

Priority Prehistoric Cultural Resources, Pinal County, Arizona

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Archaeology Southwest

Technical Report No. 2012-101

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Technical Report No. 2012-101

300 North Ash Alley, Tucson, Arizona • May 2012

ACKNOWLEDGEMENTS

We would like to thank the many experts and tribal members who took time out of their busy schedules to attend the experts workshop, answer questions and review an earlier draft of the report. We would especially like to thank our volunteer field crew led by Cherie Freeman who was joined by Valerie Contorti, Ken Fite, Mike Gleeson and Bruce Hilpert. Catherine Gilman and Susan Hall of Desert Archaeology, Inc., assisted with the report layout and design.

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INTRODUCTION

On 18 November 2009, the Pinal County Board of Supervisors adopted a new Comprehensive Land Use Plan (Comprehensive Plan), which for the first time, included a Cultural Resources element. In the Comprehensive Plan, heritage and cultural resources are recognized as key components of Pinal County's vision for the future. The initial goal and objectives for this element of the plan states:

3.10 Goal: Conserve cultural resources throughout Pinal County.

Objective 3.10.1 Compile a list of highly significant Pinal County cultural resources and encourage the protection of significant concentrations of archeological, historical and other cultural resources (Pinal County Board of Supervisors 2009).

To meet this goal, the Planning and Development Department of Pinal County in collaboration with Archaeology Southwest, with funding support from the National Trust for Historic Preservation, organized a workshop designed to facilitate a Priority Prehistoric Cultural Resources Plan for Pinal County¹. The workshop was modeled after a similar priority setting exercise for the San Pedro River basin sponsored in late 2008 by Archaeology Southwest and the National Trust for Historic Preservation.

The Pinal County workshop brought together archaeological experts, including tribal representatives (Appendix A) on 5 December 2010 at the Planning and Development office of Pinal County. Using spatial information on known prehistoric sites organized by Archaeology Southwest, including AZSITE records, and Arizona State Museum site card information, experts were asked to identify areas (i.e. polygons) that based on their expert opinion and available information merited consideration as Priority Cultural Resources. A total of 44 areas were identified at the December workshop². The expert recommendations were conditioned on up-to-date site condition assessments following the workshop. Figure 1 includes the areas identified at the 2008 San Pedro basin workshop, the December 2010 workshop, and the final Priority Area recommendations.

The following report provides an overview of the prehistory of Pinal County as understood today by archaeologists, discusses the methodology employed to identify the Priority Areas, provides a final list and brief description of Priority Areas and concludes with recommendations on protection strategies that Pinal County might consider to conserve these valuable resources and meet their Comprehensive Plan objective.

Digital files of the recommended Priority Area boundaries (resolution to the section level) were provided separately to Pinal County staff. Detailed site information, including any information provided by Arizona State Museum, was not made available as part of this planning effort except at the workshop.

¹Historic resources (buildings and sites) that post-date 1700 were not included in this planning exercise and as such this report is not a complete assessment of the priority cultural resources of Pinal County.

²In addition, seven priority areas located in Pinal County that had previously been identified in the San Pedro River workshop are included in the final recommendations

