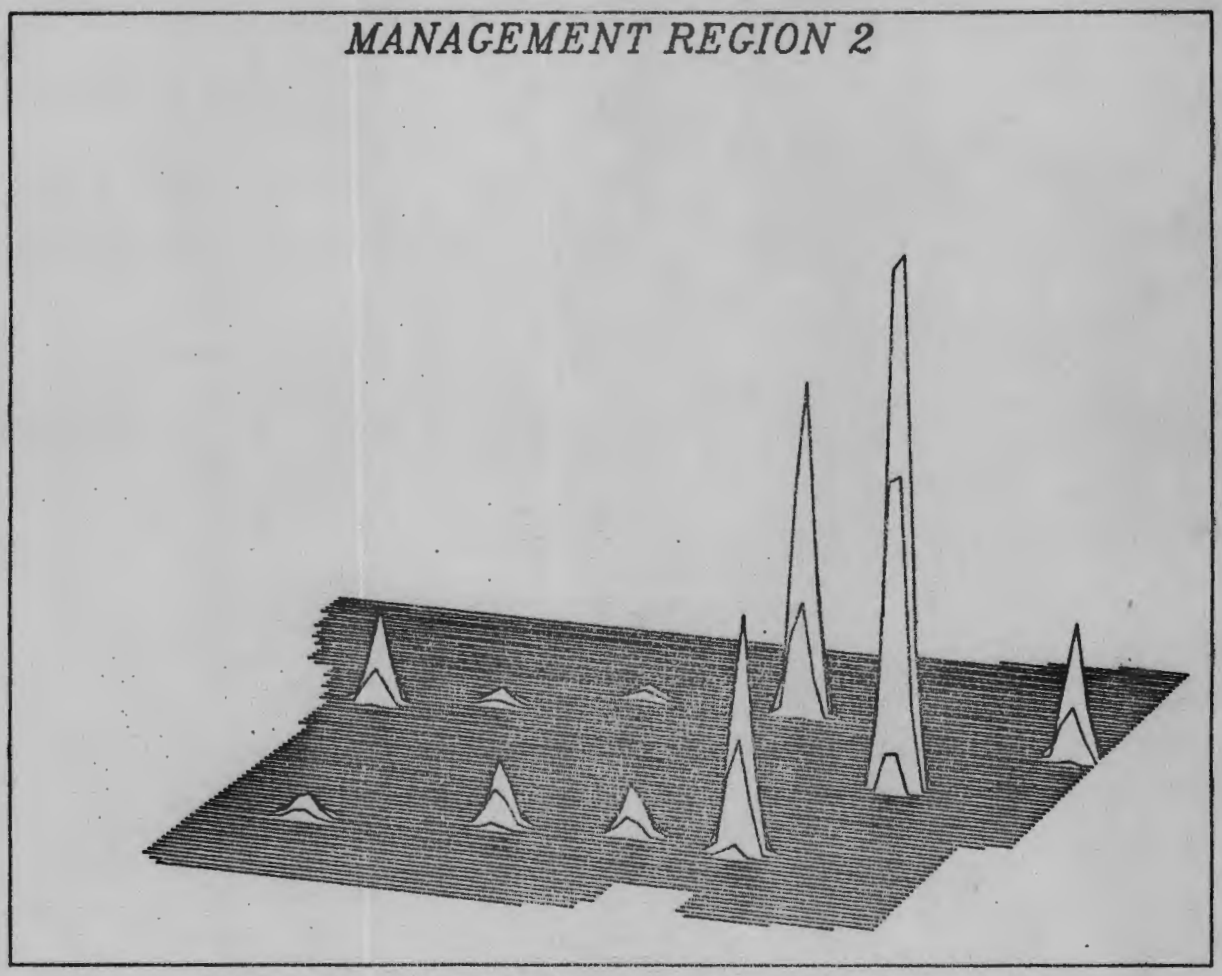
PREHISTORIC CONTEXT

RESOURCE PROTECTION PLANNING PROCESS

MANAGEMENT REGION 2



PREHISTORIC CONTEXT

Resource Protection Planning Process

Management Region 2

by

Robert L. Brooks

Oklahoma Archeological Survey

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MANAGEMENT REGION 2
MIXED GRASS-TALL GRASS PRAIRIE

PHYSIOGRAPHIC SETTING

The Mixed Grass and Tall Prairie of Management Region 2 are situated in the north-central portion of Oklahoma lying between the Ozark Uplift to the east and the High Plains on the west (Figure II-1). The 10 counties within this management region encompass some 10,000 square miles of surface area. The elevation rises gradually from about 800 feet in the east to 2000 feet in the west. As one moves west, the annual precipitation declines from 34 inches to approximately 21 inches. Vegetation changes correspond to these east-west differences in topography and precipitation.

Four distinct geomorphological settings are present within the region. A number of distinct ecological zones are associated with these diverse settings. Along the eastern margin of Management Region 2 (Washington County), the Prairie Plains occur. The primary ecological zone associated with this eastward sloping plains is the Cherokee Prairie. The Cherokee Prairie is dominated by bluejoint, prairie beardgrass, Indiangrass, and switchgrass. The southern extension of the Flint Hills region is found directly west of the Prairie Plains. This geomorphic province occurs primarily in Osage and Kay counties. The Flint Hills region is well known for a variety of high quality cherts (the Florence cherts) used to manufacture chipped stone tools in prehistoric times. The Osage Savanna biotic province corresponds to the areal extent of this physiographic zone. The Osage Savanna is a patchy environment comprised of crosstimbers vegetation of blackjack oak, post oak, and black hickory interspersed with mixed and tall grasses such as side-oats grama, buffalo grass, and silver beardgrass. Much of the remaining portion of Management Region 2 is underlain by the Red Bed Plains. These are

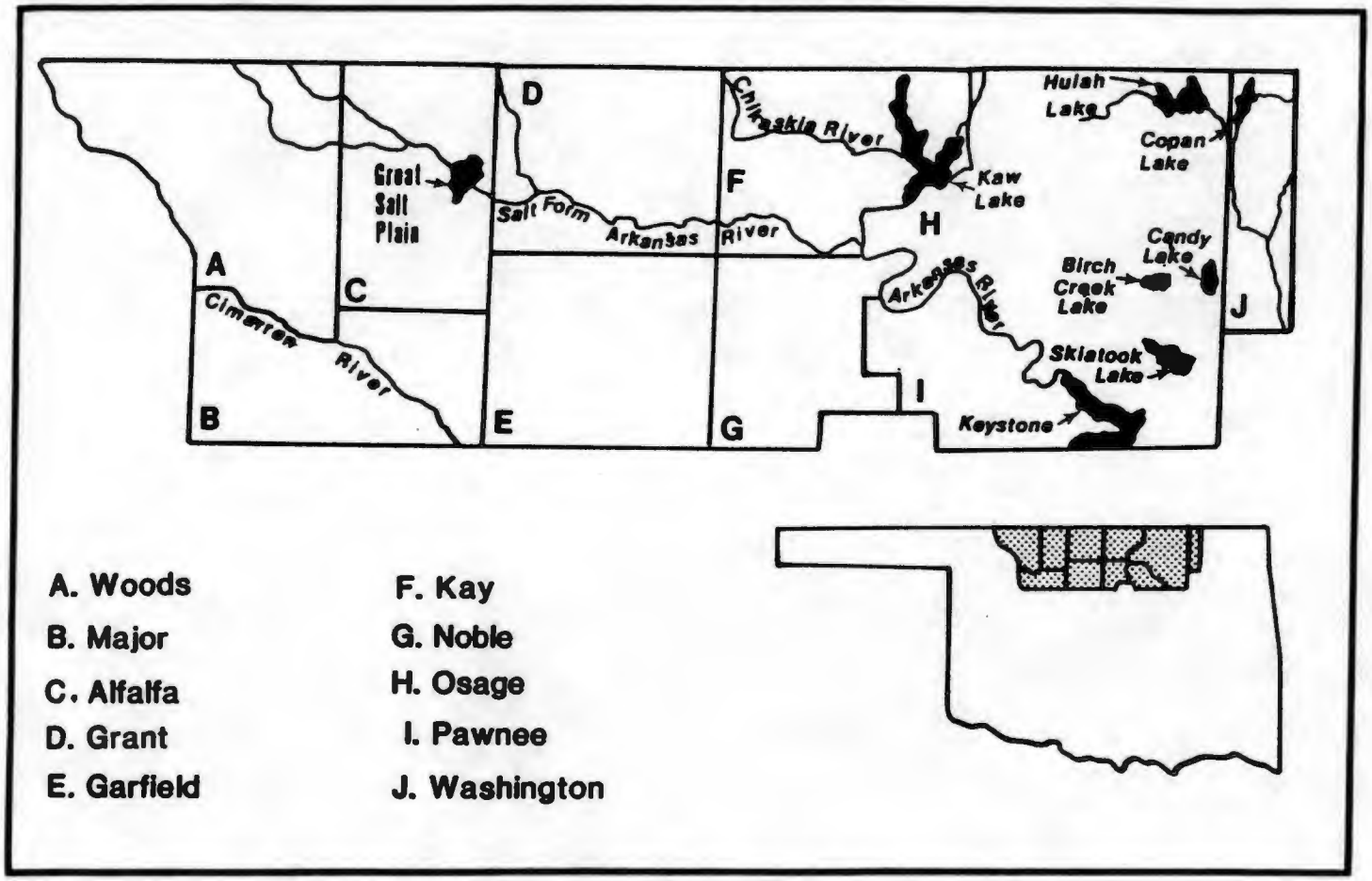


Figure II-1. Counties and rivers comprising Management Region 2.

deeply bedded red sandstone and shale formations which cover approximately one quarter of the state's surface area. In the north-central part of Oklahoma, the Red Bed Plains are found associated with the Mixed Grass Prairie. The Mixed Prairie zone is comprised of prairie beardgrass, silver beardgrass, bluejoint, big and little bluestem, buffalograss, and several species of grama grasses (e.g., blue grama and hairy grama). As this zone trends westward however, the grama grasses and buffalograss become more dominant. The remaining physiographic zone, the Gypsum Hills, occurs on the western margin of Management Region 2 in Woods County. In this area, the vegetation is essentially a mixed to short grass prairie comprised of grama grasses. There are also sand deposition areas where cover such as yucca and sagebrush are found. These sand deposits usually parallel stream valleys. One other distinctive landscape feature is present in Management Region 2. This is an extensive salt plains which occurs in Alfalfa County. The salt plains have formed from evaporation of waters of the Salt Fork of the Arkansas River. Major animal species inhabiting the region in prehistoric times include bison, white-tailed deer, elk, antelope, gray wolf, fox squirrel, cottontail and jackrabbit, raccoon, opossum, striped skunk, reed fox, coyote, wild turkey, prairie chicken, and numerous species of waterfowl. A variety of fish would also have been available in the region's streams and rivers. Despite the presence of distinctive ecological settings across Management Region 2, it is unlikely that major differences existed in the animal species present for various habitats. Instead, differences probably existed in which species were dominant for a given area. The distribution of the vegetation and habitat zones of Management Region 2 are shown in Figure II-2.

Four principal river systems drain the region. These river systems generally flow in southerly or southeasterly direction and eventually join the Arkansas River. The eastern portion of the region is drained by the Little

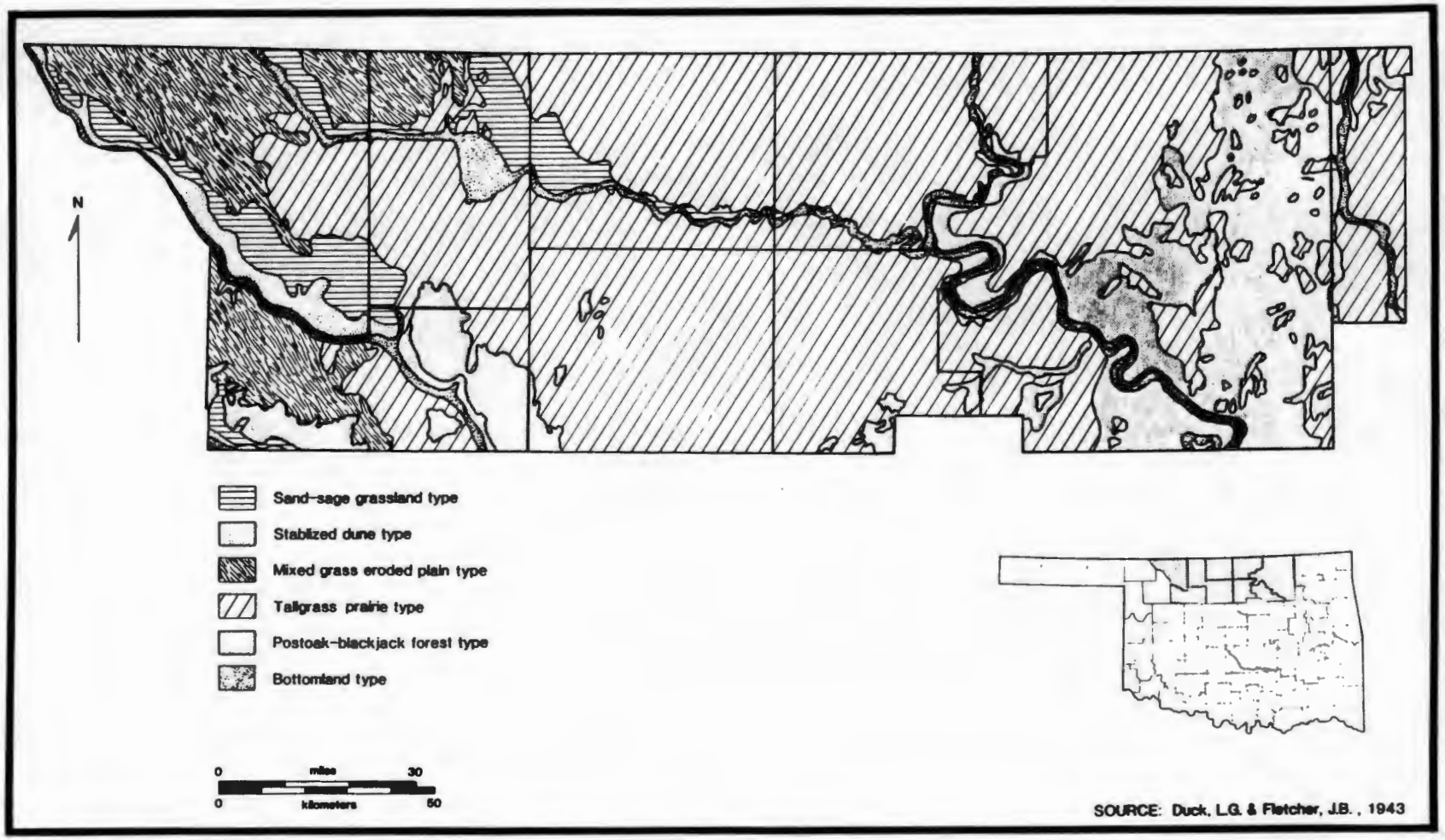


Figure II-2. General vegatation zones for Management Region 2.

Caney River, the central part of the management region by the Arkansas River and the western section by the Salt Fork of the Arkansas. The Cimarron River also drains the southern portions of Woods, Alfalfa, and Garfield counties (Figure II-1).

PREVIOUS ARCHEOLOGICAL RESEARCH

Prior to the mid-1960s, archeological investigations in Management Region 2 were sporadic and random across the region. As early as 1898 however, C. N. Gould, the renowned early day geologist, reported on the extensive prehistoric flint quarries in what is now northeast Kay County. Then in 1926, J. B. Thoburn, historian and self-taught archeologist of the Oklahoma Historical Society, directed the first excavations in the region. Although no formal report was ever published, Thoburn and a small crew tested several eighteenth century sites along the Arkansas River in Kay County. Because these yielded both Indian artifacts and European trade goods, Thoburn believed he had discovered Ferdinandina, a purported French trading post recorded on a few nineteenth century maps printed in Europe.

From 1930 to 1952, investigations in Management region 2 were limited to unreported collecting by amateur archeologists and to a few site inspection trips conducted by professionals. In 1947 however, University of Oklahoma archeologists surveyed the proposed Hula Reservoir area. In 1952, University of Oklahoma archeologists excavated a deeply (11.6 feet) alluviated burial in Pawnee County. They also found 84 sites and 24 potential sites while surveying the proposed Keystone Reservoir area along the Arkansas and Cimarron rivers in Osage and Pawnee counties. Unfortunately, funds were unavailable for testing or salvaging of sites affected by this large lake. A 1980 survey by Archeological Research Associates, a Tulsa-based archeological consulting firm, resulted in finding 83 historic and 198 prehistoric sites eroding away

along the Lake Keystone shoreline. Some of these sites are still sufficiently intact that they could yield substantial information on cultural sequences and prehistoric settlements.

Besides Hula and Keystone, other planned and constructed reservoirs have been studied in regard to their archeological resources. In 1963-1964, the proposed Kaw Reservoir on the Arkansas River in Kay and Osage counties was surveyed by volunteers from the Kay County Chapter of the Oklahoma Anthropological Society. Assisted by an archeologist from the now-defunct Oklahoma River Basin survey (University of Oklahoma), these volunteers found and evaluated 101 sites. Of these, 29 were tested or excavated by Oklahoma River Basin Survey personnel between 1967 and 1975. Oklahoma River Basin Survey staff also surveyed by proposed Shidler, Birch Creek, and Skiatook reservoirs in Osage County. The latter two areas were later rechecked by Gregory Perino, archeologist with the Gilcrease Institute of Tulsa, and a total of 20 sites, many being prehistorically occupied rockshelters, were tested by University of Tulsa and University of Oklahoma archeologists between 1975 and 1980. In 1971 and 1972, Wichita State University teams initiated an archeological survey of the proposed Copan Reservoir in Washington County. Additional survey and testing were subsequently undertaken here by personnel from the Oklahoma River Basin Survey and the University of Tulsa. In 1976, the proposed Candy Reservoir in eastern Osage County was surveyed by teams from Archeological Research Associates. Of the six sites recorded, three prehistoric camps were tested in 1979.

Since 1980, additional archeological projects have been undertaken at a number of Corps of Engineers lakes in the eastern portion of Management Region 2. In 1986, a shoreline of Hulah Lake by Historic Preservation Associates of Fayetteville, Arkansas resulted in the recording of 23 prehistoric and historic sites, many of which had been badly damaged by

shoreline erosion. Between 1983 and 1985, archeologists from the University of Tulsa conducted test excavations and excavations at Copper Cave and other sites in the proposed Skiatook Lake. They also conducted additional survey and testing operations at Shidler Lake in 1983 which resulted in the recording of 35 prehistoric and historic sites. Kaw Lake in Osage and Kay counties has also been the location of additional survey and testing and salvage work since 1980. A drawdown of the lake in 1978 permitted Oklahoma Anthropological Society members an opportunity to revisit 64 sites. In 1982, Tulsa University archeologists reinvestigated 18 prehistoric sites being damaged by shoreline erosion. Finally, the Uncas Site has been the location of three separate salvage operations by the University of Oklahoma since 1980.

