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National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
MULTIPLE PROPERTY DOCUMENTATION FORM

This form is for use in documenting multiple property groups relating to one or several historic contexts. See instructions in Guidelines for Completing National Register Forms (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. For additional space use continuation sheets (Form 10-900-a) and identify the section being continued. Type all entries. Use letter quality printer in 12 pitch, using an 85 space line and 10 space left margin. Use only archival quality paper (20 pound, acid free paper with a 2% alkaline reserve).

A. Name of Multiple Property Listing

The Paleo-Indian Tradition in Wisconsin

B. Associated Historic Contexts

The Paleo-Indian Tradition In Wisconsin

C. Geographical Data

State of Wisconsin

D. Certification

As designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this multiple property documentation form meets the requirements for the listing of related properties consistent with the National Register Criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards for Planning and Evaluation.

Signature of certifying official — Date: 6/28/93

State Historic Preservation Officer-WI
State or Federal agency and bureau

I, hereby, certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

Signature of the Keeper of the National Register — Date: 8-20-93

E. Statement of Historic Contexts

Discuss each historic context listed in Section B.

INTRODUCTION

Present evidence suggests that Wisconsin was initially settled at the end of the Pleistocene Period, about 12-13,000 BP (Mason 1986; Stoltman and Workman 1969). The first settlers of Wisconsin, named "Paleo-Indians" by archeologists, inhabited a Wisconsin vastly different than what is seen today. The time of the Paleo-Indian occupation was a time of glacial advances and retreats, lake expansion and contraction, and changing climatic and biotic regimes. It was to this environment that the first inhabitants were adapted, and it is within this context that the initial peopling of Wisconsin must be understood. By 8,000 years ago, Paleo-Indians were no longer present in Wisconsin.

Paleo-Indian sites are often characterized as hard to find, having limited deposits, and disturbed by either later use of the site area or environmental factors. These problems suggest that Paleo-Indian sites are a rarity. Certainly, Paleo-Indian sites are, relatively speaking, numerically few and that like all archeological sites, they are being destroyed at an alarming rate. However, excavations and surveys in Wisconsin have added a great deal to our understanding of the first inhabitants of the state and there remain many locales in Wisconsin that can contribute to our understanding of Paleo-Indian cultures.

ORGANIZATION OF THE MULTIPLE PROPERTY LISTING

The State of Wisconsin is the geographical focus of this multiple property listing, and for the purposes of this discussion, the state is divided into three broad regions; western, eastern, and northern Wisconsin (Figure 1). The state is divided in this manner mainly as a tool for greater ease in discussing the Paleo-Indian Tradition in Wisconsin, and not because it infers any cultural or genetic distinctions. The Paleo-Indian Tradition is divided temporally into an Early segment, dating ca. 12,000-10,500 years before present (BP), and a Late segment, dating 10,500-8000 BP.

This discussion of the Paleo-Indian Tradition in Wisconsin begins with a description of the Late Pleistocene-Early Holocene environment in eastern North America, and more specifically Wisconsin. The environment was vastly different and the Paleo-Indian lifestyle and cultural adaptations cannot be understood without first considering environmental factors. This is followed by a general overview of the Paleo-Indian Tradition in North America in an attempt to place the Wisconsin Paleo-Indian Tradition remains into a wider context. Following this, the results of Paleo-Indian archeological investigations in Wisconsin are discussed by region and temporal stage. Emphasis is placed on the results of major surveys conducted in the regions, the sequence of occupation by Paleo-Indian groups, site densities, and favored site locations within the state. Excavations at Paleo-Indian sites are also detailed. Such excavations invariably provide more data on temporal placement, site function, and site organization than do surface-collected sites, allowing broader insight into the world of the Paleo-Indian groups in Wisconsin.

While much research needs to be done on the Paleo-Indian Tradition in Wisconsin, three broad site types can be identified: habitation sites, quarry and related lithic processing sites, and kill sites. Each is detailed in Section F. The site types have been developed through the overview of the Wisconsin Paleo-Indian Tradition archeology presented

below but are also based on models developed by other researchers in the Midwest (e.g., Tankersley 1989).

THE PLEISTOCENE PERIOD IN WISCONSIN

The Pleistocene Period lasted for almost two million years, with numerous episodes of glaciation and de-glaciation taking place world-wide. In North America, there were two continental ice masses; the Cordilleran in the west, and the Laurentide in the east. Both of these expanded and contracted during the last two million years, and at their maximum covered an area from the Atlantic to the Pacific coasts and from the Arctic Ocean to the Ohio River Valley, effectively blocking access between Asia and southern North America. At maximum, the ice sheet in Canada was over three kilometers thick, locking huge amounts of water into the glaciers. This dropped sea levels by as much as 100 meters and drastically changed the coastlines.

At some time prior to 12,000 BP, the ancestors of the Paleo-Indians crossed from Siberia to the North American continent via Beringia, a land bridge connecting Asia and North America that was exposed when sea levels dropped. These populations then moved southward into western North America when the melting of the glaciers opened corridors either along the Pacific coast and/or between the Laurentide and Cordilleran ice sheets, just east of the Rocky Mountains. At present, lack of detailed mapping of glacial deposits within the proposed corridors, precludes any definitive answers on when the corridors were open (Wright 1991).

While the exact timing of the entry of people into the New World has yet to be ascertained, most agree that it was within the final, Wisconsinan Stage of the Pleistocene (for general reviews see Jennings 1978; Mason 1981). The Wisconsinan Stage began at approximately 79,000 BP and lasted to about 10,000 BP. In places, the ice was three to four kilometers thick, while in eastern Wisconsin it was almost a half kilometer thick. As with earlier Pleistocene stages, the Wisconsinan

Stage was characterized by smaller glacial advances and retreats. The smaller advances are called stadials, while the time of glacial retreat between advances are called interstadials. It is during the interstadials that the corridors into the New World would have been open, and the peopling of the Americas could have occurred.

With the exception of southwestern Wisconsin (the "Driftless Area"), the effects of glaciation explain much of the present physical geography of Wisconsin. Glaciers scoured the earth during their movements, pushing it before the ice sheet. These large accumulations of earth and rock, called terminal moraines, mark the furthest advance of glacial ice sheets. Dirt, gravel, and rocks were also incorporated into the glaciers themselves and, as the ice melted, these materials dropped out, creating, depending on their form, kames, drumlins, and eskers. In some areas, glacial scouring produced depressions called kettles. On a much greater scale, the great weight of the glacier also depressed the crust of the earth. The St. Lawrence Valley in Canada, for example, was depressed by as much as 240 meters (Mason 1981). After the retreat of the glaciers, the land rebounded (isostasy) and elevated lake beaches in some areas, creating datable fossil beaches.

Glaciers also created fossil beaches by released meltwater and by the damming and unplugging of lake outlets. The dating of these fossil beaches is important, as it can provide an age estimate for the Paleo-Indian sites found on them. In eastern Wisconsin, Glacial Lake Chicago is important for dating Paleo-Indian sites between 15,000-11,000 BP (Overstreet 1987). Glacial Lake Chicago formed in the southern half of the Lake Michigan basin after the retreat of the Valparaiso Moranic system ice mass and fossil beaches associated with three high water levels have been identified. The earliest is the Glenwood beach, dating between 14,000-12,000 BP. The lake elevation at that time was 640 ft asl, as compared to current lake level at approximately 580 ft asl. This was followed by the Calumet beach system, dating between 11,800-11,200 BP at which time the lake level rose to 620 ft asl when the advance of an ice sheet blocked a drainage to the lake. A low water level followed the Calumet, from ca. 11,200-5,000 BP and this in turn was followed by the Toleston high water level dating between 5,000-4,000 BP.

Water occupied the entire Lake Michigan basin at an elevation of 605 ft asl at that time.

Accompanying the advances and retreats of the glaciers were dramatic changes in the climate, flora, and faunal communities. Even with the glacier ice in Wisconsin, however, winters were not necessarily colder than at present. Wind patterns were generally blowing toward, not off, the glacier. In addition, the high plateau of ice was able to cut off the coldest polar air. Around the ice margins, the main climatic difference was more in terms of depressed summer warmth, not in increased winter cold (Wright 1974).

These climatic patterns resulted in a general southward depression of vegetation zones. Between 20,000-12,000 BP there was tundra as far south as Illinois, with coniferous forests present in the mid-south, and temperate forests in the deep south (Wright 1974). The ice margin was probably ringed by a 160-320 km zone of park-tundra with true frozen barren-ground tundra limited to isolated pockets. Otherwise open areas were interrupted by clusters of spruce and fir trees. Mason (1981) believes that the park tundra may have had a higher animal carrying capacity and more edible plants than the boreal spruce and fir forests to the south. The boreal forest stretched from the Atlantic Ocean to the Great Plains, and as far south as Kansas and Missouri. This zone was replaced by pine as the glaciers retreated.

