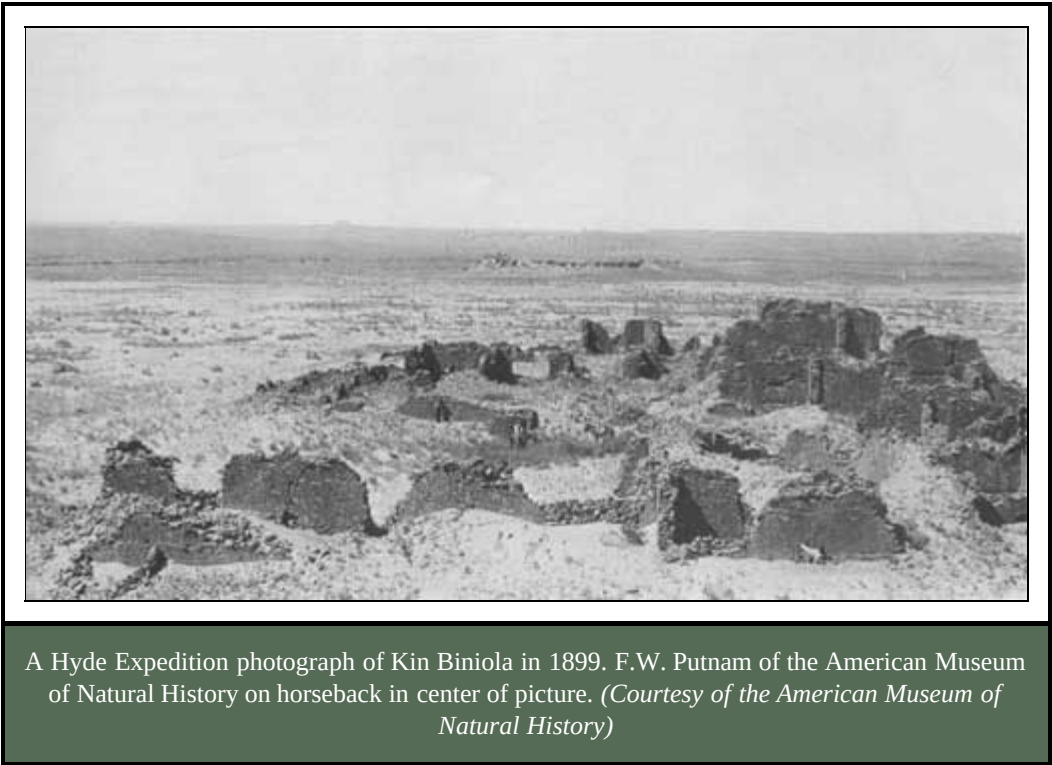
The name Chaco, of unknown derivation, was first referred to by the Spaniards in 1768, when "Mesa de Chaca" (Chacra) appears in a document concerned with the western boundary of a tract of land. The name Chaco also appears on maps of the late 1700's, and reference to the ruins first occurs in Josiah Gregg's book, *Commerce of the Prairies*, published in 1844, although he did not visit the area. In 1849, Lt. James H. Simpson and the artist Richard H. Kern took notes and made sketches of some of the ruins, while accompanying Lt. Colonel John M. Washington's expedition through the Navajo country.

Aside from occasional scouting trips passing through Chaco Canyon in conjunction with military operations against Navajos to the west, no significant visits were made until W. H. Jackson in 1877 led a Hayden Survey Party into the ruins area of the canyon. Jackson's photographic record was lost, due to experimentation with a new process, but his report was published in 1878. Victor Mindeleff photographed the ruins in 1887-88 for the Bureau of American Ethnology. In the latter year, Charles F. Lummis, the prolific writer on southwestern scenes and Indians, visited the area.

In 1896, Richard Wetherill, who earlier had discovered a great many outstanding prehistoric ruins in the southwest, including the great cliff dwellings of Mesa Verde, moved to Chaco Canyon. In the same year he interested Talbot B. Hyde and his brother Frederick E. Hyde, Jr., of New York in undertaking excavations in the ruins.

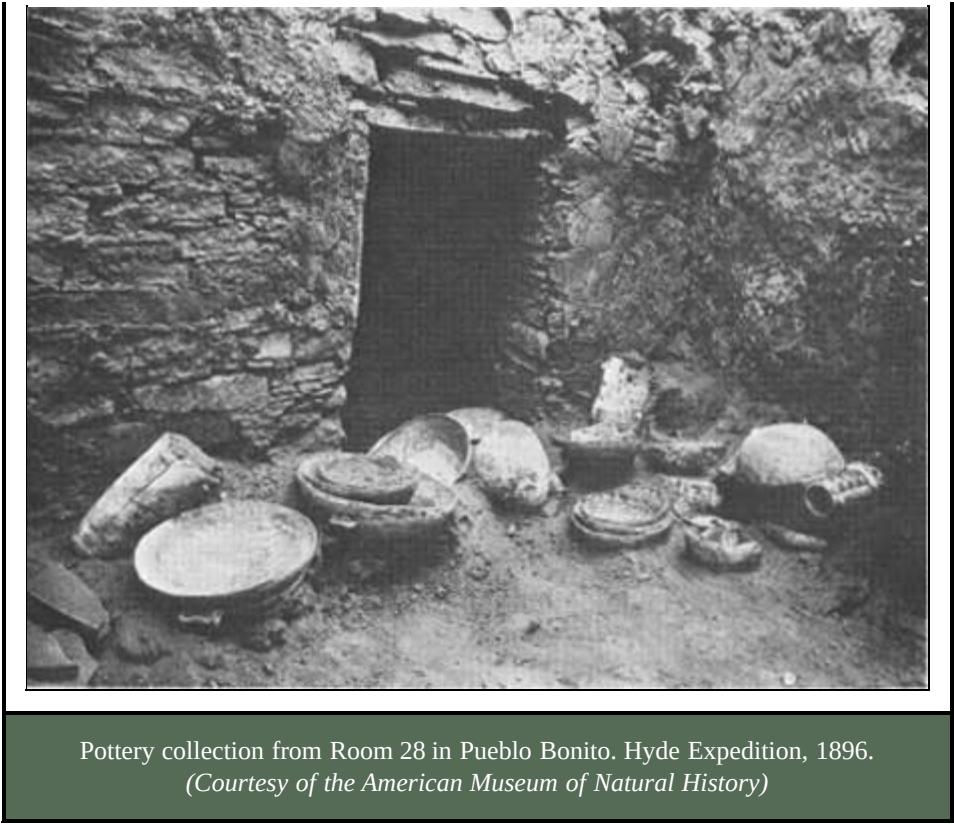
The Hyde expedition of 1897-1900 was the first to conduct scientific excavations in Chaco Canyon. These were under the direction of F. W. Putnam of the American Museum of Natural History, with George H. Pepper as the Field Director. Included was a geological

survey of the canyon under Richard E. Dodge of Columbia University. The final results of these investigations in 198 rooms were published by Pepper in 1920 in the *Anthropological Papers of the American Museum of Natural History (Volume 27)*. Several articles of specific interest were published earlier in other scientific outlets.





A Hyde Expedition photograph made in 1896 of an archeological excavation in progress; Room 62, Pueblo Bonito. Baskets, pottery and other objects have been uncovered but are still in place. *(Courtesy of the American Museum of Natural History)*





Human head in clay. Suggestions of hair styles, decoration and personal adornment are often found on these fragments. *(Courtesy of the American Museum of Natural History)*

In early 1900, Wetherill applied for a homestead which encompassed three of the major ruins —Pueblo Bonito, Chetro Kettle, and Pueblo del Arroyo. In his affidavit of 1901, Wetherill indicated that he would cooperate with the Government and relinquish title to the ruins when requested to do so.

In 1902, Dr. E. L. Hewett, who later became the prime mover for the "Antiquities Act of 1906," mapped the ruins of Chaco Canyon. Passage of the Antiquities Act to preserve the country's prehistoric ruins from vandalism or unauthorized search was enacted on June 8, 1906. In January 1907, Wetherill relinquished any claim that he had previously held on the 36.75 acres containing the three ruins and on March 11, 1907, Chaco Canyon National Monument was established.

Three years later, Richard Wetherill, who was operating a trading post in the canyon established during the days of the Hyde expedition, was murdered. His grave is located in a small cemetery a short distance down the canyon from Pueblo Bonito.

In 1916, N.C. Nelson and Earl Morris trenched refuse mounds at Pueblo Bonito, and Hewett, then with the School of American Research, conducted a reconnaissance of the ruins. In 1920-21, the School initiated its first project in the monument but discontinued further work while the National Geographic Society project of 1920-27 was in operation.

The Society's excavation was under the direction of Neil M. Judd, Curator of Archeology at the U.S. National Museum and included tree ring studies in 1928-29 directed by Dr. Andrew E. Douglass of the University of Arizona. The results of these intensive studies of the large pueblos, including Frank H. H. Robert's report, *Shabik'eshchee—An Early Site*, have since appeared in a number of journals and monographs, the most recent in 1964.

In 1929 the School of American Research renewed work under Hewett's direction in cooperation with the University of New Mexico and conducted a number of excavations yearly through 1937. Since that date the National Park Service has made periodic research studies, salvaged ruins threatened by erosion, and maintained a continuing stabilization program to preserve standing ruins.

There are few historic remains at Chaco. Richard Wetherill's trading post, built against the back wall of Pueblo Bonito in 1897, has long since been razed, as have the numerous buildings and hogans built by the University of New Mexico to house its field school in archeology between 1936 and 1947. The ruin of a coal mine, developed and used by Richard Wetherill and others, is located in the South Gap section of the monument. The only other evidence of occupancy, other than Indian, is the remains of a small masonry building located under the cliff north of Penasco Blanco, which was built by a cattle company prior to 1896.

Natural History

Geology—The walls of Chaco Canyon are part of a geological formation known as the Mesaverde Group. Two strata of this group are visible in the canyon walls. The upper rust-colored strata, characterized by the presence of marine fossils, is called Cliffhouse sandstone. Below this lies the Menefee formation—1,800 feet thick and composed of strata of coal, shale, and buff-colored sandstone, in which fossil plants predominate. The Mesaverde Group, of the Upper Cretaceous period, is overlain in the northern sections of the monument by Lewis shale and Picture Cliffs sandstone.

These sedimentary formations were laid down in ancient seas and lakes. Subsequent earth movements elevated the area to form the southern reaches of the San Juan Basin, a part of the Colorado Plateau. Erosional forces have continuously eaten away at the great beds of sandstone following the uplifting of the area.

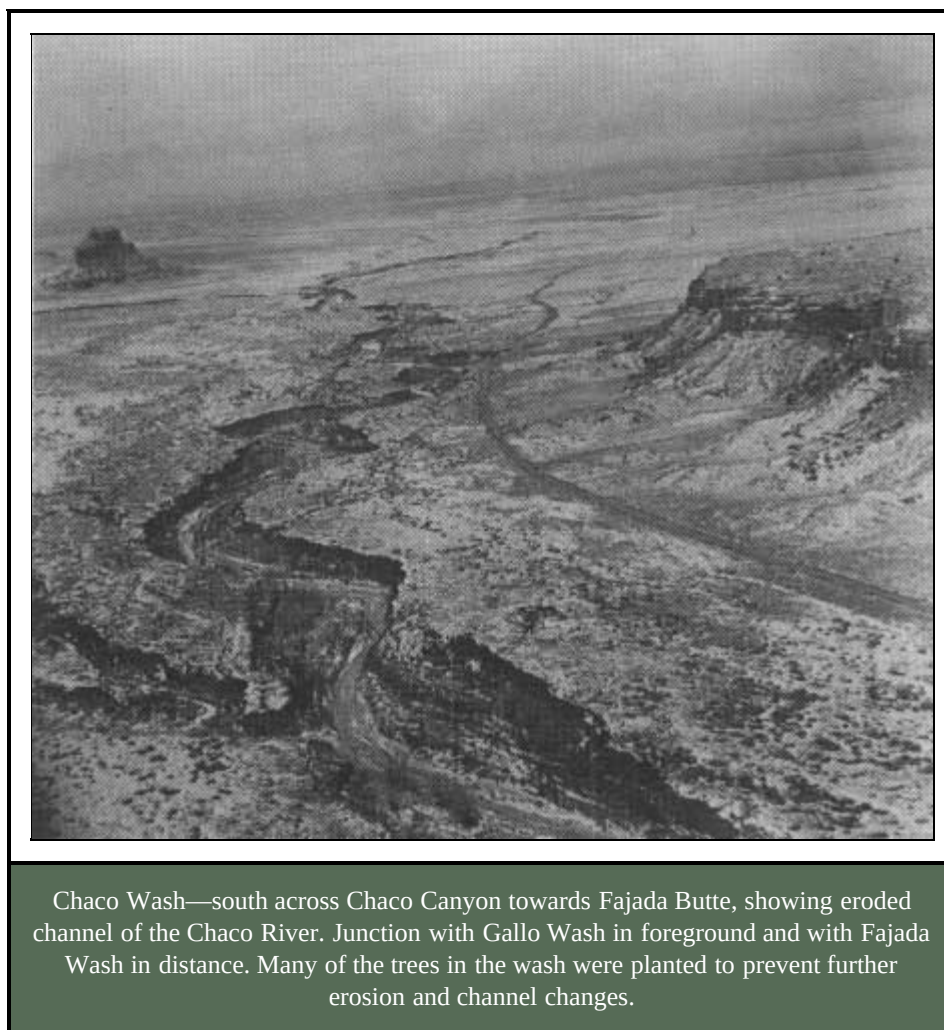
Vegetation—The flora of the Chaco Canyon area is of neither great abundance nor wide diversification.

Mesa tops are sparsely spotted with juniper and pinyon pine. Numerous species of shrubs, annuals, and grasses are also found on the mesa tops; some of the predominate are saltbush, the snakeweeds (*Gutier reziasarothrae* and *microcephala*), prickly pear cactus, gramma, Indian wheat, and rice grass.

Greasewood and saltbush predominate on the canyon floor and rabbitbrush is common in many sections. The exotic tumbleweed is very common. Shrubs, including mountain privet, sumac, and wild cherry, are found mainly in the sheltered breaks.

This general region was seriously overgrazed in the past and, as a result, the vegetative cover was greatly altered and the land was badly eroded. Because the monument was fenced and grazing was eliminated in 1946, the vegetative cover is now gradually returning. Extensive

soil and moisture conservation work has been done in the area in an effort to stabilize the land and prevent further erosion and danger to priceless ruins. In addition to constructing check dams, diversions, and dikes, considerable areas have been seeded to native grasses. In attempting to control streambank erosion, jetties have been installed and several species of cottonwood and willow were planted. In the early days the exotic salt cedar was utilized in this work and it continues to thrive.



