

CHAPTER 3 INTRODUCING

DELAWARE'S BAYSHORE INITIATIVE AND THE BYWAY'S DISCOVERY ZONES



3.0 INTRODUCTION

Delaware's Bayshore Byway closely parallels the northern portion of the Delaware Bayshore for 52 miles, providing access to the Bayshore's natural areas, towns and communities, historic points, farms and water. Key traveler activities along the byway include:

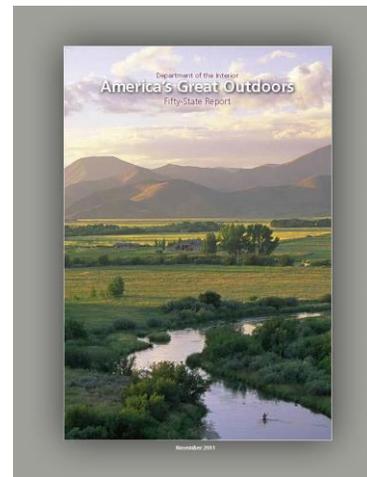
- exploring rich coastal natural areas – birding, observing horseshoe crabs, wildlife viewing and photography, significant coastal education options;
- hunting, fishing and crabbing, both from the shore as well as from boats;
- hiking, biking, paddling and boating;
- exploring historical sites and communities;
- enjoying local food; and,
- a peaceful drive back into time.

For residents and visitors alike, it is “the road less traveled”. For the eco-tourist, it is the connection to Delaware's wild side.

3.1 DELAWARE'S BAYSHORE INITIATIVE

This section describes Delaware's Bayshore Initiative, its current programs and projects and its future direction. The chapter further describes the current plans and planning efforts of the towns and communities as well as the individual natural areas along the Byway. Many of the planning efforts, particularly those of the natural areas, are bound together by the Bayshore Initiative. But it is also important to recognize that the cities and towns along the Byway are unique and cannot be lumped together. Each must be explored in its own way to be fully appreciated.

The Bayshore is widely recognized as an area of global ecological significance. Its expansive coastal marshes, sandy shoreline, forests, fields and agricultural lands provide habitat for more than 400 species of birds and other wildlife. The Nature Conservancy and the National Audubon Society recognize the region as a globally significant wildlife habitat. The Nature Conservancy has called the Delaware Bayshore “one of the Earth's most important stopovers for migratory birds.”



Delaware Bayshore: America's Great Outdoors

One of 100 of the nation's most promising efforts to reconnect American's with the natural world.

No specific AGO funding is earmarked in federal budget, but many existing grant programs are focusing on funding AGO projects.

Delaware is using the power of our “AGO” designation to compete for grant funds for Bayshore projects.

“Landscape Conservation” is the current and future way to get funding.

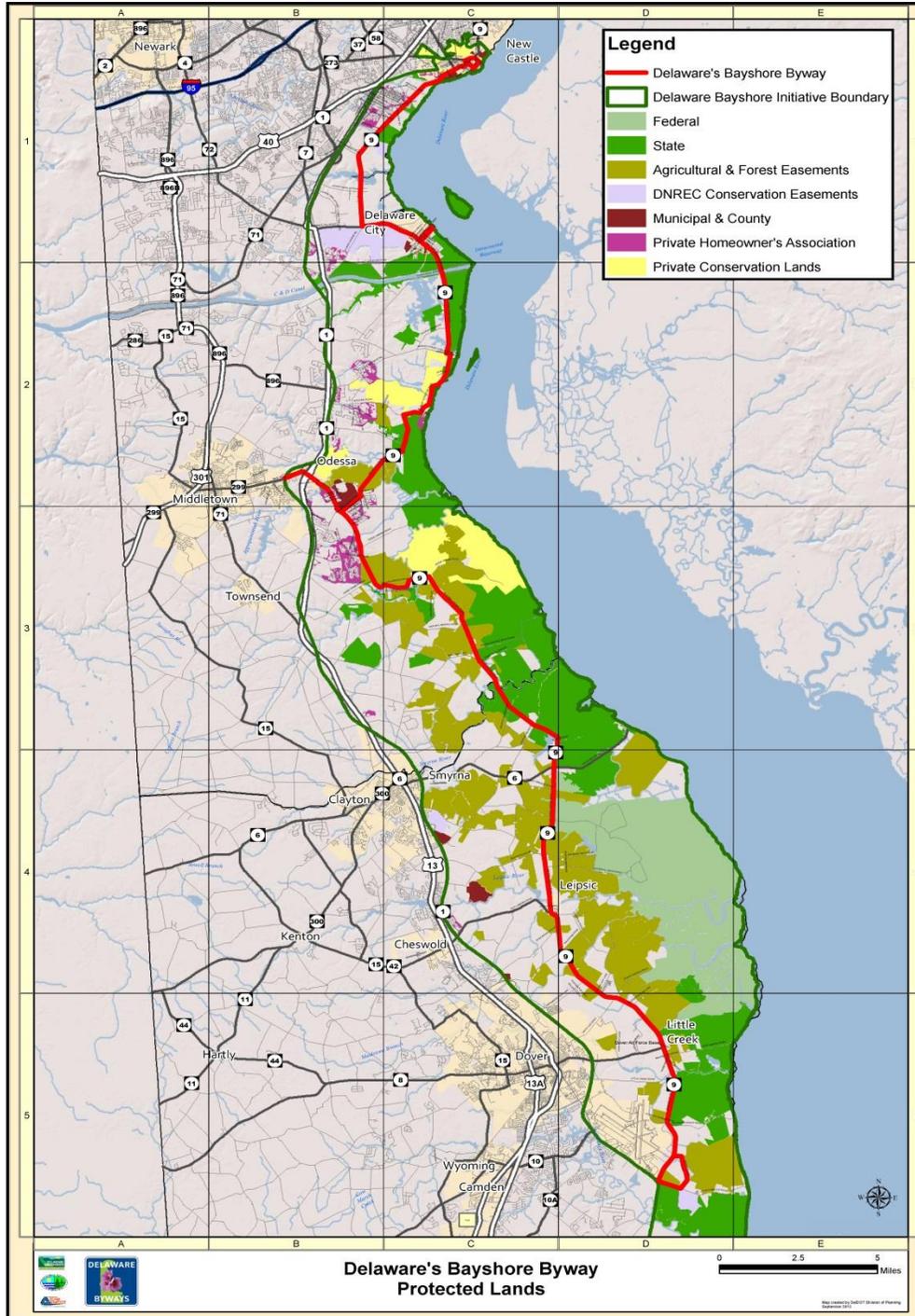


Figure 3-1: Protected Lands of the Delaware Bayshore

Delaware's Bayshore Byway

CHAPTER 3 – INTRODUCING DELAWARE'S BAYSHORE INITIATIVE AND THE BYWAY'S DISCOVERY ZONES



In 1992 the Delaware Bay Estuary was designated as a Wetland of International Significance by the Ramsar Convention on Wetlands because it provides critical resting and feeding areas for migratory shore and wading birds¹. Birders and biologists from around the world come to central Delaware's Bayshore to witness the annual spring spectacle of more than a half million shorebirds taking a rest stop to dine on the eggs of horseshoe crabs. In 1986, Delaware Bay joined the Western Hemisphere Shorebird Reserve Network as a Site of Hemispheric Importance due to the sheer number of shorebirds that use the bay as a migratory stopover². In addition to birding enthusiasts, the Bayshore offers quality recreational opportunities for hunters and anglers, boaters and kayakers, casual wildlife watchers, and families seeking outdoor opportunities to recreate and learn about nature.

The Delaware Bayshore Initiative continues the conservation commitment made over the past half century by citizens groups such as Delaware Wild Lands and government officials like Governor Russell W. Peterson in establishing Delaware's Coastal Zone Act. Due in large part to this legacy, most of the Bayshore is formally protected as state, federal and private conservation lands and remains undeveloped today. More than 115,000 acres are already protected as national wildlife refuges, state wildlife areas, state parks, national estuarine research reserves, private conservation lands, agricultural preserves, and cultural heritage sites throughout the Bayshore area.

Chapter 2 described how the efforts of private citizens and government officials saved the Delaware Bayshore from becoming industrialized. This 1971 effort resulted in the State's Coastal Zone Act which began the quest to protect the Bayshore. Since the passage of that Act, further legislation by both the federal government and Delaware State Government strengthened the protection. Recently, the northern boundary of the defined Bayshore region was extended to include the City of New Castle. This added area includes the marshes south of the City of New Castle surrounding Army Creek as well as the shoreline of the City. The shoreline includes Battery Park and the marshes and wetlands protected by historic levees first built in the 1700s to protect the city.

The extension also includes the industrial area north of Delaware City, anchored by the Delaware City Refinery. Including the Delaware City refinery in the Bayshore permits the Byway traveler to understand how important a resource the Bayshore is and why it is important to be protected. But it also enables the Byway traveler to understand the practices used by industry and consider whether they are compatible with the preservation and conservation efforts of the past and the future.

¹ For information regarding the Ramsar Convention and its findings regarding the Delaware Bay Estuary, see http://www.ramsar.org/cda/en/ramsar-documents-list-anno-list-usa/main/ramsar/1-31-218%5E15774_4000_0. The Convention on Wetlands (Ramsar, Iran, 1971) -- called the "Ramsar Convention" -- is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of their Wetlands of International Importance and to plan for the "wise use", or sustainable use, of all of the wetlands in their territories.

² For information on the Western Hemisphere Shorebird Reserve Network, see <http://www.whsrn.org/western-hemisphere-shorebird-reserve-network>.





The Delaware City Refinery

Under the umbrella of Delaware's Bayshore Initiative, a framework has been established to preserve and protect the Bayshore. This framework is called the Grand Vision. Focused on the principles of habitat conservation, low impact recreation and strong communities, the initiative's vision is designed to bring both the public and the private sector to common goals. The Grand Vision follows:

Habitat Conservation: That we will leave for future generations a healthy, rural Bayshore landscape that supports a variety of habitats and an abundance of wild plants and animals – even in the face of climate change and sea level rise.

Low-impact Recreation: That we will have a network of publically accessible lands where people today and in the future can visit and have quality outdoor experiences through hunting, fishing, birding, kayaking, hiking or simply to enjoy a peaceful scenic view.

Strong Communities: That by doing so, we will have widespread support for conservation actions that will provide a better quality of life for residents and their communities and improve an economy boosted by the addition of jobs and income associated with eco-tourism.

The Bayshore faces five major challenges:

- Erosion and other damage caused by frequent and severe storms;
- Climate Change;
- Sea Level Rise
- Aging infrastructure; and
- Invasive species.

To guide where to focus activities, how to set priorities, and implement projects, four support teams have been formed within DNREC:

- Habitat Protection and Restoration
- Shoreline Protection and Flood Management
- Recreation
- Promotion and Financial Resources

In addition to working within the organization, the support teams will work with conservation partners and Bayshore towns, communities and residents to identify ideas, issues and concerns as well as insure that the activities of the Bayshore Initiative and the Byway are in alignment.

The work of the support teams has begun in parallel with the development of this Corridor Management Plan and it is anticipated these activities will continue and be supplemented in parallel with the implementation and updating of the Corridor Management Plan.

3.2 CURRENT PROJECTS OF THE BAYSHORE INITIATIVE

DNREC has been advancing projects in the agency's managed natural areas within the Byway's Discovery Zones that are in alignment with the Bayshore Initiative and the Byway. Summaries of these projects, some of which have been completed and others are nearing completion follow:

- **Thousand Acre Marsh Protection:** DNREC Division of Fish and Wildlife was recently awarded nearly \$1,000,000 from the National Coastal Wetlands Grant Program through the U.S. Department of Interior that will be used, along with matching funds from the state Open Space Program and private contributions from the Delmarva Ornithological Society and The Nature Conservancy, to acquire a 194-acre property known as the Yardley Dale tract located in the Thousand Acre Marsh. This acquisition brought a total of 388 acres of the marsh under protection, providing productive habitat important for waterfowl, shorebirds and fisheries. The new property will provide public access for wildlife-related recreation and viewing. Plans include building a platform for bird watching and scenic viewing along with interpretive signs, blinds for duck hunters and enhancing an existing walking path along the edge of the woodland and fields.
- **Fort DuPont State Park Habitat Restoration:** DNREC Division of Parks and Recreation is working in collaboration with Delmarva Ornithological Society and local Boy Scouts, to reforest four acres by replanting native trees and shrubs in an area that was cleared of invasive plants. Together their efforts will benefit migrating and nesting songbirds, and enhance wildlife-viewing opportunities at this State Park in New Castle County.
- **Pea Patch Island Habitat Restoration and Heronry Enhancements:** With the support of U.S. Fish and Wildlife Service (USFWS) State Wildlife Grants and Delaware Stewardship Funds, and with collaboration between the Divisions of Fish and Wildlife and Parks and Recreation, work is underway to restore more than 20 acres of forest on Pea Patch Island currently dominated by invasive tree-of-heaven and other invasive plants. Fort Delaware State Park on Pea Patch Island supports the largest mixed-species heronry in the Northeast U.S. Dedicated volunteers assist Delaware State Park staff with conducting colony surveys to monitor the health of nesting of herons and egrets.
- **Augustine and Cedar Swamp Wildlife Areas Habitat Restoration:** With the support of USFWS State Wildlife Grants, over four miles of exotic, invasive autumn olive hedgerows were removed from the Cedar Swamp and Augustine Wildlife Areas, and are currently being restored to native trees and shrubs.