By 11,500 BP, the Wisconsin area began a transition from a glacial to the post-glacial environment (Wright 1974). With the retreat of the glaciers, there began a warming trend with a reduction in moisture associated with a northward shift in the jetstream. This is believed to be a rather swift change, at least on a geological time-scale. The pine maximum initially gave way to oak, hickory, birch, beech, and hemlock forests, which were in turn succeeded by elm, maple, and basswood. Prairies developed further west. Faunal species also changed through time. The earlier boreal forests and parklands featured now extinct species such as mastodon and mammoth, woodland and Barren Ground caribou, reindeer, giant beaver, musk-ox, giant moose,

elk, dire wolves, long-horn bison, and horse. Outside of the Midwest, other Pleistocene species included peccaries, giant ground sloth, camelids, tapirs, and giant armadillo (for review see Jennings 1978) and in the glacial lakes, there were seals, walruses, and bowhead, sperm, and finback whales as late as 10,500 BP (Mason 1981). By 10,200 BP these species were either extinct or extirpated from their previous ranges. After this time, a more modern community of fauna became established in the Midwest.

THE PALEO-INDIAN TRADITION

Paleo-Indians have been characterized as hunters of megafauna, including mammoth, mastodon, musk-ox, caribou, reindeer, bison, and elk, among others, but smaller species and an unknown amount of plant foods must also have been incorporated into their diet. These early peoples are generally viewed to have been organized into relatively small, mobile bands that moved with the seasonal availability of resources, especially the big game herds. Characterizing their material culture was the use, initially, of fluted projectile points, and later, of unfluted, lanceolate projectile points. Other tools used by Paleo-Indians include scrapers, gravers, burins, edge retouched flake knives, wedges, choppers, and blades. Paleo-Indians generally used high quality, non-local cherts, to make their tools. This has been interpreted to indicate a pattern of high mobility (Kelly and Todd 1988).

It would be remiss to present an overview of the Paleo-Indian Tradition without mentioning briefly the "Pre-Projectile Point Stage". The Pre-Projectile Point Stage is hypothesized to represent Old World groups that lacked fluted points and migrated across the Bering Strait land bridge prior to 15,000 BP. The material culture of this stage, as defined by Krieger (1964), consists of a tool complex of choppers, scrapers, and crude bifaces, and, notably, lacks projectile points. Muller-Beck (1966) has linked this complex with those of Siberia dating to the middle of the Wisconsinan glacial stage, or ca. 40,000-30,000 BP. Most of the assemblages that are suggested to date to this stage either consist of surface finds, are poorly dated, or are from questionable contexts. At present one possible example of a pre-

projectile point site is Monte Verde in southern Chile. There, a cultural horizon, dated to 33,000 BP, produced apparently modified pebbles (Dillehay and Collins 1988). Meadowcroft Rockshelter in Pennsylvania has produced undeniable artifacts, such as flakes and bifaces (but no projectile points), at levels reportedly dating to at least 14,000 BP (Adovasio et al. 1980; 1990), but questions remain on the validity of the dates (Haynes 1987; Kelly 1987; Tankersley et al. 1987). At present, most archeologists continue to question the existence of a Pre-Projectile Point Stage.

The Paleo-Indian Tradition begins at about 12,000 BP and lasts until about 8,000 BP, depending on the region. Archeologists have recognized two divisions within this tradition; Early Paleo-Indian dating from 12,000-10,500 BP, and Late Paleo-Indian dating from 10,500-8,000 BP. This division is recognized by changes in projectile point styles and by the animals being exploited. A broad overview of the two Paleo-Indian stages for North America is presented below.

EARLY PALEO-INDIAN STAGE

The concept of "Paleo-Indians" and the relatively early peopling of the New World was heralded by the 1927 discovery of fluted points embedded in the skeletal remains of an extinct species of bison near Folsom, New Mexico. The information from this one discovery continues to typify much that is known about the Early Paleo-Indian Stage. The key identifier of this stage is the fluted point--a long, narrow lanceolate form with a central or channel flake removed from the point base. The most common forms are Clovis (Figure 2), which tend only to have a channel flake removed from one side, and Folsom (Figure 3), which is smaller and has channel flakes removed from both sides of the point. The Hi-Lo point type (Figure 4) is another early point more common to the Midwest (Fitting 1975). Associated with these fluted points are end and side scrapers, prismatic flake knives, retouched flakes, gravers, burins, and bifaces.

Present evidence indicates that subsistence during the Early Paleo-Indian Stage concentrated on the hunting of now extinct species of megafauna (mammoth, horse, camel), with most sites located by streams and ponds. Examples include the Blackwater Draw Site, New Mexico

(Hester 1972), Lehner Ranch (Haury et al. 1959) and Murray Springs in Arizona (Haynes 1980). With the exception of the Kimmswick Site in southeast Missouri (Graham et al. 1981), there is less documentation for the hunting of megafauna in eastern North America. There does seem to be, however, a correlation between the areas of fluted point finds and megafaunal finds.

Eastern Early Paleo-Indian Stage sites have generally produced little subsistence data, but researchers have been able to identify a number of different site types. For example, small hunting camps have been located, such as the Potts Site, Oswego County, New York (Ritchie 1969). This site, dated to 11,500 BP, is located on a glacial drumlin overlooking a marsh. Less than 100 artifacts were found at the site, but these included Clovis points, scrapers, knives and other bifaces, and gravers. Little chipping debris was present. Tool or point making sites, such as the Barnes Site on an island in Saginaw Bay, Michigan (Wright and Roosa 1966) have also been identified. Barnes is located on a fossil beach that has been dated to 11,200 BP. This site is characterized by high densities of waste flakes, channel flakes, preforms, and broken fluted points. Relatively few other tools were found. It has been suggested that the site was a convenient locale for hunting groups to retool, and thus limited activities were undertaken at the site.

The Parkhill Site in Ontario, dated between 10,800-9,880 BP, seems to combine both retooling, hunting, and habitation activities (Roosa 1977). The wide range of tool types at Parkhill suggest that families had occupied the site, believed to be an excellent locale at which to intercept migratory caribou. Similar to Parkhill is the Thunderbird Site in Virginia, which may have preserved postmolds of the earliest known structure in the New World (Mason 1981). Another interesting habitation site is Holcombe, in southeast Michigan, dated to ca 12,500 BP (Fitting, DeVisscher and Wahla 1966). There, five to eight discrete clusters surrounded an apparent communal area, possibly shared by families for butchering and cooking. Subsistence remains indicate that the inhabitants of the site were hunting Barren Ground caribou.

In a recent overview of Early Paleo-Indian settlement in the Midwest, Tankersley (1989) defined two basic site types; lithic-related and food-related. Tankersley (1989) and others (Kelly and Todd 1988) have

stressed that multiple activities were conducted at all site types, but that a single activity tended to dominate over the others. Lithic processing sites tend to be located at or near high quality lithic source areas; broken points, overwhelmingly made of local material, are often recovered at these sites. Food processing sites are located in areas where game was attracted or concentrated, often wetlands, or where the movements of game herds could be monitored. At these sites, points tend to be complete and made of non-local material. Few "plant-processing" tools are present at any site type, suggesting that plants contributed relatively little to the Paleo-Indian diet.

The end of the Early Paleo-Indian Stage saw a gradual reduction in the fluting of points and a concomitant rise in the use of unfluted lanceolate points. This has generally been taken as an indication of a cultural continuity between the two stages. With the beginning of the Late Paleo-Indian Stage, projectile point variation increased remarkably, leading some archeologists to speculate that these groups were becoming more regionalized.

THE LATE PALEO-INDIAN STAGE

The chief diagnostic distinction between the Early and Late Paleo-Indian Stages was in the change from fluted to lanceolate points, but changes in procurement strategies and choice of game also seem to have occurred. Typical Late Paleo-Indian points include Scottsbluff, Eden, Hells Gap, Angostura, and Agate Basin (Figure 4).

During the 10,000-8,000 BP time frame, Lake Michigan water levels fell, to as low as 122 meters below the modern level, with the extreme reached by 9500 BP (Overstreet 1987). Lake levels subsequently rebounded, with modern levels achieved by 4000 BP. One consequence of the lake level drop was the opening of additional territory for Late Paleo-Indian habitation but, with the subsequent rise in lake levels, any sites in these areas would have been submerged.