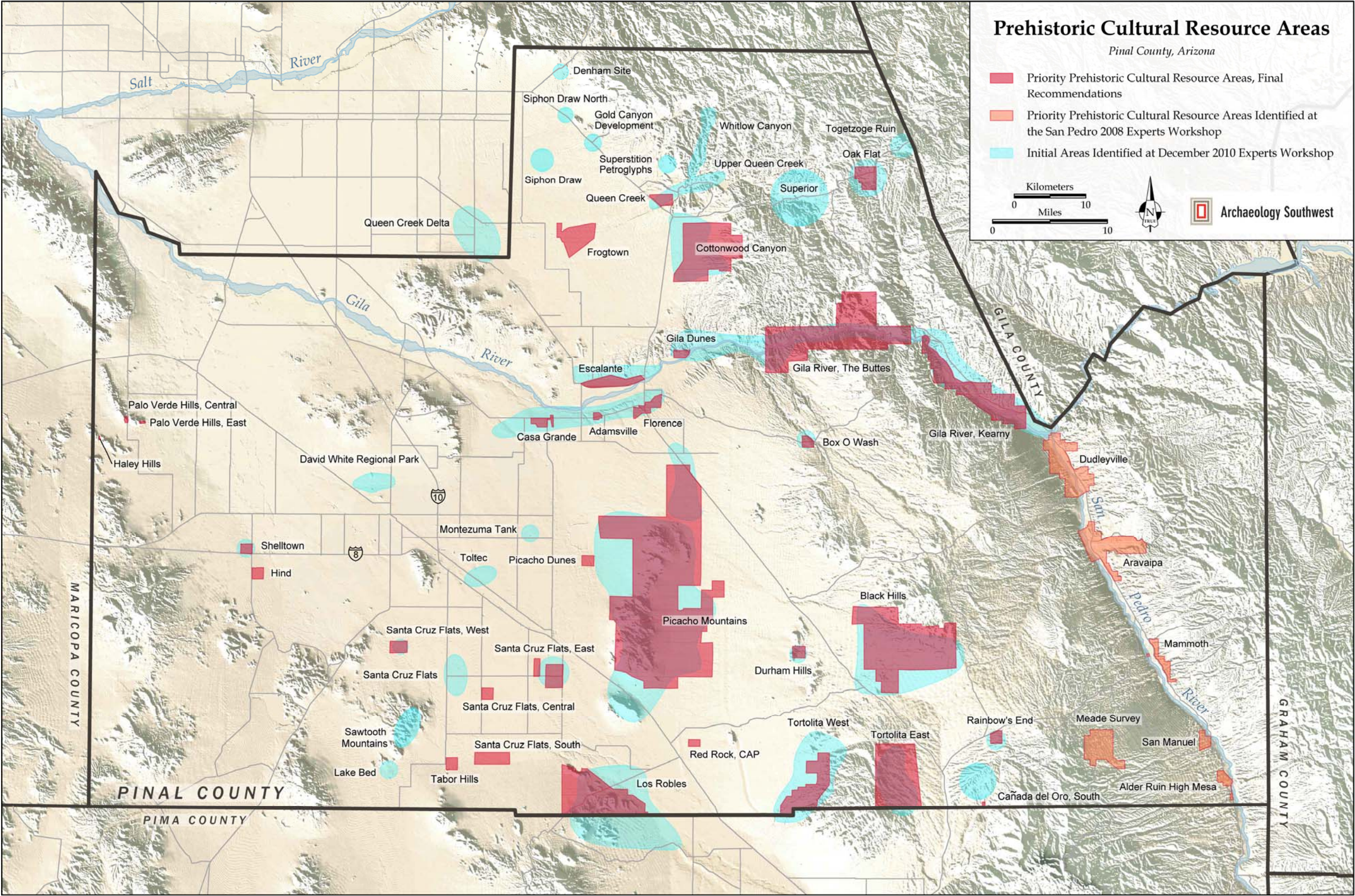


Figure 1. General location map of areas considered at the 2008 San Pedro workshop, at the December 2010 experts workshop, and the final Priority Prehistoric Cultural Resource Areas.

GENERAL OVERVIEW OF THE PREHISTORY OF PINAL COUNTY

A cultural prehistory for Pinal County is broadly sketched in this section³. This prehistory supplies a simplified outline of events and processes that may have influenced human occupation in the middle Gila River basin from its earliest human inhabitants up through the Spanish exploration period.

Paleoindian Period (10,800 – 8000 B.C.)

The Paleoindian are the earliest human occupants of the American Southwest. Traditionally viewed as small, highly mobile groups of big-game hunters, the Paleoindian are believed to have roamed portions of the Southwest from approximately 12,800 to 10,000 years ago (Ballenger et al. 2011). The period is primarily manifested in Arizona by isolated surface finds of Clovis and Folsom Paleoindian points and a small number of Pleistocene megafauna kill sites in southeastern Arizona (Haynes 2011). The extent or intensity of Paleoindian occupation in Pinal County is unknown because any existing Paleoindian remains have likely been buried by Holocene alluvium that has been accumulating on the valley floors since the Late Pleistocene period.

Archaic Period (8000 – 2100 B.C.)

The transition from the Paleoindian period to the Archaic period was accompanied by marked climatic changes. During this time, the environment came to look much like it does today. Archaic period people pursued a mixed subsistence strategy, characterized by intensive wild plant gathering and the hunting of small game animals. This pattern of wild resource exploitation resulted in a high degree of residential mobility and low population density.

Although no Early Archaic (8000-6500 B.C.) sites are known in the middle Gila River region, Middle Archaic (6500-2100B.C.) remains have been found in bajada and upland settings (Bayham et al. 1986). In addition, numerous surface finds of Archaic-style projectile points, as well as points recovered from later Hohokam sites, suggest widespread use of the Gila River region during the Archaic period (Gasser 1990; Halbirt and Henderson 1993; Loendorf and Rice 2004).

Early Agricultural/Early Ceramic (2100 B.C. – A.D. 450)

The Early Agricultural period began when domesticated plant species were first cultivated in the Greater Southwest. Over the time period, sites exhibit increasing levels of sedentism and pottery becomes an essential component of the artifact inventory. However, characteristic elements of the Hohokam prehistoric tradition (see below) are not present at sites, most notably red ware pottery and villages around plazas.

A seasonally sedentary settlement pattern has been inferred, with populations moving from winter habitations spread along the margins of floodplains to seasonal summer camps in upland areas (Cable and Doyel 1987, Halbirt and Henderson 1993). Although wild plants and animals composed an important part of the subsistence base, floodwater agriculture supported in some areas by irrigation canals seems to have been the principle focus of subsistence efforts (Henderson 1995; Henderson and Clark 2004). The precise timing of the introduction of cultigens is not known, although direct radiocarbon dates on maize indicate it was being cultivated in the Tucson Basin and several other parts of the Southwest by 2100 B.C. (Mabry 2008). By at least 400 B. C., within the Tucson basin, groups were living in substantial agricultural settlements in the floodplain of the Santa

³Most of this section was excerpted from Lindeman et al. 2009 and Marshall and Craig 2010.

Cruz River. Recent archaeological investigations (Thiel and Diehl 2006) established that canal irrigation began by at least 1500 B.C., during this Early Agricultural/Early Ceramic period in the Tucson basin area south of the Pinal County line.

Outside the Tucson Basin and distinct from these canal-based settlement systems are a number of sites formerly considered Late Archaic that are now more appropriately considered Early Agricultural (Clark 2000; Fish et al. 1992). There is variability among Early Agricultural sites, but many have now been documented that include small, round or oval, semisubterranean pithouses, including storage facilities, burials in excavated residential settings and by the abundance and consistency of associated cultigens. At some sites, a larger round structure is also present, which is thought to be for communal or ritual purposes. Stylistically distinctive Cortaro, Tallerin, Empire, San Pedro, and Cienega type projectile points are common at sites, as are a range of ground stone and flaked stone tools, ornaments, and shell jewelry (Figures 2 and 3). The fact that shell and some of the material used for stone tools and ornaments were not locally available suggests trade networks were operating.



Figure 2. Early Agricultural period projectile point.



Figure 3. Grooved stone axe head from the Mammoth site.

Agriculture, particularly the cultivation of corn, was important in the diet and increased in importance through time. However, gathered wild plants, such as tansy mustard and amaranth seeds, mesquite seeds and pods, and agave hearts, were also frequently used resources. As in the preceding Archaic period, the hunting of animals such as deer and rabbits, continued to provide an important source of protein. There are several sites on the mainstem Gila River (Fish, 1967; Loendorf and Rice 2004), Santa Cruz Flats (Halbirt and Henderson 1993) and at locations near the Picacho Mountains (Fish et al. 1992) that are believed to be Early Agricultural sites, although the presence of canal irrigation similar to what was present in the Tucson Basin has yet to be documented. At the mainstem Gila River site near Kearny (Clark 2000), there were more than 70 small, circular, rock structures identified, a clear indication of a strong Early Agricultural presence along this part of the Gila.