DNREC manages several types of publicly accessible state-owned natural areas and recreation lands along the Bayshore, including State Wildlife Areas and Boat Ramps, State Parks and Delaware National Estuarine Research Reserves (DNERR). Each type of natural area has different primary uses and allowable activities.

State Wildlife Areas were established primarily for the purpose of wildlife and habitat conservation and to provide wildlife-associated recreation opportunities such as hunting, fishing, and wildlife viewing. Recreational activities and access to these areas may be limited at times due to safety concerns or because some activities may destroy habitat or cause chronic disturbance to wildlife. Education programs are also offered at some State Wildlife Areas such as the Aquatic Resources Education Center at Woodland Beach Wildlife Area. Many of the State Wildlife Areas are maintained in a more primitive state, with unpaved roads and parking areas (except at State Boat Ramps) and restrooms, if available, are typically portable facilities.

State Parks were established to provide a variety of recreational opportunities and educational and interpretive programs for the public. State Park lands conserve habitat and natural and cultural resources, but also provide a broad array of recreational opportunities. Most State Parks offer regular programs for the public about natural and cultural history. State Parks are developed to accommodate general educational and recreational uses and touring groups, with visitor support facilities and nature centers available at most parks. Hunting is used as a wildlife management tool in limited areas at State Parks, and these areas have restricted access during hunting season for safety reasons.

DNERR lands were established to preserve and manage natural resources through coastal stewardship, and to serve as a place for research, and for providing education and outreach programs that promote better understanding of Delaware's estuarine and coastal areas. The DNERR provides public programs, workshops and training on coastal topics, offers field classes for K-16 students and supports teachers through professional development programs in marine education at their facilities; access to these facilities may be limited while they are being used for scheduled programs. DNERR lands offer recreation activities that help promote coastal stewardship education, including hiking trails that meander through marsh, field and forest, and paddling access that allow visitors to explore tidal streams. Hunting is permitted in limited areas on DNERR lands, and these areas may have restricted access during hunting seasons for safety reasons.

Regardless of the accessibility of the natural areas to the general public, they are all contributing features to the Bayshore and to the Byway. Without these natural areas, both the Bayshore and Byway would be radically different. The public is encouraged to learn more about each of the natural areas and to get the latest information on any new features or seasonal closures by visiting each natural area's website provided above. For further information, please visit the ecoDelaware website. It contains useful information about visiting each of the natural areas of the Delaware Bayshore as well as many other natural and recreational areas throughout the state. It also provides a link to the website for each of the natural areas.

<http://ecodelaware.com/places.php>

- **Delaware Wild Lands Sharp Farm Habitat Restoration:** With the support of USFWS State Wildlife Grants, Delaware Wild Lands contributed matching funds to restore habitat on the 431-acre Sharp Farm north of Odessa, which is owned and managed by Delaware Wild Lands. More than 2,000 native trees and shrubs to expand Coastal Plain Upland Forest were planted on the property. In addition, seven invasive plant species in a core area of the farm are being controlled to enhance the quality of existing forest habitat for nesting songbirds and raptors.
- **Cedar Swamp Wildlife Area Habitat Protection:** Nearly 100 acres valued at \$439,000 was recently donated to DNREC's Division of Fish and Wildlife as an addition to Cedar Swamp Wildlife Area in New Castle County. The property features farmland, forest and wetland habitats, and offers spectacular views of Collins Beach Marsh. This new property will continue to serve as an important buffer for the adjacent marsh habitat in the watershed with the lowest percentage of impervious surface in the state.
- **Cedar Swamp Wildlife Area Wetland Restoration:** With the support of Delaware's Duck Stamp Program funds and in partnership with Ducks Unlimited and the Kent Conservation District, 30 acres of shallow-water wetlands were recently restored at Cedar Swamp Wildlife Area, with another 20 acres of wetland restoration planned for adjacent fields. Waterfowl, shorebirds and other species dependent on wetland habitats will benefit from these efforts.
- **Cedar Swamp Wildlife Area Early Successional Habitat Restoration:** With the support of USFWS Wildlife Restoration funds and recreational hunting license dollars, nearly 100 acres of habitat have been restored on Cedar Swamp Wildlife Area by converting dense monoculture stands of grasses into more open areas with diverse species and structure to improve habitat for meadow, grassland and shrub land birds and enhance wildlife viewing opportunities.
- **Blackbird Reserve Wildlife Area Habitat Protection:** Working with Delaware Department of Transportation, an additional 137 acres of mature hardwoods, field, shrub habitat, and farmland was permanently protected and added to the Blackbird Reserve Wildlife Area. This additional property will be open for hunting and other wildlife-dependent recreational opportunities.
- **Blackbird Reserve Wildlife Area Habitat Restoration:** Habitat restoration on Blackbird Reserve Wildlife Area included 80 acres of additional forest replanted with the support of funding from DeIDOT and State Wildlife Grants, and 3.5 acres of shallow-water wetlands was restored and



Great Egret

buffered by 16 acres of goose pasture and 24 acres of food plots as mitigation for the loss of migratory Canada geese attributed to the Athos I oil spill.

- **Little Creek Wildlife Area Early Successional Habitat Restoration:** With the support of USFWS Wildlife and Sport Fish Restoration, nine acres of an agricultural field were converted into a native wildflower meadow at Little Creek Wildlife Area, and over 100 acres of brush across four wildlife areas were converted to early successional field habitat. Forty-foot buffers were added to agricultural fields at Milford Neck Wildlife Area's Masten-Dickerson tract enhancing 35 acres of habitat.
- **Little Creek and Ted Harvey Conservation Area Wetland Restoration Projects:** With the support of USFWS Wildlife and Sport Fish Restoration funds including the State Wildlife Grant fund and matching funds generated by the sale of hunting licenses, 10 acres of wetland restoration were recently completed on the Little Creek Wildlife Area and the Ted Harvey Conservation Area, including placement of water control structures in ditches to restore wetlands that benefit waterfowl, and Cope's gray tree frog and spotted turtles, the latter both species of conservation concern in Delaware.
- **Ted Harvey Conservation Area Impoundment Water-level Management for Red Knots:** Efforts to target water-level management to improve roosting habitat for red knots during spring migration have paid off – more than 1,500 red knots were using the north and south impoundments at Ted Harvey Conservation Area during high tides. The impoundments offer safe, shallow-water resting areas where red knots can digest horseshoe crab eggs and increase fat reserves for the last leg of their flight to Arctic nesting grounds. Past radio-telemetry tracking data indicated red knots feeding on Delaware's Bayshore were wasting precious energy by flying 90-km round trips to roost on New Jersey's Atlantic Coast. Providing safe roosting habitat in Delaware up and down the Bayshore will help red knots save energy for the flight north and provide them with reserves to start nesting even if food is scarce during the still-frigid Arctic spring.
- **National Scenic Byways Program Byways Grant³:** DNREC was recently awarded a grant from the America's Byway Program. The purpose of the grant is to enhance wildlife viewing opportunities for Byway travelers at six sites in four state wildlife areas along Delaware's Route 9 Coastal Heritage Scenic Byway: Augustine Wildlife Area (Lang Marsh at Port Penn Tract and Thousand Acre Marsh at Yardley Dale Tract), Woodland Beach Wildlife Area, Little Creek Wildlife Area and Ted Harvey Conservation Area (north and south impoundments). Improvements will include:

³ National Scenic Byways Program Grant SB-2012-DE-57368: Route 9 Coastal Heritage Scenic Byway (DE): Scenic Overlooks for Wildlife Viewing, Interpretation and Amenities Enhancements.

1. Five observation towers/platforms;
2. Interpretative signs highlighting the primary natural qualities (e.g., coastal freshwater marshes, brackish-salt tidal marshes, coastal forests, wading birds, shorebirds, waterfowl, raptors, songbirds, mammals, recreational and commercially important fisheries) and secondary historic qualities (e.g., Ashton historic district, Port Penn founding history, John Dickinson Plantation, and hunting, fishing and trapping traditions);
3. Five information kiosks highlighting the sites' Byway connections and location relative to other sites and attractions along the Byway;
4. Enhance a walking trail through the Yardley Dale tract with interpretive stops explaining the challenges of protecting the natural qualities of the Byway's Bayshore habitats (e.g., Phragmites management, upland forest invasive species control);
5. Production of map and natural and historic intrinsic-quality information resources online, including mobile website enhancements, and in printed format to assist with Byway navigation and self-guided touring to safe scenic overlook access points;
6. Addition of three restrooms with one each at Yardley Dale Tract, Woodland Beach Wildlife Area and Ted Harvey Conservation Area; and
7. Directional signs directing Byway travelers to scenic overlooks and amenities; and,
8. Crushed-stone parking lot at Yardley Dale.

Management strategies and recommendations were developed by the four Bayshore Support teams for the natural areas managed by DNREC. The recommendations and strategies related to the Byway follow:

Habitat Protection and Restoration Support Team

Maintaining and supporting the natural habitat of the Bayshore is central to the Bayshore Initiative. The Support Team as it begins its work must weigh the need to acquire additional lands with the need to manage and restore existing conservation lands. Decisions regarding land acquisitions should also include how the land can restore and enhance the natural habitat. Strengthening the resiliency of the coastline in a sustainable manner against storms is needed. Educating the public about the Bayshore's wildlife is important because it helps build understanding and support for conservation efforts. Enhancing access to Bayshore conservation areas is an important part of educating the public about the value of habitat conservation. Identifying partners and setting priorities is the first action item for this team.

Shoreline Protection and Flood Management Support Team

The support team identified maintaining a healthy shoreline as its first priority, defining “healthy” as environmentally and economically sustainable. A shoreline protection and flood management analysis is needed to identify areas for adaptive restoration and management. This analysis will be an extension of the Sea-Level Rise Vulnerability Analysis and will help identify the most urgent actions needed on the ground to protect habitat functions and values.

Recreation Support Team

The Recreation Support Team recognizes that tourist services represent an important priority enabling visitors to enjoy what the Bayshore has to offer. A recent online survey by DNREC of activities of Bayshore visitors shows that wildlife viewing, walking and hiking are the most popular activities. There is a second level of activities that include birding, photography, fishing and canoeing. Taken together, these six activities were selected by 57% of the respondents of the 14 activity choices surveyed. While the survey will continue, it is anticipated that ‘hot spots’ of activities will emerge and become focus areas to improve access.

Promotion and Financial Resources Support Team

The DNREC online survey identified the frequency of visitation peaks twice: for short visits, one to five days per year, and a second time at 25 or more days per year.

The Promotion and Financial Resources Support Team recognizes that a marketing plan is needed as an important first step. However, while the marketing plan is being developed, existing

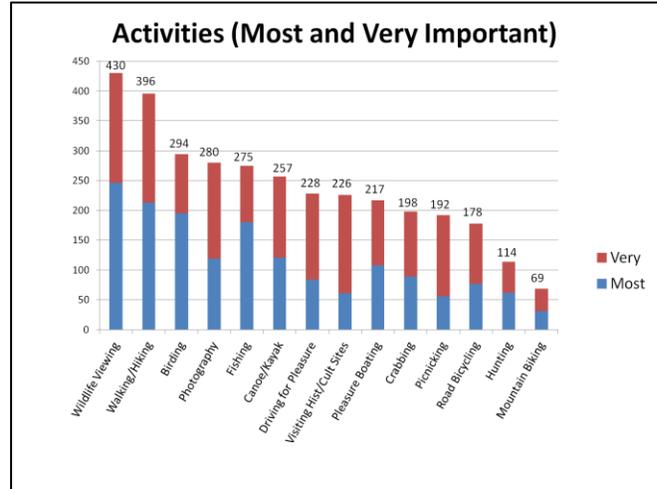


Figure 3-2: Importance of Activities among Visitors to the Bayshore

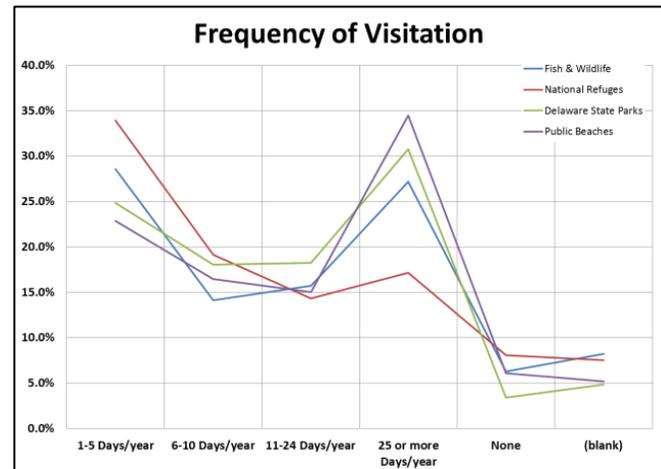


Figure 3-3: Frequency of Visitation to the Bayshore

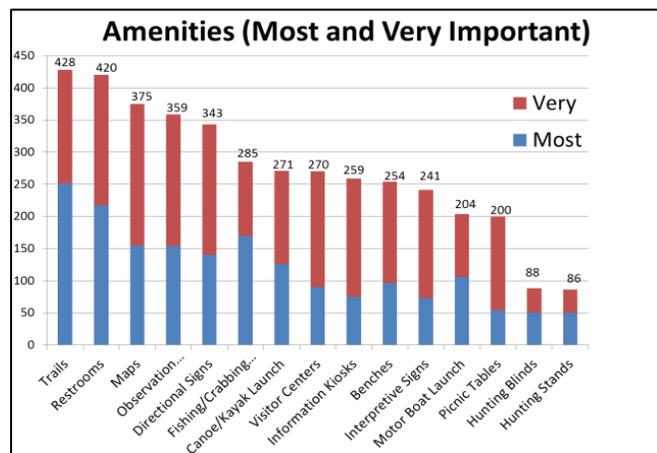


Figure 3-4: How Visitors Value Amenities at Bayshore Venues

sources of information and existing facilities that provide access should be improved.