In the American West, the best known Late Paleo-Indian sites are those associated with bison hunting. Sites such as Olsen-Chubbuck in Colorado (Wheat 1972), Bonfire Shelter in Texas (Dibble and Lorrain 1968), and Casper in Wyoming (Frison 1974) have produced the remains of hundreds of bison within beds of bone. New hunting techniques were

used during this time; bison were herded into enclosed areas, such as cul-de-sacs, and then killed, or alternatively, herds were driven off bluffs. No evidence for these mass kill techniques has surfaced in eastern North America. In fact, there has been great difficulty in locating examples of intact Late Paleo-Indian sites in the east.

Sources of high quality lithic material continued to be heavily used during this stage. The George Lake I and II sites, on Manitoulin Island near the north end of Lake Huron, are examples of this (Mason 1986). The sites are located near high quality, easily quarried quartzite outcrops. The occupation there, dating between 10,400-9,500 BP, includes artifacts for quarrying the quartzite and roughed out preforms. Evidently, the preforms were then taken elsewhere and finished. Other activities were also undertaken at these sites as indicated by the presence of knives, several types of bifaces, hand-held axes, drills, perforators, scrapers, and retouched flakes. A similar site, Silver Mound in western Wisconsin, will be discussed in greater detail below.

Burial sites are also known from this time period but are relatively rare. Most are isolated, primary interments, and the remains are often associated with red ochre (Young 1988). Two exceptions to this apparent pattern, both cremation burials, have been found in eastern Wisconsin at the Renier and Pope sites (Mason and Irwin 1960; Ritzenthaler 1966). These are discussed in a following section. Other sites, such as Brohm near Thunder Bay, Ontario, have a wide range of tool types and appear to represent habitation locales (MacNeish 1952). Many of the northern Wisconsin Late Paleo-Indian sites appear to be small habitation areas, located near rivers or lakes, apparently to exploit local resources (Salzer 1974).

Some of the settlement patterns discussed for Early Paleo-Indian groups in the Midwest also apply to Late Paleo-Indian groups. Emphasis continued to be placed on the use of high grade lithic material for toolmaking, although "locally" exotic raw materials were increasingly used. Sites continued to be located near the sources of these materials, and can quite comfortably be placed in the lithic-processing site category discussed for the Early Paleo-Indian Stage above. Sites were also placed near areas of high potential for animal or plant resource exploitation. One final point that has been suggested is that

the increased diversity of Late Paleo-Indian projectile points indicates the first regionalization of populations, a trend that continued throughout the following Archaic Tradition.

THE PALEO-INDIAN TRADITION IN WISCONSIN

As in other states, much of the evidence for the Paleo-Indian Tradition in Wisconsin is largely limited to surface finds of fluted and lanceolate projectile points. Unfortunately, relatively few sites have been excavated. As in the overview provided above, the Paleo-Indian Tradition in Wisconsin has been divided into Early and Late Paleo-Indian stages. This overview of the Paleo-Indian Tradition in Wisconsin is divided into three geographic areas; northern, eastern, and western Wisconsin (see Figure 1).

A total of 348 Early and Late Paleo-Indian components have been reported to the Office of the State Archeologist as of May 1992. This figure does not include finds of isolated projectile points. Of this total, 73 (21%) are assigned to the Early Paleo-Indian Stage, and 275 (79%) to the Late Paleo-Indian Stage. Subdivided by region, 42% or 145 components are in the western region, 46% or 160 are in the eastern region, and 12% or 43 components are in the northern region. The rarity of Paleo-Indian sites in the north is no doubt a product of a number of factors, including the relative paucity of archeological research in that area and the timing of the glacial retreat. This later point is highlighted by differences in the relative frequency of Early to Late Paleo-Indian components when the three regions are compared. Early Paleo-Indian components compose about 20-25% of the sample of the eastern and western regions, but only 7% of the Paleo-Indian components in the north.

The trends in the data discussed above suggest that the first inhabitants of Wisconsin entered from the south and southwest and are associated with fluted points (Stoltman and Workman 1969). The best evidence suggests they entered slightly after 12,000 BP, following the retreating ice northward. Based on sites in the state, the Early Paleo-Indians lived in small, mobile, hunting bands that exploited rather large territories (Mason 1986). Fluted projectile points of non-local cherts, including Indiana hornstone, North Dakota Knife River Flint, and Ohio Upper Mercer Flint, have been found, along with points

made of local material such as Hixton Silicified Sandstone (Mason 1986). Most fluted points can be placed into the Clovis or Folsom types. Stoltman (1992) has recently proposed a new fluted point type, "Gainey", which he reports is more common than either Clovis or Folsom in Wisconsin. This point type has Clovis form but is fluted by the Folsom technique. Stoltman hypothesizes that this point type dates to the interval between Clovis and Folsom, ca 9,000 - 8,800 BC.

By the Late Paleo-Indian stage, populations were expanding northward with the retreat of the glaciers. In Wisconsin, as elsewhere, fluted points were replaced by a wide variety of lanceolate points that have affinities with those found to the west. Among the most common found in the state are Scottsbluff, Eden, Alberta, Hells Gap, Angostura, and Agate Basin. By 8,000 BP, there is some evidence to suggest that Paleo-Indian and Archaic groups were co-existing (Mason 1986). In fact, this has led to speculation that Archaic groups pushed the Paleo-Indians northward.

Western Wisconsin
As noted above, the earliest inhabitants probably entered Wisconsin from the south and southwest, and western Wisconsin may have proven an ideal area for them. Much of western Wisconsin is situated in the "Driftless Area", a region bypassed by glaciers during the Wisconsinan Stage. This area may have provided a good big-game habitat, especially for mastodon, and the narrow valleys located there would have offered a good opportunity to trap game (Boszhardt 1989). There have been numerous reports of mastodon remains from creek valleys in this part of the state, and there are two possible mastodon finds associated with Paleo-Indian stone tools. One report is from the **Black River Falls Journal** (Anonymous 1929) which described an embedded point in a mastodon bone found along the Black River. The second is the possible association of a fluted point with a mastodon discovered near Boaz in Richland County (Palmer and Stoltman 1976). Documentation associating the points with the megafauna, however, is lacking, and therefore both accounts must be viewed with caution.

As in most parts of the state, Paleo-Indian remains in western Wisconsin have come mainly from surface collections. Numerous isolated point finds have been reported to date and there have have only been a

few large scale systematic surveys. The fluted points are typically made of Moline Blue chert, Hixton Silicified Sandstone, taconite, Burlington chert, Galena chert, and unidentified cherts. Geier and Loftus (1975) report that the earliest occupation in the Platte, lower Big Platte, and Mississippi River valleys in Grant County dates to the Late Paleo-Indian Stage. To the north, Hurley's (1965) survey in the Kickapoo Valley, Vernon County found a few Clovis points. Similarly, the Great River Road Project (Penman 1984) also reported that fluted points were few and widely scattered along the Mississippi River and its adjacent uplands. Boszhardt (1989) has noted that most fluted points (mainly Clovis), have been found in the vicinity of the Silver Mound site in Jackson County. In sum, these surveys suggest a relatively small Early Paleo-Indian occupation in western Wisconsin. Perhaps one of the more interesting surface-collected sites in this area is the Kouba Site located in Dane County (Ritzenthaler 1966, 1967, 1970). Surface collections from this site have yielded Early Paleo-Indian Folsom and Clovis points, Late Paleo-Indian Agate Basin and Sandia points, and caches of Paleo-Indian scrapers, gravers, and knives. Many of the tools are made from non-local lithics.

Relatively little is known about Early Paleo-Indian sites from excavated contexts within western Wisconsin. Clovis points were recovered during excavations in the early 1970's at the Silver Mound Site but no report has yet been published. It is certain though, that Early Paleo-Indian populations were quarrying Hixton Silicified Sandstone. Clovis points of this material have been found as far afield as Ohio and Kentucky (Tankersley 1989).

The above cited surveys located a larger number of Late rather than Early Paleo-Indian lanceolate points. Concomitantly, there are greater numbers of Late points reported in unsurveyed areas or on sites with later occupations (e.g., Baerreis 1953). Few Late Paleo-Indian sites, however, have been excavated in western Wisconsin. Hurley (1965) reported a concave point base from a pit feature at Ve-178, but questions on the context of the point, specifically whether it represents primary or secondary context, have not been resolved.

