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First 300 Years Of Sussex County, Delaware

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An Archaeological Study of a Proposed Research Park near Lewes, Sussex County, Delaware

INTRODUCTION

On October 14, 1981 a copy of General Conditions and Scope of Work was received by Mid-Atlantic Archaeological Research, Inc. from the Engineering and Construction Department of the University of Delaware, Newark. The correspondence concerned the University of Delaware Research Park, Marine Studies Complex, Sussex County, Delaware (Bid # 2692) and was signed by Mr. Herman A. Smith, Department Director. Bid proposals were requested by October 30, 1981 to be opened at that time.

The necessity for an archaeological survey of the Lewes project was due to the use of Economic Development Administration funds which necessitate compliance with Section 106 of the National Historic Preservation Act of 1966 as amended. In accordance with the Advisory Council of Historic Preservation's Regulations (36 CFR 800), it was determined that the proposed Marine Studies, University of Delaware, project might adversely effect significant historic and prehistoric cultural resources located within the project area. As a consequence, contact was made with the State of Delaware, Bureau of Archaeology and Historic Preservation and a Scope of Work for a survey to locate and determine the significance of the expected historic resources and to determine the effects of the proposed development of the project thereon was developed.

Project Location and Description

The proposed Research Park study area is located at the University of Delaware College of Marine Studies, Marine Studies Complex, Lewes, Sussex County, Delaware. The property is to be used for the development of a Marine Studies Industrial Research Park and is situated due south of the current facilities of the College NW of New Road and south of Pilot Town Road (see Figure I-1). The property consists of slightly more than 50 acres of cultivated land and includes a marsh area with wooded fringe. The proposed Research Park can be located on the 7.5 Minute Lewes Quadrangle Map and is encompassed by the following UTM's:

Zone	18	Easting 485,775	Northing	4,292,100	А
Zone	18	Easting 486,000	Northing	4,292,100	В
Zone	18	Easting 486,775	Northing	4,291,875	С
Zone	18	Easting 486,000	Northing	4,291,873	D

At present the land is being leased for cultivation while surveyed it was in corn stubble and is crossed by several farm lanes and hedge rows. A tributary of Canary Creek and an adjacent march are crossed by a causeway. Portions of the northern corner have been graded and a large dike has been constructed. Finally, a very small portion of the project study area has been graded for a lawn at the University of Delaware Virden Center, a dormitory complex.

Project Administration

The archaeological survey is being administered by Mr. Herman A. Smith of the University of Delaware. Mr. Smith has requested technical assistance from the Bureau of Archaeology and Historic Preservation (BAHP) on this project.



Ronald A. Thomas, President of Mid-Atlantic Archaeological Research, Inc. (MAAR) was the Project Manager and Principal Investigator. Also involved in the project for MAAR were Martia Schiek, Bob Hoffman and Ed Goodley who served as aides for field and laboratory phases of the study. The report graphics were prepared by Leslie A. Foster and Mary-Jo Thomas of the MAAR staff.

Project Schedule

Notification of award of the contract to Mid-Atlantic Archaeological Research. Inc., was given on December 7, 1981 in the form of a University of Delaware Purchase Order. A pre-work review meeting was held in the office of Herman A. Smith on December 8, 1981 with Mr. Smith, Ms. Stocum (BAHP), and Mr. Thomas present. Phase I was initiated immediately thereafter. Contact was to be made with the farmer who cultivates the property to plow and disk prior to the initiation of field investigations.

On January 26th, after the submission of a preliminary Research Design, a review meeting was held concerning the project. At that time revisions were recommended and a request for a completed Phase I preliminary report was made. The preliminary Phase I report was submitted on February 19th and reviewed by the BAHP on March 12th. Field investigations were initiated in March and completed in April, with appropriate site visits and reviews by BAHP personnel.

Environmental Overview

The Research Park study area is situated in upland soils of the Lower Coastal Plain of Delaware. Kraft and Caulk (1972:3) state that these soils are of the Columbia Formation, which are stable Pleistocene sediments formed more than 80,000 years ago.

The soils of the study area fall within the Sassafras-Fallsington association, which are well drained and poorly drained soils that have a moderately permeable subsoil of sandy loam to clay loam (Ireland & Matthews 1974:29). Specifically, the soils consist of Rumford loamy sand and Sassafras sandy loam, with some tidal marsh soils in the northern portion of the study area (see Figure I-2). A small area of Woodstown sandy loam is also present as is another smaller area of Fallsington sandy loam. The soil characteristics of interest at this point concern the types of native vegetation supported by the individual soil types. In general, Sassafras soils support a native vegetation of mixed hardwoods and loblolly pine. Fallsington soils, repesented by a small lowlying area, support a variety of native trees and plants including oak, birch, swamp maple, holly and other wetland hardwoods, and loblolly pine. The Rumford soil, which comprises about one half of the study area, has as native vegetation mostly hardwoods but does support some loblolly and Virginia pine. Both of the major soil types within the study area, Sassafras and Rumford, are either well drained or excessively drained, an indication that large stands of conifer may have been the dominant forest type during the prehistoric periods.

The two major soil types can be rated for wildlife suitability according to studies conducted by the USDA Soil Conservation Service (Ireland & Matthews 1974:41). Sassafras soils are rated good for both open and woodland wildlife habitats; whereas the Rumford soils are rated fair in both of these categories. The Sassafras is one of two soil types in Sussex County (the other is Woodstown) that are considered good for openland wildlife habitat. The tidal marsh or wetland habitat would also have been an important habitat during the later prehistoric cultural periods (see following discussion).

Before presenting a brief survey of potentially available natural food resources, it is appropriate to review the paleoenvironment of the general Lewes area. As was noted above, the location of the proposed Research Park near Lewes is within the Lower Coastal Plain physiographic region. It is bordered on the east by the Atlantic Ocean shoreline. The shoreline is an everchanging topographic feature which is directly affected by changes in the sea level. During the maximum of the Wisconsin, estimates place the sea level from 100 to 130 meters lower than it is at present (Kraft, personal communication 1982). As can be seen in Figure I-3, this would place the shoreline some 60 miles further east than it is at the present time (Kraft 1971).

Paleoenvironment

Following the end of the Pleistocene (10 -12,000 B.P.) and throughout the Holocene, a gradual warming trend caused a rise in the sea level which initiated a transgression of the shoreline across the continental shelf and the Coastal Plain. The transgression developed a series of formations of barrier beaches, bays





and lagoons, and marshlands with a drowning of the Pleistocene surfaces. This sequence of geological events greatly effected the nature of the study area.

In a paper entitled "Human Responses to Holocene Climatic Episodes in the Northern Middle Atlantic", Dr. Jay Custer of the University of Delaware discusses the climatic changes that have occurred during the period of human habitation of the Delmarva Peninsula. According to Custer (1980), evidence exists to outline a general chronology of environmental changes. Table I-1 is taken from Custer's 1980 paper, with cultural tradition correlations added by the writer.

ENVIRONMENTAL EPISODES DURING THE HOLOCENE

Episode		Appr	oximate D	ates	Cultural Traditions
Recent	115	to			Modern
Neo-Boreal	410	to	115	B.P.	Historic
Pacific	760	to	410	B.P.	Late Woodland Period
Neo-Atlantic	1,100	to	760	Β.Ρ.	Middle/Late Woodland
Scandic	1,690	to	1,100	Β.Ρ.	Middle Woodland Period
Sub-Atlantic	2,890	to	1,690	B.P.	Early Woodland Period
Sub-Boreal	5,060	to	2,890	B.P.	Late Archaic/Transitional
Atlantic	8,490	to	5,060	B.P.	Middle Archaic Period
Boreal	9,300	to	8,490	В.Р.	Early Archaic Period
Pre-Boreal	10,030	to	9,300	В.Р.	Paleo/Early Archaic
Late Glacial	18,000	to	10,030	В.Р.	Paleo-Indian (?)

TABLE I-1: CLIMATIC EPISODES/CULTURAL TRADITION CORRELATIONS

In general, the climatic episodes can be described as modifications to the weather conditions established during the Pleistocene brought about by climatic factors and influenced by the proximity of the melting glaciers. The most useful discussion of these modifications, from the standpoint of archaeological considerations, is that of Carbone (1976) as summarized by Gardner (1980) and Custer (1980). Gardner suggests that during the peak of the glacial advance a vegetal mosaic existed in the areas to the south of the glacial ice where open grasslands and conifer (primarily spruce) dominated forests could be found. Deciduous forests were located in the floodplains of the major rivers of the area. The open forests and extensive grasslands would have encouraged the spread of grazing herd animals such as the caribou, elk, bison, and the now-extinct pachyderms. The Delmarva Peninsula, including those areas now inundated by the Atlantic Ocean and the Delaware Bay, would have been a part of this grassland/open forest mosaic,

During the Pre-Boreal and Boreal the general warming trend, which led to the melting of the glaciers and the rising of the sea level, caused a spread of the deciduous elements of the floodplain forests with a reduction in the amount of open grasslands. At this time the encroaching sea levels and the increase in the amount of waters flowing through the river systems would not have contributed to the attractiveness of the Delaware River floodplain as a source of dependable and abundant food resources. This would have caused a subsequent reduction in the numbers of and availability of the herding grassland animals and an increase in

the presence of deer and elk and the smaller edge animals. An overall reduction in biomass would have been the result. At the same time, the resources of the deciduous forests would have increased. The conditions during this period would have favored the development, by a spreading out into different geographical zones, of a broad based subsistence pattern. Gardner (1980) points out that seasonal differences in the availability of food resources became more pronounced during the Pre-Boreal and Boreal episodes.

The Research Park study area, during these early periods of the Holocene, can be characterized as an upland, inter-riverine setting with little in the way of food resource concentrations. The relatively flat and well-drained lands of the study area, edaphic factors that influence local vegetational zonation, would most likely have become a closed forest, dominated by pines, and unattractive to human hunters and gatherers. It must be remembered, that with the much lower sea levels, the present marsh/bay setting of the study area did not come into existence until much later. At the time of the Early and Middle Archaic Period occupation of the Delmarva Peninsula, and indeed until a much more recent time (Glenn Elliott, personal communication 1982), the study area was well above the marsh area that would have fringed the Delaware Bay miles from its present location (see Figure I-4).

During the middle of the Holocene (circa 6,000 to 4,000 B.P.) a warming trend culminated in what is known as the mid-postglacial xerothermic (generally the Sub-Boreal episode). This correlated with a slowing down of the sea level encroachment and a climaxing of the deciduous forest cover. Along the coast very significant changes were occurring in the distribution and presence of food resources previously existing further out on the Continental Shelf. Estuarine environments developed in the Lewes area, and riverine environments became more stablilized and favorable to the establishment of important animal and plant communities (anadromous fish, shell fish, etc.).