The studied reservoir areas cited above are scattered over the eastern third of Management Region 2. Within the remaining two-thirds, comparable reservoir surveys are reported for only a section of Greasy Creek in Pawnee County. Here, 15 prehistoric sites were recorded and five were subsequently tested by Oklahoma Archeological Survey personnel. Although less thorough than the Greasy Creek survey, sample reconnaissance studies were conducted by Museum of the Great Plains archeologists on four proposed reservoirs on the Cimarron, Salt Fork, and Medicine Lodge rivers in Alfalfa, Woods, Harper, and Blaine counties. These investigations, conducted as a preliminary assessment for potential chloride control facilities added information on 35 prehistoric and 2 historic archeological sites and appreciably increased our knowledge of archeological resources in the western portion of Management Region 2.

Since 1975, insights on different kinds and distributions of sites in Management Region 2's upland settings has been obtained from survey and site testing conducted for the U.S. Department of Agriculture Soil Conservation Service and the Oklahoma Conservation Commission. In particular, small camps,

cobble workshops, and occasional rockshelters and petroglyphs were reported by Oklahoma River Basin survey archeologists in the Turkey Creek watershed in Noble County; by Environmental Assessments, Inc. archeologists inspecting future pond locations in the Upper Red Rock Creek drainages of Garfield and Noble counties; by Oklahoma Conservation Commission archeologists in the Cotton-Coon-Mission Creeks drainages of Osage County, the Lost-Duck creeks watershed in Kay County and the Upper and Lower Black Bear watersheds of Garfield and Noble counties; and by the Oklahoma Archeological Survey in the Sand-Hogshooter creeks drainage of Osage County.

Survey and Planning inventory work funded by the Oklahoma Historical Society and the National Park Service has also added to our understanding of site distributions along tributary stream drainages of the Arkansas River. In 1982 and 1983, the University of Oklahoma, Department of Anthropology conducted surveys along Salt, Beaver, and Little Beaver creeks in Kay and Osage counties. This work resulted in the recording of some 150 prehistoric and historic sites.

Since 1980, a number of small scale surveys conducted under Section 106 of the Archeological and Historic Preservation Act (P.L. 93-190) have also been completed in Management Region 2. Approximately 184 surveys of oil and gas wells, gas pipelines, Oklahoma Department of Transportation work, and a variety of community development related projects have resulted in the recording of 25 sites in Alfalfa, Kay, Noble, Osage, Pawnee, and Woods counties.

Besides the several contractual surveys and site studies, notable research in Management Region 2 has been accomplished by interested professional and amateur archeologists. In particular, a Plains Village site being destroyed by urban expansion at Ponca City was salvaged, analyzed, and reported by Kay County Chapter (Oklahoma Anthropological Society) members.

Some of these same individuals also helped salvage information from an Osage County rockshelter being destroyed by vandals. Society members, in conjunction with the Archeological Survey, also conducted major excavations at the Shadid Site in Woods County. Oklahoma State University anthropologists have published the results of one salvage project that involved uncovering and studying a prehistoric burial accompanied by turquoise beads found in Major County. Oklahoma State University also sponsored an archeological field school that tested small mounds and a campsite in Osage and Washington counties. Similarly, archeology students from Phillips University recently conducted limited test excavations at a Plains Woodland site north of Enid. In fieldwork conducted in 1982, archeologists from the Oklahoma Archeological Survey identified 35 prehistoric and historic sites in a survey of the Bird Creek basin in Tulsa, Rogers, and Osage counties.

Results of Previous Research

Although 1346 archeological sites are recorded for Management Region 2 (Figure II-3, Table II-1), these 10 counties remain one of the poorest documented of the management regions. Six counties in the region (5913 square miles) contain only 16% of the recorded archeological resources, whereas two counties (Osage and Kay) have 62% of the recorded sites. Major archeological projects have been focused in Kay, Osage, Washington, and Pawnee counties. The other counties in the region have received little attention. Because of the decrease in federal projects (e.g., lake construction) in Management Region 2, the number of recorded sites has grown slowly in recent years. Since 1979, annual growth has been approximately two percent. In summary, information about the prehistory of Management Region 2 has come principally from surveys, testing programs, and excavation of sites affected by large reservoirs constructed in Kay, Osage, Pawnee, and Washington counties.

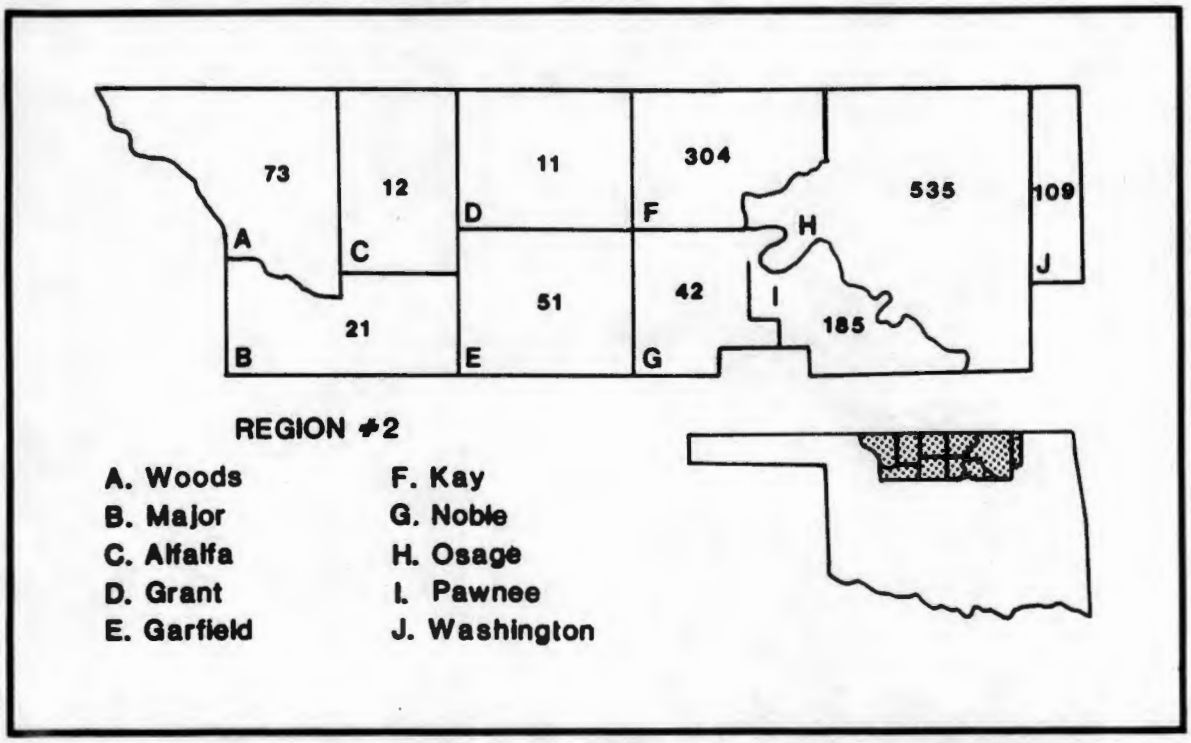


Figure II-3 Number of known archeological sites in Management Region 2 (as of Dec. 1 , 1987).

Table II-1. County Distributions of Archeological Sites in Management Region 2.

County	Known Sites	Federal*	Tested/Excavated		National Register
Alfalfa	12	2	0	-	-
Garfield	51	51	1	-	-
Grant	11	1	0	-	-
Kay	307	77	35	7	2
Major	21	4	1	1	-
Noble	42	20	2	0	-
Osage	535	224	16	13	-
Pawnee	185	71	10	1	-
Washington	109	95	16	9	-
Woods	73	25	1	1	-
Total	1346	570	82	32	2

Note: Compiled from Oklahoma Archeological Survey Site File (as of December 1, 1987). National Register status refers to sites considered eligible by the State Historic Preservation Officer.

* Sites found during federally funded surveys.

Because none of the counties have been thoroughly surveyed, highly variable information exists on site distributions, site functions, local cultural sequences, and changing land-use patterns for the region. For example, surveys, testing programs, and excavations along the Arkansas River and Salt and Beaver creeks in Kay and Osage counties have yielded data on prehistoric camps, knapping stations, quarries, and occasional settlements in the major river valleys and adjacent upland stream settings southwest of the Flint Hills. Comparable surveys and excavations in the Birch Creek, Skiatook, Candy, and Copan reservoirs of eastern Osage County have resulted in identifying numerous rockshelter camps and a few open camps, burned rock mounds, and settlements in valleys draining the Flint Hills' southeast border. Here, the archeological research has been coupled with studies of soils, pollen, snails, and animals, resulting in interesting information on different environments that existed in prehistory. In contrast, although cobble workshops, small open camps, a few rockshelters, and rare petroglyphs are known from surveys of scattered impoundments in upland watersheds draining Pawnee, Kay, Noble,and Garfield counties, such upland sites are difficult to understand because they seldom yield datable tools or trash that facilitates determining which sites are contemporaneous.

REGIONALLY IMPORTANT ARCHEOLOGICAL SITES

Unlike some of the other management regions, none of the counties in Management Region 2 have had all their previously recorded sites revisited or evaluated by archeologists. During the past 10 years however, archeologists from the Oklahoma Archeological Survey, the University of Oklahoma Department of Anthropology, the University of Tulsa and several private contracting firms have rechecked and assessed the integrity and research potential of many sites within the region. Consequently, the 10 counties comprising Management Region 2 contain 130 sites thought to be of local or regional importance.

Because they yielded clues to Woodland and Plains Village people's use of resources in changing environments, Os-129, Os-135, Os-136, and Wn-66 were judged sufficiently important to be nominated or declared eligible for nomination to the National Register of Historic Places. Five additional sites in the proposed Copan Lake area (Wn-29, Wn-104-107) were declared eligible and subsequently excavated. Finally, because they contain important information on early European trade and Wichita social and cultural changes in the 1700s, the Bryson-Paddock (Ka-5) and Deer Creek (Ka-3) sites are also noteworthy Southern Plains villages nominated to the National Register. The Deer Creek site is also one of the few sites in Oklahoma to be included on the prestigious National Historic Landmarks list.

Numerous other sites are not on state or federal lists of important historic properties. However, because these sites document the presence of potential information on at least 10,000 years of hunting, gathering, and agricultural activities, these archeological resources merit consideration for further study and/or preservation. Some of these have been recommended for testing that is designed to ensure that intact deposits remains at the site and will work to more firmly establish their content's relevance to understanding past cultural behavior in the region. Once this testing has been accomplished, many of these sites may merit nomination to the National Register of Historic Places. The approximately 130 sites considered worthy of further study and/or preservation and their potential significance are listed by study unit. A key to the coded information in these site listings is shown in Table II-2.

Table II-2 Key to Recommendations for Managing Important Archeological Sites in Oklahoma.

Major Action	Alternatives
I. Archeological Investigation	
	A. Record visible remains
	1. Photograph, map, and/or recover surface evidence.
	2. Special recording (e.g., latex molds of petroglyphs) of surface evidence.
	B. Plan and undertake testing to:
	1. Sample contexts and analyze recovered remains in order to substantiate significance for National Register or Oklahoma
	2. Establish depth and extent of deposits to plan salvage excavations.
	3. Plan suitable stabilization program for a threatened site of National Register or Oklahoma Landmarks Inventory status.
	C. Plan and undertake major excavations in order to:
	1. Salvage information threatened by natural or human actions.
	2. Develop site as one unit in a regional system of state-managed interpretive parks.
	3. Supplement existing information on site function, age, community structure, cultural ties, and/or cultural change.
	4. Acquire previously unavailable information about site function, age, cultural ties, community structure, and/or cultural change.
II. Preservation	
	A. Nominate to:
	1. Oklahoma Landmarks Inventory
	2. National Register
	B. Secure long-term preservation easement.
	C. Stabilize:
	1. As is.
	2. With suitable sodding and vegetation.
	3. With special techniques (rip-rap, gunnite, etc.), as needed.
	D. Incorporate into regional system of interpretive parks by:
	1. Noting presence with a roadside marker.
	2. Minimum site restoration (parking area, trail, interpretive markers, etc.)
	3. Maximum site restoration (including stabilization or reconstruction of habitation features, interpretive center, interpretive walkway, etc.)
	E. Set aside for future archeological studies of:
	1. Site function.
	2. Community structure.
	3. Regional variation in settlement practices.
	4. Adaptive change and/or cultural evolution.
	5. Culture history.
	6. Other research questions.

STUDY UNITS

Paleo Indian (18,000 B.C. to 6000 B.C.)

Characteristics

During the final episodes of the last Wisconsin ice age, or from roughly 30,000 to 10,000 years ago, people began migrating into North America. These people have been called Paleo-Indians or Big-Game Hunters and the remains they left behind represent the earliest documented evidence for habitation of the New World. The groups living during this period were apparently organized into nomadic or semi-nomadic "bands" of some 30 to 100 people who hunted large and small game animals and gathered edible wild plants. Some of the large game they hunted included now extinct species such as the Imperial mammoth and Bison antiquus (a larger form of modern day bison). Paleo-Indian groups were also faced with the challenge of living in an ice-age climate under severe ecological conditions. Lanceolate, fluted spearpoints were the primary hunting tools of these people. Two of the styles most commonly found are called Clovis and Folsom points. In addition, scrapers, choppers, and knives chipped from stone are common implements left behind by the members of the bands or groups. The terms Clovis and Folsom also serve to identify the culture complexes with which these particular point styles and associated tools have been found. Based on the remains left behind by the group, a number of different site types have been identified. These include: bison jumps, mammoth kills, butchering locales, temporary camps, and more intensively occupied base camps.

Existing Data

Little information exists concerning the occupation of Management Region 2 by Paleo-Indians some 9000 to 11,000 years ago. A few lithic scatters with diagnostic Paleo spearpoints have been recorded but most finds of Clovis,

Folsom, and other early styles have come from disturbed contexts such as canyons, stream channels, and eroded lakeshores. Consequently, we have no well-defined kill sites or camps for this study unit. We do however, have an improved quality of information on locations where extinct Pleistocene fauna have been identified (Table II-3). Excavations at the Trepp mammoth locality in Kay County, the Morland mammoth in Woods County, and the Burnham bison find in Woods County have provided valuable insights on the environmental settings being used by extinct megafauna. The remains of extinct species such as mammoths and bison and their settings may provide clues on taphonomic processes and geomorpohological conditions operating in late Pleistocene environments. These data will facilitate identification of fossil localities with greater potential for cultural associations.

A review of the site files for Management Region 2 revealed only nine sites with evidence of Paleo-Indian occupations (Table II-4). These occupations represent sparse surface scatters with little evidence on stone tool technology, site function, or subsistence activities. Because of the absence of substantial cultural deposits, only two sites of this study unit are recommended for further work or preservation (Table II-5). In addition, one fossil location is recognized for its research potential.

Gaps in Our Knowledge

Very little work has been conducted on Paleo-Indian sites in the region. Some excavations however, have been focused on fossil localities. Based on work in contiguous management regions, we know the geographical extent of the study unit (essentially throughout all the management regions), the potential range of settlement types, and the basic elements that comprise the cultural inventory. Much remains to be learned about tool assemblage changes during the 12,000 years that comprise this period, about specialized technologies that were developed to exploit specific resources (e.g., woolly mammoths), and

Table II-3. Fossil Localities, Management Region 2.

County	Site/Isolated Find #	Type of Remains
Alfalfa	4	mammoth
Alfalfa	5	mammoth
Garfield	0/5	mammoth
Garfield	16	mammoth
Garfield	17	mammoth
Garfield	21	mammoth
Kay	303	mammoth
Kay	0/Frederick	mammoth
Noble	5	mammoth
Noble	6	mammoth
Woods	0/Morland	mammoth
Woods	2	mammoth
Woods	0/Burnham	mammoth
Woods	73	bison

Table II-4. Sites With Paleo-Indian Occupations, Management Region 2.

County	Unidentified Paleo	Early Paleo	Middle Paleo	Late Paleo	Total Paleo
Alfalfa	-	-	-	-	-
Garfield	-	-	-	-	-
Grant	-	-	-	-	-
Kay	-	-	1	1	2
Major	1	-	1	-	2
Noble	-	-	-	-	-
Osage	1	-	-	-	1
Pawnee	1	-	-	-	1
Washington	-	-	-	-	-
Woods	1	-	2	1	3
Total	4	-	4	2	9

Table II-5. Paleo-Indian Sites Meriting Research and Preservation in Management Region 2.

	Site number	Cultural affiliation	Significance	Recommendations
PAWNEE COUNTY				
	Pw-89	Paleo-Indian and/or Archaic	Large open site with potentially preserved habitation deposits.	IB2, IC1; IIA1-2
WOODS COUNTY				
A. Long	Wo-4	Paleo-Indian, Woodland, and Plains Village	Open, well preserved camp with habitation features.	IA1, IB1; IIA1-2, IIB, IIC, IIE1-6
Burnham Bison	Wo-73	Bison latifrons fossil locality	Remains of a fossilized bison which may have cultural associations.	IB2, IC1, 3, 4

about possible trade or exchange patterns between groups. We also need more detailed information on the movements of Paleo-Indian groups within the region, their group size and composition, and local and regional settlement-subsistence practices. For example, bison jumps or kill sites are common in the High Plains settings of Wyoming and Montana, but these types of sites have yet to be reported for Management Region. The practice of trapping mammoths in canyons such as that found at the Domebo site in Caddo County are also absent. Were different exploitative strategies used or does their absence reflect the inability of archaeologists to locate these sites due to geomorphological conditions?

Directions for Future Research

Although limited baseline data is available on Paleo-Indians in Management Region 2, a number of research questions has been proposed. These directions for future research are presented in Table II-6. As can be observed, the research questions address basic technological and economic issues. The absence of questions on more specific topics such as behavioral activities, religious practices, etc., are reflective of the limitations of our current state of knowledge.

Factors Effecting Region 2's Paleo-Indian Sites

Because of the small number of recorded Paleo-Indian sites, it is difficult to identify cases of specific land alteration practices which have disturbed these resources. Some information, however, can be gained from a review of land alteration practices and processes affecting fossil localities. Foremost among these are quarrying operations and oil and gas well sludge pits. Other factors such as agricultural activities and vandalism are viewed as less threatening. Natural processes such as erosion can also contribute to disturbance and destruction of these early sites.

Table II-6. Research Questions About The Paleo-Indian Study Unit, Management Region 2.

MORPHOLOGICAL RESEARCH	CULTURE HISTORY RESEARCH	BEHAVIORAL RESEARCH	ECOLOGICAL RESEARCH
Isolated finds of Clovis Folsom, and Hell Gap points are known; what tool kits and assemblages are associated with these points? What is the significance and function of stylistic variation among projectile points and other tools? What continuities and discontinuities exist between the lithic technologies responsible for these stylostically different points and assemblages?	What is the culture sequence for this region? Can specific tool kits and assemblages be identified and related to particular segments of the Paleo-Indian Period? Do the artifacts of the Clovis, Folsom, and Hell Gap complexes represent the continuation of one technology or the fusion of old and new ones? Can these Paleo-Indian stone working technologies be linked to any of the ancient ones known for the Old World?	Can different regional or local groups be identified from studies of stone working technologies? Can a site and its contents contribute to understanding ties between material items and social behavior? Can a site and its contents yield information on the dispersal, group size, and composition of this continment's earliest people?	What natural settings and resources existed during this period? What was the character of Paleo-Indian settlement and resource use? As they became familiar with a region, did they adapt or adopt new strategies for using resources? Elsewhere in Plains, Paleo-Indians became specialized hunters of bison; is there similar evidence here?