Again, the online survey reveals that trails, restrooms, observation towers and maps are the most important amenities cited by the respondents.

It is anticipated that the four Bayshore Support Teams will remain in place to guide habitat conservation investments as well as enhancements for recreational access and tourism in a manner that respects the ecological sensitivity of the Bayshore's habitats and the way of life for the communities and residents of the Bayshore.

3.3 DISCOVERY ZONES

Delaware's Bayshore Byway is the connection that brings the communities and natural areas of the Bayshore together. Yet each of the communities has different histories and visions of the future. Although the natural areas have many similarities, they are also very different when it comes to ecological and cultural features and activity levels that can be supported. It is because of these similarities and differences that the concept of Discovery Zones emerged.

Discovery Zones are destinations that embody activity areas where travelers can learn about the byway, engage in outdoor recreational activities and other byway pursuits and events, and are directed toward visitor amenities. Each Discovery Zone has existing or untapped assets that tell the byway story and engage byway travelers. This chapter reflects the valuable input from each of the Discovery Zone Leaders and others during the CMP process.

The Discovery Zones of Delaware's Bayshore Byway, shown in Figure 3-5 are, from north to south:

- New Castle
- Delaware City
- Port Penn/Augustine
- Odessa
- Cedar Swamp/ Blackbird Creek
- Woodland Beach
- Bombay Hook
- Leipsic
- Little Creek
- St. Jones Neck

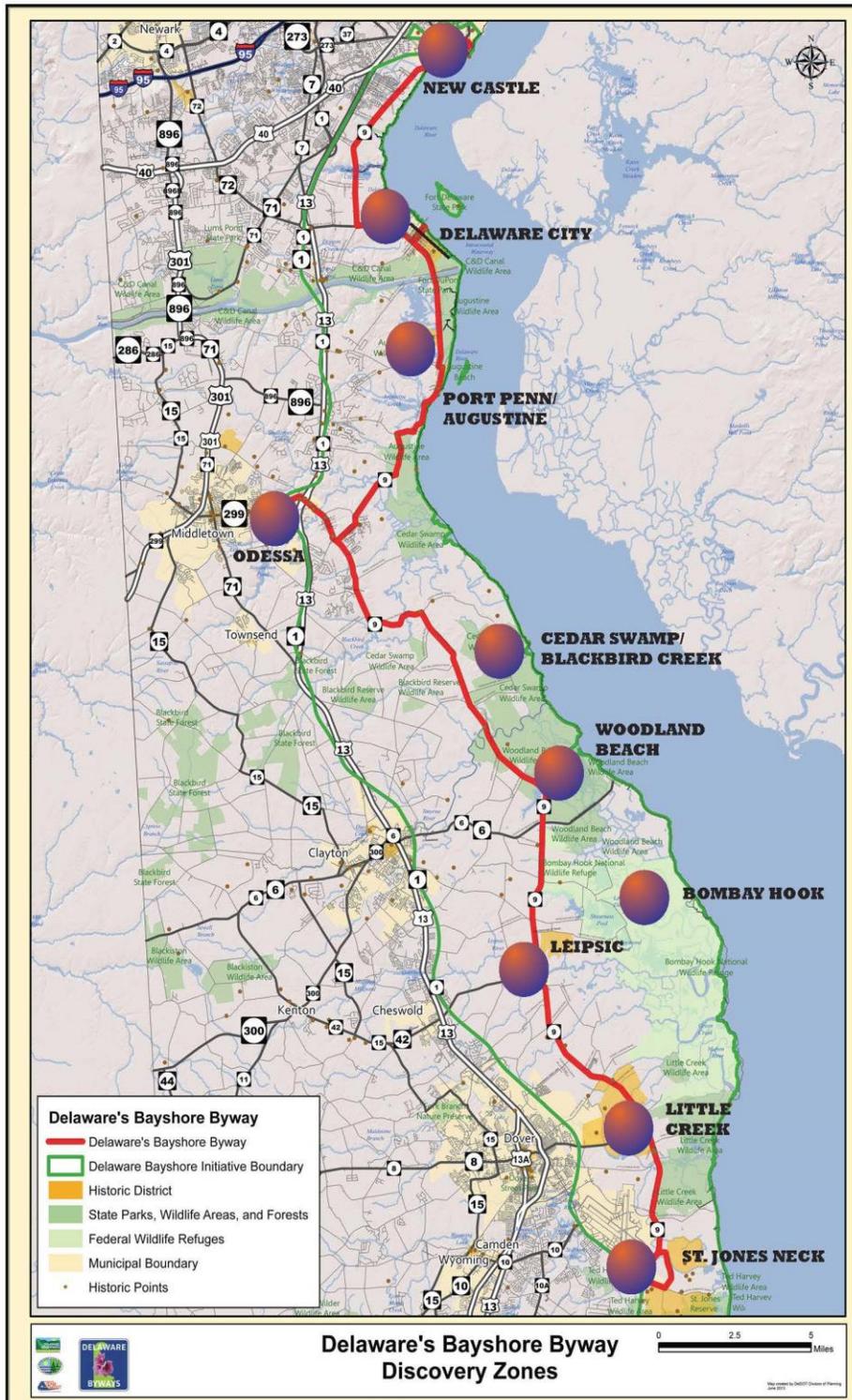


Figure 3-5: Map of Delaware's Bayshore Byway's Discovery Zones

Delaware's Bayshore Byway

CHAPTER 3 – INTRODUCING DELAWARE'S BAYSHORE INITIATIVE AND THE BYWAY'S DISCOVERY ZONES



Each of the ten Discovery Zones has different strengths, is pursuing a unique vision, and has different levels of traveler attractions and services. Many of the visitor services for the Discovery Zones south of Delaware City are currently located along US Route 13 and in the cities of Middletown, Smyrna and Dover.

3.4 NEW CASTLE DISCOVERY ZONE

The historic City of New Castle centers this Discovery Zone at the byway's northern gateway. Located at the junction of State Routes 141, 273 and 9 and two miles south of I-295 and the Delaware Memorial Bridge, it offers a glimpse into early Delaware history. The historic district in the center of the city is easily walkable, and its colonial history is very accessible. Whether you enter the city by car, bicycle, foot or boat, you will find a coastal seaport where colonial history can unfold, learn about the Underground Railroad and enjoy the panorama views along the City's waterfront. Walking tours provide a way to explore the architecture and stories of this Discovery Zone.

With its strategic location on the Delaware River, New Castle was originally settled by the Dutch West India Company in 1651 under the leadership of Peter Stuyvesant. The early governor of New Netherlands is said to have laid out the city's Green. The original settlement was named Fort Casimir, changed to Fort Trinity by the colony of New Sweden until the Dutch conquered the entire colony. New Castle's story as an English colony begins in 1682 when William Penn first landed in New Castle to take possession of his Pennsylvania colony. This port city on the Delaware River brought passengers, goods and business to the Chesapeake Bay and Baltimore. The New Castle Historic District listed on the National Register of Historic Places puts the over 300-year old history of the City on display and offers visitor amenities in a beautiful setting. The New Castle Court House Museum is one of the oldest courthouses in the U.S. and declared a National Historic Landmark. Along with the Sherriff's House, both buildings and the Commons are now a part of the First State National Monument, established in 2013.

Separation Day



Delaware, as a state, was 'born' June 15th 1776. Until that time, Delaware had been a part of Pennsylvania which was then called "The Assembly of the Lower Counties of Pennsylvania". Delaware was never recognized by the British Crown as a separate colony from Pennsylvania either. Those "Lower Counties" which would become the State of Delaware, had forced a separation from the "Upper Counties" (those situated around Philadelphia) in 1704 by threatening to petition Maryland to reclaim the land that the "Lower Counties" occupied. The land had originally been part of Maryland but William Penn's colonial charter assured lower counties that land based on the surveying of the Mason-Dixon Line was separate. Pennsylvania reluctantly agreed to allow the Lower Counties to govern themselves with their own Assembly.

Separation Day is still celebrated in the City of New Castle with a parade, crafts, dancing and fireworks.

Source: City of New Castle.



Current Initiatives Related to the Byway

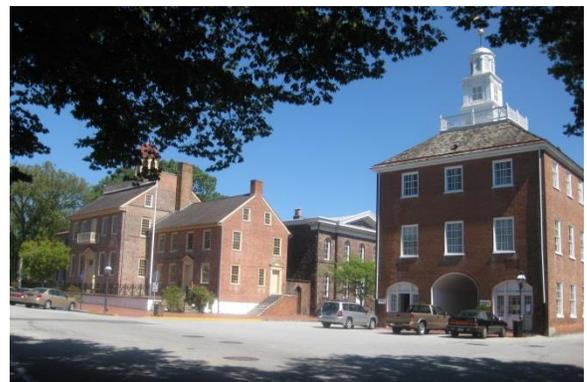
City Government along with the Historic New Castle Alliance and the Trustees of the New Castle Common are progressing several initiatives designed to raise the City's profile. There are six museums, a shoreline along the Delaware River and a number of guided tours available to visitors. Within the historic district, there are shops, restaurants and a bed and breakfast, all themed to complement their historic surroundings. Local birders picnic along the waterfront. Walkers and bicyclists exercise on the Riverwalk Trail. The Broad Dyke Marsh, recently acquired by the City of New Castle, and protected as a nature preserve provides habitat for a variety of species and is a wonderful place to observe wildlife. The City, in cooperation with DNREC, is working to restore the dike system to ensure habitat and flood protection. In addition, the City will be working to establish a trail to enhance wildlife viewing.

Efforts to attract local businesses that can provide additional amenities and services are already underway. The City's Comprehensive Plan identifies the land area at the Byway's northern gateway for redevelopment that is strategically located on two byways – Route 9 and Harriet Tubman Underground Railroad. Specific local initiatives include:

- *New Castle Waterfront*—Improve boat access so that visitors can arrive from the Delaware River to enjoy this Discovery Zone and take advantage of Battery Park. It also presents an attractive alternative to the City's Historic District for those who like the peace and quiet of a waterfront. The potential to attract visitors can enhance options for tourism-related business and visitation. The City has received funds to move forward on preliminary engineering studies and permitting to restore waterfront access to New Castle. This effort will expand the amenities on the riverfront attracting boaters and visitors to this Discovery Zone. Programming in Battery Park further emphasizes the City's efforts to capitalize on the Delaware River for residents and travelers.
- *Tall Ships* – A waterfront study is evaluating the potential for accommodating the tall ships in New Castle.



Shops and restaurants on Delaware Street opposite the Court House



New Castle Court House Museum, part of the First State National Monument

Delaware's Bayshore Byway

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- *First State National Monument* – The New Castle Courthouse and the Sheriff's House as well as the New Castle Green are now part of the First State National Monument.
- *Buttonwood School and Museum* – The school was one of 80 schools built to teach African-American children in Delaware and was financed by Pierre S. DuPont.
- *Historic Penn Farm* – New Castle is highlighting sustainable agriculture and locally grown produce on this historic farm continuing William Penn's mission. Linking this farm with other sustainable agriculture farms will highlight the byway's past and future agricultural industry. Delaware Greenways is the current managing entity and operates a program to highlight local farm to table cuisine with William Penn High School as well as programs to educate young people about farm life and good eating habits.
- *Bellanca Airfield and Delaware Aviation Hall of Fame Museum* – This unique historic building is a great place to discover the history of the airfield and the aircraft manufacturing in New Castle. Giuseppe Mario Bellanca brought aircraft design from Italy and with Henry DuPont built the airfield, aircraft plan and hangar.
- *Bicycle destination* – With the New Castle Industrial Track Trail, co-designated as the East Coast Greenway, New Castle is being promoted as a bicycle destination.
- *Wayfinding/Bikeability and Walkability initiative* – The Historic New Castle Alliance, with the assistance of Delaware Greenways and Bike Delaware, is undertaking an initiative to encourage residents to live a more active lifestyle by encouraging bicycling and walking. The initiative also has begun plans for a wayfinding system for visitors.
- *Parking Study* – This study underway by the City of New Castle will survey and inventory existing parking spaces and locations to examine future needs and recommendations. This study begins to address the challenge of parking for both residents and businesses. The Parking Subcommittee of the Planning Commission holds regular meetings to move forward solutions. The City currently provides visitor bus parking, which is located on Chestnut Street with bus



The Historic Penn Farm, located on Route 273, Frenchtown Road, is owned by the Trustees of The New Castle Common. The Trustees are charged with continuing William Penn's mission of this 112-acre, urban centered 'tenant' farm "to live in Common for the accommodation of the Inhabitants of the Town of New Castle for their only use and behoof forever" (1701 document written by William Penn).