Wildlife—Wapiti and pronghorn are known to have been hunted by the prehistoric inhabitants of Chaco Canyon, and these animals are reported to have been seen in the monument on rare occasions within the past 30 years. The monument, however, does not constitute a complete habitat for the larger animals and space is too limited for reintroduction.

Observations of mule deer are common within the monument at all seasons. Bobcats are also commonly observed. Desert fox are common but are not often seen by visitors since they are nocturnal in habit. The population of coyotes is reduced periodically by predator-poisoning projects conducted by other agencies beyond the exterior boundaries.

The most important rodents to the visitor are the antelope ground squirrel, prairie dog, and the cottontail rabbit.

The most important of the resident birds are the scaled or blue quail, the brown towhee, loggerhead shrike, great horned owl, and rock wren. Turkey vultures, red-tailed hawks, common raven, cliff swallows, and numerous other migrants are commonly observed by visitors.

Visitors find the several species of small lizards which inhabit the ruins interesting to watch. Gopher snakes and bull snakes are common. The one poisonous snake, a prairie rattler, is common, but seldom seen by visitors.

FACTORS AFFECTING RESOURCE AND USE

Legal Factors

Establishment—Chaco Canyon National Monument was established by Presidential Proclamation No. 740. March 11, 1907 under authority of the Antiquities Act of June 8, 1906. The area thus established consisted of the monument itself (31 sections of land) and four detached areas; Kim-me-ni-oli (now Kin Biniola), Kin-Yai (now Kin Ya-ah), and Casa Moreno (now Casa Morena), each containing 160 acres, and Pueblo Pintado with 320 acres.

A resurvey of the lands in this area revealed that some of the lands described in the proclamation did not, in fact, contain the described ruin and a second proclamation was required to correct this situation.

The second proclamation—No. 1826 of January 10, 1928—added one section of land to the monument itself (a section containing the Tsin Kletzin Ruin) and added 40 acres of land to the Kin Biniola detached area so as to include the Kin Biniola Ruin itself. It also added a new 40-acre detached tract containing the Kin-Kla-Tzin Ruin (now Kin Klizhin). On the map which accompanied the original proclamation, this ruin was shown one mile to the east and in the main monument section. A 160-acre area containing the Pueblo Pintado Ruin was also established by this proclamation. This unit is 1-1/2 miles west of the 320-acre tract erroneously established by the previous proclamation to protect this ruin.

The second proclamation corrected previous errors by adding lands on which the ruins were actually located, but did not delete any of the previously authorized lands.

The Seventy-first Congress, in an Act dated February 17, 1931 (46 Stat. 1165), authorized the exchange of private lands within the monument for Federal lands elsewhere in New Mexico; authorized stock driveway use across monument lands to owners of certain lands in and adjoining the monument; and specified certain means by which the University of New Mexico, the Museum of New Mexico, and/or The School of American Research could continue scientific research on their former lands, or—at the discretion of the Secretary of the Interior—on other lands within the monument.

Legal Provisions

Oil, gas, and mineral rights on Sections 3 and 11, T.21N., R.11W. (except for that portion of Section 11 which was originally included in the Ackerly Tract) are still outstanding, as the owners retained these rights when they sold the land to the University of New Mexico.

Under provisions of the Act of February 17, 1931, a memorandum of agreement between the U.S. Department of the Interior and the Regents of the University of New Mexico was prepared to reserve their rights to continue scientific research. This memorandum of agreement, which was signed by the Secretary of the Interior on June 3, 1949, grants the Regents perpetual preferential rights to conduct research on lands within the monument formerly owned by the University.

This same Act provides that "any owner of patented lands in the monument now owning other lands adjoining said monument, which may be separated by the acquisition of land in the monument . . . shall be . . . authorized to drive stock across said monument at an

accessible location . . . which right shall also accrue to any successor in interest to said adjoining lands or to any lessee of such lands." As a result of the checkerboard pattern of railroad land grants which existed in this area, the above provisions, in effect, give perpetual rights to drive stock across the monument to owners or lessees of most of the adjoining lands. Although in recent years nearly all the stock is trucked rather than driven, the right to drive stock across the monument still exists.

Land Status

The acreage of land within the existing boundaries is as follows:

Federal	21,149.35
Non-Federal:	
Kin Klizhin Ruin	40.00
Penasco Blanco Ruin	160.05
Casa Morena Ruin	160.00
	360.05
	360.05
TOTAL	21,509.40

Climate

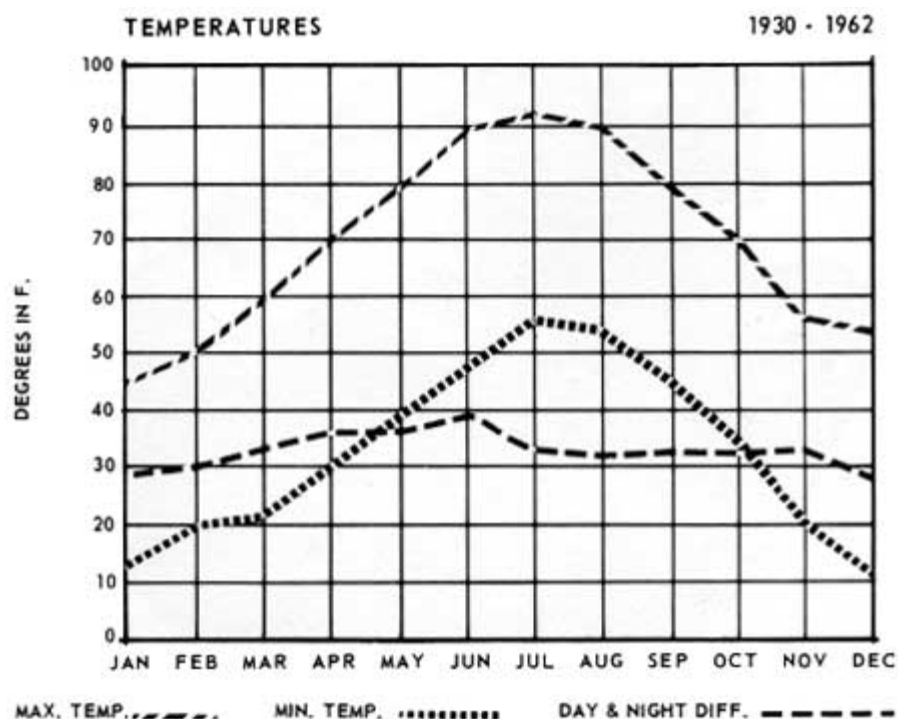
The climate at Chaco Canyon is generally mild, dry, and sunny. Temperatures range from a high of 108° to a low of minus 38°. Precipitation averages 8.42 inches per year. Approximately 18 to 19 inches of snow accounts for less than 1 inch of the total precipitation. Snowstorms usually deposit about 4 inches of snow, which normally evaporates within 2 or 3 days except on north-facing slopes. Most of the precipitation comes from thundershowers which occur somewhere in the immediate vicinity almost daily in July and August.

Windstorms of several days' duration, with speeds up to 40 or 50 miles per hour, can be expected in the spring. Generally winds are from the west and carry varying amounts of dust and sand.

First frosts come about September 1 and the last frost of the season occurs about April 30. The ground may be frozen to a depth of 3 feet during January, February, and March. Rainstorms and flash floods which cause gully-cutting and make access roads temporarily impassable can be expected periodically from about June 15 through September 15.

Fire History

Fire seasons extend from March through June and September through November. Only one fire, burning less than an acre, has occurred in the past 10 years, but the vegetative cover is dense enough on the canyon floor to support a wild grass and brush fire at any time during the fire seasons.



Terrain

Chaco Canyon extends from the west boundary of the monument for 25 miles in a southeasterly direction to its headwaters at the base of the Continental Divide. At about the southeast boundary of the monument, the relatively flat canyon floor widens to a maximum width of about 1 mile. The sandstone cliffs rise vertically to a height of 100 to 150 feet and a short distance above these cliffs is a second broken cliff line about 50 feet in height which runs parallel to the first. The Chaco Wash itself is a 30-foot-deep vertical-walled channel almost 300 feet wide, which meanders down the center of the canyon floor.

The Chaco and three main tributaries, the Gallo, Fajada, and Mockingbird Washes, come together within the monument. Near the west boundary the Chaco Wash joins the Escavada Wash to become the Chaco River, which flows into the San Juan River near Shiprock, New Mexico, some 65 miles to the northwest.

Soil

Barren rock, or a very light soil cover, is usually found on the mesas in the vicinity of cliff tops, with progressively deepening soil cover on more sheltered locations beyond the edges of the cliffs. Core drilling, made in 1963 to a depth of 200 feet on the canyon floor immediately adjacent to the monument's Gallo entrance, showed uninterrupted deposition of sandy-clay soil over the entire depth of the test.

The soil composing the canyon floor is predominately very fine wind-blown or water-borne clay-like particles mixed with coarser particles of disintegrated sandstone. When dry it is very hard and compact to at least a depth of 6 to 8 feet. Percolation is generally slow. The surface washes away rapidly during summer rainstorms. A distinctive quality of the soil is that it is very subject to "piping" which is said to be caused by the presence of a high ratio of salts and alkalis, which dissolve in water to leave voids in the soil composition. Pumice-block buildings and concrete slab floors, walks, and entries, built from 1952 to 1958, have cracked badly.

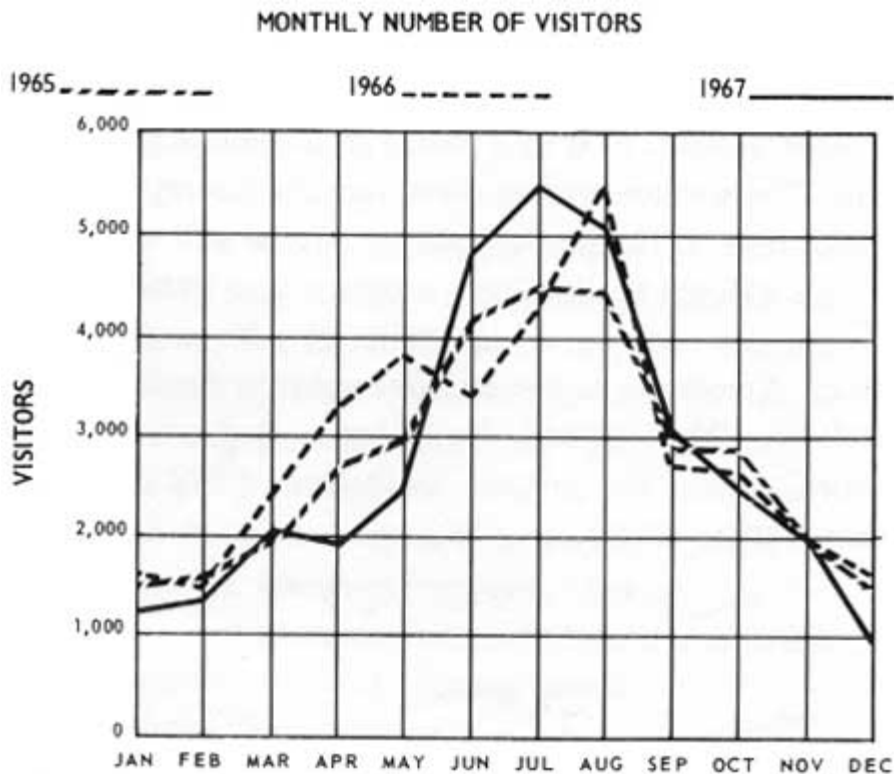
Water

There are no permanent lakes, streams, or impoundments within 15 miles of the monument. Domestic water for the Fajada (Headquarters) area is obtained from two shallow wells excavated in the Chaco Wash. A more adequate and dependable supply of water is expected from the recently completed and tested deep well located in the utility area.

VISITOR USE

Visitor use at Chaco Canyon has increased steadily in recent years—from 2,013 in 1950 to 28,830 in 1960 and 32,943 in 1967. This is in spite of road conditions which most travelers of today consider intolerable and try to avoid. As access roads are improved and paved in this vicinity, substantial increases in visitation can be anticipated.

All visitors to Chaco Canyon now arrive by car and out-of-state travel accounts for approximately half of the total. Most of the visitors come in family groups, with about 4 percent in organized or special tour groups. The average length of stay is 4.5 hours for non-campers and 18 hours for campers. At the present time only about 8 percent of the visitors camp. During the heavy travel season, which extends roughly from April through September, weekend travel is heaviest with a second peak during midweek. Slightly over half of the visitors arrive at the monument from the north.



VISITOR USE

Activities	1958	1963	1966	1967
Conducted Trips	1,200	2,519	4,321	2,565
Self-Guiding	4,409	10,446	12,660	12,797
Evening Program	----	586	1,378	1,446
Overnight Use:				
Tents	919	1,473	2,302	2,438
Trailers	25	125	260	330
Picnicking	1,259	2,100	3,600	4,200



LAND CLASSIFICATION

No lands at Chaco Canyon have been identified as Class I (High Density Recreation) or Class IV (Outstanding Natural).

The campground, visitor center, residential and maintenance area and all major public roads including the one-way loop road on the floor of the canyon have been identified as Class II (General Outdoor Recreation). Portions of the mesa tops with no significant ruins have been designated Class V (Primitive).

