NPS Form 10-900
(3-82)

Theme: The Original Inhabitants, Native Villages and Communities

OMB No. 1024-0018
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United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

For NPS use only
received OCT 1 0 1987
date entered

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic CASA MALPAIS (AZ Q:15:3)

and/or common

2. Location

street & number [redacted] X not for publication

city, town Springerville X vicinity of

state Arizona code 04 county Apache code 001

3. Classification

Category	Ownership	Status	Present Use	
___ district	X public (leased State land)	___ occupied	___ agriculture	___ museum
___ building(s)	___ private	X unoccupied	___ commercial	___ park
___ structure	___ both	___ work in progress	___ educational	___ private residence
X site	**Public Acquisition**	**Accessible**	___ entertainment	___ religious
___ object	___ in process	___ yes: restricted	___ government	___ scientific
	___ being considered	X yes: unrestricted	___ industrial	___ transportation
		___ no	___ military	X other: (grazing)

4. Owner of Property

name Arizona State Lands Department

street & number 1624 West Adams

city, town Phoenix ___ vicinity of state Arizona

5. Location of Legal Description

courthouse, registry of deeds, etc. Apache County Courthouse

street & number

city, town St. Johns state Arizona

6. Representation in Existing Surveys

title Arizona Archeological Survey has this property been determined eligible? ___ yes ___ no

date 6/24/48 ___ federal X state ___ county ___ local

depository for survey records Arizona State Museum, University of Arizona

city, town Tucson state Arizona

7. Description

Condition		Check one	Check one
___ excellent	___ deteriorated	___ unaltered	_X_ original site
_X_ good	_X_ ruins	_X_ altered	___ moved date _____
___ fair	___ unexposed		

NPS Inspection: October 1985

Describe the present and original (if known) physical appearance

INTRODUCTION

[redacted] dates from late Pueblo III to early Pueblo IV times (A.D. 1250-1325). It consists of a large masonry pueblo, a three-room roomblock, four unidentifiable features, terrace wall segments, and other features such as a trail, a stairway (Photograph 3), petroglyphs (Photograph 5), grinding areas, and trash areas adjacent to the pueblo and in various crevices (Maps A and B; see also Attachment 1 for a description and measurements of the various features and structures). The site has never been tested or excavated.

Geologically, Casa Malpais is located within the structural subdivision known as the Mogollon Slope, a broad homocline extending northward from the Mogollon Rim. The site is constructed on a fallen basalt flow cliff and talus of the White Mountain Volcanic Field which dates to the Middle Tertiary (Akers 1964:5; Stone 1980:1).

The principal vegetation growing on the site today consists of snakeweed (Gutierrezia spp.), four-wing saltbush (Atriplex canescens), wolfberry (Lycium pallidum), barberry (Berberis fremontii) and a variety of grasses including blue grama (Boutelous gracilis) and side-oats grama (Boutelous curtipendula), and some forbes. A few small juniper trees (Juniperus spp.) also grow on and near the site, but primarily the area is open.

Although there are no currently known springs or active seeps near Casa Malpais, the proximity of the site to the well-watered flood plain of the [redacted] probably afforded the inhabitants of Casa Malpais abundant water as well as agricultural land. The Springerville area has an annual rainfall of 12.11 inches (Akers 1964:6).

Casa Malpais was initially recorded (as site 150) during the Peabody Museum's Upper Gila Expedition which covered west central New Mexico and east central Arizona between 1947 and 1949 (Danson 1957:63). The site, because of its unique location and temporal placement in the upper Little Colorado region, was chosen for more detailed study and mapping in 1949 (Danson and Malde 1950; Map C). Casa Malpais was also briefly recorded (site 75) in 1956 during the Chicago Natural History Museum's Southwest Expedition (Martin, Rinaldo and Longacre 1961).