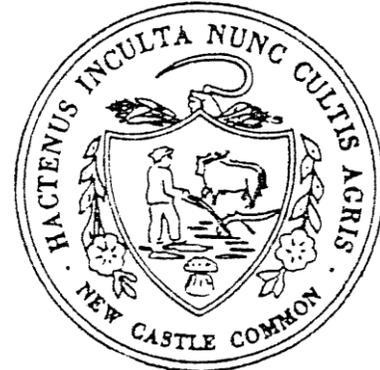
Delaware Greenways (managing entity and 22nd Tenant of Historic Penn Farm) along with 'Advisory Board of the Friends of Historic Penn Farm' provide guidance, support and encouragement to see to fruition both vision and mission of Historic Penn Farm.



loading and unloading of passengers on Second Street between Delaware and Harmony Streets. A third lot is located at the intersection of Route 9 and South Street.

Byway-Related Opportunities

- New Castle Gateway – An opportunity exists to welcome residents and visitors to the Byway, the Bayshore and the City of New Castle at a strategic location on two byways. The planning of the Route 9 Gateway has the potential to improve vehicular traffic, link important pedestrian and bicycle trails, add a critical pedestrian safety infrastructure, and guide land development in an attractive setting. A proposed transportation project that is included with the gateway project will be engaging the community in a conversation that will result in a context sensitive transportation improvement project designed to accommodate all modes of transportation in the gateway area.
- Undeveloped parcels – There are a number of undeveloped parcels of land near the historic center that create an opportunity to generate businesses that meet the demand for residents and travelers while providing important pedestrian and bicycle linkages, and improving the view from the Byway.
- Waterfront and the historic dike system – The first dike called the Broad Dyke was built in 1675. These dikes protect the City from flooding⁴.
- Active Community – The City of New Castle already has in place an infrastructure of civic-minded organizations such as the Historic New Castle Alliance (HNCA), a non-profit Commercial District Affiliate of Downtown Delaware, modeled after the National Trust for Historic Preservation Main Street Program, and the Committee for a Better New Castle.
- Growing Partnership with Delaware City – The next Discovery Zone to the south, Delaware City, and New Castle are considering joint initiatives to increase tourism.



*Trustees of the New Castle Common
 The Trustees have a history as old as New Castle because the common land has existed as such since the days of early Dutch colonization when New Castle was Fort Casimir in 1651.*

Now more than 200 years later, this body of 13 Trustees oversee a nonprofit charitable organization founded by William Penn, which was chartered in 1764 and incorporated by the Delaware General Assembly in 1792. The Trustees mission is to preserve and enhance the assets of the trust for the benefits of the inhabitants of New Castle.

In more recent years, the Trustees of New Castle Common have used their money in various ways. They bought and developed Battery Park, established the river walkway and wetlands rehabilitation, and encouraged historical preservation.

⁴For a history of the flood control system refer to <http://nc-chap.org/dikes/>

Byway Program Challenges

- Improving traveler services – Additional services could increase visitation and extend hours spent in New Castle complementing its already attractive retail services and a bed-and-breakfast establishment.
- Market demand study – Understanding the potential for business development and traveler services could guide the City, County and State's efforts to attract economic opportunities in heritage- and eco-tourism as well as compatible local jobs.

Byway Program Strategies and Recommendations

1. **Market New Castle's Assets:** New Castle has five active public museums. They include the Amstel House, Dutch House, Read House and Gardens, Old Library and Court House Museum, Buttonwood School and Court House Museum. Historic interpreters at the museums are telling the story but additional marketing is critical to attract tourists. Additionally, there are two churches that have been in continual use for over 300 years along with cobblestone streets, historic homes, storefronts, and civic and commercial buildings. Local parks and a Delaware River shoreline augment the attractiveness of the New Castle Discovery Zone with plenty to offer travelers of all ages. Catalyze partnerships with other Discovery Zones. Finally, support efforts to develop a broader Bayshore branding and positioning initiative.
2. **Make the New Castle Story Come Alive:** Expanding upon current programs and activities is important to engage the traveler in New Castle. One step is to find new opportunities to interpret how New Castle was settled by the Dutch, the Swedes and the English, and how it served as the Colonial Capitol of the Colony and was separated from William Penn and his government. New Castle historically had an active seaport that needs to be interpreted as part of developing today's waterfront.
3. **Promote New Castle Activities:** Continue to develop activities and tours that encourage visitors to walk the streets and enjoy the buildings and gardens or take a guided outdoor tour of the historic city. There is also the annual House and Garden Tour as well as tours of the Court House, Amstel House, Dutch House and the Read House. The City's restaurants and shops offer the traveler dining and shopping experience in a historic setting.
4. **Continue to Improve the quality of New Castle Experience:**
 - a. Parking is a concern and although there are designated parking areas for tour buses and visitors, the designated parking spaces on the streets are limited. Finding convenient parking for both residents and visitors is underway with the Parking Study.

- b. The placing of good wayfinding signs and historical information throughout the Discovery Zone, both in and out of the historic center is important for guiding and engaging travelers. Interpretive signs need to teach history and ecology of the area.
- c. The recent loss of two good restaurants indicates that retaining quality traveler amenities is needed and these restaurants need to be replaced.



The Kalmar Nyckel, Delaware’s Tall Ship makes ports of calls up and down the east coast but its home port is on the Christina River in Wilmington.

- 5. **Bring back Kalmar Nyckel:** Bringing back the tall ships, including Kalmar Nyckel, requires a pier that can handle this size ships. The City is already undertaking a study of the waterfront area for a new pier. Seeking funds and approvals for the pier’s design and construction is the next step.
- 6. **Continue to support partnerships:** The City should continue to partner with Bike Delaware to promote the trail system, Historic New Castle Alliance, and the Delaware Historical Society to continue efforts to protect and promote the City’s historical and cultural assets. Also continue to consider partnerships with neighboring Discovery Zones on initiatives of common interest.



Looking toward the Delaware River from the C&D Branch Canal, Delaware City



Delaware City’s historic district from the Chesapeake and Delaware Branch Canal

3.5 DELAWARE CITY DISCOVERY ZONE

Delaware City is the northern gateway to the natural beauty of the Bayshore region to the south. Included in the Discovery Zone are Fort

Delaware's Bayshore Byway

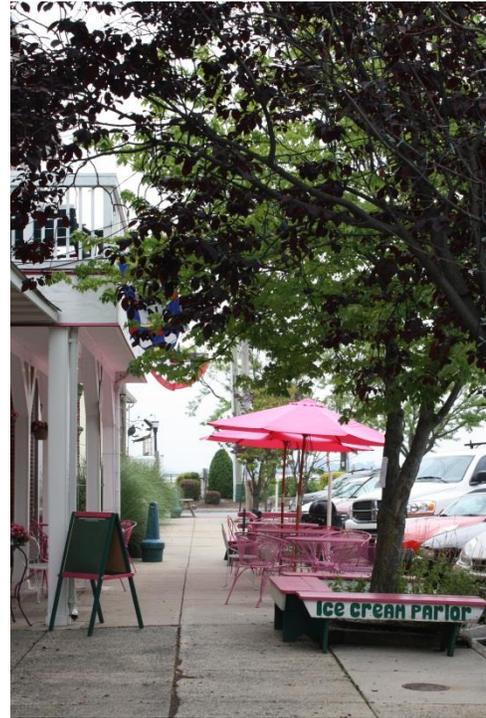
CHAPTER 3 – INTRODUCING DELAWARE'S BAYSHORE INITIATIVE AND THE BYWAY'S DISCOVERY ZONES



DuPont State Park, Fort Delaware State Park and Pea Patch Island Nature Preserve, the Chesapeake & Delaware Canal (C & D), and the Dragon Run Natural Area. Within this Discovery Zone a visitor can find the cultural and natural qualities that bring history and outdoor recreational opportunities to life. It is an area that is actively engaged in initiatives to capitalize on these resources with public and private lands to support new eco-tourism-based development opportunities for residents and visitors. The road less traveled begins at Delaware City.

In 1801 Delaware City, then known as Newbold's Landing, was expected to grow to rival Philadelphia as a major Delaware River port and commercial center. Delaware City was a base for operations on the C&D Canal but also a way station for travelers. When the canal was shifted to Reedy Point after 1927, the economic benefits declined.

The Delaware City Historic District is one of the largest in the State of Delaware with more than 250 contributing structures that date back to the early 19th Century. Today, its charming streets, historic architecture and waterfront Canalfront Promenade welcome visitors. It is a great place to get out of the car or boat, and enjoy the traveler services and amenities found in this scenic setting. Delaware City is the departure point for the passenger ferry boats (Delaware City-Salem Ferry) to Fort Delaware State Park on Pea Patch Island, Fort DuPont State Park and Fort Mott State Park in New Jersey⁵.



Main Street Delaware City and the local merchants are working to increase the level of activity in town. This picture is an example of the activities encouraged in the business district.

- **Fort Delaware State Park** – Experience Civil War history today where living-history interpreters unfold this Union military post stories that held approximately 32,000 prisoners. The Fort is located on Pea Patch Island. The Delaware City-Salem Ferry provides access to the island from Delaware City. <http://www.destateparks.com/park>
- **Pea Patch Island Nature Preserve** – This small island, located in the Delaware River, is part of Fort Delaware State Park and home to one of the largest wading-bird nesting areas on the East Coast. Recognized by the National Audubon Society as an Important Bird Area, all of Delaware's nine species of herons, egrets and ibis nest on the island. The variety of wading birds offer quite a spectacle as they fly back and forth to the island during the spring and summer nesting season

⁵ Formerly known as the Three Forts Ferry, the Delaware City-Salem Ferry previously operated seasonally between Delaware City, Fort Delaware and Fort Mott in New Jersey. In October 2012, Super-storm Sandy significantly damaged pier and docking facilities at Fort Mott, according to the Delaware River & Bay Authority, which operates the service.



– a sight easily enjoyed from the Delaware City Canal Promenade. The bird sanctuary offers a hiking trail and an observation platform that provides views of birds flying to and from the nesting area and other wildlife on the island.

- Chesapeake & Delaware (C&D) Canal** – This 14-mile canal, which was privately built in the 1800's, crosses the northern Delaware / Maryland peninsula. It was purchased by the U.S. Government in 1919. It is listed on the National Register of Historic Places, and designated as a National Historic Civil Engineering and Mechanical Engineering landmark. The area is managed by DNREC's Division of Fish and Wildlife as the C & D Canal Conservation Area under an agreement with the U.S. Army Corps of Engineers. The Michael Castle Trail will support hiking, bicycling, and equestrian activities along the entire canal as shown in Figure 3-6. This exciting addition to the canal area will be a significant draw to the Discovery Zone and will be a way for more people to experience the wild character of the canal and the area surrounding Delaware City.

**Route 9 Coastal Heritage Byway
Bike/Ped Connector FY2012 FHWA
Scenic Byway Grant Award to
Delaware City**

This project entails planning, design and development of a construction document package that will be competitively bid for the construction of a multi-use bike-pedestrian facility directly adjacent to the Byway at Delaware City. This facility will directly link to the Branch Canal Trail to connect Fort DuPont to a regionally important multi-use trail, The Mike Castle C&D Canal Recreational Trail for byway visitors and city residents.

- Gateway to the Michael Castle Trail** – Delaware City will build a 0.25-mile trail, the gateway to the Michael Castle Trail. Main Street Delaware City, an organization affiliated with the National Trust for Historic Preservation, is committed to assisting residents, local merchants and property owners in enhancing their property values, boosting their businesses, and promoting a healthy community where people want to live and work, recently was awarded a Byways Grant to fund the planning and design of a bicycle and pedestrian facility for byway travelers, Delaware City residents and others utilizing

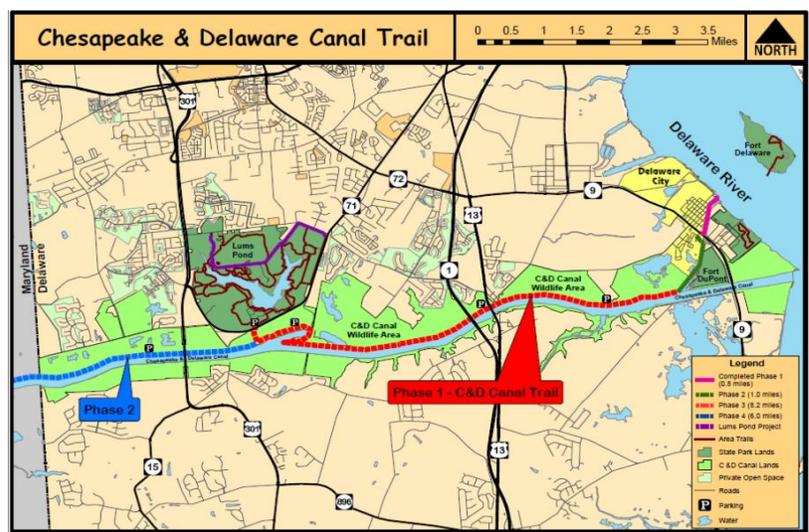


Figure 3-6: Chesapeake & Delaware Canal Trail Map. The trail is now known as the Michael Castle Trail.

the Michael Castle Trail. This project will be a link for the easternmost extension of the Trail and provide access to the Fort DuPont campus. The master plan for Fort DuPont calls for the creation of a mixed use development that will be annexed into Delaware City. This byway grant project will be one of the first projects to be implemented that aligns with the vision of the Master Plan.

