

LIFE AT CEDAR POINT



A
Cultural & Natural
History Tour
of
Naval Air Station,
Patuxent River, Maryland

This is the second version of the NAS Pax River driving tour brochure. The original driving tour was developed through a partnership between the Natural Resources Branch of the NAS Environmental Department, and both the Exhibit Services Program and the Maryland Archaeological Conservation Laboratory from the Jefferson Patterson Park and Museum.

NAS Patuxent River

Public Works Department
Environmental Division

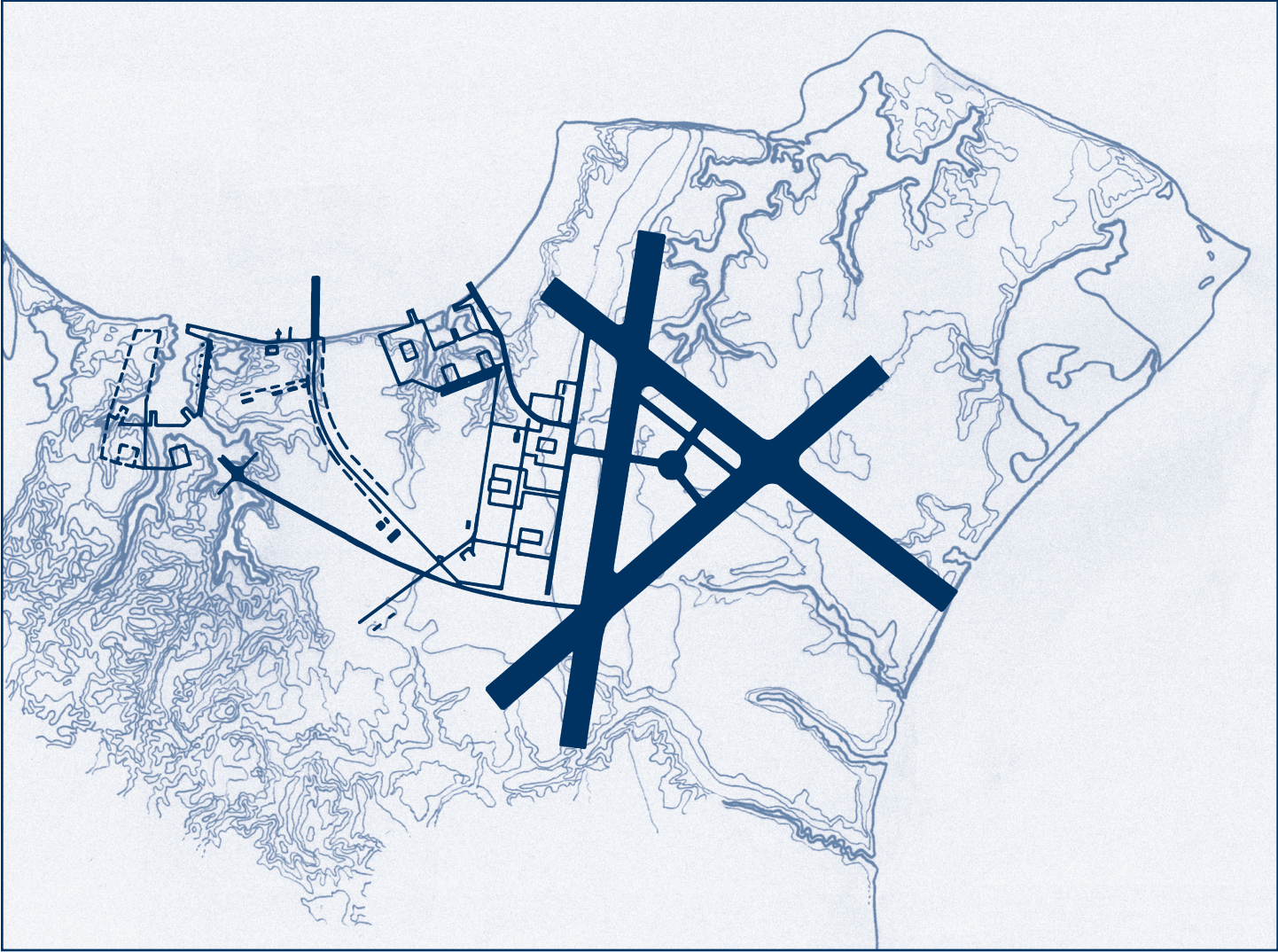
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*This book is printed
on recycled paper.*





Captain Paul Roberts

MESSAGE FROM THE COMMANDING OFFICER

Those of us fortunate enough to work and live onboard the Naval Air Station Patuxent River recognize and value this installation's unique resources. Patuxent River's cultural and historic treasures range from prehistoric through 20th century archaeological deposits to colonial through Cold War architecture.

The Station boasts award-winning natural and cultural resource programs responsible for managing and protecting not only these archaeological and architectural riches, but also Patuxent River's abundant wildlife and our most valuable resource, the Chesapeake Bay.

Known worldwide as the home of the United States Naval Test Pilot School, NAS Patuxent River reigns as naval aviation's premiere research, development, test, and evaluation facility. The fundamental cultural and natural resources management challenge of this cutting-edge testing facility is simultaneously performing the Navy's mission while preserving and even enhancing these cherished resources.

Hopefully, this booklet will inform, entertain, and excite workers, residents, and guests about the innumerable cultural, historic, and natural resources at NAS Patuxent River.

Paul E. Roberts

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WELCOME TO NAVAL AIR STATION PATUXENT RIVER

Prior to the arrival of Europeans, the physical landscape, flora, and fauna of Cedar Point, Maryland were significantly different than they are today. Imagine forests with trees so large that a person's arms could not reach around them, with herds of elk roaming through those impressive forests. Imagine stumbling upon clearings created by American Indians for growing crops and hunting game. Imagine oyster bars so large that they protruded from the water at low tide, and imagine being able to catch Atlantic Sturgeon at almost every attempt. These resources were exploited by the native peoples of Maryland, yet when Europeans arrived, the resources still seemed endless.

The introduction of new agricultural techniques and the raising of domestic livestock by colonists forever changed the landscape of Cedar Point. Erosion caused by clearing the forests and planting tobacco began to silt in once deep tidal creeks and deplete soil nutrients. The draining of marshes greatly reduced the land's capability to filter stormwater before entering the Chesapeake Bay watershed. The over-exploitation of once abundant game animals resulted in severe species population reductions or extinction.

Beginning in the late 1800s, changes in the local economy and the conservation movement began to reverse the decline of our natural resources. By the mid 1900s, white-tailed deer and wood ducks began to return to the Cedar Point area after a long absence, and Bay waterfowl numbers began to increase. Efforts to reduce pollution and sedimentation in the Bay recently have been implemented and appear to be having positive results.

This publication and the interpretive tour of NAS Patuxent River was created by the dedicated staff of natural and cultural resources professionals who work at the Environmental Protection and Education Office, Building 1410. Please stop and visit the numerous displays on local wildlife, history, and the Navy's efforts to balance technology and the environment.

As you begin driving...

For a complete map of all the tour stops, see the map on the inside back cover of this brochure.

RIDING THE RAILS

The Southern Maryland Railroad

TOUR STOP 1

In 1868, an act of the Maryland Legislature granted the Southern Maryland Railroad Company a franchise to begin plans for a railroad from Washington D.C. to St. Mary's County. Financial difficulties plagued the railroad from the beginning, and by 1940, the line ended far short of its desired Point Lookout terminus.

The Washington Star reported on the Southern Maryland Railroad line in 1886:

"The seats on the [passenger car] are narrow and hard and the roof leaks like a sieve. The train stops if anyone wants to get on or off anywhere. They stop if the engineer wants some berries or persimmons. They start from a place when they get ready quite independent of their advertised time. The cars land you at Mechanicsville in an open field with nothing but the green grass and daisies underfoot and bright blue sky over your head."

When the Bureau of Aeronautics considered sites for a new Navy Flight Test Center, one criterion was "adequate railroad connections." In 1941, it was determined that "Cedar Point, Maryland most nearly filled all the requirements for a Test Center site." From the initial ground breaking

on April 4, 1942, until the extension of the Brandywine Railroad was completed in 1944,

"the greatest disadvantage [to construction of NAS Patuxent River] was the lack of adequate transportation. More than 250,000 tons of material had to be moved to the construction location and for more than a year after work on the station was begun, all materials and equipment were transported by truck or by water."

