THE EARLY/MIDDLE WOODLAND PERIOD IN NEW JERSEY (ca. 1000 B.C. - A.D. 1000)

by

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Purpose and Objectives

This discussion considers those archeological resources of New Jersey that can be identified with the Early/Middle Woodland prehistoric cultural manifestation. The primary objective of the authors is to provide useful information to the preservationist and the planner to assist in arriving at responsible decisions on matters that may affect the resource base, either positively or negatively.

A secondary purpose is to synthesize current archeological knowledge of the Early/Middle Woodland Period as an aid in developing research programs and designs. Without such a synthesis, students and practitioners may find it difficult to organize their research objectives in such a way as to most efficiently use the resource base. It is hoped that the problems outlined in this discussion may serve as a guide to future research and archeological survey.

Theoretical Background and Assumptions

Through research, archeologists attempt to understand past human behavior. Of particular interest is the study of changing man-land relationships, i.e. the interaction of human societies with their environments. Throughout most of northeastern United States prehistory, including the Early/Middle Woodland Period, human groups survived through the use of a variety of plant and animal foods. This entailed occupation, by any given groups, of a number of different locations throughout a seasonal round of food procurement activities. Still other locations might be utilized by a group or subgroup for procurement of raw materials (i.e. lithic materials for the manufacture of tools) or socio-religious activities (i.e. burial rites).

To understand the behavior of a prehistoric human population, archeologists seek knowledge of the different settlements and activity areas. They are concerned with the manner in which members of the society were deployed during the annual seasonal round across the landscape and the kinds of activities in which they were engaged at each location.

Archeologists are concerned primarily not with individual sites as entities in themselves but rather with each site as part of a functioning settlement system. It is assumed that human behavior, as manifested by prehistoric resources, is patterned and that a

systematic relationship exists between the distribution of sites and the physiographic environment. To predict the distribution of resources, archeologists must rely upon different types of data: 1) reconstruction of available environmental habitats at the time of prehistoric occupation; 2) extant archeological data from surveys and excavations concerning the technology, group size, and season of occupation; and 3) analogy with data available for human groups past and present that have, or had, similar technologies and environmental conditions.

Although a great deal of information useful for environmental reconstruction on a general level is available, detailed studies of microenvironments which were of particular interest to prehistoric populations in New Jersey remain to be conducted. A summary of the variety of environments available to Early/Middle Woodland populations of this state is presented in the following section of this discussion.

While a number of surveys and excavations have been conducted in New Jersey, much of the work was done and published prior to major changes in artifact classification and prior to the development of current technologies and techniques for functional analysis of tools and identification of subsistence activities. Fortunately, much data are preserved in area museum collections. Since the earlier reports on these collections are not totally relevant to current archeological research problems, it is necessary to await studies of the extant collections before the wealth of information available can be used.

Analogy with other areas has been made where it seemed pertinent in the following sections of this discussion. However, the authors are well aware of the dangers inherent in this approach of taking, as given, what archeologists are seeking to learn about past human populations.

Obviously, the better the environmental context and the subsistence-settlement system of a prehistoric group is understood, the more accurate is the archeologist's ability to predict the location and nature of archeological resources. For the Early/Middle Woodland Period, there is only the rudimentary beginnings of such knowledge and predictions suffer accordingly.

The Environmental Context

Although localized changes have occurred for the past 3,000 years, by 1000 B.C. and the onset of the Early/Middle Woodland Period, the environment of New Jersey was approximating modern conditions. The Early/Middle Woodland may have been marked by the end of the dry and hot period known as the Mid-glacial Xerothermic (Carbone 1976). Salwen (1975:33) feels that this period may have continued during the last millenium B.C. Reconstruction of the prehistoric environment is, hence, somewhat easier than for earlier

periods of time. The major differences between the environment of the Early/Middle Woodland and present times, however, are the much lower sea levels and the changes which have occurred along the coastline in New Jersey. Given the major impact upon the landscape of the technologically complex, post-industrial revolution occupations, it is still a matter of "reconstruction" to determine the environmental context of Early/Middle Woodland populations.

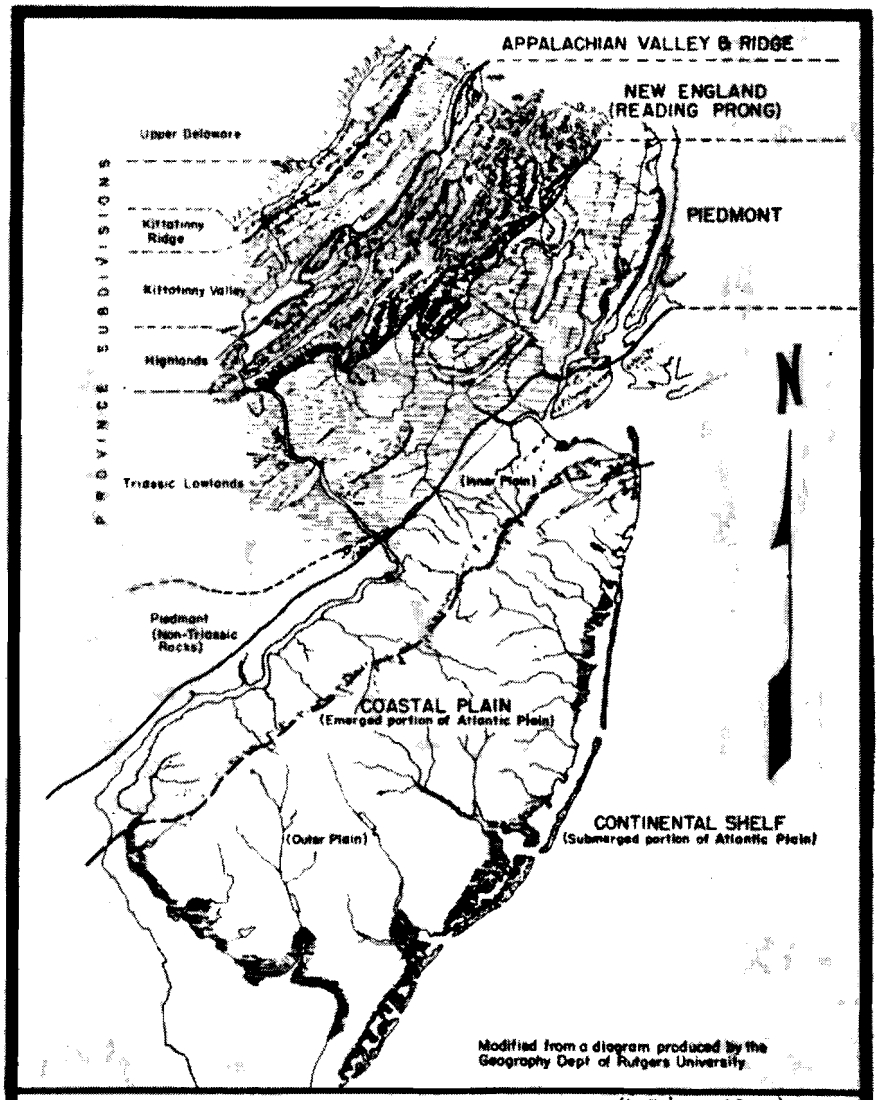
As indicated on Figure 1, no less than five major physiographic provinces are represented within the borders of the state: Ridge and Valley; Highlands; Piedmont; Inner Coastal Plain; and Outer Coastal Plain. The Ridge and Valley Province extends northeast-southwest from the St. Lawrence River Valley to the Gulf Coastal Plain in the south, averaging about 50 miles in width (Fenneman 1938:195; Wolfe 1977:208). The Upper Delaware River Valley in New Jersey occurs within the most narrow portion of the Ridge and Valley Province (only 14 miles in width), manifesting a corridor-like character. To the southeast, lies the upland section of the Reading Prong (Fenneman 1938:165) which extends from southern New England to Pennsylvania and within New Jersey has been called the Highlands (Kummel 1940:18). East of the Highlands is the Piedmont, a non-mountainous portion of the Appalachian Highland which extends from the Gulf Coastal Plain into New England (Fenneman 1938:121-123). The Inner Coastal Plain lies to the southeast of the Piedmont extending from Coastal New York to the Potomac River (Fenneman 1938:22). It is separated from the Outer Coastal Plain by a series of cuestas, or sand ridges, which lie to the southeast in the Inner Coastal Plain and can be located running from the Atlantic Ocean to the Delaware Bay.