8. Significance

Period	Areas of Significance—Check and justify below				
X prehistoric	X archeology-prehistoric	___ community planning	___ landscape architecture	___ religion	
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science	
___ 1500–1599	___ agriculture	___ economics	___ literature	___ sculpture	
___ 1600–1699	___ architecture	___ education	___ military	___ social/ humanitarian	
___ 1700–1799	___ art	___ engineering	___ music		
___ 1800–1899	___ commerce	___ exploration/settlement	___ philosophy	___ theater	
___ 1900–	___ communications	___ industry	___ politics/government	___ transportation	
		___ invention		___ other (specify)	

Specific dates circa A.D. 1250-1325 **Builder/Architect** N/A

Statement of Significance (in one paragraph)

SIGNIFICANCE

The principal significance of Casa Malpais National Historic Landmark lies in its potential to provide information about one of the least known cultural complexes in the American Southwest and about one of the most critical time periods in southwestern archeology (Criterion D). Most large Mogollon sites were abandoned by Pueblo III time, or about A.D. 1200, although some large aggregated settlements were built in different locations during Pueblo IV. Eventually the Pueblo IV settlements were abandoned as well. Casa Malpais is one of the few known sites that spans both the Pueblo III and Pueblo IV period.

Hypotheses for the causes of the abandonment of the Colorado Plateau, including some areas of the Little Colorado River region where the Landmark is located, constitute one of the most important and challenging research issues in American archeology. Postulated causes for the abandonments are numerous and include raiding and internecine conflict, environmental change and drought, or synergistic combinations of natural and social factors (Martin and Plog 1973).

The 14th century transitional period marks a significant but little known facet in the prehistoric to protohistoric cultural development of the Mogollon region and that of the greater American Southwest. Since no archeological excavation has been conducted at Casa Malpais, data related to the function of the site, the organizational structure of the settlement, the nature of its subsistence base, the temporal span and growth pattern of the pueblo, and the processes involved in its abandonment, are not currently available. Nevertheless, important research domains can be postulated.

Settlement Patterns

The Mogollon Culture, a high mountain adaptation, appears to have been both structurally and functionally different from the contemporaneous Hohokam to the south in their low-altitude desert, and the Anasazi to the north who inhabited the generally elevated Colorado Plateau and the Four Corners region. Prior to A.D. 700 Mogollon settlements consisted of pithouse villages. Shortly thereafter, the Mogollon appeared to adopt certain Puebloan characteristics that included above ground masonry structures and new ceramic styles. Changes in settlement pattern also occurred, however the nature of the change is not well understood.

According to Martin (1979:65), Early Mogollon villages dating from A.D. 500 to A.D. 1000, "were built on high mesas, bluffs or ridges, well back from the mainstream of travel ... some were provided with crude walls placed on

9. Major Bibliographical References

See Continuation Sheet.

10. Geographical Data

Acreage of nominated property [redacted]

Quadrangle name [redacted] Quadrangle scale 1:24000

UTM References

	Zone	Easting	Northing
A	[redacted]		
B	[redacted]		
C	[redacted]		
D	[redacted]		
E	[redacted]		
F			
G			
H			

Verbal boundary description and justification

See Continuation Sheet.

List all states and counties for properties overlapping state or county boundaries

state	code	county	code
state	code	county	code

11. Form Prepared By

name/title Helene R. Dunbar, Archeologist

organization Interagency Archeological Services
National Park Service
Western Region

date August 10, 1987

street & number 450 Golden Gate Ave., PO 36063

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state

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

_X_ national ___ state ___ local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

State Historic Preservation Officer signature

title date

For NPS use only

I hereby certify that this property is included in the National Register

Keeper of the National Register date 7/18/88

Attest: date

Chief of Registration

GPO 894-768

Representation in Existing Surveys (continued)

Peabody Museum Site Files, Upper Gila Expendition 1947-1949, Site Number 150 (Danson and Malde 1950; Danson 1957)

Chicago Natural History Museum Site Files, Southwest Expedition 1956, Site Number 75 (Martin, Renaldo and Longacre 1961).

The following description of the Casa Malpais National Historic Landmark is based on a recent reconnaissance and mapping of the site by the Arizona State Museum (Neily 1986) from October 29 to November 2, 1985 (Maps A and B). The principal part of the site is situated on the highest terrace, designated Terrace E in the 1950 study by Danson and Malde. This area includes the remains of a former large roomblock (the pueblo), the Great Kiva, and other platforms and structures (Map A). A plan of the roomblock or pueblo proper is provided in Map B.