From
U.S. Naval Administration in WWII,
Naval Air Test Center, Patuxent River,
Maryland, 1945, by ADM E.C. Kalbfus,
Director of Naval History.

Railroad service to Southern Maryland Timeline

- 1868** Southern Maryland Railroad incorporated
- 1872** Washington City & Point Lookout Railroad, a rival company, founded
- 1872** Railroad bed graded from Mechanicsville to Point Lookout
- 1881** Service to Charlotte Hall & Mechanicsville from Prince George's County started
- 1889** Service suspended
- 1891** Washington City & Point Lookout Railroad resumes service
- 1894** Washington & Potomac Railroad incorporated
- 1901** Washington, Potomac, & Chesapeake Railroad incorporated

1918 Tracks sold for junk to Joseph Josephs Brothers & Company for \$92,500

1918 Washington, Brandywine, & Point Lookout Railroad incorporated

1942 Line extended to NAS Patuxent River

1954 Sold to Penn Central Railroad for freight shipments

1970s Railroad is abandoned

Schedule of the Last Run

1500: Leave the round-house at the Naval Air Station

1545: Arrive at Hollywood, Maryland

1630: Arrive at the round-house at the Naval Air Station

The completion of the railroad greatly increased the Navy's capability to move material to the new test center. By 1954, the railroad's usefulness was waning and it was sold to Penn Central Railroad for freight shipments. Railroad service was finally abandoned in the 1970s.

As You Drive...

While proceeding on Whalen Road, the NAS Supply complex is to the south and the former Railroad Facilities Building (604) is to the north. Branches of the railroad terminated at the Public Works Complex (Buildings 504, 589 & 606), the Fuel Farm, the Supply complex, and the Railroad Facilities Building/Steam Power Plant (501) complex.

Regarding Tour Stop 2, please enter and exit only on the drive indicated to respect the residents' privacy.



MATTAPANY

A Foundation of Maryland

TOUR STOP 2

Jesuit missionaries established a plantation at Mattapany in 1637. The notion of a colony in the New World open to Catholicism received great support from the Society of Jesus, motivated largely by its desire to convert Indians to Christianity. The Jesuits financed a large part of the first Maryland voyage by soliciting donations from England's wealthiest Catholic families. They sent at least 30 men to Maryland and promoted the cause as a "saving of Soules." Their efforts reaped limited success, although the Piscataway Indian Tayak [leader], Kittamaquund, did convert to Christianity.

In the 1660s, Charles Calvert, soon to be Third Lord Baltimore and Proprietor of Maryland, built a house near this site. Soon after, he established a colonial armory here as well, which housed weapons and ammunition for the colony's defense. In 1682, fear spread that pirates working the Virginia shores would move northward, so 39 men were appointed to guard the armory.

Charles Calvert returned to England in 1684. This was a time of great unrest in Maryland. Royal support for the Calverts waned as religious tensions between Catholics and Protestants worsened. Not long after, the Calverts lost political

control of Maryland, and all Catholics were forbidden to hold public offices or titles. However, the Calverts continued to own property and regained some political power in 1715.

For the duration of the eighteenth and nineteenth centuries, Mattapany operated as a typical Southern Maryland plantation. Subsequent owners included the Sewall and Thomas families. In 1942, when the Navy purchased the property from the Weschler family, the plantation house was converted to Quarters A for use as the home for Senior Naval Personnel.

Mattapany means the "meeting of waters" or the "place where the path out of the forest reaches the water," in the Algonquian language. It is an appropriate description of this riverside property.



Archaeologist removing brick from 5' x 5' test unit at Mattapany.

Partnership in Cultural Resources Management

A cooperative partnership between NAS Patuxent River and the Southern Maryland Regional Center at Jefferson Patterson Park and Museum has resulted in the discovery, interpretation, and preservation of Cedar Point's cultural heritage. The continuing partnership began in 1981 with the first large-scale study of NAS Patuxent River. That first study identified numerous archaeological sites on board NAS Patuxent River, including Maryland's first colonial armory. Since then, much information has been gained about the lifestyles of the various people who called the Mattapany area home.

Other sites have benefited from the partnership between NAS Patuxent River and the Southern Maryland Regional Center. Numerous inventories have been conducted on NAS Patuxent River and its satellite properties, including Point Lookout, Webster Field Annex and Solomons Naval Recreation Center. NAS Patuxent River relies on the expertise of the Regional Center to supply information crucial to intelligent cultural resources management. All artifact collections recovered from NAS Patuxent River archaeological surveys are curated (stabilized and stored) at the Maryland Archaeological Conservation Laboratory

at Jefferson Patterson Park and Museum through a series of cooperative agreements. Besides conducting archaeological investigations, the Southern Maryland Regional Center routinely participates in NAS Patuxent River Historic Preservation Day activities and other public outreach events. This continuing partnership helps protect the valuable resources held in trust by NAS Patuxent River.

PEARSON PAVILION

Differing Perspectives

TOUR STOP 3

With the onset of World War II, the desire to consolidated separate aircraft test and evaluation facilities focused the Navy's sights on acquiring Cedar Point. The actions undertaken effectively dissolved several small communities into memories. Pearson, Ford Town, and Jones Town all ceased to exist. Only Jarboesville, now known as Lexington Park, continued to expand. However, many descendants of the families who lived in these communities still reside in St. Mary's County.

Nell Levay, remembered the demolition of her parents' home on Harper's Creek:

"[Our house] lasted in perfect shape until that sad day came. It was a heartbreaker when the Navy pulled in a bulldozer and bulldozed it into the basement and covered it with dirt. This was the way they cleared the land—a real heartbreaker for those of us who had generations before us."

Ernest Webster Dyson had these recollections from his childhood as a tenant of the Hodgdon House:

"My grandparents had a piece of property and a house when they started building the base. They compensated them for their land, and after they left here, they went to New Jersey. It was such a shock when it happened all at once. Everybody was finding homes somewhere outside the base."

Jarboesville, the small town around what is now Gate Two, was renamed Lexington Park after an aircraft carrier. The town boundaries exploded in the coming decades as housing, shopping, and support industries moved in to fulfill the needs of the base.

Life at the New Base

There was a tendency for disruption of work during early base construction, presented by the "Gold Rush" conditions

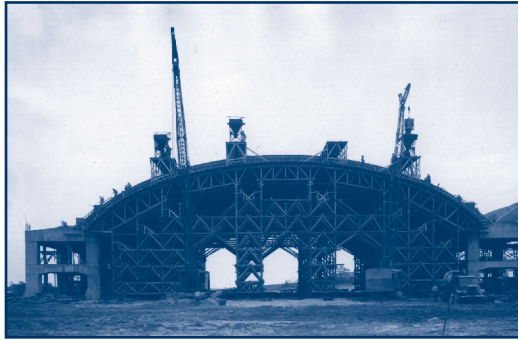
A 1945 Tester (the Station newspaper) article reprinted a statement made on April 2, 1943, presenting another opinion on the Cedar Point relocation:

"This much [the decision to build at Cedar Point] was done even before the natives of this historic St. Mary's County section of Maryland began to feel the direct pressure of a world conflict, which eventually forced them from their homes to provide space to test machines for the fighters who will assure for them that freedom for which many of their forebears came to that settlement."

When the first construction crews arrived at NAS Patuxent River, many were distressed by the lack of entertainment and shopping in the county. The situation was so bad that it was blamed for a terrible absentee record, as high as 30 percent for the base's first year or two.

The Station's Supply Department temporarily made use of every farm building that did not have to be immediately demolished in order to warehouse equipment and supplies. The department's efforts to properly protect delicate equipment and materiel were compared to the activities of quartermasters working on an invasion beachhead.

From Maryland
Historical Society
1950:206–207, 210



Hangar 109

prevalent at the construction site and vicinity. According to the Patuxent River command history compiled late in the war, gambling, prostitution, uncontrolled drinking, extortion, and the related violence were all endemic in the on-site workers' camp due to lax security and connivance on the part of the Pinkerton detectives, whose service had been arranged by the contractors. This situation was rectified following the establishment of the station's Intelligence and Security Department in November 1942, which, among other security-related activities, arranged the discharge of many Pinkerton detectives after an FBI check revealed their criminal records.

From
National Register of Historic Places Multiple
Property Documentation Form for Naval Air
Station, Patuxent River, Maryland, by Louis
Berger and Associates Inc., September 1998.

As You Drive...