Only the major ruins have been identified as Class VI (Historic and Cultural) and the major portion of the area is Class III (Natural Environment). As additional study and research identifies other significant prehistoric features, they will also be identified as Class VI.



http://www.nps.gov/history/history/online_books/chcu/master_plan/sec2.htm[12/17/2012 2:03:09 PM]

CHACO CULTURE

Master Plan
Chaco Canyon National Monument, New Mexico



THE PLAN

BOUNDARY ADJUSTMENTS AND LAND ACQUISITION

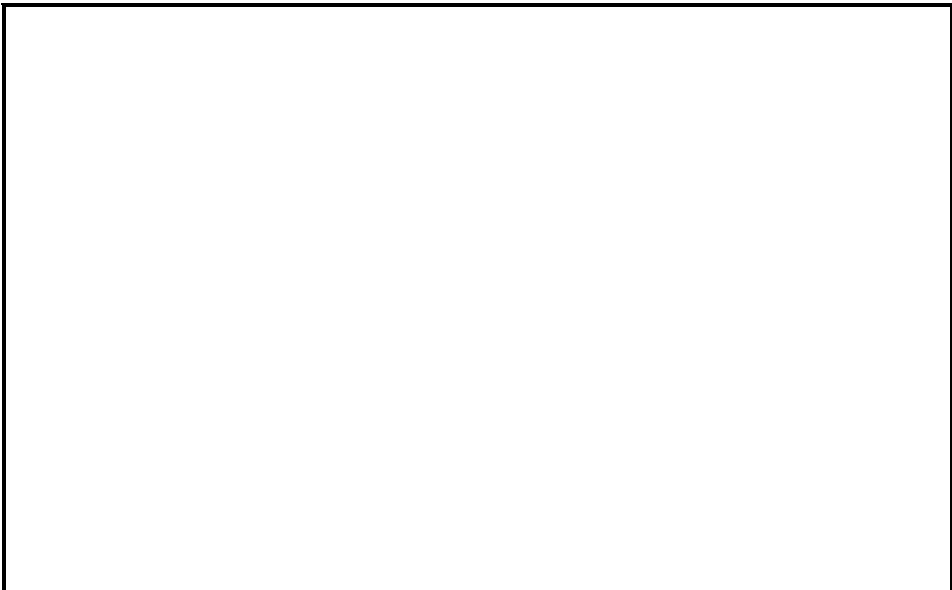
One of the major problems at Chaco Canyon National Monument concerns lands and the monument boundary—a problem dating back to the proclamations which established the monument. Of primary concern is the fact that certain lands containing significant archeological values still remain either outside the monument boundary or inside the monument, but in private ownership. At the same time, certain lands in the monument are not of significant archeological value, having been included by mistake.

Specific land needs and proposed boundary adjustments are discussed briefly below:

Principal Chaco Canyon Tract

The only inholding in the principal monument area is the NE1/4, Section 4, T.21N., R.11W., N.M.P.M., now owned by the Navajo Tribe. Because this tract contains a portion of the Penasco Blanco Ruin—one of the major ruins in the monument—this land should be acquired as soon as possible.

Shabik'eshchee Ruin—This ruin, which lies partly in and partly out of the monument, is a Basketmaker village which was excavated by Dr. F. H. H. Roberts of the Smithsonian Institute in 1927. Although the site is well removed from the regular visitor use area, it is often visited by southwestern anthropologists who wish to see the locale of one of the great, definitive, southwestern excavations. The ruin is located on top of one of the numerous narrow projections of the south rim of the canyon in the southeast corner of the monument. The land to be added to the monument in order to protect the balance of this site is described as: N1/2NE1/4NW1/4 of Section 36. T.21N., R10W.





Ancient remodeling work. Original large T-doorway was partially closed and subsequently completely closed, but with a small storage alcove. Note prehistoric plaster and socket holes for floor beams of this second story room. (*Courtesy of the American Museum of Natural History*)

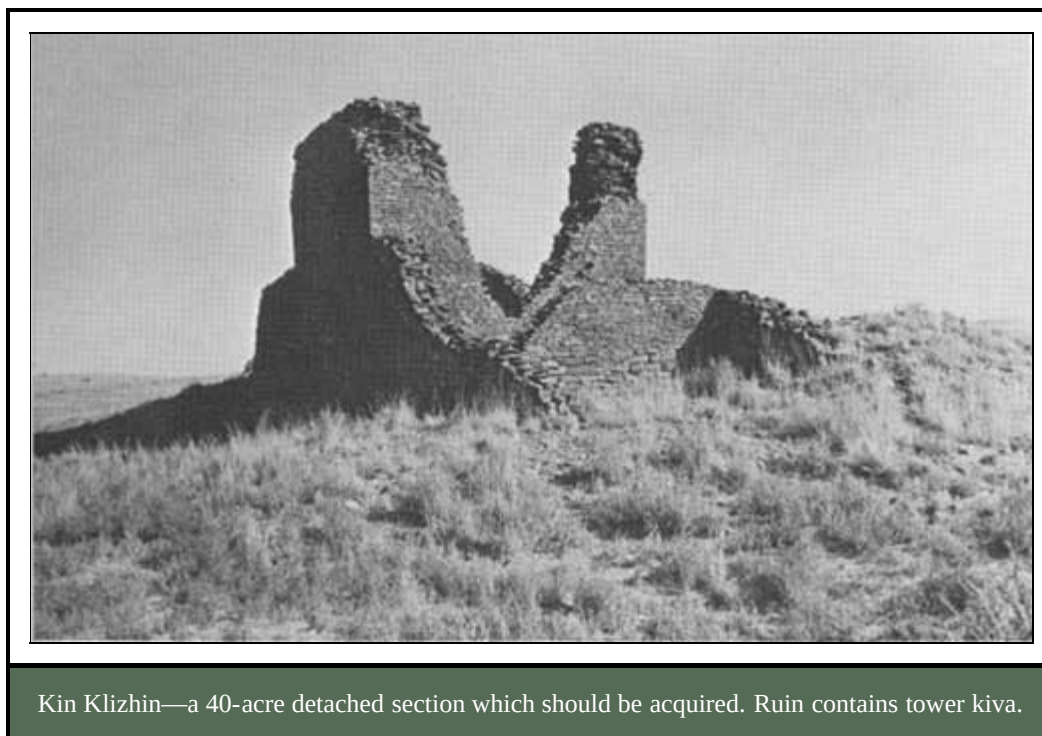
In the western portion of the monument there are several parcels which lack archeological values and should be deleted from the monument. These include NW1/4, Section 4; NW1/4, Section 8; and Sections 19, 20, and 30, T.21N., R.11W., N.M.P.M. The first parcel mentioned lies partly on the flood plain of the Chaco River and partly on the opposite bank. The second parcel lies almost entirely on the flood plain and the remaining lands lie to the south and east of the river. For the most part these latter lands are relatively flat, sparsely vegetated and contain no significant archeological values.

It is apparent from the map which accompanied the original proclamation that the long narrow projection of land extending southwest of the Chaco-Escavada Wash junction was included in the monument primarily to take in the Kin-Klat-Tzin (now Kin Klizhin) ruin which the map shows in Section 30. Later it was learned that this ruin was actually in Section 25 of the adjoining Township. The second proclamation added a 40-acre parcel containing Kin-Klizhin, but did not attempt to correct the situation by deleting any of the lands previously included in error.

Kin Klizhin (T.21N., R.12W., Section 25, NW/14NW1/4)

Section 25 was part of a large railroad grant patent in 1908. Proclamation 2937 in 1928

established it as a section of Chaco Canyon National Monument, but title to this parcel was never acquired. This land is now owned by the Navajo Tribe. Early acquisition is strongly recommended.



Kin Ya-ah (T.17N., R.12W., Section 28, SE1/4)

This detached section was established by the original proclamation in 1907 and not until 1963 was it learned that the Kin Ya-ah ruin actually lies in the NE1/4 rather than the SE1/4 of Section 28. Most of the SE1/4 is, therefore, available for deletion, preferably to be used directly in exchange for a major portion of the NE1/4 (privately owned) in which the ruin is located.

It is not proposed that the well which exists in the northeast corner of this quarter section be acquired. In order to exclude the well, yet include Kin Ya-ah ruin and some additional ruins which lie to the northwest, it is proposed to add to the monument 130 acres in the NE1/4 of Section 28, described as follows:

NW1/4NE1/4; S1/2NE1/4; and W1/2W1/2NE1/4NE1/4, Section 28, Township 17 North, Range 12 West.

In order to retain a supplementary ruin in the northeast corner of the quarter section which we are proposing to exchange, 30 acres of this quarter will be retained. The 130 acres available for exchange is described as follows:

NW1/4SE1/4; S1/2SE1/4; and S1/2S1/2NE1/4SE1/4, Section 28, Township 17 North, Range 12 West.

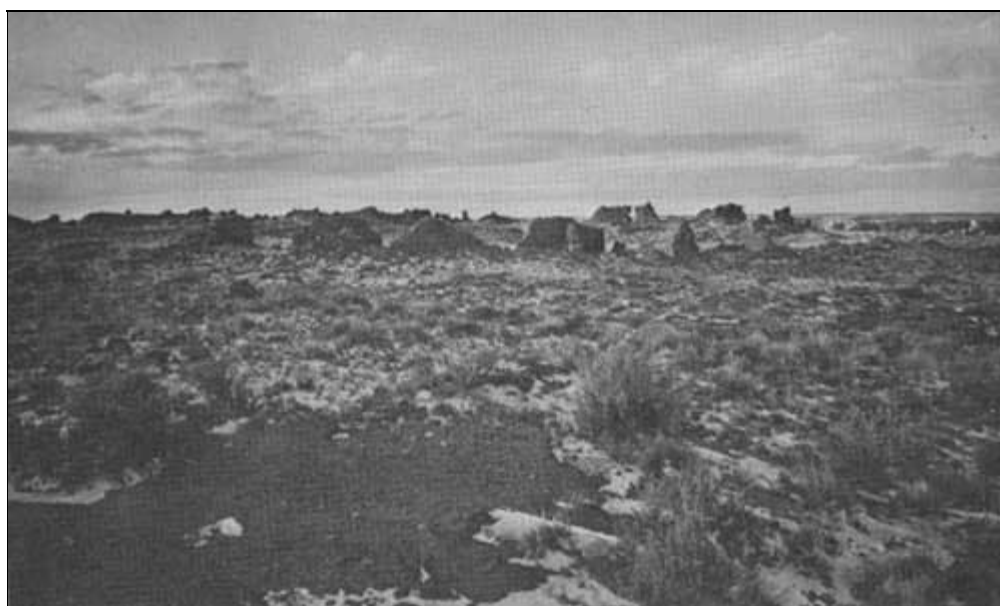




Kin Ya-ah—a detached section containing a valuable tower kiva. Recent U.S.G.S. survey revealed that the ruin is not on monument land.

Pueblo Pintado (T.20W, R.8W., Section 12, S1/2; Section 10, SW1/4)

The S1/2 of Section 12 was set aside by the proclamation of 1907 in the erroneous belief that it contained the Pueblo Pintado Ruin. It should be deleted, as it contains no archeological values. The SW1/4 of Section 10 was set aside by the proclamation of 1928. It does contain the Pueblo Pintado Ruin and should be retained.



Pueblo Pintado.—This detached section contains some of the highest standing walls of any ruin.

Casa Morena (T.17N., R.10W, Section 17, SE1/4)

This tract was set aside by the proclamation of 1907. This tract, which is privately owned, does not contain any archeological remains and should be deleted.

Kin Biniola (T.21N., R.12W., Section 32, SE1/4 and SE1/4SW1/4

The SE1/4 was set aside by the proclamation of 1907. Unfortunately it missed the ruin and the SE1/4SW1/4 was set aside by the proclamation of 1928 to correct this error. Further study of this area indicates that the N1/2SE1/4 and the SE1/4SE1/4 (120 acres) are not needed. However, the SW1/4SW1/4 (40 acres) of this section (State) and the N1/2N1/2NW1/4, Section 5, T.20N., R.12W. (40 acres) and NE1/4NE1/4NE14, Section 6, T.20N., R.12W. (10 acres) are needed in order to fully protect archeological values of this important site and should be added to the monument.

In summary, the land situation at Chaco Canyon National Monument is as follows:

Inholdings to be Acquired

Monument Section

NE1/4, Section 4, T.21N., R.11W. 160.05 acres

Kin Klizhin Section

NW1/4NW1/4, Section 25, T.21N., R.12W. 40.00 acres

Total — 200.05 acres

Boundary Changes—Additions

Monument Section (Shabik'eshchee Ruin)

N1/2NE1/4NW1/4, Section 36, T.21N., R.10W. 20.00 acres

Kin Biniola Section

N1/2N1/2NW1/4, Section 5, T.20N., R.12W. 40.00 acres

NE1/4NE1/4NE1/4, Section 6, T.20N., R.12W. 10.00 acres

SW1/4SW1/4, Section 32, T.21N., R.12W. 40.00 acres

Kin Ya-ah Section

NW1/4NE1/4; S1/2NE1/4; and W1/2W1/2NE1/4NE1/4, Section 28, T.17N., R.12W. 130.00 acres

Total — 240.00 acres

Boundary Changes—Deletions (Federal)

Monument Section

NW1/4, Section 4, T.21N., R.11W. 159.75 acres

NW1/4, Section 8, T.21N., R.11W. 160.00 acres

Sections 19, 20, and 30, T.21N., R.11W. 1,915.24 acres

Casa Morena Section

SE1/4, Section 17, T.17N., R.10W. Private land

Kin Ya-ah Section

NW1/4SE1/4; S1/2SE1/4; and S1/2S1/2NE1/4SE1/4, Section 28, T.17N., R.12W. 130.00 acres

Pueblo Pintado Section

S1/2, Section 12, T.20N., R.8W. 320.00 acres 320.00 acres

Kin Biniola Section

N1/2SE1/4, Section 32, T.21N., R.12W. 80.00 acres

SE1/4SE1/4, Section 32, T.21N., R.12W. 40.00 acres

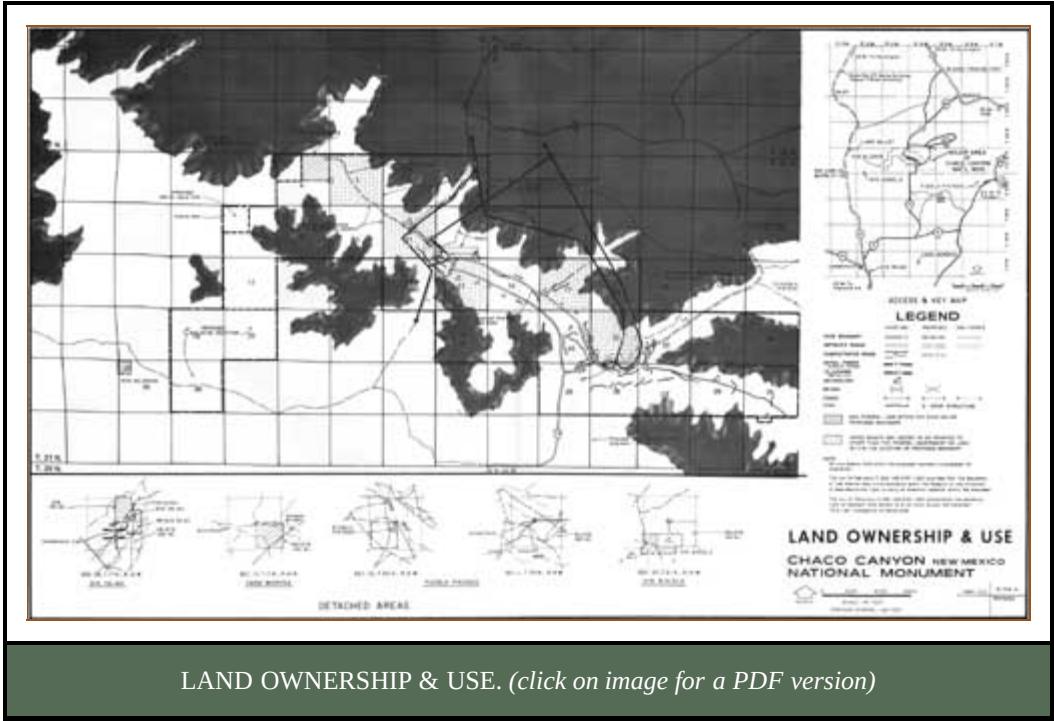
Total (Federal) — 2,824.99

acres

The 2,824.99 acres of Federal land proposed for deletion would more than cover the 440.05 acres (inholdings 200.05 acres; boundary extensions 240.00 acres) proposed for acquisition at Chaco Canyon. However, other areas of the National Park System on the Navajo Reservation are faced with similar land problems and it is proposed that lands proposed for deletion at Chaco Canyon be exchanged for lands needed at other Service areas. The boundary adjustments and authority for land exchange will require 40.00 acres legislative authorization.

