ENVIRONMENTAL

NAVAL AIR STATION
PATUXENT RIVER

FY 2002 Secretary of the Navy Environmental Award - Cultural Resources Management (Installation)

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Summary of Achievements - The Naval Air Station Patuxent River's Cultural Resources Program developed an Integrated Cultural Resources Management Program used as a backbone for all planning activities. Through the use of completed Architectural and Archeological Evaluations, the NAS has become a proactive, rather than a reactive, team. Command Support is a key component to the success of the program. Partnerships with neighboring historical organizations, such as the Maryland Archeological Conservation Laboratory, have been critical to the success of the program and the influence it has had on the station. While lead members come from various departments, a cooperative work ethic guarantees a seamless work flow for all projects.

Introduction

Commissioned on April 1, 1943, the Naval Air Station (NAS) Patuxent River is naval aviation's premiere research, development, test and evaluation facility. NAS hosts a full spectrum of acquisition management, research and development capabilities, air and ground test and evaluation (T&E), aircraft logistics and maintenance management for naval aviation.

Located 65 miles southeast of Washington, DC, the NAS is in growing St. Mary's County, Maryland, which has a population of approximately 85,000. Patuxent River and the adjacent community of Lexington Park constitute the largest concentration of employment in the county, with the federal government the largest employer. The NAS Patuxent River Complex encompasses 13,913 acres and includes Webster Field Annex in St. Inigoes, about eight miles south of the NAS, and the Bloodsworth Island Range, located off Maryland's Eastern Shore.

NAS Patuxent River and Webster Field Annex provide office space for the Naval Air Systems Command (NAVAIR) headquarters, the Naval Air Warfare Center Aircraft Division (NAWCAD) and more than 50 other tenant commands. The total working population is about 17,500 with about 6,800 civilian employees, 2,800 military members, and the remainder made up of contract personnel.

Over 25 miles of shoreline, ranging from sandy beaches to tidal marshes, line three sides of the installation. Bordered by the Patuxent River and Chesapeake Bay, the NAS has three seaplane basins, six man-made freshwater ponds, and three tidal creeks. Within this natural environment, there are almost nine million square feet of floor space at the naval air station and 79 miles of roads.

Background

In addition to the abundance of natural resources at the Complex, there is also great historical and cultural significance within the grounds. Prehistoric sites, categorized by stone tools dating back 5,000 to 8,000 years, have been found here along the shores of the Chesapeake. In 1637, Jesuits from nearby St. Mary's City were allowed to leave the St. Mary City settlement

Mike Smolek, Executive Director, Jefferson Patterson Park and Museum and Doug Lister, NAS Patuxent River Natural Resource Specialist, look on as Julie King, Chief of the Maryland Archeological Conservation Lab, shows Capt. Dane Swanson, CO NAS Patuxent River, some of the early artifacts found on station and housed at the Museum's MAC Lab.

and relocated to Mattapany, which is within the boundaries of NAS. Until the 19th century, Mattapany continued to operate as a typical Southern Maryland plantation. When the Navy purchased the property in 1942, the plantation house, dating back to1742, was converted into housing quarters. Additional historical sites are scattered throughout the NAS area.

Integrated Cultural Resources Management Plan

Completed in September 2002, the Integrated Cultural Resources Management Plan (ICRMP) is a five-year planning document created to provide installation staff with information and guidance on balancing historic preservation regulations with the Navy's mission. It provides a comprehensive approach to project coordination and resource management. With this goal in mind, the ICRMP provides both short and long term recommendations for consideration of cultural resources in coordinated project planning and identifying, evaluating, and treating cultural resources.

The document is divided into five principle sections. These include purpose and scope, mission and philosophy, regulatory requirements and procedures, resource inventory and treatment, and operation and implementation guidelines. The ICRMP is intended to be a decision document and recommends a series of strategies to be funded and implemented as part of NAS Patuxent River's ongoing efforts to comply with

federal historic preservation laws and regulations and remain a leader in resource stewardship.