Construction activities which involve the excavation of deep borrow pits appear to have the greatest potential for destroying Paleo-Indian occupations (e.g., kill sites, camps, etc.). This is especially true of borrow operations taking place on old terraces overlooking principal streams and rivers. Two of the most prevalent activities of this type are sand and gravel quarry operations and oil and gas well sludge pits. A stone quarry operation in Kay County resulted in the exposure of the remains of a mammoth. A variety of Pleistocene fauna were also documented at sand pit excavations in Woods County. The remains of three mammoths were also documented at the Haijny mammoth site, a sand quarry operation in Dewey County (Management Region 4). Although no Paleo-Indian sites or fossil finds have been found in sludge pits resulting from the drilling of oil and gas wells in Management Region 2, mammoth remains have been recovered from pits in Custer, Washita, and Caddo counties in Management Region 4.

There are also significant effects from erosional processes. Shoreline erosion at Kaw Lake has resulted in Paleo-Indian and transitional late Paleo-Indian/early Archaic spearpoints being washed from sites. In most cases, these artifacts are out of context and their site of origin cannot be located. A few fluted points have also been found in the eroded arroyos and canyons of the western portions of Management Region 2 (e.g., Woods County). Fossil localities are affected by erosional processes as well. The Trepp and Frederick "1" mammoths in Kay County were exposed by erosion as was the Morland mammoth locality in Woods County. In addition, remains of a Bison latifrons-like species, as well as mammoth, were exposed by by erosion at the Burnham site in Woods County.

Urban expansion can pose a serious threat to Paleo-Indian remains. Construction activities associated with the development of subdivisions and utilities often involve removal of large quantities of soil. This work may

also require deep excavations for structural foundations. In northwest Oklahoma City, construction for a proposed subdivision resulted in the exposure of the remains of a mammoth. Currently, most towns and cities in Management Region 2 are experiencing only moderate growth rates. If substantial population increases occur in the area however, attention should be directed to potential impacts on settings favorable to the presence of fossil finds or early archeological deposits.

Current agricultural practices are not viewed as constituting a major impact to sites of the Paleo-Indian study unit. Because many of these early occupations are deeply buried by alluvial deposits, they are less likely to be disturbed by plowing activities. However, upland hunting camps which are closer to the soil surface may be irreparably damaged by cultivation. Their antiquity and the shallow nature of the deposits make these sites extremely fragile. Plowing of these locations usually results in Paleo-Indian assemblages being mixed with more recent cultural remains. These actions have diminished the archeologists ability to identify the Paleo-Indian tool kit and the cultural activities that were taking place in these settings.

In general, vandalism has not effected Paleo-Indian sites as extensively as it has those of the later study units. Many Paleo-Indian occupations are deeply buried by alluvial deposits and are protected from unauthorized digging or vandalism. Upland sites are often found in mixed cultural deposits with more recent remains, thus reducing their distinctiveness and incentives for disturbance. Unfortunately, the popularity and market value of Paleo-Indian spearpoints have increased demand for artifacts of this study unit. The increased demand may be expressed through increased vandalism of sites and pothunting activity.

Treatment of Management Region 2's Paleo-Indian Sites

Because of the limited number of Paleo-Indian sites recorded and the absence of research on this study unit in Management Region 2, virtually any new sites with intact deposits have the potential to dramatically increase our baseline knowledge. Work at previously recorded sites may also add new insights on Paleo-Indian lifeways. For these reasons, it if difficult to categorically exclude any site with Paleo-Indian materials from further consideration or evaluation. The absence of such basic information as the nature of settlement-subsistence patterns and the material inventory likewise make it difficult to identify areas as having low potential for such occupations.

A major problem in the identification, documentation, and further study of the Paleo-Indian study unit is the type of methodological procedures used in field investigations. It has been documented that Paleo-Indian sites are often deeply buried in alluvial settings. Thus, specialized deep testing strategies should be devised to search for these cultural deposits. Undoubtedly, some settings in Management Region 2 hold greater potential for Paleo-Indian remains as well as fossil finds, but we currently lack the necessary geomorphological data to predict the occurrences of these settings. Continued examination of buried soil deposits and the geomorphological processes which are operating on these soils should aid in resolving this problem. Regardless of the location, archeological investigations should utilize procedures which address the issue of potential for remains of Oklahoma's earliest inhabitants.

Archaic Period (6000 B.C. to A.D. 1)

Characteristics

As the ice age waned and some animals became extinct (e.g., mammoths, Bison antiquus, etc.), there gradually developed climates and plant and animal

communities like those known today. As modern habitats became better established, prehistoric people slowly adjusted their lifestyles to the new conditions. In particular, they increasingly maintained a seasonal round of camps from which they exploited a wide variety of plants and animals. Their movements also became closely linked to the seasonal and local availability of these food resources. This "settling in" effect led to Archaic groups becoming less and less nomadic through time. It undoubtedly contributed to increases in population and group size documented for this study unit.

Our best information on Archaic people and lifestyles comes largely from sites excavated in eastern Oklahoma (Management Regions 3 and 6). Here, sites have yielded many styles of spearpoints as well as numerous chipped stone knives, scrapers, drills, and choppers. Spear-thrower weights, polished stone gorgets, cupstones, ("nutting stones"), manos, and grinding basins also occur. These items, primarily used in hunting and butchering game and collecting and processing edible wild plants, also comprise the material inventory for sites in other portions of Oklahoma.

Archaic groups apparently continued to exist in band-sized nomadic to semi-nomadic groups although the size of the group was probably larger than in Paleo-Indian times. Toward the end of the Archaic, some groups may have been living in larger social units in more or less permanent communities. Trade and exchange were important during the period with extensive trading networks present throughout large areas of the eastern United States. Probably as a consequence of larger group size and the "settling in" effect, social complexity and ceremonialism became increasingly important, especially in regard to treatment of the dead.

The seasonal round of subsistence and settlement practices led to a variety of settlement types being defined for sites of the Archaic study unit.

These include base camps, temporary hunting camps, bison kills, cemeteries, quarry/workshops, and less well-defined specialized activity sites. In some instances, these camps contain midden deposits where organic (e.g., bone and shell) tools are well preserved. Thus, information is available for examining questions pertaining to a variety of settlement, subsistence, and technological practices of Archaic groups.

Existing Data

Scattered finds of Plainview, Scottsbluff, and Calf Creek spearpoints are clues to hunters and gatherers living in Management Region 2 some 5000 to 9000 years ago. But sites with stratified deposits dating to the early and middle Archaic remain unknown or unsubstantiated. Recent finds of Calf Creek and other Archaic points along terraces eroding into Kaw Lake comprise our best evidence that Archaic camps are buried along the streams and rivers in the region. Late Archaic occupations are not much better known than earlier ones, but the Vickery and Von Elm sites in Kay County, the Sooner Generating Station Plant site in Pawnee County, the 340s-155 site in Osage County, and the 34 Wn-104 and the Wn-107 sites in Washington County have yielded dart points, plant and animal processing and butchering tools, and knapping debris deposited some 3000 years ago. However, only the Osage and Washington County sites represent stratified settings which have been dated.

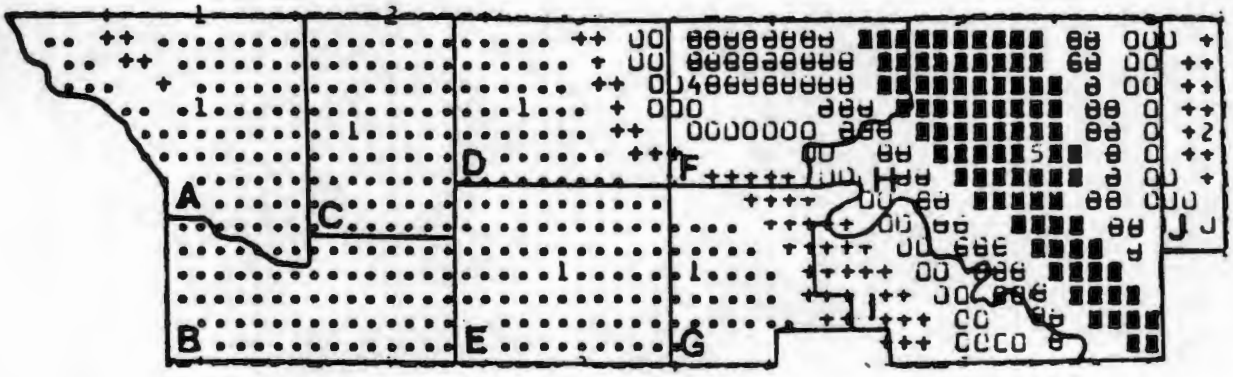
Currently, 133 archeological sites with evidence of Archaic occupations are recorded in the state site files. The distribution of those sites are shown in Table II-7 and Figure II-4. Although none of these are currently listed on or considered eligible for the National Register, approximately 35 are believed to contain materials worthy of further study and/or preservation efforts (Table II-8).

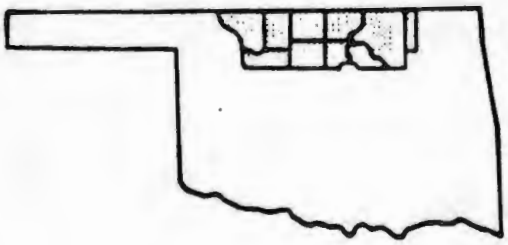
Gaps in Our Knowledge

While over 100 sites with Archaic occupations have been recorded for

Table II-7. Sites With Archaic Occupations, Management Region 2.

County	Unidentified Archaic	Early Archaic	Middle Archaic	Late Archaic	Total Archaic
Alfalfa	-	-	-	-	-
Garfield	2	-	-	-	2
Grant	1	-	-	-	1
Kay	24	2	4	5	34
Major	3	-	-	-	3
Noble	1	-	-	1	2
Osage	37	1	1	13	51
Pawnee	12	1	1	3	16
Washington	7	-	-	7	14
Woods	7	1	1	2	10
Total	94	5	8	31	133





REGION 2

A. Woods	F. Kay
B. Major	G. Noble
C. Alfalfa	H. Osage
D. Grant	I. Pawnee
E. Garfield	J. Washington

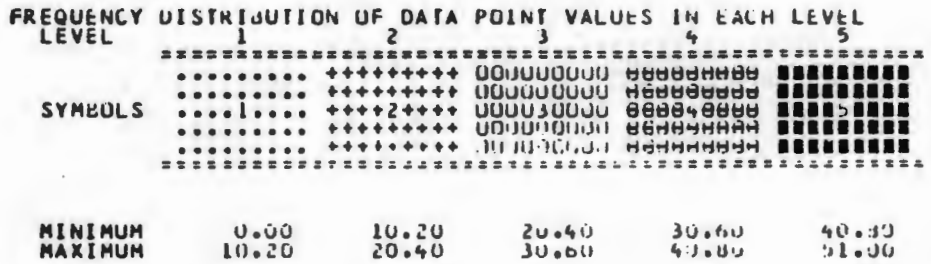


Figure II-4. Relative density of Archaic sites, Management Region 2.

Table II-8. Archaic Sites Meriting Research and/or Preservation, Management Region 2.

	Site number	Cultural affiliation	Significance	Recommendations
GARFIELD COUNTY				
Red Rock Creek #44	Gf-2	Archaic?	Open camp that may have intact deposits.	IB1; IIA1-2?
	Gf-44	Archaic or Woodland	Small open camp with some intact, shallow deposits.	IB1; IIA1-2?
GRANT COUNTY				
Hunter	Gt-6	Archaic and Plains Village	Probable camp and major village; may be fairly preserved.	IB1-2, IC3; IIa1-2?, IIE1,4,5, & 6.
KAY COUNTY				
Hardy Quarry	Ka-7	Archaic, Woodland and Plains Village	Extensive flint quarries and knapping workshops that date back at least 5000 years.	IA1; IIA1-2, IIB, IIC, IIE1 & 6.
	Ka-33	Archaic	Open camp with some intact deposits.	IB2, IC1; IIA1?
Slovacek	Ka-45	Archaic	Partly buried camp.	IB2, IC1 & 4.
Boxley	Ka-102	Archaic and Woodland	Open camp of nearly 3 acres; appears frequently occupied.	IB1; IIA1-2?
Bills #2	Ka-110	Archaic	Large open camp that may contain different activity areas.	IB1.
Wittmer	Ka-126	Archaic	Possibly well preserved camp near natural springs.	IB1.
Tank Farm	Ka-186	Archaic, Woodland, and/or Plains Village	Potentially preserved camp.	IB1-2, IC1; IIA1-2?

Table II-8. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
KAY COUNTY				
	Ka-187	Archaic? and Woodland	Large camp and possible settlement.	IB2, IC1; IIA1-2?
	Ka-207	Archaic and Woodland	Possibly well preserved camp.	IB1; IIA1-2?
	Ka-220	Archaic	Potentially preserved camp; may be very old.	IB1, IC1; IIA1-2?
C. Turk	Ka-229	Archaic and Woodland	Possibly preserved camp.	IB1; IIA1-2?, IIE1-6.
	Ka-253	Archaic, Woodland, and Plains Village	Major prehistoric quarry for Florence chert.	IA1, IB3; IIA1-2, IIB, IIC, IIE1-6.
	Ka-274	Archaic, Woodland, and Plains Village	Notable prehistoric quarry for Florence chert.	IA1, IC4; IIA1-2?
MAJOR COUNTY				
Barnum	Mj-3	Archaic	Possibly well preserved camp of some 4000 years of age.	IB1, IC4; IIA1-2?
NOBLE COUNTY				
Otoe	Nb-9	Archaic and Woodland	A major camp with some well preserved deposits.	IB1; IIA1-2, IIC, IIE1-6.
OSAGE COUNTY				
Wheeler	Os-88	Archaic	Well preserved camp.	IB1; IIA1-2?, IIB?,IIC?, IIE1-6.

Table II-8. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
OSAGE COUNTY				
Craddock Shelter	Os-97	Archaic and Woodland	Partially preserved large rock-shelter	IB2, IC4; IIA1-2?
H. Ingles	Os-184	Archaic or Woodland	Open camp with potentially preserved deposits.	IB2, IC1; IIA1-2?
Thomas	Os-188	Archaic	Deep site with stratified deposits and habitation features.	IB1, IC1?;IIA1, IIA2?
Water Bird	Os-229	Archaic?	Buried camp with habitation features.	IB2, IC1?; IIA1-2?
Bowen	Os-245	Archaic, Plains Village	Buried camp with habitation features.	IB1-2, IIA1-2?
	Os-365	Archaic?	Open site with some buried deposits.	IB2, IC1.
Henderson	Os-473	Archaic or Woodland	Open camp with potential for habitation debris	I1; IIA2, C1, IIE1-6.
Bayird #2	Os-498	Archaic	Large camp which may contain features and evidence of structures.	I1; IIA2, C1, IIE1-6.
PAWNEE COUNTY				
Adams	Pw-68	Archaic	Well preserved open site and shelter.	IC4; IIA1-2?
	Pw-81	Archaic or Woodland?	Partially preserved open site.	IB2; IC1; IIA1-2?

	Site number	Cultural affiliation	Significance	Recommendations
PAWNEE COUNTY				
	Pw-89	Paleo-Indian and/or Archaic	Large open site with potentially preserved habitation deposits.	IB2, IC1; IIA1-2.
	Pw-117	Archaic?	Partially preserved open camp.	IB1, IIB2?, IIC1?; IIA1-2?
WASHINGTON COUNTY				
	Wn-68	Archaic or Woodland	Tested open site with preserved deposit and habitation features.	IB2, IC1; IIA1-2?
Borrow PIt	Wn-104	Archaic or Woodland, Plains Village	Buried site with some intact deposits remaining.	IB2-3; IIA2, IIE1-6.
Lizard	Wn-107	Archaic	Buried camp with stratigraphic sequence.	IB2, C1,3,4; IIE1-6.
WOODS COUNTY				
Nelson	Wo-57	Archaic and Plains Village	Potentially preserved cmap that was inhabited several times.	IB1; IIA1-2, IIB, IIC, IIE1-6.

Management Region 2, most of the information on this study unit has come from surface collections or from mixed deposits. Thus, we know relatively little concerning the demographic and social structure of Archaic bands, the annual range of their movements, seasonal use of resources, the nature of their dwellings, their trade with contemporaneous groups, or treatment of the dead. Based on recent findings from Arkansas, Missouri, Kansas, Kentucky, and Illinois, archeologists know that Archaic people played an important role in domesticating certain tropical and native plants and in the spread of agriculture. Learning when, how, and why these hunters and gatherers became farmers is one of the many interesting questions pertaining to the culture history of Management Region 2.

Directions for Future Research

Despite the presence of a number of Archaic sites, the obvious gaps in our knowledge constrain our ability to propose directions for future research. Only sites in Kay, Osage and Washington counties have been radiocarbon-dated. Materials have also been excavated from a few Archaic sites in Kaw Lake. In addition, materials attributed to Archaic occupations have been surface collected from many sites in Management Region 2. These collections, however, have not permitted delineation of the period of use or greater understanding of the activities being undertaken at these camps. In summary, until Archaic assemblages are more adequately described and dated, questions about site function, adaptive strategies related to settlement and subsistence practices, group movements, and social organization during this 6000 year period will remain difficult to answer. For this reason, research questions dealing with the Archaic study focus on understanding the fundamental structure of Archaic lifeways rather than more specific questions (Table II-9). Such questions address the nature of the material assemblage and adaptations to changing

Table II-9. Research Questions About The Archaic Study Unit, Management Region 2.

MORPHOLOGICAL RESEARCH	CULTURE HISTORY RESEARCH	BEHAVIORAL RESEARCH	ECOLOGICAL RESEARCH
What are the characteristics of tool kits and assemblages used during particular segments of this period? Are specific projectile point styles representive of particular segments of this period? Are there raw material preferences and/or manufacturing traditions which can be identified for certain localities or for particular times?	Can specific tool kits and assemblages be identified and related to a culture sequence for this region? Can ties be demonstrated among the assemblages and manufacturing practices manifest at particular times? To date, a reasonable system for synthesizing Archaic assemblages and sites has not been developed for this region, is there one?	Is the evidence for spatial and/or time restricted assemblages or manufacturing traditions sufficient to support recognition of different hunter-gathering societies? What can a site's structure and contents reveal about the size, composition, and actions of its hunting-gathering inhabitants? Can series of contemporaneous sites be identified that will yield clues to the movements, activities, and seasonality of use by a hunting-gathering society or its subdivisions?	What ecological changes are identifiable here between 8000 and 2000 years ago? When did these changes occur? In essence, what environmental conditions and natural resources existed when Archaic Period societies were present? What was the character(s) of Archaic people's settlement and resource use during these 6000 years? Is there evidence bearing on questions about the presence and number of bison during this period? (Some archeologists propose that bison were not always present and that their numbers fluctuated greatly.)

environmental conditions. The more specific questions can only be addressed once we have acquired solutions to the fundamental issues relating to temporal dimensions, assemblage composition, and basic settlement and subsistence activities.

Factors Effecting Region 2's Archaic Sites

While variability exists in the degree of disturbance, many of the same land alteration practices effecting the Paleo-Indian study unit are also responsible for the destruction of Archaic sites. Two, which have been particularly destructive are erosion and vandalism. Other factors threatening Archaic occupations include agricultural activities, energy-related construction work and urban expansion.

Increased demands for water resource development and flood control in north-central Oklahoma between the 1930s and the 1960s resulted in the construction of five major reservoirs in the eastern half on Management Region 2. These include Copan Lake in Washington County, Keystone Lake in Osage and Pawnee counties, Lake Skiatook and Hulah in Osage County, and Kaw Lake in Kay and Osage counties. Surveys of these lakes resulted in the recording of numerous sites with Archaic occupations which have since been inundated.