The proposed boundary changes would delete approximately 2,984.99 acres and add approximately 240 acres to result in an area containing approximately 18,764.41 acres instead of the 21,509.40 acres included in the existing monument.

In addition to changing the boundary and acquiring private inholdings, there is a strong need to acquire all outstanding mineral rights. This is especially important because the development of the Bisti and Red Mesa Oil and Gas Fields has sparked a growing interest in the exploration and development of oil, gas, and mineral prospects in this vicinity.



ACCESS AND ROAD CIRCULATION

A major obstacle to the orderly development of the outstanding resources at Chaco Canyon is the present location of the principal access road which passes directly through the major ruins area. This road (State Route 56 to the north and Indian Service Route 14 to the south) not only provides visitor access to the area but also serves as a locally important north-south through highway. Visitor traffic, as well as the constantly increasing amount of local and commercial traffic, seriously intrudes on the ruins setting and distracts from the interpretive efforts. The uncontrolled access provided by the road makes it difficult to adequately protect the prehistoric remains from vandalism and uncontrolled visitor use. In addition, the present road alignment effectively prevents the development of a logical and sequentially meaningful interpretive presentation.

The desirability of eliminating this traffic from the ruins area has long been recognized and various means of accomplishing this have been proposed. The simplest and most logical

solution involves the elimination of the present access road into the canyon from the north and replacement with a similar road entering the canyon byway of Gallo Wash. Non-park traffic would then continue south across the Chaco Wash and out of the monument on existing Indian Service Route 14. Park traffic, after stopping at the visitor center, would be directed to an interpretive one-way loop road which would take visitors down the canyon, through the major ruin area and return them to the visitor center.

The most suitable alignment for an access road from the north is in connection with Indian Service Route 45E—a graded road, of about the same standard as State Route 56—which leaves State 56 just south of the Escavada Wash and travels east, parallel to the south bank of the wash, approximately 5.7 miles. The easternmost portion of this road is approximately 2.5 miles directly north of the monument boundary in Gallo Wash. An existing graded truck trail in the Gallo Wash extends to within 1.9 miles of this road. The intervening land consists of a broad, low, rolling ridge which would not appear to pose any great problem to road construction. This alignment would also appear to be desirable from the Navajo Tribes' point of view in facilitating access to their Sargent Ranch operation a few miles east of the monument. The possibility of a cooperative approach to the development of this road should be explored with the Navajo Tribal Council, Bureau of Indian Affairs, and the New Mexico State Highway Department.

In view of the uncertainties as to future road developments in this general region, it is proposed that facilities for access to the monument from the south be retained essentially as they now exist until such time as some of the uncertainties are resolved.

These facilities consist of a graded road from the monument's south boundary to the vicinity of the visitor center where it connects with the main monument road. Crossings of the Chaco and Gallo Wash are made by means of graded "dips." This arrangement adequately serves present needs throughout most of the year, except for brief periods during and immediately following flash floods when the dips are impassable. At these times traffic would have to be diverted down-canyon to a bridge on the proposed ruins loop road.

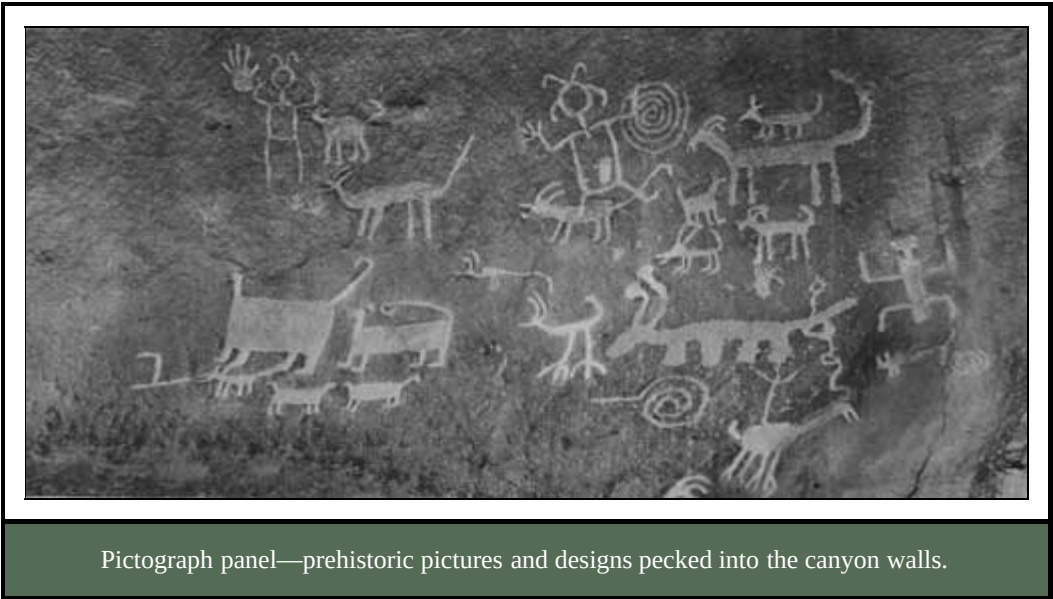
Eventually it is hoped that the roads in this region will be developed in such a manner that all visitor traffic will be encouraged to enter the monument by way of the north access road and all north-south through traffic will be encouraged to use alternate routes which would not pass through the monument. In cooperation with the Navajo Tribe, Bureau of Indian Affairs, and the State of New Mexico, the development of a regional road system which will achieve these aims should be encouraged.

With elimination of the existing access through the ruins area, a portion of the old road will be obliterated, a portion will be converted to a low standard administrative road and the major portion will be incorporated into the proposed one-way interpretive loop road.

The access road and the interpretive loop road will be the major public use roads and will be developed and maintained as such. However, in the interest of retaining the character of the existing graveled roads, the feasibility of utilizing a dust palliative treatment in lieu of paving for the interpretive loop road should be investigated. All others will be low standard administrative roads maintained only to the degree required in managing the area, including protecting the ruins, carrying out research, ruins stabilization, and soil conservation projects, and maintaining fences. Public use of these roads will be permitted under such controls as will assure protection of archeological values.

All roads and truck trails will continue to be available for use by the neighboring Navajo in gaining access to their ranch lands which now generally surround the monument on the north, east, and south. As other roads are improved in the vicinity, this rather minor use will be

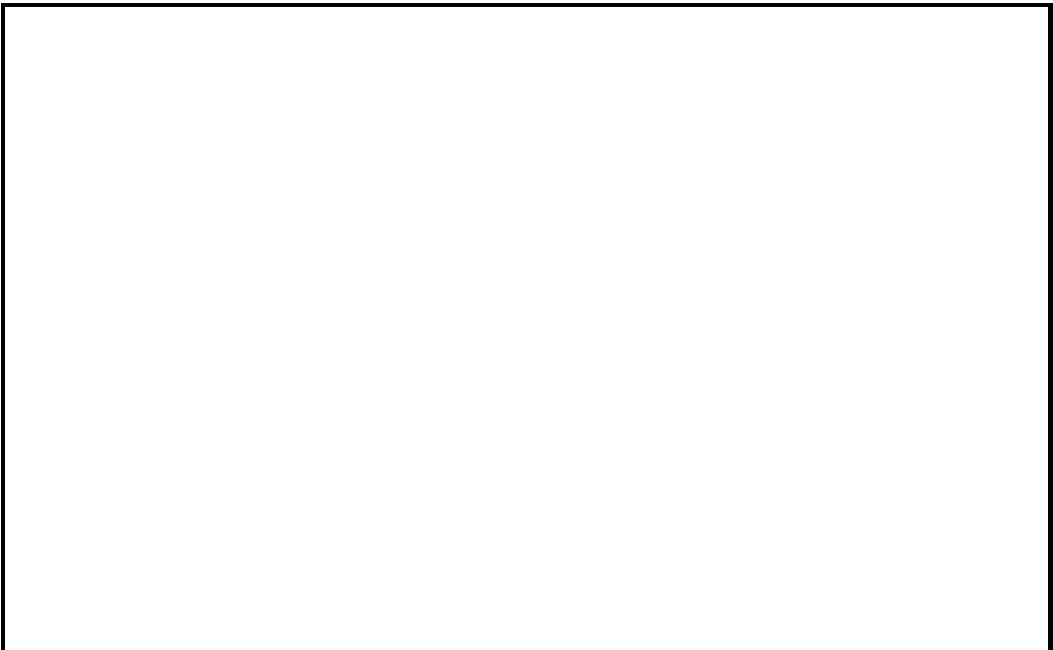
reduced even further and, therefore, should not pose any great problem.

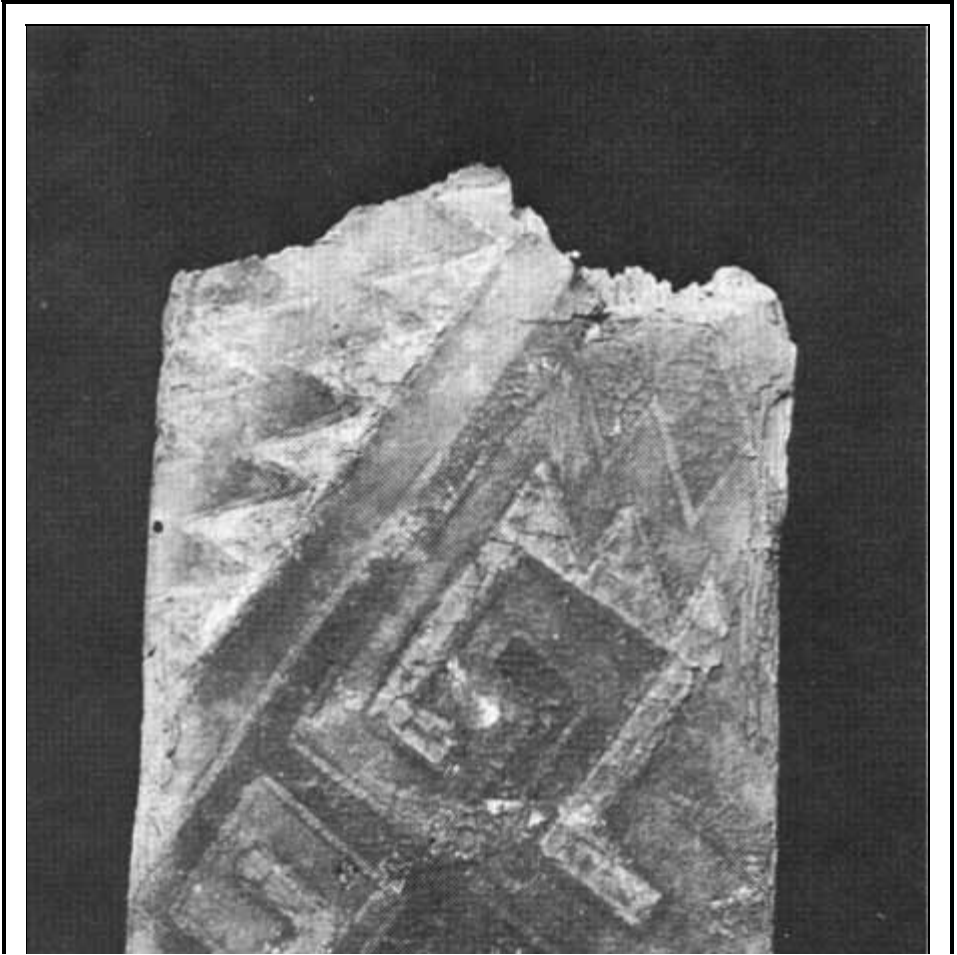
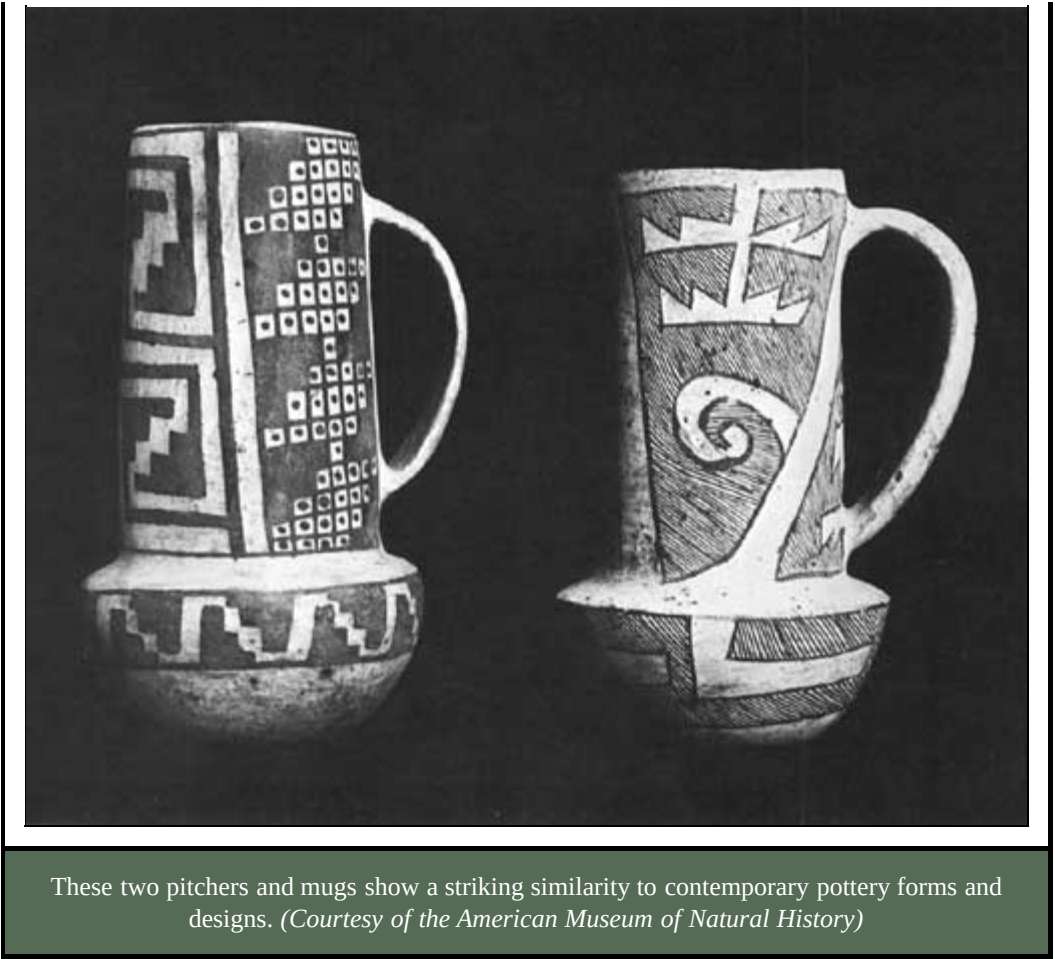