With the reduction in the rate of sea level rise, the paleoenvironment became more stabilized and the existence of coastal lagoons, bays, and marshes was first seen in the immediate project area. A study conducted by Glenn Elliott (1972) of the University of Delaware, Department of Geology, indicates that the area now known as the Great Marsh had been a shallow bay until guite recently. The present marsh edges, however, appear to have been uplands until they were encroached upon during the last 1000 years by marsh soils (including the marshy area in the northern portion of the Research Park study area). From that point on, the details of the micro-environment can be seen to be essentially those of the present, with minor deviations. The following natural food resource survey can be considered valid for a period of more than 1000 years for the immediate study area.

Natural Resource Survey

The utility of a survey of potential natural food resources varies from period to period depending upon the technology and selective cultural influences of the social group occupying a study area. The following survey follows a procedure first suggested for the Delmarva Peninsula in 1975 (Thomas, Griffith, Wise & Artusy 1975).



Based upon the review of the paleo-climate of the general Lower Coastal Plain region and upon the pertinent edaphic factors given above, it is possible to speculate about the floral and faunal food resources that may have been available as partial determinants of the subsistence and settlement practices engaged in by the prehistoric peoples of the area. At different periods throughout the history of aboriginal occupation of the Delmarva Peninsula, the following major food groupings would have been present in varying amounts and at various times.

- Upland Edible Flora Nut-bearing hardwoods would have been present in
- ation area, due to its relatively small size.
- provide a major food source.
- semi-sedentary aboriginal population.

No other major natural resources, useable by prehistoric peoples, can be found within the general study area. Of course, the reeds from the marshes, clay, and the shell of the ocean and bay beaches were used for basketry, the building of domiciles, ornamental objects, and tools. No major source of lithics has been noted in the area and this can not be considered as a determinant in the settlement factors leading to the use of the study area by aboriginal peoples. Finally, the Sassafras-Fallsington association of soils is an excellent association for the cultivation of plants, perhaps the major natural factor to be considered.

limited numbers; greens, fruits, seeds and roots would be limited to edge areas (that is in those areas of dry and wetland flora interfaces) rather than between forested and open land (although the latter must have existed during the early part of the Holocene or in periods when aboriginal land modification practices were employed).

Marshland Edible Flora - The marsh edge is rich in grasses, reeds and shrubby growth, much of which produce edible seeds and roots. This food source would have been limited to the edge of the marsh area which was formerly a glade, or small stream valley during much of the prehistoric period. It would not have been a major food exploit-

Upland Faunal Foods - During much of the prehistoric period the study area consisted of droughty forested lands which would not have supported a large faunal biomass. In the early Holocene, the open grasslands which almost certainly occupied the study area were not along major natural migration routes (stream flood plains, etc.). In later periods the conifer-dominated forests also would not have supported much in the way of an efficiently exploited faunal biomass.

Wetland Faunal Foods - The marsh fringes, as stated earlier, would support a rich wildfowl and marshland fauna; however, the limited extent of the wetlands drained by the small glade which ran through the northern portion of the study area would have been too limited to

Marine Faunal Foods - During the later parts of the Sub-boreal, the Sub-Atlantic, the Scandic and later environmental episodes, the nearby Great Marsh, as well as the small marsh-fringed glade running through the study area, would have become a major source of estuarine food resources (oysters, clams, anadromous fish, etc.). It is likely that only with this significant environmental change was the study area ever able to provide for the development of a locally-dependent

Prehistoric Overview

The culture history of the aboriginal occupation of the Delmarva Peninsula and the eastern United States in general is a long and varied one. Archaeologists differ among themselves as to the details of this history and the arguments, many of which can be considered pertinent to this study, need only be touched on for our purposes. This writer will follow the tripartite system of chronological ordering consisting of the Paleo-Indian, the Archaic and the Woodland Periods. The exact dates for each and their varied cultural system details need not all be considered. Figure I-5 outlines this chronology.

Paleo-Indian

The earliest verified evidence of human occupation of the eastern United States can be dated at no earlier than 12,000 B.P. At and around this late Pleistocene stage, the widespread distribution of a distinctive artifact complex has been documented. Beginning dates for the Paleo-Indian period, which are important, cannot be determined based on our present knowledge. Suffice it to say B.P. dates in excess of 11,600 years at the Dutchess Quarry Site in New York and 11,120 ± 180 years at the newly investigated Vail Site in Maine attest to the contemporenity of the Amerind and the later stages of the Wisconsin glaciation with all of its associated flora and fauna

Paleo-Indian site occupations are recognized by a tool kit which includes the fluted point, distinctive scrapers, gravers, and other tools which, according to Gardner (1980:14) and others, are components of a specialized hunting assemblage. The fluted point, the most distinct of the Paleo-Indian tools, is often used to distinguish between developmental complexes within the period. Thus, Witthoft (1952), Gardner (1980) and others recognize a three phase sequence based on changes in fluted point styles: the Early, Middle and Late Paleo-Indian. Very few of the students of Paleo-Indian cultures agree on what types of fluted points define each of the three periods. Nevertheless, the presence of this artifact type is sufficient to identify a complex to the general Paleo-Indian Period.

Gardner (1980) in a masterful study of the distribution of Paleo-Indian sites throughout the Middle Atlantic region suggests that sites are usually associated with either "..outcrops or cobble deposits where their preferred type of lithic material occurs " or "..a Late Pleistocene-Early Holocene landform that was in immediate proximity to a water source " (1980:17). He goes on to suggest that the water source served as a game attracting feature. Gardner, like many of the earlier students of Paleo-Indian (Witthoft 1952, Byers 1954) in the east, has come to strongly believe that "..it is impossible to deny on the basis of the present evidence that the Paleo-Indian-Early Archaic populations emphasized hunting " (1980:16). He differs, however, in emphasizing that these Paleo-Indian hunters were not characterized by a "free wandering" settlement and subsistence pattern but rather engaged in the exploitation of a definable territory.

PROJECTILE POINTS	riangular Points	-evanna i riangles	ack's Reef Pentagonals "	ox Creek Stemmed	-ox Ureek Lanceolate Corner Notched Points		Rossville		3road Spears Savannah River Points	Small Notched Points Varrow Stemmed Points	'LeCroy" Point Varieties	^D almer Points Kirk Point Types	Fluted Point Types
CERAMICS	Townsend Corded Horizontal Townsend Herringbone	rownsend incised Rappahannock Incised Rappahannock Fabric Imp.	Hell Island Corded Hell Island Net	Mockley Cord Marked	Mockley Net Impressed (Coulbourn Cord	Wolfe Neck Cord Wolfe Neck Net	Dames Quarter Selden Island Marcey Creek	Steatite Bowls		_		
PHASE	Nanticoke ?	Slaughter Creek	Webb Phase	Oxford Phase	Carey Farm		Delmarva Adena	Clyde Farm	Susquehanna Koens-Crispin	Laurentian Piedmont	Bifurcate Tradition		
PERIOD	CONTACT	LATE WOODLAND					MIDDLE WOODLAND	EARLY WOODLAND	TERMINAL ARCHAIC	LATE ARCHAIC	MIDDLE ARCHAIC	EARLY ARCHAIC	PALEO INDIAN
DATE	1630 A.D.	1000 A.D.	700 A.D.		300 A.D.	100 A.D.	600 B. C.	1000 B.C.	2500 B.C.	4000 B. C.	6000 B. C.	8000 B. C.	9000 B. C.

-D

With the above generalizations in mind, it is necessary to discuss the possibility that Paleo-Indians may have inhabited the general project study area, or used the resources therein. Although early dates for Paleo-Indian sites have been recorded at sites in New York and Maine, no radiometric dates of human artifacts or associations have been made in the Middle Atlantic region. While numerous finds of extinct mammoth, mastodon, bison and other now-extinct mammals have been found and dated, none were associated with artifacts. Gardner interprets this lack of data as indicating that these large Pleistocene megafauna were not present in any large numbers when man first entered the area south of Pennsylvania and that the Paleo-Indian hunters oriented most of their hunting activities, in the Middle Atlantic's southern portion, on deer and elk.

Studies of the known Delmarva Paleo-Indian sites indicate that very few sites are to be found in the Lower Coastal Plain, except in certain areas where lithic raw materials of adequate quality for manufacturing the Paleo tool kit can be found. This may in part be due to the scarcity of the Paleo-Indian game animals in these areas or to the fact that many sites that would have then been in the Lower Coastal Plain have been drowned by the encroaching sea waters and/or marshlands. Both explanations are likely to be valid for the study area. Whatever the explanation, the only fluted point finds within the southern part of Sussex County appear to be directly associated with upland flats that contain numerous swamps, bogs or other hydrolic features (c.f. Thomas 1976a:128, also c.f. Bonfiglio & Cresson 1976). The nearest evidence of fluted point finds in the Lewes study area is at Slaughter Creek, to the north, and Georgetown to the west (Thomas 1966).

In summary, the proposed Marine Studies Research Park lies in an area that during the Paleo-Indian period, because of the droughty edaphic conditions and the geographic setting, would not have been able to support a high large game biomass and would have been some distance from coastal and flood plain situations where Late Pleistocene herding animals could be found. Furthermore, it is likely that the area would have been open grasslands with edge environments formed at the borders of conifer-dominated open forests only. Such a setting is unlikely to have supported large numbers of deer and elk. It appears to this investigator, therefore, that the project area is not likely to contain any significant evidence of Paleo-Indian peoples.

Archaic Period Occupations

The onset of the Holocene brought about environmental changes throughout the Middle Atlantic Coastal Plain, some of which have been noted earlier. Along with these changes appears a different way of life which, seemingly derived from the Paleo-Indian cultural manifestation, can be found throughout much of the Delmarva Peninsula. The Early Archaic has been traditionally considered as an time period when a different population moved in to occupy the territory once held by Paleo-Indian hunters. Gardner (1980) has suggested that a linkage between the two. His contention can be supported by studies of the tool kits from both periods found at several key sites at which both are to be found. The Thunderbird Site in the Shenandoah River Valley of northern Virginia is one such example. At Thunderbird, Gardner and his associates report the continuation of the tool kits with the exception of the fluted projectile point. In the Delmarva Peninsula, this linkage can be recognized at the Hughes Early Man Complex, a series of small find spots in western Kent County perhaps 50 miles northwest of the Lewes study area. At the Early Man Complex of sites were found fluted points and "Kirk/Palmer" like points of non-local materials, obviously brought in from some distances and subjected to apparently very careful curation. The settlement system at the Hughes Early Man Complex can be characterised as a series of animal procurement stations situated in locations around and within a large swampy area at the drainage divide of the Delmarva Peninsula (Black Swamp).

For the same reasons put forth earlier, the Research Park area is unlikely to have contained any significant occupation by Early Archaic populations. The same conditions that did not foster a large faunal biomass during the later stages of the Pleistocene continued in force during the Pre-Boreal and the Boreal. Also, the coast of Delaware Bay and the Atlantic Oceanwere still far to the east of the study area and floodplain and coastal marsh resources were not present in the immediate area.