Two examples of historic aircraft hangars dominate Cedar Point Road: they are beside the airfield and between Pearson Pavilion and the air traffic control tower. One of six ZD-type concrete, double barrel hangars on station, Hangar 109 features reinforced concrete arches engineered by Roberts and Schaefer Company of Chicago. The Bureau of Yards and Docks selected this emerging structural system for NAS Patuxent River to overcome war-induced steel shortages and expedite construction. Salvaged from the Naval Aircraft Factory in Philadelphia, reusable wood falsework, set on rollers, formed the segments of stressed concrete skin of each barrel, spanning 160 feet.

More typical of 1930s industrial architectural design, Hangar 101 is representative of the first World War II-era hangars built of steel. Noted architect Albert Kahn influenced this machine-oriented utilitarian style. This style is known for its massive, horizontal forms with continuous glass wall bands and roof monitors that admit natural light and ventilation.

CHANGING FACES OF CEDAR POINT

TOUR STOP 4

To realize its plans for the air station, the Navy dramatically altered the physical landscape of Cedar Point. In the early 1940s, thousands of tons of dirt were moved, houses were razed, and creeks were dredged. These changes included destruction of acres of sensitive wetlands. This was especially true along the Patuxent River shore, where two tidal creeks were dredged to create rectangular seaplane basins.



View illustrating the magnitude of earth moving required to construct the runways.

If NAS Patuxent River was constructed today, many of the landscape alterations that took place would not be permitted under current environmental protection laws. In the decades since World War II, our understanding and appreciation of the value of wetlands in challenging erosion, holding and purifying water, and supporting a variety of wildlife has grown. Likewise, protective legislation and regulations have been enacted to safeguard these threatened areas, and they are now a part of all federal construction projects.

Educating Pilots & Engineers

The Test Pilot School, one of the most publicly recognized functions of NAS Patuxent River, has gained distinction for the quality of its instruction, the importance of its mission, and the success of its alumni. The school graduates about 60 test pilots per year, trained in the intricacies of flying and the analyses of experimental aircraft performance.

A 1947 outline for the Flight Test Pilots School curriculum recommended:

Six months of Studies

First Three Months:

- a. *Physics & Mechanics—selected fundamentals to give background for aerodynamics and power plants.*
- b. *Mathematics—minimum of algebra, trigonometry, analytical geometry, and calculus to give background for aerodynamics and thermodynamics.*
- c. *Thermodynamics—minimum to meet the requirements of power plant theory.*
- d. *Power Plant Theory—reciprocating and jet engines.*
- e. *Aerodynamics—fundamentals, performance, stability, and hydrodynamics. and “as much flying in all types as possible.”*

Second Three Months:

- a. All flight test methods and techniques with an extension of stability theory.
- b. Data reduction.
- c. Data analysis.
- d. Instrumentation.
- e. Study of test directives, specifications, etc.
- f. Periods of instruction by personnel from other test divisions covering broad aspects of their work.

Selection criteria established for astronaut selection in 1959:

1. Less than 40 years old
2. Less than 5'10" tall
3. Excellent physical condition
4. Bachelor's degree in engineering or equivalent
5. **Test pilot school graduate**
6. Minimum of 1,500 hours of flying time
7. Qualified jet pilot

These qualifications narrowed the field of applicants but were only the bare requirements of an acceptable astronaut candidate. Final selection was made based on rigorous physical, psychological, and intellectual tests. By 1964, as knowledge of space flight and its effect on the human body grew, educational background

eclipsed test pilot

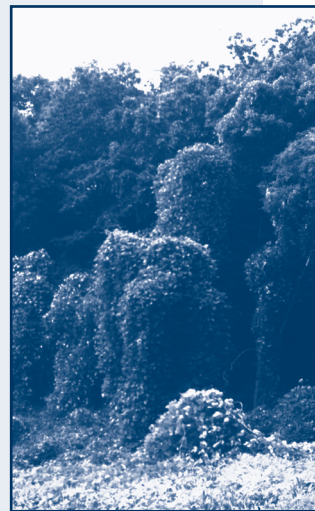
It was Capt. J. D. Barner, Commander of NAS Anacostia at that time, who first suggested a formalized school for Navy test pilots.

He stated in 1946:

"At present, there is a broad gap which lies between the ground school technical curriculum accompanying flight training and the fundamental technical knowledge and flying technique for test work. By January, 1945, it became apparent that if Flight Test was to continue its high standard of work and keep pace with progress in the field some definite program of education of pilot and engineer personnel was essential. As a result, a Flight Test Pilots' School was organized by the Flight Test Division with the purpose of bringing up to date all test methods and procedures and instructing all pilots and engineers in an effort to maintain accuracy, standardization, and continuity in test work."

As You Drive...

While driving along Cedar Point Road, notice the leafy vines covering the trees on the river-side of the road. This vine is Kudzu, *Pueraria lobata*, a native plant of Asia. Kudzu was first introduced in the U.S. at the Philadelphia Centennial Exposition of 1876. It was originally used in the south as a shade plant for porches and arbors. By the 1930s, the U.S. Department of Agriculture used kudzu to help control erosion on bare banks and fallow fields. Kudzu today has become a danger to timberland because it is a vine that will envelop a tree and eventually choke it to death by shutting out the sun. This weed now covers over 2 million acres of forest land in the South and has extended its range as far north as Massachusetts and New York.



THE AIRFIELD

Airfield Habitat Management

TOUR STOP 5

A safe airport environment is vital to the mission of NAS Pax River. Wildlife and Naval aircraft often create incompatible situations that are potentially devastating to both. NAS Patuxent River proactively manages aircraft/wildlife conflicts through its Bird/Aircraft Strike Hazard (BASH) reduction programs. The key element for the successful implementation of these programs is habitat management. By discouraging wildlife in areas where the greatest potential for damage exists, the risk of collision is reduced.

Approximately 500 acres of land are leased to a local farmer for agricultural production. These acres are planted with a variety of crops to reduce aircraft/wildlife encounters. Crops preferred by wildlife, such as corn and soy beans, are planted away from the airfield to encourage wildlife to use these safer areas. Bird-resistant grain sorghum is planted between runways and taxiways to discourage birds from using these potentially dangerous areas. This “bird-proof” sorghum has a high tannic acid content that is unpalatable to birds, yet is used as a commercial food for domestic livestock. Agricultural outleasing also reduces both the high cost of mowing and the risk of wildfires. An aggressive recreational hunting program for deer and

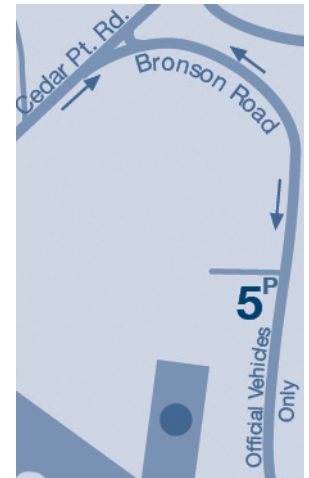
waterfowl supplements the bird and deer/aircraft strike hazard reduction program.

Studying Cedar Point's Prehistoric People

Archaeologists study the complex Native American societies that inhabited Maryland before the Europeans arrived. Because native languages were not written, and most of their materials, such as bone, hide, and wood, do not preserve well, most researchers focus on artifacts of more durable materials including stone tools and ceramics.

When studied systematically in the context of their archaeological provenience, or the location from which they were recovered, these artifacts and excavations can reveal significant details about Indian cultures. Knowledge of the locations of camps and the times of year they were occupied, the items traded, foods eaten, and occasional glimpses into ceremonies and customs, help us to understand cultures that have changed dramatically over the centuries.

Archaeologists also learn about Indian cultures by studying the writings and drawings of colonists who had direct contact with the American Indians. Although formed from a decidedly



Continued on page 10

How They Cook Meate
by Theodore de Bry,
after John White 1586

*Courtesy of the Hansen-
Holdmann Collection of the
Southern Maryland Regional
Studies Center, Charles
County Community College,
LaPlata, Maryland.*

European perspective, these drawings offer invaluable information that has not survived in the ground. The image reproduced here is one of a series of drawings made by a visitor to the Chesapeake, John White, and redrawn by Theodore de Bry.

Think about this picture a moment. It is interesting to note what this colonist chose to draw, what is in the background, and what details might have been omitted.



SUSQUEHANNA

A Legend of Maryland

TOUR STOP 6

The Susquehanna plantation remained largely intact from the seventeenth century to 1942, when the plantation house was moved to the Henry Ford Museum in Dearborn, Michigan. The site has a rich history.