Construction of these lakes also brought about associated erosional problems. Shoreline erosion is most prevalent around Kaw Lake and Lake Keystone. At Kaw Lake, waves are cutting into sand and silt-mantled terraces that are known to contain hearths and middens left by Archaic hunters and gatherers. This is particularly significant in the case of Early Archaic and Calf Creek (Middle Archaic) occupations, because such early remains were not recovered during excavations conducted here between 1967 and 1975. Meanwhile, some 80 miles downstream on the Arkansas River from Kaw Lake, erosion of Lake Keystone's sandy shore has destroyed other evidence of Archaic camps.

Bank erosion along Management Region 2's many streams and rivers has also

contributed to the loss of Archaic middens, features, and burials. Especially along the Arkansas and Caney rivers, deeply buried hearths have been exposed and subsequently destroyed by shearing of the stream bank.

Many Archaic sites found in upland settings have also been damaged or destroyed by surface erosion and gullying. Proposed construction of Soil Conservation Service impoundments to control this erosion and downstream flooding has also resulted in the disturbance of Archaic camps. Most of these sites, however, were studied by Oklahoma Conservation Commission archeologists prior to construction work.

Besides being destroyed by shoreline erosion, Archaic materials around Lake Keystone have been disturbed by people digging for salable artifacts. Site vandalism, though, is most seriously affecting rockshelters containing the remains of people living in the area some 3000 to 5000 years ago. Because these rockshelters often contain the remains of plants and animals as well as tools used by prehistoric groups, they comprise repositories of information that is critically needed for understanding which prehistoric groups inhabited the region and how they used its resources through time. Furthermore, because of good preservation in many shelters, their deposits may contain important clues to environmental changes that may have affected people of the Archaic study unit.

Archaic sites are also being effected by agricultural practices. Contour terracing designed to control erosional processes has resulted in the churning of cultural deposits found in upland hunting camps and workshops. The deep plowing conducted in the process of forming the contour gradient results in the shallow deposits of tools and trash being removed from their original context and sometimes being mixed with later materials. Because of the fragile nature of these assemblages, interpretations of their contents is

irreparably lost in this mixing. However, the more deeply buried Archaic materials found in stream valleys are less susceptible to such conservation practices.

Another significant threat to sites of the Archaic study unit is from construction activities associated with the drilling of oil and gas wells and the installation of gas pipelines. Between 1980 and 1983, approximately 70 archeological surveys were conducted for oil and gas well related activities. Only a small number of Archaic sites were found during these field examinations. The small number of site recorded however, probably reflects the small size of the area surveyed (ca., less than 10 acres) rather than a real absence of Archaic sites in the area. Construction of well pads has also created a number of secondary effects which are contributing to the potential erosion of archeological sites. Construction activities in upland areas have contributed to the creation of erosional gullies and increased erosion when drilling locations are placed adjacent to canyons or arroyos. Many of these canyon settings have the potential for Paleo-Indian and early Archaic occupations.

The final factor which represents a significant threat to this study unit is urban development. Although growth in the region has not approached the sizable population increases occurring around Oklahoma City and Tulsa, there has been considerable residential development around Ponca City, Enid, and Bartlesville. Information on Archaic sites that would be disturbed by this activity is lacking, but since all three cities are adjacent to streams and rivers, their future growth will probably affect some Archaic settlements.

Treatment of region 2's Archaic Sites

Based on our existing data, sites and assemblages of the Archaic study unit are widely distributed throughout Management Region 2. Current information also attests to all portions of the region having potential for

significant Archaic occupations. Archaic camps are known to occur in a diversity of settings; sites are being found in upland areas as well as along terraces of principal streams and rivers. Settlement patterns for this study unit are not well documented, however, and it is difficult to establish the association of various site types with different environmental/physiographic divisions. Thus, it does not appear feasible to preclude any settings as having little potential for specific Archaic site types. For example, although upland settings are most typically associated with small hunting camps and workshops, this does not lead to the conclusion that base camps are absent from this setting.

Gaps in our knowledge emphasized a need for more data on the variability in site types, settlement patterns, subsistence practices, and tool assemblages for various Archaic Period occupations. Consequently, sites with relatively undisturbed contexts capable of providing answers to these questions are worthy of further study and/or preservation. Archaic occupations are also likely to be buried by alluvial deposits and may require specialized techniques to adequately examine the nature of the deposits or to identify the presence of such deeply-buried remains.

Woodland Period (A.D. 1 to A.D. 900)

Characteristics

Over much of the central and eastern United States, the people of this study unit continued hunting and gathering practices like those of the Archaic Period but also adopted farming (growing squash, sunflowers, and occasionally corn), pottery making, and the use of the bow and arrow. In practicing intensified gathering, the propagation of wild plants, and limited horticulture, these people became more sedentary, sometimes living in permanent or semi-permanent villages. with the adoption of pottery making,

they acquired the ability to store and prepare foodstuffs better than their predecessors. Due to their increasing sedentism and food-producing capabilities, some societies developed complexly structured social systems where a few individuals had greater status than others. Elaborate rituals were often associated with the burial of these "leaders" after their death.

Site types commonly associated with the Woodland study unit include small villages or hamlets, base and temporary camps, workshops, and small rock mounds associated with burials.

Existing Data

Between A.D. 1 and 900, numerous open sites and rockshelters in Management Region 2 were inhabited, and several mound built, by people who introduced the use of the bow and arrow, pottery, and probably horticulture. Whether these Woodland Period people were newcomers to the region or descendants of previous hunters and gatherers is unknown. But given the many sites with evidence of Woodland Period occupations, these people were clearly the most dominant prehistoric society known to have inhabited Management Region 2. The earliest of these Woodland sites are along the Arkansas River Valley. Here, sites such as Von Elm, Vickery, Hammons, and Hudsonpillar were tested and found to have shallow middens, scattered hearths, and a few shallow, trash-filled pits. Radiocarbon dates from these habitation features tend to cluster between A.D. 1 and 500. Although obvious remains of houses have yet to be found, the middens and features attest to greater sedentism than was encountered during the Archaic study unit. In addition to the remains of bison, deer, and various small game, these sites commonly yield grinding stones and occasional chipped stone hoes; implements that could have been used in farming as well as gathering of wild plants for food , medicine, and fiber. As yet, however, traces of cultivated plants have not been recovered from these sites. During much of the time of study on Woodland

Period sites though, there was an absence of specialized data recovery techniques which would have resulted in the collection of charred plants remains. An especially noteworthy economic activity in the Woodland Period was the quarrying and knapping of Florence chert from limestone buttes in northeastern Kay County. All of the sites along the Arkansas River are littered with broken and complete tools and debris produced from the flaking of this distinctive material.

To date, few early Woodland occupations are known for the area lying east of Kay County. The undated Thomas site may be an early Woodland village in the Little Caney drainage of Washington County, whereas the Big Hawk and Cedar Creek shelters, in the Hominy Creek Valley of Osage County, have middens that pre-date A.D. 500 and that probably result from periodic seasonal occupations. The assemblages from these two shelters are dominated by hunting and gathering tools, including many chipped from Kay County (Florence) chert. Although few early Woodland occupations are known, a variety of late Woodland (A.D. 500-900) sites have been identified along Birch Creek, Hominy Creek, and the Little Caney River in eastern Osage and Washington counties. The studied sites appear to be seasonally inhabited rockshelters (Big Hawk, Cedar Creek, 34Os-129, and 34Wn-32) and open camps on terraces and floodplains (the Mills, Two Goats, Fall-leaf, Highway 10, Cellar Hole, and 34Wn-64 sites). Actual farmsteads or villages have yet to be discovered. However, small mounds of burned rock are a distinctive kind of site that apparently results principally from late Woodland people's activities. Typically situated in bluff crests, sites such as Weston, Copperhead, Webster, Quail Patch, and D-Bar consist of four to six low mounds of fire-cracked rock and nearby scatters of flakes, grinding stones, and occasional chipped stone tools. The rock-filled mounds presumably are remains of roasting ovens used for game or plant foods, or

maybe even for leaching tannic acid from otherwise inedible acorns. Furthermore, one of the Weston mounds also contained the remains of a human burial.

Approximately one hundred archeological sites exhibiting some evidence of Woodland materials are known for Management Region 2 (Table II-10; Figure II-5). Of these sites, one is currently listed on, or considered eligible for the National Register of Historic Places (340s-129). An additional 50 sites with Woodland occupational debris have been recommended for further study and/or preservation (Table II-11).

Gaps in Our Knowledge

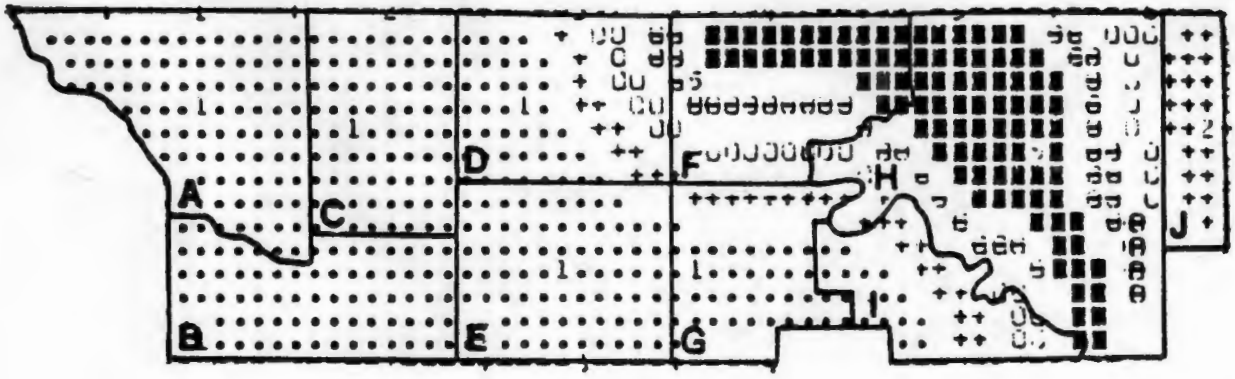
Testing programs and large scale excavations have been carried out on a limited number of Woodland Period sites. Thus, major gaps exist in our understanding of cultural patterns for the Woodland Period. One critical area is in distinctions that exist between those sites with assemblages consistent with Plains groups and those containing materials similar to Middle Woodland assemblages from Kansas. Unfortunately, Woodland Period research in Management Region 2 has been sporadic and unevenly distributed, thus failing to provide a clear picture of such distinctions.

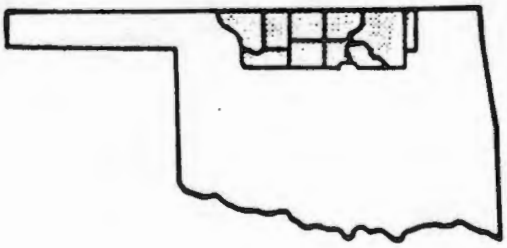
We also have an absence of basic information on the nature of settlement and subsistence practices for the region during this study unit. Do Woodland Period sites represent relatively sedentary communities or nomadic hunting and gathering societies? There is also limited information on the nature of the animal species hunted or what wild plants were collected. We also do not know whether these Woodland peoples were growing tropical cultigens such as squash or corn.

Knowledge concerning the social and behavioral aspects of Woodland society is even more limited. Although material assemblages have been described and we have rudimentary information on settlement and subsistence

Table II-10. Sites With Woodland Occupations, Management Region 2.

County	Plains Woodland
Alfalfa	-
Garfield	1
Grant	5
Kay	38
Major	1
Noble	3
Osage	47
Pawnee	4
Washington	10
Woods	4
Total	113





REGION 2

A. Woods	**F. Kay**
B. Major	**G. Noble**
C. Alfalfa	**H. Osage**
D. Grant	**I. Pawnee**
E. Garfield	**J. Washington**

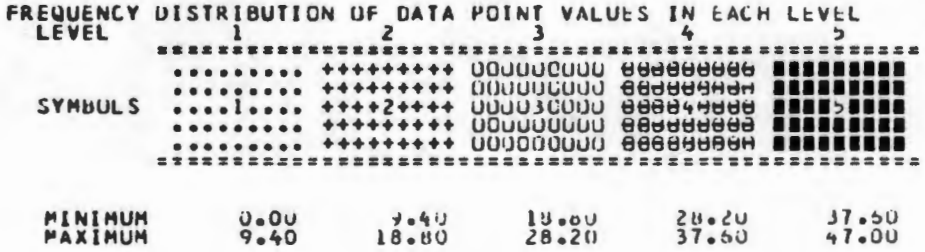


Figure II-5. Relative density of Woodland sites, Management Region 2.

Table II-11. Woodland Sites Meriting Research and Preservation, Management Region 2.

	Site number	Cultural affiliation	Significance	Recommendations
GARFIELD COUNTY				
	Gf-44	Archaic or Woodland	Small open camp with some intact, shallow deposits.	IB1; IIA1-2?
GRANT COUNTY				
White	Gt-2	Woodland and Plains Village	Probable village occupied during transition from Woodland to Plains Villager. Buried deposits appear present.	IB1-2, IC3; IIA1-2?, IIE1,4,5 & 6.
Porter	Gt-3	Woodland	Possible village that may still have habitation features preserved.	IIB1-2, IC3; IIA1-2?, IIE1,4,5 & 6.
Stalker	Gt-9	Woodland and/or Plains Village	Probable large, dispersed village that is fairly well preserved.	IB1; IIA1-2?, IIB, IIE2,3,4 & 6.
KAY COUNTY				
Hardy Quarry	Ka-7	Archaic, Woodland, and Plains Village	Extensive flint quarries and knapping workshops that date back at least 5000 years.	IA1; IIA1-2, IIB, IIC, IIE1 & 6.
Hammons	Ka-20[c]	Woodland	Well preserved early Woodland camp and likely settlement.	IB3, IC2; IIA1, IIB, IIC3, IID2 & 3?
Gifford	KA-27	Woodland or Plains Village	Probable village with some intact deposits.	IB2, IC1 & 4.
Hartshorne	Ka-43	Woodland or Plains Village	Open camp or possibly a farmstead with some preserved deposits.	IB2, IC1 & 4; IIA1?

Table II-11. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
KAY COUNTY				
Spencer #2	Ka-62	Woodland	Camp or possible settlement; may have buried deposits.	IB1.
Boxley	Ka-102	Archaic and Woodland	Open camp of nearly 3 acres; appears frequently occupied.	IB1; IIA1-2?
P. Otto #3	Ka-115	Woodland	Large open sites that may be a settlement.	IB1.
Maple	Ka-120	Woodland	Large open site that may contain settlement remains.	IB1.
Case #1	Ka-122	Woodland	A large preserved settlement or camp.	IB2, IC1; IIA1-2?
Tank Farm	Ka-186	Archaic, Woodland, and/or Plains Village	Potentially preserved camp.	IB1-2, IC1; IIA1-2?
	Ka-187	Archaic? and Woodland	Large camp and possible settlement.	IB2, IC1; IIA1-2?
Pioneer Park	Ka-198	Woodland and Plains Village	Partially preserved camp or settlement; may have habitation features.	IB1-2.
	Ka-200	Woodland and Plains Village	Sizable camp and possible settlement with some preserved deposits.	IB1-2.
	Ka-202	Woodland and Plains Village	Fairly well preserved camp or possible settlement.	IB1; IIA1-2, IIC1-3.

Table II-11. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
KAY COUNTY				
	Ka-207	Archaic and Woodland	Possibly well preserved camp.	IB1; IIA1-2?
	Ka-209	Woodland?	Possible prehistoric mound.	IB1; IIA1-2?
Archie Auld	Ka-210	Woodland	Potentially well preserved camp or settlement.	IB3, IC1; IIA1-2?, IIC?, IIE1-6.
C. Turk	Ka-229	Archaic and Woodland	Possibly preserved camp.	IB1; IIA1-2?, IIE1-6.
	Ka-253	Archaic, Woodland, and Plains Village	Major prehistoric quarry for Florence chert.	IA1, IB3; IIA1-2, IIB, IIC, IIE1-6.
	Ka-274	Archaic, Woodland, and Plains Village	Notable prehistoric quarry for Florence chert.	IA1, IC4; IIA1-2?
NOBLE COUNTY				
Otoe	Nb-9	Archaic and Woodland	A major camp iwth some well preserved deposits.	IB1; IIA1-2, IIC, IIE1-6.
OSAGE COUNTY				
Yarbrough	Os-22	Woodland and/or Plains Village	Partially preserved camp.	IIA1-2.
Tallant I	Os-27	Woodland and/or Plains Village	Small rockshelter; may have preserved deposits.	IA1, IB1; IIA1-2?, IIB?, IIC?, IIE1-6.

Table 11-11. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
OSAGE COUNTY				
Jones #3	Os-31	Woodland, Plains Village, and Historic	Large open camp with possibly preserved activity areas.	IB1; IIA1-2?, IIB?, IIC?, IIE1-6.
Battle Creek	Os-35	Woodland	Large open camp or settlement; may be well preserved	IB1; IIA1-2?, IIB?, IIC?, IIE1-6.
Craddock Shelter	Os-97	Archaic and Woodland	Partially preserved large rockshelter.	IB2, IC4; IIA1-2?
Weston Mounds	Os-99	Woodland	Six small rock mounds; may contains burials.	IB2, IC4; IIA1-2?
Painted Shelter	Os-129	Woodland and Plains Village	Stratified, fairly well preserved deposits with some pictographs.	IIA1-2, IIC, IIE1-6.
N. Jones	Os-163	Woodland?	Small camp with potentially preserved deposits.	IB1; IIA1-2?
Lookout	Os-167	Woodland?	Large open camp or settlement with some preserved deposits.	IB1; IIA1-2?
H. Ingles	Os-184	Archaic or Woodland	Open camp with potentially preserved deposits.	IB2, IC1; IIA1-2?
Conner	Os-264	Woodland?	Open camp or knapping station.	IB1; IIA1-2?
	Os-277	Woodland	Open camp with potentially preserved activity areas.	IB1; IIA1-2?
	Os-313	Woodland?	Open camp or hamlet with some preserved deposits.	IB2?, IC1.

Table II-11. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
OSAGE COUNTY				
Kelly	Os-431	Woodland and Plains Village	Camp or possible settlement; may have preserved habitation features.	IB1; IIA1-2?, IIB?, IIC? IIE1-6?
PAWNEE COUNTY				
	Pw-81	Archaic or Woodland?	Partially preserved open site.	IB2; IC1; IIA1-2?
	Pw-92	Woodland?	Partially preserved camp or hamlet.	IB2, IC1?
WASHINGTON COUNTY				
	Wn-2	Woodland?	Series of small, low mounds in fair preservation.	IA1-2, IB1; IIA1-2?, IIB?, IIC?, IIE1-6.
C. Mills	Wn-5	Woodland	Shelter and nearby open site; both appear well preserved.	IA1-2, IB1, IB2?, IC1?; IIA1-2?
	Wn-41	Woodland?	Series of 6 low mounds.	IA1, IB1; IIA1-2?
Jackson-Fall-Leaf	Wn-42	Woodland and Plains Village	Tested open site with preserved activity areas and stratigraphy.	IIA1-2, IIC, IIE1-6.
	Wn-68	Archaic or Woodland	Tested open site with preserved deposit and habitation features.	IB2, IC1; IIA1-2?
	Wn-71	Woodland	Open camp with preserved habitation features and midden.	IB1; IIA1-2, IIE1-6.
Burns Mound	Wn-78	Woodland?	Low mound that appears well preserved.	IB1; IIA1-2?, IIE1-6.