[redacted]s, The crevices of the terrace on which the pueblo was constructed were apparently filled in to create a platform for the structures. Southeast and adjacent to the pueblo on this terrace is an extensive area of bedrock with numerous deep crevices. This area is probably similar to the original on which the pueblo was constructed.

TERRACE E: THE PUEBLO, GREAT KIVA, TERRACE STRUCTURES AND WALLS

The principal roomblock, the pueblo, as originally mapped by Danson and Malde consisted of 58 apparently fairly distinct room outlines (Map C); however, due to vandalism and natural deterioration, the only room outlines that could be definitely identified in the 1985 study were those that had been illegally excavated: rooms 12, 16, and 20 (Maps A and B; Photographs 9, 10 and 11). Across the remainder of the rubble mound only 28 slight depressions or rough rubble outlines of the rooms could be distinguished.

Room 16, the only room with all four walls completely exposed, measures 4.30 m by 2.40 m and has been excavated to a depth of 2.0 m. The exposed masonry walls are in good condition but are deteriorating. Potentially datable roof beam fragments are scattered in and around the backdirt from the room. One such beam, recovered by Danson in a 1983 visit to the site, was submitted to the University of Arizona Dendrochronology Laboratory for analysis and dated to A.D. 1268 (Edward B. Danson, personal communication, August 30, 1984).

Surrounding Room 16 is a depressed area in which fill recently removed from Room 16, and probably Room 14 also, has been deposited. This depressed area appears to have been illegally excavated earlier and subsequently refilled.

Two other rooms (12 and 20) also have wall exposed through illegal excavation. While the 1 m by 3 m long wall in Room 12 is still intact, the 2.7 m long segment of wall in Room 20 has been badly vandalized. Other walls exposed at the pueblo occur along the northeast portion of the rubble mound facing the trash fill overlying the talus boulders. These wall segments have been exposed by the extensive vandalism in this area which had taken place before the original mapping of the site.

One other probable room (10), not directly connected to the pueblo room block, was apparently constructed on the fill overlying the talus rubble. This room measures 8.3 m by 3.2 m and is roughly outlined by two small masonry segments in the southeastern and northwestern portions. Other rooms may have been constructed on this fill but due to the extensively disturbed condition of the area no evidence remains.

The Great Kiva (Photographs 6 and 7) is situated [redacted] exposures. This masonry structure, as originally mapped by Danson and Malde, remains in fairly good condition although the heights of the walls only extend from 1.20 m to 2.45 m above the interior surface, somewhat less than the 3 m indicated in 1949. Currently there is no indication of the pothole excavated in the firepit area of the structure, and the deflector is partially buried by rubble and brush.

One additional feature of the Great Kiva not originally described by Danson and Malde is a masonry bench identified along the northwest interior wall of the structure. Although mostly covered with rubble, the bench is approximately 60 cm above the present surface and is 70 cm wide. There is no visible indication of benches along the other walls.

A possible boulder wall structure (Structure 3) which was not originally recorded [redacted] Kiva. Petroglyphs were identified on the rock knob adjacent to Structure B. A counter-clockwise spiral with a small footprint above it was recognized (Photograph 5). The boulder wall segment that was originally mapped south of the Great Kiva on Terrace E is not presently identifiable.

The extreme northwest end of Terrace E is narrow and surrounded by bedrock and talus. Although two contiguous boulder room structures were originally mapped in this area, there appear to be three contiguous rooms (Structure 4, Rooms 1-3). Two of the rooms occur in the northwest-southeast orientation as previously mapped while a third contiguous room occurs to the northeast. A wall segment which was previously mapped now appears to connect to Structure 4.

Two other possible features were also recorded and mapped in this part of Terrace E. Feature 1 is a small roughly circular boulder alignment which may be a room, although it is difficult to discern from the surface remains. A boulder rubble area measuring 4.5 m by 10.5 m and contiguous to the northeastern room (Room 3) may prove to be part of the structure, although without testing no definite conclusions can be made. A boulder with indications of grinding was found on the rock knob near Structure 3.

The rock stairway adjacent to Terrace E (Photograph 3), initially identified by Danson and Malde, consists of rock rubble situated in between a large block of basalt which had separated from the ridge. The rubble is scattered randomly in this fissure but nevertheless affords easy access to the top of the ridge. Several boulders near the stairway show evidence of grinding.