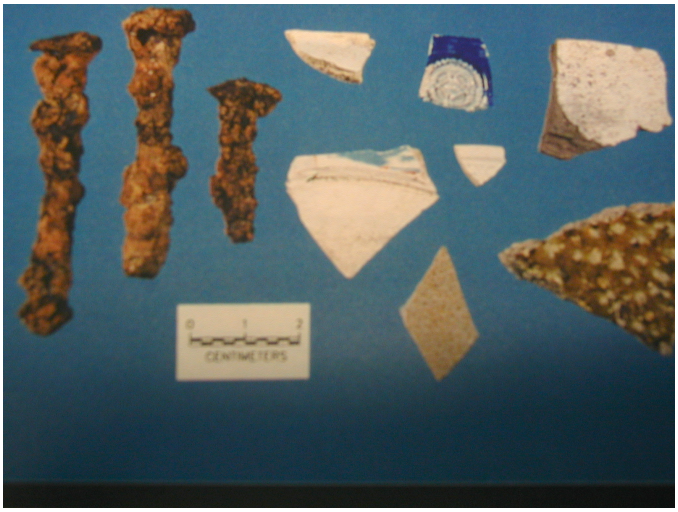
Architectural and Archeological Evaluation and National Register Status

In November 2000, NAS completed a two-year evaluation project resulting in a Multiple Property Documentation Form entitled *Historic Architectural Resources Naval Air Station Patuxent River*. Building on several earlier studies conducted for the installation, this project evaluated all World War II, post war, and Cold War era facilities built prior to 1950 for historical/ architectural significance and National Register eligibility in compliance with Section 110 of the National Historic Preservation Act of 1966, as amended. Both NAS and the Maryland State Historic Preservation Office (SHPO) concur with the findings and recommendations of this document per a concurrence letter dated March 13, 2000.

The evaluation also produced two district National Register nomination forms and eleven individual National Register nomination forms for a total of 50 architectural resources eligible for the National Register. To date, NAS has submitted all of these nomination forms to the Maryland SHPO for review and comment. Upon acceptance from the Maryland SHPO, NAS plans to send the nominations through the chain of command for formal listing to the National Register of Historic Places.

NAS has also completed two additional district nominations in 2002 including a multicomponent site at the Mattapany-Sewall complex and the Point Lookout Light Station complex, a nomination which was completed by the architectural historian. Both of these forms have also been sent to the Maryland SHPO and will be submitted for formal listing upon completion.

Of the 163 previously recorded archeological resources only one, Site 18ST390, has been formally listed in the National Register. This site refers to the home of Charles Calvert, Third Lord Baltimore, and is a multicomponent site dating from the late 17th to mid 18thcentury.



Top: Artifacts recovered from various archological digs at NAS Patuxent River.
Above: An aerial photograph of Mattapany-Sewall mansion.

Memorandums of Agreement (MOAs)

Five agreements are currently in place between NAS, SHPO and the Advisory Council on Historic Preservation. Current MOAs include:

- Demolition of catapults (108, 108a, 119, and 159), to include recordation and exhibit design. MOA signed February 2001.
- Demolition of Centrifugal Gun Tester (Building 205) including recordation. MOA signed August 2001.
- Interior renovation of Fire house #2 (Building 443), including recordation. MOA signed May 2001.
- Renovation/Rehabilitation of Hangar 144, this includes salvage and exhibit design. MOA signed December 1999 and salvage component of project was completed in November 2000.

- Rehabilitation of Air Operations and Control Tower (Building 103), including project design. MOA signed February 2002.

Additionally, four MOAs, written to mitigate adverse effects of historic resources, have been completed within FY 2002:

- MILCON – Construction of new Boat House and Demolition of Building 214, included recordation and design review. MOA was signed in February 2001 and completed in December 2002.

- MILCON – Construction of T&E Support Facility within an historic district, including design review, recordation, and exhibit design. MOA was signed in February 2001 and completed in September 2002.

- Demolition of Building 490. This included a driving panel installation and was an agreement between the Maryland SHPO, NAS, and the Maryland State Highway Administration to accommodate the Route 235 Road Widening project.

- Categorization of all historic housing units. In November 2000, the NAS completed categorization of all historic housing units per the Navy wide Historic Housing Programmatic Agreement.

The oversight of the cultural resources management program at the NAS falls under the auspices of the Environmental Department. Doug Lister, Natural and Cultural Resource Specialist, is in charge of the Cultural Resources program. Dawn Muir, architectural historian with the Public Works Department, assists with the architectural component of this program.

Program Summary

Cooperative agreements between the NAS and local historical organizations are a significant factor to the success of the Cultural Resource program. A seven-year curation agreement with the Jefferson Patterson Park and Museum in St. Leonard, Maryland provides for three things: the assessment of the artifact collection and stabilization of objects that require it; long-term

The Historic Point Lookout Light Station is one of the more architecturally unusual lighthouses in the country.

storage for Patuxent River's collections at the Museum's Maryland Archeological Laboratory; and making the collection available to researchers worldwide through JPPM's database. NAS Patuxent River's collections were the first DoD collections entered into this database. The cooperative partnerships between he NAS Patuxent River Cultural Resources program and neighboring historical and cultural organizations is a key component in the successful management of the program. The use of these agreements allows the preservation of artifacts, the sharing of significant historical information and a current inventory status that is one of the first of its kind between a federal agency and a historical museum.

