

III. PREHISTORIC AND HISTORIC BACKGROUND

A. Prehistoric

The SR 896 project area is situated in the High Coastal Plain of northern Delaware, near the fall line marking the Piedmont transition. The prehistory of the region is conventionally divided into three general periods reflecting widespread developments in the environment as well as technological and social adaptation. Following Griffin's (1967) chronology for eastern North America, these periods are referred to as the Paleo-Indian (ca. 14,000-8000 B.C.), the Archaic (ca. 8000-1000 B.C.), and the Woodland (ca. 1000 B.C.-A.D. 1600). An alternative chronology has been proposed by Custer (1984, 1989) for the Delmarva Peninsula. Much of the existing database for Delmarva, as well as the settlement pattern models derived from that data, result from work conducted by Custer and his associates (e.g., Custer 1982; Custer and Bachman 1984; Custer and DeSantis 1985; Custer and Cunningham 1986). Thus, for comparative purposes, the regional Delmarva chronology has been employed in the current study. The chronology defines the Paleo-Indian period as extending from 12,000-6500 B.C., and the Archaic period from 6500-3000 B.C. Two later periods are recognized: Woodland I, from 3000 B.C. to A.D. 1000; and Woodland II, from A.D. 1000 to 1600. Table 3-1 summarizes the correspondence between the chronologies, along with their relationships to the major climatic periods discussed earlier.

1. Paleo-Indian

The record of human habitation in the Middle Atlantic begins approximately 14,000 years ago, near the end of the cool and relatively wet Late Wisconsin Glacial period. As previously detailed, the retreat of the glaciers brought a fairly rapid warming trend throughout the Middle Atlantic, a phenomenon directly reflected in the replacement of northern plant and animal species by southern types. Like much of the region, New Castle County was characterized by a relatively complex set of overlapping micro-environmental zones, providing a variety of subsistence resources for prehistoric populations. The large Pleistocene grazing and browsing fauna were by this point mostly

	CLIMATIC EPISODES	TRADITIONAL MIDDLE ATLANTIC CHRONOLOGY	CUSTER'S DELMARVA CHRONOLOGY	HIGH COASTAL PLAIN AND PIEDMONT / FALL LINE COMPLEXES
1600 A.D.	SUB-ATLANTIC	LATE WOODLAND	WOODLAND II	MINGUANNAN
1000 A.D.		MIDDLE WOODLAND	WOODLAND I	WEBB-- DELAWARE PARK
500 A.D.				CAREY
0 A.D.	WOLFE NECK-- DELMARVA ADENA			
500 B.C.	SUB-BOREAL	EARLY WOODLAND	ARCHAIC	CLYDE FARM-- BARKER'S LANDING
3000 B.C.		LATE ARCHAIC		
4500 B.C.		MIDDLE ARCHAIC		
6500 B.C.	ATLANTIC			
8500 B.C.	BOREAL	EARLY ARCHAIC	PALEO-INDIAN	
10,500 B.C.	PRE-BOREAL	PALEO-INDIAN		
12,000 B.C.	LATE GLACIAL			

Table 3-1. Regional Prehistoric Chronology

gone from the Middle Atlantic region, and the woods and transitional zones would have supported a much wider range of floral and small faunal species than were present in the western savannahs (Wesler et al. 1981). Consequently, big game hunting was a less important part of the subsistence round.

Archaeological sites dating to this period are usually identified by the presence of fluted stone projectile points, often made of high quality, cryptocrystalline lithic material such as chert or jasper. These points, used as spear tips, are relatively rare throughout the Middle Atlantic. The points are frequently reported as isolated finds, and it is unclear whether they represent small camp sites or individual hunting forays.