Within each of these major physiographic zones are a variety of environmental habitats which would have offered different food and raw material resources for exploitation by prehistoric inhabitants. Although the widest variety of food resources are found within the edge of the Piedmont and the Inner and Outer Coastal Plains (estuarine and marine resources are found only in these zones), lithic raw materials are confined largely to the three northernmost zones.

It must be emphasized that none of these major zones is contained entirely within the State of New Jersey. It is possible that resources from outside of the borders of the present political unit were used by occupants of sites now located in New Jersey. The organization of data by state has utility for management of cultural resources, but a better understanding of the nature and distribution of those resources can only be gained by regional approaches to the data.

Early/Middle Woodland - Background

The term "Woodland" has been used by northeastern United States archeologists since the 1930's to refer to a set of prehistoric artifacts which were felt to represent specific developmental stages (McKern 1939). Gradual modifications of the concept, especially as



(Widmer, 1964)

Figure 1

PHYSIOGRAPHIC PROVINCES
of NEW JERSEY

a result of the Woodland Conference held in Chicago in 1948, led to recognition of a Woodland Period with three subperiods: Early, Middle, and Late. Each subperiod was viewed as a segment on an evolutionary scale leading from the hunting-gathering and foraging economy and technology of the Archaic Period to the fully agricultural societies of the Mississippian Period in the Mississippi Valley. This stage/period concept was eventually adopted, in part, throughout the Middle Atlantic Coast. For the area of the Northeast including New Jersey, the term, as used currently, refers to the period from about 1000 B.C. to A.D. 1650.

The original criterion for the onset of the Woodland is the archeological occurrence of pottery, indicating use of ceramic containers by prehistoric populations. To this has been added the cultivation of food plants, the presence of more elaborate ceremonial ritual, and the trend towards sedentism. The Late Woodland is characterized by village life and a decidedly significant turn towards a dependence on horticultural products for subsistence.

Although for some areas of the Northeast, archeologists have been able to define Early, Middle, and Late subperiods of the Woodland, there is currently little support in New Jersey for the two earlier subdivisions. Kinsey (1974:11) considers this to be true of the Middle Atlantic region in general and has used the term "Early/ Middle Woodland" to refer to the period from about 1000 B.C. to A.D. 1000.

Kinsey suggests that the cultural complexes of the period are "... part of a cultural continuum having nine geographical loci ..." within the Middle Atlantic area, and views them "... as a single evolving cultural tradition which may prove to endure from 800 to 600 B.C. to A.D. 600". He continues on to interpret each of the complexes as "... adapted to different habitats of the eastern temperate forest. In Maryland, Virginia, and New Jersey there is an adaptation to a tidewater environment and an oak-hickory-pine forest biome" (Kinsey 1974:16).

In eastern United States prehistory, the Early/Middle Woodland continuum is distinguished by rapid and extensive cultural change, the occurrence of well-developed trade systems, and innovations in material culture including elaborate ceramic, stone, and copper industries. Each of these characteristics apply, in part, to New Jersey and make the period one of exceptional interest to prehistoric archeologists.

The Early/Middle Woodland in New Jersey - A Review

The Early and Middle Woodland cultural periods were first discussed in detail for the State of New Jersey by Dorothy Cross (1956) who based her interpretations on work which was conducted by

the New Jersey Site Survey under her direction. Cross's views on the two periods are generally in agreement with current thought, although more recently obtained archeological data have contributed to a fuller understanding of the Early/Middle Woodland concept.

The Early Woodland cultural period was discussed by Cross in Volume II of Archaeology of New Jersey. In this volume, Cross (1956) accepted the general concepts of the Early Woodland and added specifics which could be provided by local archeological data. Cross saw the Early Woodland as a continuation of life as it existed towards the end of the Archaic Period (Cross 1956:193). She considered the basic Early Woodland economy as one of hunting, fishing, and gathering similar to that of the Archaic but with significant improvements in various technologies and a few major innovations. According to Cross, the transition from the Archaic to the Early Woodland was gradual and most artifact types and cultural traits continued in use. The major innovation was that of clay pottery. Cross recognized several types of ceramics, all relatively crudely manufactured. She did not feel, however, that the acceptance of ceramics caused any major change in the daily life of the people.

Dorothy Cross was also the first New Jersey archeologist to describe the Middle Woodland as it pertained to the prehistoric peoples of New Jersey. As with the Early Woodland, she viewed the transition to a Middle Woodland Period as a gradual one (Cross 1956:179). However, Cross recognized a number of innovations within the Middle Woodland which contributed to a different way of life during the subsequent Late Woodland Period.

For the Middle Woodland, Cross recognized a variety of plain and decorated ceramic types as well as numerous lithic and bone tool types. Although she did not believe there was much variation between the daily life styles of the Early and Middle Woodland peoples, she recognized several innovations which tended to modify the economic base. Shellfishing became an even more important economic pursuit along the coast while rudimentary horticulture, according to Cross (1956:194), began to make a significant contribution to the diet of local peoples. The wide range of burial practices, the use of exotic artifacts as grave goods, and the presence of artifact types which pointed to a sedentary and intense occupational pattern of certain archeological sites were also viewed as signaling the impending acceptance of a radically different lifestyle.

In her 1956 volume on the Abbott Farm Site, Cross identified the following artifact types as either Early Woodland or Middle Woodland with many of her conclusions based on the earlier site surveys reported in Volume I of Archaeology of New Jersey (Cross 1941).

Ceramics: Koens-Crispin Plain; Interior-exterior Cord-marked; Net-impressed; Paddle-cord; Ware Plain (referred to as plain ware); Abbott decorated and plain wares.

Lithics: "fish-tail" projectile points; lozenge-shaped points; large triangular projectile points; keeled scrapers; three-quarter grooved axes; chipped and polished celts; pendant, gorgets, and other polished stone items; pipes.

Graves: bundle burials; group burials; cremation burials; use of exotic grave goods.

Miscellaneous: storage pits; weirs for fishing; lithic and food debris in midden deposits; clay and stone platform pipes.

Figures 2 and 3 include characteristic artifact types of New Jersey. Many of the types illustrated are distinctive of the Early/Middle Woodland Period while some of the less characteristic and simpler forms can be found during other New Jersey time periods.

Early/Middle Woodland Cultural Resource Distribution in New Jersey

For purposes of this discussion, the distribution of cultural resources related to the Early/Middle Woodland Period will be presented separately for northern New Jersey and southern New Jersey. Northern New Jersey can be roughly equated to the three northernmost physiographic provinces: Ridge and Valley; Highlands; and Piedmont. Southern New Jersey will be defined, for discussion purposes, as the Inner and Outer Coastal Plains. These two major divisions can be justified on the basis of both environmental adaptation by Early/Middle Woodland populations and by the nature of cultural influences reaching the two areas from New York/New England, on the one hand, and the lower Middle Atlantic coastal plain on the other.

The line which roughly divides the northern New Jersey and southern New Jersey discussions begins at Trenton and runs in a northeasterly direction to New York City. It roughly divides the state into two portions representing 40 percent and 60 percent of the landmass of New Jersey (northern and southern respectively). At present, the southern portion is extensively undeveloped or in farmland while the northern portion is divided between forested land, farm land, and urban developments.

ARCHEOLOGICAL RESOURCES IN NORTHERN NEW JERSEY

For this paper, northern New Jersey is comprised of three physiographic provinces: the Ridge and Valley; the Highlands; and the Piedmont. These provinces form broad bands crossing the state in a northeast-southwest direction. The southern boundary is formed by a line from Trenton to New York City.