Nearby St. Mary's City is another significant historical area. Cultural exchanges often take place. Several times a year NAS lends materials for the preparation and display of Historic St. Mary's City Days. Wood, antlers, animal hides and artifacts are cooperatively shared between the NAS and several regional historical programs.

Monthly articles highlighting historical and cultural resources at NAS were created in FY2001. These Spotlight Series highlight a cultural resource or a cluster of resources in an attempt to inform the working community of the resources around them. Put together entirely in house, each power point article is uploaded

to the NAS Web page and sent out as a link to employees at NAS.

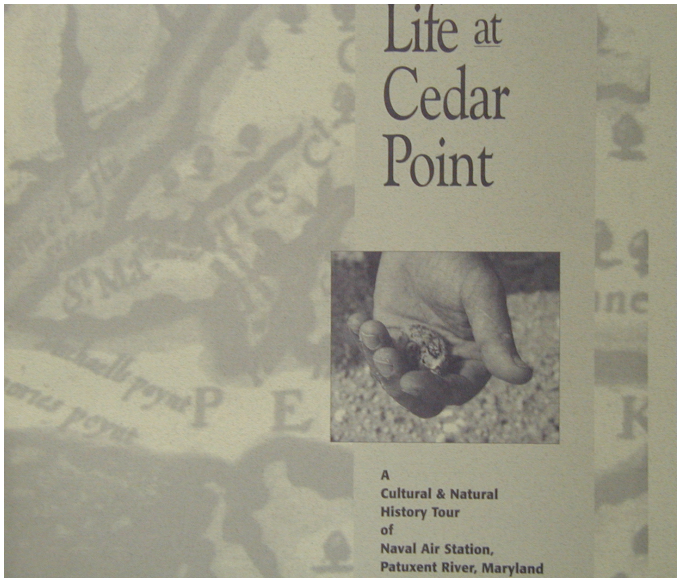
The booklets, driving tours, Web links, and guidebooks produced by NAS Cultural Resources are a powerful link to the cultural resources on NAS for the station personnel and the community. The driving tour at NAS, with 27 boards showcasing areas of interest and an accompanying booklet are both a learning tool for the historian and gift to the community. The recent addition of tour stops at Webster Field Annex highlight the commitment of the NAS Executive leadership to fund and support cultural resources programs at NAS Patuxent River.

To help support the military readiness and civil works mission at the NAS, *A Guidebook to Preservation of Architectural Resources at NAS Patuxent River* was written in FY2002 to help explain the preservation and compliance process as well as the rules and laws driving the cultural resources program at NAS. Written and produced entirely in house, the guide provides phone numbers, e-mail addresses, Web sites, and technical information to assist in planning projects involving historic sites and structures. Given to all program managers, team leads, front office staff, and major public works customers, this resource serves as a planning tool for project managers and aids in completing projects that meet the Navy's mission while retaining some of its unique past.

Accomplishments

Three additional cooperative agreements with the Exhibits Services Program of the Jefferson Patterson Park and Museum contribute to the success in making the local community aware of the cultural resources available at the Patuxent River Complex. Development of a cultural resources driving tour and companion booklet for Webster Field Annex, similar to the *Life at Cedar Point* driving tour and booklet, began in FY02 and will be completed in FY03.

Ten signs highlighting cultural and historical significant sites at WFA were installed to educate the community about the history of the area. Additionally, the NAS will participate in the Maryland Heritage Tourism Initiative "Star Spangled Banner Trail" which highlights War of 1812 sites in Maryland. Finally, a plan for the interpretation of significant architectural resources has been implemented. During the awards time period,



The cover of the 30-page driving tour pamphlet created by NAS Cultural Resources, *Life at Cedar Point*.

NAS Patuxent River also finalized a Station Disturbance Assessment. This project defined those areas on the installation that are devoid of archaeological resources due to significant subsurface disturbance and therefore do not require any more consultation under Section 106 of the National Historic Preservation Act (NHPA). This project was the first step in completing Pax River's archaeological Section 110 obligations of the NHPA.