- **Fort DuPont State Park** – This former World War II military outpost offers quiet views of the river and historic structures that summon the imagination to think about daily life of the Fort in the past. Fort DuPont is also a popular site among local birders because of the diversity of habitats found in a relatively small area along the river. Coupled with other amazing bird-watching and scenic viewing opportunities in the Discovery Zone, Fort DuPont is highly recommended to visitors from near and far as part of any tour along the byway
- **Dragon Run Natural Area** – This State-recognized Natural Area is one of the largest freshwater marsh systems in Delaware. Dragon Run's riparian corridor boasts diverse and colorful freshwater wetland plants including arrow head, marshmallow, water lily, duckweed, cattails and arrow arum. The marshes and open water abound with wildlife including muskrats, turtles, waterfowl, rails and other migratory birds. The marsh can be viewed from Dragon Run Park or by joining a guided paddle through the stream's quiet waters.

Current Amenities and Initiatives Related to the Byway

Existing amenities and services suggest a diverse and destination-oriented focus for this Discovery Zone. Delaware City's Crabby Dicks restaurant is well-known in the region for both its food and special events and anchors other eating establishments and retail shops along its historic main street. Several other businesses and popular restaurants including Kathy's Crab House are found on Route 9 as it traverses through the City limits. A small number of rooms for overnight stays are available in town. Fort Delaware State Park has a visitor center with a ticket office, gift shop, and restrooms at the ferry dock adjacent to Battery Park in town.

This Discovery Zone faces a similar challenge as the New Castle Discovery Zone – visibility. As with New Castle, Delaware City is taking a proactive lead in developing opportunities for the City and the Byway. Seeing the opportunity to ultimately rebrand this Discovery Zone as a center for eco-tourism is underway. Highlighting its historical setting is also progressing.

Efforts are underway by the City and the Delaware City Main Street organization to create incentives for the development of tourism and attracting eco-tourism and outdoor recreational-related businesses.

- **Historic Central Hotel** – This prime downtown anchor property on the C & D Branch Canal was renovated through a Transportation Enhancements grant and with City investments. It presents an opportunity to create economic development opportunities as well as serve as an anchor along Main Street and the C & D Branch Canal. The hotel will become the North American headquarters of the American Birding Association.

- *Washington Street Commercial District* – An important part of the mission of Main Street Delaware is to expand upon resident and visitor services and amenities in the historic district of Delaware City. This provides an opportunity to work with the merchants and businesses to increase activity in the commercial district.
- *Water-related Events and Activities* – Activities such as fireworks shows, where people watch from their boats on the water and from the Promenade along the canal and from Battery Park along the Delaware, eco-tourism along the C & D Canal, and events and receptions at the forts are important activities for travelers to become a part of the community.
- *Dragon Run* – Dragon Run is a good place to organize paddling trips and view wildlife.
- *Delaware City Marina* – With the Branch Canal and a marina capable of mooring large pleasure craft, including the Delaware City-Salem Ferry, this Discovery Zone is already a key starting point for water-based eco-tourism, organized as group tours or with facilities located down river for larger water craft.
- *Take a Walk* – An eco-tourism and healthy lifestyle initiative, marketed through Main Street Delaware City, is planned to capitalize on access to, and awareness of, the area's natural resources and outdoor recreation activities that can potentially transform this Discovery Zone. Planned improvements include:
 - The construction of the Michael Castle Trail and trailhead and an accessible viewing platform with six interpretive panels;
 - Pedestrian bridge linking Canalfront Promenade and the Governor Bacon complex at Fort DuPont State Park;
 - Delaware Historical Society garden;
 - Potential rail line trail; and,
 - Links and public access to Dragon Run Natural Area.

Eco-tourism is defined as "responsible travel to natural areas that conserves the environment and improves the well-being of local people." (TIES, 1990)

The International Eco-tourism Society (TIES)
<http://www.ecotourism.org>

The Draft Ecological Assessment and Restoration Concept Report of the Delaware City Eco-tourism Plan⁶ highlight the diversity of the natural assets in the Delaware City Discovery Zone. The report states that Delaware City is situated in a natural setting that makes it an ideal eco-tourism destination. A key component of the City's strategy is to enhance, make accessible, interpret and market ecologically based tourism opportunities to attract visitors to this inviting riverfront town. Main Street Delaware City notes

⁶ Biohabitats, Incorporated, *Draft Ecological Assessment and Restoration Concept Report*, prepared for Main Street Delaware City.

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over nine ecological resources that the organization considers significant to Delaware City are found here, many of which are publicly owned and accessible. Recommendations that support this eco-tourism focus involve numerous ecological restoration projects – wetland enhancement and restoration, reforestation planting, invasive species control, meadow and scrub-shrub management and shoreline restoration.

Fort DuPont State Park/Governor Bacon Complex – The development and implementation of a public/private Master Plan for this state-managed Complex is an important factor for this Discovery Zone. Led by DNREC, and involving stakeholders that include New Castle County and Delaware City, the goal of the master plan for the 443-acre underutilized property is to attract private-sector interest and financing for the creation of an active sustainable mixed-use community that will produce new tax revenues, jobs and housing choices along with recreational and other amenities. Integrating this redevelopment seamlessly into the Delaware City community is a project goal. The Plan will undoubtedly take a decade or more to realize requiring diligence by the stakeholders to insure plan implementation.

An increasing number of governmental, non-profit and private-sector business leaders have recognized the potential for eco-tourism and heritage tourism based economic development within the Delaware City Discovery Zone, its geographic location and its designation as a National Register Historic District. Fort DuPont State Park is strategically located along Route 9 and the Delaware River and bounded by the C & D Canal on the south and the Branch Canal, currently separating it from Delaware City, on the north. Within the historic nature of the site, it is believed that a limited mixed-use development program will be successful, infusing the area with a vibrant economic generator. Because DNREC is preparing the plan concurrently with the CMP, the final plan is still in development. The environmental constraints of the site limit the amount of potential development.

DNREC currently operates a boat ramp in the Fort DuPont Complex. The facility has a parking lot capable of holding 100 cars.

Byway-Related Opportunities

- *Marketing and Positioning* –Delaware City and Main Street Delaware City are actively



Many buildings, such as the military houses in the photograph, are empty but have the potential to generate revenue and revitalize this important historic site in synergy with the byway vision.



The future home of the Delaware Military Museum



marketing the City and its surroundings to attract visitors and grow their economic base. Efforts to promote the Delaware City area as a destination would benefit greatly from a Bayshore-wide approach to positioning and marketing the entire area, including the Byway's Discovery Zones. Delaware City is a natural stopping point for visitors from the north and west. The City and its nearby natural and historical attractions are a perfect beginning point for any visit.

- *Traveler Services* – As visitation increases, Delaware City could be a center for traveler information and services. A visitor center with information on interpretation, points of information, refreshments, provisions and restrooms, for the Bayshore and the Byway could be located in the town or in the Fort DuPont Complex. Overnight accommodations would increase the opportunity to attract visitors.
- *Delaware City Marina* – The marina is heavily used by boats of all sizes. With careful expansion to accommodate watercraft capable of traveling the Intercoastal Waterway, it could further its mission as a port of call for eco-tourism from the water and meet the increased demands of a revitalized Fort DuPont.
- *Route 9 Gateway to Delaware City* – An opportunity to enhance the visual appearance while providing for wayfinding elements and multi-modal facilities along the Byway. Support and build on recommendations in the Delaware City Transportation Plan⁷, prepared by WILMAPCO and approved by the Delaware City Council:
 - Extend sidewalks to complete pedestrian facilities on both sides of Route 9.
 - Extend striped bicycle lanes on Route 9 to implement DeIDOT Bicycle Plan and provide for local trips.
 - Install traffic calming measures to improve multi-modal activity.
- *Washington Street Urban Design Elements* – An opportunity to build upon the recommendation in the Delaware City Transportation Plan to take advantage of this street's wide cross-section that will provide facilities for all users – vehicular, bicycle and pedestrian while improving the appearance of the street. Consideration for a boulevard design could provide for green infrastructure elements and give prominence to Washington Street.
- *Clinton Street Improvements* – An opportunity to enhance the appearance of this main street and provide for wayfinding elements and traffic calming measures. Clinton Street is quite wide and provides for parking on both sides. Traffic calming measures would improve the ability of pedestrians to circulate easier.
- *Increasing Activities at Dragon Run Park* -- Adding interpretative signs and observation platform would highlight the opportunities to increase activities.

⁷ WILMAPCO, *Delaware City Transportation Plan*, May 2009.

Creating opportunities for the Discovery Zone traveler to enjoy these resources is critical, and may take such forms as improved public access, interpretation and programming. Linking these outdoor recreation activities with the City's downtown amenities and future development of the Governor Bacon complex can enhance the byway traveler experience, as well as being economically beneficial for Delaware City.

Byway Program Challenges

- *Implementation dependent upon outside funding and investments* – There are no major industries within the city limits, which limits the ability of the City to fund major initiatives. Consequently, it depends upon grants and other levels of government for activities beyond regular operating funds. Although the City is successful in attracting grants, it must always remain vigilant for such opportunities as time goes on.
- *Visual impact of surrounding industries* – The Delaware City Refinery and across the river in New Jersey, the Salem Nuclear Power Plant, set the atmosphere for Delaware City among many potential visitors. Even with the continuous efforts by the City to market itself as a center of eco-tourism and history, many continue to perceive of the Delaware City environs as a symbol of heavy industry.

Byway Program Strategies and Recommendations

1. **Market Delaware City as a northern gateway to the natural areas of the Bayshore:** Continue the existing eco-tourism initiative by integrating this with a plan to brand and market the Bayshore and Byway Branding. Programming, events, tours and interpretive materials are needed to continue to attract residents and visitors to this Discovery Zone. As the elements of the Fort DuPont Master Plan begin to emerge, and the potential for connections to the town are clarified, additional opportunities will emerge to connect the town to its surrounding natural areas.
2. **Strengthen the Relationship with Port Penn:** Flanking both sides of the C & D Canal, both communities are surrounded by exceptional natural areas that could be jointly promoted.
3. **Strengthen the Relationship with New Castle:** The two communities share a historic past and could benefit from joint programming and marketing.
4. **Implement the Ecological Restoration Projects:** Outlined in the Delaware City Ecological Assessment and Restoration Concept Report are a number of projects to restore and enhance existing natural resources. Some efforts are already being accomplished. If these resources are preserved and improved, they present opportunities for



The historic Cleaver House – at the crossroads of commerce in Port Penn.



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enhancing public accessibility and attractive settings that support Delaware City and the Delaware Bayshore and Byway as an eco-tourism destination.

5. **Fort DuPont State Park/Governor Bacon Complex:** The Master Plan will require a substantial effort to implement. No community will benefit more than Delaware City from the successful implementation of the Plan. The City must continue an active role in the development and implementation of the plan, steering it in a direction that supports the vision and goals of the City and the Byway Corridor Management Plan.
6. **Move forward Transportation Plan recommendations:** To encourage a safe and attractive setting for the byway traveler, whether on foot or bike or in a car or boat, the following projects should be completed. The projects will require funds to implement design and construction:
 - a. Enhance the Route 9 Gateway in Delaware City: Provide for traffic-calming measures, such as sidewalks, crosswalks, bicycle lanes and landscaping to achieve streetscape improvements on the byway.
 - b. Re-examine the Washington Street Urban Design Plan: Before moving forward with improvements to this street, a study should be done to evaluate the proposed recommendations for integrating urban design solutions that complement the byway and address the width of the existing street. A boulevard design may be a better solution.
 - c. Undertake Streetscape Improvements to Clinton Street: Examine design and programming solutions to encourage new businesses, to assist existing businesses and attract residents and visitors to this Main Street. Improvements might include wayfinding signs and traffic-calming measures.

3.6 PORT PENN/AUGUSTINE DISCOVERY ZONE

A good place to learn about the story of this Discovery Zone is at the Port Penn Interpretive Center managed by Delaware State Parks. The center offers displays and programs that explain the folk life of the historic shoreline communities of the Delaware River and Bay. Self-guided walking tours are available featuring the historic homes of Port Penn, as well as the scenic marshlands surrounding the town.

Most of Port Penn is on the National Register of Historical Places. Marshes and the Delaware River that parallel Route 9 offer bird watching, wildlife viewing, fishing and nature-based photography. The area also fosters opportunities for bicycling, hunting, crabbing and trapping. Much of the land surrounding Port Penn and Augustine Beach is still actively farmed today. Historical structures such as a muskrat-skinning shack and floating cabins – indicative of Port Penn's rich past – are featured Interpretive Center exhibits.

The story of Port Penn, a charming waterfront village, was envisioned to be a major port city and tourist attraction. It is a town that has developed in harmony with the cycles of nature. Centered within the

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natural areas of Augustine Wildlife Area and Thousand Acre Marsh, Port Penn is just a short distance away from a magnificent coastal plain habitat.