During the Early Agricultural Period, while there was increasingly more investment in an area through cultivated agricultural, intentional aggregation and permanent habitations were not present (Wallace and Lindeman 2012). During the Early Ceramic period there developed more residential permanence, as evidenced through architectural features, however, there were no settlements that could be termed "villages". Sites containing only a few structures were the norm and might best be considered farmsteads or hamlets rather than anything approaching the villages that characterized the beginning of the Hohokam sequence.

Hohokam Sequence (A.D. 450 – 1450)

The most substantive prehistoric archaeological remains in Pinal County are those defined by archaeologists as Hohokam. This prehistoric tradition developed in the deserts of central and southern Arizona sometime around A.D.450 (although this may have varied regionally, the transition from Early Agricultural to a formally-defined Hohokam tradition remains an active area of archaeological inquiry and discussion) and is characterized by the introduction of red ware, red-on-buff, and red-on-brown pottery (Figure 4) (Haury 1976, Wallace et al. 1995).



Figure 4. Examples of Red-on-buff pottery (Janelle Weakly photographer).

The portions of Pinal County that include the middle Gila River constitute part of the core area of the Hohokam tradition. The Grewe-Casa Grande settlement complex on the middle Gila River is one of the largest Hohokam settlements found and has the added distinction of being one the longest continuously occupied settlements in the prehistoric American Southwest, with an occupation of close to a millennium, ca. A.D. 500 to 1450 (Craig 2001, Marshall and Craig 2010).

The Hohokam cultural sequence is divided into four general periods: Pioneer (A.D.450-750), Colonial (A.D.750-950), Sedentary (A.D.950-1150), and Classic (A.D.1150-1450). The Pioneer period is distinguished by the introduction of red ware and, somewhat later, red-on-buff pottery, and the establishment of the first large, nucleated villages with plazas along the Gila and Salt rivers (Gregory and Huckleberry 1994). This was followed by a rapid expansion of irrigation systems and habitation centers across the river basins during the Colonial period (Doyel 1991). Eleven of 13 canal systems that are documented from the middle Gila were started and expanded during this Period (Woodson 2010). Increasing social complexity also characterized the Colonial period. Pithouses were clustered into discrete courtyards, which, in turn, were organized into larger village segments, each with their own roasting area and cemetery (Henderson 1987; Wilcox et al. 1981). Around A.D. 800, ballcourts (Figure 5) were built at a number of the largest villages (Wilcox and Sternberg 1983). The presence of the ballcourt is thought to represent the emergence of a regional system with religious, economic, and political functions, tied together by the exchange of plain and buff ware ceramics, marine shell, foodstuffs, and other items (Abbott 2001; Wilcox 1991; Wilcox and Sternberg 1983).



Figure 5. Photo of a Hohokam ballcourt.

In the Sedentary period, settlements across the Gila-Salt Basin continued to increase in number and size. It was also a time of change when some settlements, such as Snaketown, were abandoned entirely while others, like Grewe, shifted in location (Craig 2001). Many of the canal systems were reconfigured during this time (Howard 1991), with some consolidation of separate systems (Woodson 2010). The reconfiguration and expansion through consolidation coincided with a more

developed settlement hierarchy in the river basins—that is, each canal system having at least one large village in addition to smaller ones (Gregory and Nials 1985). By the late Sedentary, house clusters were arranged in more formalized rectangular patterns that forecast the development of the supra-household compounds seen in the Classic period (Wilcox et al. 1981).

The Classic period is marked by dramatic changes in Hohokam material culture, architecture, and traditions. Surface adobe-compound architecture appeared for the first time, supplementing, but not replacing, the tradition of semisubterranean pithouse architecture. Burial modes also changed, with an increasing dominance of inhumation over cremation burial. Buff ware pottery diminished in frequency during the period, being replaced by red ware pottery and, later, polychrome types (Figure 6). Ballcourts were largely abandoned during the late eleventh century (Wallace et al. 1995), and sometime around the late thirteenth century (Gregory 1987), large earthen features called platform mounds replaced ballcourts as the principal form of public architecture. Adobe roomblocks served as the principal form of residence often surrounded by massive compound walls.



Figure 6. Salado Polychrome ceramic vessels.

Large irrigation communities spaced at regular intervals along the canal systems were prevalent in the Gila and lower San Pedro river valleys. Casa Grande Ruins, Arizona's most famous prehistoric landmark, was a four story structure and the downstream terminus and largest settlement along a 20 mile canal that originated east of the present day Town of Florence. Because construction of these features required considerable levels of organized labor, many think the mounds and canal systems are symbols of a socially differentiated society (Doelle et al. 1995; Elson 1998; Fish and Fish 1992; Gregory 1987).

Most notable during this period is the overall aggregation of Hohokam villages into fewer, but larger, villages found primarily along the middle Gila and lower San Pedro Rivers and McClelland Wash and Santa Cruz Flats areas. Beginning in the early fourteenth century, population declined steadily in most areas, and by the mid-to-late fifteenth century, the manifestations of what are recognized as Hohokam disappeared from the archaeological record (Hill et al. 2004). To date, few archaeological sites dating to the period between the collapse of Hohokam society and the arrival of

the Spanish in southern Arizona have been found or investigated. However, some modern day Native Americans tribes consider themselves to be among the descendants of the Hohokam, including the O'odham and several clans of the Hopi and Zuni tribes. Many traditional histories also maintain that while the political structure of Hohokam society may have dissolved, the people themselves persisted and thrived throughout the Protohistoric period and continue to occupy the region today (Loendorf and Lewis 2012; Wells 2006).

Protohistoric Period (A.D. 1450 – 1700)

Little is known of the period between the disappearance of Hohokam material cultural remains from the archaeological record, and the appearance of Spanish explorers and missionaries in the late sixteenth and seventeenth centuries. O'odham people (whose tribal lands presently include the Tohono O'odham Nation, Gila River Indian Community, Ak-Chin Indian Community, and Salt River Pima-Maricopa Indian Community), were first noted in written Spanish accounts by Padre Eusebio Kino in 1687 (Sheridan 2008). O'odham people were well established in southern Arizona with villages on the San Pedro, Santa Cruz, and Gila Rivers when Padre Kino and other Spanish explorers arrived in the late seventeenth century (Spicer 1962).