A trail or path, extending for approximately 35 m from Terrace C, around a rock knob up to Terrace E to just south of Structure 3 and the Great Kiva was also mapped. This path is approximately 1 m wide and is delineated as an area cleared of boulders. This feature does not appear on the 1949 map and, thus, may be of fairly recent origin. The outer paths which extended from Terrace E up to the ridge top were recorded in the original mapping project but were not identified.

TERRACE F: STRUCTURES AND WALLS

[redacted]. This terrace has at least three structures, a large rock enclosure, two unidentifiable features, and several wall segments.

The most prominent structure on Terrace F is the large stone wall enclosure (Enclosure A) which measures almost 26 m in diameter (Photographs 2 and 4). The boulder walls are approximately 80 cm thick and in sections measure 1.27 m high. In addition to the probable entrance that was originally mapped along the south wall, there are presently four other breaks in the wall which may have been caused by disturbance over the past 36 years.

The interior of the enclosure while fairly level is covered with boulders, several of which were utilized as grinding areas. The function of this unique enclosure, assuming that it is contemporaneous with the prehistoric occupation of the site, is uncertain. Its function as an enclosed plaza seems to be precluded by the presence of the irregular boulder strewn surface unless the boulders had ritual significance or were displaced in historic times. Alternatively, the enclosure may have served as a corral, perhaps to confine game obtained from communal drives such as the antelope drives conducted by the Zuni (Ferguson and Hart 1985:43).

The three rock wall structures on Terrace F (Structures 5, 6, and 7) are located near the edge of the terrace and adjacent to the various boulder wall segments which define the terrace boundaries. All three of these structures were mapped in 1949, although their entrances and general shapes are now obscured. The structures mapped in 1949 on the terrace slope south of the enclosure were not located.

The additional features on Terrace F consist of a possible room (Feature 3) and a trash and rubble area (Feature 4). Feature 3 is defined by part of a boulder wall which extends from a rock knob near Structure 5 and a bedrock face fronting Terrace E. A boulder grinding area was identified within the feature. This small area was mapped previously as a discrete structure with an entrance facing south. It appears as if the stone wall alignment may have been altered since it was originally mapped so that it passes to the south instead of to the west of the feature.

Feature 4 consists of a 2 m by 6 m area around a slight bedrock overhang southwest and below the pueblo on Terrace E. Rubble and fill material is confined to this area and may be derived, in part, as slough from the pueblo on the terrace above. Further characterization of this feature cannot be made from present surface indicators.

TERRACE C: STRUCTURES AND FEATURES

[redacted] Both of these structures (Rooms X and Y) were mapped in 1949 and have been subject to little apparent alteration since that time. Boulders with indications of grinding have been found in several locations. The remainder of Terrace C is devoid of cultural resources.

TERRACES A AND B

[redacted] the greatest amount of soil development and are relatively clear of boulders. Terrace B lacks any cultural features other than a 40 m long boulder wall segment which runs along the northwestern edge of the terrace. As originally mapped, this wall continued across the outer edge of the terrace and extended toward Terrace D, but could not be identified during the mapping.

[redacted] One of these structures (2) was recorded and mapped in 1949 and appears to be virtually unaltered. Structure 1, however, was not previously recorded. Structure 1 is a masonry room located at the north end of Terrace A. There is a short 10 m long segment of rock wall adjacent to the structure that was mapped by Danson and Malde. No cultural features related to Casa Malpais were identified below Terrace A and Terrace B.

RIDGE FEATURES

There is no indication of a wall at present on the upper ridge above the site where Danson and Malde mapped a 75 m long segment (Map C). A wall segment was, however, identified southeast of Terrace E along a sloping section of the ridge (Map A). This wall segment is part of a series constructed along the ridge extending south in similar physiographic locations. Two masonry structures (8 and 9) separated by a few meters were identified along this sloping portion of the upper ridge in an area between two wall segments, only one of which appears on Map A.

The antiquity of these ridge walls (and possibly some of the other terrace walls) and their association with Casa Malpais cannot be directly determined. Historic period stone walls were apparently constructed by settlers in the 1880s to keep the vast herds of open range cattle away from agricultural fields along the Little Colorado (Robert Hooper, personal communication, 1985). Since stone walls have been identified all along the upper Little Colorado (Hoffman 1983:105), some of the walls at Casa Malpais may be historic. Additionally, there is a possibility that some prehistoric walls were removed for building stone, altered, or added to historically.