Christopher Rousby, the King's tax collector, lived here in the seventeenth century. Although local myth sometimes insists that the home that was moved to Michigan was his, Rousby's home was actually located elsewhere on the plantation. Rousby was murdered in 1684 by Colonel George Talbot, Lord Baltimore's cousin. Talbot was captured and taken to Virginia to await trial because it was feared that his ties to Lord Baltimore would allow him favorable treatment in a Maryland court. He escaped with the help of his wife and friends before the trial. After hiding in northern Maryland, Talbot was recaptured and again transported to Virginia, where he was found guilty. Before a punishment was imposed, he was pardoned by King James II.

Marylanders knew the Talbot–Rousby story well into the early twentieth century. John Pendleton Kennedy popularized it in the 1850s, when he published a short essay based on the confrontation, called “*A Legend of Maryland*.” In the story, Pendleton characterizes Talbot as a hero striking a

pre-Revolutionary blow against taxation without representation. In reality, Talbot's actions were more likely motivated by his hot-headed personality and unchecked temper. The situation was aggravated by the fact that Charles Calvert attempted to remove Rousby from office in 1681. Even though they may have been on friendly terms at one time, Calvert once referred to Rousby as

*“an Evill or rather a Devill
for so I may terme the
present Collector to be...”*

In the nineteenth century, Henry J. Carroll, a wealthy descendant of Christopher Rousby, farmed Susquehanna with a large slave population of 65. When his family later sold the farm, it went into the hands of absentee landowners who rented out the plantation until it was bought by the Navy in 1942.

A walking trail around this site highlights the cultural features of the landscape.

*Pack a lunch—
Picnic tables are available.*

Protecting Our Past for Future Generations

Prehistoric and historic resources are protected through various federal laws.

- The Antiquities Act of 1906 prohibits removing or destroying any artifact found on Federal property and provides for penalties of fines, jail time, or both for offenders.
- The National Historic Preservation Act of 1966 requires all Federal agencies to evaluate project effects on cultural properties and to consider preservation alternatives in the planning process.

Cultural and historic resources are the foundation of who we are as a community. *Please help preserve our heritage for future generations.*

As You Drive...

Just past Susquehanna, overlooking the Patuxent River, is the Challenger 7 Memorial Grove. These trees were planted on Earth Day 1990, by military personnel and local school children to commemorate the fallen crew of the Challenger 7 space shuttle.

To reach Tour Stop 7, follow the map below.



CHESAPIOC

The Great Shellfish Bay

TOUR STOP 7

Perhaps the most highly regarded delicacy in the Chesapeake Bay is the American oyster, *Crassostrea virginica*. An important food source since prehistoric times, early European settlers remarked that the natural oyster beds of the Bay were so large and abundant that they endangered navigation.

Since the 1800s, Chesapeake Bay oysters have been harvested by primarily two methods: tonging and dredging. For tonging, two men in a small boat work along the shores and shallower waters where the 10-foot or 15-foot long tongs reach the bottom. One person works the tongs, dropping them on the centerboard where the other waterman stands, sorting the oysters by size and breaking apart clusters.

Dredgers pull scoop-shaped dredges with their sailboats or schooners. The full dredges are hauled up on deck, where their contents are dumped. Dredging is effective in open and shallow waters. Because of this, dredgers have conflicted with local tongers who usually work a small area of the shallow beds.

The oyster processing towns that sprang up all along the shores of the Bay in the nineteenth century were populated by watermen, canning-factory workers,

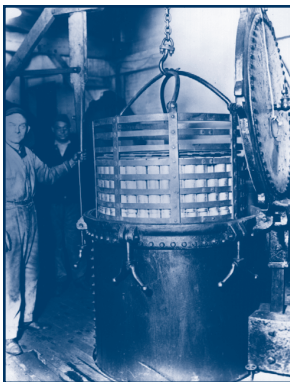
entrepreneurs, and others seeking a part in the industry. A “get-rich-quick” spirit prevailed in these towns, filled with brothels and bars where oystermen, who had been on the water all week, could dispense with their pay. Local citizens complained of drunken brawls and noise all through the night. In Crisfield, a typical oyster town, one local saloon keeper and Justice of the Peace, Harvey Johnson, started judicial sessions with the insightful remark that

“Gentlemen, the court is now in session, but I would like to call your attention to the fact that business is still going on at the bar.”



Local myth sometimes suggests that the term “bugeye” refers to the resemblance of this boat’s windows to eyes when viewed from directly ahead. It is more likely that it is related to the word “buckie,” which Scottish immigrants used to refer to oyster shells.

*Photo Courtesy of
Calvert Marine Museum,
Solomons, MD*



Canning Oysters

In 1885, Chesapeake Bay oyster production peaked at 15 million bushels. The nation's demand for Bay oysters soon caused a decline in the oyster population. The introduction of two diseases to the Bay, Dermo and MSX, in 1954 and 1960, respectively, combined with pollution, human population pressures, and nearly two centuries of heavy harvesting, caused drastic oyster declines. To combat this population decrease, scientists are studying Dermo and MSX to help develop disease resistant strains of oysters,



Oyster shuckers

and young oysters, or spat, are raised in nurseries for release in hopes of improving the oyster population. A healthy oyster population is vital to improving the Bay's water quality through the oyster's amazing ability to filter pollutants from the water.



Joseph Gross moving oyster shells at JC Lore & Sons Oyster House, Solomons, MD.

Photos Courtesy of Calvert Marine Museum, Solomons, MD

As You Drive...

To reach Tour Stop 8, follow the map below.

Please park in the designated parking area, take the short walk to the Paradise Grove Overlook to enjoy a beautiful view of the Patuxent River and learn more about the natural history of this area.



PARADISE GROVE

Natural Wonders

TOUR STOP 8

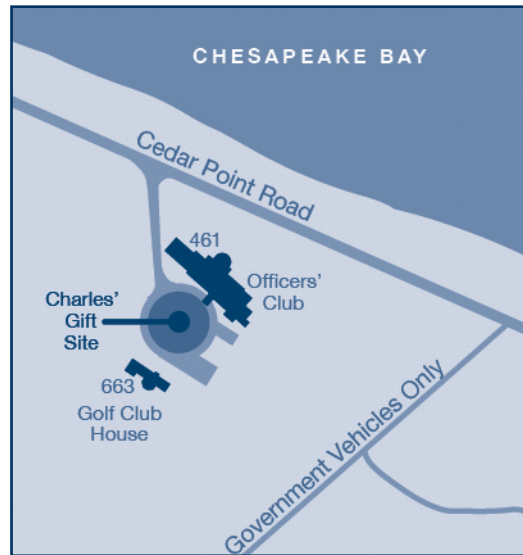
Hydrogeologic forces, those of water and earth, formed the Chesapeake Bay and continue to alter and shape its contours. The Bay is 195 miles long, ranges from 3.4–35 miles wide, and has 1,750 miles of navigable shoreline and an average depth of 28 feet. Approximately 2,700 plant and animal species call the Chesapeake Bay home. The Atlantic Ocean supplies about half of the Bay's water volume, while the other half filters through an immense watershed covering 64,000 square miles, which includes large portions of six states. Ninety percent of the Bay's fresh water is provided by five rivers (from north to south): the Susquehanna, Potomac, Rappahannock, York, and James. The differing geological provinces that each tributary flows through, the Atlantic Coastal Plain, the Piedmont Plateau, and the Appalachian Province, each contribute different minerals, sediments, and pollutants, depending on soil composition and land use.

The Atlantic Coastal Plain, which surrounds the Bay, stretches from the ocean to the fall line (where bedrock comes close to the surface). It is not a coincidence that many major industrial cities are located along the fall line: Richmond, Virginia; Washington, D.C., and

Baltimore, Maryland, among them. This is because the waterfalls along the fall line provided an excellent source of power. The falls also represented the farthest inland that ships could sail, so they provided locations for ports and shipping towns which are now large cities.

Calvert Cliffs produces some of the most abundant fossil deposits in the country. Captain John Smith gave the first English description of them in his report on Bay explorations in 1608:

'...so broad is the bay here, we could scarce perceive the great high cliffs on the other side: by them we Anchored that night and called them Riccards Cliftes.'