The Port Penn Interpretive Center houses exhibits, brochures and seasonal staff that tell the story of the area's natural and cultural history and celebrates the place-based heritage of reliance on land and water resources to support livelihoods. The hours of operation of the Interpretive Center are limited. The Port Penn Wetland Trail provides access to this Discovery Zone's marsh habitat while a pathway alongside the historic Cleaver House offers direct access to the Delaware River. Kelly's Tavern a popular seafood bar and restaurant can be found in Port Penn.

Augustine Wildlife Area⁸ – This state wildlife area is comprised of five units totaling 2,667 acres located on the Delaware River. Each unit provides ample opportunity for viewing birds and other wildlife, waterfowl blinds and deer stands for hunting as well as access to water for fishing and crabbing. The Port Penn Trail is a one-mile path through tidal marsh, connecting the Interpretive Center with Augustine Wildlife Area and the river. You can also walk along the Lang Marsh levee for great views of the river and impoundment. An existing interpretive sign on the levee explains the importance of area wetlands for wading birds nesting on Pea Patch Island. Augustine Beach, in addition to the views of the Delaware River and the New Jersey coastline, offers a boat ramp, picnic tables and a large parking area. Parking area landscape plantings and shade pavilions for the picnic tables would improve site aesthetic appeal. Nearby the historic Augustine Hotel is currently undergoing renovations. Three units of the Augustine Wildlife Area have activities for the public:

1. **Thousand Acre Marsh** – Part of the Augustine Wildlife Area, the Thousand Acre Marsh is an ecologically important freshwater wetland that is in the process of being restored by DNREC. The invasive plant commonly known as Phragmites is being treated by DNREC to restore native marsh vegetation. The Thousand Acre Marsh provides significant habitat for waterfowl during the fall and winter, foraging herons and egrets nesting on Pea Patch Island, and roosting and feeding shorebirds moving through the area in the spring and fall. Many other nesting and migratory birds can be found in the marsh, and other wildlife can also be seen in the marsh and surrounding upland habitat. With the acquisition of nearly 200 acres known as the Yardley Dale Tract, DNREC will be providing access to the marsh for hunting, birding, scenic viewing and hiking. Birders can also drive Reedy Point Road from Route 9 near the base of the



Augustine Beach

⁸ Throughout the Discovery Zones are natural areas that are not only great places for outdoor recreation but they are also globally significant. A great source of information about the activities at each can be found at the website of ecoDelaware. <http://www.ecodelaware.com/>



Reedy Point Bridge to Dutch Neck Road to view the north end of Thousand Acre Marsh and the C&D Canal.

2. **Silver Run Tract** – At the Silver Run Tract on the east side of Route 9, there is a 1-mile round trip unimproved trail through forest and field to the edge of the marsh and back. This trail is primarily used by hunters but is accessible outside of the hunting season and on Sundays year-round for wildlife viewing. No visitor services are available.
3. **Green Tract** – Just south of Silver Run, the Green Tract features a 3.2 mile round-trip unimproved trail through farm field, marsh and woodland then to the bay and back. This trail is primarily used by hunters and is accessible outside of the hunting season and on Sundays year-round for wildlife viewing. Signs and restrooms are lacking.

Byway-Related Opportunities

- *Augustine Wildlife Area* – In general, the tracts the wildlife area contain many opportunities for viewing nature at its best. With improved access, facilities and wayfinding, its capacity to attract more visitors is improved.
- *Augustine Beach* – This area is frequented by residents and draws boaters and anglers from the Wilmington area because of its easy access to the Delaware River. Repairing and enhancing the area's facilities is needed to make this a quality Discovery Zone destination.
- *Augustine Inn* – A local institution has been closed for many years. The current owner plans to renovate and reopen the facility.
- *Port Penn Wetland Trail* – Walking and cycling links from this trail to Port Penn offer the traveler an alternative opportunity to experience this Discovery Zone, providing exposure to the natural and historic resources along its path. Currently, DNREC and Port Penn are discussing options to improve the existing trail system to include:
 - Locate and install an observation tower for birders;
 - Improve the existing trail system with spurs and relocations;
 - Improve the dike system (owned by DeIDOT) that protects Route 9 and Port Penn and the operation of the associated impoundment basins⁹; and,



DNREC is developing a trail around Port Penn making the wetlands accessible to the public. This boardwalk trail connecting to Augustine Wildlife Area already exists.

⁹ Improvement of the dike system is a costly project and funding has not yet been identified. The level and type of improvement implemented will depend upon the level of funding identified.

- Improve signing and other communications to the public regarding available facilities and permitted activities.
- *Interpretive Signs* – This Discovery Zone has interpretive signs that tell its history in and around Port Penn. Additional signs and materials could further enhance the traveler experience of learning about Port Penn and Augustine Wildlife Area.
- *State Programs* –The Divisions of Parks and Recreation and Fish and Wildlife maintain historic and natural attractions that are open to the public. Existing interpretive programs, which if expanded, could enhance opportunities for travelers to learn about the byway's natural and historic resources, and engage in activities that encourage repeat visits.
- *Port Penn Historical Society* – The Society runs programs to educate visitors about the rich history of Port Penn and the people who call it home. Supporting their activities preserves this history and the history of the Bayshore.
- *Partnering with other Discovery Zones* – Port Penn by itself has a lot to offer a visitor but by itself may not be a strong enough destination to attract visitors. Port Penn and nearby Delaware City together create a stronger attraction than each does separately.

Byway Program Challenges

- *Sea Level Rise* – Recent storms have highlighted the vulnerability of the area and have highlighted the urgency to address sea-level rise. Dike repair and raising the level of Route 9 above typical flooding levels are potential solutions that can address the challenge. While these infrastructure improvements are expensive and may take some time to implement, short term strategies such as warning systems and improved evacuation planning should be considered.
- *Safe parking areas* – It is important to improve and enhance parking for visitors that come here to fish, crab, bird, paint, and photograph the beauty of the Bayshore landscape. This issue should be considered as improvements are planned for each natural area.
- *Road-side trash* – Maintaining the beauty of the byway will require solutions for eliminating accumulated road-side trash. DelDOT's Adopt-a-Highway Program is a good vehicle to address roadside trash, as are carry in-carry out policies for trash.
- *Bicycle facilities* – With the trails and natural areas close to the town of Port Penn, the system of trails and streets could provide the ability for bicyclists to circulate through the historic village and access the nearby natural areas. The needs of bicyclists should be considered as improvements are planned.

Byway Program Strategies and Recommendations

1. **Identify Wildlife-Viewing Wayside Pull-off Areas:** Locations should be identified along Route 9 and within this Discovery Zone that will provide for safe birding, fishing, crabbing and hunting that include sufficient parking and facilities for visitors.

2. **Improved Wayfinding, Trail Marking and Observation Areas:** Augustine Wildlife Area units of Port Penn, Yardley Dale, Green and Silver Run need interpretative signs and improved observation areas as well as wayfinding signage along Route 9. Widely distributed brochures would also attract visitors.
3. **Address Flood Impacts:** This area is prone to flooding, which closes Route 9 during extreme high tides and during coastal storms. The frequency and duration of these impacts are anticipated to worsen with sea-level rise. Continue to coordinate with the Sea Level Rise Adaptation Committee to insure that an acceptable strategy for Port Penn and its surroundings is developed to manage flooding and maintain long-term access to activity areas.
4. **Control Roadside Litter:** Establish a sponsoring organization or Friends of the Byway to begin a campaign to educate travelers about litter; to hold clean-up events and to work with state agencies and others to maintain an attractive roadside as part of DelDOT's Adopt-a-Highway Program.
5. **Improve Augustine Wildlife Area Amenities:** Produce a plan that identifies future comprehensive improvements such as:
 - a. Bicycle racks;
 - b. Additional shade trees for the picnic area and a picnic pavilion;
 - c. Because the area is low lying, the installation of composting toilets may not be feasible. Should that be the case, arrange with local businesses to open their facilities to the public;
 - d. Re-design the parking lot to break up the expansive asphalt; design a more attractive beach area; design safer bicycle and pedestrian access, and design landscape improvements to filter off runoff; and,
 - e. Provide shade and other native plants to beautify the area both from the Byway and the water.
6. Partner with neighboring Discovery Zones, in particular, Delaware City to promote eco-tourism opportunities.

3.7 ODESSA DISCOVERY ZONE

Although this Discovery Zone is off the main spine of the byway, it is linked to it by the Appoquinimink River. Historic Odessa will not be disappointing. Listed on the National Register of Historic Places, this beautifully preserved 18th Century town, seated on the Appoquinimink River, was originally known as Cantwell's Bridge. Odessa played a vital role in commercial life along the Delaware River as a busy grain shipping port. Guided tours of Odessa's historic homes offer a step back in time as one strolls the brick sidewalks.

Delaware's Bayshore Byway

CHAPTER 3 – INTRODUCING DELAWARE'S BAYSHORE INITIATIVE AND THE BYWAY'S DISCOVERY ZONES



The Historic Odessa Foundation, incorporated in 2005, leads the effort to preserve and encourage the use of its historic buildings by the general public, students, and scholars in order to learn and appreciate



Corbit-Sharp House
Photo courtesy of Historic Odessa Foundation

the history, architecture, daily life, and furnishings of Delaware's colonial period. The Foundation conducts tours of the historic houses, and prides itself in the educational component of its mission by paying special attention to children. For example, children's tour groups are given a cap and a haversack, containing a spyglass, slate and slate pencil, fire starter kit, pocket watch, and a Bilbo catcher. Special activities include age-

appropriate school lessons, a copy of "Rules for Behavior in Company," and a Corbit-Sharp House scavenger hunt.

Byway-Related Opportunities

- Historic Houses of Odessa – There are a significant number of well-preserved and attractive homes lining Odessa's intact historic district. The visitor can experience life in the 18th Century by visiting the Corbit-Sharp House as well as the other houses. Lovely shade trees and gardens lining the streets make for pleasant walks.
- Appoquinimink River – This 16-mile waterway meanders through farmlands and wetlands as it links the Odessa Discovery Zone to the Delaware River making it part of the Bayshore story. The tidal freshwater segment of the Appoquinimink is bound by the head of tide at Noxontown Pond and Silver Lake, and by Drawyer Creek's confluence with the Appoquinimink. The remainder of the watershed consists of a tidal marsh extending to the Delaware River. The beauty of the River can be seen upon entering Odessa from the Byway. Access to the river, however, is limited by safety issues and the lack of downstream access points.
- Partnerships – There is a strong potential for The Historic Odessa Foundation to partner with the Historic New Castle Alliance and the Trustees of New Castle Commons on initiatives that strengthen the historic heritage of both communities.

Byway Program Challenges

Route 13 – Route 13 is a one-way pair of streets as it passes through Odessa. Even though most of its former traffic has shifted to Route 1, it is still a busy roadway and a challenge to cross for pedestrians. The Town is concerned about the safety of the two intersections where DE Route 299 crosses US Route 13 as well as what the intersections would look like if improved. Only context sensitive designs, befitting



View across Cedar Swamp Wildlife Area



the historic nature of the Town, should be considered. Wide streets for vehicles detract from the historic setting.

- Historic Odessa – An ongoing challenge for this community is the protection of Odessa from development that is not in keeping with the historic character of the town.
- Tourism and visitation – Because this Discovery Zone is not directly on the byway, it is critical to develop marketing plans that encourage increased visitation to the historic museum attractions and events and address Byway related signing
- Interpretation – Capturing and telling the story of this Discovery Zone in a manner that respects Odessa, which, at its heart, is a residential community, will be a key to its preservation as one of Delaware’s historic jewels.

Byway Program Strategies and Recommendations

1. Support the Historic Odessa Foundation in fulfilling its mission of making the history of Odessa accessible to Delawareans of all ages as well as relating its unique past to the history of other Discovery Zones.

3.8 CEDAR SWAMP/BLACKBIRD CREEK DISCOVERY ZONE

This Discovery Zone is focused on two significant natural areas offering opportunities to venture into the great outdoors. Getting out your binoculars, fishing pole and cameras is a must when visiting and learning about Cedar Swamp and Upper Blackbird Creek.

Cedar Swamp State Wildlife Area – Totalling almost 5,000 acres, this area encompasses an extensive tidal marsh providing ample opportunities for hunting and wildlife viewing. Cedar Swamp is the least developed of the byway wildlife areas and refuges. Cedar Swamp is used primarily by hunters and experienced birders. The historic Vogel House is located next to an historic water tower. The house and surrounding property was once an old nursery dating back to turn of the century. A ½ mile loop trail winds down by the river and through the marsh and then back to the house. A family burial plot dates to the late 1700s and early 1800s. There are sweeping scenic views of the marsh and river from Collins Beach Road. At the end of the road, there is a state boat ramp and fishing access area and a parking lot. Planning is needed to sensitively

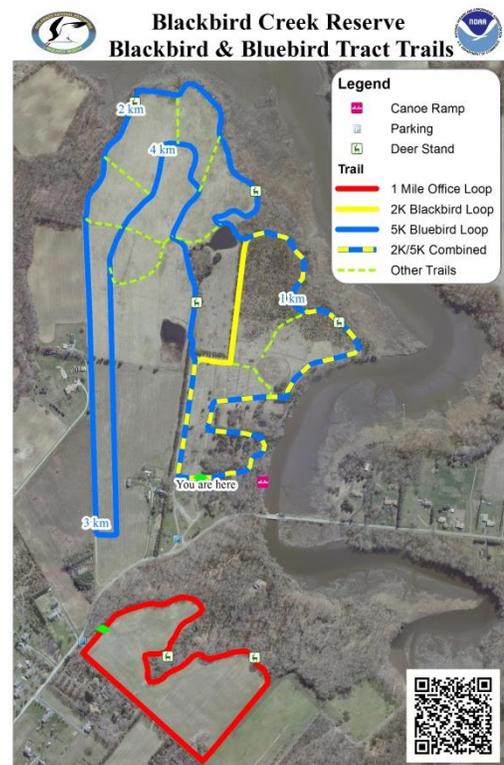


Figure 3-7: Map of Blackbird Creek Trails

develop appropriate visitor amenities that balance resource protection with resource use.