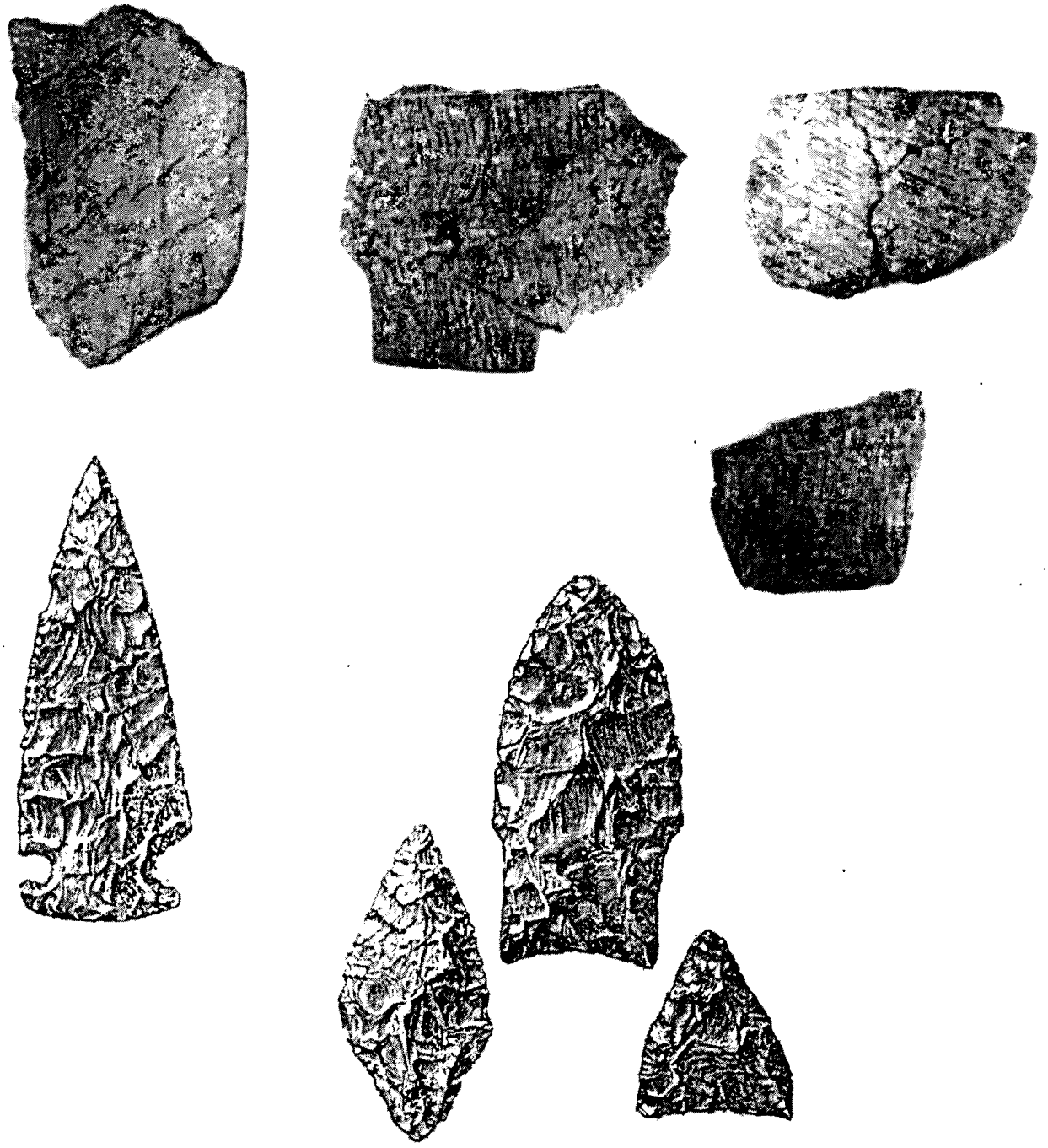


Figure 2. Ceramic and Projectile Point Types Distinctive of the Early/Middle Woodland Period of New Jersey

Figure 3. Artifact Types Found at Early/Middle Woodland Sites in New Jersey

The greatest concentration of archeological investigations in this portion of New Jersey is along the Delaware River Valley north of the Delaware Water Gap. This area is relatively well known due to this work. Other areas of archeological effort are in the Passaic River Valley and along the Raritan River in north-central New Jersey. The work conducted in neighboring states has contributed much to the understanding of northern New Jersey prehistory and this will be reviewed below.

Meadowood

The earliest Early/Middle Woodland occupation which can be recognized for New Jersey is called the Meadowood Phase defined from western and central New York and radiocarbon dated between about 1000 B.C. and 500 B.C. (Ritchie 1969; Ritchie & Funk 1973). Thus far, habitation sites are recorded only for the Upper Delaware Valley north of the Water Gap. A radiocarbon 14 date associated with diagnostic Meadowood projectile points from the Faucett Site on the Pennsylvania side of the Delaware River is 750 B.C. $\pm$ 100 years (Kinsey 1972:435). All of the known sites (Kinsey 1972; Kraft 1975; Puniello & Williams 1978) are small in areal extent and exhibit low densities of artifactual remains, suggesting short-term camp sites used by small groups perhaps for fishing, as all occur on low terraces bordering the Delaware River. Remains of hearths, postmolds, and pits have been found to occur in association with Meadowood artifacts on these sites.

A possibly anomalous situation occurs in the Upper Delaware Valley in that exterior corded/interior smoothed ceramics have been found in possible association with the Meadowood points at a number of sites (Kinsey 1972:435; Kraft 1975:56-57) and in association with exterior corded/interior corded ceramics at one site (Williams, ms in preparation). In the Meadowood Phase sites of central New York, there is clear evidence of only the latter ceramic type, referred to as Vinette 1.

In other respects, the Upper Delaware Valley sites are comparable to many Meadowood habitation sites in New York, also small in number, size, and with low density of remains. Ritchie and Funk (1973:96) have noted that the central New York sites occur near large lakes and streams, and in the Hudson River Valley. Funk (1976:278) has noted that the majority of surface finds of diagnostic Meadowood points in the latter area occur in low-lying areas along the river.

In New York, Meadowood cremation burials have been most often found to occur in cemeteries distinct geographically from habitation sites. No Meadowood cemeteries have been recognized thus far in New Jersey but the presence of camp sites certainly suggests their probable occurrence. In New York, such cemeteries have been found to occur on natural elevations and to be deeply buried. All such finds have been made accidentally.

In the Upper Delaware Valley, known Meadowood camp sites are also deeply buried, leaving few surface indications. All have thus far been found through excavations of multi-component sites. The overall number of Meadowood habitation and burial sites which existed in the Upper Delaware Valley are undoubtedly few and an unknown number may have been destroyed through erosion, given the known distribution of low-lying river flats. An important research problem is the elucidation of the relationship of Meadowood in New Jersey to that in New York and the resolution of the question of associated ceramics in northern New Jersey.

New Jersey is the area of interface for the two earliest ceramic traditions of the coastal northeastern Mid-Atlantic region. To the north of the state, the earliest recorded ceramics are clearly a exterior corded/interior corded, conoidal shaped variety called Vinette 1. Within New Jersey, this kind of pottery has a distribution which extends in limited occurrences onto the Inner Coastal Plain but is predominant in the northern half of the state. From published sources, these ceramics lack a clear association with diagnostic projectile points. However, diagnostic projectile points are also distributed throughout northern New Jersey and onto the Inner Coastal Plain. These points have yet to be associated through excavation with habitation sites outside of the Upper Delaware Valley. For much of New Jersey, it can only be noted that Early/Middle Woodland occupations containing important evidence are likely to exist.

Throughout the Inner Coastal Plain and more rarely to the north in New Jersey, there is evidence of the other earliest occurrence of ceramics - a flat-bottomed, steatite-tempered ware referred to by a variety of type names in New Jersey and the Middle-Atlantic States. As in the case of Vinette 1-like ware in most of northern New Jersey, this flat-bottomed ware has yet to be clearly associated with a diagnostic projectile point distribution or with recognizable occupational layers within known multi-component archeological sites.

The quantity of early ceramics recovered from Early/Middle Woodland sites of the southern part of the Piedmont and the adjacent Inner Coastal Plain suggests intensive occupation occurred in the southern New Jersey area. This will be discussed later. All of the known sites of northern New Jersey and of the Inner Coastal Plain are found along the marshy borders of the Delaware River. Intensive survey of other such areas and the adjacent inland areas is needed to identify the range of sites occupied contemporaneously.

Middlesex

A limited number of cremation burials with elaborate grave offerings including exotic materials have been found along the Delaware River in both the Upper Delaware River Valley and points to the south along this river (Cross 1956; Carpenter 1950; Kraft

1978). All of these sites are on relatively high elevations and are lacking in surface indications of their presence. The finds have thus far been accidental. Such sites are small in area, deeply buried, and undoubtedly limited in absolute number of occurrences. Some have been lost through sand and gravel commercial operations. Radiocarbon 14 dates are available from the Rosencrans Site in the Upper Delaware River Valley: 610 ± 120 B.C. and 450 ± 60 B.C. (Kraft 1978).

These burial sites are typologically analogous to those of the Middlesex Phase of central and eastern New York, which is also known only from isolated cemeteries (Ritchie & Funk 1973:97). Ritchie and Dragoo (1959) have suggested that these sites are the remains of an Adena group migrating from Ohio into the Champlain drainage via Chesapeake Bay and the Delaware River Valley. Carbon 14 dates from New York sites suggest a range of about 800 B.C. to 300 B.C.