Some of the most intensively studied Paleo-Indian sites in the Middle Atlantic region lie in the Shenandoah Valley of Virginia. Excavation of these sites has indicated a tendency for Paleo-Indian base camps to be situated in areas of high resource diversity, particularly near sources of cryptocrystalline stone (Gardner 1974; 1979). Other smaller and more temporary camp sites were situated near quarry sites and served a variety of purposes, while even more ephemeral hunting camps were often located still farther from the base camp. A similar pattern has been noted for areas in which cryptocrystalline stone is available in northern Delaware (Custer and DeSantis 1986); a cyclical model, focused on quarry locations, has been proposed to describe settlement and resource exploitation during the period (Gardner 1977; Custer 1989). In central Delaware, where high quality lithic material is not readily available, it has been suggested that base camps were associated with topographic features rather than with lithic resource concentrations. Sites were most often located on well-drained ridges in areas of maximum habitat overlap (Custer and DeSantis 1986), or possibly in association with bay/basin features, though the latter proposition has not been borne out by the archaeological record (Custer 1989). Resource exploitation in such non-quarry areas has been characterized by a serial model of settlement, in which lithic raw material was not a focus of landscape use, but was rather part of a more generalized resource procurement round (Custer et al. 1983).

Relatively few Paleo-Indian sites have been reported throughout the Middle Atlantic. It is probable that many were located on the continental shelf and are now submerged by the rise in sea level that accompanied the melting of the polar ice sheets (Kraft and John 1978). A group of fluted point finds are reported in northeastern Cecil County, Maryland, and northwestern New Castle County, Delaware, associated geographically with the Delaware Chalcedony Complex, of which Iron Hill forms a major component (Custer and Glasso 1980; Custer et al. 1986a). Notably, though, no fluted points of Iron Hill jasper have been recovered (Custer 1989). Most of the Paleo-Indian locales reported in Delaware, such as the Hughes complex of sites (7K-E-10, 7K-E-24, 7K-E-33) in southwestern Kent County, lie in the central portion of the peninsula (Custer 1989).

The traditional Middle Atlantic chronology describes a break in cultural patterns at about 8000 B.C., corresponding approximately with the warming trend signaling the Boreal climatic episode. The new pattern, referred to as the Archaic period, usually ranges from ca. 8000 B.C. to 1000 B.C. It was characterized by an adaptive response to the emergence of the so-called full Holocene environment, an environment increasingly like that of the present (Joyce 1988). Major sub-periods, referred to as Early, Middle and Late Archaic, are recognized within the Archaic period. Most Middle Atlantic archaeologists agree that there is some continuity between the Paleo-Indian and the Early Archaic periods (Gardner 1974; Johnson 1986; Custer 1990). Custer (1984, 1989) has taken the further step of combining the two periods under the single rubric of Paleo-Indian. While there is evidence for an increase in the number of sites later in this extended Paleo-Indian period, high residential mobility and a varied subsistence base are typical throughout the period. Intensive foraging may be assumed from the more transitory use of resource areas suggested by the presence of many small sites.

The latter portion off the Paleo-Indian period in Delmarva, from about 8000 B.C. to about 6500 B.C., is marked by the appearance of new projectile point styles. Among the cultural diagnostics of the period are the corner-notched, serrated Palmer and Kirk

points; the slightly later Kirk-stemmed types; and the still later bifurcate base points. Like the earlier fluted points, these types probably served as spear tips. A change is also noted in lithic raw material preference in portions of the Coastal Plain near the end of the period, with non-cryptocrystalline stone, and in particular, quartzite, rhyolite, and argillite, becoming the predominant material. Custer (1986) has noted a markedly greater incidence of rhyolite, for example, in Kirk-notched and -stemmed points, beginning about 7200 B.C. in Delmarva, in contrast to earlier types, such as Palmer and Amos, which were largely manufactured of chert or jasper. Use of non-cryptocrystalline materials continued to grow significantly throughout the rest of the Paleo-Indian period, to approximately 6000 B.C. Custer emphasizes that the change occurred considerably later than the switch from fluting to notching as a hafting feature and that the technological changes are thus unrelated. Furthermore, the exclusivity of cyptocrystalline raw material use in the early notched points from the period is assumed to imply continuity in settlement pattern with the quarry-based, cyclical model associated with previous, fluted point manufacturing groups.

The reorganization of lithic technology reflected in the selection of non-cryptocrystalline raw material is thus seen as the major cultural break signaling the onset of the Archaic. In contrast to the previous settlement focus on lithic raw material quarry sources, a new pattern involving the serial exploitation of a variety of primary and secondary sources became embedded within a more generalized procurement system (Custer 1989). Doubtless, the interplay of several factors—population mobility, specific resource focus, lithic resource access, and hunting strategy among them—was involved in the variation in lithic choice observed at this time. Nonetheless, stability in the settlement patterns and resource exploitation from the earliest portions of the Paleo-Indian period appears to have been the general rule in eastern North America.