Petroglyphs were identified and mapped on boulders and the cliff face in four locations in the slump valley and boulder area between the upper ridge and Terrace E. These petroglyphs consisted of both geometric and anthropomorphic designs.

OTHER FEATURES

Other features identified at Casa Malpais include crevices throughout the fallen cliff or slump valley between Terrace E and the ridge. They form a maze of deep, variably sized and often dry shelter-like openings. The location of all these crevices has not been mapped. Fill within many of these areas contains prehistoric cultural material similar to the trash fill adjacent to the northeast side of the pueblo. Whether these areas were utilized for functions other than trash dumps has not been determined. The size of some of the crevices may have afforded shelter for other activities.

CONDITION OF THE SITE

Over the past 36 years, since the site was initially mapped, there have been natural alteration and substantial disturbance to the site. A comparison of Maps A and B (1985) with Map C (1949) reveals that several walls and other

features originally recorded are no longer present, possibly due to livestock or human disturbance. Illegal excavation in the pueblo and the adjacent trash and fill deposits also accounts for a considerable amount of disturbance although it is impossible to quantify the extent of the damage or the number of rooms vandalized over time in the absence of systematic testing or excavation. Observed disturbances clearly attributable to looting and vandalism appear as shaded areas in Maps A and B (see also Photographs 9, 10, and 11).

Access to the site is restricted, but uncontrolled. [redacted]

Clandestine site visits, pothunting and vandalism are ongoing (Bruce Donaldson, personal communication, 1984). For example, during the five day mapping and boundary study project in 1985, two groups of unidentified individuals trespassed on the site. Other illegal visitors have been spotted and reported through a cooperative aerial surveillance program jointly sponsored by the USDA Forest Service and the Arizona State Lands Department. And more recently, two Springerville men were arrested and convicted for illegal digging at Casa Malpais (White Mountain Independent, May 22, 1986).

NONCONTRIBUTING PROPERTIES

Several noncontributing properties were recorded by Stacy (1973). There are dry-laid boulder walls about one meter high across every drainage leading from cliff top to valley floor, for a distance of one-half mile west of the site proper, and approximately one-quarter mile east of it. The walls consistently are laid across a wash near its upper extremity, at the steepest part of the wash. Danson (in Stacy 1973) reported that local residents believed these walls, and perhaps the rock alignments that extend from the talus slope toward the valley floor, were built by sheepherders.

Integrity

Casa Malpais has been visited regularly by collectors for many years. Nevertheless, it still retains great integrity despite the disturbance depicted as shaded areas in Map B. It is a very large site and while the above ground structures have collapsed, extensive structural remains are intact beneath rubble or drifting fill. Other subsurface deposits in addition to the extensive trash deposits exist at the site and are estimated to be, in the absense of controlled excavation, seventy-five percent intact.

Attachment 1

CASA MALPAIS STRUCTURES AND FEATURES

Structures/Features	Description	Dimensions*
Terrace A		
Structure 1	Boulder wall room	3.50 m by 3.00 m
Structure 2	Boulder wall room	2.00 m by 2.00 m
Terrace C		
Room X	Boulder wall room	3.85 m by 3.17 m
Room Y	Boulder wall room	3.90 m by 4.10 m
Trail	Boulder-lined trail between Terraces C & E	36.00 m by 1.00 m
Terrace E		
Great Kiva	Massive boulder wall structure with southeast entryway	12.40 m by 11.40 m (4 m by 1.40 m)
Pueblo	Large masonry roomblock	41.00 m by 27.00 m
Structure 3	Boulder wall room	5.20 m by 2.20 m
Structure 4	Boulder wall roomblock	7.00 m by 6.00 m
Room 1	Boulder wall room	3.10 m by 2.30 m
Room 2	Boulder wall room	3.00 m by 2.30 m
Room 3	Boulder wall room	3.40 m by 2.30 m
Feature 1	Possible boulder wall room	2.50 m by 2.50 m
Feature 2	Boulder rubble area	10.50 m by 4.50 m
Terrace F		
Enclosure A	Large boulder wall enclosure	25.90 m by 24.00 m
Structure 5	Boulder wall room	4.50 m by 4.00 m
Structure 6	Boulder wall room	3.00 m by 3.00 m
Structure 7	Boulder wall room	5.00 m by 5.00 m
Feature 3	Possible room	3.40 m by 2.50 m
Feature 4	Trash-rubble area	6.00 m by 2.00 m
Ridge Top		
Structure 8	Boulder wall room	1.70 m by 1.50 m
Structure 9	Boulder wall room (?)	2.10 m by 1.00 m