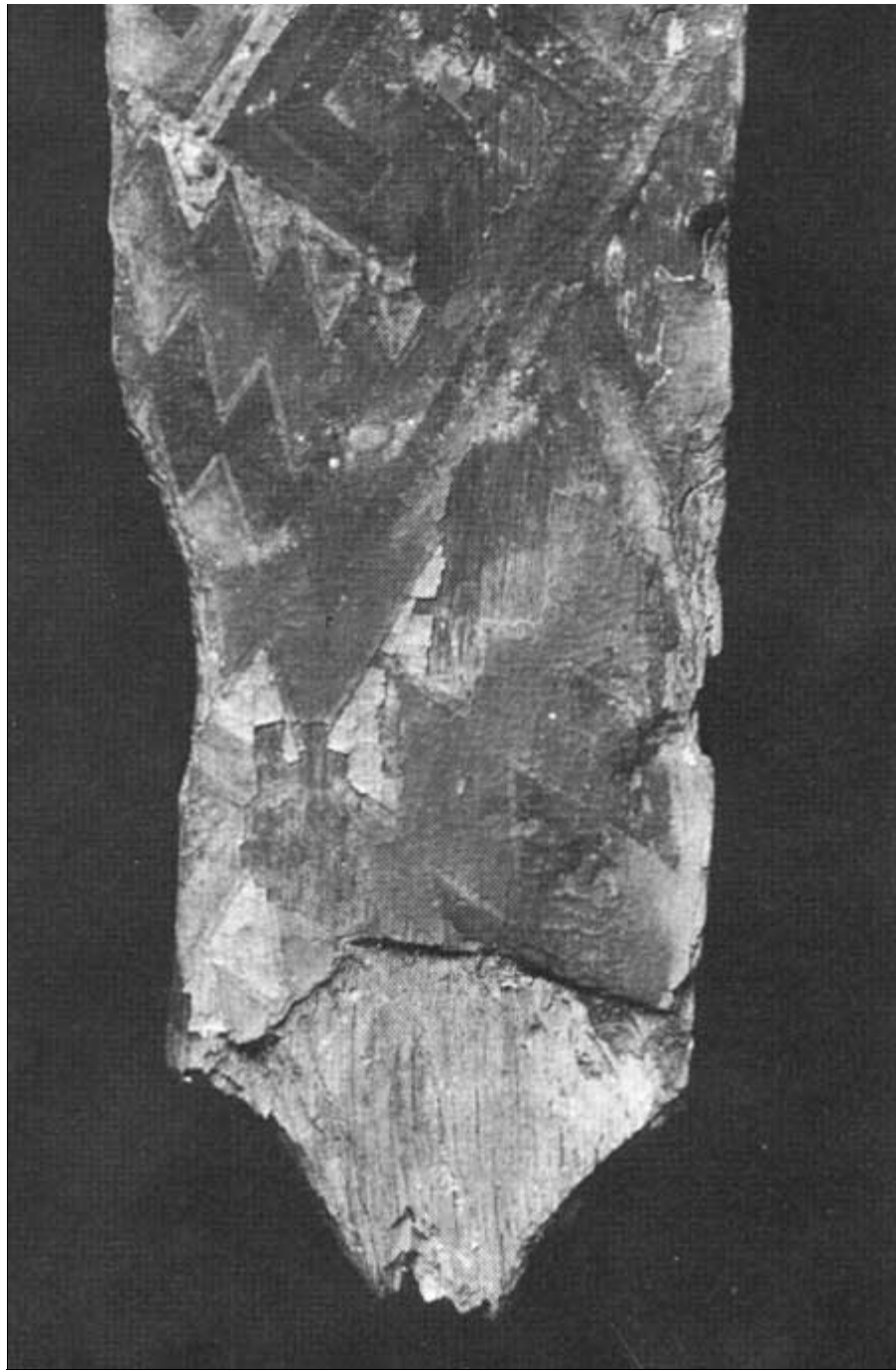
GENERAL DEVELOPMENT

Many of the required physical developments at Chaco Canyon have already been completed. This includes the visitor center (except for minor revisions of the museum exhibits), maintenance area, 4 residences and a large portion of the headquarters parking area. The Gallo Campground now has 60 units in operation. The road along the north side of the canyon, which connects the campground and headquarters area with the main road in the vicinity of Pueblo Bonito, has been based and drained.

The major development projects proposed by this master plan are the revamping of the access and circulation roads and the development of a cooperative archeological research station. Other proposed projects include the development of several additional ruins for interpretation and visitor use; the construction of an interpretive center at Pueblo Bonito; the relocation of trail access to Pueblo Alto; and the improvement of utility systems (development of central sewage systems, enlargement of water system, putting overhead power and telephone lines in the canyon underground; and replacing existing dump with a sanitary land fill).







Although badly weathered, this carefully made woodenboard still exhibits a multi-colored painted design. *(Courtesy of the American Museum of Natural History)*

VISITOR USE

Interpretation

While architectural evidence is present in Chaco Canyon for the full gamut of Basketmaker III-Pueblo III group of sites, the few Basketmaker and Developmental Pueblo ruins excavated thus far are poorly located to fit into the present interpretive program. Thus out of some 400 sites, the visitor sees for the most part the large late period sites concentrated in the Pueblo Bonito area and a small early site on the Casa Rinconada Trail. There is little on exhibit to demonstrate the development of this most notable architecture.

Therefore, the major interpretive development will involve the construction of a loop road extending westward from the visitor center through a 4-mile section of the canyon. From the visitor center, the interpretive loop road will cross to the south side of the canyon, utilizing the existing road. From this point it will continue as a one-way road down the canyon, taking visitors to two or three turnout parking areas where they will see early archeological sites with accompanying wayside exhibits. There the visitors will view, in chronological order, Basketmaker III pithouses, then the Pueblo I—Pueblo II version pithouses, followed by a small pueblo of the type that preceded the great structures of the classic period, and Casa Rinconada—an outstanding example of a Great Kiva. The road will recross the canyon to the north side and visitors will climax their trip at Pueblo Bonito, where there will be a major manned interpretive facility covering the story of Pueblo Bonito and other classic period ruins in this vicinity. Guided trips to Pueblo Bonito (and possibly other ruins, as the need arises) will emanate from this facility which will also be the trailhead for self-guided walks to Pueblo del Arroyo, Kin Kletso, and the Alto group, and for registered backcountry hiking to Penasco Blanco and Tsin Kletzin. In addition to specialized interpretive exhibits and devices, this facility should provide shade and rain shelter for at least 100. This concentration may occur from people waiting for tours or for members of their party taking tours. Also required at this facility will be a large parking area, comfort stations, and a small lunch area.

The interpretive loop road will then return to the visitor center along the north side of the canyon with turnout-parking areas and short foot trails at Chetro Kettle, Hongo Pavie, and Una Vida.

The interpretive loop road, with its many, widely separated interpretive developments, should adequately disperse visitor use so that overcrowding will not be a problem for a great many years to come. However, long before this occurs, although still many years in the future, the number of vehicles could increase to the point that they seriously distract from the visitor enjoyment of the ruins setting and interpretive presentation. If and when this occurs, consideration should be given to the elimination of private vehicular traffic on the loop road and the provision of shuttle bus transportation service—an arrangement for which this loop interpretive development is ideally suited. At first this would probably only be required on a part-time basis, later it may be required on a seasonal or year-round basis.

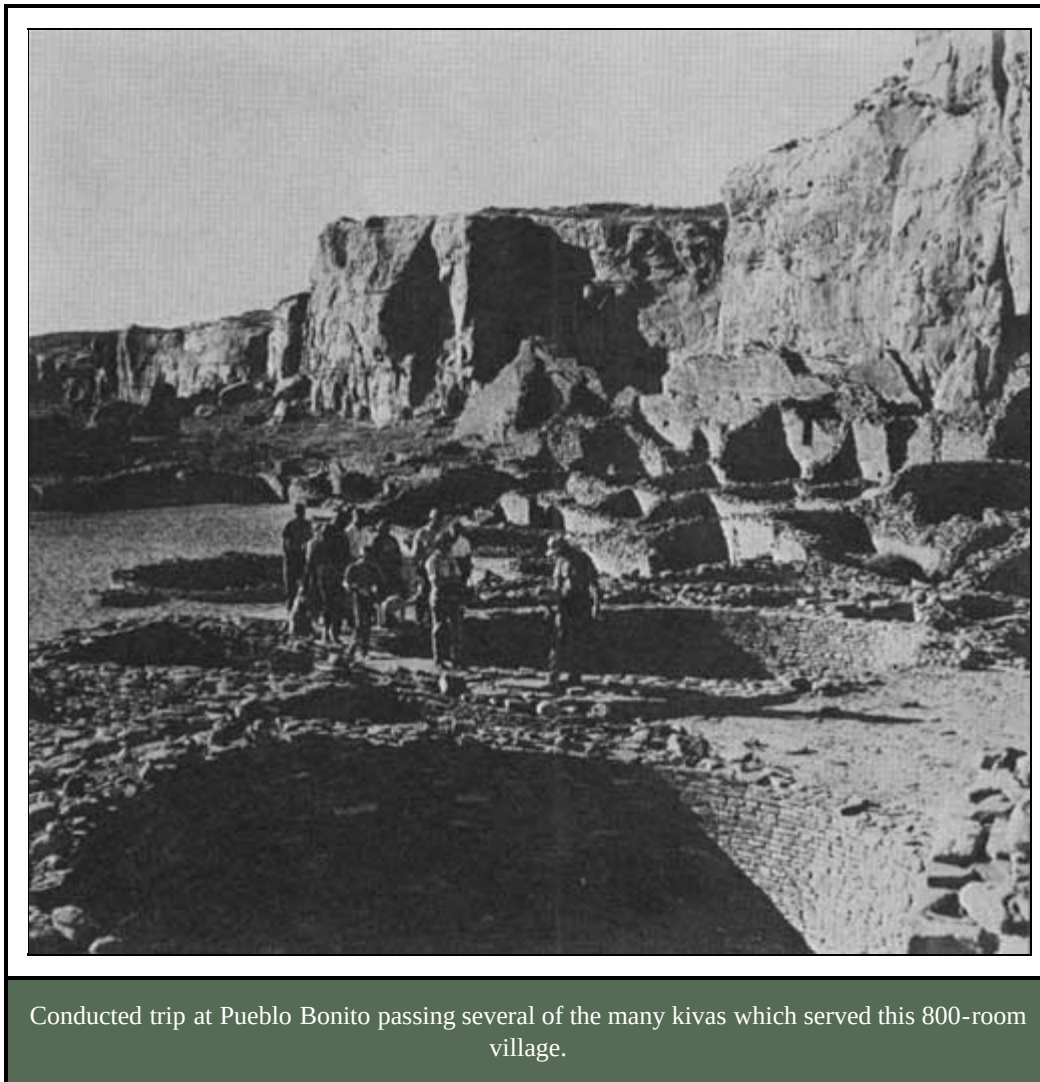
The existing visitor center will be the point of initial visitor contact, fee collection, and orientation. Most of the interpretation will be handled at the individual sites, though the visitor center, with its exhibits, library, study collection, and audiovisual facilities, will be a major interpretive center. Here the general story will be told and fragile material that cannot be exhibited at the ruins will be on display.

Considering the tremendous strides which have been made in archeological research in recent years, existing exhibits and presentations must be considered as temporary and subject to revision. As future research provides additional information, and as more effective means of interpretation are developed, the interpretive presentation should be changed and revised. This will undoubtedly include the development of additional interpretive sites as well as the imaginative use of new methods and techniques of interpretation. In this regard, and in the interest of encouraging research aimed at developing improved methods and techniques of interpretation, the possibility of contracting with the University for interpretive services should be explored.

Interpretive foot trails to other points of interest, such as pictograph sites, prehistoric trails, and ruin overlook points should be developed to more evenly distribute the visitors and enhance their experiences.

As roads are developed, making the detached sections of the monument more easily

accessible, and as visitor use increases, suitable interpretive facilities and services will have to be provided. However, these developments should be kept to a minimum and visitors should be encouraged to utilize the major interpretive facilities and services in the canyon section of the monument.



Accommodations

Visitation is seriously restricted by the lack of overnight accommodations and eating facilities in the vicinity. Although the provision of these facilities and services within the monument is neither feasible because of space limitation nor desirable, their close proximity would be of great benefit to monument visitors and should be encouraged.

In the past, the Navajo Tribe has indicated interest in developing such facilities either directly or through their trading post leasing operations. In either case the Navajo Tribe would benefit. This would be highly desirable and the Service should work with the Bureau of Indian Affairs and the Tribe in encouraging the development of suitable facilities.

Only modest facilities are required at present; with improved access, considerable expansion will undoubtedly be required. Ultimately, such facilities could consist of a motel, restaurant, curio and crafts shop, campground, camper store, trailer park, passenger vehicle rental services and a landing strip for light planes.

The Navajo Tribe recently acquired the trading post just north of the monument near the

Escavada Wash. Although it is now closed, it is assumed that the Tribe will re-open it when it appears economically feasible to do so. On a seasonal basis, this time may already have arrived.

Camping

The existing 60-unit campground is in a rather marginal location and suitable space for campground development in the monument is extremely limited. In view of the fact that camping at Chaco Canyon is only incidental to the primary purpose of seeing and enjoying the archeological features, it is proposed that the Navajo Tribe be encouraged to develop camping facilities on their lands and that camping in the monument be eliminated. The development of a modest campground in conjunction with a trading post operation and other visitor accommodations should prove to be beneficial to the Tribe in providing employment and income to individual Navajos.