Excavations were also conducted at the Blake Site (47Ri49) in Richland County on a terrace of the Pine River (Mead and Berwick 1977). The Blake site apparently represents a short term Late Paleo-Indian occupation site. Plainview and Angostura/Agate Basin points were found

there, along with bifaces, endscrapers, a graver, notches, utilized flakes, and waste flakes. All materials were found in the plowzone. No features were present despite large scale stripping of the site. Similar to Blake is the Markee Site (47Ve195), located on a terrace of Warner Creek in Vernon County (Halsey 1974). Angostura and Scottsbluff points, as well as other tools, were found beneath the plowzone in two excavation units at this site. Most of the tools were made of Hixton Silicifed Sandstone. While three features were identified in the excavation units, their cultural affiliation was not determined.

The final Late Paleo-Indian site in western Wisconsin to be discussed is the Silver Mound complex (47Ja21). Silver Mound itself is a bedrock outlier of Cambrian-aged sandstone, projecting up to 250 feet above the surrounding landscape. Major excavations were conducted there in the early 1970s but have never been published. Silver Mound is the source locale for Hixton Silicified Sandstone, a lithic material used throughout prehistory and into the early Historic period, and therefore the Silver Mound area contains evidence of multiple occupation components. In the fields surrounding the quarry area are numerous tool-making locales. Evidently, large pieces of Hixton Silicified Sandstone were quarried at Silver Mound itself and then were transported down to the surrounding area where the pieces were made into tool preforms and finished tools. It has been suggested that this process was accomplished at multiple locales, e.g. preforms were made closer to the quarry area while finished tools were made from the preforms on the plain surrounding Silver Mound. This hypothesis, though, has not been formally tested. Late Paleo-Indian points found at the site include Scottsbluff, Agate Basin, Eden, and Hells Gap. The association of Scottsbluff and Eden points, along with asymmetrical Cody knives, is characteristic of the Cody Complex, an association that has been identified at a number of sites in Wisconsin, including Silver Mound and Metzig Garden in Winnebago County, as discussed later in this document. One rockshelter in the quarry area, the Dweyer Rockshelter, yielded a radiocarbon assay of 9600 BP (Boszhardt 1977), the earliest in the state.

In general, Paleo-Indian sites in western Wisconsin are located near water, such as lakes, ponds, streams, and rivers, or near lithic sources such as Silver Mound. The vast majority are open air habitation sites, although the occupation of the Dweyer Rockshelter indicates that in certain circumstances, rockshelters or caves may also

have been occupied. In a detailed study of site locations in Dane County, Wendt (1985) noted that most were near the junction of a stream or river and a lake or marsh, that higher ground was always in close proximity, that site soils had the ability to dry quickly, and that the locales were sheltered by topography from north and northwest winds. He speculates that the sites were selected for their proximity to good hunting areas. Unfortunately, virtually no subsistence data, aside from the two possible mastodon kill sites, are available for the entire Paleo-Indian Tradition in western Wisconsin.

On a broader scale, western Wisconsin Paleo-Indian material has affinities with other Paleo-Indian groups across the continent in respect to point types and use of non-local cherts. Some regionalization is evident by the Late Paleo-Indian Stage. For example, basal projections or "ears" are found on Scottsbluff and Eden points in western Wisconsin but are not found on these style points from the Great Plains (Mason 1963).

Eastern Wisconsin

Most of eastern Wisconsin was glaciated during the late Wisconsinan stage, and this produced the kettle, kame, and glacial outwash topography that typifies the area today (Kolb 1988). The glaciers retreated from the region by about 12,000 BP, allowing the formation of Glacial Lake Chicago. A subsequent glacial advance restricted to the Lake Michigan basin occurred at 11,500 BP, causing lake levels to rise. The glacier made its final retreat at 11,000 BP (Kolb 1988). The vegetation of the area was a mixed boreal spruce forest, which was replaced between 10,000-8,000 BP with pines and northern hardwoods, although in some areas prairies may have been established as early as 9000 BP.

Most Paleo-Indian remains in eastern Wisconsin are known from surface finds; several large scale intensive surveys have been conducted in this part of the state. Southernmost was a survey of the Rock and Crawfish rivers in Jefferson County. Goldstein (1987) reported that only four Paleo-Indian sites were found during this survey of over 5700 acres in these drainages. Further east, the Great Lakes Archaeological Research Center, Inc. (GLARC) surveys of the Fox River drainage in Waukesha, Walworth, Racine, and Kenosha counties reported a similarly low frequency of Paleo-Indian materials (Brazeau and Overstreet 1979; Brazeau et al. 1980; Overstreet and Brazeau 1978). Only two Paleo-

Indian sites, an Early and a Late, were found during three years of survey. Overstreet and Brazeau (1978) suggest a site pattern similar to that found in the Kishwaukee River in DeKalb County, Illinois, where no Paleo-Indian material was found in the alluvial valleys. A survey of the Milwaukee River and adjacent drainages (Kolb and Van Langen 1989; Kolb et al. 1988) also recorded a low frequency of Paleo-Indian sites. Eight sites were reported, and only one was Early Paleo-Indian. The authors noted, however, that a number of fluted points were present in artifact hunters' collections.

Further north, the University of Wisconsin-Oshkosh conducted several surveys of the Middle Fox River west of Lake Winnebago, and a survey of portions of Calumet and Manitowoc Counties, along branches and tributaries of the Manitowoc River. The later survey was designed specifically to identify Paleo-Indian occupations. Faulkner (1972) reported on the initial Middle Fox River survey. During the investigation, a total of 97 new sites were reported, of which four had Paleo-Indian components. All four had Late occupations while two, represented by Folsom-like (Hi-Lo?) points, contained additional Early occupations. Dirst's surveys (1981, 1984) added eight Paleo-Indian occupations, with six Early and six Late components represented. The Early Paleo-Indian points found were Clovis, Holcombe, and Hi-Lo, while the Late points included Plainview, Eden, Scottsbluff, Agate Basin, and Browns Valley. Paleo-Indian site locations on the Middle Fox River, regardless of age, tended to be located above marshes or floodplains, or at the confluence of two rivers. All were stratigraphically above sediments associated with Glacial Lake Oshkosh.

The survey of the Manitowoc River resulted in the discovery of seven new Paleo-Indian sites (Dirst 1985), in addition to the previously recorded Aebischer site (Ct-30). Site locations are at the confluence of rivers, above marshes, and above river floodplains. In the newly reported sites, five Early and six Late components are present. Van Dyke and Overstreet (1979) surveyed the east shoreline of Lake Winnebago and found no Paleo-Indian materials. This project was generally conducted close to the lake and it is possible that the surveyed areas were underwater during the time of the Paleo-Indian occupation.

While Paleo-Indian projectile points are occasionally found during excavations, relatively few intact Paleo-Indian components have been

systematically excavated in eastern Wisconsin. The best documented excavated site in southeastern Wisconsin is Chesrow in Kenosha County. Overstreet (1987) indicates that the site is located on a Calumet Stage beach of Glacial Lake Chicago. Pockets of undisturbed material, containing 39 fluted points, bifaces, preforms, debitage, gravers, denticulates, and hammerstones, were found. One feature, a zone of fire-cracked rock, charcoal, and lithic debris, was also found. Overstreet (1987) interprets the site as an encampment on the lakeside slope of a beach ridge where chert cobbles were made into tools and hides, bone, antler, and wood were processed. A second site in the vicinity, Kn-183, located at the edge of an upland marsh, produced a Hi-Lo point. Overstreet (n.d.) conducted excavations there and reportedly found an intact Paleo-Indian horizon close to the marsh. Excavations were also conducted at a third site nearby, Cabbage Patch (Kn-56/134), also located on a Calumet Stage Beach. Fluted points were found on the surface at this site, but no undisturbed deposits were located. Based on these excavations, Overstreet (n.d.) has identified the "Chesrow Complex". It dates to ca. 11,800-11,000 BP and is associated with Quad and Hi-Lo type fluted points. Exotic cherts are generally rare in the lithic assemblages. Overstreet (n.d.) suggests the Chesrow Complex people were hunting and butchering megafauna. Butchered proboscidian and bison remains from Kenosha County have recently been identified in museum collections and one of the site locations has recently been relocated (Joyce 1992).

Turning to northeastern Wisconsin, the most important excavated Late Paleo-Indian site reported to date is Metzig Garden (Wn283), in Winnebago County (Behm 1989). This site is situated above a marsh on the lower Wolf River northeast of Lake Poygan. Test excavations revealed two separate Late Paleo-Indian components, dating to ca 10,000-9,500 BP. The uppermost is a Cody Complex component, separated from a Plainview component by 10-15 cm of wind blown sediments. What is most impressive about this site is the presence of 18 shallow hearths or roasting pits. Within the pits were found wood charcoal, burnt seeds, and animal bone fragments. Unfortunately, no diagnostic material was found in the features, and it is not known whether the features are associated with the Plainview or Cody materials, or both. Metzig Garden has been interpreted as a short-term campsite where tools were resharpened. Analysis of the material from this site is still ongoing, and has the potential to yield additional information on the Late Paleo-Indian Stage in eastern Wisconsin.