Upper Blackbird Creek Reserve – This area is part of the Delaware National Estuarine Research Reserve, a partnership between the National Oceanic and Atmospheric Administration and DNREC, Coastal Programs. Six tracts of land consist of a former campground, upland woods, fallow fields, extensive tidal marsh, farm ponds, riparian woods, upland forest stands, stream valleys, active agricultural fields and non-tidal wetland depressions. A canoe/kayak launch is located near the entrance on Blackbird Landing Road. Information boards provide hunting and trail information.

The 1,087 acre Blackbird Creek Reserve boasts several miles of trails, as shown in Figure 3-7, through uplands and along the marsh. A canoe/kayak launch, restoration demonstration areas as well as a variety of programs and volunteer opportunities for the community, teachers, students, and families are supported. The Reserve also supports ongoing research and monitoring, field studies, citizen monitoring programs, and training opportunities for coastal decision makers. In addition to the protection of the natural ecological system, there is interest in constructing a new pavilion with restrooms at Blackbird Creek Reserve. A number of other facilities are also recommended including composting toilets, trail construction and interpretation that will improve amenities at this byway resource.

“The ecological and cultural setting in which the Blackbird Creek Reserve resides is connected by a history of farming, fishing, hunting, trapping and other resource uses that have long been cornerstones of the local communities and their economy.”

(Biohabitats, March 2007)

Byway-Related Opportunities

- **Delaware National Estuarine Research Reserve (NERR)** – The Reserve was established in 1993 with a mission to practice and promote stewardship of coasts and estuaries through innovative research, education and training using a place-based system of protected areas. Today, as one of 28 National Estuarine Research Reserves protecting over 1.3 million acres of coastal and estuarine habitat across the country, the Delaware NERR serves as a living laboratory and classroom where research methods and management approaches can be piloted and applied to issues of local, regional, and national importance. For 20 years the Delaware Reserve has played a role in supporting local decision-making, advancing public understanding of Delaware’s coastal and estuarine ecosystems and providing scientific information to support its wise management by:
 - Serving as a living laboratory to support coastal research and long-term monitoring, and to provide facilities for on-site staff, visiting scientists and graduate students. The Reserve also serves as a reference site for comparative studies on coastal topics such as ecosystem dynamics, human influences on estuarine systems, habitat conservation and restoration, species management, and social science.

- Providing up-to-date scientific information and skill building opportunities to individuals who are responsible for making decisions that affect coastal resources. Through the Coastal Training Program, the Delaware Reserve can ensure that coastal decision-makers have the knowledge and tools they need to address critical resource management issues of concern to local communities.
- Serving as a "living classroom" for educators, students and the public in general. The Reserve takes a local approach in advancing estuary literacy and generating meaningful experiences for people interested in learning about, protecting and restoring estuaries.
- Protecting and conserving over 6,200 acres of coastal and estuarine habitat within the Reserve to facilitate improved stewardship of coastal habitats outside reserve boundaries using the best available science to maintain and restore healthy, productive and resilient ecosystems.
- **An Outdoor Experience** – This Discovery Zone offers a diversity of outdoor recreational activities and facilities including trails (1 mile, 2K, 5K), a canoe/kayak launch and more traditional uses, such as hunting and fishing.
- **Blackbird-Millington Corridor** – A conservation plan for this special landscape is led by The Nature Conservancy in collaboration with non-profit organizations, state agencies, local families, farmers, hunters, loggers, hikers and scientists. It centers on studying, protecting and restoring the 52,000 acre band of undeveloped lands and waters embracing farms, fields and diverse habitats. The barking tree frog and feather foil are only two of the many amphibians and plants found in this unique landscape.

Byway Related Programs and Strategies

1. **Trails:** Trails can be developed for wildlife viewing in areas where there is no hunting or where hunting is permitted, outside of hunting season (late spring, summer and Sundays year round).
2. **Wayfinding and Interpretation:** Signs and maps integrated with information on the internet are needed to help travelers find this area and learn more about the history. There is also some forgotten history about this area having once been a 'resort' character with carousel, hotel and boardwalk. The Bayshore as a 'resort' area is another piece of the story of the past. These resorts did not survive, and for many all traces are gone, (e.g., at Cedar Swamp where at low tide from the boat ramp you can see remnant of pilings that apparently once supported either a pier or hotel).

3.9 WOODLAND BEACH DISCOVERY ZONE

Nestled within the natural wonders of the Woodland Beach Wildlife Area is the hamlet of Woodland Beach, one of Delaware's undiscovered treasures. This beachfront community once boasted a roller coaster. Today, only a handful of people live here. It is still home to fishermen, crabbers and families

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who have lived there for generations. It once had a hotel and a restaurant but with the decline in population, both closed. A movement is afoot to bring back the restaurant as an adjunct to Croaker's, an anglers' supply store.

Woodland Beach Wildlife Area – The Woodland Beach Wildlife Area is comprised of more than 6,300 acres along Route 9, due east of the Town of Smyrna. Most of the wildlife area – comprised of marsh, field and woodlands – is widely known for its hunting and fishing opportunities. The Taylors Gut area along Route 9 is popular with birders who scan the impoundment mudflats and ponds along Route 9 for shorebirds in the spring and fall. An observation tower provides spectacular sweeping views of the marsh and ponds next to Route 9.



Aerial view of Woodland Beach

The Aquatic Resources Education Center offers programming to the public to increase their awareness of, and appreciation for, Delaware's aquatic resources. Programming contains habitat-based field programs, including ones focusing on wetlands, the Delaware Bay horseshoe crab phenomenon, and a variety of other education directed activities. Staff provides educators with opportunities, resources, and knowledge to assist them with the development and delivery of wetlands education programs and experiences statewide. The Center also provides fishing and other outdoor aquatic experiences for segments of the population that lack such opportunities. The wetland boardwalk and trail connecting the Center to Lighthouse Road are open to the public. For additional information, see this website.

<http://www.dnrec.delaware.gov/fw/Education/Pages/Aquatic-Resources-Education-Center.aspx>

The Center's Mallard Lodge overnight facility has accommodations for up to 34 individuals for an overnight stay or, up to 40 using the building as a conference room/meeting place for training and "in-service" workshops in wetlands and environmental education. The facilities are available for use by public/private school groups, youth groups, conservation organizations, non-profit organizations, and government agencies. Educators who conduct Aquatic Education programming receive priority for lodge use. A small visitor center with an outdoor interpretative kiosk will be constructed within next 18 months at the Mallard Lodge and Aquatic Research and Education Center campus.



Most of Lighthouse Road just north of the Center is closed to vehicle traffic, though travelers can park near the gate and take a peaceful two mile walk or bike ride to the bay. In the hamlet of Woodland Beach, there is a boat ramp used by anglers, boaters and paddlers destined to the marsh of Taylors Gut or out into the bay. In the center of the community, the Wildlife Area offers plenty of parking for anglers to access the fishing pier or travelers stopping by to relax on the sandy beach.

Mudflats exposed at mean low water are habitat for muskrat, rabbit, marsh birds, waterfowl, shorebirds and waders, lovingly described in Dudley C. Lunt's *Taylors Gut* and Tony Florio's *The Progger*¹⁰. The area includes a large waterfowl refuge with mowed pastures, freshwater ponds, and forest tracts that are habitat for many species of songbirds and other wildlife.

Byway Related Challenges

- **The Narrow Route 9 Roadway:** Route 9 through the Woodland Beach Discovery Zone has little or no road shoulders as it travels through the marshland especially at the Taylors Gut Impoundment. A drainage ditch adjacent to the travel lanes eliminates safe pull offs to crab, collect bait and view birds.
- **Sea Level Rise and Flooding** – Flooding occurs across Route 9 especially at the base of Flemings Landing Road just north of Woodland Beach, south of Mallard Lodge, and at the Taylors Gut Impoundment water-control structure.

Byway Related Programs and Strategies

1. **Signing:** Interpretative and trail signing is needed at multiple points of interest in this Discovery Zone.
2. **Observation Platform:** The existing observation tower on the north side is needed and an additional tower is needed near the Taylors Gut impoundment area. This area is rich with birds and scenic views.

The Delaware Marsh is the "Home of the muskrat, opossum and otter, waterfowl and shorebird, turtle and terrapin, fish and crab, the marsh represents the last truly wild area of Atlantic America."

Tony Florio

Florio lived his life on the Delaware marsh, worked there, brought his wife there, raised his children there and met all kinds of unforgettable characters there - including the furry and feathered kind. He worked as a resident biologist with the Division of Fish and Wildlife for 38 years, and lived 32 of those years in a remote area of Delaware's marshland - a place unspoiled by the relentless development of today.

There is a short 'wildlife drive' – known as Florio Road leading from Route 9 back to the now-private residence where travelers can view the fields and ponds from their cars without disturbing the waterfowl in the fall and winter.

¹⁰ See Tony Florio, *Progger: A Life on the Marsh*, (Dexter, Michigan: Thomson-Shore, Inc., 2002) and Lunt, *Taylors Gut*.

3. **Pull-off Area:** There are extraordinary views of wildlife and terrain along Route 9 in this area. A pull-off area would be ideal for Byway visitors.

3.10 BOMBAY HOOK DISCOVERY ZONE

Bombay Hook National Wildlife Refuge, <http://www.fws.gov/northeast/bombayhook/>, managed by the U.S. Fish and Wildlife Service, was established in 1937 and today is comprised of 16,251 acres of wildlife habitat. The Refuge's purpose is to provide safe breeding, feeding and resting areas for migratory birds and other wildlife. The Civilian Conservation Corps worked on the Refuge from 1938 to 1942. During that time the roads, dike system and impoundments were started. Today, there is a 12-mile loop wildlife drive that traverses a variety of habitats including fresh and salt marshes, ponds, mudflats, woodlands, and upland fields. The Refuge is known for wildlife observation especially bird watching, wildlife photography, hunting, environmental education and interpretation programs, and the historic 1753 Allee House.



Birding along the impoundment at one of the driving tour spots

Visitors to Bombay Hook have the opportunity to participate in wildlife-dependent recreational opportunities such as: bird watching, wildlife observation and photography, environmental education and interpretive programs, and waterfowl, deer, and small game hunting. Visitors may participate in programs about wildlife, habitat, the importance of wildlife conservation, and the Refuge System. Quiet dominates the refuge where visitors may connect with nature.



Boardwalk Trail at Bombay Hook

Byway Related Opportunities

Over 13,000 acres of the refuge is tidal salt marsh comprised of cordgrass meadows, mud flats, tidal pools, rivers, creeks and tidal streams. The remaining refuge consists of freshwater impoundments, brushy and timbered swamps, forests and upland fields of herbaceous plants. Located along the Atlantic Flyway and the Delaware Birding Trail, the refuge annually attracts over 150,000 migrating ducks and geese, shorebirds and song birds. Other wildlife found here includes deer, red fox, beaver and many species of turtles, nonvenomous snakes, frogs, and salamanders. Around

115,000 visitors annually take the 12-mile auto tour route, participate in the wide range of environmental education and interpretation programs and actively engage in birding, hunting, wildlife observation and photography.

Bombay Hook National Wildlife Refuge is well-equipped and ready for visitors today. It is open to the public from sunrise to sunset offering the following:

- **Visitor Center** – The Visitor Center is open all year on weekdays and spring and fall weekends. It is accessible to visitors with disabilities. A gift shop is operated by the Friends of Bombay Hook, Inc. Proceeds from the gift shop are used to support environmental education programs and other refuge needs, such as habitat restoration, and wildlife studies.
- **Allee-House Restoration** – Completion and opening of the Allee House will offer a historic cultural dimension to the current wildlife dependent recreational opportunities.
- **Programming** – Self-guided exhibits, seasonal walks, presentations and workshops are augmented by informational brochures on birds, amphibians and reptiles, mammals and self-guided tours for trails and auto tour.
- **Website** – An informative website with a calendar of events that highlights the changes to the natural community each month offer the visitor useful information about the resources found at the refuge.
- **Accessibility** – An auto tour, observation towers and nature trails offer the visitor opportunities to experience the wonders of this refuge. Boardwalk and Bear Swamp Trails provide accessibility for people with disabilities. Information about the wildlife drive, five walking trails, observation towers, and current programs is available at the Visitor Center. Visitors can view the latest bird sightings, watch a video about the Refuge System and Bombay Hook, review exhibits, borrow binoculars and buy a field guide or other items at the Friends of Bombay Hook's Refuge Store.
- **Educational Programs** – Bombay Hook offers educational programs for grades one through twelve, enabling students to learn about the Refuge's diverse habitats. Conservation partners and universities use the refuge for hands on field study.