Table II-11. - (Continued)

	Site number	Cultural affiliation	Signifiance	Recommendations
WASHINGTON COUNTY				
Lunsford	Wn-81	Woodland?	Fairly well preserved camp or settlement.	IB1; IIA1-2?, IIC?, IIE1-6.
Moses	Wn-84	Woodland	Low mound of apparently burned sandstone.	IB1; IIA1-2?, IIB?, IIC?, IIE1-6.
Fanning	Wn-89	Woodland?	Large open site with some preserved deposits.	IB1; IIA1-2?, IIB?, IIC?, IIE1-6.
WOODS COUNTY				
A. Long	Wo-4	Paleo-Indian, Woodland, and Plains Village	Open, well preserved camp with habitation features.	IA1, IB1; IIA1-2, IIB, IIC, IIE1-6.
Carolson #1	Wo-34	Woodland or Plains Village	Open camp or workship with potentially well preserved deposits.	IB1; IIA1-2, IIB, IIC, IIE1-6.

patterns, literally nothing is known of how these groups were organized or basic patterns associated with domestic and ceremonial activities.

Future Research

Sites demonstrating evidence of Woodland occupations are fairly numerous in Management Region 2, particularly in the eastern portion of the region. However, few sites have been excavated and recent research efforts have not been focused on the Woodland Period. Because of this absence of basic information, future research efforts must address fundamental questions on the nature of tool assemblages, cultural sequences, and settlement-subsistence strategies. The absence of baseline data is also significant because it is clear that economic, social, political, and religious developments during the Woodland Period provide the foundation for subsequent Village Farming societies. If we are to comprehend the structure of these Village Farming cultures, we must gain a better understanding of social and cultural change that occurred in the Woodland study unit. In particular, two areas of research stand out.

A basic question pertaining to this study unit is the origins of these Woodland societies. Do they reflect immigrants from other areas who adjusted their cultural pattern to a Southern Plains environment, or are they indigenous inhabitants of the region who, over the course of eight centuries, developed slightly different adaptive strategies?

Adjustments to changing environmental conditions is another area which merits additional research. Findings from studies of soils, pollen, snails, and animal remains found at a few sites have provided clues to climatic fluctuations between A.D. 800 and 1000. These fluctuations were associated with decreasing moisture levels and increases in erosional activity. Such changes had important effects on the extent and nature of land use by Woodland

peoples inhabiting Management Region 2. Perhaps development of local and regional distinctions seen at this time are linked to different groups adapting culturally to environmental change. It is also possible that the rise of sedentary farmers is closely linked to Woodland groups making new social, political, and economic adjustments in order to persist in north-central Oklahoma. These and other research questions are presented in Table II-12.

Factors Effecting Region 2's Woodland Sites

Because of their more recent deposition, Woodland features, tools, and occupational debris are often found closer to the soil surface. Thus, they are susceptible to disturbance and destruction by a greater number of land alteration practices. Currently, construction of lakes and flood-retarding structures, erosional processes, vandalism, and farming practices are viewed as the principal factors resulting in the loss of Woodland Period sites.

Construction of five major lakes (Copan, Keystone, Skiatook, Hulah, and Kaw) in Management Region 2 has led to the inundation of numerous sites with Woodland components. While camps and hamlets such a Von Elm, Vickery, and Hudsonpillar were studied during the eight years of work at Kaw Lake, many Woodland sites were inundated at Lake Keystone prior to any archeological research.

Three different types of erosional processes pose serious threats to preservation of Woodland sites. Erosion taking place along the shores of Management Region 2's lakes have been especially damaging. At Kaw Lake and Lake Keystone, many sites of this study unit are being systematically destroyed by shoreline erosion. Burials, trash pits, and midden deposits are being gradually, but continually, cut away. Other settlements are also being lost to wave action and bank shearing occurring along the region's principal streams and rivers. Temporary camps found in upland settings are also being

patterns, literally nothing is known of how these groups were organized or basic patterns associated with domestic and ceremonial activities.

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Table II-12. Research Questions About The Woodland Study Unit, Management Region 2.

[illegible]OLOGICAL RESEARCH	CULTURE HISTORY RESEARCH	BEHAVIORAL RESEARCH	ECOLOGICAL RESEARCH
Despite several sites being excavated and radiocarbon dated, the character of tool kits, assemblages, and knapping traditions for specific times or localities remains unclear. Can these characteristics be documented? Chipped stone bifaces with polished bits occur at a number of sites; are these tools hoes, axes, adzes, all three, or none?	Can specific tools kits and assemblages be identified that are representative of a culture secuence for this region? What kinds of ties are demonstrated between assemblages and manufacturing practices manifest during specific times? Is it possible to trace Woodland manufacturing practices to those of native Archaic people? What are the origins of Woodland culture(s) manifest here? Is there an appropriate system for synthesizing and interpreting assemblages and sites of different ages and distributions? After studying findings at Kaw Lake, the local Woodland sites were postulated to have been inhabited by small parties of Middle Mississippi immigrants who replaced late Archaic natives; can this be verified? Based on Kaw Lake findings, is it possible that people using Woodland assemblages presisted to around A.D. 1000 or perhaps later?	What can a site's location, structure, and contents reveal about the number, composition, and actions of its inhabitants? Can contemporaneous sites be identified in one locality that will yield clues to the actions, movements, and season of use by one society? Are there local or regional distributions of assemblages that comprise evidence for different Woodland communities and/or societies? If so, what clues exist for explaining economic, social, and/or societies? If so, what clues exist for explaining economic, social, and/or political organizations? Is there evidence for economic, social, and/or political ties with neighboring or distant groups? Although similar to Woodland cultures in the east and northeast, this region's sites aren't as varied in character of function; is this due to economic, social, religious, and/or political practices? Most excavated sites have yielded uncertain clues to site structure and function; can data collection be improved to enhance recovery or findings relevant to questions about functon, group size and organization, and season of use? Did these people participate in the ceremonialism known elsewhere during this period? Cna hints of a westward spread of Woodland people be verified?	Findings from sites in the easte section attest to moist conditio until around A.D. 800; can these environmental conductions be ver fied, elaborated, or altered by information? The studied sites rarely yield evidence for permanent habitatio were these people as nomadic as sites appear? What were Woodlan settlement practices here, and d they change through time? Besides flints favored for knapp what resources (plants and anima were used during this period? Were these people farmers?

affected. Here, the damage comes from surface (sheet) erosion and gullying. Development of erosion control measures such as drop structures and flood-water retarding impoundments by the USDA Soil Conservation Service have remedied some of the erosion problems. However, construction of these facilities has also contributed to the loss of Woodland sites. In most cases, though, sites within these projects have been examined by Oklahoma Conservation Commission archeologists prior to construction activities.

Vandalism of Woodland Period sites is also a serious problem in Management Region 2. Archeological losses from shoreline erosion are being compounded by the actions of relic collectors. Where tools and trash are exposed along the shore, vandals and treasure hunters have dug into the deposits, destroying the context of the remains and promoting further losses to erosion. This problem is most prevalent at Kaw Lake and Lake Keystone. Pothunters have also damaged many rockshelters which were occupied by Woodland peoples. Rockshelters in Osage County have been particularly hard hit by these treasure seekers. Some shelters represent locations where Woodland peoples conducted special economic activities. Others may contain evidence of perishable materials such as basketry, wooden and fiber tools, and leathergoods. Consequently, destruction of these sites reduces our opportunity to document poorly understood aspects of the Woodland cultural pattern. Vandals have also destroyed a number of small rock mounds in the region, some of which may have been used as burial locations by Woodland peoples.

Agricultural activities in Management Region 2 have contributed to the disturbance and destruction of Woodland sites for approximately 100 years. Prior to the 1930s-1940s, most farming was undertaken with horse-or mule-drawn machinery, and only the upper three to four inches of soil was disturbed. With today's powerful tractors, one-ways, and sub-soil tillers, however, the

soil can easily be turned to depths of 24 inches or more. Thus, farming practices such as land leveling, contour and chisel plowing, and terracing are annually churning Woodland habitation sites containing house remains, burials, trash pits, and midden deposits. Temporary Woodland camps in upland settings have been especially affected by these actions. Because of the fragile nature of these sites, they are sensitive to vertical and horizontal displacement of materials. It is suspected that few upland sites of the Woodland study unit remain unscathed by agricultural practices such as those cited above.

Despite the presence of numerous energy-related projects in Management Region 2, there is relatively little evidence to indicate that these activities have destroyed Woodland Period sites. Of the many oil and gas wells and gas pipelines surveyed for archeological resources, only a few have contained evidence of Woodland materials.

Urban expansion also does not appear to represent a significant threat to Woodland Period sites. Population growth in Management Region 2 has been modest compared to the sizable increases found in areas surrounding Oklahoma City and Tulsa. Around towns such as Blackwell, Perry, Pawnee, and Cherokee, urban expasnion has been slow. Even around larger cities such as Ponca City, Enid, and Bartlesville, development has been moderate. The slower rate of development has reduced the threats to archeological sites in the vicinity of these urban areas. A somewhat greater concern exists for the development of associated industrial parks. Because of the proximity to oil and gas reserves, increases in secondary and tertiary (service) industries are anticipated. Many of these firms will establish their bases at industrial parks or centers located along major river systems. These locations coincide with areas of high potential for Woodland sites. Furthermore, future development of these locations will require increased development of utilities (e.g., gas pipelines, power lines, substations, and water and sewer

facilities). These utilities also hold potential to disturb sites of the Woodland study unit.

Treatment of Region 2's Woodland Sites

Most of our information on sites of the Woodland study unit come from alluvial valley and rockshelter settings. We know relatively little about the range of variation in Woodland settlements across the region. In addition, few of these sites have been dated. Thus, we face serious constraints in identifying the spatial and temporal boundaries of Woodland culture within the region. Sites from upland settings or which contain materials suitable for dating should be viewed as significant sources of information. Based on these considerations, no portion of the region is without potential to contribute to our knowledge on the Woodland Period.

A diversity of information is needed on the basic elements of the Woodland cultural pattern. We require data on agricultural developments during this period, on the types of animals hunted, on the types of architecture used in house construction, and on the nature of the social-political-religious system. Sites with intact deposits capable of providing data on these as well as other questions identified in Table II-12 must be viewed as potentially significant if we are to enhance our understanding of this pivotal period in the evolution of Plains societies.

Where significant Woodland sites have been identified and require excavation, efforts must be expended to improve upon techniques used in the recovery of archeological data. We must ensure that adequate samples of the sites are excavated to fully identify the nature of the occupation and breadth of cultural activities taking place.

Village Farming (A.D. 700 - A.D. 1500)

Characteristics

Beginning around A.D. 700-800, large societies of farming people were establishing themselves along the major river systems in Oklahoma. These people depended heavily on raising corn, beans, and squash which was supplemented by hunting game and collecting seasonally available wild plants. Although groups throughout the state shared similar economies and levels of technology, each developed variations in farming and village life patterns which reflected adjustments to their physical environment. In Management Region 2, environmental conditions led to a pattern focused on plains resources. This cultural pattern is generally referred to as the Plains Village Tradition.

As alluded to in the description of this study unit, people lived in small to moderate-sized villages concentrated along terraces of major streams and rivers. Although villages might be periodically relocated, habitation of these sites was more or less permanent. However, males might leave the village on lengthy hunting trips. There was some diversity in the size of settlements with villages and hamlets being the primary residence types. Other site types found for this study unit include temporary hunting camps, bison kill and processing sites, limited activity areas, and quarry/workshop localities.

Dramatic increases in population compared to the preceding Woodland Period led to somewhat greater complexity in social organization. It is suspected that some individuals had greater status than others. It is likely that status was inherited in some instances and achieved through leadership qualities in other situations.

Villages typically contained from 10 to 20 houses and a formal cemetery area where some burials received special treatment, occasionally with exotic

goods present. There is also some evidence for craft specialization within the village with the beginnings of a "cottage industry". An extensive trade network was also in existence during this period with materials flowing between the Southern Plains, the Southwest, and southeastern United States. This trade economy apparently intensifies through time and reaches its climax at the transition from the Plains Village Period to the Protohistoric Period.

Existing Data

Between A.D. 600 and 1300, the easternmost part of Management Region 2 began eroding less, resulting in the formation of a locally widespread paleosol. However, by A.D. 1300 this stable soil surface was again being eroded, and the eastern valleys were alluviating once again. After A.D. 900, it appears that few people were permanently residing in the eastern portion of the region. Only one sedentary Village Farming settlement is reported in the east, the Drumming Sauna Site located in Washington County. Remains from Drumming Sauna appear to represent specialized activities (sweat lodges) occurring within the Little Caney River basin. Furthermore, the material assemblage is that more commonly associated with Caddoan settlements in eastern and southeastern Oklahoma. Excavated materials include corner-notched arrowpoints and grit and shell-tempered, plain-surfaced pottery. There are also a few open camps (the Fall-leaf, Squirrel Patch, Cellar Hole, and Highway 10 sites) and numerous periodically occupied rockshelters (the Longshelter, 34Wn-32, Painted, Birch Bend, Bird Nest, Sunny, Spring, Copperhead, Cedar Creek, Big Hawk, and Cut Finger shelter sites). These sites commonly yield unnotched or side-notched triangular arrowpoints, ovate and beveled knives, end and side scrapers, drills chipped from flakes, gravers, a few grinding stones, and occasional shell-tempered pottery. These open sites and rockshelters appear to represent temporary camps used hunting bison, deer, and

other game. Because these sites yield predominantly Keokuk or Florence cherts, their inhabitants were most likely hunting parties from Plains Village settlements along Grand River, some 100 km to the east or from along the Arkansas River, some 90 km to the west.

Presently, the only Village Farming sites excavated in the western part of Management Region 2 are the Uncas and Bowling Alley sites in Kay County and the Shadid Site in Woods County. Undoubtedly, similar sites exist and hopefully they will be found and studied in the future. Numerous camps and knapping stations frequented by Village Farmers are known along the Arkansas River and its tributaries in Kay and Osage counties. A few similar sites are also known in Noble, Pawnee, Woods, and Major counties, but none have been extensively examined and reported.

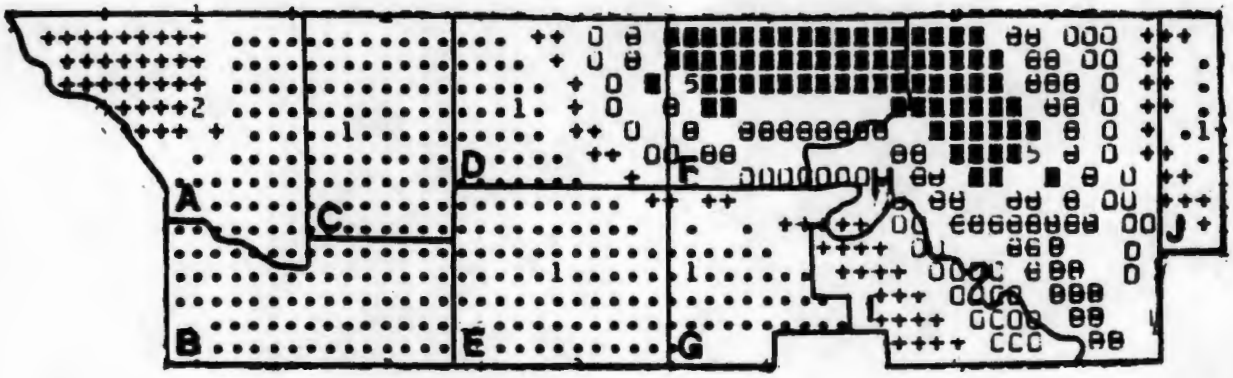
Over 150 sites with occupations dating to this cultural period have been identified in Management Region 2 (Table II-13; Figure II-6). Approximately 65 of these sites are thought to contain remains worthy of further study and/or preservation (Table II-14). Many of these sites may not reflect sedentary settlements but temporary camps used in hunting and gathering activities. Of special note are the large quarries of Florence chert found in Kay County.

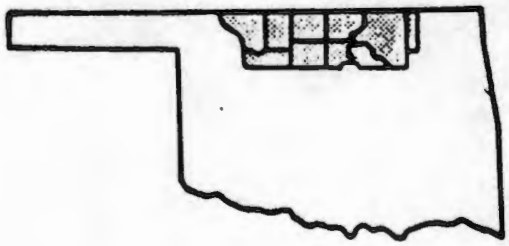
Gaps in Our Knowledge

Management Region 2 is the most poorly documented region of the state in respect to our understanding and knowledge of Village Farming cultural patterns. Although over 150 sites are known, only two of the excavated sites (Drumming Sauna and Uncas) are known to contain structures or other evidence of a sedentary way-of-life. Other excavated sites are rockshelters or open camps where more temporary activities were undertaken. Consequently, our perspective of these village farmers is biased to economic activities focused on the hunting of game and the collecting of wild plants. Most of our

Table II-13. Sites With Village Farming Occupations, Management Region 2.

County	Plains Village	Caddo	Unidentified	Total
Alfalfa	1	-	-	1
Garfield	2	-	-	2
Grant	7	-	-	7
Kay	59	-	-	59
Major	3	-	-	3
Noble	2	-	-	2
Osage	51	-	-	51
Pawnee	13	1	-	14
Washington	1	2	5	8
Woods	15	-	-	15
Total	154	3	5	162





REGION 2

A. Woods	**F. Kay**
B. Major	**G. Noble**
C. Alfalfa	**H. Osage**
D. Grant	**I. Pawnee**
E. Garfield	**J. Washington**

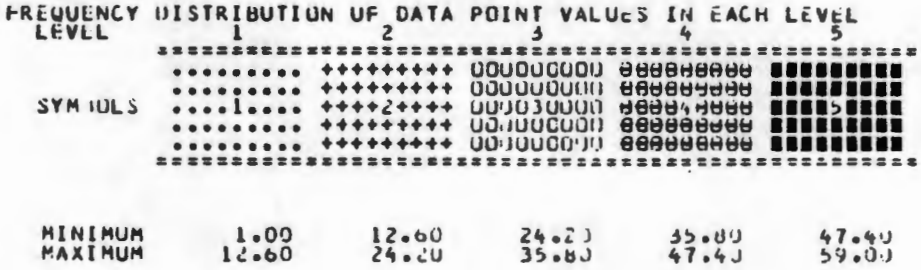


Figure II-6. Relative density of Village Farming sites, Management Region 2.

Table II-14. Village Farming Sites Meriting Research and Preservation in Management Region 2.

	Site number	Cultural affiliation	Significance	Recommendations
GARFIELD COUNTY				
	Gf-39	Plains Village	Small open camp with some intact deposits.	IB1; IIA1-2?
	Gf-43	Plains Village	Open camp with several likely activity areas, some appear intact.	IB1; IIA1-2?
GRANT COUNTY				
Muegge	Gt-1	Plains Village	Probable village that may have habitation features still preserved.	IB1, IC1 & 3; IIA1-2?, IIE1,3 & 6.
White	Gt-2	Woodland and Plains Village	Probable village occupied during transition from Woodland to Plains Villager. Buried deposits appear present.	IB1-2, IC3; IIA1-2?, IIE1,4,5 & 6.
Hunter	Gt-6	Archaic and Plains Village	Probable camp and major village; may be fairly preserved.	IB1-2, IC3; IIA1-2?, IIE1,4,5, & 6.
Deer Creek	Gt-7	Plains Village	Large camp or village that seems to be partially preserved.	IB1-2, IC3; IIA1-2?, IIE1,4,5, & 6.
Stalker	Gt-9	Woodland and/or Plains Village	Probable large, dispersed village that is fairly well preserved.	IB1; IIA1-2?, IIB, IIE2,3,4 & 6.
KAY COUNTY				
Hardy Quarry	Ka-7	Archaic, Woodland, and Plains Village	Extensive flint quarries and knapping workshops that date back at least 5000 years.	IA1; IIA1-2, IIB, IIC, IIE1 & 6.