2. Archaic

The Delmarva chronology recognizes the Archaic period as an undifferentiated interval of adaptation extending from ca. 6500 to 3000 B.C., corresponding roughly with the traditional Middle Archaic sub-period period (ca. 6500-2500 B.C.). By this time, local populations were exploiting the new floral and faunal resources brought by the transformation of the mixed pine-oak forest to a temperate oak-hemlock deciduous forest. Large marshes and swamps, which resulted from sea level rise and the ongoing inundation of coastal waterways and alterations in local water tables, became an important focus of occupation during the period. Although generalized foraging is assumed as the main resource procurement strategy, seasonally specialized, transient procurement stations are identified, functioning as support facilities for estuarine base camps (Gardner 1978; Custer 1986).

One of the most important environmental changes affecting prehistoric populations throughout the Middle Atlantic region during the Archaic period was the gradual rise in sea level accompanying the retreat of the continental ice sheets. Beginning during the Paleo-Indian period in a phenomenon referred to as the Holocene marine transgression, rising sea level produced widespread lowland flooding, which extended up many Pleistocene river valleys, such as the Delaware and Susquehanna, giving rise to the term "drowned" river valley (Stuiver and Daddario 1963). Among the effects of inundation were a marked rise in local water tables; an increase in shoreline complexity, associated with estuary development; and a consequent increase in floral and faunal resources in newly formed marsh or wetland areas (Potter 1982).

The Archaic period artifact assemblage included projectile point forms such as several bifurcate types—St. Albans, LeCroy, and Kanawha—along with the stemmed Stanly or Neville. Early long or broad bladed forms, such as Guilford and Morrow Mountain, and the later, side-notched Halifax point, are also recognized regionally (Coe 1964). Custer (1989:123-4) contends that only the bifurcated points have sufficiently unambiguous date ranges to be chronologically diagnostic for the period in Delmarva.

The lithic tool kit during this period was further marked by the appearance of groundstone tools—the first hard, artifactual evidence of extensive plant processing.

3. Woodland I

Traditional Middle Atlantic chronologies recognize a final sub-period of the Archaic, the Late Archaic, extending from ca. 2500 B.C. to 1000 B.C. The Delmarva chronology combines the Late Archaic with the initial two sub-periods of the Woodland, the Early and Middle Woodland, into a broad cultural period referred to as Woodland I (ca. 3000 B.C.-A.D. 1000). The Woodland I was initially characterized by the prevalence of an oak-hickory forest environment. The rate of sea level rise slowed, allowing riverine and estuarine environments to form that were stable enough to support significant populations of shellfish and anadromous fish in larger streams. The focus of settlement shifted during the initial part of the period to these riverine and estuarine locales to take advantage of the increasingly predictable fish and shellfish resources (Custer 1978; Gardner 1978). In Delmarva, a pattern of warmer and drier climatic conditions during the period, referred to as the mid-postglacial xerothermic, led to the relatively rapid burial of certain landscapes through aeolian or windblown deposition. The process has been observed in association with xeric soils throughout the Low Coastal Plain, and to some extent the High Coastal Plain, within which the present study area is situated (Curry 1980, 1992; Ward and Bachman 1987; Curry and Ebright 1989).

A marked increase in the number of sites is observed during the early portions of the Woodland I, suggesting both an overall population increase and movement into new environmental zones (Turner 1978). Some sites in the riverine and estuarine areas tend to be larger and more complex than any occupied during previous periods, suggesting a trend toward sedentism and organized resource procurement strategies (Johnson 1986). It is the apparent development of sedentism that forms the basis for Custer's segregation of the traditional Middle and Late Archaic periods. Gardner (1982) maintains that, in the fall line regions, large, spring-and-summer base camps existed during the initial Woodland I at which anadromous fish were harvested. Smaller, fall-and-winter base

camps were situated along inland streams, while multi-seasonal, transient camps were located in a variety of environments, offering additional support to the large and small base camp occupations.