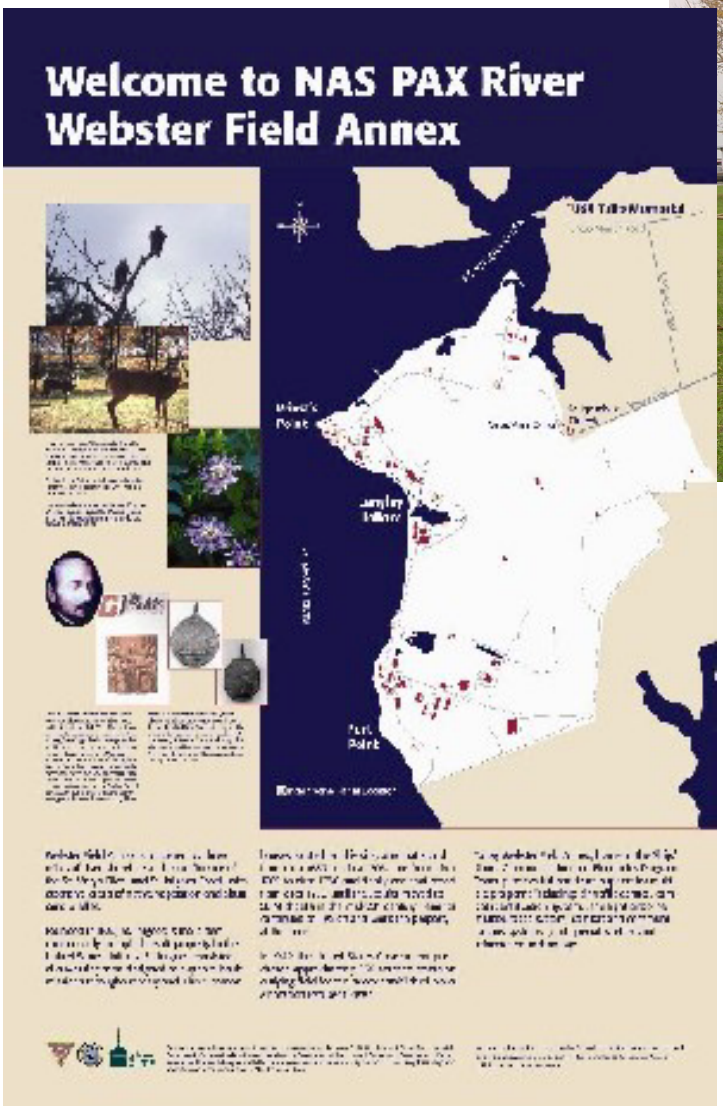
In FY2001, NAS Patuxent River Cultural Resources conducted a Phase II evaluation of the Rousby site, a late 17th century site that was the location of King James II tax collector, Christopher Rousby. This project was conducted in partial fulfillment of Section 110 of NHPA. The site is rich with features relating to the home site of a wealthy 17th century person. Additionally, 75 acres were surveyed in compliance with Section 106 of HHPA. These discoveries continue to add archaeological data to Pax River's GIS. Outreach through tours, lectures, and displays of recent cultural resources projects continue to involve the local community.

Though not through a formal written agreement, there are also informal verbal agreements between the NAS and the surrounding community. Historic St. Mary's City, an interpretive historical center, often works with the Cultural Resources office. Materials from the station, such as bones, hides, antlers and wood, are

often lent to the historic center for construction and furnishings of an Indian longhouse and other buildings.

In May 2002, the NAS Patuxent River Cultural Resources Group was awarded a St. Mary's County Historic Preservation Service Award. This award recognizes outstanding achievement in and support for furthering the aims of historic preservation in St. Mary's County, including education, research, development, planning advocacy, and community leadership. NAS Patuxent River Cultural Resources Group was nominated for providing excellent stewardship of its cultural resources as well as providing strong community involvement in the historical and cultural resources arena.

Above: A worker excavating an archeological site at NAS Patuxent River.



Above: AE3 Zahir Calhoun in the VC-6 office, NAS Patuxent River, is the first person to read the new sign for the driving tour at Webster Field Annex. The ten signs installed around Webster Field Annex describe the historical background of the area. Driving tour signs and booklets are available at both NAS Patuxent River and WFA.
Left: Sign 1 of the WFA driving tour signboards.

Old Chapel Field
St. Inigoes Manor House

The Jesuits' First Residence c.1638-60

The earliest plantation endeavors of the Jesuits are preserved at this site, which typified the early-to-mid 17th century fledgling settlement patterns: located near fresh water springs for drinking, near rivers necessary for transportation and trade, and upon good agricultural lands for raising crops. The first house built on St. Inigoes Manor was reportedly large enough to hold all the freemen of the district in 1638. It is possible the house was of partial brick construction. The Jesuits' preference for building with brick is documented in letters from Andrew White to Lord Baltimore.