* Structure dimensions are interior

the approachable side of the village, while steep escarpments protected the other three sides." Early villages with fortified walls and naturally limited avenues of accessibility were thus easily defensible. Martin theorizes this settlement pattern probably was the outgrowth of tensions and hostilities that developed between early settled agriculturists and hunters and gatherers.

Late Mogollon villages dating from A.D. 1000 to A.D. 1400 tended to be located in more accessible topographic positions in valleys and along streams where agriculture and irrigation could be carried out, a pattern that suggests defense was no longer essential.

Does Casa Malpais present a unique paradox? On the basis of observed architecture and ceramics, it clearly dates from the Late Mogollon period, yet it fits the classic locational description for an Early Mogollon site. One answer may be that there is an as yet undetected small Early Mogollon component to the site similar to that identified at Kinishba, another White Mountain site that reached its cultural flourescence in the 13th and 14th centuries. Continued occupation of the site into Pueblo III and Pueblo IV times, with development of an agglomerated pueblo, may relate simply to the [redacted] contained many acres of potentially productive agricultural fields, and the marshes adjoining the river and agricultural flatlands would have been rich in riparian products and game. By prehistoric standards, the Casa Malpais ecological niche may have been ideally suitable for increased population concentration without resorting to intensified agriculture.

It is equally possible that Martin's model is in need of revision. Late Pueblo III and Pueblo IV sites are found in both exposed and defendable locations. Danson and Malde (1950:66), who tended to overemphasize the defensive features of Casa Malpais, also reference several (un-named) Pueblo IV sites situated in elevated defendable locations in the drainages that flow west out of the White Mountains. Other similar sites include AZ Q:11:42 [redacted] (Beeson 1966:179) and Rinaldo's Site 94 (Chicago Natural History Museum 1956). AZ Q:11:42 is a small 17 room pueblo constructed on a mesa side in loose boulders similar to the location of Casa Malpais. Rinaldo's Site 94 was constructed [redacted]

Well known Pueblo III and Pueblo IV sites located in exposed settings lacking naturally defensible topographic features are AZ A:11:48 in the [redacted]

The question of defense is remains controversial and unresolved. To date, there is no evidence of inter-pueblo warfare or stress in Pueblo III times. There is also no hard evidence to suggest that defense was or was not a necessity in Pueblo IV times. Longacre (1964:210) hypothesized that allegedly defensive sites may have been used as "refuges" for a civilian population while marauders were being offensively pursued by the warriors of the settlement. But who were the alleged marauders or encroaching populations? For decades, it was assumed that they must be the southern Athabaskan speaking Western Apaches, however, this group may not have been in the area early enough, or in sufficient numbers, to account for the abandonments that took place in both the Anasazi and Mogollon areas in Pueblo III and Pueblo IV times.

Other investigators (Watson et al. 1980:216; Kintigh 1985:110) have suggested that various groups simply may have responded differently to perceived or real threats of hostility either by constructing a settlement in a defendable location, or, by creating large agglomerated pueblos such as AZ A:11:48, Kinishba and Grasshopper Pueblo.

It is equally plausible that the location of Late Mogollon sites in defensible versus non-defensible locations may relate to conscious selection, demographics and the number of human resources available in a given sub-region or drainage. For example, the roomblocks at Kinishba and Grasshopper Pueblo contained at least 500 rooms compared to 58 at Casa Malpais and 17 at AZ Q:11:42. It would be logical for a small community to feel conscious of its vulnerability. Thus in locations of lesser population density, a naturally defensible center would be critical in terms of labor expenditure and payoff. In an area of greater population density, human resources may have been sufficient to protect large aggregated pueblos in an exposed setting.