Chipped stone artifacts characteristic of the period included a wide range of broad-bladed, stemmed, and notched points. Custer (1989) suggests that due to an apparent profusion of point types during the period, chronologies based on typical specimens are problematical and thus unreliable. Point types considered to be useful temporal indicators include Otter Creek; broadspears such as Susquehanna, Perkiomen, Koens-Crispin, and Savannah River; and Fishtails. Other points ranging from Vosburg and Brewerton, through Normanskill, Lamoka, Bare Island and Piscataway, are considered to be of relatively little use in establishing chronological trends.

Data from the Hawthorn site (7NC-E-46), adjacent to Churchman's Marsh, northeast of the project area, have been cited as indicating the multiplicity of overlapping point styles during the period (Custer and Bachman 1984, 1985). The site was presumed to represent a single episode of occupation, and one radiocarbon date from the site, 2250 B.C., was taken as evidence of primary occupation in the early part of Woodland I. Long, narrow-bladed points, referred to as Bare Island/Lackawaxen to associate them with Kinsey's (1972) Piedmont Archaic tradition, were used as heavy butchering tools. A series of smaller side-notched points were used in light butchering and cleaning, while small stemmed points were used as projectiles. In many areas, particularly in the Piedmont to the west and north of the study area, certain lithic materials are commonly associated with specific broad-bladed points: e.g., rhyolite for Susquehanna, argillite for Koens-Crispin. Based on artifact associations, it has been inferred that these broader points were designed in part to exploit the new riverine resources (Witthoft 1953; Ritchie 1965). These points are often found in association with vessels carved from steatite, another characteristic artifact of the period.

Around 1000 B.C., techniques for pottery manufacture were introduced across the region. This innovation has traditionally defined the beginning of the Woodland period in the Middle Atlantic. Ceramics, which tend to have somewhat more discretely bounded time ranges during the period than do projectile points, have become the primary temporal indices.

The deliberate and intensive foraging strategies of the early Woodland I period appear to have remained unchanged in the latter portions of the period. Nonetheless, there is some evidence for an increase in sedentism as the inhabitants of the area became more efficient in exploiting available resources. Gardner (1982) has postulated that, rather than breaking up into small base camps in interior freshwater settings, occupants of the large spring-and-summer base camps in anadromous fishing zones regrouped in the fall and winter near the freshwater/saltwater transition to take advantage of the abundant shellfish resources there.

The earliest known ceramic in the area, used from about 1200 B.C. to 800 B.C., is a stearite-tempered variety referred to as Marcey Creek ware, after its type site on the Potomac River in Arlington County, Virginia (Manson 1948). A radiocarbon date of 950 ± 95 B.C. was obtained from southern Maryland for Marcey Creek pottery (Waselkov 1982). A subsequent diagnostic ceramic type of the period is the crushed hornblende- or gneiss-tempered Dames Quarter ware (Artusy 1976). A date of 1005 B.C. has been recorded for Dames Quarter at Clyde Farm (7NC-E-6a) (Custer et al. 1986b). Custer (1989) notes that the predominant projectile points accompanying these ceramic wares in Delmarva are long, stemmed points, referred to together as Bare Island/Lackawaxen, and various broadspears and fishtails. Beginning in the Woodland I period, Custer notes a series of regional complexes, which he describes as “set[s] of archaeological sites showing similar adaptations to the biosocial environments with limited spatial and temporal distributions” (Custer 1989:36). Dames Quarter ceramics and the stemmed, broadspear and fishtail points described above comprise a cultural complex designated as Barker’s Landing in the High Coastal Plain and as Clyde Farm in the Piedmont/Fall Line

zone. It has recently been proposed that distinctive residential patterning developed during the Woodland I, beginning with the Clyde Farm Complex (Custer 1994). Evidence of pit houses associated with Woodland I period occupation has been reported at sites including the Leipsic site (7K-C-194A), on the Leipsic River in northern Kent County (Custer et al. 1995b); the Pollack site (7K-C-203), on the opposite bank of the Leipsic from 7K-C-194A (Custer et al. 1995a); and the Snapp site (7NC-G-101), on the Chesapeake and Delaware Canal at State Route 1 (Custer and Silber 1995).