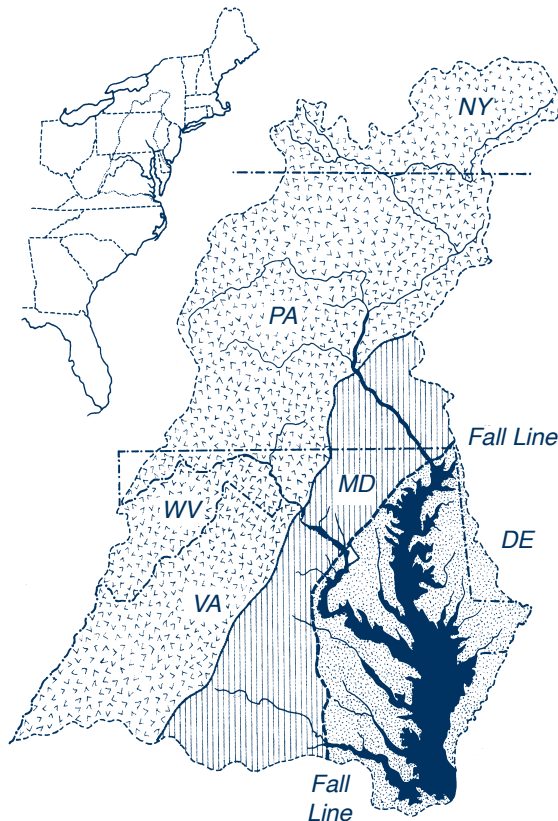





Charles' Gift

The map at left shows where the seventeenth–twentieth century plantation house “Charles’ Gift” once stood. An archaeological investigation was conducted on the site in 1998–99, in compliance with Section 106 of the National Historic Preservation Act. Additional information on the discoveries can be found at the site. Take this side route to explore colonial life at Cedar Point.

Chesapeake Bay Watershed

Map Courtesy of
Chesapeake Bay: Introduction to an Ecosystem, Chesapeake Bay Program, 1995.



-  Appalachian Province
-  Piedmont Plateau
-  Atlantic Coastal Plain

Birding

NAS Patuxent River

Birdwatching has become one of America’s favorite recreational activities, and NAS Patuxent River provides excellent opportunities to observe numerous species throughout the year. Over 300 species of birds have been recorded here, and there is always the chance of something rare or unique showing up. The Cedar Point Golf Course driving range offers a good vantage point to observe migrating shore birds in spring and fall. Large flocks of wintering waterfowl can be observed in the Bay opposite of the Officers’ Club.

ALONG THE BEACH

Curbing Shoreline Erosion

TOUR STOP 9

Offshore lie the remains of the Cedar Point lighthouse that served as a beacon and landmark for the mouth of the Patuxent River. Over time, the Cedar Point Light suffered greatly from gradual erosion caused by waves, storms, and rains. The actions of a mining company's removing sand from the beach in the early 1900s accelerated the erosion.

Battling shoreline erosion is a constant challenge at NAS Patuxent River. The loss of valuable real estate is a serious concern, as is reducing causes of nonpoint source pollution (runoff and sedimentation).

In 1987, station natural resources personnel conducted a shoreline stabilization project at Cedar Point to protect the point from further erosion. American Beach Grass, *Ammophila brevilingulata*, was planted from the mean high tide line to 50 feet inland. Its growth is stimulated by the abrasion of wind-driven sand, thus creating an enduring foundation for sand dunes.

Salt Meadow Cordgrass, *Spartina patens*, was planted inland from the American Beach Grass to stabilize the land. The existing dunes and grasses at Cedar Point demonstrate ecological stabilization of the shoreline. Several other projects have been completed to minimize Patuxent River's shoreline erosion. Fishing Point, Goose Creek, and areas along the Chesapeake Bay have all been successfully stabilized in recent years.



*Cedar Point complex
ca. 1924*



*Cedar Point Lighthouse
showing affects of storm
damage and erosion prior
to 1981 removal of lantern.*

Cedar Point Lighthouse Timeline

October 31, 1896	<i>Lantern lit for the first time</i>
1907	<i>First erosion control project initiated</i>
1928	<i>Lighthouse abandoned by U.S. Coast Guard and sold to Arundel Corporation. Lighthouse now surrounded by water</i>
August 8, 1958	<i>Island and Lighthouse deeded to Navy by Arundel Corporation</i>
December 14, 1981	<i>Lighthouse lantern removed</i>
October 17, 1996	<i>Barge and crane remove roof and bricks that were delivered to Calvert Marine Museum, Solomons, MD</i>
1830	<i>Point Lookout Lighthouse Timeline</i>
1862	<i>One-and-one-half story lighthouse built by John Donahoo</i>
1863–65	<i>U.S. General Hospital, Point Lookout (Hammond General Hospital) established near lighthouse</i>
1883–87	<i>Camp Hoffman (Union Prisoner of War Camp for Confederates) established</i>
1888–89	<i>Lighthouse selected as buoy depot. Buoy shed and coal shed built nearby</i>
1927–28	<i>Lighthouse raised to two stories to house additional buoy depot personnel</i>
October 15, 1965	<i>Lighthouse doubled in size and attained current configuration</i>
February 28, 1967	<i>Lighthouse decommissioned</i>
1980	<i>Lighthouse and 5.5 acres of property transferred to Navy from Coast Guard</i>
	<i>Members of The Maryland Committee for Psychical Research conduct study of lighthouse hauntings</i>

As You Drive...

It is the dangerous nature of the facilities next to the Swimming Beach that provide a Least Tern habitat safe from human disturbance. Because of the risk of exposure to radio frequency radiation hazard, the upper part of the beach beyond the “Danger” signs is unsafe for people.



Point Lookout Lighthouse

Photo: Mary Louise Clifford & J. Candace Clifford, 1993, Women Who Kept the Lights. Original from the National Archives, #26-LG-2-5.

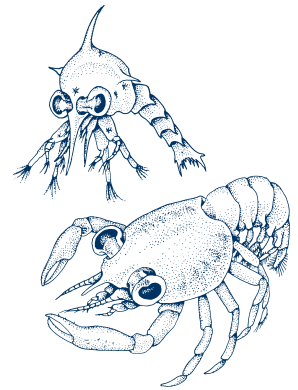
THE CHESAPEAKE'S RESOURCES RESPONSIBLE STEWARDSHIP

TOUR STOP 10

The Chesapeake Bay is unique. As the largest estuary in the United States, it supports an amazing variety and abundance of life that cannot be taken for granted. Preserving these resources requires careful planning and commitment.

Managing natural resources means, above all else, managing people. It is human behavior that accounts for most of the changes in the Chesapeake Bay and other sensitive environments. Therefore, it is human behavior that must be

changed through education or the law to successfully preserve unique and valuable natural resources. Striking a delicate balance between using available resources and sustaining the natural environment is the challenge of responsible stewardship. If this balance is not maintained, the resources will likely become unusable or dwindle to extinction.



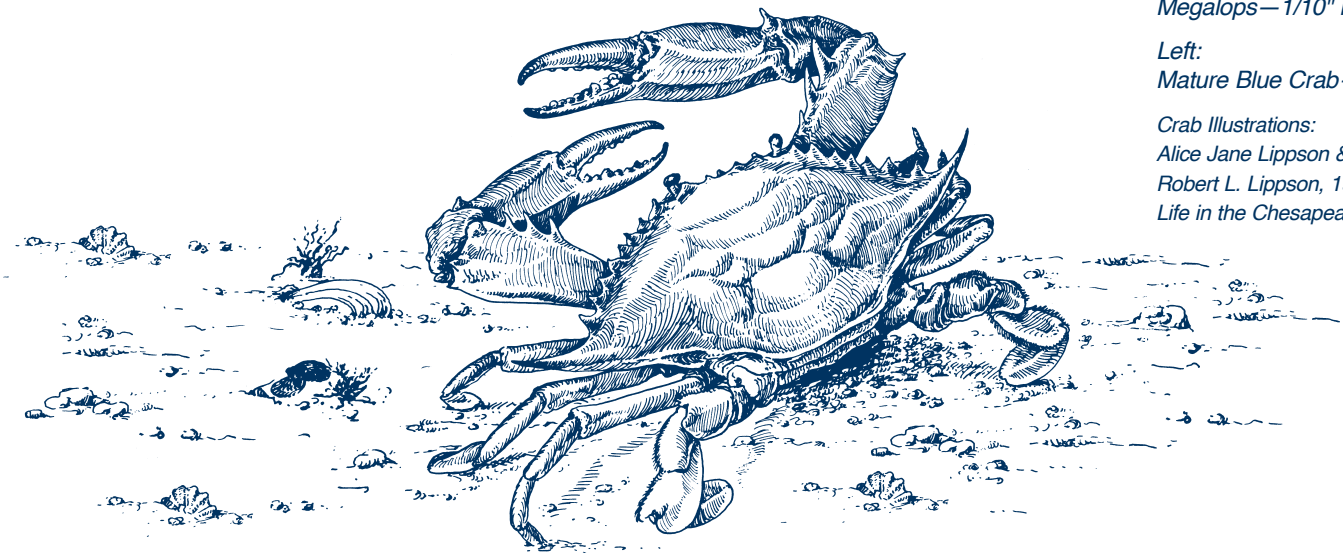
Life stages of the blue crab

Far Top:
Zoeae—1/25" wide

Near Top:
Megalops—1/10" long

Left:
Mature Blue Crab—to 9"

Crab Illustrations:
Alice Jane Lippson &
Robert L. Lippson, 1984,
Life in the Chesapeake Bay.