A second excavated site, east of Lake Winnebago, is the Aebischer site (Ct-30). The site was excavated in the early 1970s by Alaric Faulkner of the University of Wisconsin-Oshkosh, but the results of this investigation were never reported. Mason (1988) has described a surface collection from the site, which included 14 Clovis-like fluted points, made of Moline Blue, Burlington, and unidentified cherts. Unfortunately, the sites excavated by Dirst (1985) during her survey of Paleo-Indian sites in Calumet and Manitowoc counties yielded no intact Paleo-Indian deposits. A number of other excavated sites in eastern Wisconsin have also yielded Paleo-Indian artifacts but no intact Paleo-Indian deposits.

An interesting phenomenon associated with the Late Paleo-Indian Stage in eastern Wisconsin is the use of rhyolite for tools, including projectile points, but more typically for large adzes and bifaces. Rhyolite tools were found in association with Scottsbluff points at the Metzig Garden site and Behm (1990a) and Spang (1988) have traced these widely distributed rhyolite tools to a source in Green Lake County, called the Marquette Rhyolite source. This material is volcanic in origin, formed from ash-flows tuffs, volcanic flows, and breccias. The Grays Rock area in Green Lake County has very fine grained material that was most suitable for tool making. Cores, bifaces, and debris have been found at GL-142, a quarry site for this material. No quarry pits are present at this site, however, as large chunks of the rhyolite were available on the surface. At this site, large flake blanks were produced for bifaces.

Spang (1988) using trace element analysis, determined that many of the rhyolite artifacts found in eastern Wisconsin were made of this source material. One ubiquitous artifact made of the rhyolite is adzes. Behm (1990b) analyzed 36 adzes from sites with Paleo-Indian artifacts on the shores of Rush Lake, Winnebago County. He concluded most were used for woodworking or butchering. Dirst (1984) has speculated that the adzes may have been used in making dugout canoes.

Unfortunately, no settlement pattern analyses have been conducted for Paleo-Indian sites in eastern Wisconsin but from the discussion above, it is clear that most habitation sites were located near sources of water, often marshes, river confluences, areas overlooking river floodplains, and less often, areas above lakeshores. A critical bias in this data, however, is the relative lack of upland site surveys in

the region.

No data have yet been published on Paleo-Indian diet in the region, although remains from pit features at Metzig Garden hold great potential. It should also be noted that a good number of mammoth remains have been reported from this section of Wisconsin, although not in direct association with tools (Behm 1991; Dirst 1985). In this regard, the reported butchered proboscidean and bison remains from Kenosha County are intriguing.

Northern Wisconsin

The prehistoric cultures of northern Wisconsin are generally the most poorly understood in the state, and the same holds true for the Paleo-Indian Tradition cultures. One reason for this is the general absence of large scale surveys in this area. Another is that the glaciers remained longer in northern Wisconsin, thus limiting the time available for Paleo-Indian occupation in this part of the state.

Fluted projectile points are rare in northern Wisconsin, with most of those found occurring in northeastern Wisconsin. Only three early Paleo-Indian sites have been reported in this region. The most tantalizing of these is the Cardy site, located in Sturgeon Bay, Door County. According to Overstreet (1980), the owners of the site have collected over 20 fluted points from this locale but no professional has ever investigated the site, and it has reportedly been destroyed by urban development.

There is a slightly better data base concerning the Late Paleo-Indian occupation of northern Wisconsin. Overstreet's (1980) Green Bay survey noted lancolate points in Kewaunee collections, and an additional six site locations were recorded in Door and Brown counties. An additional 13 Late Paleo-Indian sites were located in a survey of the Upper Wisconsin River (Brazeau et al. 1990). Perhaps more important are the salvage excavations conducted by Mason and Irwin (1960) in Brown County at the Renier site. This site, situated on an Algonquin Stage Beach, consists of a Late Paleo-Indian cremation burial, associated with Scottsbluff and Eden points fractured by the heat of the cremation. Also found in association with this adolescent burial was a side-notched Archaic projectile point, suggesting that the Late Paleo-Indian and Archaic cultures overlapped potentially in time and space in northern Wisconsin. An apparent similar burial, the Pope Site, was

revealed by plowing in Waupaca County, just west of Green Bay (Ritzenthaler 1972). Ten Scottsbluff points, five of them fire-cracked, and an Eden point, were recovered from the surface and plowzone.

Perhaps the best documented Paleo-Indian sites in this region are in north central Wisconsin. Salzer (1974) has proposed two Late Paleo-Indian phases for that area, the Flambeau and Minoqua phases. The Flambeau phase is tentatively dated at 9000 BP, although its beginning and end dates are essentially undocumented. This date would correlate with the glacier retreat in eastern Wisconsin. Surface collections dating to this period are known from two sites, Doering (47Pr3) and Gypsy Villa (47On44), and from excavations at Squirrel Dam (47On21). All of these sites are small in area, situated on some of the warmest and driest locales in their immediate vicinity, and located along streams or lakes. Each of these sites seemingly represents small, perhaps nuclear or extended family groups. The artifacts associated with these sites include lanceolate points having ground bases, with convex, straight, or concave basal edges. Salzer (1974) indicates that the points are similar to Agate Basin but are more variable in form. Other tools include large bifaces, scrapers, bifacial knives, gravers, wedges, and utilized flakes. Many of the tools were used for scraping. Bipolar cores are also present. Hixton Silicified Sandstone was a preferred material, representing over half the assemblage, but locally available basalt, jasper, felsite, and quartz was also used.

The Minoqua phase has been tentatively dated between 8000-7000 BP (Salzer 1974). A stratigraphically isolated component of this phase has been excavated at the Robinson site (47On27). Salzer (1974) characterizes Minoqua phase sites as being located on streams, at lake outlets, or on lakeshores, as being small in area and occupied by small groups. The Robinson site was evidently a workshop or temporary camp. Artifacts from this phase include Scottsbluff-like points, called Minoqua points by Salzer (1974); these points have slightly inset, parallel-sided or contracting stems that terminate at the base with two short lateral projections often called "ears". Typically these points exhibit poorly executed collateral flaking in comparison to Scottsbluff points. Grinding is found on the edges of the stem. Other tools

associated with this phase include scrapers, bifaces, bifacially worked flake knives, wedges, and utilized flakes. Bipolar cores are also present. The points were made of basalt, chert, and Hixton Silicified Sandstone, while the other tools were made of local material such as basalt, felsite, welded tuff, rhyolite, jasper, and quartz. The site types described by Salzer (1974) may represent only a portion of the total Late Paleo-Indian settlement system of this region.

Information from the nearby Gorto Site in Marquette County, Michigan, is relevant to the discussion of the Late Paleo-Indian occupation in north central Wisconsin (Buckmaster and Paquette 1988). The Gorto Site was discovered during a low water level of the Deer Lake Reservoir, and has subsequently been inundated. Based on glacial geology, this site post-dates 9,500 BP. During the investigations, two surface concentrations of artifacts, including Eden and Scottsbluff points, were found. Test units, excavated above these concentrations, revealed a 1.8 meter diameter shallow basin feature, 20 cm in depth. Two postmolds were superimposed on the feature and several projectile points and point fragments, identified as Scottsbluff and Eden points, were recovered in the vicinity of the feature. Of the 86 points and point fragments recovered, Buckmaster and Paquette identified 13 complete or nearly complete Scottsbluff points and a complete Eden point (most of which were made of Hixton) and, as found at Renier, four side-notched points. Many of the points are heat-altered and fragmented, leading Buckmaster and Paquette to suggest that the feature is another Late Paleo-Indian cremation. Other lithics from the site include scrapers, bipolar cores, flakes, and net sinkers.

There is little data on Paleo-Indian occupations in far northwestern Wisconsin. No fluted point finds were noted in this region by Stoltman and Workman (1969). Subsequent research has yielded few Early Paleo-Indian points, leading to the suggestion that in at least part of this region, the Late Paleo-Indian populations were the first inhabitants (Barth 1984). In the northwestern corner of the state, only two Paleo-Indian sites have been identified (Kolb and Oerichbauer 1988). Further to the south, seven Late Paleo-Indian sites have been recorded (Barth 1984). One site in Chippewa County, Ch-52, has been intensively collected and a report has been published on the surface materials (Behm 1984). The site is situated on the banks of a creek where it flows into a marsh. Seven Paleo-Indian points, including

Plainview, Agate Basin, Browns Valley, and Scottsbluff, were found. Six of these were made of Hixton Silicified Sandstone. As there are Archaic and Woodland Period components at the site as well, it is difficult to determine which of the other lithic tools collected at Ch-52 were used during the Late Paleo-Indian occupation.