These early Spanish accounts suggest O'odham settlements were loosely organized collections of round, brush-covered houses (Figure 7), most often located in riverine settings. Each small village seems to have been politically autonomous, self-sufficient, and focused on irrigation and floodwater agriculture. An O'odham group, referred to as Sopaiburi, was noted by Padre Eusebio Kino in his travels along the lower San Pedro River in the 1690s (Bolton 1936). Sometime in the early 1600s, Apache people are believed to have settled in areas east and south of Pinal County, although the obscure nature of the human footprint of Apache people in the archaeological record makes the timing of the arrival of Apache a subject of ongoing debate. There are Spanish accounts that indicate that Apache did interact with Sopaiburi along the San Pedro River in the late 1600s. Protohistoric sites are rare, given the ephemeral nature of the archaeological remains associated with O'odham and Apache people living in the region at this time as well as the limited nature of the Spanish presence.

DATA SOURCES AND PRIORITY AREA IDENTIFICATION

The planning process relied on Archaeology Southwest spatial databases of significant prehistoric sites (i.e. ballcourts, platform mounds, petroglyphs, and large habitations areas) and a select subsample of AZSITE records for Pinal County. A subsample of AZSITE site records were drawn from the total AZSITE records of Pinal County, based on whether the sites occurred on private, state trust, or isolated Bureau of Land Management lands⁴ and if specific features (Appendix B) were present at the sites.

There are more than 4,500 site records in the AZSITE system for Pinal County, and 1,667 site records met these criteria. Based on a more in-depth review of original site cards and AZSITE records (1170 sites) 497 sites were removed because they lacked major habitations, important architectural features (i.e. ballcourts, platform mounds, trincheras, compound walls, roomblocks of ten rooms or greater, unusual rock alignments) or in the case of petroglyph sites, fewer than 10 elements or 6 panels⁵.

⁴Site records for sites that occurred on other federal lands (most notably United States Forest Service lands) and tribal lands (i.e. Gila River Indian Community, Ak-Chin Indian Community and Tohono O'odham Nation) were excluded from the analysis.

⁵All sites with pictograph sites and all petroglyph sites with styles characterized as "western Archaic" were included regardless of size (i.e. number of panels and elements). These sites are widely acknowledged as rare in central Arizona.



Figure 7. Photo of Sopaiuri house foundation.

All remaining site records, including those culled from Archaeology Southwest databases, were organized into a spatial database and this information was graphically displayed on countywide maps at the workshop through a Geographic Information System. Hard copy information of AZSITE records and Arizona State Museum site cards were available for reference at the workshop. Participants were asked to draw polygons around important sites/areas. Particular attention at the workshop was directed to identifying geographic areas with noteworthy concentrations of prehistoric cultural remains. While experts were asked to consider site significance, integrity, representativeness, and uniqueness based on any direct knowledge of resource values and site conditions, deference was given to all expert input. We restricted the workshop to a discussion of sites that date from the Early Agricultural through Proto-historic Periods⁶.

⁶Mabry (1998) as part of a State Historic Preservation Office context study on Paleoindian and Archaic Periods identified sites throughout the state that were particularly noteworthy and merited strong consideration for listing on the National Register for Historic Places. All of the sites Mabry identified in Pinal County are now more appropriately considered Early Agricultural/Early Ceramic period sites.

Thirty-four areas were identified at the workshop and recommended as Priority Prehistoric Cultural Resource Areas, pending site condition assessments (Table 1). Based on the information presented at the workshop, an additional 11 areas, not familiar to the experts, were recommended for further consideration by Archaeology Southwest, based on our field investigations (Table 2).

Table 1. Areas identified at the 2010 workshop.

Adamsville	Gila River, Kearny	Santa Cruz Flats, Central
Black Hills	Haley Hills	Santa Cruz Flats, East
Box O Wash	Los Robles	Santa Cruz Flats, West
Cañada del Oro, South	Oak Flat	Shelltown
Casa Grande	Palo Verde Hills, East	Siphon Draw, North
Cordones	Palo Verde Hills, Central	Superior
Cottonwood Canyon	Picacho Mountains	Tabor Hills
Durham Hills	Picacho Dunes	Tom Mix Complex
Escalante	Queen Creek	Tortolita, East
Florence	Queen Creek Delta	Tortolita, West
Gila Dunes	Rainbow's End	
Gila River, The Buttes	Red Rock, CAP Canal	

Table 2. Areas recommended for further investigation.

David White Regional Park	Montezuma Tank	Togetzoge
Denham	Santa Cruz Flats, South	Toltec
Gold Canyon Development	Sawtooth Mountains	Whitlow Canyon
Lake Bed	Superstition Petroglyphs	

Following the workshop, where landowner permission was obtained, an Archaeology Southwest staff member and/or a volunteer field crew visited each site/area to update site condition information and current land use (Figure 8). Original site cards, AZSIZE records, and any additional information obtained from ASM site files were reviewed in detail. We did not exclude sites based solely on agricultural development since many cultural remains are subsurface, largely below the plow zone. All AZSITE Cultural Resources Inventory information within and in close proximity to priority area polygons was reviewed to develop final spatial delineation of priority cultural resource sites/area boundaries. Certain sites were combined based on their proximity.

A final list of 37 Priority Areas (Table 3) are recommended for consideration, including the 7 Priority Areas identified in the 2008 San Pedro River basin workshop. Ten areas were not recommended as Priority Areas (Appendix C) and four areas were not visited, and so additional investigation is warranted (Appendix D). Digital files of the Priority Area boundaries were provided separately to Pinal County staff.⁷ A final draft of the document was sent to workshop participants for comments and this final document incorporated any comments that we received.

The workshop was based on known information. It is understood that large areas of Pinal County have not been surveyed and as such any priority setting exercise is a dynamic process that may change as new information becomes known. It is also understood that many of the areas/sites may be considered traditional cultural properties by tribes and that any information to this effect is not represented in this Priority Areas assessment.

⁷Digital map resolution is to the section level.



Figure 8. Site condition assessment at the Black Hills site.

Table 3. Final recommendations for Priority Prehistoric Cultural Resource Areas.