Ruins stabilization unit at work capping walls of Pueblo Pintado to prevent further deterioration.



The Great Kiva in the plaza of Chetro Kettle has been stabilized and remains uncovered for visitors to see.

RESOURCE MANAGEMENT

Ruins Preservation

One of the primary purposes of the monument is to preserve the prehistoric remains. As a result, this is also one of the principal concerns of management and involves several separate but interrelated resource management programs.

Protection from Vandalism—The problem of vandalism, souvenir collecting, and "pot hunting" is common to all archeological areas. However, it is more serious at Chaco Canyon than at most because of the great number of ruins in widely scattered locations, most of which are rather easily accessible.

With the limited manpower, protection is now provided by: stationing personnel in the main ruins area during periods of heavy travel; periodic ranger patrols in other areas; fencing; signing and other restrictions on access to certain ruins; publicizing pertinent rules and regulations; and conservation-education projects. With increased visitation and improved accessibility, protection activities will need to be greatly expanded.

The proposed relocation of the principal access route will improve visitor control and simplify protection problems in the canyon itself by permitting the closing of the main ruins area at night.

Occasional visitors are interested in seeing and photographing some of the undeveloped ruins in the back-country. In order to provide for this use and, at the same time, provide for ruins protection and visitor safety, a suitable method of registering backcountry use will be required.

Protection from Visitor Use—Unintentional, but nevertheless, serious damage to the prehistoric remains is caused by visitors simply walking on and through the ruins to see and enjoy them. Protection from this type of damage is achieved by confining visitors to certain ruins and to specific and carefully selected sections of them. Protection is also provided by: installing guard rails and barriers where necessary; developing free-standing walkways and ladders; and building trails and walks on top of protective fill. In some cases it is necessary to close certain sections of the ruin to visitors simply because there is no practical and dependable means of insuring that the irreplaceable features will not be damaged or destroyed. These problems will be intensified with increased visitation and the problem of enabling more people to adequately see and enjoy the ruins without destroying them will require careful study, thought, and imagination.

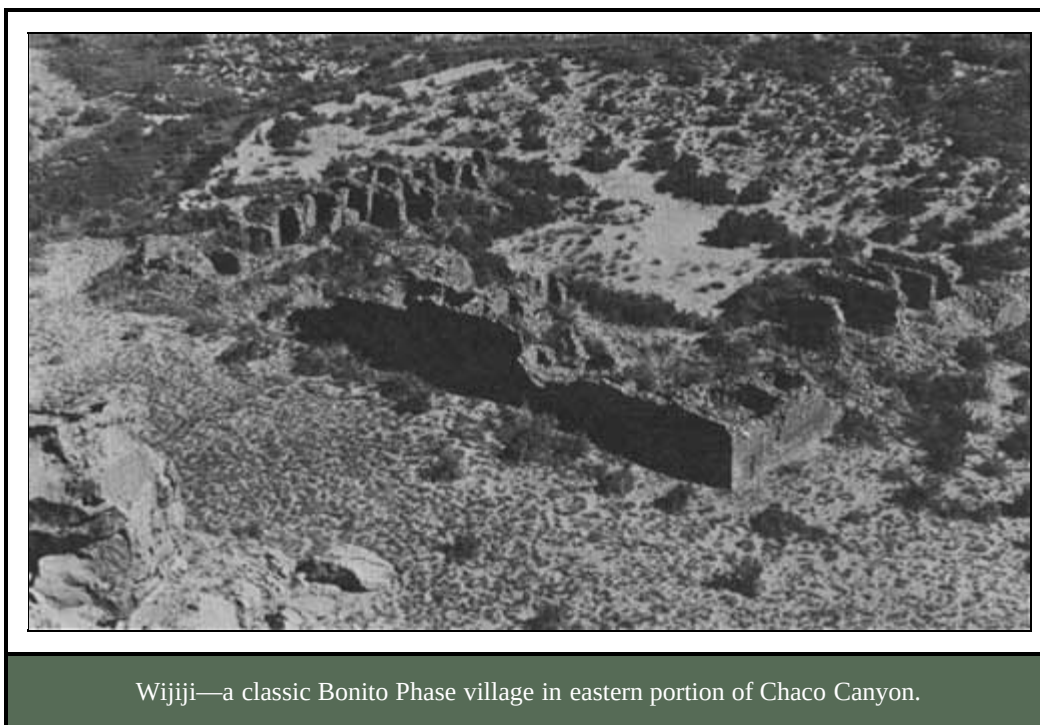
Protection from Weathering—Much ruins stabilization work has been accomplished at Chaco Canyon but, because of the number of large ruins, there is still much more to be done. This highly specialized and technically complex work involves the reinforcement and capping of walls, the waterproofing and sealing of plastered walls, the development of surface and subsoil drainage systems, and the preparation of protective shelters. Much of the ruins stabilization work is preparing selected features and sections of the ruin for visitor use.

Ruins stabilization is a continuing program and the work has to be routinely inspected, patched-up, and redone from time to time. It is made more difficult by the fact that there is just as much of an obligation to stabilize and preserve the isolated and little used sites as

there is for the readily accessible and heavily used ones.

The present ruins stabilization program needs to be expanded to include those ruins in the more remote sections of the monument and to more adequately cover the increased stabilization needs incurred by increased visitation. Considerable improvements in materials and methods of ruins stabilization have been made in the past and additional research in this matter will be required in the future. As a means of encouraging research and training in this field, the possibility of contracting ruins stabilization work with the University should be explored.

Protection from Erosion—Completion of the transcontinental railway 50 miles south in the early 1880's produced tremendous expansion in this region's cattle grazing industry. The resulting cycle of unlimited free grazing on the public domain reached its highest peak about 1900. Since the Chaco Wash provided the only permanent flowing stream for stock watering purposes within a 50-mile range, the vegetative cover in this vicinity suffered greatly and serious soil erosion resulted.

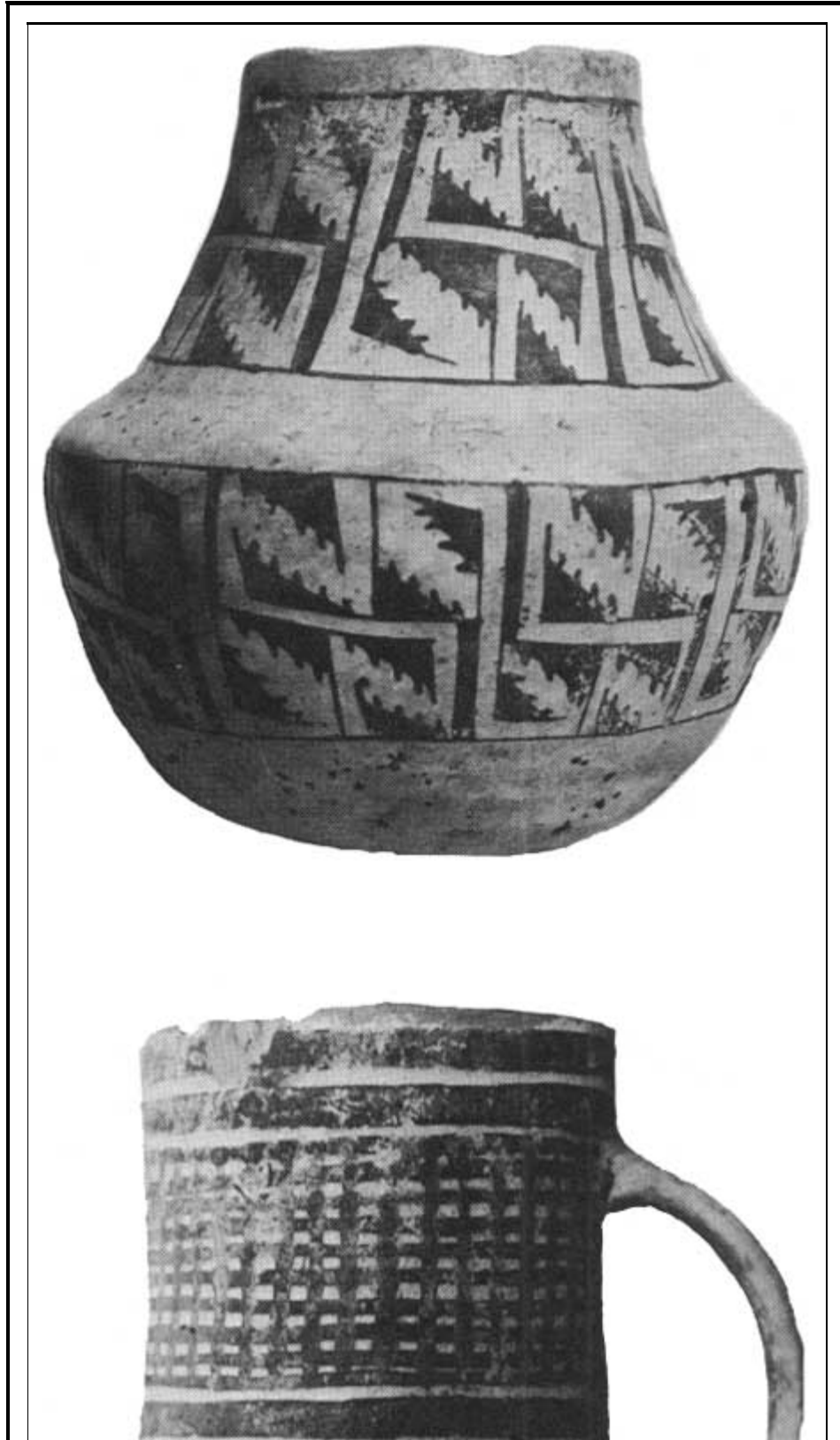


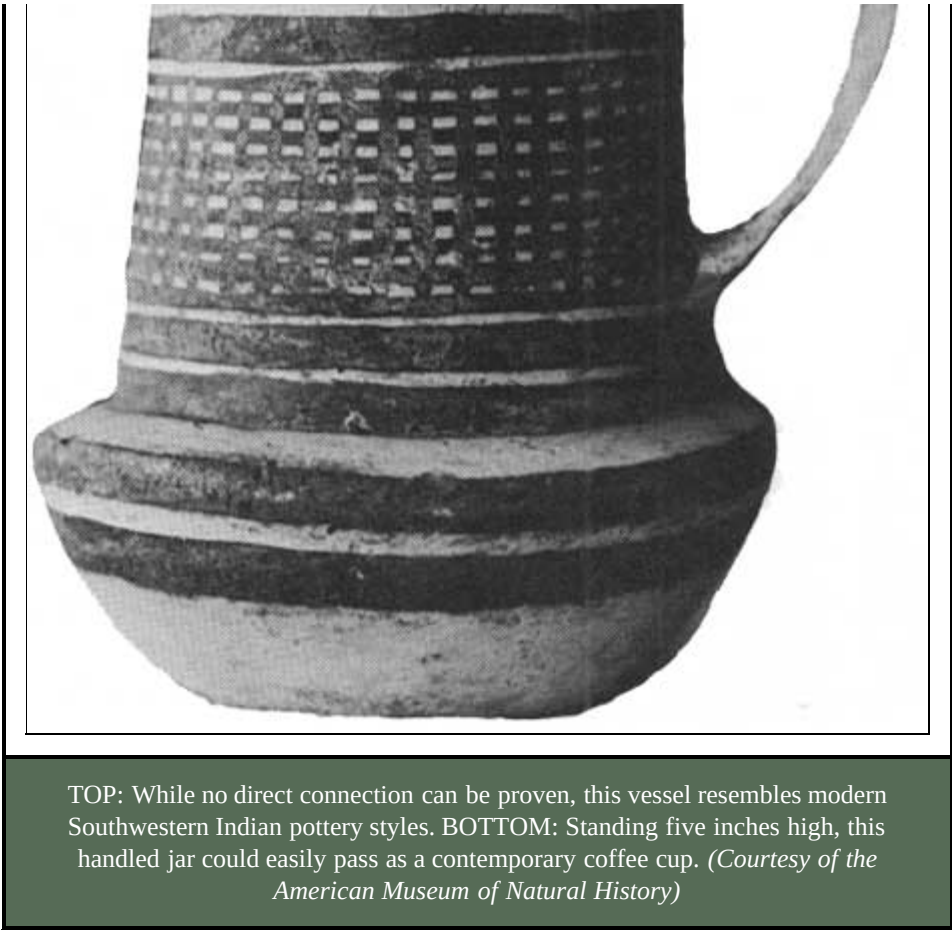
As a result of this erosion, many of the smaller prehistoric structures have been obliterated and several of the major ruins are in danger of being undermined and destroyed.

The Service is well aware of the problem and for years has been intensively involved in soil and moisture conservation work, including fencing the area, eliminating grazing, and reseeding in order to restore the vegetative cover. The major work is channelizing the main stream to allow flood waters to pass through the monument with the least possible damage. The latter work has involved building revetments, dikes, basket dams, checks, spillways, and drop-structures. It has also involved the planting of more than 100,000 cottonwoods and willows, and several tons of grass seed. This is a continuing program requiring constant inspection, revision, and reconstruction. The program is seriously hampered because the real problem is in stopping the erosion and runoff in the upper drainages which lie outside the monument and under the control of other agencies and private landowners. Every effort should be made to solve this problem by encouraging development of a broad cooperative conservation program covering lands upstream from Chaco Canyon. Only then can the present program of checking arroyo-cutting and channeling the main washes be changed to

one concerned with soil stabilization and restoration of the vegetative cover.

Restoration of Natural Setting—In managing area resources, the primary objective should be to maintain the area, as much as possible, in the condition which existed when first seen by the early explorers. Besides visitor facilities, other signs of man's activities such as power and telephone lines, water tanks, and other maintenance and administrative facilities should be hidden. The existing garbage disposal operation should be replaced by a sanitary landfill as indicated on the General Development drawing.





RESEARCH

Scientific research was one of the primary purposes for which Chaco Canyon National Monument was established. The Antiquities Act of 1906, which provided the basic authority for establishing the monument, was primarily aimed at protecting objects and features of scientific importance from private exploitation so that through orderly scientific study the public would benefit from increased knowledge of the features being preserved and the people who lived on the continent long before the coming of the first Europeans. In this connection, a continuing program of scientific research at Chaco Canyon by the University of New Mexico, Museum of New Mexico and/or the School of American Research was specifically authorized by a provision in the Act of February 17, 1931.