There is some evidence for changes in regional settlement patterns during the final stages of the Woodland I, with semi-sedentary base camps, referred to as macro-band base camps, increasing in size (Custer 1989; 1994). Studies indicate a shift in the locations of these base camps from small, creek floodplains to large, river floodplains. This proposed shift may have set the stage for the local development, or acceptance, of horticulture (Snyder and Gardner 1979; Gardner 1982). On the Delmarva Coastal Plain, Custer (1986; 1994) notes a shift in base camp locations from confluence areas of freshwater streams and estuaries to locations farther upstream. Increased participation in trade and exchange networks is also noted, as is an increase societal complexity. Both processes are inferred from presence of exotic lithic raw materials and artifacts and burial ceremonialism associated with cultures from the Mississippi and Ohio River Valleys (Custer 1989).

Technologically, the late Woodland I in Delmarva is characterized by a relatively thick ceramic ware, known as Wolfe Neck. Wolfe Neck vessels are typically tempered with crushed quartz and bear cord-marked or net-impressed exteriors. Radiocarbon dates for Wolfe Neck range from 505 B.C., at the type site at Wolfe Neck Farm (7S-D-10), to 380 B.C., at Dill Farm (7K-E-12) (Griffith 1982). No specific projectile point types are associated with the ceramics, in what is referred to in the Piedmont/Fall Line zone as the Wolfe Neck Complex. Argillite, acquired from quarry sources in southeastern Pennsylvania and southern New Jersey, and rhyolite, acquired in the Ridge and Valley of

western Maryland and south central Pennsylvania, comprise significant proportions of the lithic assemblages.

The Delmarva Adena Complex is recognized in the High Coastal Plain. The complex is typified by Adena notched points, usually made from high-quality chert from the Ohio River Valley, and a series of clay-tempered ceramics, resembling the Wolfe Neck wares, with type names such as Coulbourn, Nassawango, and Wilgus (Custer 1989). Among the most important Adena sites reported in Delmarva are the Wilgus site (7S-K-21), with a radiocarbon date of 290 B.C. (Artusy 1978); the Nassawango site (18WO23), across the Mid-Peninsular Drainage Divide in Worcester County, Maryland, with Adena burials and dates ranging from 785 B.C. to 240 B.C. (Bastian in Custer 1989); the St. Jones site (7K-D-1) with a radiocarbon date of 380 B.C. (Thomas 1976); and the Killens Pond site (7K-E-3) and the Frederica site (7K-F-2). Most of these sites contain numerous burials, caches of late stage bifaces of Flint Ridge (Ohio) chert, beads, pipes, and other characteristic grave goods.

By the end of the Woodland I (ca. A.D. 200-900), a shift is observed to a thick-walled, shell-tempered, often cord-marked or net-impressed ceramic ware, known as Mockley. The date range for Mockley in Delmarva is approximately A.D. 110 to 450 (Artusy 1976), although most Mockely sites cluster between A.D. 200 and 330—at Carey Farm (7K-D-3), the Wilgus site (7S-K-21), the Hughes-Willis site (7K-D-21), the Wolfe Neck site (7S-D-10), and 18KE17, on the Eastern Shore of the Chesapeake in Kent County, Maryland (Custer 1989). Lithic projectile points associated with the period include lanceolate and stemmed Fox Creek or Selby Bay, corner-notched or pentagonal Jack's Reef, and shouldered and contracting stemmed Rossville (Steponaitis 1980; Wanser 1982). A resurgence is also noted during the period in the use of argillite and rhyolite in lithic tool manufacture (Custer 1986; Curry and Kavanagh 1989).

Custer (1989) notes the presence of Mockley ceramics and Fox Creek points as hallmarks of the Carey Complex (0—A.D. 600), which is recognized throughout the

physiographic zones of Delmarva. The beginning of the Carey Complex is marked by the retreat of Adena influence on the peninsula, including the abandonment of mortuary centers. Continuity is noted with the preceding Wolfe Neck Complex in settlement and regional exchange patterns.

Other complexes are recognized late in the Woodland I in Delmarva, including the Delaware Park Complex in the north and the Webb Complex in the south. Attributes of the Delaware Park Complex are described mainly as a result of excavations at the Delaware Park site (7NC-E-41), where a number of large and small storage pits were documented. Radiocarbon dates of A.D. 605 and 640 obtained from two of the pit features (Thomas 1981). Associated with the features were Hell Island ceramics, crushed quartz-tempered and fabric- or cord-impressed, with a date range of approximately A.D. 600—1000. Associated lithics consisted of Jack's Reef pentagonal, Rossville, and a generalized side-notched point. A similar combination of Hell Island ceramics and Jack's Reef points was recorded at Clyde Farm (7NC-E-6) (Custer 1989). In comparison with the contemporaneous Webb Complex, relatively low levels of exchange are inferred, based on a general absence of exotic artifacts.