Adamsville	Gila Dunes	Rainbow's End
Alder Wash/ High Mesa	Gila River, Kearny	Red Rock, CAP
Aravaipa	Gila River, The Buttes	San Manuel
Black Hills	Haley Hills	Santa Cruz Flats, Central
Box O Wash	Los Robles	Santa Cruz Flats, East
Cañada del Oro, South	Mammoth	Santa Cruz Flats, South
Casa Grande	Meade Survey	Santa Cruz Flats, West
Cottonwood Canyon	Oak Flat	Shelltown/ Hind Sites
Dudleyville	Palo Verde Hills, East	Tabor Hills
Durham Hills	Palo Verde Hills, Central	Tortolita Mountains, East
Escalante	Picacho Dunes	Tortolita Mountains, West
Florence	Picacho Mountains	
Frogtown	Queen Creek	

PRIORITY AREAS AND ATTRIBUTES

A significant portion (35 percent) of Pinal County land area is Arizona State Trust land, which occurs predominantly in large continuous blocks throughout the County. While all of this land is managed for highest and best use, much of the use has been livestock grazing, which has not significantly impacted prehistoric remains. As such, the majority of Priority Areas include state trust lands and more significantly represent landscape level conservation opportunities that provide an incredible diversity of site types with substantial time depth.

Paleoindian Period

Paleoindian sites in Pinal County are restricted to isolated occurrences of Clovis points (Mabry 1998) which do not merit consideration as Priority Areas.

Conservation Priorities

Any future sites that are discovered and consist of more than isolated points should be considered as Priority Areas.

Archaic Period

Archaic sites are numerous and widespread throughout the County and cover several thousand years of human activity. These sites are defined principally by material cultural remains associated with plant and game processing stone tools, bedrock mortars, fire hearths, and a few sites with rock art that has been classified as “Western Archaic” style. Sites are aceramic and require material for radiocarbon dating to reliably associate with this time period. Priority setting among sites can be challenging because the term “Archaic” has been used as a catch-all category in southwestern archaeology in the United States for many, diverse site types and cultural groups over at least a 6000 year period, due to the lack of reliable dating. Sites are relatively numerous, but more than other archeological sites their presence is often related to the level of survey intensity.

Conservation Priorities

Archaic period sites were not included as part of the priority setting workshop. The Pinal County sites recommended by Mabry (1998) that are either listed on the National Register of Historic Places or determined eligible for listing include components that can more reliably be associated with the later Early Agricultural/Early Ceramic period and are discussed further in those sections below. However, a number of the Priority Areas represent landscape level conservation recommendations and several contain Archaic period sites.

Early Agriculture/Early Ceramic Period

These sites are distinguished from Archaic period sites by evidence of a more sedentary lifestyle and typically include the presence of cultigens, most notably maize, and material culture elements related to subsurface structures, mortuary practices, and projectile points styles. Sites often occur below the surface within the Holocene floodplain and are revealed through subsurface excavation and occasionally when channel entrenchment has revealed subsurface features. Until recently, many of these sites were classified as Late Archaic period sites, but in light of recent advances in our understanding of early agriculture in the Southwest, most sites previously identified as Late Archaic are now considered Early Agricultural period sites. The Early Agricultural site along the mainstem near Kearny, Arizona, included 70 features suggesting a large Early Agricultural presence. Given the location of these features in the modern Holocene alluvium, they have low visibility in archaeological terms, but there is little doubt that many others are present although not yet found. Large sites from the beginning of the Hohokam sequence have been found, and it is reasonable to expect that some of these sites may have an Early Ceramic horizon.

Conservation Priorities

Four Pinal County sites were identified in Mabry (1998) that are recommended for inclusion here. Two of the sites, Picacho Dunes and Gila Dune, were also identified at the workshop. These sites are Early Agricultural sites. Early Ceramic period sites may occur at Casa Grande, Poston Butte, and Dudleyville Priority Areas.

Priority Areas

Gila Dunes. A large lithic scatter on the top of stabilized dunes on the north bank of the Gila River. The substantial amount of late Archaic cultural material indicates a large number of people or long residence time, either likely indicators of agriculture. The site also includes two clusters of Gila Style petroglyphs and a Classic period roomblock.

Picacho Dunes. Two sites, one on the bank of an arroyo and the other on a stabilized sand dune, include roasting pits, rock clusters, hearths, projectile points, midden, and buried pit structure. Six radiocarbon dates between 4840-3910 b.p.

Tabor Hills. Lower bajada of the West Silverbell Mountains, upslope of the active irrigation canal that includes roasting pits, fire-cracked rock clusters, and a pit structure. A nearby basalt outcrop that includes petroglyphs and bedrock mortars referenced in Mabry (1998) has been largely destroyed by mining.

Hohokam Sequence

Sedentism expanded and canal systems became commonplace in habitation areas. Agriculture became more diversified with agave and cotton as crops. Large villages included clusters of pithouses opening on a common courtyard. A distinct set of cultural traits are manifest in the material record that includes decorated red-on-buff pottery, stone palettes, etched shell, inhumation mortuary practices, and prominent architectural features that are considered focal points in villages. These include ballcourts in the earlier parts of the sequence and platform mounds in the latter part of the sequence. Sites later in the sequence were predominantly large settlements that were densely occupied. Prominent aboveground architectural features include cobble and adobe compound walls, platform mounds, and masonry room blocks. Kayenta-Tusayan (i.e. northeastern Arizona) migrant sites are well-documented in the planning area. Although red-on-buff/brown (see Figure 4) ceramics continued to be produced, the pottery type that characterized this phase is Salado polychrome or Roosevelt Red Ware, primarily Gila Polychrome.

Conservation Priorities

Priority sites are largely defined by village size, presence of ballcourt or other public architecture such as platform mounds, and compound wall/room block villages. Many sites cover the full time sequence.

Priority Areas

Adamsville. Platform mound and ballcourt (Figure 9).



Figure 9. Photo of platform mound at Adamsville.

Aravaipa. Several large villages including two Classic Period platform mound and two ballcourt villages. Numerous small habitation structures and upland agricultural features present and evidence of a late Salado occupation.