TOUR STOP 11

NATURAL & CULTURAL RESOURCES OFFICE

As You Drive...

Screen actress Helen Hayes spent many summers at her father's Cedar Point home (Quarters R), which is visible from Johnson Road while stopped at the end of Runway 32.

Just south of Runway 32 is the TC-7 steam catapult. This facility simulates the launching of aircraft from a carrier flight deck. Built in 1954, this significant historic architectural resource was the first of its type in service.

Approximately one-quarter mile south of TC-7 is a great vantage point to observe NAS Patuxent River's continuous growth and change.

Behind the stormwater ponds on Shaw Road are the South Engineering Center and Becker Lab. These facilities were constructed as part of the 1993 round of base realignments and closures.

The natural and cultural resources program at NAS Patuxent River performs elements of legal compliance, stewardship, monitoring the quality of life, and realizing mission support. Pax River is well known as an installation that manages to balance technology and nature, protecting precious natural and cultural resources while still supporting and enhancing the Navy's mission.

As a receiving activity in three successive rounds of base closures and realignments (BRAC), NAS Patuxent River became one of the fastest growing installations within the Department of Defense. Construction activities in 1993–97 were rivaled only by the original construction of NAS Patuxent

River in 1942. NAS Patuxent River is proud of its ability to accommodate this unprecedented growth and development in an environmentally sensitive manner. Natural resources staff were, and are, involved in all phases of project siting and design review. This is accomplished by working hand-in-hand with planners and engineers to apply such smart growth practices as cluster development, use of previously altered or disturbed lands, and avoidance of sensitive natural and cultural resources.



SEWALL POND

Ecosystems & Ecology

TOUR STOP 12

Sewall Pond is a man-made freshwater ecosystem originally created in the 1950s for recreational fishing, stormwater management, and reserve water for fire fighting. Through the years, Sewall Pond has become a productive and lively habitat for a myriad of plants and animals.

The food web, the relationships between food producers (plants) and consumers (animals) in an ecosystem, is a crucial part of evaluating ecosystem health. Food webs can be highly complex, and reflect how interdependent and individually significant all life in an environment can be. For example, although mosquitoes and other biting or stinging insects may be nuisances to people, they are a significant food source for many fish, birds, and animals.

Most of the animal life around Sewall Pond is hard to see. Many animals are either active only at night or highly secretive. So, how do we know these animals exist around Sewall Pond? Indirect evidence, or animal sign, is all around us. Many animals leave tracks in the mud, droppings along the trail, scrapes in the leaf litter, or holes and marks on trees. But there are other ways to find wildlife as well. Most animals require a certain habitat type in which to live, and many creatures make unique sounds. By learning what particular sign an animal makes, what habitat animals require, and particular wildlife sounds, the quiet, unobtrusive hiker can usually observe many different types of animals. As you travel around the pond, keep your eyes and ears open for the more subtle signs of life.

Local myth sometimes suggests that the term "bugeye" refers to the resemblance of this boat's windows to eyes when viewed from directly ahead. It is more likely that it is related to the word "buckie," which Scottish immigrants used to refer to oyster shells.

*Photo Courtesy of
Calvert Marine Museum,
Solomons, MD*



*Raccoon track pattern:
Olaus J. Murie, 1954,
Margaret E. Murie 1974,
The Field Guide to Animal Tracks.*

TOUR STOP 13

ST. NICHOLAS CHURCH *Two Centuries of Prayer*



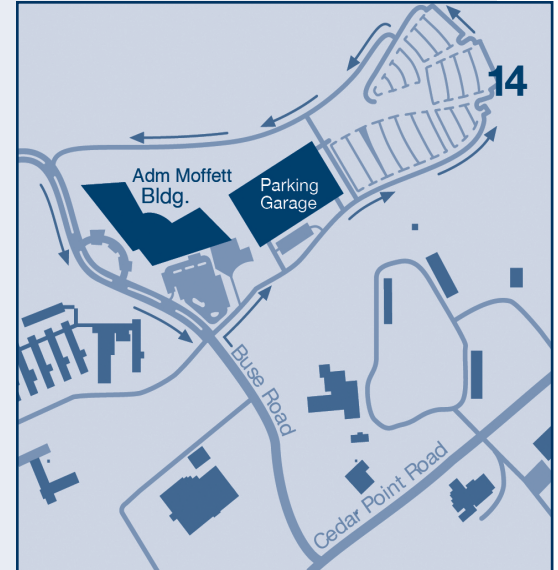
Behind the altar of this chapel is an expressive crucifix carved by Felix de Weldon while he was stationed at NAS Patuxent River in the 1940s. Years later, de Weldon carved the Iwo Jima Memorial in Arlington, VA.

In an early draft of the land donation agreement, Nicholas L. Sewall stipulated that any manure that came from horses at the church was to be reserved for his use.

The current St. Nicholas Church is the third structure to stand near here since 1795. Although once a strictly Catholic house of worship, it now holds services of several denominations to meet the needs of an increasingly diverse Navy population.

Catholicism has a particularly long history in Maryland. The colony was originally conceived as an economic venture by George Calvert, the First Lord Baltimore and a Catholic. Maryland offered an early taste of religious tolerance because Calvert needed Protestant settlers to make the expedition a success. In 1689, the Protestant Rebellion in England restricted the Calvert family's control of Maryland.

In the early 1790s, the Sewalls, who owned Mattapany-Sewall plantation, donated the land for the establishment of a Catholic church on this property. The yard around this church still holds the graves of many St. Mary's Countians buried from the eighteenth century to the early 1940s.



As You Drive...

From the intersection of Buse and Cedar Point Roads, proceed west on Buse Road approximately .2 miles and turn right to enter the Adm Moffett Building parking lot. Proceed to the northeast corner of the parking lot for the Tour Stop 14 interpretive panel.

SLAVERY AT CEDAR POINT

An 18th Century Slave Cabin Site

TOUR STOP 14

Enslaved Africans and their descendants contributed virtually all of the labor required to work eighteenth and nineteenth century southern farms. The plantations of Cedar Point were no different. Susquehanna, Mattapany, and most of the smaller farms had slave populations from one to over 60. Some of these slaves, belonging to Nicholas Lewis Sewall of Mattapany, lived in a cabin located near here around 1750–1800. Existing slave records for the Sewalls indicate that, in 1790, there were 39 slaves, which decreased to 26 by 1796, and then increased to 36 by 1800. When Nicholas Lewis Sewall died in 1800, his estate passed to his eldest son, Henry, who died in 1801. Henry's will stipulated that upon his death, his brother and heir Charles could use all slaves at, or above, age 18 for three years, *"at expiration of which period they shall be free."* Slaves under 18 were to be freed at age 21. It is unclear whether Charles carried out Henry's wishes, because in 1802, 15 slaves were sold from the Mattapany estate.

Instability and uncertainty dominated the lives of eighteenth century slaves. Working from sun-up to sun-down placed dire emotional and physical demands on slaves. Slaves labored in two distinct environments, field work or domestic service. A slave's entire life was controlled by the owner. Family ties were particularly susceptible to the whims of slaveholders. Although some allowed and even encouraged their slaves to marry and live as families, many others indiscriminately sold or gave away family members. These random disruptions irreparably damaged slave family units. For recent arrivals from Africa, kinship ties, by necessity, often had little to do with blood or marriage, but were dependent on friendship, coincidence, and the new condition as human property.

Agnes Kane Callum, a descendent of slaves who lived at Mattapany during the nineteenth century, related the following about her great-grandmother, Martha, who came to Savannah, Georgia at age 8 or 9

"I know that corn and tobacco ruin our land, but as long as we hold slaves, we must make those crops. I sincerely regret that slaves were ever introduced into the United States, but as we have them we know not how to get rid of them.