A succeeding cultural period, the Middle Archaic, can be recognized at many sites throughout the Middle Atlantic region and on the Delmarva Peninsula, Characterized by the many forms of "bifurcated" projectile points found of a variety of lithic materials, this cultural period seems to be one in which a much larger population began to utilize a wider range of exploitable natural resources. For the first time, in significant numbers, Middle Archaic artifacts are found in areas along the present coastline. The Chance Site (Cresthull 1971), located on Deal's Island in the Eastern Shore of Maryland, contains large numbers of the bifurcated projectile points of several lithic materials. Partially innundated by the waters of the Chesapeake Bay, it is obvious that this site was occupied during periods of lower sea level and much different topographic conditions. Bifurcated projectile points are also found in the Delaware Bay drainage, with most sites occurring in areas of the upper parts of the drainage systems, where large wetland stands of forest and swamps can be found. It appears from this evidence that Middle Archaic peoples were still emphasizing faunal procurement as their primary economic activity.

Gardner (1980:25) points out that the Middle Archaic tool kit has become less specialized and is no longer justa hunting and procurement assemblage. Less emphasis is placed on the procurement and curation of **specific** lithic types. Sites are found in settings where earlier Paleo-Indian and Early Archaic sites have not been found. At this time the Atlantic climatic episode brought about changes in vegetation zones with corresponding faunal population modifications. The Lewes study area, however, with its stable topography and the same droughty edaphic factors, was still not an area which would have contained a high biomass.

During the Late Archaic period the settlement patterns of the Middle Atlantic region can be recognized to have become more sedentary. Custer(1980)recognizes this shift in settlement patterns (as noted earlier by Witthoft (1952)) in the Coastal Plain and attributes it to the Sub-boreal climatic changes which can be characterized as a period of cold and then dry conditions. Custer describes this settlement shift as due to "..neither an enrichment of the environment nor a reduction of the carrying capacity; but instead a shift of resource distribution foci " (Custer 1980:10). He and Gardner (1980) explain this as being influenced not only by direct climatic trends but also by a slowing down of sea level rise (and a lessening in the volume of water being carried by the larger streams) which allowed for the establishment of stable biotic communities in the Piedmont and Upper Coastal Plain stream valleys and the introduction of marine shellf**ish** and anadronomous fish communities in the Lower Coastal Plain. As a consequence, these investigations suggest the availability of food resources in riverine and estuarine settings heightened.

Late Archaic artifact complexes reflect an increased sedentism and a definite specialization of economic practices. At this time can be identified regional (perhaps environmental zone oriented) cultural traditions such as the Late Archaic Piedmont Tradition and Laurentian Tradition. Almost entirely within riverine settings can be found the Savannah River/Susquehanna Broad Spear Tradition. The Delmarva Peninsula contains thousands of artifacts that can be identified with these three cultural traditions, indicating that the Coastal Plain had reached a stage of stabilization which could support large numbers of hunters and gatherers.

Lewes again poses special problems. During the Late Archaic the sea level may have still been as much as five meters below its present level. While the Delaware Bay shoreline would have been within sight of the study area (perhaps a mile off the present shore), the Great Marsh and associated bay waters would not have been the excellent source of food resources that it became somewhat later. It can be suggested that Late Archaic populations would have frequented the shores of the Delaware Bay and the floodplains of the Broadkill River and even Canary Creek. However, it is likely that evidence of this use of the riverine and estuarine resources of the Late Archaic period will have been innundated and found only below the present marsh soils of the area. The immediate study area may have been the site of hunting parties; however, it is contended that the forests existing throughout most of the prehistoric period were conifer-dominated and never had the carrying capacity of more deciduousdominated forests of less droughty soils.

The Woodland Period

The Woodland Period is recognized in many parts of the Middle Atlantic Coast as a continuation of the Late Archaic, in terms of settlement patterning (Custer personal communication 1981). It can be recognized, however, as a period in which new artifact types (ceramics for one) occurred as did intensive contact with other than local populations, and, apparently, increased sedentarism of lifestyle. During the Late Archaic a series of exchange networks, especially in lithic materials, can be recognized. These exchange networks are even more evident in the Early Woodland Period. Thomas (1970,1976b) has surveyed the extent of contact between the Middle Atlantic region and the mid-western United States. The definition of a Delmarva-Adena Phase (Thomas 1976) is based upon the numerous discoveries of "Adena-like" artifacts from the Ohio Valley in local mortuary settings. Possibly, a different economic base prevailed from that of earlier cultural periods or status symbols became important in mortuary practices. By Early Woodland times, estuarine settings were well established in the immediate study area. Elliott (1972) has conducted investigations in the Great Marsh which help to document the chronological history of that area of abundant floral and faunal resources. The marshy area lying in the northern portion of the research park study area was most likely an area of open water with marsh fringes ("glaid", as it is referred to in Figure I-10) and should have supported a shellfish population throughout most of the Woodland Period. Since cores have not been drilled in the area, however, it is not possible to verify this possible food source. As with the Late Archaic, however, the most advantageous areas for food procurement and processing would be closer to the present Great Marsh and on the banks of the Broadkill River, Canary Creek, and the bay.

During the Middle Woodland Period, the resource potential of the immediate study area should have been much greater. It is likely that an increase in the cultural activity within the study area would have occurred. During the Middle Woodland, environmental conditions approximated those of the present and, with the minor differences in sea level and open water areas, should have afforded the aboriginal peoples with plenty of opportunity to procure a variety of resources.

With the end of the Middle Woodland, which has been combined with the Early Woodland and portions of the Late Archaic into a cultural unit now referred to as Woodland I (Custer 1982), the technology and economy of the aboriginal population seems to have changed considerably throughout much of the Middle Atlantic region. While the occupants of the Delmarva Peninusula continued to exploit the natural resources of riverine, estuarine, and upland areas, they appear to have adopted an economy dependent upon the scheduling of a series of procurement practices. Thomas, Griffith, Wise and Artusy (1975) have developed subsistencesettlement models which would apply to the study area during the later parts of Woodland I but, much more appropriately, during the period known as Woodland II (Custer 1982). According to these models, aboriginal populations would, for instance, locate during the spring months along the middle reaches of tidal rivers and streams to take advantage of the spring fish runs. In the summer, populations might move to estuarine settings where they would utilize the shellfish and open water fishes of those areas. In the fall, the populations would take advantage of the mid-drainage areas of well-drained, hardwood forests for the nut harvests available there. In winter months, hunting would be a primary procurement activity, most often in poorly drained woodland settings. Settlement patterning would, of course, be dependent upon this scheduling concept and could vary seasonally from small transient camps to large semi-sedentary base camps.

It can be suggested that with the refinement of this Woodland II economic pattern population growth occurred in the Delmarva Peninsula. In addition, the introduction, and apparent acceptance of, horticulture may have been a response to population pressures. Griffith and Artusy (1975) have noticed a shift in settlement locations and types in Sussex County that seem to correlate with the increase in the importance of cultivated plants as food resources. No evidence for cultigens during the Early or Middle Woodland periods has been found and that from Late Woodland sites appears to be at later sites within the Late Woodland or Woodland II period.

The suggested subsistence-settlement shift seems to have lasted throughout the Contact Period when documentary evidence refers to shellfishing and farming activities. It is during the Middle and Late Woodland Periods that significant occupation of the project area can be expected. Associated with the marsh in the northern part of the project area, as well as with the close-by Russell site (7S-D-7), should be indications of transient camps of peoples engaged in shellfish procurement and processing. Another possible resource in the area are transient camps which may be associated with a possible "Indian Trail" (Omwake 1958) which could have led from present-day Lewes Creek to Canary Creek and beyond.

The presence of aboriginal peoples in the area during the earliest explorations and settlements of the Dutch and English in the Delaware Bay have been noted earlier. Possibly affiliated with the Leni Lenape tribal groups to the north, these local occupants of the area, according to the DeVries' map (Fig. I-7), may have had multiple settlements within a short distance of the project area. The Russell Site (7S-D-7) was reported to have contained possible evidence of contact between European and Indian peoples. In addition, various land transactions and treaties were signed by Leni Lenape leaders, some of which were reportedly from the Lewes area.

Previous Investigations in the Area: Prehistoric Sites

The earliest controlled excavations conducted in Sussex County have a bearing on the later work within the general area to be discussed later. These earlier studies were those at the Slaughter Creek (7S-C-1) and Townsend (7S-D-1) sites. Slaughter Creek (Refer to Fig. I-6) is located to the north of Lewes and is a small tidal stream whose banks are lined with archaeological resources. Site 7S-C-1 was excavated in the 1930's by a field team consisting of University of Pennsylvania students and local avocational archaeologists, all under the direction of Dr. D.S. Davidson (1935). Davidson's work set the standard for later investigations in the county. The material remains of the late prehistoric peoples of the area recovered during these excavations became the basis of comparison by later investigators. The Slaughter Creek Phase of the Woodland Period (Thomas 1976a) received its name from Davidson's studies at 7S-C-1.

Generally, the Slaughter Creek site excavations revealed a base camp of late prehistoric aboriginal peoples who appear to have subsisted on a variety of gathered and possibly cultivated foodstuffs. Large shell-filled sub-surface pits and shell midden areas attested to the use of shellfish varieties as a major food. Also found in the middens and pits of 7S-C-1 were animal bones of various kinds. This indicated that hunting of large and small mammals, birds, and probably reptiles and amphibians was also an established food procurement measure. Artifactual evidence of the late prehistoric occupation included a well-made ceramic industry characterized by shell-tempered, buff to reddish pottery vessels with incised and zoned decoration in a variety of sizes. Lithic artifacts tended to be simple with triangular projectile points and knives being the most common finished tool. Earlier peoples also occupied the Slaughter Creek drainage, as is attested to by ceramics of other than Townsend Ware types and a variety of lithics flaked to projectile points ususally associated with earlier cultural periods.

Several miles south of the project area is the Townsend Site (7S-D-1). This aboriginal site is situated along a small stream entering Lewes-Rehoboth Canal which was then probably an open bay. It was excavated over a period of years beginning in 1948 by the newly formed Sussex Archaeological Association (now the Sussex Society of Archeology and History) with assistance from a number of interested professional archaeologists.

The Townsend Site artifacts were subjected to analysis by the site excavators who depended heavily on professional archaeologists for assistance. In the case of the ceramics, an analysis and typology was done by Margaret Blaker of the Smithsonian Institution. Human burials were identified and described by Dr. T. Dale Stewart of the Smithsonian, who also analysed the canine skeletons. John Witthoft provided an overall interpretation (see Omwake & Stewart, Editors 1963). The Townsend Site report has become very useful, especially to students of the late prehistoric ceramics of the Middle Atlantic region. The Townsend Site data became the basis for the description of the cultural complex given the name of Slaughter Creek Phase. The ceramics of this cultural phase are referred to as Townsend Ware.

With the experience obtained from the Townsend Site excavations, local members of the Sussex Archaeological Association begin to add to the number of partially excavated archaeological sites in the State of Delaware. Attention turned to the area of Lewes, especially the Canary Creek drainage. In 1951 another Sussex Archaeological Association project began at the Derrickson Site (7S-D-6). Directed by James L. Parsons (Omwake 1952:9-16), this site produced artifacts similiar to those of other late prehistoric sites in the area. The Derickson Site is located west along New Road, just across Canary Creek from the project area. In 1949 H. Geiger Omwake (1951) found the School House (7S-D5) site behind the Lewes School on Metcalfe's Branch of Canary Creek. This site was also excavated in part during the fall of 1951. A number of burials features had been found in the adjacent school yard property (Omwake 1954) and the Metcalfe's Branch site (Miller-Toms - 7S-D-4) was excavated primarily to reveal more of the archaeological resources related to these accidental finds.