Table II-14. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
KAY COUNTY				
Otto	Ka-24	Plains Village	Camp or village near important upland stream; may have habitation features.	IB2, IC1 & 4.
Gifford	Ka-27	Woodland or Plains Village	Probable village with some intact deposits.	IB2, IC1 & 4.
Hartshorne	Ka-43	Woodland or Plains village	Open camp or possibly a farmstead with some preserved deposits.	IB2, IC1 & 4; IIA1?
Beard #1	Ka-46	Plains Village	Camp or possible farmstead; may be partly buried.	IB2; IC1 & 4.
Esley	Ka-61	Plains Village	Possible farmstead or camp that seems fairly well preserved.	IB1, IB3?, IIA1 & 2?, IIC, IIE1-6.
Goodson #2	Ka-65	Plains Village	Fairly well preserved camp or hamlet.	IB2.
P.C. Daniel	Ka-81	Plains Village	May be a fairly well preserved camp.	IB1 & 2?
Gilliam	Ka-93	Plains Village	Possible well preserved camp.	IB1 & 2?
Doepel	Ka-137	Plains Village	Well preserved camp or farmstead near creek.	IIA1-2, IIB, IIC1-3, IIE1-6.
Boettcher	Ka-139	Plains Village	Fairly well preserved farmstead or hamlet.	IB2, IC1 & 4; IIA1.
Uncas	Ka-172	Plains Village	Well preserved hamlet.	IIA1-2, IID1.
Boat Ramp	Ka-174	Plains Village	Small camp or farmstead that appears well preserved.	IB1; IIA1-2?

Table II-14. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
KAY COUNTY				
Tank Farm	Ka-186	Archaic, Woodland and/or Plains Village	Potentially preserved camp.	IB1-2, IC1; IIA1-2?
Pioneer Park	Ka-198	Woodland and Plains Village	Partially preserved camp or settlement; may have habitation features.	IB1-2.
	Ka-200	Woodland and Plains Village	Sizeable camp and possible settlement with some preserved deposits.	IB1-2.
	Ka-202	Woodland and Plains Village	Fairly well preserved camp or possible settlement.	IB1; IIA1-2, IIC1-3.
	Ka-228	Plains Village	Large camp or possible village.	IB1; IIA1-2?, IIE1-6.
	Ka-253	Archaic, Woodland, and Plains Village	Major prehistoric quarry for Florence chert.	IA1, IB3, IIA1-2, IIB, IIC, IIE1-6.
	Ka-274	Archaic, Woodland, and Plains Village	Notable prehistoric quarry for Florence chert.	IA1, IC4; IIA1-2?
MAJOR COUNTY				
Davis	Mj-7	Plains Village	Possible village site with some intact deposits.	IB1, IC4; IIA1-2?
NOBLE COUNTY				
Fox Petroglyph	Nb-13	Plains village	Petroglyphs and minor camp deposit.	IIA1, IIC.

Table II-14. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
NOBLE COUNTY				
	Nb-34	Plains Village	Possibly buried midden and village.	IB1; IIA1-2?, IIB, IIC, IIE1-6.
OSAGE COUNTY				
Mullins #2	Os-12	Plains Village	Partially preserved camp or possible hamlet.	IA1-2, IB2, IC4; IIA1-2.
Yarbrough	Os-22	Woodland and/or Plains Village	Partially preserved camp.	IIA1-2.
Tallant I	Os-27	Woodland and/or Plains Village	Small rockshelter; may have preserved deposits.	IA1, IB1; IIA1-2?, IIB?, IIC?, IIE1-6.
Jones #3	Os-31	Woodland, Plains Village, Historic	Large open camp with possibly preserved activity areas.	IB1; IIA1-2?, IIB?, IIC?, IIE1-6.
Kelly	Os-46	Plains Village	Possible village with preserved habitation features.	IIA1-2, IIB, IIE1-6.
Petty	Os-50	Plains Village	Possibly well preserved village.	IA1, IB1; IIA1-2, IIB, IIE1-6.
Painted Shelter	Os-129*	Woodland and Plains Village	Stratified, fairly well preserved deposits with some pictographs.	IIA1-2, IIC, IIE1-6.
Birch Bend Shelter	Os-132*	Plains Village	Rockshelter with fairly well preserved deposits.	IIA1-2, IIC, IIE1-6.
Sunny Shelter	Os-135*	Plains Village	Small shelter camp with fair preservation.	IIA1-2, IIC, IIE1-6.
Shallow Shelter	Os-136*	Plains Village	Excavated shelter with fair deposits and habitation features.	IIA1-2, IIC, IIE1-6.

Table II-14. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
OSAGE COUNTY				
Gray	Os-212	Plains Village	Fairly well preserved open camp or settlement.	IB1; IIA1-2?, IIB?, IIC?, IIE1-6?
Frank	Os-276	Plains Village	Large open camp or hamlet.	IB1; IIA1-2?
	Os-371	Plains village	Potential settlement with some intact deposits.	IB2, IC1.
	Os-376	Plains Village	Likely village or major camp.	IB1, IB2?, IC1.
Kelly	Os-431	Woodland and Plains Village	Camp or possible settlement; may have preserved habitation features.	IB1; IIA1-2?, IIB?, IIC?, IIE1-6?
PAWNEE COUNTY				
Wills	Pw-52	Plains Village	Possibly preserved village with houses and cache pits.	IB1; IIA1-2?, IIB, IIC, IIE1-6.
Zickefoose	Pw-54	Plains Village	Partially preserved hamlet or village.	IB2, IC1.
Barker Outlaw Cave	Pw-83	Plains Village	Partially preserved shelter deposits and pictograph.	IA1-2, IB1; IIA1-2, IIB, IIC, IIE1-6.
Place of the Eels	Pw-90	Plains Village and Historic	Noted camp and possible prehistoric site.	IIA1, IID1.
	Pw-93	Plains Village	Partially preserved camp or hamlet.	IB1, IB2?, IC1?
	Pw-115	Plains Village	Possible remains of hamlet and cemetery.	IB1, IB2?, IC1?; IIA1-2?

Table II-14. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
WASHINGTON COUNTY				
Jackson-Fall-Leaf	Wn-42	Woodland and Plains Village	Tested open site with preserved activity areas and stratigraphy.	IIA1-2, IIC, IIE1-6.
Squirrel patch	Wn-61	Plains Village	Open camp with likely diverse activity areas.	IB1, IC1?, IIA1-2?
Longshelter	Wn-66*	Plains Village	Tested shelter with good deposits left by hunting-gathering parties.	IIA1-2, IIE1-6.
Chew	Wn-76	Plains Village	Open blufftop camp with some preserved midden and activity areas.	IB1; IIA1-2?, IIB?, IIC?, IIE1-6?
Moses Shelter	Wn-85	Plains Village?	Well preserved small shelter.	IA1; IIA1-2?, IIB?, IIC?, IIE1-6.
WOODS COUNTY				
Morris	Wo-1	Plains Village	Open camp with hearths and diverse habitation debris.	IA1, IB1; IIA1-2, IIB, IIC, IIE1-6.
A. Long	Wo-4	Paleo-Indian, Woodland, and Plains Village	Open, well preserved camp with habitation features.	IA1, IB1; IIA1-2, IIB, IIC, IIE1-6.
Wilson	Wo-10	Plains Village	Probable hamlet or village with preserved habitation remains.	IB1; IIA1-2, IIB, IIC, IIE1-6.
Anderson Creek #2	Wo-32	Plains Village	Open camp with some preserved deposits.	IB1; IIA1-2, IIB, IIC, IIE1-6.
Carolson #1	Wo-34	Woodland or Plains Village	Open camp or workshop with potentially well preserved deposits.	IB1; IIA1-2, IIB, IIC, IIE1-6.

Table II-14. - (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
WOODS COUNTY				
Nelson	Wo-57	Archaic and Plains Village	Potentially preserved camp that was inhabited several times.	IB1; IIA1-2, IIB, IIC, IIE1-6.
Williams	Wo-60	Plains Village	Possibly well preserved village.	IB1; IIA1-2, IIB, IIC, IIE1-6.

* Already on or eligible for National Register.

information also comes from the eastern part of Management Region 2. Only one Plains Village site has been studied in Woods, Major, Alfalfa, Grant, Garfield, and Noble counties (the Shadid site in Woods County). A number of houses have been excavated at the Uncas Site but we have no information on architectural characteristics present at other Southern Plains villages in the western part of the region. We also do not have a basic chronology for Village Farming assemblages in Management Region 2. There are no clearly defined archeological phases or complexes. For example, the Uncas and Bowling Alley sites are not currently assigned to specific cultural complexes. The absence of such a taxonomic system precludes work on more complex aspects of this cultural system. Because of the limited number of studied villages, we also do not have adequate data on the size of villages, the importance of cultigens in the diet, or the extensiveness of bison hunting. And, there is literally no information on social, political, or religious aspects of the Village Farming culture.

Directions for Future Research

During this period in prehistory, large populations of village farmers are known to have developed in four regions of the state:

1. The Caddoan affiliated Harlan, Spiro, and Fort Coffee phases manifest along the Arkansas River and its principal tributaries in northeast Oklahoma.

2. The Caddoan-related Hochatown complex, Apple Phase, Sanders Focus, and McCurtain Focus found along the Red River and its immediate tributaries in southeast Oklahoma.

3. The Custer and Washita River phases found along the Washita and Canadian River drainages in central and western Oklahoma.

4. The Antelope Creek phase which occurs along the North Canadian and

Cimarron River drainages in the Oklahoma panhandle.

Each of these archeologically diverse cultures represents traces of divergently complex societies that developed different settlement practices and resource uses while retaining similar economies based on horticulture, hunting, and gathering. Because these societies flourished in ecologically diverse settings, they comprise exceptional cases for studying the roles that terrain, soils, minerals, and other environmental factors had in the development of different adaptive strategies.

Because the Village Farmers who settled Management Regions 1,3,4,5, and 6 can also be linked to historically identifiable bands or tribes, many research questions involve work that should help document the technological, economic, and social behavior between 1200 and 400 years ago. However, in the case of Management Region 2, much of the baseline information found in other regions is lacking. Thus, research questions posed for this study unit focus on fundamental issues such as assemblage composition, settlement and subsistence activities, and chronological relationships. These research areas are outlined in Table II-15.

Factors Effecting Region 2's Village Farming Site

Due to their more recent deposition, material remains representing Village Farming occupations are usually found closer to the ground surface. Thus, these remains are susceptible to disturbance or destruction by most land alteration practices. Principal factors contributing to this destruction include lake construction, erosional processes, energy related construction activities, agricultural practices, urban expansion, and vandalism. Unlike the situation with previously discussed study units, where some land alteration practices are more damaging than others, it appears that all the factors identified above contribute equally to this destruction.

Construction of five major lakes in the region by the Corps of Engineers

Table II-15. Research Questions About The Village Farming Study Unit, Management Region 2.

MORPHOLOGICAL RESEARCH	CULTURE HISTORY RESEARCH	BEHAVIORAL RESEARCH	ECOLOGICAL RESEARCH
Are there regionally distinct tool kits, assemblages, and or manufacturing traditions that might help delineate the existence and distribution of different societies? Are there chronological variations in tool styles (such as pottery or projectile points) that can be used to help date sites where other dating techniques are unfeasible? During this period, the Kay County flint quarries were heavily used; do the debris and tools attest to one or more technologies that might help ascertain whether or not one or more societies were using or controlling them? Don attribute studies of the material culture from the Uncas and Bowling Alley sites (Kay County) support the proposal that these sites were inhabited by one, as yet unspecified, villager society?	What is the culture sequence for this region? Are ties demonstrable between assemblages or manufacturing traditions manifest during segments of this period? Can social and/or cultural continuity be established through time? Can any Prehistoric Village assemblages be linked to earlier Woodland Period ones in this region or elsewhere?	Except for rockshelters, little is known about camps and more permanent settlement; are contemporaneous sites present that will yield location, structure, and content information which is useful for discerning communities, their size, and clues to their economic, social, and political institutions. Do these change through time? Is there evidence for immigration to or abandonment of this region during this period by specific Prehistoric Village groups? What was the extent and character of trade by residents of this region?	Can the existing clues to climatic fluctuations and stability be elaborated or changed? How did climatic fluctuations affect different setings across this region? All in all, settlement of this region seems very sparse for this period; is this verifiable? Perhaps the region was principally a resource area frequented by many groups but inhabited by few? Besides the Kay County flint quarries, what can be learned about settlement and resource use in this regions' uplands? Was the prehistorically favored Kay County flint a sufficiently important resource to have a causal affect on people's settlement practices? Is it possible that more substantial Prehistoric Village habitation occurs along tributaries than along the Arkansas River itself. If so, why?

has resulted in the inundation of numerous Plains Village settlements, temporary camps, and rockshelters. Particularly at Lake Keystone, many of the principal village sites were flooded before they could be studied. Recent shoreline surveys conducted at Kaw Lake and Lake Hulah and amateur reportings from Lake Keystone have identified a number of Village Farming Period sites which are being progressively eroded. Burials, house patterns, trash pits, and midden containing animal bone and charred plant remains have been systematically destroyed. At Kaw Lake, erosion at the Uncas Site exposed three houses which were subsequently excavated. Reports from Lake Keystone have also documented numerous burials washing out along the shoreline, some of which have contained elaborate grave goods typically assigned to Caddoan cultures found in Management Regions 3 and 6.

Although not as well documented as shoreline erosion, bank shearing along the streams and rivers of Management Region 2 has also contributed to the destruction of Plains Village occupations. Along the Arkansas. Salt Fork of the Arkansas, and Cimarron rivers, burials and trash pits are being gradually lost through attrition. Because of the sandy soils found along these drainages, this erosion can rapidly consume cultural deposits. It is estimated that some sites are annually losing 15 to 20% of their areal extent.

The development of SCS erosion control projects (e.g., flood-water retarding structures, drop structures, and dikes and culverts) do not appear to have had as significant effect on Village Farming sites. Because most of this construction has taken place in the uplands or along the upper reaches of the watershed, the Village Farming sites most frequently encountered are temporary camps or workshops.

In the western portion of Management Region 2, agricultural practices have created some special problems affecting Plains Village sites in Woods,

Major, Alfalfa, Grant, Garfield, and Kay counties. Here, fertile terraces of major streams and rivers are extensively farmed. Over much of this area, these lands have been cultivated for almost 100 years. Prior to the Great Depression, farming was typically accomplished by use of draft animals and soil were seldom plowed deeper than three to four inches. This shallow tilling rarely resulted in significant damage to Village Farming sites. Since the 1930s, however, the development of powerful tractors has led to the use of sub-soil tillers which can easily turn soils to depths of 24 inches or more. This equipment, used in erosion control and farming applications such as chisel plowing, contour terracing, and land leveling are destroying the integrity of many Plains Village sites on a yearly basis. House patterns, remains in trash pits, and human burials are badly mixed by such actions. In Woods and Major counties, Plains Village or Protohistoric burials have been exposed by these types of cultivation practices.

Energy related construction activities are another factor which has affected the preservation of Village Farming sites. Prior to 1980, the drilling of oil and gas wells and the digging of accompanying mud pits is known to have destroyed a number of Plains Village settlements in Woods, Kay, Garfield, and Major counties. Since 1980, most oil and gas wells drilled in sensitive environmental settings have been surveyed for cultural resources. The construction of gas pipelines is also a significant threat to these sites. Surveys of pipeline right-of-ways in Osage County resulted in the recording of a couple of Plains Village camps which were subsequently avoided.

Urban expansion also poses a serious threat to sites of the Village Farming study unit. Construction activities associated with the development of subdivisions and industrial facilities often involve removal of large quantities of soil, thus increasing the chances of sites being disturbed. For example, development of a recreational establishment in Ponca City in Kay

County brought about the exposure of numerous pits and material remains at the Bowling Alley Site (Ka-131), a Plains Village settlement occupied during the thirteenth century. Other development projects in Alfalfa and Garfield counties have also effected Plains Village occupations, although these were probably temporary camps rather than more permanent communities.

Besides being destroyed by these land alteration practices, burials, hearths, pits, and middens are being damaged by people digging for artifacts. Around Kaw Lake and Lake Keystone , materials exposed by shoreline erosion are susceptible to indiscriminate digging by curiosity seekers and individuals seeking materials for sale on the antiquities market. In addition to Village Farming sites along Management Region 2's lakes, rockshelters are also being destroyed by these actions. Of special note are the exquisite Plains Village pictographs which have been irreparably damaged by these vandals. Because many shelters contain perishable remains such as animal bone and charred plant remains, they represent sites whose remains are critical for interpretation of the region's prehistory. Thus, destruction of these sites constitutes an incalculable loss in respect to the state's cultural heritage.

Treatment of Region 2's Village Farming Sites

Although Management Region 2 has the smallest number of recorded Village Farming sites of any of the management regions, the potential for information on Plains Villagers living in the region is considerable. The density of Village Farming occupations in Management Region 2 is highly variable within the region. For example, Village Farming sites are infrequently encountered in the eastern part of the region whereas, sites of this study unit are more numerous in the western portion.

Village Farming sites such as temporary camps, hamlets, and villages occur in a diversity of physiographic/environmental settings. Thus, it is

unlikely that major environmental areas can be categorically excluded when considering potential impacts from various land alteration practices. However, terraces and floodplains of the Arkansas, Salt Fork of the Arkansas, Cimarron, and Chikaskia rivers, as well as principal tributaries, are particularly sensitive areas because of the presence of highly fertile soils that are commonly used by these prehistoric farmers. All sites of this study unit merit preservation and/or further research provided they contain cultural deposits with contextual integrity. Sites such as major villages will require extensive treatment because of the variety and number of potential research topics which can be addressed. This is especially true in Management Region 2 where only a limited number of sites have been studied over the past twenty years. Although the Village Farming Period is better understood than most of the study units, there is not necessarily a redundancy in site information potential. Few Plains Village sites have been examined in the past 10 years. Consequently, there is limited comprehension on how villages, camps, and workshops articulate within the settlement system.

Current and future research on the Village Farming study unit should focus on subsistence practices, the social organization of the various groups, how these cultures evolved from nomadic hunter-gatherers to sedentary farmers, and the type of religious systems used by Plains Village societies. These questions should be addressed after basic information on chronology and assemblage composition are resolved. Both known sites and previously unrecorded sites may provide insights on these problems. As noted above, sites containing intact deposits or which are primarily undisturbed are essential to resolving a variety of questions and should be preserved.

The diversity of factors effecting Village Farming sites attest to severe threats to this study unit. Care must be exercised to ensure that proper treatment measures are developed to preserve the information potential of

Village Farming Period sites.

Protohistoric Period (A.D. 1500 to 1800)

Characteristics

Beginning around the fifteenth or early sixteenth centuries, notable changes took place in the structure of societies on the Southern Plains. These changes were possibly brought about by climatic changes or perhaps by the presence of marauding newcomers. In the Mixed Grass-Tall Grass Prairie, groups maintained a farming -oriented pattern similar to that of the Village Farming study unit, although there is evidence to suggest that these groups were more mobile, moving their villages over considerable distances. They also placed a greater reliance on the hunting of bison. In Management Region 2, these groups probably represent a number of sub-groups of the Wichita.