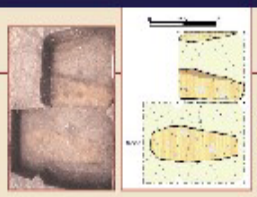
"...in contemplation that such houses (brick) are cheaper upon the reckoning; necessary for health against heate and cold in the country; and fitter for defense of mens lives against the infidels."

Andrew White's comments to Lord Baltimore

Archaeological excavations discovered grave shafts north of the main occupation site. Since there is no documentary evidence of a church at St. Inigoes during the 17th century, these interments may represent those of Protestant members of the community: soldiers, tenants, or possibly indentured servants.

The first Jesuit "home farm" consisted of a house that also probably served as the chapel, a blacksmith shop, and several out buildings.

Early laws required farmers to enclose crops so that the domestic animals could roam free.



The nature and cultural resources driving tour was prepared by the Visual Art Station Patuxent River's Environmental Department, Conservation Division, and the Maryland Department of Housing and Community Development's Estate, Services and Research Programs at Historic Patuxent Park and Museum. Brochure illustration by Barbara S. Wright. Brochure design provided by Laura Gates.

For more information on the district's environmental, natural and cultural resources programs, visit or call the Environmental Education Center, Building 1400 at 301.342.7870

. The details of the Webster Field Annex driving tour signboards 2 and 3.

Old Chapel Field
Jesuit Activity c.1680-1750

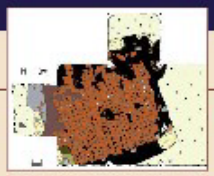
Archaeologists Discoveries

Recent excavations provided insight into the early 18th century Jesuit activity at St. Inigoes, as they successfully expanded their diverse agricultural enterprise. Jesuit use of this area occurred during the late 17th and first half of the 18th century.

Evidence of a cluster of 18th century buildings was recovered. Several fragments of earthenware ceramics of a form frequently used in the processing of dairy products were found in association with a brick floor, and it has been speculated that this structure was used as a dairy. This would be consistent with the property's use for farming activities during the early 18th century, when the Jesuits both had cattle, horses, and extensive agricultural fields. Ceramics and tobacco pipe fragments together form over half of the artifacts discovered in this possible dairy structure. Evidence of large corner posts were seen in three corners, suggesting that it was a frame building.

By probing into gaps within the brick floor, archaeologists discovered that there was a floor overlaying a filled cellar. Excavations of the cellar fill revealed a limestone block floor that rested upon an earlier, late 17th century wooden floor. Architectural artifacts discovered within the cellar indicated that the interior walls of the cellar were lined with white plaster and that the structure had a daub chimney over a brick firebox or foundation. Evidence indicated that the structure may have been destroyed by a fire.

This structure was used and renovated a number of times, and its function remains a mystery.