While the accidental find at the Lewes School property, Parson's excavations at the Derickson Site, and the Miller-Toms site work by Omwake, were helpful in revealing the frequency of sites of the late prehistoric period, they did not contribute significantly to the data base obtained at the Townsend and Slaughter Creek sites. Omwake's report (1954) was a detailed summary of his thoughts on the nature of the late prehistoric period based on work at all known excavations to that date.

In late 1951 and the early months of 1952, members of the Sussex Archaeological Association began investigations at Hells Neck, a tract of land defined approximately by Canary Creek on the northeast, New Road on the southeast, the Great Marsh on the north and Black Oak Gut on the southwest. The first of the sites to be investigated is known as Ritter # 2 (Omwake 1954)-7S-D-3. Work revealed a number of shell-filled pits containing ceramics, animal bone and some lithic artifacts. The investigators concluded that "The Ritter site # 2 should be regarded as another manifestation of the cultural pattern which characterized the Townsend site " (Omwake 1954:12).

Work continued in the Hells Neck area during the 1950's but drew to an end with the 1959/1960 archaeological survey of Hercules Powder Company land on Hell Neck and across Canary Creek in the vicinity of the Marine Studies Complex. This survey, conducted by Dr. Bert Salwen, resulted in the recording of additional midden areas and small surface scatters (prehistoric and historic). Excavations by Dr. Salwen were restricted to small test units. Dr. Salwen's survey was the first systematic area-wide survey in Delaware (1965).

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Perhaps the one prehistoric site which is most relevant to the Marine Studies Complex archaeological survey is the Russell Site, 7S-D-7. This site is located on the northeast bank of Canary Creek within the same large land area as is located the project area. It lies approximately 2500 feet from the proposed Marine Studies Complex. Excavations were conducted at the Russell Site beginning in 1951 by nine members of the Sussex Archaeological Association (Marine 1957). Nineteen shell-filled refuse pits were excavated and data recorded on fifteen of them (Marine 1957: 1). The material recovered was generally similar to that recovered at the Townsend, Slaughter Creek, Derrickson, Ritter 1 (7S-D-2) & 2, and the School House Sites. For the first time, however, it appears that evidence of Indian European contact was found. This evidence consisted of the presence of an European gunflint in one of the shell-filled refuse pits (Marine 1957, Table 1). Also found on the surface of the Russell site were large numbers of white clay pipe stems

Several other prehistoric sites, located in the immediate vicinity of the Marine Studies Complex, should be discussed. During his 1959/1960 survey of the Hercules Powder Company land, Salwen discovered several aboriginal resource areas included within or adjacent to the present University of Delaware holdings. In Field # 3 (Salwen 1965:18) Salwen found a single sidenotched projectile point and two small aboriginal potsherds. Field # 3 is within the present study area. Field # 4, located to the south, contained four loci in which aboriginal material was found. Salwen's Area A is very close to the Russell Site, which is adjacent to the Hercules property and still in private ownership. Material found at these four loci included the typical late prehistoric material recognized in the area as well as earlier Woodland Period ceramics and stemmed projectile points. (see Fig. I-6)

The most recent archaeological investigations conducted in the general area, that of John Milner Associates for the University of Delaware Virden Center, found evidence of yet another prehistoric site, the Virden Site. Located adjacent to Salwen's Field # 2 (1965) and just north of the present study area, this survey located two loci containing prehistoric artifacts. Recovered were 64 items of stone and ceramics indicating a low-density utilization of the survey area during prehistoric periods. Milner's survey report (1979) did not recommend that the loci be considered culturally significant. Also found during the 1979 survey for the University of Delaware were historic artifacts. These will be discussed later.

A comprehensive Atlantic Coast archaeological survey, which consists of a systematic field survey, has been underway by the Bureau of Archaeology and Historic Preservation (formerly the Section of Archaeology) for some time and has contributed significantly to our understanding of settlement patterning in the coastal region. These studies will be referred to in the interpretation of data from the present study. Among other results of the survey is the development of a National Register nomination for the Cape Henlopen Archaeological District, which is located several miles to the southeast of the Research Park study area. Also considered for nomination, as a result of the survey, is the Hells Neck area, as mentioned above.



Historic Overview

The published literature concerning the history of exploration and settlement of the research park study area is very limited for the purposes of this investigation. Although the general outlines are known, it is difficult to find specific information about the settlement and land use patterns of the Marine Studies Complex area. Nevertheless, the following general account briefly presents a background for this study.

The Delaware Bay was first sighted and possibly explored during the sixteenth century by Spanish explorers who refer to it on early maps as "St. Christopher's Bay" (Terrell 1975). It is also likely that Giovanni Verrazzano, the Italian explorer, sailed into the bay in 1524 during his voyage along the east coast of North America. For all intents and purposes, however, a documented discovery of the Delaware Bay can be credited to Henry Hudson, an Englishman sailing in the service of the government of Holland. As recorded by Robert Juet, a member of the crew of the Half Moon, the ship commanded by Hudson entered the bay on August 28, 1609.

In 1610 the Discovery, commanded by Captain Samuel Argell sailed into and explored the bay. The Discovery was a small ship in the service of the English settlement in Virginia at Jamestown. Governor of Virginia at that time was James West, the Lord De La Warr. Argell accordingly named the bay De La Warr's Bay. Argell also named the cape which we now know as Cape Henlopen, Cape James, after King James I of England.

For the next decade the Delaware Bay appears to have been only casually visited by English and Dutch traders and settlers. The Dutch had gained a solid foothold in North America with their erection of Fort Orange on the Hudson River at Albany and with their settlement of New Amsterdam. In 1621, after much effort and petitions, the Dutch West Indies Company was incorporated (Sharf 1888:28) and soon thereafter sent out numerous trading voyages to begin to establish their commercial empire. According to their patent, all land on the coast of North America between the 38th and 40th parallels of latitude was "fair game".

It is possible that within a year the Dutch West Indies Company had established trading stations in the Delaware Bay. Sharf (1888:30) discusses the settlement of Verhulsten Island near Trenton by the company in 1624 and the erection of Fort Nassau in the same year. He also mentions that "The company also had a brick house at Horekill". No reference is given although it can be assumed that it was documented with the data concerning Fort Nassau. An even earlier reference to a possible Dutch trading station in the Lewes area is made by Pusey (1903:18) when he states "The first white occupants of the site of Lewes had probably been Dutch traders who established a post there for Indian traffic as early as 1622". Unfortunately, Pusey also does not provide a documentary reference for this statement. Weslager (1967:60), however, quotes a deposition of Peter Lourenson, a sailor who in 1628 was on a ship that "...stopt at the hoorekill (Swanendael) where the deponant did also see a settlement of a brickhouse belonging to the West Indian Company...".

The DeVries Settlement

The first well documented settlement in the Lewes area relates directly to the Marine Studies Complex study area. In 1629 Samuel Godyn, an entrepeneur who was the head of the Amsterdam Chamber of the Dutch West Indies Company (Terrell 1975) formed a syndicate to establish a whaling station and colony in the South Bay area. Assisted by Samuel Bloomaert, Kilian van Rensselaer and Hans Conradus, the syndicate partners, an expedition was prepared to sail to the New World. In 1629 a small party, headed by Gillis Hossitt and Jacob Jansz, was dispatched the South Bay to scout a site for the colony and to purchase the necessary land from the Indians who lived there. (Terrell 1975)

The land purchase, recorded in 1630, consisted of an agreement or deed between the company and the Indians who claimed ownership of the area. Since this is the first recorded land transaction for the State of Delaware it is given in part below. (translation in Ward 1930)

"We, The Directors and Council of New Netherlands, residing in the Island of Manhattan and in Fort Amersterdam, under the authority of their High Mightinesses the Lord's State General of the United Netherlands and of the Incorporated West India Company Chamber at Amsterdam, hereby acknowledge and declare, that on this day, the date underwriten came and appeared before us in their proper persons, Queskacous and Entquet, Siconesius and the inhabitants of the village, situate at the South Cape of the bay of South River, and freely and voluntarily declared by special authority of the rulers, and consent of the commonality there, that they already on the first day of June of the past year 1629, for, and on account of certain parcels of cargoes, which they previous to the passing hearof, acknowledged to have received and got into their hands and power, to their full satisfaction, have transferred, ceded, given over, and conveyed, in just, true, and free property, as they hereby transport, cede, give over, and convey to and for the behoof of Messrs. Samuel Godyn and Samuel Blommaert absent: and for whom, We, by virtue of our office under proper stipulation, do accept the same, namely, the land to them belonging, situate on the south side of the aforesaid Bay, by us called the Bay of the South River, extending in length from Cape Hinloffin, off into the mouth of the aforesaid South River, about eight leagues (groote mylen), and half a length in breadth into the interior, extending to a certain marsh (lieyte) or valley, through which these limits can clearly enough be distinguished. And, that

Done at the aforesaid Island, Manhattan, this 15th July, xvi. and thirty.

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Peter Minuit, Director Jacob Elbertson Wissink, Jan Jansen Brouwer, Simon Dircksen Poo, Reyner Harmensear, Jan Lampe, Sheriff."

Godyn selected David Pietersen DeVries of Hoorn, a port city of northern Holland, to oversee the expedition to the Bay of the South River. Under DeVries guidance, two ships were outfitted and manned by crew. The ships carried whalers and colonists. The smaller of the two, the Salmon, was soon thereafter captured by pirates and lost to the syndicate.. The larger ship, DeVries' flagship the Whale, sailed from Texel in December of 1630. Captain Peter Heyes was in command in the absence of DeVries, who did not journey to America until the next year.

Confusion as to the number of settlers and whalers and the contents of the ship has led to quite a bit of speculation concerning the nature of the settlement that was soon to be established. Apparently, the Whale had on board, besides the crew, 28 Walloon farmers (Belgian Protestants seeking religious freedom). It is also stated (Terrell 1975) that the Whale carried "twelve cows, four horses, ammunition, provisions and ...yellow Dutch bricks to build a large house".

After landing at the mouth of the Hoornkill (Lewes Creek) the settlers are reported to have build a palisade with a house within. After assisting in the initial work, Captain Heyes left the settlers to clear fields and sailed away. Gillis Hossitt, who had been in the party that purchased the land the year before, was left in charge. This small settlement was called Fort Oplandt (Cohen 1969:5).