The Webb Complex was identified at the Island Field site (7K-F-17), and is similar in terms of diagnostic artifacts to the Delaware Park Complex, with Hell Island ceramics and Jack's Reef pentagonal points. In addition, burials and evidence of mortuary ceremonialism suggest the re-emergence of contact with extra-regional groups (Thomas and Warren 1970). A radiocarbon date of A.D. 740 was returned from a cremated burial at the site. Among other Webb Complex sites are the Hell Island site (7NC-F-7) and the Taylor Cedar Creek site (7S-C-17) with a date of A.D. 645 (Artusy 1976). A change in settlement is seen during the Webb Complex. Large macro-band base camps appear to have reached a threshold size during preceding periods, eventually fissioning into smaller base camps. Few Webb Complex macro-band base camps are known (Custer 1989).

4. Woodland II

By approximately A.D. 900, horticulture began to achieve a significant role in the total subsistence system throughout much of the Middle Atlantic. Direct evidence of cultivation is rare and scattered on the Middle Atlantic Coastal Plain, and has yet to be recorded on the Delaware Coastal Plain (Custer and Cunningham 1986). Evidence is abundant, though, of a pattern of focused collecting on a scale with earlier Woodland subsistence systems; therefore, agriculture is presumed to have remained a secondary activity (Custer 1989). Increased sedentism is assumed based on the presence of storage facilities and house structures. The disappearance of exotic lithics and non-local influences on mortuary practices, along with a marked period of cultural stability as evidenced in ceramic wares throughout the period, imply an apparent breakdown of the extensive trade and exchange networks operating during the early portions of the Woodland I.

These changes are distinct across Delmarva and represent a cultural break defined as the Woodland II, which extended from A.D. 1000 to 1600 (Custer 1989). The latter date represents the approximate date of European Contact. The Woodland II period corresponds roughly with the Late Woodland period in traditional Middle Atlantic chronologies.

Two regional complexes are recognized within Delmarva, distinguished by distinctive ceramic wares and certain variations in settlement pattern. In the Piedmont/Fall Line and High Coastal Plain zones, the Minguannan Complex is distinguished by a ceramic ware of the same name, which is characterized by sand-, grit-, or crushed quartz temper, and smoothed or cord-marked exteriors. Minguannan ware is often decorated with incised or corded designs, which are occasionally found together in a variety referred to as Minguannan Compound Decorated. Associated projectile point forms appear restricted to several triangulars. There is little indication of widespread sedentism associated with Minguannan Complex sites—there are no large villages, nor is there a marked shift to fertile bottomlands.

The second Woodland II cultural complex, Slaughter Creek, occurs mostly in the Low Coastal Plain. Settlement is characterized by large macro-band base camps and villages, particularly south of the Mispillion River at sites such as Mispillion (7S-A-1), Slaughter Creek (7S-G-30), and Townsend (7S-G-2). Diagnostic artifacts of the complex include the thin-walled, shell-tempered, and fabric-impressed Townsend ceramics (Blaker 1950; Griffith 1977). Both simple and complex decoration occurs on Townsend ware, applied either with incised lines or cording. As with the Minguannan Complex, associated lithics are restricted to several triangular projectile point types.

B. Historic Period

Under the sponsorship of the Dutch West India Company, the earliest settlement in Delaware was established in 1631 at Lewes, in Sussex County (DeCunzo and Catts 1990a, 1990b). Soon after the settlement was established, it was destroyed during a massacre by the local native inhabitants. In 1638, near the present day City of Wilmington, the first permanent settlement, known as Fort Christiana, was established by the New Sweden Company. Fort Christiana became the nucleus of a settlement of Swedish and Finnish farmers and traders. In 1651, the West India Company built Fort Casimir, at the present day location of New Castle, to block Swedish efforts to control commerce. The Dutch eventually prevailed, capturing Fort Christiana in 1655, and establishing a fort at Lewes. English hegemony in the Delaware River and Chesapeake Bay areas began with attacks on the Dutch in 1664. The English were successful in confiscating land previously controlled by the Dutch.