In New York, the distribution of Meadowood and Middlesex sites do not coincide but in New Jersey, both occur in the Delaware River Valley. As Kinsey (1972:364) has noted, if the carbon 14 dates from the Upper Delaware Valley are valid, the two New York phases are not far apart in time or space in the Delaware River Valley of New Jersey and Pennsylvania.

It is impossible to predict the location of habitation sites related to the Middlesex burials aside from the obvious statement that they should exist. The presence of known burial sites suggests that habitation sites of some form may exist in the Delaware River Valley. In view of the small size of the prehistoric populations thus far evidenced, archeologists can predict that these sites will most likely be few, difficult to locate, and, given the possible situation of mutually exclusive artifact sets for the living and the dead, difficult to identify.

Bushkill Complex

In the Upper Delaware Valley above the Water Gap, there is evidence of occupations succeeding Meadowood and Middlesex which Kinsey (1972, 1975) has designated the Bushkill Complex. Limited occupation areas have thus far been found at a number of multi-component sites on low terraces bordering the Delaware River. Recovered artifact assemblages include Rossville and Lagoon projectile points and a variety of ceramic types with net-marked ware predominant. Of the two associated carbon 14 dates, Kinsey prefers that of 480 ± 80 B.C. (Kraft 1970:55) and rejects as too recent the other of A.D. 790 ± 120. Remains of a roughly circular house pattern measuring 25 to 30 feet in diameter, associated with the Bushkill Complex, has been found at the Faucett Site on the Pennsylvania side of the Delaware River.

Kinsey (1972:368) has noted the similarity of the ceramics of the Bushkill Complex to those of coastal New York, where Rossville points also occur. A typological analysis of projectile points recovered from surface surveys in the intervening area of the Passaic River Basin (Williams et al. 1978) indicates the continuous distribution of Rossville points, with greatest concentration in the Piedmont zone. Contemporaneous sites should occur in the Passaic Basin and, given the variety of natural habitats within the basin, a range of kinds of occupation sites may well be found.

The relationship of Rossville-like points from the southern part of New Jersey remain open. Mounier (1974:51) reports Rossville points from a component existing below a Calwalader Complex strata but not associated with ceramics. Farther south in Maryland, Rossville points have been found with cord-marked ceramics and side-notched projectile points (Wise 1974:15).

Abbott Phase

The distinctive evidences of occupation in the central and lower Delaware River Valley have been termed the Abbott Phase (Pollak 1971; Kaeser 1968; Thurman 1978). A typologically related complex in the Hudson Valley - Fox Creek - has been dated to A.D. 300 to A.D. 700 (Funk 1976:287-290). Cross (1956), upon typological analogy, had proposed a date range of ca. A.D. 300 to A.D. 600 for the type site occupations at Abbott Farm on the Delaware River.

Cursory examination of collections in the New Jersey State Museum suggests a distribution of habitation sites along the Inner Coastal Plain from southwestern New Jersey into Coastal New York. Archeological sites evidencing intensive occupation by Abbott Phase peoples have thus far been encountered only along the Delaware River from Trenton southward. Occurrences of Abbott Phase projectile points are known throughout northern New Jersey. Raw material exploitation sites undoubtedly occur in areas of argillite outcroppings as noted in Figure 4. Quarrying sites may be small and often lack diagnostic specimens such as projectile points and pottery which are currently relied upon for identification. Such sites will, therefore, be difficult to recognize.

The source of native copper recovered at Abbott Farm (see below) is unknown (efforts to identify the source have been initiated by the New Jersey State Museum in cooperation with the Illinois State Museum). Local sources must, for the present, be considered possible areas of exploitation. As indicated in Figure 4, these source locations are confined to the Piedmont and to the Ridge and Valley Provinces where surface collections have yielded diagnostic Fox Creek style projectile points (Weiss and Weiss 1963).

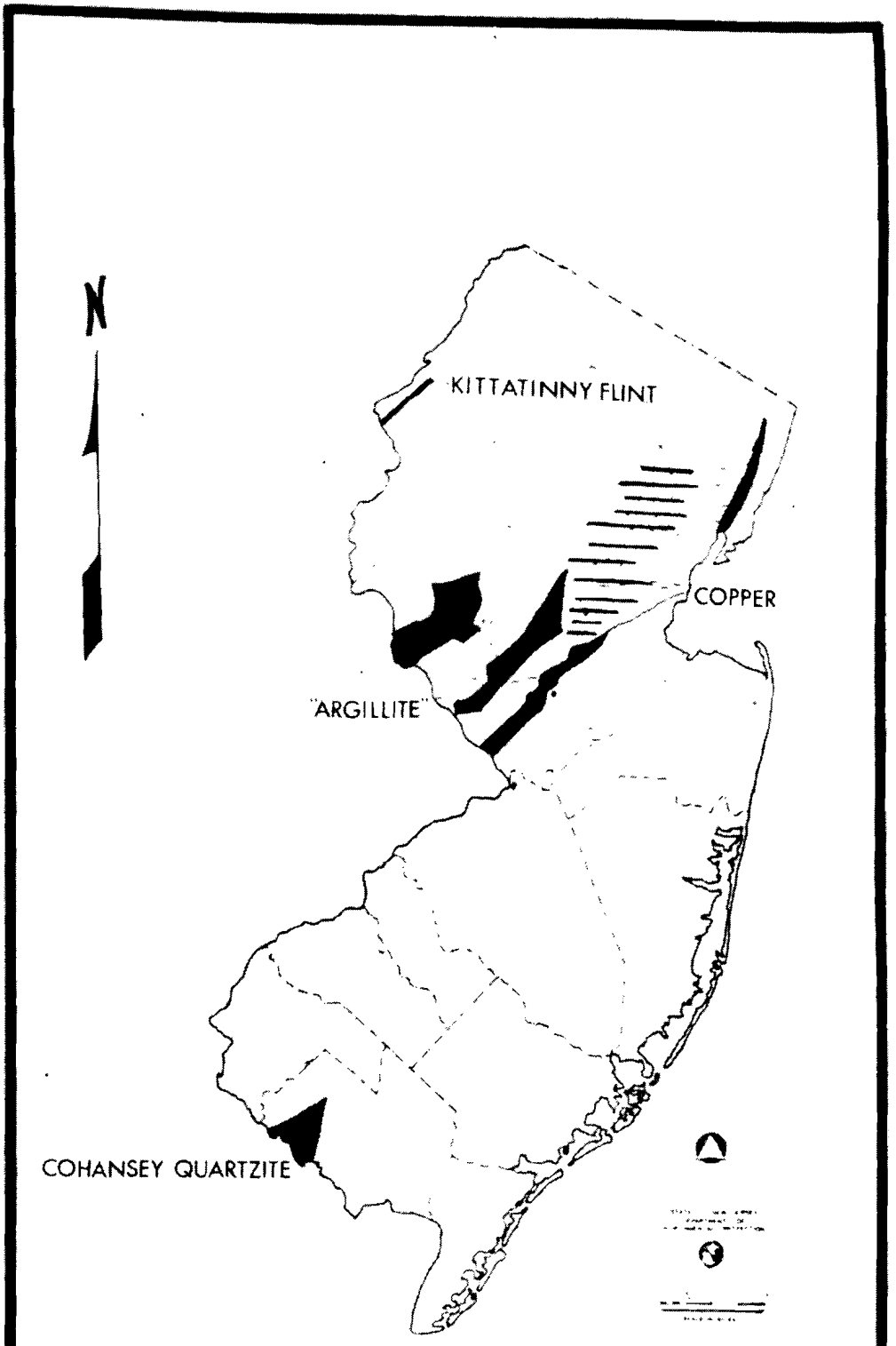


Figure 4 LITHIC SOURCES

It should be noted that possible sources of the mica at Abbott Farm may be Chester and Delaware Counties of southeastern Pennsylvania (Parris, ms in preparation). Abbott Phase exploitation sites (Figure 5) may also occur in those areas.

Point Peninsula

In the Upper Delaware Valley, there is evidence for occupation by groups sharing, to some extent, the technological traditions better known in central New York - the Point Peninsula Phase (Ritchie 1969). By ca. A.D. 900, the Jack's Reef point along with cord-marked and dentate-stamped decorated ceramics diagnostic of Point Penninsula occur on sites in the Hudson Valley (Funk 1976: 296). For the Upper Delaware Valley, a carbon 14 date of A.D. 790 $\pm$ 120 at the Faucett Site is probably associated with Jack's Reef material (Kinsey 1972:438, 1975).

Outside of the Upper Delaware Valley in New Jersey, there is scant evidence of Point Peninsula diagnostic ceramics or lithics reported in the literature. However, examination of New Jersey State Museum collections from the Passaic River Basin (Williams et al. 1978) has demonstrated the occurrence of diagnostic projectile points throughout that area of northern New Jersey. Further examination of extant collections is required to even tentatively define the distribution of Point Peninsula-related archeological remains in New Jersey.