Black Hills. The southern and western portions of Black Mountain include several large Hohokam ballcourt villages with related farmsteads, extensive agricultural features, and hilltop structures. Fortified Peak, a notable Salado roomblock occurs in this area.

Box O Wash. Classic period, Salado compound-walled roomblock.

Cañada Del Oro South. Classic Period roomblock, and numerous trash mounds.

Casa Grande. Casa Grande Ruins National Monument and adjacent Grewe village, a very large ballcourt village with a possible Early Ceramic component.

Cottonwood Canyon. A large Hohokam ballcourt village with an associated petroglyph area (Figure 10). A second reported ballcourt in the area was not observed in the 2011 site visit.

Dudleyville. Several villages that span the entire Hohokam sequence, including two platform mound communities and a hilltop compound of unknown function. There is evidence of a late Salado occupation and a rock shelter with Apache pictographs.

Durham Hills. Large Hohokam ballcourt village.



Figure 10. Photo of Sun Calendar petroglyph at Cottonwood Canyon.

Escalante. Multi-component site that spans the entire Hohokam sequence and includes two large pithouse villages, including the Poston Butte ballcourt village and Classic Period platform mound, and three associated compound walled roomblocks. A large portion of the Classic period mound and roomblocks has been excavated.

Florence. Multi-component site that spans the entire Hohokam sequence and one of three remaining large village areas along the Casa Grande prehistoric canal system. Unlike Casa Grande and Adamsville, this site lacks a platform mound or ballcourt feature. However, there are several loci of archaeological features that represent major habitations. Early visitors to this area, like Frank Midvale, also noted the presence of a platform mound.

Frogtown. Multi-component site that spans the Hohokam sequence, including a three mile canal segment. One of only two remaining large Hohokam habitation areas along Queen Creek, a major drainage system within the Phoenix Basin Hohokam core area.

Gila River, Kearny. Large ballcourt village site and other numerous habitation sites extending throughout the Hohokam sequence on the Pleistocene terraces bordering the modern floodplain. Several of the Classic period sites are considered Salado sites.

Gila River, The Buttes. Numerous habitation sites extending throughout the Hohokam sequence, petroglyph sites, pictograph rock shelters, cliff dwellings, and large extensive water management/agricultural systems.

Haley Hills. Gila Style petroglyph site (Figures 11 and 12) in a small canyon bottom.



Figure 11. Photo of petroglyph Panel 1 at Haley Hills.



Figure 12. Photo of petroglyph Panel 2 at Haley Hills.

Los Robles. National Register Listed Archaeological District that includes several small villages, a large platform mound community, the well-preserved terraced hillside village of Cerro Prieto, and extensive rock art areas.

Mammoth. Two Classic period platform mound communities, a ballcourt village, and one moderate-sized roomblock.

Meade Survey. Early Classic period roomblocks with evidence of Kayenta-Tusayan migrants.

Palo Verde Hills, East. Gila Style petroglyph site at base of the eastern end of the Palo Verde Hills.

Palo Verde Hills, Central. Gila Style petroglyph site at the base of the Palo Verde Hills.

Picacho Mountains. A large site encompassing all of the Picacho Mountains and eastern and western bajadas, including McClelland Wash and associated floodplain. Numerous petroglyph locations including several at the northern end that are some of the largest known concentrations in central and southern Arizona, that include a number of panels in the western Archaic style (Figure 13). At the base of the mountains, particularly on the southern and eastern portions along with the floodplain of McClelland Wash, are a number of large Hohokam habitation sites including pithouse villages, two Classic period platform mounds, and several compound wall roomblocks (Figure 14). This area includes the McClelland Wash Archaeological District listed on the National Register.



Figure 13. Photo of petroglyph panel at Picacho Mountains.



Figure 14. Photo of compound wall outline at Picacho Mountains

Queen Creek. Large Hohokam ballcourt village, also referred to as Los Monticulos.

Rainbow's End. Moderate sized Hohokam village. Ballcourt feature reported but not located during 2011 site assessment.

Red Rock, CAP. Large Hohokam village site with prehistoric reservoir feature.

San Manuel. Platform mound community with underlying pre-Classic village. Extensive agricultural features on the higher terraces.

Santa Cruz Flats. Four distinct areas within the large, broad floodplain area of the Santa Cruz River west of I-10, from the Pinal/Pima County border to just south of Interstate 8. Currently, the area is a patchwork of active irrigated agriculture and open natural desert. Investigations related to Central Arizona Irrigation and Drainage District improvements have revealed the presence of several late Classic period occupations in the Santa Cruz Flats Central and Eastern areas. These are believed to be some of the latest known sites in the Hohokam sequence. Archaeological evidence at one site suggests a possible protohistoric occupation. The Santa Cruz Flats, South and West, are large habitation areas in the earlier time periods of the Hohokam sequence. The Santa Cruz Flats, South Priority Area includes a large, possible reservoir feature. Artifact scatter is extensive in this area.

Shelltown/Hind Sites. Small habitation areas, remarkable in their variety and the extent of jewelry and ornaments, suggesting a rare and unique center of craftsman during the middle phases of the Hohokam sequence (eighth – tenth centuries).

Tortolita Mountains, East. A large concentration of archaeological sites that extend along the eastern base of the Tortolita Mountains. The area is contiguous with the Honeybee Site Complex in Pima County. There are several notable Classic Period Hohokam habitation sites including Indian Town, Batamote, and Faraway. During the site assessment in 2011, two compound wall roomblocks were noted that had not been recorded (i.e. there was no information on file with the Arizona State Museum AZSITE system). Alice Carpenter also noted a compound wall roomblock along Carpas Wash which was not visited. Numerous small petroglyph areas and water management/agricultural systems (Figure 15) are present at all the major sites as well as one and two room farmsteads.

Tortolita Mountains, West. Northern extension of the Marana Community, a Classic Period Hohokam settlement (A.D. 1150-1300).



Figure 15. Photo of agricultural terraces at Tortolita Mountains East.