The early Swedish, Dutch, and English immigrants were farmers, principally growing tobacco, rye, and barley. Within New Castle County, five tax districts, or hundreds, were established by 1687, including Pencader Hundred near the present town of Glasgow (Lothrop et al. 1987). By the end of the seventeenth century, wheat became an important crop, signaling a shift from a subsistence-oriented economy to market-

oriented agriculture. Lumber export became an important industry, and continued throughout the seventeenth and eighteenth centuries. The Iron Hill area was known to contain iron ore deposits by 1673 (Lothrop et al. 1987). Attempts to mine and smelt the ore were unsuccessful in the seventeenth century, but smelting became better established in the region in the eighteenth century (Lothrop et al. 1987, Vidal 1988).

Formal settlement of Pencader Hundred and vicinity began with a grant from William Penn in 1701 (Lothrop et al. 1987). Welsh settlers occupied the area, establishing several churches. During the eighteenth century additional inland roads were established throughout the Delmarva Peninsula, including the route from the Summit Bridge area through Glasgow to Newark, towards Cooch's Bridge (Lothrop et al. 1987). The present day village of Glasgow, first called Aiken's Tavern, began as a hamlet at the intersection of overland inter-regional connectors (Lothrop et al. 1987). Glasgow and its vicinity achieved historical significance during the Revolutionary War with the role it played in the Battle of Cooch's Bridge (Lothrop et al. 1987). The only revolutionary engagement between British and American forces in Delaware took place north of Glasgow. The vastly outnumbered American troops were eventually put to flight after skirmishing. Both before and after the engagement, Aiken's Tavern served as the headquarters for the British forces.

By the mid-eighteenth century, towns and industry grew, stimulated by commercial expansion and an increasing population (DeCunzo and Catts 1990a, 1990b). Wilmington prospered and became the largest urban center in the Delaware colony. In the Piedmont and Upper Peninsula, most of the population was engaged in farming, combining grain cultivation with livestock raising. These commercial farming communities sold a high proportion of their agricultural produce. Besides wealthy farmers, the communities were also composed of artisans, professionals, and merchants.

During the nineteenth century, the economy of Delaware remained predominately agricultural, although there were some significant changes in the farming practices during

this time period. The population growth of the late-eighteenth and early-nineteenth centuries forced many new farmers to clear and farm lands of poor or marginal quality (DeCunzo and Catts 1990a, 1990b). However, the farming of marginal lands and a downturn in the price of wheat resulted in hardship for many agriculturalists. As a consequence, many farmers migrated to better lands towards the west. By the middle of the eighteenth century, these abandoned marginal farm lands were incorporated into the holdings of wealthier farmers. The trend towards tenant farming increased considerably during this period. The development of new sources of income in industrial and urban areas partly offset agricultural declines in the early part of the nineteenth century. During this time road networks were expanded or upgraded, and turnpike companies were chartered. In 1829, the Chesapeake and Delaware Canal was opened, providing a fast way of crossing the Peninsula (Wise 1983; Lothrop et al. 1987). The growth of railroads significantly influenced the course of Delaware's economic development, providing access to important urban markets to the west and north, and resulting in the emergence of new towns and changes in agriculture and industry.

The years between 1870 and 1900 saw a decrease in the percentage of the population engaged in agriculture, and an increase in the number engaged in industry and manufacturing (DeCunzo and Catts 1990a, 1990b). Farmers diversified their crops, growing produce such as tomatoes, apples, potatoes, strawberries, and other fruits and vegetables in response to market demands in the eastern U.S. During this time, internal transportation and inter-regional routes continued to improve. Industrialization and commercialization continued to be focused in the Piedmont, with the Upper and Lower Peninsula remaining agrarian. In the 1930s, many roads in Pencader Hundred were dualized, but these developments did not substantially alter the prevailing rural character of the area (Bowers 1987). During the 1960s, however, suburbanization increased in New Castle County, and large areas are still undergoing transformation as agricultural lands are converted for commercial, light industrial, and residential uses (Bowers 1987).