F. Associated Property Types

I. Name of Property Type: Habitation Related Sites

II. Description: This property type subsumes a wide range of variability, but all are related in that no single dominant activity took place at this site type, in contrast to quarrying or kill sites. Habitation sites range widely in size and complexity, reflecting a number of factors such as group size, length of occupation, re-occupation of the locale, and number and intensity of activities at the site. Activities at habitation sites would have included food processing, animal butchering, plant and hide processing, tool resharpening and production of new tools from preforms or blanks, and other general habitation activities.

These sites should reflect this relatively large number of activities by having a diverse tool assemblage indicative of the many different tasks performed, as well as by the presence of features such as pits, hearths, and possibly structure outlines. Projectile points and other tools should be made mainly of a large number of different non-local cherts. Multiple activity areas reflecting the diverse number of tasks undertaken at the site should also be present. Habitation sites should also be located at drier and more protected locales, although they may also be situated to allow the monitoring of game animals. There should also be a good chance for the existence of stratigraphically separated episodes of deposition at habitation sites. Examples of such sites in Wisconsin and described in greater detail in Section E, are Metzig Garden and Chesrow, and possibly Kouba, representing the larger site range, and Markee and Squirrel Dam, representing smaller habitation sites.

III. Significance: Our understanding of all but the barest outlines of Paleo-Indian lifestyles and culture history could be enhanced by the study of habitation sites; areas of potential research value are outlined below. These broadly focus on material culture, social organization, settlement patterns, subsistence, and chronology.

1) Material Culture: As noted above, this property type subsumes a great deal of variability. Analyses of material culture typically found at these sites could aid in a more refined understanding of habitation sites, including the possible definition of sub-types. This could be accomplished by an analysis of artifact function, perhaps through lithic use-wear analysis, along with the definition of activities and activity areas at the sites. Additional questions such as length of occupation and reuse of the site could be addressed by the nature of artifacts present, their density, and their distribution, both vertically and horizontally, across the site area. Studying habitation sites with stratigraphically separated deposits would provide an excellent opportunity to analyze changes in Paleo-Indian tool assemblages in a controlled context. Included in such

X see continuation sheet

X see continuation sheet for additional property types

analyses could be the determination of whether changes in raw material use took place through time, and why certain raw materials were preferred. Both of these issues address, in part, the identification of how Paleo-Indians acquired non-local materials.

2) Social Organization: Little is known about the social organization of Paleo-Indians. It is generally assumed that these groups were organized much like modern hunter-gatherers such as the San Bushmen of southern Africa and the Australian Aborigines, but the ecological parameters of these modern groups are very different from those encountered by Paleo-Indians, making analogies suspect. Through analyses of site plans, mortuary practices, artifact styles, raw material distributions, settlement organization, and seasonal rounds, information on the nature of the social organization of Paleo-Indians can be obtained. Differences in the demographic characteristics of the groups inhabiting the different site types can be inferred from site size and the activities defined at the sites. It may also be possible to estimate population sizes. Identifying temporal changes in these variables may lead to a better understanding of the apparent "regionalization" of Late Paleo-Indian groups as well as the transition/interaction? with Early Archaic peoples.

3) Settlement Organization: The relationship between site location and site type, the role of the site types in the settlement system, and internal settlement plans of Paleo-Indian sites, are all poorly understood. Site surveys have been biased towards riverine-lacustrine environments. Surveys outside of these areas, and in northern Wisconsin, would help determine the range of site locations used by Paleo-Indians, and whether certain site types are restricted to particular environmental locations and seasons. The reason(s) for selecting particular locales, such as climatic protection, dryness, and ease of access to game or other resources, can also be investigated. As the climate changed during the Paleo-Indian Tradition, it would be expected that reason(s) for selecting site locations would also change. As noted site plans, including the functions of features, structures, and activity areas, and their spatial organization, are lacking for Paleo-Indian sites. From these data, the role of site types within settlement systems can be understood. It could also be determined if site plans change across habitation sites or through time within the Paleo-Indian Tradition.

4) Subsistence: The diet of Paleo-Indians, and hence their activities surrounding the acquisition of food, is poorly understood in Wisconsin. Although two purported mammoth kill sites have been identified, and megafaunal remains from Kenosha County may provide evidence of butchering, there are questions the degree to which Paleo-Indians relied on megafauna. Late Paleo-Indian sites, such as Metzig Garden, may hold the information on subsistence strategies after the demise of the megafaunal species. Other issues include which species of fauna were exploited within the different environmental zones and what the role of plant foods was in Paleo-Indian diets. Analysis of faunal remains can provide data on how Paleo-Indians hunted, butchered, transported, and distributed the animals they took, as well as their season of capture. Analysis of both floral and faunal remains recovered from Paleo-Indian sites can also aid in environmental reconstructions.

5) Chronology: Habitation sites with datable deposits, with either single or multiple components, are an important site type when attempting to refine the Paleo-Indian Tradition chronology. At present, Paleo-Indian chronology within Wisconsin is poorly documented. Datable material in association with artifacts could help produce a better basis for cross-dating other sites and also produce a Paleo-Indian chronology within Wisconsin based on absolute dates. Such a framework could include the definition of regional phases. An adequate Paleo-Indian chronology is needed before many of the issues concerning the changing nature of Paleo-Indian cultures can be addressed. Other questions may include the timing of the first influx of Paleo-Indians into Wisconsin, dating the extinction of megafauna in Wisconsin, and the relationship between Late Paleo-Indian and Early Archaic groups.

IV. Registration Requirements: Any habitation site must meet the eligibility requirements of Criteria D, and must have the potential to address questions posed above. In most cases, subsurface integrity of materials is needed to qualify for nomination, however, sites lacking subsurface integrity, may be eligible if the data can be used to address research questions focused on the spatial patterning of sites. Paleo-Indian sites with intact features, midden deposits, and datable material from reliable contexts are given high priority for nomination.

I. Name of Property Type: Quarry and Related Lithic Processing Sites

II. Description: It has been well documented that Paleo-Indian groups tended to use high-quality lithic raw material for making tools, especially fluted and lanceolate points. Often, the high-quality materials came from localities dispersed over a wide area of eastern North America. Quarry sites are the sources of these high-quality lithic raw materials. Often, large pits from where the lithic material was extracted, will be visible. Extraction pits, however, are not necessary to identify a quarry as there are examples of quarries with enough raw material on the surface as to make digging unnecessary. At all quarry sites, though, there should be evidence of initial lithic reduction as quarried blocks were reduced in size to make their transportation easier. This activity should leave a large quantity of primary decortication flakes and blocky fractures. Two such sites, Silver Mound in Jackson County, and the Marquette Rhyolite quarry site in Green Lake County, have been identified in Wisconsin.

Related lithic processing sites, at which the quarried blocks were further reduced and made into blanks, preforms, and even finished tools, may be arrayed around the quarry site. For example, at the Silver Mound site, Hixton Silicified Sandstone was quarried from the hill area itself. After initial reduction, the material was transported down to the surrounding plain, on which are located numerous lithic processing sites. At these sites, the Hixton cores were reduced to usable flakes, which were then made into blanks, preforms, and finished tools. The by-products of this process were large primary, secondary, and tertiary flakes, shatter, hammerstones, and broken and discarded blanks or preforms. These lithic assemblages should not be diverse, although other activities aside from lithic tool manufacturing may have taken place at these sites. Occupations are expected to be short-term although repeated. Features, such as hearths, may be present. Research designed to delineate the spatial distribution of artifacts in an attempt to define activity areas is important.

III. Significance: Quarry and related lithic processing sites hold great potential to contribute to our understanding of Paleo-Indian material culture, and settlement and social organization. These sites

can also contribute to the refinement of a Paleo-Indian chronology.

1) Material Culture: Quarry and related lithic processing sites are essential to an understanding of the processes involved in Paleo-Indian lithic tool manufacturing. This includes not only the physical processes of flintknapping, but also spatial aspects of the locations of production as well. The investigation of the function and distribution of artifacts associated with each site could yield a better understanding of site activities and the construction of a model of Paleo-Indian lithic tool production. Given adequate chronological control, changes in lithic processing through time within the Paleo-Indian Tradition could be investigated.