Protohistoric Period

This period refers to the archaeological and historical period between A.D. 1450, (the end of the Hohokam sequence), and A.D. 1700, when the Spanish missionaries began to occupy southern Arizona. Material remains of Hohokam culture are unknown from this period. In general, archaeological materials are sparse, with only a few documented sites that are associated as O'odham (referred to as the Pimans in Spanish Documents). With the exception of Sopaiburi sites along the lower San Pedro River and Upper Santa Cruz River, O'odham sites during this period are referenced in Spanish travel reports, but locations are general and unknown on the ground at present.

Conservation Priorities

All sites with material remains that can be reliably dated or that possess diagnostic elements (e.g. oval rock footings for habitation structures) should be considered a priority for conservation. At present, all known sites are considered Sopaiburi sites in the lower San Pedro River area.

Priority Areas

Alder Wash/High Mesa. Pleistocene terraces bordering the river on the West include evidence of Hohokam, Salado and Sobaipuri occupations. A portion of the area was fully excavated by the Arizona State Museum Highway Salvage Program. East of the river is "High Mesa", a spectacular Hohokam Classic period ruin on a ridge with several significant compound wall roomblocks and at least two platform mounds.

Oak Flat. Protohistoric Apache sites, traditional cultural property.

RECOMMENDATIONS

Designation of Prehistoric Cultural Resources Priority Areas is one component of the cultural resources element of the County comprehensive plan designed to conserve cultural resources in Pinal County. This component is very specific in stating that the objective is to: "*encourage the protection of significant concentrations of archeological, historical and other cultural resources.*"

The most effective protection of cultural or natural resources occurs when lands currently available for residential, commercial, and industrial development are protected from such development. Typically, land protection for conservation purposes in Arizona is achieved through public or non-governmental organization acquisition of the underlying fee interest, acquisition of development rights, or through local government administrative action as part of the land use entitlement process in which specific areas are delineated as natural open space, cultural resource parks, and passive recreation areas. All three of these mechanisms are important to consider in Pinal County⁸. The following specific recommendations are:

1. Amend the County's Open Space and Trails Master Plan to expand select open space areas, including proposed regional park areas, to fully capture cultural resource Priority Areas. Priority Areas that should be considered include: Black Hills, Cottonwood Canyon, Durham Hills, Gila River-Kearny, Queen Creek, Meade, Picacho Dunes, Picacho Mountains, Rainbow's

⁸Three Priority Areas: Casa Grande, Escalante, and Florence are entirely within incorporated jurisdictions and are excluded from these recommendations.

End, San Manuel, Santa Cruz Flats-East, Santa Cruz Flats-West, Shelltown/Hind, Tortolita Mountains-East.

2. Provide funding for acquisition of full fee and development rights on private and state trust lands.
3. Develop land use entitlement incentives (e.g. density variances) to encourage property owners to set aside a portion of their land that includes significant archaeological sites as natural open space or cultural resource parks. Consider multi-use park opportunities to include a cultural resources element.
4. Make Priority Area information available for large scale infrastructure (i.e. highways, utility transmission corridors) and large scale industrial development (i.e. power facilities, test facilities, mining operations) planning. Encourage these developments to avoid Priority Areas early in the corridor/site planning phases.
5. Encourage ASLD to utilize Arizona State Parks Board Site Steward Program for Priority Areas that include State Trust land.
6. Support other agency efforts to protect Priority Areas (i.e. National Park Service-Casa Grande Ruins National Monument Boundary Expansion).

APPENDIX A

Attendees at the December 2010 Experts Workshop

Carol Antone, Ak-Chin Indian Community
Shane Anton, Salt River Pima Maricopa Indian Community
Larry Benallie, Gila River Indian Community
Jacob Butler, SRPMIC
Roberta Carlos, SRPMIC
Jeff Clark, Archaeology Southwest
Doug Craig, Northland Research
William Doelle, Archaeology Southwest
Paul Fish, University of Arizona
Angela Garcia Lewis, Salt River Pima Maricopa Indian Community
Catherine Gilman, Desert Archaeology, Inc.
Carol Griffith, AZ State Parks State Historic Preservation Office
Joseph Joaquin, Tohono O'Odham Nation
Andy Laurenzi, Archaeology Southwest
Barnaby Lewis, Gila River Indian Community
Glen Rice, Rio Salado Archaeology
Steve Ross, Arizona State Land Department
Jerrod Stabley, Pinal County
Peter Steere, Tohono O'Odham Nation
Amy Sobeich, Bureau of Land Management
Kent Taylor, Pinal County
Semana Thompson, GRIC
Henry Wallace, Desert Archeology, Inc.
Tom Wright, Salt River Pima Maricopa Indian Community

APPENDIX B

AZSITE Features List

Table B.1. AZSITE Features List. (Sites that had site record feature_types in bold were included in the initial AZSITE dataset).

Feature_type	Feature_type_label	Feature_type	Feature_type_label
ARTSCATT	artifact scatter	DUGOUT	dugout
ASHSTAIN	ash stain	DUMP	dump
ATALAYA	atalaya	DWELL	dwelling
BALLCOUR	ball court	EARTHMD	earthen mound
BARN	barn	EXLINFEA	excavated linear feature undefined
BATTLEST	battle site	FENCE	fence
BEDRGRST	bedrock grinding stone	FIELD	field
BEDROCK	bedrock mortar	FIELDHOU	field house
BEDRSTEP	bedrock steps	FBRICSTR	fired brick structure
BINCIST	bin cist	FORT	fortification
BRICKILN	brick kiln	GARDEN	garden
BRIDGE	bridge	GRAFFITI	graffiti
BURIAL	burial grave	GRAINMIL	grain mill
BNDRMID	burned rock midden	GRANARY	granary
CACHE	cache	GREAKIVA	great kiva
CAIRN	cairn	GSMA	ground stone manufacturing area
CANAL	canal	HEARTH	hearth
CARBODY	car body	MILITARY	historic military feature
CAVATE	cavate room	HISTSET	historic settlement
CEMETERY	cemetery	FORT	fortification
CHARSTAI	charcoal stain	HISTSTRU	historic structure
CHURCH	church religious structure	HOGAN	hogan
CLAYQUAR	clay quarry	HOTEL	hotel, inn or motel
CLEARING	clearing in desert pavement	HOUSEXTA	house extant
COKEOVEN	coke oven	HOUSFOUN	house foundation
COMMSYSL	communication system linear	HUMANREM	human remains
COMPWALL	compound walls	HUNTFEAT	hunting feature
CONLINFE	constructed linear feature undefined	INTAGLIO	intaglio
CORRAL	corral	KILN	kiln
CREMATIO	cremation	KIVA	kiva
DEPOT	depot or station	LIMEKILN	lime kiln
DEPRESSU	depression undefined	LINEBORD	linear border
DISTRICT	district	LITHQUAR	lithic quarry

Table B.1. Continued.