ARCHEOLOGICAL RESOURCES IN SOUTHERN NEW JERSEY

Southern New Jersey, as defined for the purposes of this discussion, is a relatively homogeneous environmental zone. It consists of coastal plain drained, for the most part, by tidal rivers and estuaries. Elevation ranges from about 100 feet to sea level, and soils consist primarily of sandy loams and tidal marsh. Vegetation varies but little throughout the extent of the Inner and Outer Coastal Plains.

Archeologically, more work has been done in southern New Jersey than in northern New Jersey. Several statewide archeological surveys resulted in the recording of hundreds of sites. Unfortunately, few sites have been excavated that contain significant information about the Early/Middle Woodland Period. These sites are discussed below.

Early Excavations

Abbott Farm Site

The most intensive and extensive archeological excavation conducted within the State of New Jersey was at the Abbott Farm Site (Cross 1956; Pollak 1971). Occupational remains occur on both

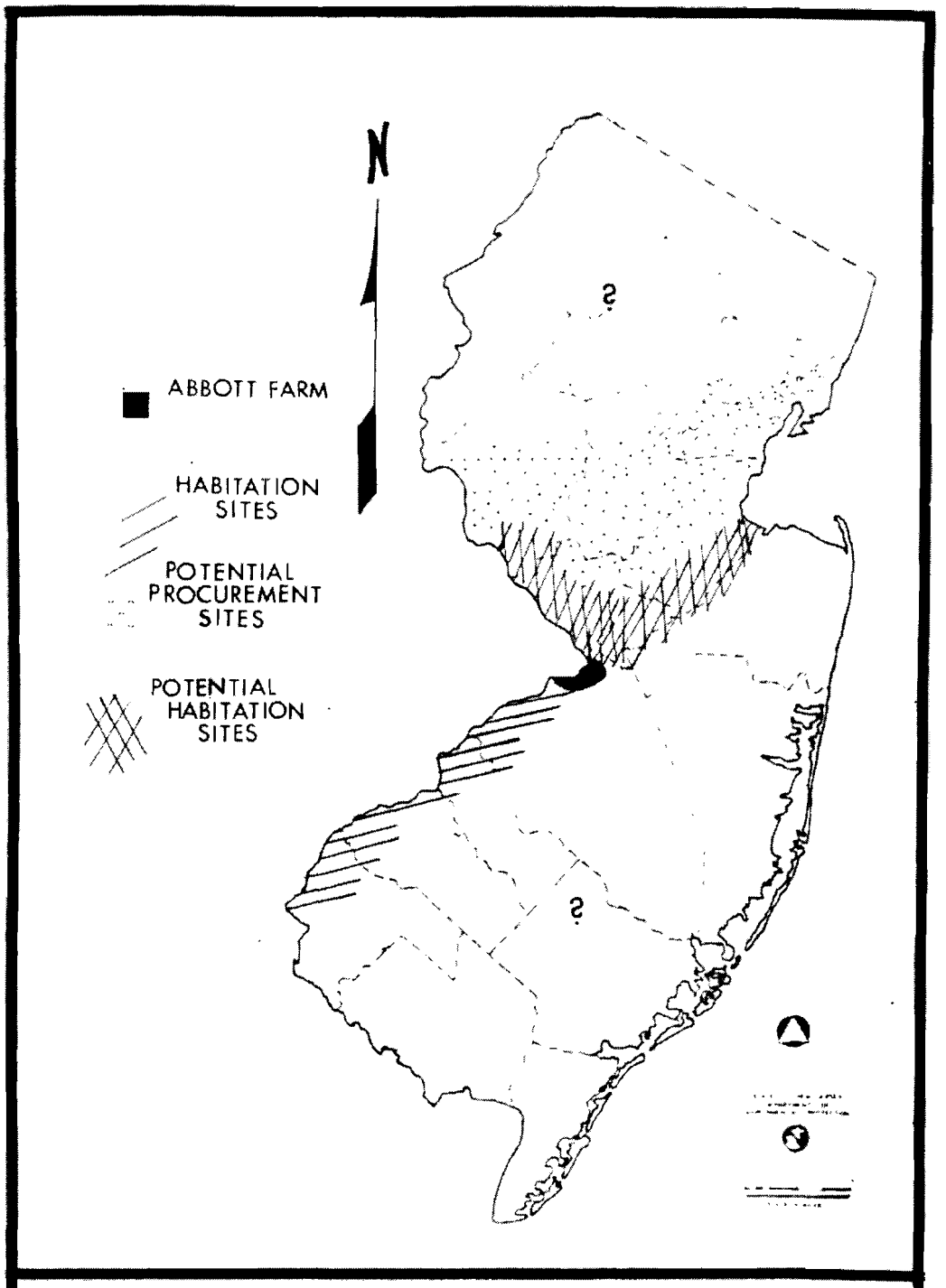


Figure 5 ABBOTT PHASE

bluffs and lowlands adjacent to the Delaware River (Abbott 1872; Volk 1911; Spier 1918; Cross 1956; Pollak 1975). Extensive tidal marshes border the river at this location, and there is evidence in the stratified lowland portion of recurrent flooding within the prehistoric occupation span.

The artifact assemblage from the Abbott Farm Site or Abbott Farm Historic District (a National Historic Landmark) includes characteristic Fox Creek projectile points, elaborately zoned-decorated ceramics, and caches of argillite and chert blades of the Fox Creek Hudson Valley occupations. The blade caches occur in greater numbers and contain greater quantities of blades, particularly of argillite, than at any other site in the northeastern part of the United States. The intensified use and wide distribution of argillite, which is characteristic of the Early/Middle Woodland Period in general, is most evident at Abbott Farm. Caches of mica also occur in greater quantity than at any other Early/ Middle Woodland site of the New England or Middle Atlantic regions (Pollak 1976).

Preliminary analysis of the faunal remains from the Abbott Farm Site suggests year-round occupation by at least a part of the prehistoric population (Parris 1980). Streuver (1968) has suggested that for the contemporaneous Hopewellian occupations of the Illinois River Valley, prehistoric groups manifest a riverine adaptation, utilizing a broad spectrum of faunal resources within a relatively confined area. He believes this restricted area of exploitation was made possible by a combination of favorable environmental conditions which interestingly are approximated by the local environment at Abbott Farm.

The vast quantities of raw materials, unfinished, and finished products at Abbott Farm (i.e. argillite blades and mica) suggest that the site is a regional transaction center in an interaction sphere of exchange networks which can be traced through the occurrence of argillite to the Hudson Valley, central New York, and the Delmarva Peninsula (Albright and Williams 1980; Williams and Albright 1980).

Raccoon Point Site

One of the prehistoric sites in New Jersey that has been excavated extensively by non-professionals (avocational archeologists) was the Raccoon Point Site of Gloucester County (Kier and Calverley 1957). This site witnessed a relatively intense occupation during both the Early and Middle Woodland Periods as perceived by the authors. Earlier and later occupations can be recognized although the site was not used as intensively as it was during Early and Middle Woodland times. The research conducted at the site has contributed to the understanding of the two periods. Excavations revealed artifacts of many types and functions, some of which pertained to the procurement of fish, some of which were basically technological in function (pottery making and flint knapping), and a few of which appeared ceremonial in function.

The interpretations made by the authors deal with both subsistence and settlement. It was felt that the site contained evidence of a "near-permanent occupation" (Kier and Calverley 1957:98) which may have begun as early as 1500 B.C. The authors also state that during the occupation of the site the "... use of clay for making cooking vessels had its inception" (ibid.). The early pottery, according to the authors, appears to have been made in imitation of steatite vessels and even was tempered with the broken fragments of steatite pots. Steatite seems to have continued in use at the Raccoon Point Site (this evidence may refer to earlier and less intensive Archaic presence at the site) even though Early Woodland occupants made and used clay pottery.

Among the other artifacts attributed to the Early and Middle Woodland Periods from the Raccoon Point Site are: net sinkers, hammerstones, axes and celts (axes are now considered Archaic in derivation), bolas stones, gorges, drills, gravers, notched projectile points, knives of various shapes, refuge materials, storage and fire pits, shaft smoothers, and various clay potsherds.