In order to address defense and eventual abandonment at Casa Malpais, research and excavation will need to focus on the support base (agricultural systems and agricultural potential), demographics (population density and settlement pattern changes over time), and environmental studies as well as functional and social organizational changes over time. River valleys were preferred trade and transit routes. If Casa Malpais expanded and reorganized to capitalize on trade opportunities, like Kinishba and Grasshopper Pueblo appear to have done, defense may have been necessary to protect workshop areas and strategic goods in addition to stored crops needed to sustain the population.

Culture Chronology

The need for temporal control is critical for an interpretation of the processes involved in the growth and decline of Casa Malpais. Only one tree-ring date (A.D. 1268) has been obtained from the site (Edward Danson, personal communication, August 30, 1984) and that was obtained from the backdirt of an illegally excavated room (Room 16). Additional material for dating and cross-dating, i.e. roof beam fragments, charcoal and potsherds, were observed in the backdirt from Room 16, and the remains of a looted hearth were observed in the Great Kiva. The single tree-ring date from the site is consistent with surface ceramic scatters observed by Danson and Malde (1950) and Neily (1985). Principally these consisted of local White Mountain redwares and St. Johns polychrome, as well as unidentified and undated corrugated wares that potentially span an even longer time frame.

Although some looting has occurred, the majority of the rooms and subsurface deposits are believed to be intact. Preservation of wood, bone and charcoal observed in looters' spoil and in the trash deposits near the pueblo also appears to be excellent. It is anticipated, therefore, that intact well preserved stratified deposits exist throughout the pueblo, the trash deposits, and other structures on the several terraces.

Subsistence and Paleoenvironment

Subsistence and paleoenvironmental data are equally critical in the interpretation of settlement patterns, adaptive (as well as maladaptive) change to the environment, and the eventual abandonment of Casa Malpais. An examination should be undertaken of agricultural and other subsistence or subsistence related strategies employed and how these were affected by the paleoenvironmental conditions of the period, the demographic and social climate of the region, and the political organization and integration of the site.

For example, Danson and Malde (1950:62) observed that Terraces A and B had been cleared of all rocks and inferred that these cleared areas could have been used for dry farming. While this small area may have been sufficient to provide agricultural support for a small community of the proposed Early Mogollon type, it would not have been sufficient for a larger aggregated community unless augmented in some way. Since no intensive regional survey has been undertaken, it is unknown if the site's inhabitants tended agricultural fields [redacted] or if prehistoric water control devices associated with intensified agricultural practices may have existed on the slopes and drainages east and west of the currently defined landmark boundary.

Because climatic conditions have been conducive to good preservation of fragile organic materials at Casa Malpais, and stratified deposits with integrity are expected in the majority of all intra-site contexts, analyses of a wide range of data categories can be used for reconstructing both changing subsistence patterns and paleoenvironmental conditions at the site:

--Pollen and economic plant remains can be recovered from room fill, ceramic vessels, and hearths;

--In addition to providing dateable material, roof beams and tree-ring growth patterns can be used to assess the consistency of rainfall patterns in the region;

-- Analyses of faunal bone from a variety of contexts within the site, including the pueblo trash deposits where abundant ungulate and bird bone was identified, can be used to reconstruct diet, hunting preferences, climate and seasonality, etc. Study of the faunal materials may also provide further inferences about the use of Enclosure A if it species obtained in communcal drives can be identified.

-- Parasites are common in cultural contexts. Stratified neotoma (packrat middens) contain plant macrofossils as well as dateable cultural and organic materials;

--Certain classes of insects are particularly sensitive to moisture and temperature changes; therefore, entomological studies can be expected to produce useful paleoenvironmental data.

Sociopolitical Organization and Religion

Surveys of the Little Colorado region [redacted] have provided an increasing amount of comparative data on sites dating to the time periods represented at Casa Malpais and later (Danson 1957; Beeson 1966; Watson et al. 1980; Longacre 1962, 1964; Graves and Longacre 1982; Kintigh 1985). Thirteenth century sites such as Casa Malpais tend to be considerably larger that those constructed during the preceeding periods and also fewer in number.