Feature_type	Feature_type_label	Feature_type	Feature_type_label
LITHSCAT	lithic scatter	ROADTRAI	road trail
LIVESTOC	livestock enclosure	ROASTPIT	roasting pit
LOGCABIN	log cabin	ROCKALGN	rock alignment undefined
MASSTRUC	masonry structure	ROCKART	rock art
MIDDEN	midden	ROCKFEAT	rock feature undefined
MINE	mine	ROCKPILE	rock pile
MINEWAST	mine waste	ROCKRING	rock ring
MONUMENT	monument	ROOMBLOC	room block
LITHQUAR	lithic quarry	SAWMILL	saw mill
MOUNDSTR	mound structural	SHERDSCA	scatter sherd
MOUNDTRA	mound trash	TRASHSCA	scatter trash
SNGLROOM	one room structure	SCHOOL	school
ORCHARD	orchard	SHED	shed
OREPROCE	ore processing facility	SHRINE	shrine
ORETRASH	ore transport feature	SOILCTRL	soil control structure
OTHER	other	SPRICTRL	spring control device
OUTBUILD	out building	STAGSTOP	stage stop
OUTHOUSE	out house	STOCKADE	stockade
OVEN	oven	STORPIT	storage pit
PAINTPET	painted petroglyph	SURFROOM	surface room
PALEONT	Paleontological	SWEATLDG	sweat lodge
BEDRDEPR	pecked bedrock depression	TANK	tank
PETROGLY	petroglyph	TENTBASE	tent base
PICTOGRA	pictograph	TOWER	tower
PIT	pit feature	TRADPOST	trading post mercantile
PITHOUSE	pit house	TRAILER	trailer
PLAZA	plaza	TRINCHER	trincheras
POSTHOLE	post hole	TUNNEL	tunnel
POTTKILN	pottery kiln	UTILITY	Utility
PUBBLDG	public building	WALL	wall
QUARRY	quarry	WATRCTRL	water control device
RRTRACK	railroad track bed	WATRTOWR	Water Tower
RAMADA	ramada shelter	AGRICULT	water/soil control
RESERVOI	reservoir	WELL	well
RESPROCE	resource procurement area	WICKIUP	wickiup
ROADFEAT	Road Features	WINDMILL	windmill

APPENDIX C

Workshop Areas Not Recommended

Cordones. Four small petroglyph sites (BB:5:65, BB:148, BB:5:161, BB:5:162) along a 2-3 mile ridge between Cañado del Oro Wash and Twenty-Nine Wash. Site card information indicates each site consists of boulders with various elements indicative of Gila style petroglyphs. Observers note that boulders are small enough to be easily moved and at one of the sites, BB:5:65, the site card notes that since 1982 five of the six boulders with petroglyphs have been removed. Two of the sites fall below the threshold established for considering petroglyph sites and the other two sites barely exceed the threshold. Given the loss experienced, the vulnerability of the remaining sites to future loss and their relatively small size, the area is not recommended as a priority area.

Denham. Small site occurs within an existing 135kV transmission line corridor managed by the Bureau of Land Management. Site damaged as a result of transmission line installation, including access roads. The area is currently fenced by the Town of Apache Junction and managed as natural area park. Given that the site is included within an area managed by the Town as a park, there may be some education/interpretive opportunities to explore.

Gold Canyon Development. Ballcourt and large pithouse village sites that have been lost to residential and commercial development.

Montezuma Tank. Significant land disturbance present from motorized vehicles and modern trash dumping. Apart from the relatively small reservoir feature, no other surface features were evident. The site is surrounded by a wildcat subdivision and agriculture.

Sawtooth Mountains. This site is located on Arizona State Trust land within the boundaries of Ironwood National Monument. The site itself is a relatively small petroglyph site with fewer than 50 glyphs present and many are poorly visible.

Siphon Draw, North. Site is bisected by Highway 60 limited access highway construction and appears to be located on excess ADOT land. A significant portion of the site was destroyed by freeway construction. PreClassic period habitation site without a ballcourt.

Superior. These are a series of Classic period Salado roomblock sites scattered along Queen Creek downstream of the town of Superior. All were in poor condition and were less than 20 rooms in size. A few were in close proximity to the highway and likely to be impacted from future highway expansion.

Superstition Petroglyphs. One of two sites in this priority area consisted of three panels which is below the threshold for priority area consideration. The other site could not be located. The hill that was depicted on the site card was located but no petroglyphs were observed during the site condition assessment.

Toltec. : Sheet flooding and/or previous land leveling have removed most of the surface features and make delineation of the site boundary difficult. The reservoir feature and "trash area" were visible in the 2012 site inspection and no recent disturbance was noted. The "trash area" appears to be a cemetery that has experienced significant looting. The site is located in the town of Eloy, is platted for moderate density residential development and occurs within 0.5 mile of Robson Ranch, a planned community development.

Whitlow Canyon. No data was found following the experts meeting. Recommendation made by ASLD based on word of mouth conversation with ranch permittee.

APPENDIX D

Workshop Areas that Require Additional Investigation

David White Regional Park. Most of the Park has been developed as a golf course, lands outside of the Park are private and landowner permission was not obtained. This area is along the North Branch of the Santa Cruz River and likely to include Hohokam habitation areas. The reported artifact scatters in the area are large and dense.

Golder Dam North. Reported ballcourt feature not relocated on site condition assessment visit.

Lake Bed. Age and origin of features is uncertain. This may not be a prehistoric site.

Togetzoge. Large Classic Period Salado roomblock excavated by Danson of the Peabody Museum. Danson reported excavating 50 percent of the ruin. Status on the remainder is uncertain as the landowner was unwilling to provide permission to conduct site condition assessment.

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