Much of our information on this period comes from accounts of the early Spanish expeditions through the Southern Plains and from studies of historic Plains Indians by anthropologists in the late nineteenth and early twentieth centuries. Apparently, the concentration of large numbers of villages and hamlets along the major streams and rivers gave way to a more dispersed migratory pattern in some areas. However, evidence from the Deer Creek and Bryson-Paddock sites in Kay County and the Longest Site in Jefferson County (Management Region 5) attest to villages being considerably larger than during the Village Farming Period. There is also historic evidence for seasonal movement between permanent villages occupied primarily during the summer and less permanent fall-winter camps related to bison hunting. As groups became more migratory, there were also shifts in the types of structures used for housing. For example, the Wichita lived in grass-thatched circular (beehive-shaped) houses rather than the square to rectangular wattle and daub structures of the preceding Plains Village pattern. Evidence also exists for

the continued presence of temporary hunting camps, bison kill sites and processing stations, and quarry/workshops.

The social system of these people, was in general, egalitarian with little support of a complex political structure. However, there is evidence that some authority positions were handed down through family lines rather than acquired through achievement. Ritual appears to continue as an important aspect of the cultural pattern. Despite the demise of the expansive Village Farming cultural pattern, interregional trade is widespread, and in fact, intensifies during the Protohistoric Period. Early Spanish accounts document an extensive trade system operating between Puebloan groups in the Southwest and various societies on the Southern Plains.

Existing Data

By the 1500s, Wichita people were living in central Kansas north of Management Region 2. Whether or not these sedentary farmers were descendants of the area's Plains Villagers remains to be determined. But, by the 1700s, the Wichita were clearly migrating to and settling along the Arkansas River Valley in northern Kay County. Here, they built two large villages, known as the Deer Creek and Bryson-Paddock sites. Although unexcavated, the latter still reveals traces of trash mounds, house locations, and more importantly, a large circular embankment. This embankment is thought by some historians to be the remains of a French-built trading post, but most archeologists believe it was a protected areas constructed by the Wichita, perhaps to protect French traders during their visits to the village.

By 1760, the Wichitas had moved south to fortified villages along the Red River such as the Longest Site in Jefferson County. Subsequently, Management Region 2 comprised hunting grounds that were contested by the Osage, Kiowa, Kiowa-Apache, Comanche, and Wichita.

Information on Protohistoric sites is often difficult to identify because

many of these sites are indistinguishable from earlier Village Farming occupations with the exception of a few historic trade goods (beads and metal points, gunflints, firearms, etc.). In fact, some sites may contain evidence to document discontinuous settlement continuity from the 1300s through the 1700s. Only a few sites in Management Region 2 show evidence of occupation by Protohistoric groups (Table II-16). In particular, the Bryson-Paddock and Deer Creek sites offer unprecedented opportunities for studying the effects of French trade on Wichita settlement practices, economy, social structure, and culture in the 1700s. Both of these sites are listed on the National Register of Historic Places and may display evidence of the overwhelming change that is largely undocumented in the French or Spanish accounts. These two sites represent the Protohistoric cultural resources which have been recommended for preservation and future study (Table II-17).

Gaps in Our Knowledge

Protohistoric sites are a result of recent cultural occupations and consequently, historic accounts can often be used to study and identify the remains left behind by the Wichita and other contemporaneous groups. Despite this potential however, there are also huge gaps in our knowledge of this study unit. Apparently, the Village Farming pattern continued into protohistoric times, although at a diminished intensity (based on numbers of villages). There are numerous recorded Plains Village occupations for every protohistoric occupation. But, this reduction in number of village sites is accompanied by a marked increase in the size of villages. This change in settlement frequencies may be a function of the coalescing of many villages into a smaller number of larger settlements. It is also possible that the reduced number of sites in the Protohistoric Period is a function of failures to distinguish Protohistoric assemblages from Village Farming remains.

Table II-16. Sites With Protohistoric Occupations, Management Region 2.

County	Protohistoric Sites
Alfalfa	0
Garfield	0
Grant	0
Kay	5
Major	1
Noble	0
Osage	4
Pawnee	0
Washington	1
Woods	2
Total	13

Table II-17. Protohistoric Sites Meriting Research and Preservation in Management Region 2.

	Site number	Cultural affiliation	Significance	Recommendations
KAY COUNTY				
Deer Creek ("Ferdinandino")	Ka-3*	Historic Plains Village	Large, excellently preserved Wichita village and French trading post of early 1700s.	IB3, IC2; IIA2, IIB, IIC3, IID3.
Bryson-Paddock	Ka-5*	Historic Plains Village	Large, well preserved Wichita village of early 1700s.	IIA2, IIC1-2, IID1, IIE3, 4 & 6.

* Already on or considered eligible for the National Register.

Obviously, this cannot be resolved without considerable efforts being expended on surveys and excavations. Currently, information on Protohistoric sites in Management Region 2 is extremely limited. There are no data on settlement distributions, subsistence practices, and/or the range of site types. We also lack detailed information on the composition of the Protohistoric material assemblage and impact of European goods on the material culture of these Native Americans. Our dearth of knowledge on these subjects is best portrayed by the fact that only two sites of this study unit are well known in Management Region 2. In summary, gaps in our knowledge cover the entire range of information needed for comprehension of the Protohistoric Period.

Future Research

Sites of the Protohistoric study unit hold great potential for answering a variety of complex and critical questions concerning cultural and environmental changes taking place in Management Region 2 and other regions where protohistoric manifestations are encountered. As noted earlier, evidence exists for significant shifts in annual precipitation patterns during the Village Farming Period. Did these changes cause the Village Farmers in Management Region 2 to abandon the fertile floodplain valleys or to centralize their farming operations into larger villages with greater reliance on hunting of bison? Or, perhaps there were cultural factors which account for the substantial reductions in settlement density between the Village Farming and Protohistoric periods (e.g., warfare)? There are also important research questions to be examined regarding the social and cultural systems of these Protohistoric people. For example, can we trace the flow of non-local goods within the trade network? Another critical question involves the impact of European goods and value systems on the traditional Native American socio-economic system. It is also important that we look for significant differences in the social systems of Protohistoric groups compared to

preceding Village Farming societies. In addition to these questions, it is essential that future research address the basic issues of settlement patterning, variation in settlement types, and subsistence practices, areas we currently know little about. Some of the research questions to be examined for the Protohistoric Period are presented in Table II-18.

Factors Effecting Region 2's Protohistoric Sites

Because of the limited number of Protohistoric sites identified in Management Region 2, it is difficult to finds documented cases where land alteration practices have resulted in the disturbance of known sites. However, like Village Farming sites, Protohistoric occupations represent recent deposition episodes and are close to the soil surface. This makes it very likely that they will be effected by the same factors as those identified for the Village Farming study unit.

Protohistoric sites have been recorded from western Osage County through western portions of the management region. Thus, one factor which holds some potential for damaging these sites is farming practices. As in the case of Village Farming settlements, sites of the Protohistoric Period would be severely damaged by land leveling, contour terracing, and chisel plowing. It is also possible that urban expansion around Kaw Lake and Ponca City may disturb previously unrecorded Protohistoric sites. Because two of the more important sites are Bryson-Paddock and Deer Creek, located adjacent to Kaw Lake, this is a likely occurrence.

Treatment of Region 2's Protohistoric Sites

Treatment and recommendations concerning proper management of the Protohistoric study unit must consider the absence of substantive information as the most critical factor influencing our decision-making. Currently, knowledge of Protohistoric settlement-subsistence patterning is extremely

Table II-18. Research Questions About the Protohistoric Study Unit, Management Region 2.

MORPHOLOGICAL RESEARCH	CULTURE HISTORY RESEARCH	BEHAVIORAL RESEARCH	ECOLOGICAL RESEARCH
Can variations in ceramics, arrowpoints, and other artifact styles lead to a delineation between Plains Village and Protohistoric societies? Can assemblages be associated with specific tribal groups? What types of European trade goods are found on Protohistoric sites?	What is the degree of continuity between the preceeding Plains Village Period and the groups of the Protohistoric Period?	Ethnohistoric accounts document a strong trade network existing between Southern Plains tribes and southwestern Puebloan groups. What were the mechanisms of this trade network and how did it affect groups involved in it? How were European trade goods and European customs incorporated into Southern Plains cultural patterns in the Protohistoric Period? Did possible changes to a more transitory economy alter the social systems of Protohistoric Period? Did possible changes to a more transitory economy alter the social systems of Protohistoric groups?	Were there climatic that account for the dramatic changes that take place in the region between the Plains Village and Protohistoric periods? How important was farming to Protohistoric groups on the Southern Plains? Southern Plains groups traded bison meat and hides to Puebolan communities. What evidence exists for bison kill sites dating to the Protohistoric Period?

limited. Attempts to identify Protohistoric occupations are compounded by difficulties in distinguishing some of these later remains from earlier Village Farming assemblages. Because of these considerations, we must exercise caution in evaluation of potential impacts to a portion of the cultural resource base which is incompletely defined. The small number of identified sites for this cultural period probably reflects biases in research interests and assemblage identification as well as variation in settlement densities. All physiographic/environmental zones must be considered potentially sensitive for the presence of these people's camps and villages. The extremely limited information we have attests to floodplains and terraces of major stream valleys being high potential locations. This represents a continuation of the settlement-subsistence pattern emphasized during the Village Farming Period. Until adequate baseline data become available, these areas must be viewed as the primary target areas for identification of Protohistoric settlements.

The Protohistoric study unit has tremendous potential for aiding in our understanding of historic tribal identities and in detailing the extensive trade networks that existed from approximately A.D. 1500 to 1700. Unfortunately, due to the paucity of recorded sites for this period, any land disturbance practice must be viewed as a serious threat. We cannot risk the potential destruction of the few recorded sites for this period without exploration of all preservation and research alternatives. In summary, land alteration projects should take full consideration of potential impacts to protohistoric archeological resources. If Protohistoric sites are encountered, the most desirable strategy is avoidance and preservation.

Historic Period (ca. A.D. 1700 to Present)

Characteristics

Between approximately A.D. 1700 and 1800, Oklahoma's native people

abandoned their traditional homelands and adopted radically different cultural patterns. Horses, guns, and exotic European trade goods contributed to such change, but bitter quarrels between tribes and between them and Europeans helped stimulate controversy and conflict. During this time, occasional European explorers documented some of these Oklahoma natives. For example, the Deer Creek and Bryson-Paddock sites probably represent the two Wichita villages visited by Claude Du Tisne in 1719. But because these explorers did not visit all parts of the state, the identification of tribes and their ties to prehistoric village farmers is uncertain. By 1800, most of Oklahoma's indigenous people had been driven out of the state by the Osage, Comanche, and Kiowa-Apache. In the following years, lands in Management Region 2 were given to the Cherokees for resettlement and later divided for use by other tribes and for white settlement.

Existing Data

With the Louisiana Purchase in 1803, Oklahoma was acquired by the United States. A number of early explorers and surveyors passed through the area of Management Region 2 during this time. The earliest was Lieutenant James Wilkenson who traveled up the Arkansas River in 1806 and visited a number of early towns in the eastern part of Management Region 2. In 1811, George C. Sibley followed the Salt Fork of the Arkansas to its origins and explored the region that is now known as the Great Salt Plains. Then, in 1821, Thomas James traveled up the Cimarron River on his way to Santa Fe. Much of the history of Management Region 2 between 1800 and 1900 is related to the use of these lands in re-settling removal tribes. Most of the region comprised what has been identified as the Cherokee Outlet. These were lands assigned to the Cherokee by the Treaty of New Echota in 1835 to replace lands the Cherokee had ceded to the United States in Arkansas and Missouri. In the Treaty of 1866,

these lands were held in trust by the U.S. Government with friendly tribes settled on surplus Cherokee landholdings. Tribes resettled here included the Kaw or Kansa, Osage, Pawnee, Ponca, Nez Pierce, and Otoe-Missouri. Later, the Nez Pierce left the region and the Tonkawas were removed to here from Texas.

Although there was only one significant engagement fought in the area (at Chustenahlah in 1861) during the Civil War, the Cherokee suffered greatly from the devastation and turmoil of this conflict. During the period following the Civil War, most of the unoccupied lands in the Cherokee Outlet were leased by the Cherokee to cattlemen. By 1883, sizable ranches were established throughout the area. It was subsequently decided by the U.S. Attorney General's Office that the Cherokee were not entitled to lease their lands. Thus, in 1892, lands unoccupied by the Cherokee or other tribes were sold at $1.25/acre. In 1893, the area was opened for run. Following the run was a period of renewed growth which culminated in 1907 with Oklahoma becoming the forty-sixth state. After statehood, the region experienced periods of growth and recession, primarily due to changes in the economic well being of its two major industries, oil and gas and agriculture. The most notable decline in the state and the region's growth took place in the 1930s with the Great Depression and the Dust Bowl. Prosperity returned by the 1950s and most recently with the oil and gas boom of the late 1970s and early 1980s. The most recent recession followed in the mid 1980s with the general collapse of Oklahoma's oil economy.

Although little research has been conducted on the region's historic archeological resources, a number of site types can be identified. these include early historic Indian villages and camps, European trading posts, later historic Indian towns and agencies, and Anglo homesteads and ranches. A variety of related aspects of the cultural landscape are associated with these settlements. These include railroad lines, cattle trails, Anglo and Indian

cemeteries, and numerous other features. A review of the site files maintained by the Archeological Survey revealed approximately 180 sites with historic components (Table II-19; Figure II-7). Those historic sites thought to merit preservation and/or further study are listed in Table II-20.

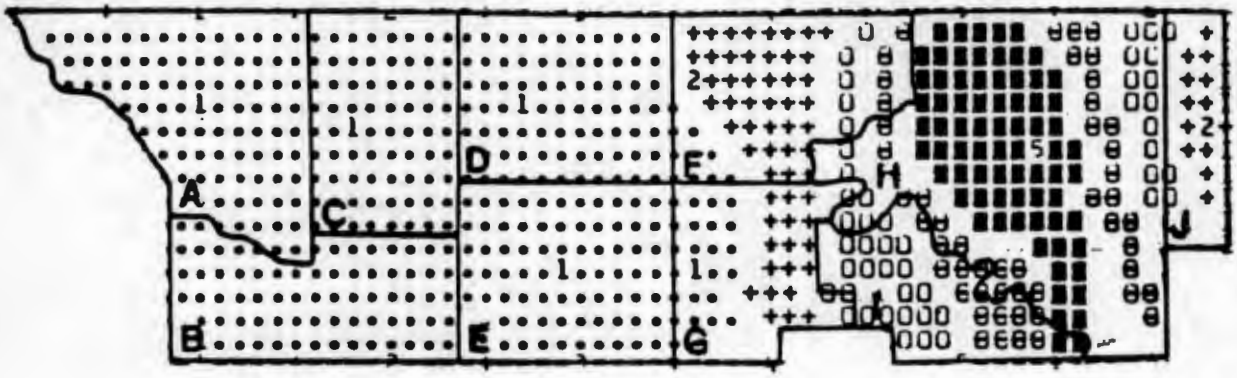
We have not attempted to define gaps in our knowledge, directions for future research, factors currently effecting historic sites, and treatment measures for this study unit. The absence of these sections is due to the Survey staff's limited research capabilities in historical archeology and history.

Sites of Undefined Prehistoric Cultural Affiliation

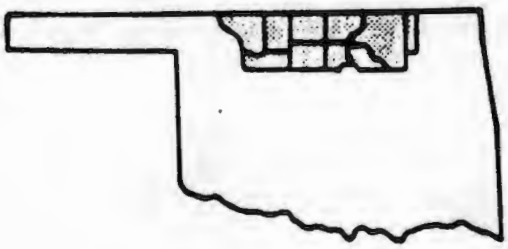
In examining the baseline data for Management Region 2, a number of sites were identified for which the prehistoric cultural context could not be established (Table II-21; Figure II-8). Some of these sites also contain potentially significant cultural deposits. The operational framework of this document has focused on the study unit or cultural period. Because of their lack of known cultural affiliation, it is not feasible to attempt further itemized discussion of characteristics, research potential, and treatment procedures for these resources. Rather they should be evaluated and managed on a case by case basis when threatened by various land alteration practices. Those potentially significant sites of uncertain prehistoric cultural affiliation meriting further study and/or preservation are listed in Table II-22.

Table II-19. Sites With Historic Occupations, Management Region 2.

County	Total Anglo and Indian Historic
Alfalfa	3
Garfield	1
Grant	1
Kay	19
Major	2
Noble	8
Osage	81
Pawnee	40
Washington	22
Woods	5
Total	182



REGION 2



A. Woods	**F. Kay**
B. Major	**G. Noble**
C. Alfalfa	**H. Osage**
D. Grant	**I. Pawnee**
E. Garfield	**J. Washington**

FREQUENCY DISTRIBUTION OF DATA POINT VALUES IN EACH LEVEL

LEVEL	1	2	3	4	5
SYMBOLS	.	+	0	8	■
MINIMUM	1.00	17.00	33.00	49.00	65.00
MAXIMUM	17.00	33.00	49.00	65.00	81.00

Figure II-7. Relative density of Historic sites, Management Region 2.

Table II-20. Historic Sites Meriting Research and Preservation in Management Region 2.

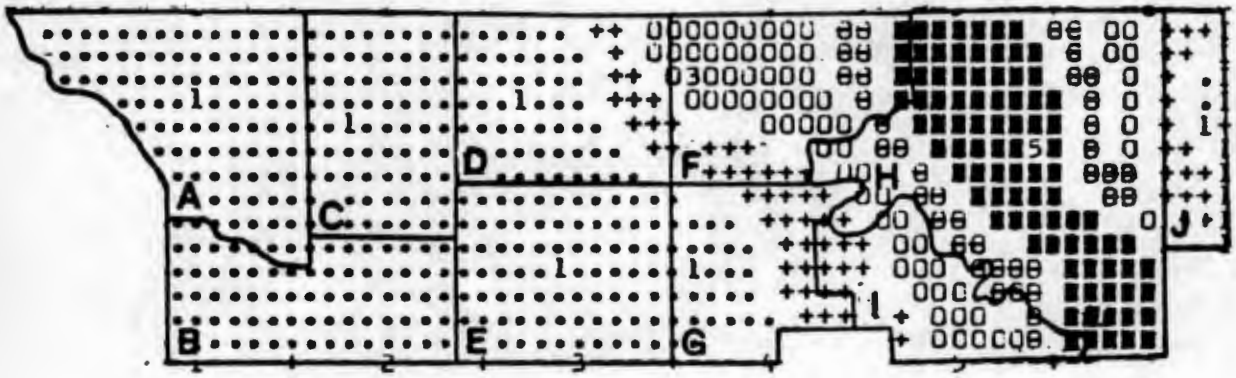
	Site number	Cultural affiliation	Significance	Recommendations
ALFALFA COUNTY				
Tallick	Al-3	Historic	Remains of 2-3 dugouts near 1800s trail ford.	IA-B; IIA1, IIA2?, IIE.
OSAGE COUNTY				
Jones #3	Os-31	Woodland, Plains Village, Historic	Large open camp with possibly preserved activity areas.	IB1; IIA1-2?, IIB?, IIC?, IIE1-6.
Shell Creek Shelter	Os-307	Prehistoric and Historic?	Two small rockshelters with red or black pictographs.	IA1-2; IIA1-2, IIB, IIC.
PAWNEE COUNTY				
Place of the Eels	Pw-90	Plains Village and Historic	Noted camp and possible prehistoric site.	IIA1, IID1.
Balmer Kiln	Pw-95	Historic	Early day kiln for locally used bricks.	IA1-2; IA1?
	Pw-104	Historic	Early day dugouts with some intact deposits.	IA1-2, IB1; IIA1?
	Pw-134 & Pw-139	Historic	Late 1800s remains of probable Indian settlement.	IA1-2, IB1; IIA1-2?, IIB?, IIC?, IIE1-6.
	Pw-156	Historic	Frame school and house dating from early 1900s.	IA1-2; IIA1-2?, IIC?
	Pw-177	Historic	Statehood period homestead in good condition.	IA1-2; IIA1-2?, IIB?, IIC?