In May of 1632 DeVries set sail from Hoorn to relieve the colony. Before sailing he received information from Peter Minuit, who was returning from New Amsterdam (as recalled) that the colony had been massacred by the Indians. Minuit had apparently sent an additional five men to the settlement from New Amsterdam prior to the massacre and they also (with one possible survivor) had been killed. When DeVries arrived he confirmed the incident and buried the bodies (32 by DeVries count) that he found in the fort and throughout the fields. Available today is a sketch of the settlement on an existing 1629 Dutch West Indies Company map of the area. The map (See Figure I-7) illustrates the fort, a large Europeanstyle house to the southwest, and three Indian structures (apparently representing village sites). This 17th century (?) sketch is not to scale and allows for a variety of interpretations. (Personal Communication, C.A Weslager 1982)

The Indian villages existing alongside the early Dutch colony have been identified as affiliated with the Leni Lenape peoples of the Delaware Bay and River. Weslager (1967) lists names of Indian leaders who are known to have traveled to Burlington and New Amsterdam to sign land transfers. His identification of these people as Great Sickonyese leads Weslager to relate them to Leni Lenape groups, such as the Little Sickonyese of coastal New Jersey.



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Later Dutch Settlement

The 1632 expedition of David Pietersen DeVries to the Hoornkill did not last a single season. Leaving many of his men at the settlement at Cape Henlopen to engage in whaling, DeVries set off in a small sloop to explore the Delaware Bay and River and to visit the English settlement of Jamestown. When he returned, DeVries found the whaling enterprise unprofitable and returned to Europe with his entire party.

From 1632 to 1658 the Hoornkill area remained unoccupied by Europeans. At this time H.Woolbanck (Fig. 9) settled in the area and a second Fort and trading post was established. Other scattered settlers may also have come. The Dutch colony at New Castle, a Swedish settlement at the site of Wilmington, and English settlements in the Delaware River valley were established during this period, attesting to the significance of the Delaware River and Bay as a future center of New World development.

In 1663 a second Dutch colony was set up at the Hoornkill. Under the leadership of Pieter Cornelius Plockhoy, an educated philosopher of sorts, a colony of forty-one began to establish the first permanent settlement in lower Delaware. Plockhoy was a Mennonite who proposed, in various published writings, an "ideal commonwealth". Plockhoy proposed an economic and religious community in which all property was to be held in common, where clergy were to be banned, children were to attend school every day, and where work was to be fully shared (including cooking, farming and housekeeping). The community, sailing upon a ship named the St. Jacob, consisted of men, women and children, each of whom had been loaned funds by the City of Amsterdam for the colony. The land for the settlement was first purchased in 1663 from the West Indies Company. To be safe the Plockhoy company immediately repurchased their land from the Indians, constructed a fort and begin to reclear the land. The "Ouaking Society of Plockhoy" was an established enterprise.

Events on an international level were to make life difficult for the Dutch colonists, however. In the period between DeViles' attempt at settlement and that of Plockhoy, Dutch claims to the Delaware River were disputed first by the Swedes and then the English. In 1632 King Charles I of England granted to Lord Baltimore all the land from the Potomac River north to the 40th parallel. While this grant was not immediately claimed in full, Lord Baltimore and his successors (the Dutch and the Swedes at various times controlled this part of the Maryland colony for guite some time) retained the right to do so when they so desired. In 1638 the Swedes entered the Delaware Bay and immediately claimed ownership of the lands. King Charles II of England, succeeding Oliver Cromwell in 1664 saw fit to cloud the issue by granting to his brother, James the Duke of York, lands north of those previously granted to Lord Baltimore.

Shortly after the Duke of York grant, James sent a force under the control of Sir Robert Carr to assume control of all Dutch lands in North America. At that time New Amsterdam was surrendered to the English and became New York. Within a little over a year, the Dutch colony had come under the rule of England and all Dutch property rights had to be reaffirmed through the new regime.

Early Land Use Concepts

With the migration of European peoples to the Middle Atlantic region and to New England, European concepts of settlement and land use were transferred as well. Often the communities established were mirror images of settlements in the home lands. PeterWacker (1975) dida considerable amount of research into land use patterns his comprehensive study of European settlement in New Jersey, Land and People. One of his main contributions to our understanding of the processes followed is his statement that there was a "..transfer of European concepts of settlement patterns and boundaries of real property..... among the Dutch and Swedes " (Wacker 1975:238). The establishment of Dutch settlements in New Jersey has been well documented and it is helpful to the present overview of the Swaanandael community to review the New Jersey situation.

As far back as 1660 records of the establishment of Dutch communities are available. At that time the stockaded village of Bergen (now Jersey City) was plotted. The village was to be 800 feet square with a public center, two cross roads, streets running along the stockade, and the stockade itself. Villagers were given title to a town plot and agricultural land outside of the village proper. In 1668 the Township of Bergen was chartered by the English propriators of these former Dutch lands and it is possible to see the pattern of land holdings which characterized most of the English settlement of former Dutch lands in the Middle Atlantic region. Figure I-8 is a 17th century map of Bergen Township, showing the land plots reconfirmed for the Dutch owners by the English.

As can be seen, the predominant land holding was what Wacker (1975) calls the "long lot". This usually consisted of a plot measured from a natural feature such as a water course, with long sides running back along dry land (1975:242). Lot sizes ranged from 50 to hundreds of acres, depending upon the density of settlement. At first the lot sizes were about 50 acres for agricultural land and 6 to 10 acres for town "home lots". Later, with the availability of more land than could be used, the pattern of long lots was continued but the lot sizes were increased. Thus, the Aquackanonk Patent, granted in 1679, called for lots of 100 acres, 650 feet on the river side and 6,600 feet in length. This pattern was firmly established by 1680 and was continued even as late as 1764 when New Jersey "freeholders" finally subdivided town lands in several areas (Wacker 1975:242).

The "long lot" land subdivision pattern can be seen to have occured throughout the Dutch holdings east of the South River (Delaware). At Elizabethtown the system consisted of long lots each having 264 feet frontage on the river with depths of 660 feet. Eighty families received free land including both home lots and agricultural land, which they were required to occupy for three years before receiving final title (Wacker 1975:249). This system, according to Wacker, was designed to encourage dispersion of settlement whereby nucleated villages in all but certain major areas, were to be discouraged.

Each landowner of a community can be seen to often have had more than a few land plots including home plots, agricultural plots, meadowland, etc. Boundaries were usually rivers but often mentioned in the patents were "highways", swamps, small streams and "Indian Paths" (Wacker 1975:250). During the years following the original patents, plots were often combined by the purchase of plots from one original landowner by another and by the purchasing of land to be used by a colonist from an absentee landowner.



The "long lot" pattern of land holding was not restricted to New Jersey. James Lemon (1976) declared it was followed in Pennsylvania by the Penn administrators. It is well documented in the Delaware Bay and Atlantic Coast regions of Delaware, as will be discussed below. Cara Wise, in a brief survey of early settlement patterns in Delaware, entitled "From Creek to Road; Changing Settlement Patterns in Colonial Delaware" (1979), suggests that the pattern can be explained as such:

"A study of British settlement patterns by Brian Roberts (1977) suggests that a dispersed settlement pattern is to be expected when farmers move into previously uncleared land. He points out that when the lands 'wasted' during the Norman invasion and large areas of wooded Crown lands were opened to settlement after about 1200 A.D., the settlements were isolated farmsteads, with some clustering at crossroads. The lack of a developed land transportation network in the earliest period of settlement in the New World necessitated settlement on navigable streams, and land was often distributed in such a way as to provide each settler with river frontage, resulting in a "long-lot" pattern of land distribution.." (Wise 1979:15-16).

Wise suggests that the same type or pattern of water oriented land distribution held in seventeenth century communities in Virginia and that it began to break down in Delaware only after the beginning of the second quarter of the 18th century. Wise documents her contention that settlement included river frontage with houses near the river or streams during the earliest periods with movement towards the upland areas where roads were subsequently built tying together settled areas by referring to instances of archaeologically recorded early 18th century structures.

The Dutch settlement of the Swaanendael community, as rechartered by English records, can now be discussed. Due to the outstanding work of the late Dr. David Marine, of Rehoboth Beach, Delaware, the Dutch land patents in the Lewes area and especially in the research park study area can be documented. Figure I-9 is a sketch of the general project area of Pilot Town prepared. by Dr. Marine in which he has reconstructed the boundaries of eight patents reconfirmed by the English courts under the authority of James II, then the Duke of York. The present study area is encompassed within the patents made to H. Woolbanck, Wm. Toms and A. Molestedy, the former a large landowner

After the re-establishment of the town on the Hoornkill by Plocknoy's colonists in 1663, under Dutch charter, the Dutch holdings in New Netherlands came under English rule. Captain Robert Carr, and later English governors saw fit to encourage colonizing by Dutch, Swedish, Finnish and African settlers by honoring land claims and by issuing land to all who would acknowledge English control and agree to accept English law. Consequently, all lands previously patented by the Dutch at New Amsterdam were repatented by the English at New York. As can be seen in Figure I-9, the "long lot" pattern of land holding was followed in the Hoornkill community. This continuation of Dutch claims is discussed by Marine in his presentation on the Duke of York Patents (1955).



The 18th and 19th Centuries

Despite the establishment of English control over the Delaware Bay area by the Duke of York governors, problems continued. In 1673 and 1674 the Dutch again claimed control of the area and re-established courts and land record authority. Within a year, however, due to situations concerning European relations between Holland and England, the area again was controlled by the Duke of York's agents. Within several years, however, control over the Hoornkill was contested by the heirs of the first Lord Baltimore. On one occasion, forces from the Maryland colony rode through the community, capturing Dutch and English settlers and burning all structures with the exception of a "thached barn". This barn figures in speculations concerning the research park study area and will be discussed later.

By 1676, however, jurisdiction over the area was finally established by Governor Andros of New York, who represented the Duke of York's interest. In the early years of the English rule, the community at Cape Henlopen was called the Whorekill and contained the courts for the surrounding area. In 1680 the name of the town was changed (upon petition from the townspeople) to Deale and the surrounding Whorekill County became the County of Deale. When William Penn received Pennsylvania (including the present counties of Delaware), however, in satisfaction of a debt owed his father by the then King, Charles II (brother of James II, the Duke of York), the name of Lewes was given to the town and Sussex to the county. William Penn and his heirs continued to rule the Delaware counties until the Delaware Colony was established in the 18th century.

Late 17th century and 18th century settlement continued toflourish in the Lewes area. In 1698 Lewes was referred to as one of Pennsylvania's four great market towns (Germantown, Chester, New Castle, and Lewes) with Sussex County described as a grain raising area (Pedersen 1974:5). Lewes proper seems to have referred to the center of settlement to the east of the study area while the settlement to the north was referred to quite early as Pilot Town. For instance, in a map of the area drawn for two landowners in 1773 (Figure I-10) by the well known surveyor John Shankland, the area of Pilot Town is shown with a road leading to it from a crossing at Canary Creek. Pilot Town seems to have consisted of perhaps a dozen houses situated at the northern edge of the "long lots" along the banks of Lewes Creek. The major nucleated community of Lewes was, as earlier, east along Pilot Town Road.

On the Shankland map can be seen what may be the typical settlement pattern of the long lots outside of nucleated villages. The illustrated 'residences of the original landowners, although then situated on smaller lots and under different ownership (1773), are located on the river frontage and not back on the lots as has been suggested in the settlement pattern developed by Wise (1979). Of course, the situation at Lewes does not invalidate the overall Delaware Coastal Plain model. Nevertheless, this information is especially pertinent to the current archaeological investigation.