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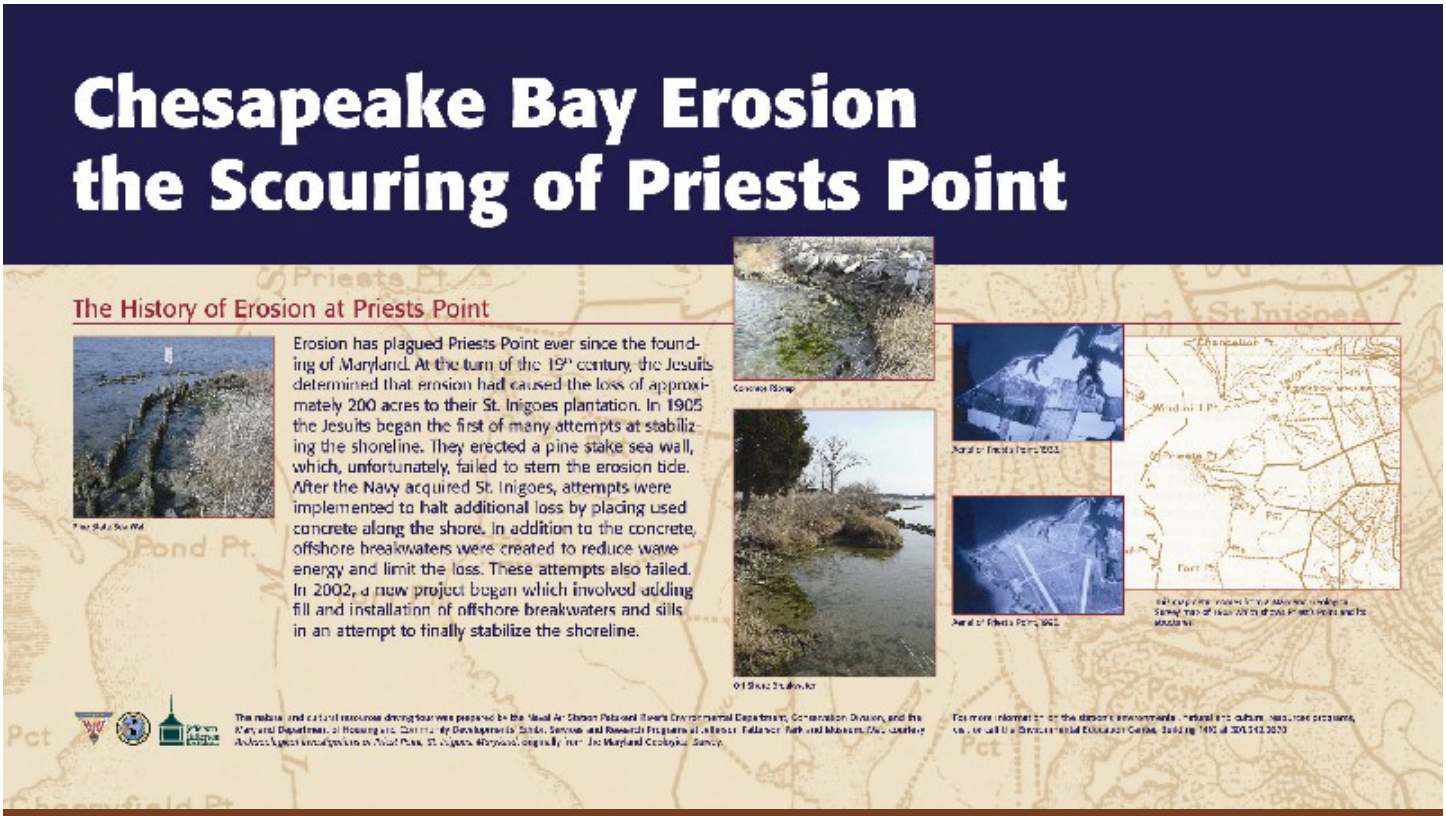
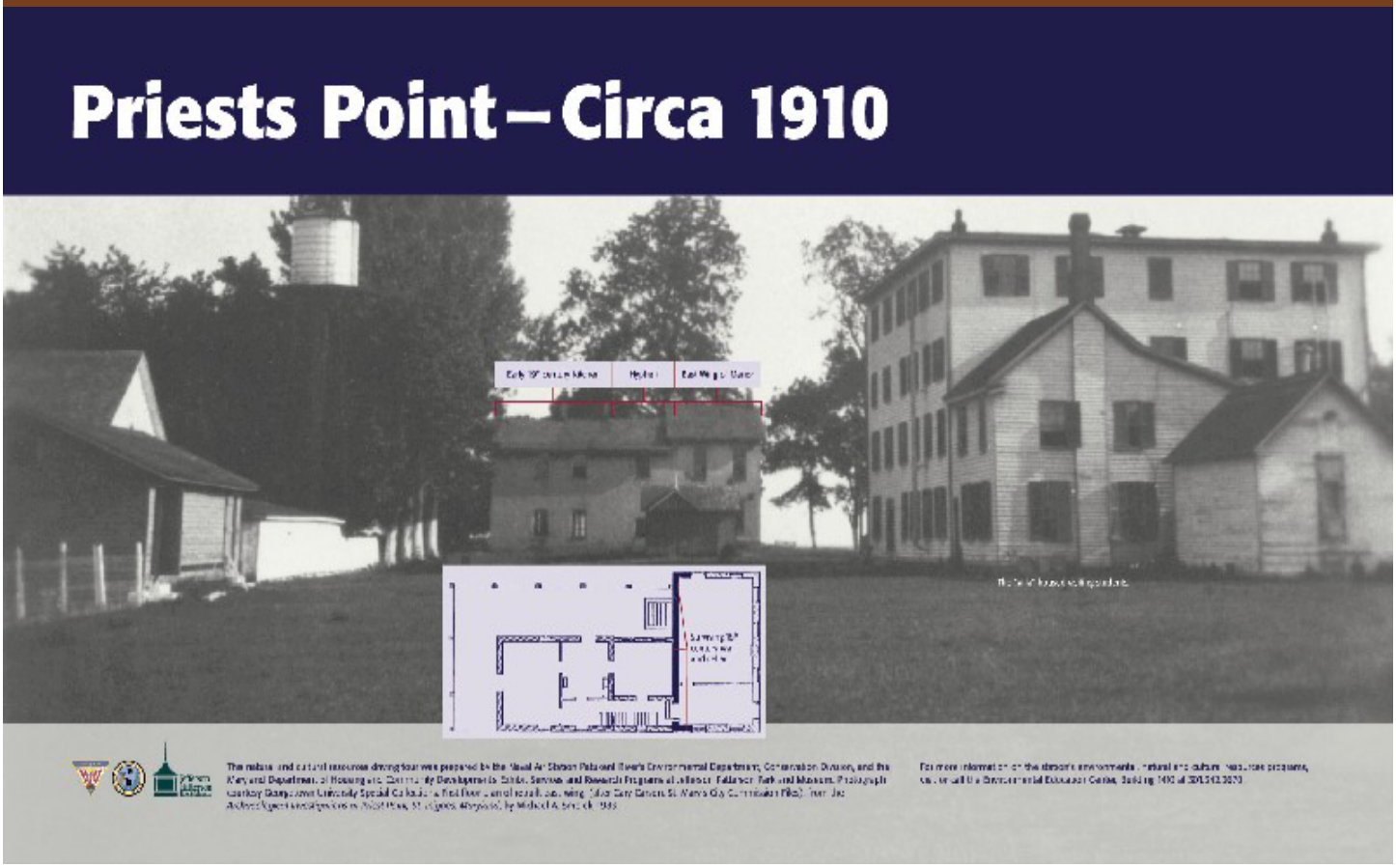