It seems they become more corrupt every year & more discontented in their State of subjection. They are a great tax and a constant aggravation....

If the planter change his system [of farming], he must first part with his slaves, for slavery, corn & tobacco must go together..."

From Brother Joseph P. Mobberly, S.J., Diary, Ms., Special Collections, Georgetown University, Washington, DC, 1812–15.

In the 19th century, a Loudoun County, Virginia, former slave stated:

"We went to work at sunrise, and quit work between sun-down and dark. Some were sold from my master's neighborhood. If a man did anything out of the way, he was more in danger of being sold than of being whipped. The slaves were always afraid of being sold south..."

from the Cape Verde Islands, speaking only Portuguese,

"She was put in a slave pen on the corner of Howard and Pratt Streets in Baltimore and was there about a week before George Thomas [the son of the owners of Mattapany, Richard and Jane Thomas] purchased her."

The Civil War ushered in great change for those held in bondage. Slaves in Union states were not included in President Lincoln's Emancipation Proclamation and were therefore not "henceforth and forevermore free" as of January 1, 1863. The Federal government offered a bounty of \$300 to any Union slaveholder who permitted a slave to enlist, provided the owner signed a manumission agreement and an oath of allegiance to the government. At least one slave from Mattapany, Josiah Briscoe, enlisted in the Union army, and his owner, Jane Thomas, received the bounty in 1864. Given the Thomas family's southern sympathies, Jane probably agreed to Briscoe's departure for economic reasons, since the market value of slaves plummeted during the war. Josiah joined Company I of the 7th U.S. Regiment (Colored) in October 1863 at the age of 28 and was made a corporal. Briscoe was mustered out of the army in 1866 after serving three years.

From

Colored Volunteer of Maryland 7th Regiment
United States Colored Troops, 1863–66,
by Agnes Callum.

Even after slavery ceased, African Americans still struggled with respect and equality. Agnes Kane Callum told about her father who worked for a tenant farmer at Mattapany during the early 1900s,

"He and the other farmhands would come to the back door [of Mattapany] and get lunch and sit under a shade tree and eat because they weren't permitted inside. He made the mistake one day and walked in front of the house and Luella Thomas, the last Thomas to live in Mattapany, came out and told him never to walk around the front of the house. Blacks were not allowed on the front lawn."

CHANGING EDUCATION IN SOUTHERN MARYLAND

TOUR STOP 15

Maryland's Educational System

Until fairly recently in our history, education was the domain of the wealthy, who could afford tutors and private or religious schools. It was not unusual for the children of wealthy colonists to receive their education at home or in Europe. During the early 1700s, St. Mary's County experimented with the notion of a public school system. However, limited resources and a thinly scattered population made a county-wide system difficult. This changed when a law passed by the State Legislature in 1865 provided the basis for the school system that prevails today. The most radical change was making it free of charge to all students. Before this time, taxes covered school costs only for those who demonstrated an inability to pay for their children's education themselves. It also created the State Board of Education and the State Superintendent's office, providing a measure of uniformity and the advantage of statewide financial resources.

The Maryland school system has seen many changes since 1865. The greatest challenge to county schools was the United States Supreme Court's decision to racially desegregate education in 1954. Integration progressed slowly from 1955 and was not completed until the 1967–68 school year. Before 1968, funds for black schools, such as the Jarboesville Colored High School, were only derived from the property taxes paid by blacks.

Frank Knox Elementary School

The Frank Knox Elementary School educated the children of NAS Patuxent River personnel and its surrounding communities from 1944–89. From the very beginning of Pax River's development, the inadequacy of existing educational facilities loomed large in the minds of naval and civilian personnel in deciding on the advisability of moving their families to the station or the surrounding area. On

In the early 19th century, teacher qualification was defined as,

"[a] correct moral deportment and well qualified and competent to teach the elementary branches of an English education, such as spelling, reading, writing, arithmetic, English grammar, and geography."

Thus, George Thomas of Mattapany, a farmer, was qualified to run a school on his plantation.

The average number of students during the first month of the school's operation was 349. Enrollment during the 1944–45 school year increased until a total of 601 was reached.

From U.S. Naval Administration in World War II, Naval Air Test Center, Patuxent River, Maryland, by ADM E.C. Kalbfus, Director of Naval History

September 11, 1944, after overcoming difficulties in securing construction material and personnel, the school opened for classes.

Frank Knox School was unique in that it was the only public school in the United States built and owned by the Bureau of Aeronautics of the Navy Department. Since Maryland public school laws in the 1940s did not permit the county to hire certain teachers, Patuxent River employed as Civil Service personnel a kindergarten teacher, a physical education teacher, a music teacher,

and a special education teacher. The other 12 teachers were employed by the St. Mary's County Board of Education. During the early years of the Naval Air Station's existence, the only free public library in St. Mary's County was housed in a wing of the school. The school remained in operation until 1989, and by 1990, the Frank Knox School was renovated to become a training center for Naval Air Station personnel.

Children study in a one-room schoolhouse in St. Mary's County in 1940.

Photo from Maryland: A Pictorial History—the first 350 years, by Jacques Kelly, published in 1983 by Donning Company/Publishers. Photo by John Vachon, Farm Administration; Courtesy of the Library of Congress



BUILDING 409

The Administration Building



Construction on the Administration Building began one week after NAS Patuxent River was established, in April 1942. This long, two-story building was completed and handed over to the government in February 1943. The original plans for Building 409 appear to be a standardized design that was developed for the construction of office buildings for the Navy. This plan is seen elsewhere on the installation, with an identical design for Building 304, the Naval Air Transport Service (NATS) headquarters building.

Designed in the International Style, the Administration Building is significant for its contributions to the architecture and design of NAS Patuxent River. The International Style was a major architectural style that emerged during the 1920s and 1930s but reached prominence during the 1940s through to the post World War II era. Identifying features of this style include the lack of non-essential decoration, windows in long bands and sometimes wrapped around the corners, a flat roof, and simple balance and regularity in the overall design. Considered the 'anti-style' because of its lack of ornamentation and stylized design elements, it embodies the height of the modern movement in the United States.

Features of the International Style embraced in Building 409 include its flat roof, long bands of uninterrupted windows, the smooth wall surface, and the symmetrical and balanced design of each side of the building.

The Administration Building is eligible for the National Register of Historic Places as the original, and continued, physical and symbolic center for the administration of NAS Patuxent River. It is also architecturally significant as an excellent representation of the military use of the International Style of the 1940s.

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TOUR STOP



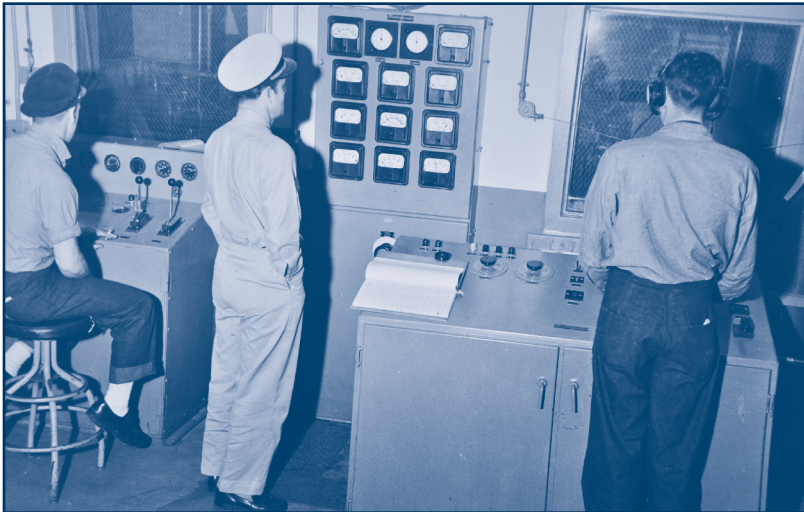
THE CATAPULTS

Views of the airfield to a passerby in the mid-1950s were incredibly deceptive, hiding a surprisingly alive and bustling world below ground. Above the runway, one might see 10 men work on an aircraft launch. However, through various subterranean levels accessed through a metal hatch door in the runway, there were dozens of men, machinery, pipelines, and control panels, in numerous rooms off several corridors

and levels. They were all working together to operate the TC-7 steam catapult, one of four below-ground catapults built at NAS Patuxent River that was used to launch various Navy aircrafts.

Advancing aircraft technology of the twentieth-century required simultaneous catapult advances. Faster speeds were needed to accommodate the increased aircraft weight plus quick retracting gear necessary for rapid takeoffs on carriers. NAS Patuxent River was at the forefront of developing and testing catapults for the U.S. Navy.