It can be seen by the Shankland map that in 1773, and probably much earlier, the original long lots of the Dutch had been consolidated and settlement modified. The management of large farms seems to have begun while long lots were still



viable alternatives in some cases. The original Duke of York Patents can still be seen in the Shankland survey, although many boundary modifications are obvious (Figure I-10).

Throughout the latter part of the 17th century and most of the 18th century, the Lewes area was ruled by the English. In 1682 William Penn received title to Pennsylvania, of which Delaware became a part. At that time he directed the courts at Lewes, New Castle and Burlington to receive petitions for the sale of land. The population of Lewes had grown by that time and Penn, through the courts, found it wise to reserve public lands for the use in common of the inhabitants of Lewes. These lands were located between Lewes proper and Cape Henlopen and were for the purpose of timbering and the grazing of cattle. In 1729, the Great Marsh was set aside, to be held in trust for the common use of the inhabitants of Lewes (Cohen 1969:9).

Cohen (1969) suggests that Penn advocated the proper layout of towns under his jurisdiction and encouraged the courts to provide the impetus for the establishment of well planned towns. After 1690 the settlement on the Hoornkill became known as Lewestown and development of this court seat had progressed beyond any other settlement in the lower part of the Delmarva Peninsula. In 1690 and 1698 the settlement of Lewestown found itself under attack by pirates. Turner (1901) states that all citizens were required to arm themselves and provide defense against pirate raids. In 1700, Captain Kidd is said to have anchored offshore and engaged in trade with the Lewestown inhabitants with prohibited goods (Turner 1901:42).

The settlement of Lewes rapidly grew centered in the area between Shipcarpenter and Market Streets along the banks of Lewes Creek. Pilot Town became a separate entity and remained so on maps throughout the 18th and 19th centuries. The study area (University of Delaware Research Park, Marine Studies Complex) remained outside of this center of development and seems to have been primarily farmland until the present.

Lewestown, however, added churches, schools, commercial facilities and fishing and shipping centers to its stock of developments. Cullen (1956) reports that the Church of England existing in Lewestown since 1681 constructed its first church building in 1724. St. Peter's Episcopal Church obtained its first full time rector in 1721. In 1691 a Presbyterian congregation had become established and their first church building was erected by 1707. These churches were followed by the Methodists and the Society of Brothers (Friends) shortly thereafter.

By 1693 a school had been founded in Lewestown, perhaps the Penn Charter School. Cullen (1956:41-42) reports that Deputy Governor Lloyd of Pennsylvania sent his youngest daughter to school in Lewes in 1693. A coeducational school had been constructed by 1761 and the Lewes Academy was founded in 1795.

In 1765 the first Cape Henlopen lighthouse was constructed and Lewes became even more of a strategic location for the rapidly growing shipping route up the Delaware Bay and River. During the revolutionary struggle between the new country of the United States and Great Britan, the protection of the lighthouse, and of the shipping channels, became exceedingly important. The 1773 survey of John Shankland (Figure I-10) shows that a battery had been constructed near Roosevelt Inlet, at the same location as the earlier FortOplandt and the later Dutch Fort. This battery proved to be useful, for in 1776 a British landing party from the frigate Roebuck was discovered attempting to destroy the Cape Henlopen lighthouse (Pusy 1903:23-26).

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Fisher's 1776 Map of Delaware Bay, which refers to Cape Henlopen as Cape James and locates Cape Henlopen below Rehoboth Bay, illustrates the value of both Lewes and Cape May to the protection of the Delaware River towns and cities. Albertson (1929) suggests that an arsenal constructed at the corner of Second and Shipcarpenter Streets, within Lewes proper, was "..the first regularly established arsenal in the colonies taken from the Dutch, and was used as a source of supply for arms used in early Indian warfare as well as against marauding pirates from the lower seas." The service provided by the arsenal and the battery at Lewes during the Revolutionary War and the War of 1812 can not be understated.

Lewes remained a strategic location during the 19th century. Several British ships anchored off Lewes in the Delaware Bay during the War of 1812. Scharf (1888:1236) states that 500 American troops were stationed there and withstood a bombardment from the British ships. The Cannonball house on Front Street in Lewes still has a cannonball imbedded in its foundation from that bombardment.

As a court town, Lewes remained important to the growth of the new State of Delaware even after it lost its hold as the county seat to Georgetown. Cohen (1969:23-24) lists six citizens of Lewes who served as governors of Delaware. As a port town, Lewes remains important even to this day. Pilots from Lewes were commonly called upon to guide ocean-going vessels up the treacherous channels of the Delaware Bay and River on their way to Philadelphia. The need for the river pilot began in the early part of the 18th century and is still a part of the duties of the Delaware Bay River Pilots Association at present (see Marvil 1965 for a comprehensive history of the river pilots of Lewes). Many of the 18th and 19th century houses still standing along Pilot Town Road were built and are still lived in by river pilots.

As was stated earlier, from the time of the Shankland survey in 1773 until the mapping of Sussex County by Beers and his associate in 1868, very little exists in the published map collections to visually illustrate the development of the lands in the study area. The 1776 Joshua Fisher map (Figure I-11) shows Lewes and Pilot Town as separate entities but is not in sufficient detail to use for land use studies. Beers' Atlas of the State of Delaware, sheet # 39, is revealing in that the initial long lot land holding pattern can still be seen. While "long lots" are only in the form of "home lots" at this time, the similarity to Dutch boundaries can be interpreted. It is also interesting to note that no structures are shown on the Beers' map in the study area except for two residences along New Road owned by E. Russell. It is possible that one of these structures may be located adjacent to the study area. The Russell family still occupies homes in the area and until quite recently, owned portions of the study area. (Figure I-12).

Evidence of the early 19th century commercial growth of the area is still visible through aerial photographs which show the former bed of the Queen Anne's Railroad. This railroad crossed Canary Creek just west of the crossing of the "Dutch Dike" and can be seen approaching from the center of Lewes through the Sam Russell farm. The railroad roughly parallels the earlier road shown on the Shankland survey map (Figure I-10). Parson's Causeway, a smaller dike excavated in 1954, is adjacent to the railroad bed west of Canary Creek.





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Previous Investigations in the Area Historic Sites

Interest in the early historic archaeology of the Lewes area began with the formation of the Sussex Archaeological Association (SAA) and their excavations at such sites as Townsend, Russell, Ritter and others. During many of these projects, the local history became pertinent as artifacts of 17th and 18th century derivation began to turn up. Onwake, for example, describes the historic material found at the Townsend Site (7S-D-22) (Omwake and Stewart 1963) and presents historical data in his interpretation. While excavating the Russell Site, members of the SAA recorded numerous kaolin pipe stems and other 17th and 18th century artifacts. In their report on these excavations (Marine 1957) mention is made of an "Old House Site" to the northeast of the prehistoric site. In this same period of archaeological investigations, work was initiated near the old cemetery on Pilot Town Road in an attempt to find evidence of the Fort Oplandt settlement of 1631. Finally, excavations were conducted at the "Dutch Dike", at or near the crossing of Canary Creek and shown on Shankland's 1773 survey map.

In 1951 the Sussex Archaeological Association conducted a brief investigation of the "Old House Site" on Sam Russell's property adjacent to the Russell Prehistoric Site. According to Orville H. Peets (1951) artifactual material was found which suggests a possible early 17th century and 18th century occupation of the site. The structural data indicated that two separate building stages, the earliest involving a possible burning of the structure, had occurred. It has been speculated that the "Old House Site" may be the location of the 1622-24 Dutch West Indies Company trading post illustrated on the early 17th century West Indies Co. map (Fig. I-7).

At present, indications of early contact-period Indian, Dutch, and English settlements remain partially interpreted due to lack of an intensive investigation of any of the above mentioned sites. A comprehensive investigation of the historic sites archaeology of the area must be done. Data that may be further explored consist of:

- along Pilot Town Road.
- Complex (reported by John Milner Associates, 1979)
- 3. The "Old House Site", excavated by members of the SAA*
- 4. Historic artifacts, possibly contact-period, and a single feature
- possible contact-period features at the Ritter #1 site.
- 6. The "Pagan Creek" or "Dutch" Dike, excavated by the SAA* over a period "Parson's Causeway".

1. The palisade outline and bastians of Fort Oplandt (Fort Swaanandael)

2. An Eighteenth century artifact scatter within the Virden Domitory

discovered during excavations at the prehistoric Russell Site.

5. Artifacts of 18th century derivation found during the excavation of

of years. Also, a nearby dike over a smaller marshy area known as

* Sussex Archaeological Association, now the Sussex Society of Archeology and History

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Research Design

It is understood that generation of research questions and study procedures must be undertaken with the expected data base in mind. Research questions should be relevant to the study area and in accordance with the overall theoretical orientation currently accepted in the scientific community. Furthermore, the study procedures should take into consideration past investigations and the nature of the data base known to have been recovered during previous work. The following research design is based on previous archaeological/historical research in the general project area and on relevant and current questions being asked by the archaeological community throughout the Middle Atlantic region. Since the data base remains to be determined, it is possible that some of the objectives outlined below will not be able to be addressed within the context of the present Phase II project.

I.

Early Prehistoric Occupation

As was suggested in sections on the Natural Environment and Prehistoric Overview, the study area may not have been intensively utilized by man prior to the period when paleogeographic features and natural biota of the Great Marsh and the Delaware Bay estuarine environment were well established. This may have been with Early or Middle Woodland period riverine/estuarine shellfish exploiters. It is necessary, however, to pose the question of whether or not earlier peoples may have engaged in hunting and gathering in the uplands of the study area.

Archaic settlement patterns have been studied in other parts of the Middle Atlantic region and it can be speculated that similar settlement types may have existed within the study area. Upland transient camps seem to be almost ubiquitous throughout the coastal plain where they are situated along ridge tops and within the upland flats of poorly drained areas. In contrast, larger more densely occupied, base camps would have been situated at the edge of the streams and on the banks of shallow bays.

The study area does not seem to fit into the category of upland flats of poorly drained areas since, as was indicated earlier, the droughty soils of the Sassafras-Fallsington soil association, do not usually support wetland vegetation. Nearby wetlands, though, may have been attractive to Archaic hunters and gatherers and must be watched for in the current study area. It has been suggested that earlier investigations conducted by Dr. Bert Salwen for the Hercules Powder Company may have uncovered evidence of pre-Woodland Period occupation. This will be carefully considered during the field survey and subsequent data analyses.

In summation, this first research consideration concerns the earliest of the occupations expected within the study area, that of pre-Woodland hunters and gatherers who may have exploited a Lewes area that was quite unlike that to be found in more recent periods. Food procurement activities of prehistoric peoples, if engaged in within the study area, would have had to address natural resources of upland flats and not those of the estuarine/marshland types. This study will consider the aboriginal site types that may be found within the study area as a means of testing State Plan settlement models (Custer 1981).

II.