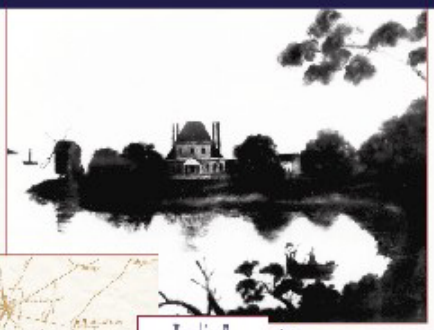
. The details of the Webster Field Annex driving tour signboards 4 and 5.



The Jesuit's Third Manor House

The Jesuits relocated to this area around 1750. The reason for this is unknown, but exhausted agricultural fields and crosswinds to provide healthier air on the point may have been factors. A description of the third manor house is provided by J. Edwin Coad:

"The manor was of English birth, the walls being very thick and massive. The ground Floor had five rooms...The central or main room was an elegant one and must have Been twenty four feet square with high ceiling. From the north front there was a superb View of the upper St. Mary's...The roof of the old house was quadrilateral and very much peaked, with four tall chimneys piercing it, standing like four grim sentinels in their helmets square, ever on duty..."



In January 1872, the manor house was largely destroyed by fire. An observer described the "cracked and charred walls...a sarcastic reminder of it pristine grandeur." Many priceless documents were lost, although a large table, alleged to have been used by Lord Baltimore's council, was saved. The cause of the blaze is uncertain, but it may have been a defective flue. Those remaining portions of the structure which were still usable were incorporated into a new, smaller house erected on the existing foundation, but the difference between the two buildings was described as that between "a cottage and a castle."

In early 1978, the west, north and south walls of the main house were demolished, while much of the east wall was left intact. After demolition, the kitchen was re-roofed and the exposed walls of the main house were capped with concrete.

The details of the Webster Field Annex driving tour signboards 6 and 7.

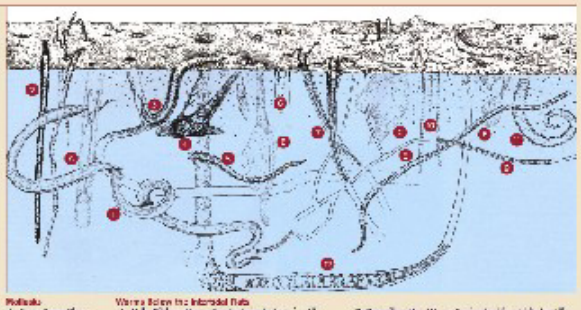
Estuaries—A Delicate Balance

Langley Hollow

Wetlands are vital to the health and productivity of the Chesapeake Bay. They are crucial for reducing erosion due to wetland plants' ability to filter and hold sediments. Wetlands also provide a myriad of crucial habitats for insects, fish, shellfish, birds and mammals.

The mud flat can be a brutal place to live. With each daily tide cycle it is exposed to the heat of the sun and to the drying action of the wind and air. The sizes of the soil particles that make up the mud flat (fine silts and clays) determine what type of marine animals will inhabit it.