2) Social Organization: The demographic profile of groups at the quarry and related lithic processing sites is incompletely understood at this time. Information on the group size and gender would be important factors in reconstructing the activities engaged in at these sites. Additionally, the question of control of the quarries needs to be addressed. Did a single group control its use and exhange, or did all groups have equal access to all lithic sources? Investigation of artifact styles at these sites is one avenue of research to answer this question. The mechanisms of the transmission of the lithic raw material can also be explored.

3) Settlement Organization: While generally felt to represent short-term use, there is no data on season of use or how these sites fit into the Paleo-Indian seasonal round. Additionally, were the lithic-processing sites subjected to repeated use or where new locations used through time? Mapping of the spatial distribution, both vertically and horizontally, at these sites may provide insights into these questions.

4) Chronology: If short-term occupations, these sites might provide ideal contexts for obtaining tightly dated material culture assemblages. It is not improbable that features would be present at sites. As such, their investigation could contribute significantly to a more secure Paleo-Indian chronological framework.

IV. Registration Requirements: Any site nominated as a quarry or related lithic processing site must meet the requirements of Criteria D to be eligible, and must be able to address questions posed above. In addition to this, there must be evidence to date the use of the site to the Paleo-Indian Tradition. Such evidence can be in the form of cross-dated artifacts such as fluted or lanceolate points, or radiocarbon assays from reliable contexts. In addition, quarries must also have evidence of their use as quarries either from pits or initial lithic reduction waste. At the lithic processing sites, there must be a preponderance of lithic reduction and manufacturing waste, and there may also be broken blanks, preforms, and finished tools. Typically these sites should have subsurface integrity of either midden deposits or features. Exceptions to this are possible if the processing site is linked to the quarry in such a way as it represents a unique stage of the lithic tool manufacturing sequence.

I. Name of Property Type: Kill Sites

II. Description: Paleo-Indian hunting techniques in western North America began with the taking of a single or a few animals in swampy locales and evolved into mass kill techniques. Similar techniques have not been documented in the east. In general, there is little data on Paleo-Indian subsistence in eastern North America. The few Early Paleo-Indian subsistence data come from Kimmswick in Missouri where mammoth was taken, and from a few Late Paleo-Indian sites where reindeer, caribou, and bison remains have been found. No positively identified kill sites are present in Wisconsin. Two possible sites, the Boaz mastodon site and a reported mastodon find on the Black River, have been reported. Both were found during construction activities that subsequently destroyed the integrity of the locales. The Kenosha County butchered probiscedian remains also suggest the presence of potentially intact kill sites in southeastern Wisconsin.

Kill sites are locales where the main activity was the killing and subsequent butchering of game. The number of animals taken could range from one to many. Typically, such sites should be near water. A narrow range of tool types should be expected, including projectile points, knives, and utilized flakes. Faunal remains, if preservation is good, should be present and in association with the tools. A few features may also be present. Retooling broken spears and resharpening projectiles and knives may also have been done at these sites. This would result in the presence of broken points, worn out butchering tools, reduction and resharpening flakes, and broken preforms or blanks. Spatial analyses of tool distributions are a very important research strategy at such sites.

III. Significance: Kill sites provide a direct link to several vexing questions of Paleo-Indian culture regarding subsistence strategies and the use of megafauna, as well as direct evidence on the use of certain items of material culture. Along with this, investigations of kill sites have implications for understanding Paleo-Indian settlement and social organization, and can contribute to the creation of a refined Paleo-Indian Stage chronology.

1) Material Culture: The association of projectile points and other tools with kill and butchering sites can provide clues as to their

function. Important in this regard will be a spatial analysis of the distribution of tools and faunal remains and any associated features.

2) Settlement Organization: Typical locations for kill and butchering sites need to be determined, as well as the reasons for choosing those locales. It is expected that these sites would represent short-term occupations, but it is uncertain whether the same locales were repeatedly used through time. If so, did the patterns of use change through time? Determining the seasonality of kill and butchering sites would also allow a better informed reconstruction of the Paleo-Indian seasonal rounds.

3) Subsistence: Perhaps the most important questions this property type can address are related to subsistence. These questions are as basic as, what is the range and relative importance of species taken by Paleo-Indians? Was there ever an emphasis on megafauna in Wisconsin? After the demise of the megafauna, what species were taken? Information from kill and butchering sites can be used to determine patterns of butchering and potentially the season during which the kill was made. Finally, species data can be used in paleoenvironmental reconstruction.

4) Social Organization: It is assumed that males were primarily responsible for hunting, but the demographics of groups responsible for these kill sites is unknown. Were the kills executed by a few or many individuals? Was it strictly a male event or did the rest of the group assist, at least, in the butchering and processing of the remains? Features could be present at these sites and analysis of theses could reveal discrete activity areas and possibly gender-related roles. Group size might also be inferred.

5) Chronology: Dates obtained from features or animal bone could help in the construction of a better defined Paleo-Indian chronology. Such a chronology is needed before analyses of temporal changes in many aspects of Paleo-Indian culture can be addressed.

IV. Registration Requirements: To be nominated, these sites must be eligible under Criteria D, and must have the potential to address questions raised above. Further, there must be remains of both fauna and associated Paleo-Indian artifacts (dated by style or radiocarbon assay of associated material) or extinct fauna in documented

association with undiagnostic tools or the remains of extinct fauna exhibiting unambiguous, patterned cut marks or impact fractures at locations consistent with human butchery.

G. Summary of Identification and Evaluation Methods

Discuss the methods used in developing the multiple property listing.

Four main sources of information were consulted in preparing this multiple property listing. The Archeological Site Inventory (ASI), a listing of all known archeological sites in the State of Wisconsin, maintained by the Archeology Section of the Historic Preservation Division, State Historical Society of Wisconsin, was reviewed in order to identify all known Paleo-Indian sites in the state. Important surface collected and excavated sites were identified through the ASI and a literature search, focusing on issues of The Wisconsin Archeologist and various contract archeology reports. An important beginning point to writing this document was the chapter entitled "The Paleo-Indian Tradition" by Ronald J. Mason in **Introduction to Wisconsin Archeology** (Mason 1986). This chapter was developed as part of a comprehensive plan for managing Wisconsin's archeological resources. Mason's (1981) chapters discussing the glacial geology of the Great Lakes and the "Infiltrators" (Paleo-Indians) in **Great Lakes Archaeology** were equally useful. Finally, survey reports generated through Survey and Planning Grants and Section 106 compliance requirements were reviewed in an attempt to determine Paleo-Indian settlement locations and site density in the various regions of Wisconsin.

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_X_ see continuation sheet

Primary location of additional documentation:

_X_ State historic preservation office
___ Other State agency
___ Federal agency
___ Local government
___ University
___ Other