Shifting Woodland Period Economic Practices

With the arrival of essentially modern environmental conditions in the Middle Atlantic coast, the resource base and distribution within the general research park study area stablilized. Local conditions may have varied gradually with the continuously rising sea level and the encroachment of the sea and fringing marshes. However, the resources that were to be found when the area was first visited by Europeans most likely were available throughout the past two millenia.

During the 1960's and 1970's, professional archaeologists throughout the Middle Atlantic region turned their efforts towards the explication of the problem of aboriginal economy. In Delaware this orientation focused on late prehistoric subsistence/settlement patterning (Thomas, Griffith, Wise & Artusy 1975) not only in coastal Sussex County but throughout the state. Similiar studies were being done by investigators elsewhere (Gardner 1974, McNamara 1977, Cavallo 1979, Custer 1980, etc.). It became evident that in all areas and throughout most of the prehistoric record, the key factors in the aboriginal economy were those of scheduling and maximization.

The question that is being addressed here is what types of food procurement and processing activities were being engaged in by Woodland peoples in the general study area and what shifts were made during the course of the entire cultural period. The study area has the potential for answering parts of these questions. The existence of the marsh area in the northern part of the study area would have been a source of estuarine shellfish and other open water/marsh associated flora and fauna. Whether this was exploited by Woodland peoples is a question to be answered. Also, if this proves to have been an exploited resource, when was it first utilized, for how long, and why (if it was) was it finally abandoned as an exploitable resource procurement area.

As was suggested in the Natural Environment and Prehistoric Overview sections of this report, it can be expected that Early to Middle Woodland shellfish procurement camps may exist on the fringes of the present marsh area and/or under shallow marsh soils. It is also possible that evidence of the exploitation of shellfish and related estuarine resources from this source may be found in the upland areas around the marsh.

III.

Contact Period

Sufficient evidence exists in the archaeological record and historical documents to state that cultural contact between aboriginal peoples and European traders and settlers occurred within the general study area. As was outlined in the section entitled Historical Overview, the presence of an aboriginal settlement at the time of the first and second Dutch occupations and early into the period of English rule in the 17th and early 18th centuries is certain. Archaeological data from the Russell Site, Old House Site and Ritter I Site suggest contact between European and Indian. Nearby work conducted at the Townsend Site by the Sussex Archaeological Association and at the Moore Farm by the Delaware Section of Archaeology also tend to support such an assumption.

While the immediate study area is located some distance from the Russell Site and from the "Old House Site", it may prove to contain evidence of aboriginal contact. The early road which crossed the causeway across Canary Creek passed by the aboriginal Russell Site and the "Old House Site", and traversed the study area on its way to Pilot Town Road. This road may have originally been an "Indian Path" (Omwake1958) later used as road by the Dutch. It may have served to transport goods from the landing at Pilot Town Road on Lewes Creek to the brick structure shown on the DeVries Map and to the later "Old Fort Tract" mentioned in the Duke of York Patent records.

In summary, the question to be addressed is whether or not evidence of Indian-European contact can be found along a path or road which may have been associated with both prehistoric and historic settlements. It is assumed that contact will be recognized by an obvious association of European and Indian items.

IV. Early Historic Land Use Patterns

Based on documentary research conducted by several individuals involved in studies of historic archaeological resources in the general area, the research park study area is located within the bounds of three early land patents which may date earlier than 1670 A.D. These land patents probably originated during the second Dutch occupation of the Hoornkill area and fit into a widespread "long lot" pattern of Dutch land division practices throughout "New Netherlands".

Archaeological evidence, as well as suppositions from documentary records, suggests that historic structural remains may exist adjacent to and within the study area. Based on the information reviewed in the Historic Overview section of this report, a 17th and early 18th century roadway crossed through the study area. This roadway seems to have run from Lewes Creek at Pilot Town to the lands to the southwest. The road seems to have crossed by the "Old House Site" and across the "Pagan Creek Dyke" on its way to the open lands to the southwest. It may have connected lands on both sides of Pagan Creek owned by H. Woolbanck in order to provide a means of transporting crops for market. By the middle of the 18th century a New Road had been proposed to run east of the 17th century roadway.

In addition to the early roadway, it is expected that farm structures may exist within the study area. A prevalant interpretation of the long lot land division patterns suggests that the residences of the owners, if not at separate "home lots" in a nucleated village, were probably located directly on the water course at the front end of the lot (Wise 1979). This seems to be supported by Shankland on his 1773 survey map of the area. However, it is unlikely that minor farm buildings would be clustered in the front of the lot and the possibility exists that such will be found within the project area. Farm buildings, associated with the E. Russell property (Figure I-12) may also be found in Field III of the project area (Field III is adjacent to New Road).

In summary, the project area may contain historic archaeological resources that relate to the early Dutch occupation of the area and subsequent English 17th and 18th century occupations. The question to be addressed is, if such structures are present, how do they fit into the historic record and the established land use patterns.

Field Methodology

Figure I-13, a plot plan of the University of Delaware Research Park study area, shows three survey units used by Mid-Atlantic Archaeological Research, Inc. during the current archaeological study. The northernmost of the three cultivated fields to be developed has been designated Field I. Field II lies directly to the south of Field I and to the north of Field III. Field III fronts on New Road which is to its south. The marshland unit and the dike unit are to the north and east of Fields I and II.

Prior to the initiation of field investigations, the University of Delaware's program manager, Mr. Herman A. Smith, Director of the Department of Engineering and Construction, contacted the farmer who annually leases the future site of the Research Park - Marine Studies Center and requested that Fields I, II and III be disc-plowed. Due to weather conditions, however, this process could only be partially completed by the end of 1981 and the initiation of field procedures had to be postponed until the following spring. A lowlying section of Field II was never plowed during the course of this investigation and had to be examined in its existing condition of corn stubble.

Subsequent to the overturning of vegetation, and following one or more periods of heavy rainfall, the field surface reconnaissance proceeded. The initial method followed in this process was to walk at intervals of approximately 20 feet and "flag" each artifact or concentration of artifacts found. Once a field was completely "flagged", a decision was made as to the need for its subsequent collection in 50 meter units. Grid units were established, when appropriate, by tape measure procedures and all items within each grid unit were collected and bagged.

Post hole tests were made along the edges of the marshland and in areas of wooded land or heavy surface vegetation. These tests were measured and drawn and all soil within was carefully examined for evidence of cultural activity.

Measured test units were placed in areas where surface artifact scatters or concentrations indicated the possible presence of subsurface features. Fields I and II were examined by measured test unit excavations. All soil from tests was examined and measurements, drawings, and photographs of each were made as appropriate. Shovel tests were often used to supplement information obtained from measured test units. These were recorded on the project maps (see Field maps for locations of surface units and subsurface tests).

Post hole test intervals and measured test unit size were determined in the field by MAAR staff. It was not felt necessary to make these decisions prior to the field investigation. Since post holes were being excavated to determine the nature of subsoil strata and the presence of cultural material, both depth and interval depended upon what was found during testing. The size of test units also depended on the nature of surface indications after plowing and collecting and could only be determined after these initial observations were made.

Laboratory Procedure

All artifacts recovered during the surface and subsurface investigations conducted by the MAAR field staff were transported in carefully provenienced

containers to the Mid-Atlantic Archaeological Research, Inc. offices in Newark. There they were washed and given catalog numbers. No conservation or attempts at mending broken items was deemed necessary. The catalog number of each item was printed on the item with India Ink. The number was then covered with a thin coat of clear nail polish to protect it from wear. Artifacts were stored in open cardboard trays while awaiting analysis. Subsequently, they were placed in flats and covered for protection.

All aboriginal artifacts were identified as to material from which they were manufactured. Lithic items were subjected to a brief functional analysis during which the use to which the item was placed was determined. Ceramic items were identified as to temper, color, surface treatment and decoration. These characteristics were used to place the sherds within published ceramic types. Diagnostic lithic bifaces, those with stems and regular shapes, were also placed within published types. Flakes and other diagnostics were looked at and described in as much detail as was thought appropriate.

Historic items were separated into items of different materials and functions. Metal objects were identified as to use, if possible. Such items as nails and tools were examined to determine manufacturing procedure. Buttons were described by form and chronological period ascertained based on published guides.

Glass was separted into window glass, bottle glass and other. The former was not further examined. Bottle glass was described by color and, if possible, by bottle form. An attempt was made to identify the chronological placement of bottle glass. Ceramics were given the most detailed treatment due to the ability of archaeologists to determine ware types, periods of manufacture, and place of origin. All historic sherds were first separated into the following categories: redware, stoneware, porcelain, whiteware, creamware and other earthenwares. The latter were described by paste color. Some of the various categories were further subdivided whenever established type names could be identified by the investigators. Also, vessel form was described when appropriate.

Other artifacts, such as bone, brick, shell, etc., were sample collected since no attempt was being made to systematically collect representative samples of the total artifact population within the survey units. These were identified by gross characteristics and bagged for possible future analysis.

SOME THOUGHTS ON THE THREE HUNDREDTH

ANNIVERSARY OF SUSSEX COUNTY

By Dick Carter

We are celebrating during the spring and summer of 1983 the three hundredth anniversary of William Penn's arrival on our shores and his renaming of what had been, briefly, Deale County after his native Sussex County on the southeastern coast of England. The act of renaming Deale, which took place on Christmas Day, 1682, was not in itself all that important either at the time or with regard to events during the ensuing three centuries. William Penn's assumption of authority over this and other "territories" held by the Duke of York on the western shore of the Delaware River and Bay, on the other hand, was a pivotal event in our long history. The early record of European settlement in what is now Sussex County can easily seem like the most confusing muddle imaginable with all its changes in boundaries and shifts in sovreignty. Out of that confusion the arrival of William Penn shines forth as a beacon of clarity. To understand just how refreshing a change this was, it is useful to examine some of the events leading up to his involvement.

When Penn came to the Delaware Bay and River in October of 1682, he had held title to the vast domain which later became Pennsylvania for somewhat more than a year. He had held a considerably more dubious title to the "Territories" (later to be known as "The Three Lower Counties Upon Delaware") for about two months. These territories then consisted of three counties -New Castle in the north. St. Jones and Deale. Until late 1680. the two lower counties had both been part of a much larger county known by the rather bizarre name, "The Whorekills" or "Whorekill County." This was an Anglicized version of the Dutch name "Hoeren-Kil" by which the area had been known since sometime in the 1640's or 1650's. This name was bestowed on it in a fashion not entirely clear during the pause of some twenty-five years between the massacre of the original Dutch whaling colony of Swanendael and its resettlement by the Dutch in the late 1650's and early 1660's. The name "Hoerenkil" is, of course, a combination of "Hoeren" and the Dutch name for river, "Kill" or "Kyl." "Hoeren" probably referrs to the town of Hoorn, Holland, from which most of those instrumental in the early settlement of the area came. "Whorekill" became common after the first English conquest of the area in 1664.