The site's location on a fallen basalt cliff and rocky terraces indicates that the construction of the site involved a labor intensive communal organization. Given its protected location and the presense of a Great Kiva, possibly suggesting the central importance of the site within an settlement system, the function and purpose of Casa Malpais may be related to ceremonial or other organizational requirements of the community as well as defense.

Great Kivas are associated with only a few of the 13th and 14th century sites including Grasshopper Pueblo, Casa Malpais, and Hooper Ranch Pueblo [redacted] (Martin et al. 1961; Longacre 1964:205). The presense of a Great Kiva may indicate that Casa Malpais and the other sites served as central ritual precincts during the late 13th century. Since Great Kivas were generally replaced by plazas in the A.D. 1300s (Longacre 1964:205), the presence of a possible plaza (Enclosure A) at Casa Malpais may suggest the continuing importance of the site as a ritual and socio-political center.

It is not known if earlier kivas exist at Casa Malpais, however, they may if earlier occupational components are identified. Excavation and study of such structures and their material content are necessary to address evolving religious systems in the Mogollon area and the site's development as a potential ritual or ceremonial center. The petroglyph panels on the cliff face also have potential for addressing the ritual significance of Casa Malpais; these should be recorded and comparatively assessed with other rock art manifestations in the region to determine if rare but dateable events are included, and if they depict external influences and/or unique characteristics.

The creation of large agglomerated pueblos also suggests that other important political and economic changes were occurring, changes that may have come about through exposure to or participation in trading networks that had developed earlier in the Hohokam and Anasazi areas. Although the nearby sites of Kinishba and Grasshopper Pueblo do not occupy naturally defensible locations like Casa Malpais, they span the same transitional time period and contain very large agglomerated pueblos with Great Kivas. Moreover, excavations have shown they participated in trade with Zuni to the north and the Hohokam area to the south. Items traded from the latter area include shell and macaws. Cordell (1984:347) says that "in return for these imported items Grasshopper may have provided agricultural products initially, but manufactured items such as chipped and ground stone, iron-based pigments, bone tools, and ornaments became increasingly important items of exchange through time." Studies of agricultural features associated with Grasshopper further revealed little agricultural intensification. Graves and Longacre (1982:205) theorize that Grasshopper Pueblo declined because it failed to develop a stable political structure to handle divisive factions in a rapidly developed agglomerated community which had probably reached, at least technologically, the limits of its agricultual productivity and was buffering its subsistence stress with trade.

A number of data categories important for researching trade are known to exist at Casa Malpais. Comparative analysis of nonlocally produced exchange items including pottery excavated from Casa Malpais with collections other

contemporaneous regional sites may provide a preliminary indication of the political or ritual significance of the site within a regional settlement network. It is also important to note that Danson and Malde (1950:65) identified work areas at the site that may have been used for both domestic manufacture and export items:

> "Some of the[se] natural crevices formed caves which were utilized by the Indians who occupied Casa Malpais. Today, trash, broken pottery, and stone and bone fragments are to be found in all of them. Mr. Edward Decker of Springerville, who first showed us this site, told the authors that he and his sons explored the caves and crevices in the 1920s and found in them many stone points, some axes of both the three-quarter and full-grooved varieties, and much broken pottery, arrow shafts, and trash. The deep valley behind the pueblo and the great kiva have many modern and ancient petroglyphs on them, and this warm and dry valley was undoubtedly used as a work area. It is from here that one enters most of the caves."

Architectural study and excavation are necessary to verify whether Casa Malpais was constructed as a defensive settlement or refuge, a ritual center, or a late period trade center. The site's defensive potential may have in fact related to trade and the need to protect a regional trade manufacturing center rather than protection against encroaching populations in search of basic subsistence products during agricultural stress. In addressing this question the function and purpose of the terrace walls, outlier rooms, and Enclosure A needs to be addressed. In what way could they have functioned in the overall defense of the site or could they have also served other functions? Danson and Malde (1950) suggested that the walls were defensive and that Enclosure A was utilized as a plaza. Assuming that the boulder walls at the site are all prehistoric and not partly historic, a defensive posture is plausible but not proven. It is also possible that the walls may have delineated specific activity areas of the site that were used for purposes other than defense. In addition to test excavations in Danson and Malde's proposed work areas, excavation in some of the outlier rooms will be necessary to provide data on the function of these structures.

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