The nature of the area is such that archeological research in support of the interpretive program will undoubtedly always represent the greatest bulk of the needs. However, of equal or even greater importance is research aimed at resource management, particularly as it relates to ruins stabilization and other measures aimed at preserving the prehistoric remains from damage by weathering, erosion and visitor use.





Una Vida—a large ruin east of Chetro Kettle near the visitor center. Excavation, stabilization and visitor use is proposed in future development plans.

Research in the Field of Interpretation

The archeological studies which have been made at Chaco Canyon have produced only a relatively small amount of information. This is largely because most of these studies were made at a time when the science of archeology was just developing and the full potential of a site for providing information was never realized. In addition, many of these earlier studies were never completed and written reports are either fragmentary or nonexistent. As a result, there are a great many questions for which the visitor as well as the archeologist would like answers.

- Who were these people and what attracted them to this area?
- What was this desert country like when they arrived and to what extent did their being here alter it?
- What were the social-religious activities and their significance?
- Where did they bury their dead? (This is not just morbid curiosity; to the archeologist, skeletons are a primary source of information—size, build, average age, disease, epidemics, dietary problems, etc.)
- What was the relationship between the three cultural groups which lived there side-by-side during the later periods of occupation?
- How and where did they farm?
- What was the nature and extent of their intricate water control devices and structures?
- Why did they leave?

—Where did they go?

The answers to these and other questions will require a great deal of research involving many fields of knowledge.

Another matter of concern is that the collections derived from the early studies were generally retained by the excavators. Thus there is only a limited amount of archeological material available at Chaco Canyon for study and public display. A strong research program would not only provide needed interpretive information but would also supply highly desirable study and exhibit material.



Kin Biniola—detached section. An impressive major ruin with interesting irrigation works and outstanding potential for interpretive use.

Research in the Field of Resource Management

The prehistoric remains represent the primary resource at Chaco Canyon and the resource management programs are all either directly or indirectly aimed at preserving these resources.

Through experimentation and on-the-job experience, the National Park Service has developed methods and procedures for ruins stabilization which have made the Service the recognized authority in this field. However, the ruins stabilization program, in addition to being one of the more important in the Service, is also one of the most complex. Methods and procedures which work at Chaco Canyon may be completely wrong at Casa Grande. Even in the same area, two adjoining walls or different parts of a single wall may pose completely different problems requiring different measures and methods of treatment. Detailed knowledge and special skills in a great many fields of interest are required. Because of this complexity, those involved in the ruins stabilization program have long pointed out the great need for a comprehensive and continuing program of research and experimentation.

A related resource management concern is that soil erosion, flooding, and channel cutting have undermined and destroyed some archeological sites and threaten others. Studies aimed at preventing further damage and developing more effective means of eliminating the basic causes are also critically needed.

Proposed Archeological Research Program

The research needs are so great that they can best be met by a well-equipped and staffed research or educational institution working with the National Park Service. The University of New Mexico, School of American Research, and Museum of New Mexico are appropriate

institutions. They all have had experience in making research studies at Chaco Canyon and, in addition, already have certain legal rights for conducting research in the monument. In addition, the University, by a Memorandum of Agreement between the Secretary of the Interior and the Regents, also has specific authority to operate a research facility at Chaco Canyon. Although none of these institutions have been active at Chaco Canyon in recent years and their former facilities in the monument no longer exist, there is reason to believe that they are still interested in carrying out research studies at Chaco Canyon.

These circumstances suggest the need for a cooperative approach to research by the National Park Service and these other institutions. A comprehensive research program, developed cooperatively so as to be mutually beneficial, appears to be the most feasible means of satisfying the monument's research needs. Under the circumstances, it is recommended that appropriate steps be taken to develop such a program. In doing so, the following items should receive special consideration:

1. In cooperation with the University of New Mexico, School of American Research, and Museum of New Mexico, develop a comprehensive research program which will identify research needs, establish priorities, clarify responsibilities and give direction to the program.
2. In cooperation with the various institutions involved, make necessary arrangements for establishing an archeological research station at Chaco Canyon. Such a research station, operated jointly by the National Park Service and the cooperating institutions, would greatly encourage and facilitate research studies.

The availability of such facilities in the field (field laboratory and housing) is considered essential to the success of the research program. Equally essential is the availability of research space and facilities in the cooperating institution. Thus the establishment of a research center at the institution that participates in the management of the field research station is proposed.

Such facilities would not only be essential in the detailed study of the collected material and the preparation of reports on the archeological studies underway at the time, but would also greatly facilitate the restudy of materials from earlier archeological studies which were never completed.

Although existing facilities for carrying out research activities in the monument are limited (darkroom, small laboratory, and large storage room in the visitor center and space for temporary or portable housing in the campground), a modest research station could be developed with a minimum cost because utilities are already available. If it develops that a facility of larger size and scope is required, a site about 3/4-mile west of the visitor center and on the opposite side of the canyon is considered suitable. This site is readily accessible, but removed from the visitor use area.

3. Research aimed at developing improved methods and techniques in the fields of ruins stabilization and archeological interpretation is critically needed. In addition, there is an important need for a training program in these fields. As one means of encouraging these activities the possibility of contracting with the University for ruins stabilization work and interpretive services should be explored.

The prehistoric remains located outside the major ruins area of the monument and in the detached sections should be considered as archeological research reserves. They should neither be publicized nor developed for public use until: (1) public use of these sites increases and substantial personal services are required for site protection, at which time interpretive services should also be provided; (2) visitor use of existing developments increases to the point where overcrowding occurs and additional developments are needed to spread visitor

use; or (3) archeological research identifies features of such outstanding significance to the interpretive story that development for public benefit is desirable.

PRIORITIES FOR ACTION

Prepare and implement the following action plans and programs:

Research Plan—designed to support the interpretive and resource management programs.

Interpretive Prospectus

Resource Management Plan

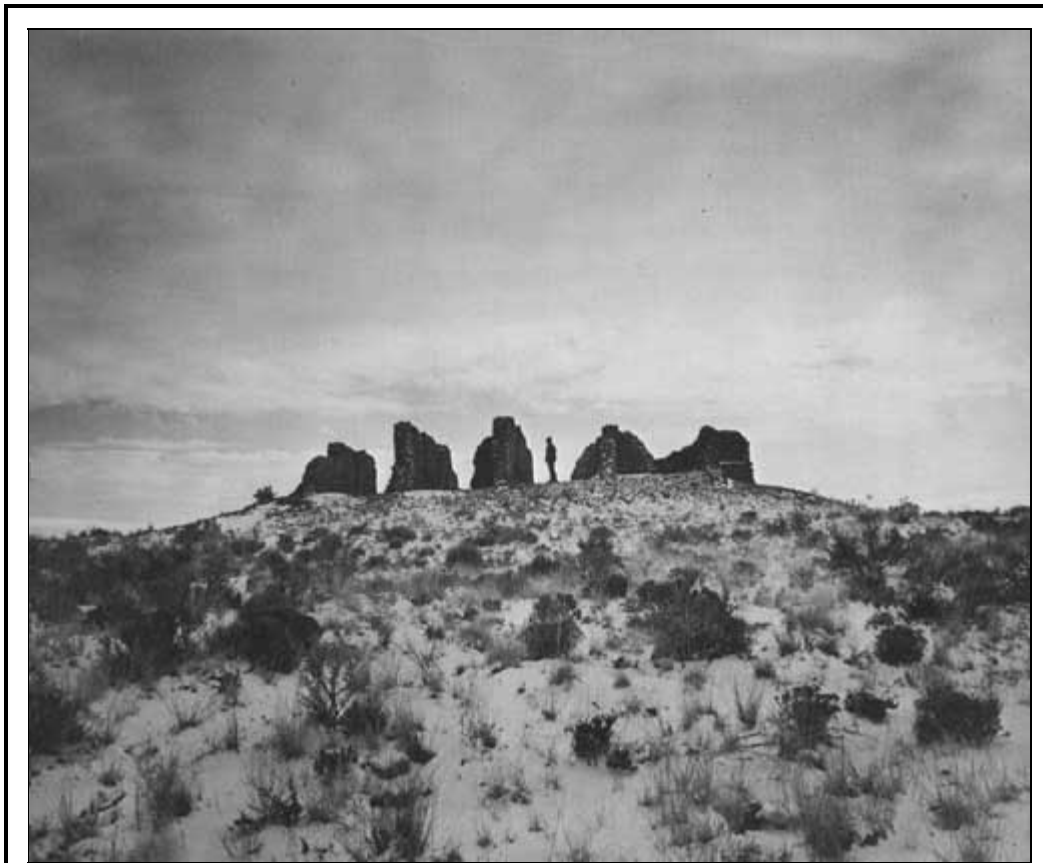
Land Acquisition Priorities Plan

Maintenance and Protection Plan

Seek legislation to secure boundary changes, acquire land and, if necessary, authorize new approach road.

Develop proposed interpretive loop road including interpretive facilities and developments.

Cooperate with the Bureau of Indian Affairs and other agencies and private landowners in developing a broad Soil and Moisture Conservation Program covering upper Chaco drainage outside the monument.



New Pueblo Alto—smaller of two large ruins on the mesa above Pueblo Bonito. Existing primitive trail serving this ruin also provides outstanding view overlooking Pueblo Bonito. Extensive water storage and diversion works are located nearby.



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Last Updated: 16-Apr-2010

CHACO CULTURE

Master Plan

Chaco Canyon National Monument, New Mexico



APPENDIX A

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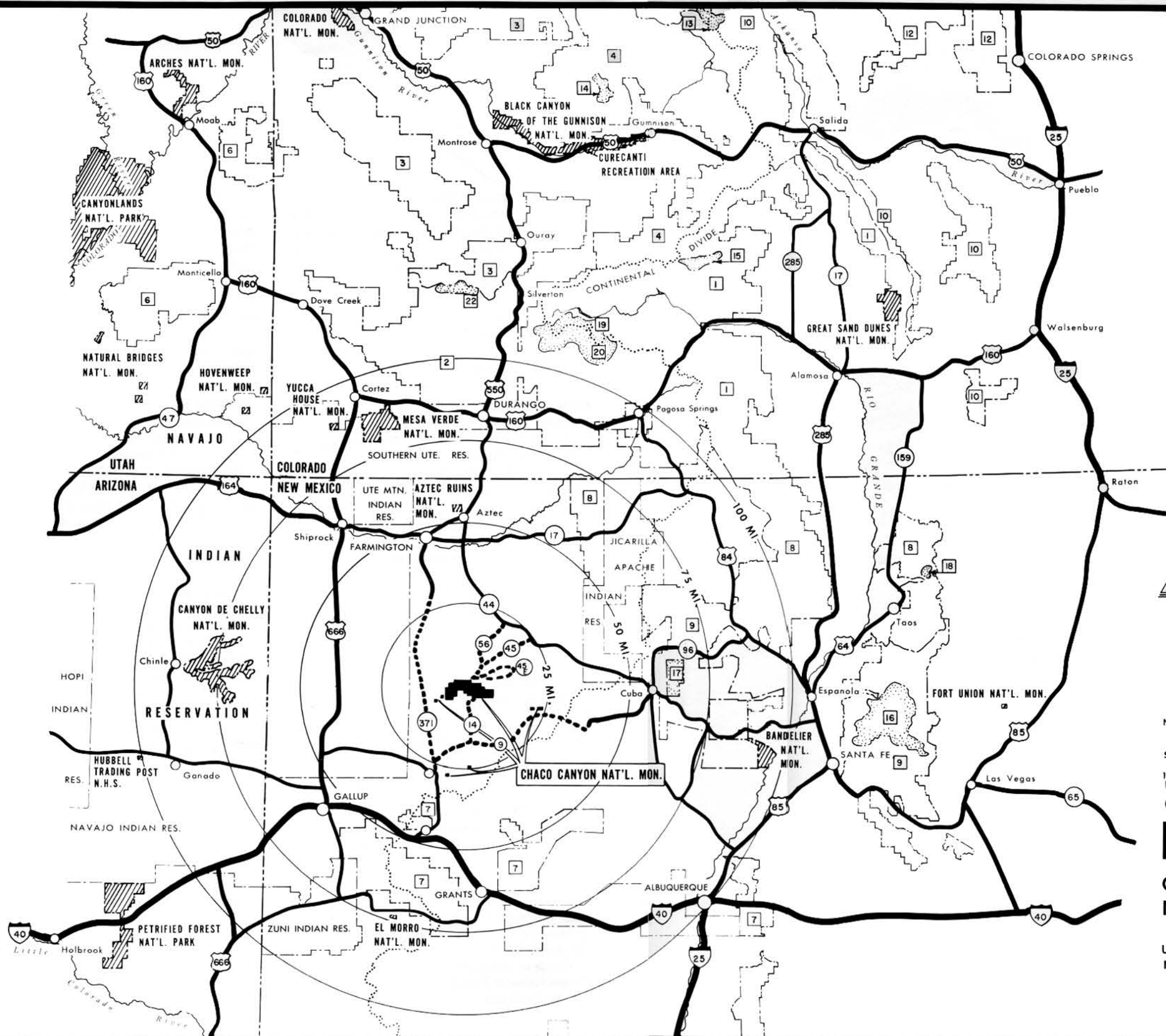
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master_plan/app.htm
Last Updated: 16-Apr-2010



LEGEND

NUMERICAL KEY

NATIONAL FOREST

- 1 RIO GRANDE
- 2 SAN JUAN
- 3 UNCOMPAHGRE
- 4 GUNNISON
- 5 GRAND MESA
- 6 MANTI-LA SAL
- 7 CIBOLA
- 8 CARSON
- 9 SANTA FE
- 10 SAN ISABEL
- 11 WHITE RIVER
- 12 PIKE