Even in 1680, the word "Whore" had its present meaning in English. It is perfectly understandable, therefore, that most residents were less than happy with it. In September of 1680, a group of them petitioned Governor Edmund Andros to change the name. Andros was the Duke of York's chief agent and oversaw the Duke's domains from his headquarters at New York. The petition happened to come at the same time as another request from a group of settlers in the northern reaches of Whorekill County for a seat of government closer to their homes than the settlement of Whorekill down at the mouth of the Delaware Bay. A trip from the St. Jones River or

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Bombay Hook down to Whorekill to attend court could be quite hazardous. One had either to sail across the treacherous, unprotected waters of the open bay or to travel overland through wilds still inhabited by Indians still often hostile to white settlers.

The result of the two petitions was the creation of two new, smaller counties late in 1680. St. Jones in the north ran from Duck Creek down to the Mispillion. Its county seat was to be on St. Jones Neck, some distance east of the present-day site of the U.S. 113 causeway over the St. Jones (though a few years later it was moved farther up the St. Jones to the present site of Dover). Deale County, which extended from the Mispillion down to Assawoman Inlet near present-day Fenwick Island, had the same county seat with a new name - also Deale.

The interest of the Duke of York in this region stemmed from his defeat of the Dutch at New Amsterdam in 1664. In the course of that campaign one of his commanders, Sir Robert Carr, had sailed with a small force south to the Delaware and set seige to the Dutch fort near what soon became New Castle. The English were quickly successful and took over administration of the former Dutch territories on the western side of the Delaware. The Duke, therefore, held his domains by right of conquest rather than by title. The only problem with this was that a predecessor of the Duke^ks brother, King Charles II, had granted the same lands to the Calvert family, the Lords Baltimore as a part of their Maryland grant of 1632 (though there was some fine print in that document which noted that any lands already inhabited by Europeans were not included, a clause which was to be of great importance in later years).

Initially and for some years after 1664, the Calverts did nothing to contest the Duke's holding. "Possession," after all, "is nine points of the law," especially if the possessor is the King's brother. Nor had the Calverts themselves ever attempted to wrest the territories from the Dutch, so they didn't really have all that substantial a claim in some respects. At any rate, by 1669, Lord Baltimore had become very interested in pressing his claim. His first step was the creation of two counties of his own. The southernmost, running along the coast from Virginia northward to Duck Creek on the Delaware and including all of the Whorekill region, was called Worcester.* To the north was another county which was to include all the area around New Castle, known as Durham. Since Lord Baltimore was hardly in a position to actually move militarily against the Duke of York, neither of these counties ever really amounted to much, but his efforts didn't end there.

In 1672, Captain Thomas Jones of Worcester, operating under a commission from Lord Baltimore, rode with a small party of horsemen into the Village of Whorekill. They plundered several houses and held a local magistrate hostage briefly. Some months later Jones returned with a larger force, pillaged the town, and forced the inhabitants to swear an oath of allegiance to Lord Baltimore. The following year the Whorekills fell once more, briefly, under Dutch control. The Marylanders used this occurance as an excuse for another, more extensive attack in the village. During this mid-winter foray every structure in the community was burned except a single thatch-roofed barn. It was fired three times and each time the wind blew out the flames. The leader of the raiding party took this as a sign from God that he should spare one structure to give shelter to the residents, including several pregnant women. He gave them little else. Their weapons and boats were confiscated. Most of their food stores were stolen or destroyed. The serious nature of their plight is illustrated by the fact that two men from the Roads farm, a little way from the village, which was also destroyed by the Marylanders, tried to travel overland from the Whorekills to New Castle in search of help. They were unarmed since the raiders had taken their weapons. They were set upon by hostile Indians and killed.

That grisley episode was the last major incident of outright violence but the dispute continued. Settlers in the area were living in great uncertainty though most, perceiving the Duke of York to be the more formidible figure, placed themselves under his authority. As a result of the Lord Baltimore claim the Duke's officials at New York and New Castle began to encourage settlement in the lower counties where Lord Baltimore was trying to make large grants of land. This was the period when many choice lands along navigable streams were first granted. Among them were large portions of Long Neck, Angola Neck. Broadkill Neck, Oyster Rocks Neck, Prime Hook Neck, Slaughter Neck, and the northern end of Rehoboth Bay. Some of those who received grants were members of families already living in the area - Wiltbanks, Wolgasts, Kipshavens, and Molestons among others. Others were land speculators. A significant new element were the families who came in from elsewhere on the peninsula, especially from the Eastern Shore of Virginia where expansion room was already growing scarce. Among these newcomers were the Burtons, Bagwells, Robinsons, Wapleses, Leatherburys, Morrises and other families which went on to play significant roles in later Sussex County history. Relatively few newcomers who found their way to the Duke's territories before 1682 came directly from England or other European countries. While the total number of residents was swelled considerably between 1674 and 1682, the population of the Lower Counties still stood at no more than a few hundred when William Penn arrived.

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William Penn was one of the more remarkable men of his day in England. Born in 1644, he had a gradual conversion to Quakerism much to the consternation of his father, who exiled him briefly from the family home. Among the few surviving accounts of Penn's youth are those contained in the Diary of Samuel Pepys, a London neighbor of the Penn family. In his twenties and thirties Penn was tireless in defense of his Quaker faith. An extremely personable man, he was a born politician, though his political views were radically different from those his conservative father might have chosen for him. He became a close associate of the philosopher John Locke and it is possible to find various Lockean concepts at work in the early

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^{*} It should be noted that this was an earlier Worcester County than the present one, though it covered much of the same territory. The present Worcester was created in 1742.

government of Pennsylvania just as they were to emerge nearly a century later in the writings of our founding fathers in the American Revolution days.

For a man who was in some respects a religious fanatic and something of a political visionary, Penn was a remarkably skillful negotiator. He first showed this in securing his grant to what became Pennsylvania. This trait was even more evident in his successful effort to talk the Duke of York out of the "Territories." It should be pointed out, however, that the Duke was obviously inclined to like Penn. The two were soon to become the closest of friends after the Duke became King James II upon the death of his brother. After the "Glorious Revolution" of 1688 and the ascension of Prince William of Orange to the English throne, Penn's close association with the deposed King James nearly landed him in jail and briefly threatened his American domains.

All of Pennsylvania was to have been north of the 40th Parallel. The northern boundary of the Duke's territories was set by the drawing of a huge circle twelve miles out from the New Castle Courthouse. A problem with all of this is that no one was then sure where the 40th Parallel lay. The Calvert family, for whom it was the northern boundary of their grant, then presumed it to be in the vicinity of the upper Delaware Bay. In fact it runs directly through the center of North Philadelphia. Penn never confined himself to the lands north of the parallel, though to be fair he didn't know where it was either. The confusion over this line was a large part of the reason for the subsequent boundary dispute between the Penn family and the Calvert family which culminated in the 1751 Transpeninsular Line and the later Mason-Dixon Line.

A major concern of Penn's was the need for a guaranteed access to the sea via the Delaware River and Bay. Though he was friendly enough with the Duke, he didn't fully trust him to allow free access up the river in the future. As one of the proprietors of West Jersey Penn had seen the Duke impose heavy customs duties at Whorekill and New Castle some years before, jeopardizing all the river trade. Not only did he fear another such tactic but he was concerned that the dispute between the Duke and Lord Baltimore might also serve to close down the river. He felt that getting ahold of the Territories and facing his own dispute with the Calverts was the lesser of two evils. Thus in the spring of 1682, Penn began negotiations with the Duke in hopes of getting the Territories. He accomplished this end in August of 1682.

The actual instruments by which Penn got control of the "Lower Counties Upon Delaware" were 10,000 year leases for New Castle within the twelve-mile circle and for the area to the south, followed by "Deeds of Feoffment" or absolute deeds to these same lands. The most interesting thing about these documents is that at the time they were executed the Duke did not in fact possess title to the lands himself. He rectified this oversight some seven months later when he got his brother, Charles II, to formally deed him these lands. He thereupon gave Penn full title retroactively. Even more unusual was the fact that both King Charles and the Duke were fully aware that these same lands were contained in the much earlier grant to the Calverts. Penn was also aware of this fact when he took possession of the lands. One may reasonably conclude, therefore, that Delaware exists today because no one wished to tell the King of England that he couldn't give away land which had already been given away.

While few realized it at the time.the residents of the Territories had just become the beneficiaries of one of the most fortunate occurrances in early American history. Though certain other original colonies were founded upon a basis of religious toleration, Pennsylvania and the Lower Counties were the only parts of America to have benefitted from what could be called truly enlightened thought. Penn was the best of all proprietors. Not only did he accord his subjects a degree of self-government unprecedented among English colonists, but he was canny enough to keep his domains intact, thus insuring that his enlightened design would survive relatively intact even after his own death in 1718. It survived in fact until the time of the Revolution. He was also gracious enough to grant the Lower Counties their freedom from participation in the Pennsylvania Assembly in 1704. thereby establishing themselves as essentially a separate province under the same proprietor.

Celebrating William Penn's act of bestowing upon us the name "Sussex County" will be fun to be sure, but it really isn't such a big thing. The important thing is to celebrate our good fortune in falling under his protection. In closing it seems fitting to quote from a letter Penn sent his new subjects some months before his arrival on these shores:

> "I have to let you know that it hath pleased God in his Providence to cast you within my lot and care. It is a business that, though I never undertook before, yet God has given me an understanding of my duty, and an honest mind to do it uprightly. I hope you will not be troubled with your change and the King's choice, for you are now fixed, at the mercy of no Governor that comes to make his fortune great; you shall be governed by laws of your own making, and live a free, and, if you will, a sober and industrious people. I shall not usurp the right of any, or oppress his person; God has furnished me with a better resolution, and has given me his grace to keep it. In short, whatever sober and free men can reasonably desire for the security and improvement of their own happiness, I shall heartily comply with, and in five months resolve, if it pleases God. to see you. . . "

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A NOTE ON SOURCES:

In putting together this account of Penn's coming, I have consulted four secondary works from among the scores which are available. These are:

- C.A. Weslager, THE ENGLISH ON THE DELAWARE 1610-1682, New Brunswick, N.J., 1967, Rutgers University Press.
- W.W. Comfort, WILLIAM PENN, 1644-1718 A TERCENTENARY ESTIMATE, Philadelphia, 1945, University of Pennsylvania Press.
- H.B. Hancock, THE HISTORY OF SUSSEX COUNTY, DELAWARE, Published by Harold B. Hancock, 1976, Under the auspices of the Sussex County Bicentennial Committee.
- R.B. Carter, THE HISTORY OF SUSSEX COUNTY, Millsboro, 1976, Community Newspapers, Inc.



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The official Sussex County Flag was adopted by the Sussex County Council in 1974 following a county-wide competition for a design. The winner was Mr. William Conn Scott of Selbyville. His design incorporates colors and elements of the Dutch, English and American flags (red band at top, blue band at bottom, and white band in the middle). The device in the center of the flag is the sheaf of wheat crest ordered by William Penn to be placed at the top of the Coat of Arms he designed for Sussex County. This seal was formally adopted in March, 1683. A small number of Sussex County Flags are on sale in the office of the Sussex County Council in the Courthouse in Georgetown at a price of \$30.00.