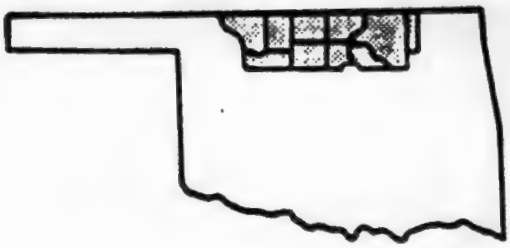
Table II-20. (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
WASHINGTON COUNTY				
Delaware Big House	Wn-19	Historic	Former (last used: 1925) Big House of Delaware tribe.	IA1-2; IIA1-2?
Original Delaware Big House	Wn-46	Historic	First ceremonial house (used in early 1900s) of Delaware tribe.	IIA1-2.

Table II-21. Sites With Undetermined Cultural Affiliations, Management Region 2.

County	Undetermined
Alfalfa	8
Garfield	42
Grant	-
Kay	184
Major	13
Noble	29
Osage	341
Pawnee	118
Washington	47
Woods	48
Total	830





REGION 2

A. Woods	**F. Kay**
B. Major	**G. Noble**
C. Alfalfa	**H. Osage**
D. Grant	**I. Pawnee**
E. Garfield	**J. Washington**

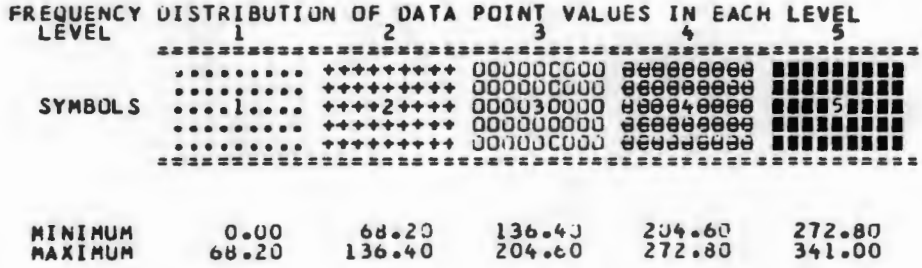


Figure II-8. Relative density of sites of undefined cultural affiliation, Management Region 2.

Table II-22. Sites of Uncertain Prehistoric Affiliation Meriting Research and Preservation in Management Region 2.

	Site number	Cultural affiliation	Significance	Recommendations
GARFIELD COUNTY				
	Ka-46	Uncertain prehistoric	Large open knapping station with several fairly intact work areas.	IA1-2, IB1; IIA1-2?
KAY COUNTY				
Railroad Cut	Ka-173	Uncertain prehistoric	Remnants of a fairly well preserved camp.	IB1.
	Ka-276	Uncertain prehistoric	Fairly well preserved quarries for Florence chert.	IA1, IB3; IIA1-2, IIB, IIC, IIE1-6.
	Ka-279	Uncertain prehistoric	Well preserved quarries for Florence chert.	IA1, IB3; IIA1-2, IIB, IIC, IIE1-6.
Collyar	Ka-288	Uncertain prehistoric	Fairly well preserved camp and/or knapping station.	IB1; IIA1-2?, IIE1-6.
	Ka-295	Uncertain prehistoric	Large, well preserved quarries for Florence chert.	IB1; IIA1-2?, IIB, IIC, IIE1-6.
OSAGE COUNTY				
B. Adams	Os-147	Uncertain prehistoric	Potentially well preserved camp.	IB1; IIA1-2.
Bison Tooth	Os-224	Uncertain prehistoric	Likely buried camp.	IB2, IC1?, IIA1-2?
105°F	Os-228	Uncertain prehistoric	Buried camp with stone-lined hearths.	IB2, IC1?; IIA1-2?
Bowen	Os-245	Uncertain prehistoric	Buried open camp with hearth.	IB1, IB2?; IIA1-2?

Table II-22. (Continued)

	Site number	Cultural affiliation	Significance	Recommendations
OSAGE COUNTY				
	Os-311	Uncertain prehistoric	Buried camp or possible settlement.	IB2, IC1?
	Os-314	Uncertain prehistoric	Open camp with potentially preserved deposits.	IB1, IB2?, IC1?
	Os-315	Uncertain prehistoric	Concentric circles painted on boulder.	IA1-2; IIA1-2, IIC.
	Os-322	Uncertain prehistroic	Open camp with possible mound.	IB1, IB2?, IC1?
Roach	Os-424	Uncertain prehistoric	Fairly well preserved open camp.	IB1; IIA1-2?
PAWNEE COUNTY				
	Pw-85	Uncertain prehistoric	Remnants of large open site with some intact deposits.	IB1, IB2?, IC1?; IIA1-2?

BIBLIOGRAPHY

Artz, Joe A.
1983 **Archaeological Site Assessment at Kaw Lake, Kay and Osage Counties, Northcentral Oklahoma: 1982.** University of Tulsa, Laboratory of Archaeology, Contributions in Archaeology.

Barr, Thomas P.
1965 **An Archaeological Survey of the Birch Creek Reservoir.** Oklahoma River Basin Survey, General Survey Report 6:118-127, Norman.

Bastian, Tyler
1969 **The Hudsonpillar and Freeman Sites, North-Central Oklahoma.** Oklahoma River Basin Survey, Archaeological Site Report 14, Norman.

Bell, Robert E.
1952 Human Skeleton Discovered Near Terlton, Oklahoma. **Oklahoma Anthropological Society, Newsletter** 1(2):4-6.

1981 Wichita Indians and the French Trade on the Oklahoma Frontier: 1719-1757. **Oklahoma Anthropological Society Bulletin** 30:11-18.

Bobalik, Sheila J.
1976 **Archaeological Resources of the Sand Creek Watershed Project, Osage County, Oklahoma.** Oklahoma Archeological Survey, Archeological Resource Survey Report 4.

Brown, Donald N, Charles S. Wallis, Jr., and Ronald Corbyn
1973 Inventory of Sites. **Sargent and Lundy Engineers Report,** Chicago.

Cooper, Laverne M.
1975 A Study of Kay County Flint Prehistoric Quarrying, Typology, and Utilization Trends. Oklahoma Anthropological Society **Bulletin** 23:185-192.

Corbyn, Ronald C.
1974 Progress Report on the Photogrammetric Mapping of the Deer Creek site in Kay County. Oklahoma Anthropological Society **Newsletter** 22(4):15-16.

Drass, Richard R.
1983 **Archeological Resources in the Bird Creek Basin: Rogers, Tulsa, and Osage Counties, Oklahoma.** Oklahoma Archeological Survey, Archeological Resource Survey Report 21.

Ferring, C. Reid, Daniel J. Crouch, and Towanna D. Spivey
1976 **An Archaeological Reconnaissance of the Salt Plains Areas of Northwestern Oklahoma.** Museum of the Great Plains, Contributions 4.

Galm, Jerry R.
1979 **The Uncas Site: A Late Prehistoric Manifestation in the Southern Plains**. University of Oklahoma, Archaeological Research and Management Center, Research Series 5.

George, Preston
1985 An Update on Finds at the Uncas Site, North-Central Oklahoma. Oklahoma Anthropological Society Bulletin 34:121-126.

1983 An Archeological Shoreline Survey of Kaw Lake. Oklahoma Archeological Survey, Archeological Resource Survey Report 14.

Gettys, Marshall, Robert Layhe, and Sheila Bobalik
1976 Birch Creek and Skiatook Reservoirs: Preliminary Report Upon Archaeological Investigations in 1974. Oklahoma River Basin Survey, Archaeological Site Report 31.

Gould, C.N.
1898 The Timbered Mounds of the Kaw Reservation. **Transactions of the Kansas Academy of Science** 16:282.

1899 Additional Notes on the Timbered Mounds of the Kaw Reservation. **Transactions of the Kansas Academy of Science** 16:282.

Hackenberger, Steven
1976 **Test Excavations at Pw-66 and Pw-67, Lower Black Bear Creek Watershed Project**. Archaeological Research Associates, Tulsa.

Hartley, John D.
1974 **The Von Elm site, An Early Plains Woodland Complex in north-Central Oklahoma**. Oklahoma River Basin Survey, Archaeological Site Report 28.

1975 **Kaw Reservoir-The Northern Section**. Oklahoma River Basin Survey, Archaeological Site Report 30.

Hartley, John D. and A. F. Miller
1977 **Archaeological Investigations at the Bryson-Paddock Site: An Early Contact Period Site on the Southern Plains**. Oklahoma River Basin Survey, Archaeological Site Report 32.

Haury, CherieH.
1986 **The Prehistory and Paleoenvironment of Hominy Creek Valley: 1982-1983 Field Season**. University of Tulsa, Laboratory of Archaeology, Contributions in Archaeology.

Henry, Donald O.
1977a **The Prehistory of the Little Caney river, 1976 Field Season**. University of Tulsa, Laboratory of Archaeology, Contributions to Archaeology 1.

1977b **The Prehistory and Paleoenvironment of Birch Creek Valley**. University of Tulsa, Laboratory of Archaeology, Contributions to Archaeology 3.

1978 **The Prehistory and Paleoenvironment of Hominy Creek Valley, 1977 Field Season**. University of Tulsa, Laboratory of Archaeology, Contributions to Archaeology 4.

1980 The Prehistory and Paleoenvironment of Hominy Creek Valley, 1978 Field Season. University of Tulsa, Laboratory of Archaeology, Contributions to Archaeology 6.

1982 **The Prehistory and Paleoenvironment of Hominy Creek Valley, 1979 Field Season**. University of Tulsa, Laboratory of Archaeology, Contributions in Archaeology.

Howard, James H.
1970 1969 Archaeological Investigations at the Weston and Hogshooter Sites, Osage and Washington Counties, Oklahoma. Oklahoma Anthropological Society Bulletin 19:61-100.

Howard, James H. and Donald N. Brown
1973 A Puebloid Burial from Western Oklahoma. **Oklahoma Anthropological Society Bulletin** 22:207-216.

Kay, Marvin
1981 **Little Caney River Prehistory, 1979 Field Season**. University of Tulsa, Laboratory of Archaeology, Contributions to Archaeology 8.

Kay County Chapter, Oklahoma Anthropological Society
1963 The Fred Loomis Site, A Small Group Burial Near Freedom, Oklahoma. **Oklahoma Anthropological Society Bulletin** 11:123-133.

Keyser, James D. and J. A. Farley
1979 Little Caney River Prehistory, 1977 Field Season. University of Tulsa, Laboratory of Archaeology, Contributions to Archaeology 5.

Kirby, Foster and A. B. Justin
1983 **Archaeological Survey of the Upper Salt Creek Basin, Osage County, Oklahoma**. University of Tulsa, Laboratory of Archaeology, Contributions in Archaeology 10.

Klinger, Timothy C. and S. M. Imhoff
1987 **Hulah Lake: Survey and Evaluation of Cultural Resources at Hulah Lake, Osage County, Oklahoma**. Historic Preservation Associates, Fayetteville, Arkansas.

Lopez, David R. and K. D. Keith (editors)
1979 **Highway Archaeological Reconnaissance Program: 1972-1979**. Oklahoma Department of Transportation, Oklahoma Highway Archaeological Survey, Papers in Highway Archaeology.

McRill, Leslie A.
1963 Ferdinandina: First White Settlement in Oklahoma. **Chronicles of Oklahoma** 41(2):126-159.

Meade, J. R.
1899 The Flint Hills of Kansas. **Kansas Academy of Sciences** 17:207-208.

Moore, Bert
1928 Indian Mounds in Oklahoma. **The American Indian** 2(4):13.

Moore, Bruce (assembler)
1980 **A Cultural Assessment of the Archaeological Resources in the Keystone Lake Project Area, North-Central Oklahoma**. Archaeological Research Associates, Research Report 23.

1983 The 34PW-83 Pictographs, Pawnee County, Oklahoma. Oklahoma Anthropological Society Bulletin 32:55-72.

Neal, Larry
1973 **An Assessment of the Prehistoric Cultural Resources of the Proposed Shidler Lake, Osage County, Oklahoma**. Oklahoma River Basin Survey, Office of Research Administration, University of Oklahoma, Norman.

1974 **Archaeological Investigations at the C. H. Stockton and Jim Butterfield Sites, Kay County, North-Central Oklahoma**. Oklahoma River Basin Survey, Archaeological Site Report 27:77-110.

Neal, Larry and D. Wheaton
1977 **Archaeological Test Excavations at the Sooner Generating Station, Noble and Pawnee Counties, Oklahoma**. Oklahoma Archeological Survey, Contract Archaeology Series 2.

Perino, Gregory
1972a **An Historical Cultural Assessment of the Proposed Skiatook Reservoir, Osage County, Oklahoma**. U.S. Army Corps of Engineers, Tulsa District.

1972b An Historical Cultural Assessment of the Proposed Birch Creek Reservoir, Osage County, Oklahoma. U.S. Army Corps of Engineers, Tulsa District.

Prewitt, Terry J.
1980 **Little Caney River Prehistory (Copan Lake): 1978 Field Season**. University of Tulsa, Laboratory of Archaeology, Contributions in Archaeology 7.

1981 **Tradition and Culture Change in the Oklahoma Delaware Big House Community: 1867-1924**. University of Tulsa, Laboratory of Archaeology, Contributions 9.

Reid, Kenneth C. and J. A. Artz
1984 **Hunters of the Forest Edge: Culture, Time, and Process in the Little Caney Basin (1980,1981, and 1982 Field Seasons)**. Oklahoma Archeological Survey, Studies in Oklahoma's Past 13.

Roberts, E.
1978 **Overall Economic Development Program Update - June 1978**. Northern Oklahoma Development Association, Enid.

Rohn, Arthur H. and M. R. Smith
1972 **Archaeological Sites of the Copan District, Oklahoma and Kansas**. Wichita State University, University Studies 91.

Rohrbaugh, Charles L.
1973 **Kaw Reservoir -- The Southern Section**. Oklahoma River Basin Survey, Archaeological Site Report 25.

1974a Radiocarbon Dates from Kaw and Hugo Reservoirs. **Oklahoma Anthropological Society Newsletter** 22(2):2-8.

1974b Radiocarbon Dates from Kaw Reservoir. **Oklahoma Anthropological Newsletter** 22(3):6-9.

1974c **Kaw Reservoir -- The Central Section**. Oklahoma River Basin Survey, Archaeological Site Report 27.

Saunders, Joe
1980 **A Reassessment of Certain Archaeological Sites in the Candy Lake Area, Oklahoma**. Archaeological Research Associates, Research Report 22.

Saunders, Roger S.
1975 **Archaeological Resources of the Sooner Generating Station, Pawnee and Noble Counties, Oklahoma**. Oklahoma Archaeological Survey, Archaeological Resources Survey Report 2.

Soil Conservation Service
1979 **Oklahoma Watershed Summary**. U.S. Department of Agriculture, Soil Conservation Service, Stillwater.

Spring, Otto
1966 Prehistoric Chert Quarries in Kay County: A Report. **Chronicles of Oklahoma** 44(1):5-11.

Sudbury, Byron
1968 Ka-131, the Bowling Alley Site, A Late Prehistoric Site in Kay County, Oklahoma. **Oklahoma Anthropological Society Bulletin** 17:87-135.

1971 A Brief Study of Kay County Flint. **Oklahoma Anthropological Society Newsletter** 19(4):3-9.

1976 Ka-3, the Deer Creek Site, An Eighteenth Century French Contact Site. **Oklahoma Anthropological Society Bulletin** 24:1-135.

Vaughn, Sheila
1975 **Archaeological Investigations for the Copan Reservoir, Northeast Oklahoma and Southeast Kansas**. Oklahoma River Basin Survey, Archaeological Site Report 29.

Vehik, Rain
1980 **Archaeological Test Excavations of Two Burned Rock Mounds (34Of-38 and 34Of-39) in Okfuskee County, Oklahoma**. Archaeological Research and Management Center, Project Report Series 6.

Vehik, Susan
1982 A Model for Prehistoric Cultural Change in North-Central Oklahoma. In **Pathways to Plains Prehistory: Anthropological Perspectives of Plains Natives and Their Pasts**, edited by Don G. Wyckoff and Jack L. Hofman. Oklahoma Anthropological Society Memoir 3:65-75.

Vehik, Susan C. (editor)
1985 **Cultural Resource Assessments in Osage and Kay Counties, Northcentral Oklahoma**. Report submitted to the Oklahoma Historical Society, Oklahoma City.

Vehik, Susan C., K. J. Buehler, and A. J. Wormser
1979 **A Cultural Resource Survey of the Salt Creek Valley, Osage County, Oklahoma**. Oklahoma Archeological Survey, Archeological Resources Survey Report 9.

Vehik, Susan and P. Flynn
1982 Archaeological Excavations at the Early Plains Village Uncas Site. Oklahoma Anthropological Society Bulletin 31:5-70.

Wallis, Charles S., Jr.
1979a **Archeological and Historical Resources to be Affected by the Construction of the Multi-Purpose Structure M-19, Lower Black Bear Creek Watershed, Payne and Pawnee Counties, Oklahoma**. Oklahoma Conservation Commission, General Survey Report, Oklahoma City.

1979b **Cultural Resource Survey, Proposed Impoundments 38A and 38B, Upper Red Rock Creek Watershed, Garfield County, Oklahoma**. Oklahoma Conservation Commission, General Survey Report 9, Oklahoma City.

1980 **Cultural Resource Survey Lost-Duck Creeks Watershed, Kay County, Oklahoma**. Oklahoma Conservation Commission, General Survey Report 1980:3, Oklahoma City.

Wedel, Mildred M.
1981 **The Deer Creek Site, Oklahoma: A Wichita Village Sometimes Called Ferdinandina, An Ethnohistorian's View**. Oklahoma Historical Society, Series in Anthropology 5.

Wedel, Waldo
1959 An Introduction to Kansas Archaeology. **Bureau of American Ethnology Bulletin 174.**

Wormser, Alan
1981 **Settlement Patterns of the Northern Beaver Creek Valley, Osage County, Oklahoma**. Masters Thesis, Department of Anthropology,

University of Oklahoma, Norman.

Wyckoff, Don G.
1965 **The Archaeological Survey of the Kaw Reservoir, Kay and Osage Counties, Oklahoma**. Oklahoma River Basin Survey, General Survey Report 6:1-117.

Young, Wayne
1977 **The Hammons Site (34Ka-20), A Plains Woodland Site in North-Central Oklahoma**. M.A. Thesis, Department of Anthropology, University of Oklahoma, Norman.

1978 **Kaw Reservoir -- The Northern Section.** Oklahoma River Basin Survey, Archaeological Site Report 33.