Specify repository: _____

I. Form Prepared By

name/title: Paul P. Kreisa/Asst. State Archeologist
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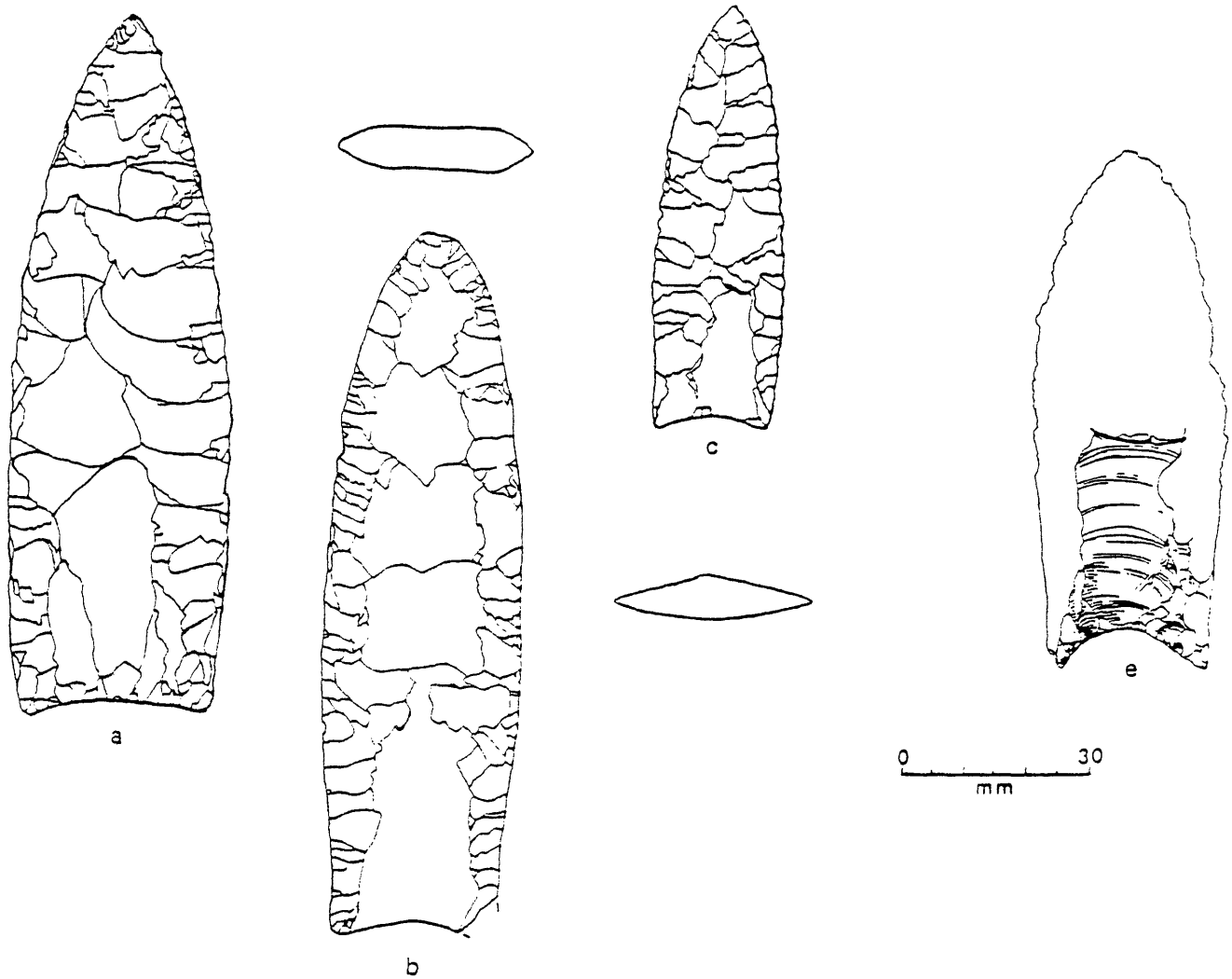

Figure 2. Early Paleo-Indian Clovis Projectile Points. The Paleo-Indian Stage in Wisconsin, State of Wisconsin.

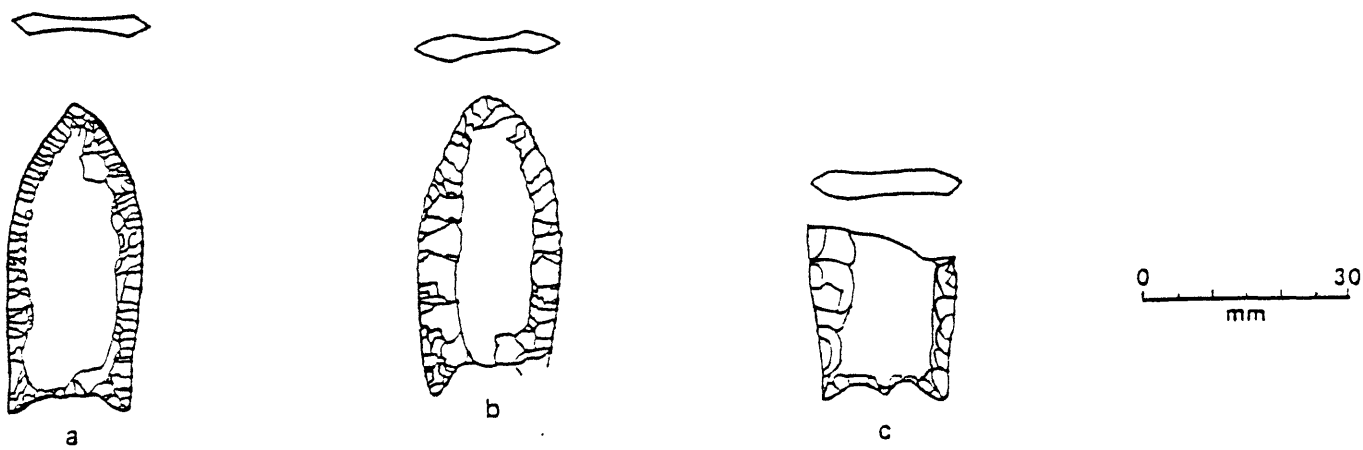

Figure 3. Early Paleo-Indian Folsom Projectile Points. The Paleo-Indian Stage in Wsinonsin, State of Wisconsin.

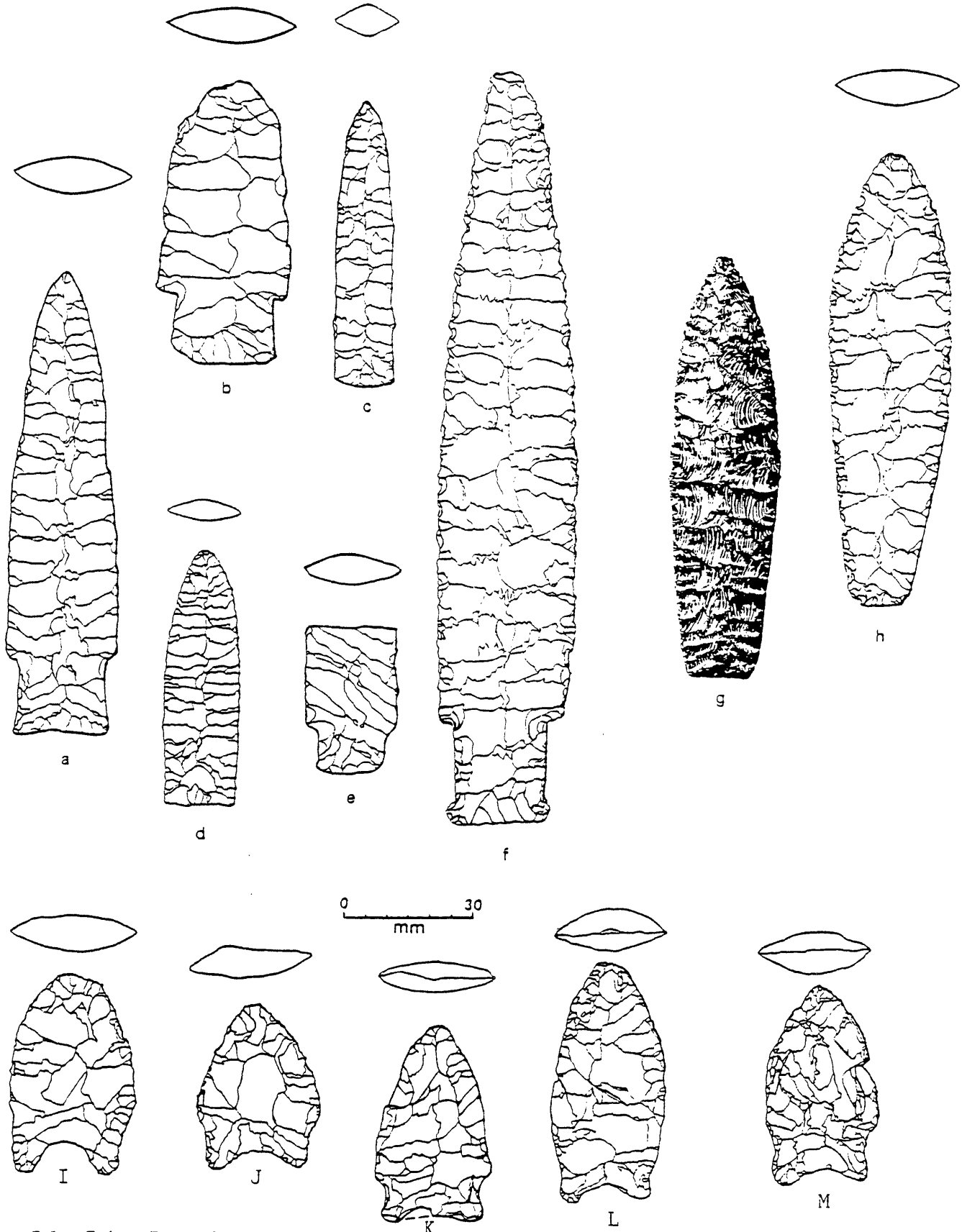

Figure 4. Late Paleo-Indian Point Forms:
a-f, Scottsbluff Cluster; g-h, Agate Basin; I-M, Hi-Lo. The Paleo-Indian Stage in Wisconsin, State of Wisconsin.