The Raccoon Point Site, if typical of Early/Middle Woodland sites in southern New Jersey (and considerable evidence now exists to lead one to accept this premise), can provide valuable insights into the subsistence and settlement patterns of the times. The site is located on what would then have been a promontory overlooking a tidal estuary or bay and a broad marsh. It appears to have been used as a fishing station and also as a shellfish gathering and processing site. The selection of well-drained sandy soils overlooking open bodies of water and/or marsh appears to have been a characteristic of the Early and Middle Woodland sites in southern New Jersey. Kier and Calverley (1957) discuss other nearby sites that are similar to the Raccoon Point Site.

Cadwalader Complex

In the Outer Coastal Plain of the Delaware Bay drainage, Alan Mounier (1972, 1974) defines a complex which includes varieties of flat-bottomed ceramics and broad side-notched points. Faunal remains indicate the exploitation of shellfish and turtle as well as deer. A radiocarbon date of 940 $\pm$ 95 A.D. is rejected by Mounier (1972:87) as too recent. Mounier sees the ceramic tradition of the Cadwalader Complex as being a coalescense of Marcey Creek ware from the south and Vinette 1 ware from the north. He suggests warm weather exploitation of marsh and riverine environments and cold weather hunting in the inland areas.

Resource Distribution Patterns

Based upon the work of Cross, the New Jersey Site Survey (Cross 1941), Kier and Calverley (1957), and other professional and avocational archeologists working in southern New Jersey and other

nearby coastal areas, it is now possible to consider settlement systems and resource distribution patterns with some degree of confidence. The following discussion concerns the problems being faced by archeologists who attempt to explain and predict site locations.

For the purposes of this discussion, the Early/Middle Woodland will be considered as that period between ca. 1000 B.C. and A.D. 1000 (Thomas 1974; Griffith & Artusy 1977), during which time the following were dominant:

1. A central-based, wandering settlement system (Wise n.d.) with relatively large and intensively occupied base camps supplemented with strategically located, specialized resource-procurement campsites (seasonal and transient);
2. An economy which included the procurement of intensively exploited natural resources such as fish, shellfish, nuts, and deer; some horticultural products were probably grown;
3. Complex religious activities which included the elaboration of funerary practices and the utilization of grave furnishings;
4. A social system which included a relatively complex ascribed status structure among some groups; this status is reflected archeologically in the form of differential treatment of the deceased;
5. New technological innovations among which are ceramics, the use of shell for ornamental purposes, and the manufacture of lithic items of restricted quality material (often exotic); and
6. The increase in trade between peoples from widely dispersed areas as reflected archeologically by exotic materials and artifacts, and by the increasing complexity of socio-religious systems.

It has been suggested that Early/Middle Woodland peoples engaged in a limited, but intense, resource procurement program different than that of earlier Archaic peoples of the area (Cross 1956; McNett and Gardner n.d.; Griffith and Artusy 1977). This program seems to have consisted of the selection of a few dependable resources and an intensive exploitation of these to the near exclusion of others. Kinsey's interpretation of a tidewater adaptation by coastal peoples (Kinsey 1974:16) can be supported by evidence from New Jersey and neighboring areas. A tidewater subsistence, however, can take various forms. In New Jersey, it is suggested that the forms include: a riverine orientation with a dependence on anadromous fish; an estuarine/bay orientation with the gathering of shellfish as the dominant activity; and a land-based program of hunting, gathering, and possibly horticulture.

Each of these subsistence activities necessitates the deployment of people over the landscape. The southern New Jersey environment not only included topographical and hydrological features as well as resource habitat distribution, but it also included socio-

economic factors such as territory, transportation technology, food processing, and storage technology. Another important factor of the cultural environment involved settlement practices developed over a long period of indigenous occupation.

In order to efficiently exploit or maximize the resource potential (Thomas et al. 1975), it is necessary to adopt settlement types which assure that labor will be available to conduct procurement and processing activities at the most opportune times. Settlement types known to have existed within the Middle Atlantic Coast include permanently occupied villages, semi-permanent base camps, seasonal camps (in terms of the season of harvest of certain natural foods), and transient campsites. With the exception of villages, all of these settlement types should be present during the Early/Middle Woodland occupation of the Inner and Outer Coastal Plains.

The following is a discussion of major subsistence activities and associated settlement types of the Early/Middle Woodland Period in coastal New Jersey. The discussion deals primarily with local topographical factors and does not necessarily exclude any particular region of southern New Jersey as being occupied during the time period being considered (refer to Figure 6).

Riverine Subsistence Orientation

Archeological data from New Jersey (Cross 1941, 1956; Kier and Calverley 1957; Mounier 1974) indicate that coastal peoples were exploiting riverine resources during the Early/Middle Woodland Period. In addition to native fish and occasional shellfish, these resources included large numbers of anadromous fish that spawned seasonally in the upper reaches of tidal estuaries (available from four to eight weeks depending upon the species). The exploitation of anadromous fish is limited to this brief period and depends upon the massing of large numbers of people for an effective harvest. This activity is done most efficiently from transient campsites unless topographical features create microenvironmental conditions which can support more sedentary settlement. Transient campsites are occupied for a short period of time by persons participating in specific economic and/or technological activities.

The locations of these occupation sites are dependent upon the distribution of strategic resource procurement loci and the technologies available to the Early/Middle Woodland Indians. Cross (1941, 1956) and Kier and Calverley (1957) indicate that riverine fishing in coastal New Jersey was done with nets and fish weirs as well as with individual and multiple fish hooks and gorges. Thomas and Warren (1970) report that fish hooks were present at the Island Field Site Middle Woodland Complex in coastal Delaware. Netting was used during this period as is reflected by net-impressed

ceramic vessels. It is not certain, however, that the nets were associated with fishing, although this is likely. The possibility of fish poisons has been noted in many historical accounts of native procurement practices during the Contact Period and this may have extended into the past.

Anadromous fish spawn in the shallow waters at the upper reaches of tidewater drainage systems. Procurement is most easily effected when large numbers of fish can be concentrated into limited areas. Fish processing areas, represented archeologically by sites containing large "beds" of fire-cracked rock, are usually located near procurement sites. The most advantageous locations, therefore, for occupational sites of riverine oriented peoples are near the middle to upper reaches of tidal streams at shallow points in the water course and where natural constrictions occur. The presence in the immediate area of high land for temporary campsites and for the processing of fish foods is an additional factor to be considered in this predictive model.

Anadromous fish procuring and processing sites during the Early/Middle Woodland Period will be located somewhat downstream from the most advantageous locations for Late Woodland and Contact Period fishermen. This is due to the rise in sea level as much as 14 feet since the end of the Early/Middle Woodland (Kraft, Biggs, and Halsey 1978) which would have greatly modified the present tidal situation. A study of occupation along Delaware's St.. Jones River has demonstrated the presence of fish procurement and processing activities of Early/Middle Woodland Periods in locations near, but somewhat downstream from, the head of tidewater. These Delaware sites are often adjacent to smaller, freshwater streams. The same situation should prevail in New Jersey.

Early/Middle Woodland fishing camps are a part of a sequence of settlements occupied during the yearly procurement round. They must be considered with other types of settlements, such as those considered below, in order to understand the total picture of Early/Middle Woodland subsistence-settlement.

Estuarine/Bay Subsistence Orientation

Although marine resources can be found along the lower reaches of tidal estuaries, within major saltwater bays, and along the ocean front, it is the first two locations that appear to have been most intensively exploited by Early/Middle Woodland Indians of coastal New Jersey. In a major comprehensive study of Maryland's coastal zone, Wilkie and Thompson (1977) have found a similar situation existing throughout the prehistoric period in that area. The authors note that site density of shellfish-using peoples is uniform throughout the study area except for "... land fronting directly on Chesapeake Bay" (Wilkie and Thompson 1977:88). They suggest that

the low density in these areas "... probably results not only from cultural factors, such as a possible preference for sheltered bays and coves, but also from the greater rate of shoreline erosion which typifies the Bay shoreline" (ibid).

It is likely that New Jersey marine-oriented resource procurement occurred primarily in estuaries and sheltered coves or bays. Shellfish are usually more numerous in such areas although the ocean beaches would support a sizable shellfish population. Unfortunately, as is the case in the State of Maryland, it is not possible to test this hypothesis since Early/Middle Woodland shorelines have been eroded away or innundated by rising sea levels.

In Delaware, a considerable effort has been expended on locating and investigating coastal shellfish procurement and processing sites. Although these types of sites may not have been recognized as seasonal marine resource procuring sites, they were the subject of excavations by early avocational archeologists. One such site, the Wolf Neck Site, a shell midden, was selected by the State of Delaware's Section of Archeology for detailed examination (Griffith and Artusy 1974). The subsequent research report revealed a continuous occupation of the site during the Early and Middle Woodland Periods with stratification existing within the midden. The midden had been situated along the shore of an inland bay. However, during excavation, it was covered almost entirely by marsh deposits. Excavation was hindered by water seeping into excavation units.