WILDERNESS AREAS

- 13 MAROON BELLS SNOWMASS
- 14 WEST ELK
- 15 LA GARITA
- 16 PECOS
- 17 SAN PEDRO PARKS
- 18 WHEELER PEAK

PRIMITIVE AREAS

- 19 UPPER RIO GRANDE
- 20 SAN JUAN
- 21 UNCOMPAHGRE
- 22 WILSON MOUNTAINS

EXISTING ROADS

GRADED ROADS

WILDERNESS & PRIMITIVE AREAS

NATIONAL PARKS & MONUMENTS



NORTH

SCALE IN MILES

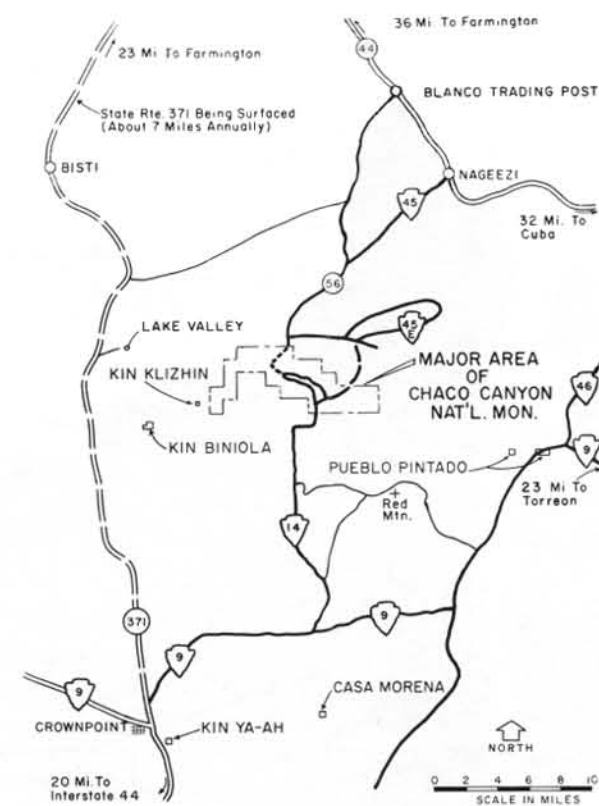
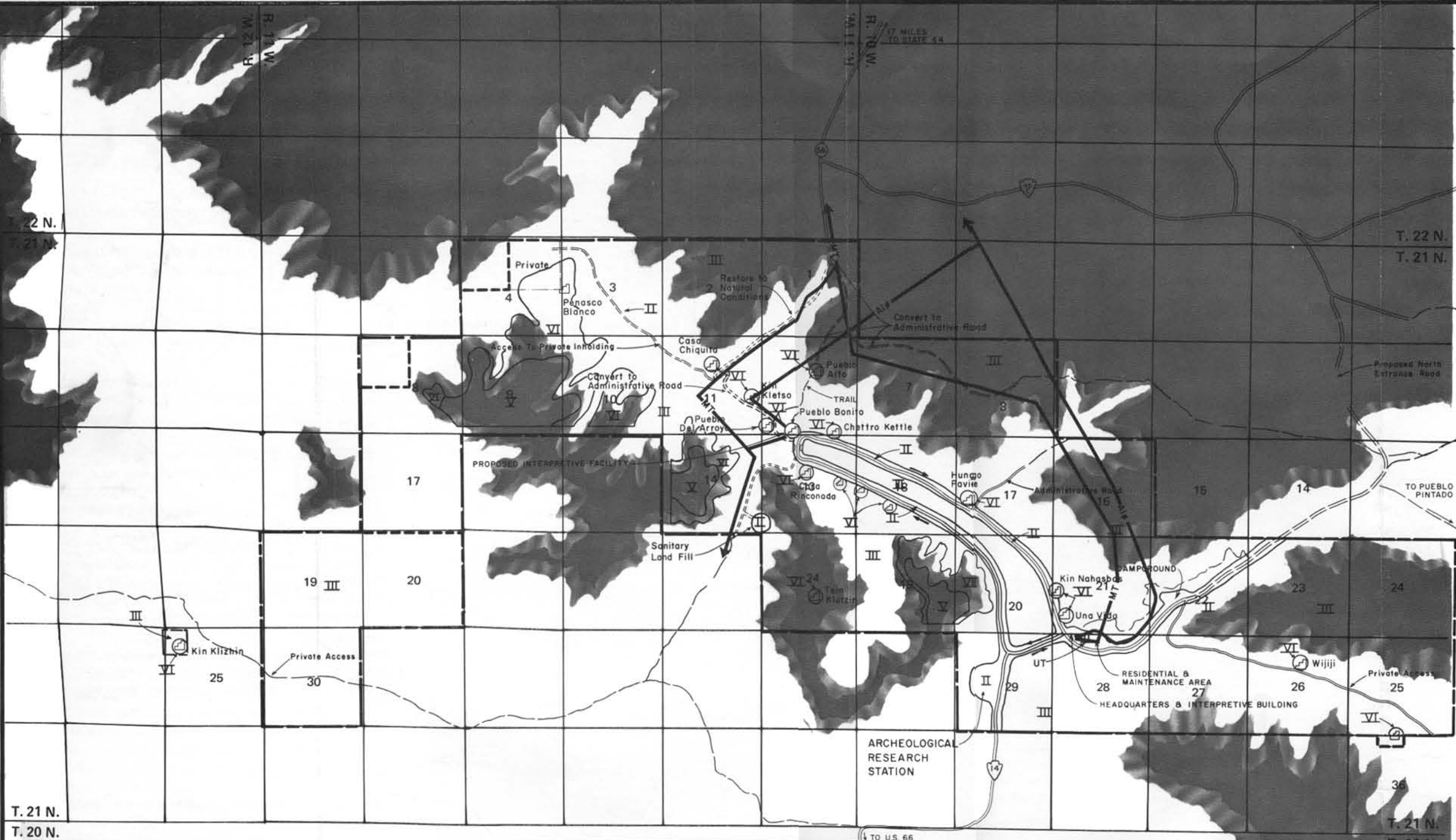
10 0 10 20 30

(1" = APPROX. 16 MI.)

REGIONAL MAP

CHACO CANYON NATIONAL MONUMENT NEW MEXICO

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

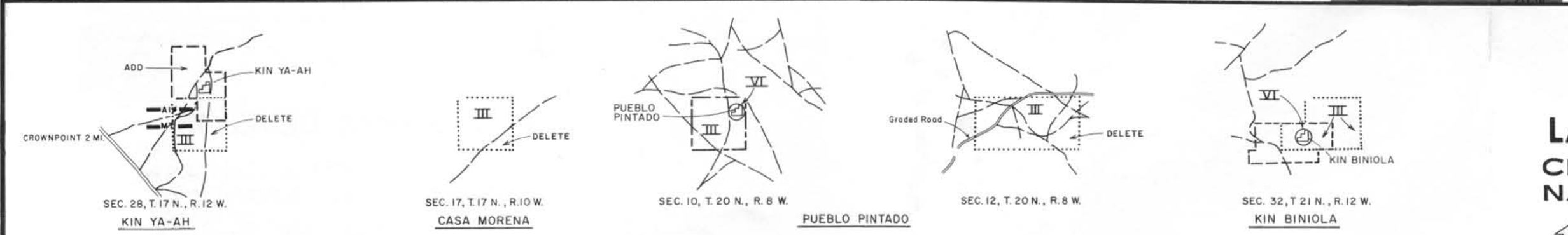


ACCESS & KEY MAP

LEGEND

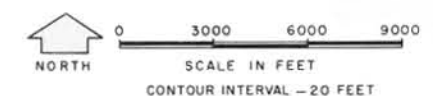
	EXISTING	PROPOSED	OBLITERATE
PARK BOUNDARY	---	---	
IMPROVED ROADS	==	==	
ADMINISTRATIVE ROADS	---	---	
AERIAL POWER (SINGLE PHASE)	Al	Al	
TELEPHONE (METALLIC)	MT	MT	
ARCHAEOLOGY	□	□	
BRIDGE	X	X	X
FENCE	X	X	X

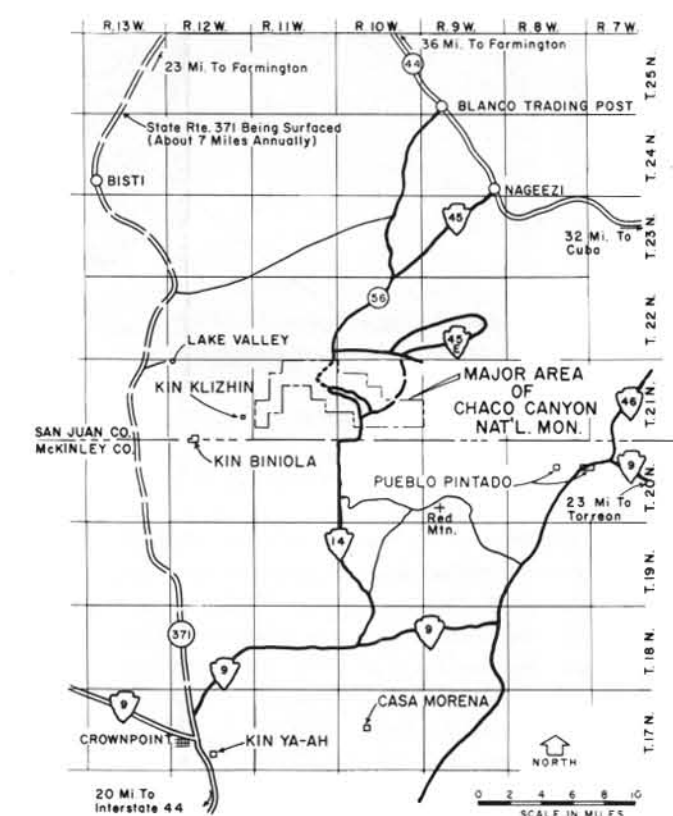
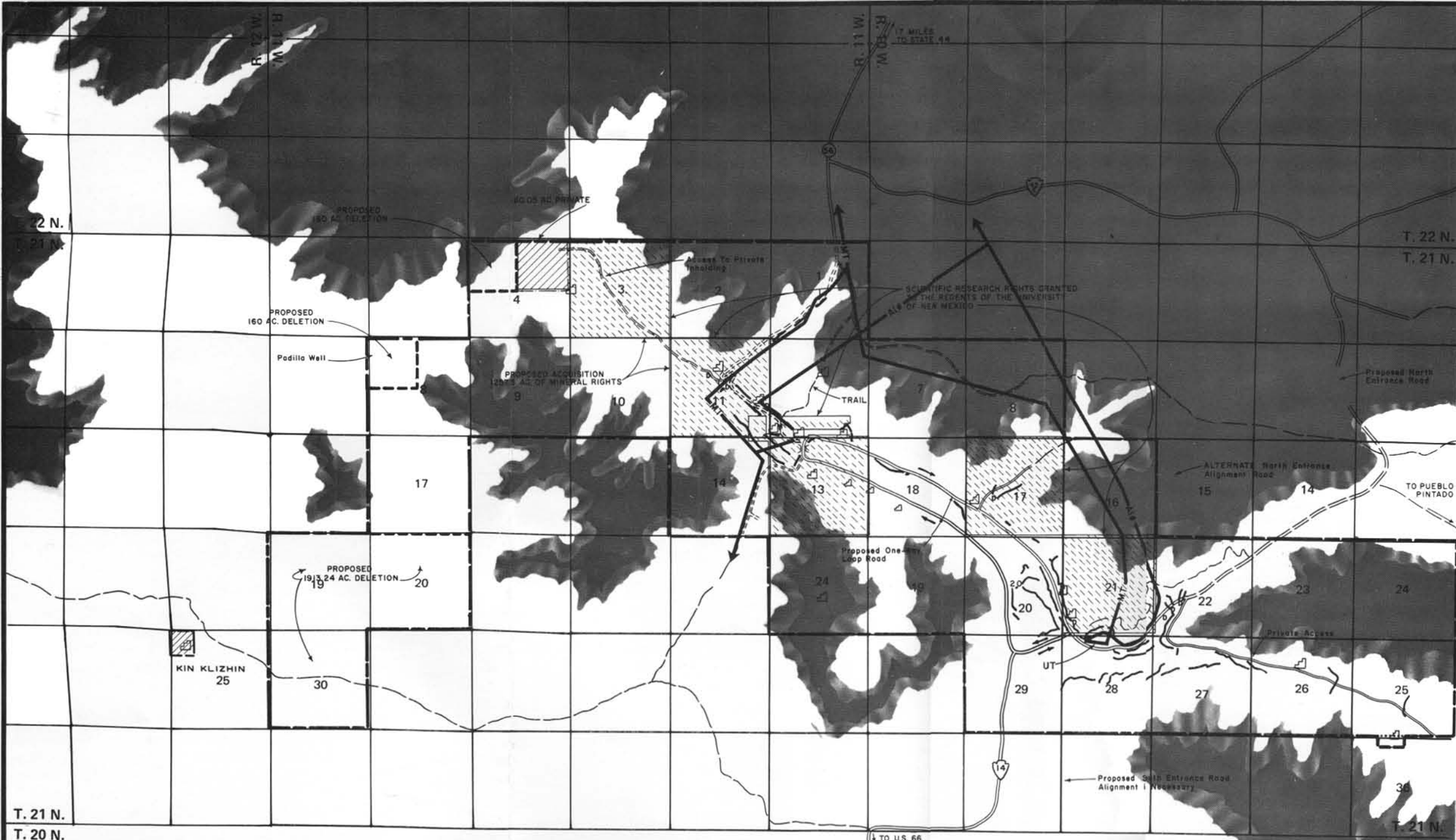
LAND CLASSIFICATION	ACREAGES
II GENERAL OUTDOOR RECREATION AREA	855 ACRES
III NATURAL ENVIRONMENT AREA	18,776.40
V PRIMITIVE AREA	676
VI HISTORIC & CULTURAL SITES	1,202
	21,509.40



DETACHED AREAS

LAND CLASSIFICATION CHACO CANYON NEW MEXICO NATIONAL MONUMENT





ACCESS & KEY MAP

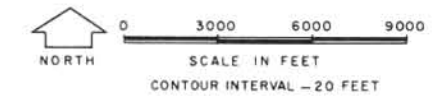
LEGEND

	EXISTING	PROPOSED	OBLITERATE
PARK BOUNDARY	—	- - -	
IMPROVED ROADS	==	==	
ADMINISTRATIVE ROADS	— or —	==	
AERIAL POWER (SINGLE PHASE)	— A —	—	—
TELEPHONE (METALLIC)	— MT —	—	—
ARCHAEOLOGY	—	—	—
BRIDGE	—	—	—
FENCE	X — X	X — X	X — X
DIKE	—	D — DROP STRUCTURE	—

- NON FEDERAL LAND WITHIN THE EXISTING OR PROPOSED BOUNDARY
- NOTED RIGHTS ARE VESTED IN OR GRANTED TO OTHER THAN THE FEDERAL GOVERNMENT ON LAND WITHIN THE EXISTING OR PROPOSED BOUNDARY

NOTE:
 All non federal land within the proposed boundary is proposed for acquisition.
 The act of February 17, 1931 (46 STAT. 1165) provides that the Secretary of the Interior may in his discretion grant the Regents of the University of New Mexico the right to carry on scientific research within the monument.
 The act of February 17, 1931 (46 STAT. 1165) establishes the perpetual right of adjacent land owners to drive stock across the monument. This right is presently not being used.

LAND OWNERSHIP & USE CHACO CANYON NEW MEXICO NATIONAL MONUMENT



NM-CC 3136 A
 RPSSC



DETACHED AREAS