Invertebrates, such as annelids (worms) and mollusks (clams), can often be found below the surface of the mud flat, while larger organisms such as fiddler and blue crabs can be seen scudding across the surface of the flats. These organisms feed on a rich supply of planktonic food borne by the flooding tide, and are in turn consumed by wading birds and other large animals. Raccoons often visit the mud flats in hopes of finding a tasty meal. More often then not, only evidence of the raccoons in the form of tracks or droppings gives indication of their having visited the flats.



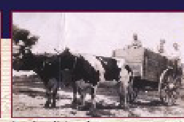
Prehistoric Points to Ponder

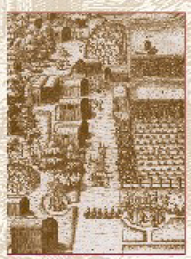
Humans have occupied portions of Webster Field for roughly 8,000 years. Twenty-seven prehistoric sites have been identified aboard Webster Field Annex.

Most of these sites date from the Middle Archaic Period and continue through the Late Woodland Period, suggesting that the area was highly desirable from both resource procurement and agricultural production standpoints.

Artifacts remaining in the ground are used to date prehistoric sites, which have no written documentation that can be used as a reference. One of the most common ways to date a prehistoric site is with the lithic, or stone, projectile point. Often referred to as "arrowheads" most are actually spear or dart points since the bow and arrow was not developed until about AD 800. Projectile point types changed over time for both functional and stylistic reasons.

700 Years of Agriculture





During the Late Woodland period of approximately 700 years ago, people began cultivating beans, squash, and corn. Not only were the residents able to feed themselves and maintain enough seed for the following year's planting, they were also producing enough surpluses to pay tribute to a local or regional ruler.

When the English arrived, they quickly learned that tobacco was going to be their main cash crop and proceeded to convert vast acreage into tillable tobacco fields. Because tobacco crops cause soil nutrient depletion, a farmer was required to have a minimum of 50 acres to allow for fields to remain fallow for 15 years after 3 years of planting tobacco. Crop yields were low due to the time requirement of planting corn and tobacco in individual mounds.

During the 18th and 19th centuries, the Jesuits experimented with different crops, including wheat, clover, rye, corn, oats, turnips, potatoes and flax. The Jesuits were one of the first in the county to understand the negative affects tobacco had on the soil.

Crop yields would have increased with the advent of new and improved technologies. Slavery and tenant farmers played a substantial part in agricultural production during this time.

Today, modern farming practices allow for cultivation of land previously left in pasture or wood lot due to poor soil condition and water retention. Crop yields at Webster Field have recently exceeded all expectations due to soil conditioning (liming) and use of fertilizer.

On prime fields, crop yield averages 150 bushels of corn and 60 bushels of beans. On recently converted once marginal land, crop yield was 148 bushels of corn and 50 of beans—almost equal to those prime fields.

. The details of the Webster Field Annex driving tour signboards 8, 9 and 10.

Protection of Our Heritage

Archaeological sites on federal property are national treasures preserved for the benefit of all people. The information contained within a site, whether prehistoric or historic, can provide valuable insight into our past. Information from a site comes in many shapes and sizes—ranging from stone projectile points (arrow heads) found at ancient American Indian campsites, to pipe stems and ceramic from colonial sites, to metal, brick and glass objects from the more recent time periods.

Even microscopic pollen can be recovered and gives clues to the food people ate and to the seasons that an area was inhabited. These objects, or artifacts, by themselves tell only a small part of the overall history of the site. The location objects have in relation to each other and in relation to features is called the object's context and that is how a site is interpreted.

Features include brick foundations, oyster shell middens (piles) deposited by prehistoric people, postholes, privies, wells, or other evidence of human occupation.

An example of the wealth of information available from an object's context can be demonstrated with ceramics from a colonial site. Where ceramic objects are found in relation to a brick foundation can help us determine the date of the construction and identify how the building was used. Perhaps it can tell us where colonial people deposited their trash, what their social status may have been, or how their house was oriented.

Once these objects are removed from their context the opportunity to make those determinations is forever lost and the value of a site is diminished. It is of utmost importance that objects from a site stay in place until professional archaeologists can study that site and share the knowledge of that site for the benefit of all.

Federal laws protect archeological sites from unauthorized removal of artifacts under the Archeological Resources Protection Act. Persons engaged in this type of activity face fines, jail, or both upon conviction. Please help to preserve the rich heritage of these valuable sites by reporting any unauthorized digging or collecting to station security.