Sites such as the Wolf Neck Shell Midden exist in southern New Jersey. The Tuckerton Shell Mound (Cross 1941) is perhaps the best known. The Tuckerton Site is located within a coastal marsh protected from the ocean shore by a sandy beach now stabilized by a shore road. During its occupation, the shell mound was adjacent to a tidal estuary and was on the shores of an inland bay. Its occupation from the Archaic Period through much of the Woodland is indicative of the stability of the shellfish resources of the area. Shellfish procurement and processing sites exist throughout the shellfish habitat region of southern New Jersey and should be searched for in areas adjacent to open bays and estuaries, and on the banks of former open water areas which may now be marshlands.

Other Early/Middle Woodland marine-oriented sites should be found on shorelines of the Atlantic Ocean and the Delaware Bay. These sites will usually be small procurement stations perhaps utilized in the pursuit of ocean fish, crabs, shellfish, and other marine food resources. The presence of an occasional large Early/Middle Woodland occupation on the shoreline may be explained by former topographical conditions. It is important to consider the fact that marine beaches are quite unstable and present conditions may not necessarily reflect those of a millenium ago.

Land-Based Subsistence Orientation

Land-based floral and faunal resources remained a dependable source of food for prehistoric occupants of southern New Jersey and were a significant factor in Early/Middle Woodland economies. Among the most notable land-based resources were deer and nuts. Other land fauna and such floral items as fruits, roots, and fleshy plants were exploited although it is not thought that activities associated with their procurement were dominant in any Early/Middle Woodland subsistence program. The scheduling of resource procurement activities, the settlement systems that were associated with them, and the distribution of natural food resources within the coastal plain were the subject of an investigation conducted in Delaware (Thomas et al. 1975). This study indicated that settlements were dependent upon major food resources and that, although a wide range of foods may be exploited by a people, their procurement was usually fit into a schedule based upon the availability of the major resources (fish, shellfish, nuts, deer).

Land-based resource exploitation occupation sites can be found in areas where it was efficient to hunt and gather. Efficiency involves obtaining the maximum resources for the least amount of effort. Areas in which several resource habitats overlap and are the most dense are those with the heaviest site density. In the case of deer, it can be expected that seasonal and/or transient campsites will exist along the edges of upland flats or in zones of maximum habitat variation. Deer tend to congregate at certain seasons in areas of heavy undergrowth. This provides them with both food and protection during periods of sparse plant growth and during periods when they congregate for purposes of mating. Nuts, on the other hand, are available in the fall and early winter when crops ripen. Nuts, such as hickory, acorn, and walnut, are found in areas of mature growth, usually in well-drained uplands.

A potentially major food resource used by Early/Middle Woodland Indians is that of horticultural products. The evidence for the practice of plant cultivation in New Jersey, and indeed along the Middle Atlantic Coast, is indirect and somewhat speculative. Consequently, it is not possible at this time to demonstrate that horticulture is an integral part of any Early/Middle Woodland subsistence system. There is evidence that horticulture modified the socio-economic and the settlement patterns of the period; however, this remains to be further explored.

Land-based subsistence oriented archeological manifestations of the Early/Middle Woodland Period have been reported for the entire southern New Jersey coastal plain. For the most part, these sites appear to be small, seasonal, or transient campsites utilized by peoples procuring local resources. They are represented in the archeological record by projectile points, knives, scrapers, and

other faunal food processing tools, by fire-craked rocks, hammerstones, and other items used in processing such floral foodstuffs as nuts and roots. No semi-permanent base camps of this period have been identified in inland areas except those that can be explained as due to riverine economic orientation.

Non-Subsistence Based Sites

There are aboriginal sites of the Early/Middle Woodland Period that do not appear to be directly related to any of the above subsistence activities. In fact, these sites are not subsistence-related at all; rather, they seem to be mortuary sites exhibiting evidence of elaborate religious and burial practices. Mortuary sites are known from southern New Jersey for earlier temporal periods (Regensburg, personal communication). Sites of this nature have been reported throughout much of the Middle Atlantic Coastal Plain (Thomas 1970; Ford 1976; Mounier n.d.) and they exhibit certain traits in common.

Mortuary sites of the Early/Middle Woodland usually contained burials of more than one type: single flexed; single extended; bundle; cremation; etc. Often the burials are accompanied by grave furnishings made of exotic materials and/or non-local styles. Sites are located in areas of previous and later occupations by prehistoric peoples but most often do not contain surface indications of the mortuary practices. In several cases, indications of Early/Middle Woodland mortuary sites exist in areas with no other evidence of prehistoric occupation. These sites are usually discovered as a result of plowing, natural erosion, or because of ground disturbance due to road construction, house building, or other grading activities.

It is impossible to predict the locations of all mortuary sites. Based on characteristics common to most sites of this nature that have been found to date, it does seem that purposeful selection of high, well-drained promontories that overlook open bodies of water and/or marsh is likely. The New Jersey coastal plain has locations that fit these criteria and, until more information can be recovered, it is necessary to consider all these areas as potential Early/Middle Woodland mortuary sites. The distribution of known southern New Jersey sites does not allow archeologists to link the potential occurrence of these sites to particular drainage systems.

Summary

Early/Middle Woodland cultural resources appear to be distributed over the southern New Jersey landscape in definable patterns. These concentrations are due to the establishment of specialized

activity and occupation centers which reflect the subsistence-settlement systems then in use. The identification of the types of subsistence and settlement activities engaged in will allow an understanding of the evident patterns.

Sites are occupied and used for various spans of time and for a variety of reasons. Previously, it was suggested that Early/Middle Woodland peoples engaged in fishing, shellfishing, hunting, gathering, and perhaps, horticulture for the purposes of providing themselves with nourishment. The following occupation/activity centers can be expected:

1. Fishing Stations. Sites should be found near the head of tidewater (some distance downstream from present limits). They should be located on well-drained uplands near the natural constrictions of streams and, when possible, near smaller streams entering the major waterway. Larger New Jersey streams should have fishing camps upstream from tidewater; the siginficant factor here is the presence of shallow water and natural constrictions. Fishing stations may offer evidence of fish procurement and processing such as fire-cracked rock used in cooking, fish net weights, gorges and hooks, and, when the preservation is good, fish scales and bones. Fishing stations may be partially or totally inundated due to rising seas and the covering of marshlands encroaching on previously dry areas.
2. Shellfish Middens. Middens containing the remains of countless oyster and clam meals will usually be found on the banks of existing open water as well as along former bays that are now partially filled in with marsh growth. These sites will often take the form of low-lying mounds and are recognized easily. In other cases, such as at Wolfs Neck in Delaware, middens will be shallow and broad and will have been partially hidden by marshland and slope wash from higher upland erosion. Middens of the mound type can be found in many southern New Jersey marshes especially on the Atlantic Coast side of the state. Artifacts are not numerous but the economic data existing within these mounds and "sheet" middens make them valuable resources.
3. Hunting/Gathering Camps. Transient or seasonal campsites may be expected in any of the natural habitats of the resources being procured. In the case of deer hunting camps, they may be expected in or near upland flats at the headwaters of the coastal plain streams. The Early/Middle Woodland campsites should be situated in areas near former Archaic campsites since the distribution of the wet, wooded flats would not have changed appreciably between the two periods of time. Being specialized procurement spots, these sites should contain artifacts used for purposes of food procurement, processing, and camp living during periods in which these sites were occupied.

4. Base Camps. Semi-permanent occupation sites are lived in for most, if not all, of the year. They are occupied by persons within the society who are not necessarily involved, at the time, in specialzed procurement and processing activities as well as by those people who have returned with their gathered resources from the specialized camps. Early/Middle Woodland base camps may be located in areas from which the various items on the yearly diet can be exploited most effectively. In such cases, all artifact types associated with the resources should be found during excavation.
5. Mortuary Sites. Sites of mortuary ceremonialism are often located near recognizable base camps of Early/Middle Woodland peoples although they rarely overlap. Burials can provide the archeologist with a considerable amount of data about such things as belief systems, social organization, trade, and technology.

Once these various occupation and specialized activity stations have been identified and analyzed, the task of reconstruction can begin. It is first necessary to identify those cultural complexes or phases that existed in New Jersey's coastal plain, and to inventory and interpret their material remains. After this is done to the satisfaction of those investigators working not only in New Jersey but also in other parts of the Middle Atlantic Coastal Plain, and once these identified and inventoried cultural phases can be related to others identified in nearby areas, then it is possible to begin to interpret economic practices and means by which coastal plain populations interacted with the changing microenvironments.