The first two catapults at NAS Patuxent River were specifically for seaplanes and were located on the east side of the East Patuxent River Basin. The five remaining catapults were constructed along the runways between 1945 and 1968, and included two hydraulic catapults, the experimental Electropult, a steam catapult, and a fully mobile catapult powered by two jet engines.



Chief electrician A.J. Metcalf keeps a close watch on the instrument panel in the pit of the XE-2 Catapult during a run up for check. At his left is M.D. Croswhight, ICC, at the controls of the powerful aircraft engines that produce the power to fire the aircraft catapult. On the right, J.W. McCord, EMC, stands in readiness at the firing controls, 4 March 1949.

The Catapults

P-6

Built in 1944 and powered by gunpowder for seaplane launches. No information available on its use at NAS Patuxent River.

H-5

Hydraulic catapult built in 1944 for seaplanes, however, tests proved it was not successful therefore it was decommissioned by 1946.

H4B

NAS Patuxent River's first landplane catapult built in 1944 and operated till the mid-1950s. It was authorized to launch at least 15 different types of aircraft.

XE-2

The Electropult built in 1945, built by Westinghouse, was an experiment that proved unsuccessful for the Navy as none were ever installed on an aircraft carrier.

H8

Built in 1952 as a hydropneumatic catapult to help introduce jets into the Navy's inventory. It was able to launch at 105 knots and deployed 9 different aircraft types for testing. Employed through 1968 and demolished in 2016.

TC-7

The "Iceberg" it was NAS Patuxent's only steam catapult built in 1954 was the first of its kind in service. It could launch 57,000 pound deadweight at 125 knots.

SATS

Fully mobile runway, catapult, and arresting gear in use from 1968–mid-1970s.

Fun Facts:

1945: 40 percent of aircraft launches off carriers were done by catapult

Did you know that there was a catapult barge in the East Patuxent River Basin that launched seaplanes when the base was first built?

What does SATS stand for? Short Airfield for Tactical Support, which is 2,000 feet of prefabricated aluminum mats hooked together to create a continuous runway. It included catapults and arresting gear allowed for attack aircraft to take off and land on the short runways. Tested here at NAS Patuxent River, they were then placed on beachheads, islands, or other locations close to ground combat action. The entire airfield could be assembled in 72 hours.

The steam catapult (TC-7) could launch on average 60 times a month during the summer months. (Seen below).

Way ahead of its time, the Electropult at NAS Patuxent River was the fastest linear motor ever built up to that time [1945], and was also the longest linear induction motor in the world.



CLOSING

More information about the natural and cultural history of NAS Patuxent River, or Cedar Point, Maryland, may be found through many local parks, museums, and agencies. In addition, the Cedar Point Officers' Club maintains a collection of memorabilia pertaining to this base, and Building 409 houses a series of portraits of former NAS Patuxent River commanding officers.

A partial list of the many places where information on natural and cultural resources can be found includes:

Calvert Cliffs State Park, Lusby

Calvert Marine Museum,
Solomons Island

Chesapeake Beach Railway Museum,
Chesapeake Beach

Greenwell State Park, Hollywood

Historic St. Mary's City, St. Mary's City

Jefferson Patterson Park & Museum,
St. Leonard

Maryland Historical Society, Baltimore

Maryland Hall of Records, Annapolis

Maryland Historical Trust, Crownsville

Naval Air Test & Evaluation Museum,
Lexington Park

Piney Point State Park, Piney Point
Point Lookout State Park, Point Lookout
St. Clement's Island Park, St. Clement's
St. Mary's County Historical Society,
Leonardtown

St. Mary's River State Park, Leonardtown
Southern Maryland Audubon Society,
Bryans Road

Sotterley Plantation, Hollywood

United States Naval Museum, Annapolis

Sincere appreciation is expressed to the following institutions for their assistance:

Calvert Marine Museum

Enoch Pratt Free Library

Library of Congress

Jefferson Patterson

Park & Museum

NAS Patuxent River

Public Works Department

NAS Patuxent River

Public Affairs Office

Southern Maryland

*Regional Studies Center,
Charles County*

Community College

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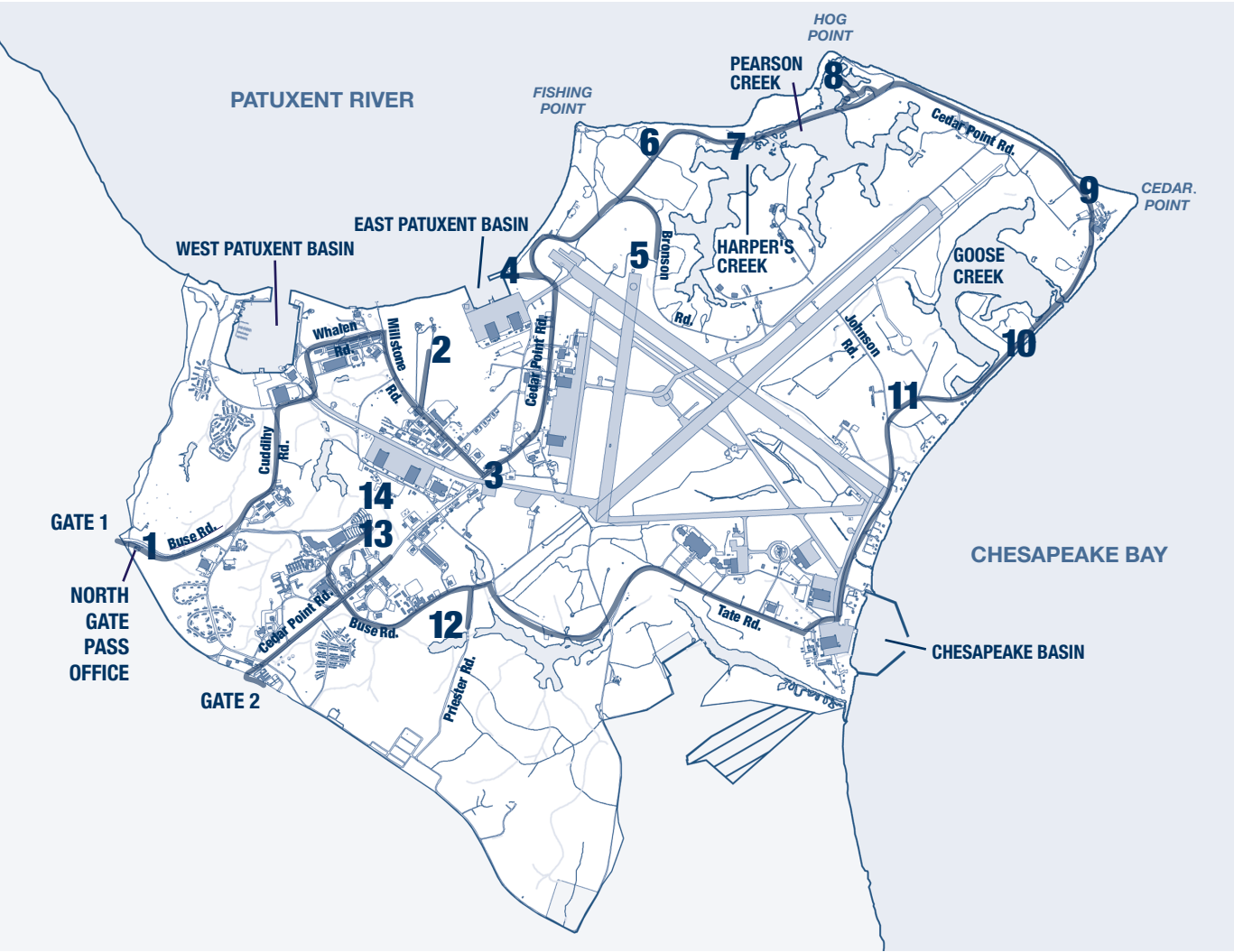
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NEED TO UPDATE MAP





Jefferson
Patterson
Park & Museum

The natural and cultural resources driving tour and companion booklet was prepared by the Patuxent River Naval Air Station Public Works Department Natural Resources Branch, and the Maryland Department of Housing and Community Development's Exhibit Services Program and the Research Department at Jefferson Patterson Park and Museum.

For more information on the Station's environmental, natural, and cultural resources programs, visit or call the Environmental Education Center, Building 1410, at 301.342.5456, or call Environmental Public Affairs at 301.757.4814.