The coastal plain of southern New Jersey is certainly not unique but the manner in which prehistoric peoples of this area interacted with the vastly different peoples of the coastal plains to the south and the north as well as the interiors of northern New Jersey, Pennsylvania, and New York, is certain to be a subject of importance in any investigation of intercultural and interareal communications.

Research Problems

Based upon the preceding review of the Early/Middle Woodland in New Jersey, it is obvious that the period exhibits considerable culture change and variety. A number of the major research questions recognized currently by prehistorians are listed below. It should be noted that research orientations are changing constantly and one can expect this list to require revision periodically.

In order to deal with these and future research problems, it is necessary to determine the range of sites utilized by each prehistoric population (i.e. the settlement system). This knowledge is also of importance for cultural resource management decision-

making as it will provide a sound basis for determining the relative significance of particular archeological sites. Such knowledge can come only from field testing of archeological hypotheses.

1. What cultural and environmental factors brought about the beginning of the Early/Middle Woodland in New Jersey? Are there any factors that existed in New Jersey that differed from the general factors responsible for this movement throughout the rest of the eastern United States?
2. What role did microenvironmental changes play in cultural change? During the Early/Middle Woodland Period, subtle changes in New Jersey's environment may have occurred that played significant roles in cultural change. Coordination between archeologists and paleoenvironmentalists must be encouraged. Sea level change should be given emphasis in these studies.
3. What is the settlement system associated with the earliest of the recognized cultural components of the Early/Middle Woodland? How can we relate Meadowood and Middlesex burials to known settlement systems?
4. What is the nature of the Abbott Phase trade system? Did the Abbott Phase people engage in an interaction sphere related to that of the Mid-West peoples of the Early and Middle Woodland Periods? How do we explain the presence of exotic artifacts and ceremonial practices at the Abbott Farm Site?
5. What is the origin and distribution of earliest ceramics? How did the presence of two different ceramic traditions within New Jersey come about and how did these traditions change?
6. What is the relationship between the Early/Middle Woodland cultural complexes in New Jersey and similar, related complexes in the rest of the Middle Atlantic Region? Are there any distinctive characteristics associated with the Early/Middle Woodland of New Jersey?
7. What significance did cultigens have in Early/Middle Woodland subsistence systems? Was the practice of plant cultivation instrumental in the development of the Early/ Middle Woodland and did it lead to the recognizable changes that occurred between the Early/Middle and Late Woodland Periods?
8. What led to the development of the Late Woodland regional variants? Not only is there a more obvious difference between cultural complexes during the Late Woodland of New Jersey but this period seems to have been a time when manifestations in the state differed significantly from those of other regions. What factors brought about the apparent breakdown in the Early/Middle Woodland regional interaction sphere?

Survey Priorities

The future of archeological research in New Jersey must be considered not only in relationship to sets of research questions and the development of research designs but must take into account those problems that are being brought about by factors of modern change. It is obvious that the data base is being threatened by construction of highways, urban sprawl, housing developments, and other more subtle impacts. The following discussion considers the nature of the potential impacts to the data base and recommends survey priorities for adoption by private and governmental agencies.

POTENTIAL IMPACTS TO CULTURAL RESOURCES

The basic threats to the Early/Middle Woodland sites of New Jersey are the same as those threatening all other archeological resources throughout the state. The emphasis may differ between northern and southern New Jersey, however, due to the differential distribution of resources over the landscape. For instance, Early/Middle Woodland shell middens of the Inner and Outer Coastal Plain are usually found in areas little used by modern farmers who cultivate large numbers of acres in upland areas. The slopes of uplands and the flat marshlands in which shell middens often occur would not receive much stress from modern agricultural practices. In contrast, other Early/Middle Woodland resources are threatened by urban sprawl and housing developments especially in areas adjacent to the modern urban centers of Camden, Trenton, and Newark, among others.

Mortuary sites are often located on well-drained knolls. These knolls are usually comprised of readily obtainable sands and gravels and, therefore, are often utilized for construction purposes as borrow areas. The same areas are preferred sites of modern rural homesites and many have been destroyed by the construction of these homes (see Mounier n.d.).

Those stresses felt to be especially threatening to Early/Middle Woodland cultural resources are as follows:

1. Agricultural practices. Most, if not all, upland sites in the Piedmont and the Inner and Outer Coastal Plains have been, or are now being, farmed. Current deep plowing practices are likely to disturb the integrity of base camps and mortuary sites of the Early/Middle Woodland Period;
2. Modern construction. Whether for highway, sewer, or housing developments, construction on an archeological site is almost certain to destroy that resource;

3. Natural agencies. Since many of the aboriginal sites of the Early/Middle Woodland are located in river floodplains or along rivers and bay shores, they are gradually eroded into the encroaching waters. Sites of this nature that have been destroyed in the past possibly outnumber those remaining to be discovered. This increases the significance of the remaining sites; and
4. Non-discriminate digging. There still remains some threat to the cultural resource base due to excavations by persons who are not skilled in, or concerned with, salvaging the research data. This threat becomes even more pertinent when an Early/Middle Woodland site has been located and made known to the general public or when the potentiality of the site location is recognized. Mortuary sites, with their exotic grave goods of Early/Middle Woodland derivation, are especially threatened by this problem.

RECOMMENDATIONS FOR SURVEY

The following recommendations do not constitute the only types of survey that should be engaged in by archeologists. They do, however, constitute especially critical needs as identified in the preceding discussion. These recommendations should allow for the completion of test studies which may result in the refining of survey needs.

1. All wetland/upland interfaces should be subjected to investigation either through sample surveys at various representative locations throughout the State of New Jersey or by requirements that cultural resource surveys be cognizant of the potential presence of Early/Middle Woodland sites at these locations. The presence of slope wash situations along marsh fringes will require subsurface testing. The existence of deeply buried Early/Middle Woodland sites in the larger river floodplains supports the need for subsurface testing at these locations.
2. Due to the changes in the coastline of southern New Jersey brought about by rises in sea level, it should be required that any programs which may impact underwater lands be subjected to intensive survey. Early/Middle Woodland sites may have been inundated since the economy of these people was closely related to riverine and marine resource exploitation.
3. Surveys should be instituted in any areas in which lithic resources are likely to occur. These surveys are significant to the interpretation of cultural interaction and should be undertaken in a systematic manner, rather than as a response to impending impact. Surveys of this nature will likely be restricted to known outcrops. Coordination with geologists will be necessary.

4. Due to the fact that mortuary sites are not often recognized by surface indications, it is necessary to recommend that survey be undertaken prior to any construction activity that may destroy a natural knoll of well drained soil that is adjacent to a river, a marsh, or a bay. Survey for these types of Early/Middle Woodland sites will, of course, require subsurface testing. Efficient means can be established for this type of testing survey. It is also recommended that, in areas of known mortuary sites, knolls be included in a survey program initiated prior to any development or construction activities. This survey program can be initiated as a research activity under the general survey and planning program sponsored by the State Historic Preservation Officer.

Conclusion

The archeological record from New Jersey has been reviewed and indications are that Early/Middle Woodland cultural activity was relatively dense. The resources derived from the occupation sites of this period vary widely and are found throughout the state. The task of planners and preservationists is to locate and identify these resources and to take appropriate measures to assure their conservation.

Early/Middle Woodland cultural resources, like all others, are distributed in a patterned manner. That pattern is based upon economic pursuits and supportive settlement activities. This paper contains the suggestion that preservation efforts should be concentrated in those microenvironmental settings or zones which are likely to have supported Early/Middle Woodland peoples. These settings include loci that are strategically located for the procurement and processing of fish, shellfish, deer, nuts, and horticultural products, as well as non-edible resources such as lithic materials, grasses and reeds for basketry, sources of clay for ceramics and other commodities. Also to be included on this list are areas of potential mortuary sites.

The concern for the conservation of cultural resources of all periods and peoples is a necessary part of the historic preservation process. The Early/ Middle Woodland resources of New Jersey are, perhaps, especially deserving of attention. Since so little is known about this time period and since what little is known indicates that a relatively complex series of cultural systems (religious, social, interregional communications, etc.) exist in the data base, it is critical that this important part of New Jersey's cultural heritage be preserved. Although the Abbott Farm National Historic District stands out as a preservation priority, field surveys are needed to identify other resources which should be preserved to permit reconstruction and understanding of the Early/ Middle Woodland Period in New Jersey and the Mid-Atlantic area.

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