Byway Related Challenges

- **Funding and Partnerships:** Appropriate funding and enhancing partnerships with the DNREC, DELDOT, Delaware Tourism Office, and other local and state entities are necessary to achieve success in telling the story of the Bombay Hook Discovery Zone. It is also important in enhancing/restoring facilities and programs that will attract residents and visitors. Collaboration among the Delaware wildlife areas and education centers is effective in developing comprehensive and complementary environmental education programs and new visitor services facilities including a Byway Visitor Center.



Boarding a tour boat down the Leipsic River

- **Climate Change:** Climate change, associated with increasing global temperatures, is affecting land, water, and wildlife resources. Along the U.S. Atlantic coast, rising sea levels have begun to affect fish and wildlife habitats including those used by waterfowl. Bombay Hook NWR, which is less than ten feet above sea level, is experiencing interior marsh loss at a rate of approximately 58 acres per year.

Management Strategies and Recommendations

At the time of completing this Corridor Management Plan, the Comprehensive Conservation Plan process for Bombay Hook has been started. The Planning Advisory Committee and future Management Entity should continue to collaborate with the U.S. Fish and Wildlife Service to integrate the CMP principles and goals into the recommendations of their plan. It will be important during the annual CMP review, to consider implementing actions outlined in the Comprehensive Conservation Plan for Bombay Hook that support and help to promote and preserve the Delaware Bayshore and Byway.

3.11 LEIPSIC DISCOVERY ZONE

This Discovery Zone is centered on the Town of Leipsic, a historically significant fishing village, where residents continue today to make a living as watermen. Leipsic is the Bayshore's only deep water port. At the midpoint of the byway, Leipsic has the potential to become an ideal place to get out of the car, and explore the history and culture of this byway community.

Leipsic was known during the 18th Century as "Fast Landing" because of its quick boat docking on the 300-acre tract from William Penn. With its port access, Leipsic had significant economic potential and by the early 19th Century, grain, lumber and fur were being shipped into the region. In reference to the world-celebrated fur trading status of Leipzig, Germany, the area was renamed Leipsic. "J. Thomas



Getting ready for a day of fishing in Leipsic

Scharf's *History of Delaware* (1988) characterizes Leipsic's port in 1836 as "one of the most important on the Peninsula," with "hives of activity" that included lumber, grains, oysters, and fur that could be loaded onto 24 ships at one time. From the 1830's to 1850's there were multiple shipyards in operation, building vessels that traveled all over the Atlantic Ocean. A steamboat line opened in 1853 connecting Smyrna, Leipsic, and Philadelphia." (Commission, 2006)

Evidence of this waterman's village can still be experienced today by foot, car or boat. Watermen dock their boats at Sambo's Tavern and other spots along the river. A boat ride down the Leipsic River, occasionally sponsored by Bombay Hook Wildlife Refuge, offers an entrée to the wonders of the Bayshore ecology past the Town of Leipsic, hunting blinds, and the vast marshland. On the way to the

Bay, the river crosses into Bombay Hook National Wildlife Refuge where shorebirds, hawks and other birds can be found.

The residents of Leipsic have every reason to be very proud of their history. It is the last of the Route 9 communities of watermen still active within the Delaware Bayshore. This Discovery Zone has a well-known crab restaurant, Sambo’s Tavern and a deli, but few other traveler services.

Byway Related Opportunities

- **Additional traveler services** – an opportunity to encourage new businesses in Leipsic for travelers to Bombay Hook National Wildlife Refuge, among other byway attractions. Leipsic is conveniently located to provide needed restaurants, lodging and other visitor amenities as demand warrants.
- **Proposed Maritime and Agriculture Museum** – The Town is pursuing an interpretive and educational museum that would serve travelers.
- **Boating** – Marine activities including boat slips, boat ramps and a pier attract boaters from as far away as Philadelphia. Convenient access to the Leipsic River presents an opportunity for private boat tours and fishing excursions to the extent that the activities of the commercial fishing and crabbing industries are not adversely affected by tourists. A ride down the River to the Bay provides access to and through the marshland of Bombay Hook National Wildlife Refuge. Augmenting a simple boat ride with knowledgeable guides can enhance the traveler experience through interpretation about the Bayshore landscape and wildlife.

Byway Related Challenges

- **Achieving balance between the needs of the Watermen and the visitor.** The challenge is to balance the needs of this historic watermen industry and insure its preservation and economic viability with the town and its natural setting. Town leaders believe that the balance lies in the provision of visitor services centered by a museum. The museum would highlight the

Annual Horseshoe Crab Rescue and Blessings

For the past five years, Buddhists gathered on Pickering Beach to conduct a Horseshoe Crab Rescue and Blessing Dharma Assembly. Every year hundreds of thousands of horseshoe crabs die from being stranded up-side-down on the beaches of the Delaware Bay and along the Atlantic coast from Maine to Florida as they come ashore to spawn, unable to return to their marine habitat. This ceremony, led by Rinpoche’s from the Dharmadhatu Center of Delaware and the Tathagata Dharma Association of Maryland, together with Buddhists from five states, bless these animals, while those attending the ceremony help enable the stranded ones to return to the sea.





maritime and agricultural history, and hunting and trapping traditions of the waterman. The Town believes that the DuPont Schoolhouse would be an ideal location for the museum and could include visitor amenities. The museum would also become an asset as the town seeks to encourage new businesses, particularly restaurants and food services. With the neighboring farming community and fresh seafood in abundance, the appropriate resources are in place. The challenge is developing the market through a combination of public and private sector investments.

- **Provision of Visitor Services.** Public restroom facilities for recreational users of nearby state and national wildlife areas are needed in this Discovery Zone.

Byway Related Program Strategies and Recommendations

1. **Implement the Maritime and Agricultural Museum:** The museum will become a focal point for learning about the waterman and their way of life. The Town plans to highlight hunting and trapping traditions centered in the surrounding marshlands as well as the history of the DuPont schoolhouse.
2. **Encourage guided boat tours:** Capitalize on the size and access to the Leipsic River to attract private boat tours and fishing excursions. Address any impediments and work with state agencies to create incentives for recreational boating and interpretive tours. The tours must respect the needs of the fishing industry including maintenance of their watercraft and the transfer of their bounty to land. Consider training watermen as natural history educators and licensing their boats for tours and excursions.

"Pickering Beach Road leading into the town of Pickering Beach offers fantastic views of the salt marsh, and is a great place to scan the marsh for multiple short-eared owls, northern harriers and other raptors in the winter. Amazing up-close views of these birds at sunset over the marsh is a sight not to be missed."

*Karen Bennett,
Delaware Bayshore Initiative Coordinator and an avid birder.*

3.12 LITTLE CREEK DISCOVERY ZONE

The Little Creek Discovery Zone features the Little Creek Wildlife Area. Close-by Pickering Beach is a designated sanctuary for horseshoe crabs. The horseshoe crab is designated as the state marine animal, a significant species of the Delaware Estuary. The Town of Little Creek is a charming Bayshore town with an interesting history while offering the potential for traveler services.

The Town of Little Creek, settled in the early 1800's, allegedly was first inhabited by pirates. Originally called Little Landing, the town was most prosperous in the late 1800's when a thriving oyster industry emerged. Nearby Port Mahon grew into a stopover for large ships and commercial boats that led to businesses, such as bait shops, restaurants and a cannery in town. The Old Stone Tavern, actually never a tavern, was built with the stone from the ballast of old sailing ships. Today, few boats are found in the Town's waters. Now, part of the Little Creek Wildlife Area, Port Mahon was previously lined with fishing shacks and oyster-shucking houses.



Pickering Beach: The nearby coastal village of Pickering Beach is an official sanctuary of the horseshoe crab. Visitors come to witness the spectacular seasonal convergence of horseshoe crabs, and migratory birds. A dramatic increase in harvest of horseshoe crabs for eel and “conch” (also known as whelk) bait as well as for medicinal purposes has led to concern over the supply of horseshoe crab eggs. The eggs are essential food for shorebirds during their spring migration. Red Knots, Ruddy Turnstone, Semipalmated Sandpiper and Sanderlings fuel up on the eggs before migrating north to Arctic nesting grounds. Without sufficient food, shorebird populations will be at risk. Pickering Beach Road, leading into the town of Pickering Beach, offers fantastic views of the

Pickering Beach is a horseshoe crab sanctuary and as a result is subject to the following regulations:

3209 Horseshoe Crab Sanctuaries

(Penalty Section 7 Del.C. §2705(b))

1.0 All state and federal lands owned in fee simple are horseshoe crab sanctuaries during the period beginning 12:01 a.m. on May 1 through midnight June 30.

2.0 Any land owner(s) may register their land with the Department to be designated as a horseshoe crab sanctuary for a period to be specified by the land owner(s).

3.0 It shall be unlawful to collect any horseshoe crabs at any time from a horseshoe crab sanctuary except as provided in Regulation 3203 section 2.0.



Port Mahon Road along the bay could be a place to understand the impact of sea level rise. Note: This photo was taken prior to Super-storm Sandy.

salt marsh, and is a great place to scan the marsh for multiple short-eared owls, northern harriers and other wintering raptors in the winter.

Little Creek Wildlife Area: More than 4,700 acres comprise this wildlife area managed by DNREC’s Division of Fish and Wildlife. The area offers hunting opportunities, and due to its extensive coastal wetland impoundments that are habitat for waterfowl, shorebirds, herons, egrets, bitterns, rails, gulls and terns, the site is on the Delaware Birding Trail. Screech owls are frequently seen roosting in wood duck nesting boxes. A short boardwalk trail to an observation tower provides fantastic views of the wildlife area’s south impoundment and Pickering Beach. Summer is a great time to scan the marsh vegetation for bitterns, egrets and herons. Birding and wildlife watching are good trail related activities as roadways and trails offer spectacular viewing opportunities through the wildlife areas. There is also an entrance road off of Pickering Beach Road to the south impoundment of the wildlife area, offering wildlife viewing. The levees around the impoundments offer peaceful walks.



Port Mahon: The road, which connects to Route 9, has been ravaged by frequent flooding. DNREC operates a boat ramp at the end of the road on the Mahon River and a fishing pier jutting out into the bay. Both are heavily used by the public. Birders and photographers frequent this area to view shorebirds in the spring because they are easy to see so closely from a car window without disturbing the birds. Providing interpretation of the area's resources and history would improve the visitor experience.

Byway Related Challenges

- There are no signs directing visitors where to go in the wildlife area. Many people start driving down the wildlife area road and think they are entering into a construction yard or otherwise into an area that is not open for the public.
- Because this area is ever-changing, both DNREC and DeIDOT are challenged to be vigilant in maintaining public safety while maintaining the educational and scientific aspects of Port Mahon.

Byway Related Opportunities

There is local interest in this Discovery Zone that generated six key actions:

- Restore the flow of "Little Creek", and construct a small boat ramp and fishing area and seek commercial businesses serving smaller boats;
- Convert the "Old Stone Tavern" into an interpretive center with information about Port Mahon and the Town of Little Creek with restroom facilities and parking;
- Develop a walking trail behind the Old Stone Tavern that skirts the creek and loops back to Main Street via the sidewalk to the Tavern.
- Identify technical and financial assistance for the preservation and maintenance of historic structures;
- Identify strategies to share the cost of traffic-related law enforcement;
- Create rest stops with bathrooms at the hunter check-in station south of the Town of Little Creek.

The Ecological Research & Development Group (ERDG), founded in 1995, is a 501(c) 3 non-profit wildlife conservation organization whose primary focus is the conservation of the world's four remaining horseshoe crab species. Seven Delaware Bayshore communities participate in a program called Backyard Stewardship® which encourages coastal communities to declare their shared habitat a horseshoe crab conservation area or sanctuary. Within the Delaware Bayshore, Pickering Beach and Kitts Hummock participate in the program. For more information on this program, see:

<http://www.horseshoecrab.org/misc/erdg.html>



- Little Creek Wildlife Area parking lot – located on Route 9 just north of the entrance, it is generally used as a check-in station for hunters. Gates are otherwise locked and there is no access to trails or other amenities from this parking area. The potential for improved traveler and visitor amenities at this location needs further examination.

Byway Related Program Strategies and Recommendations

1. **Improve Little Creek water access:** Access improvements including a boat put-in near Route 9 and the completion of a sidewalk between Little Creek and the center of town at Wilson Lane will catalyze other traveler based opportunities. An environmental survey is in progress to assess the potential opportunities. Improve signage guiding visitors into and through the wildlife area. Improve welcome / visitor center area providing information on natural and cultural history of the byway and DZ.
2. **Improve the Port Mahon waterfront:** Significant erosion continues to put this area under duress due to sea level rise. However, it is one of the few areas along the byway that provide access for large boats. The pier and the boat ramp present major waterfront activity. Develop Port Mahon Road area as a recreation and eco-tourism site.
3. **Establish Guided Tours for Pickering Beach:** Guided tours are recommended during the horseshoe crab spawning season. Shorebird interpretive sign is needed as well. In addition, to welcome the public, Pickering Beach Road should be improved to accommodate busses and a parking facility should be constructed for events at the beach.
4. **Convert the Old Stone Tavern into an Interpretative Center:** The Old Stone Tavern would be an ideal location to understand how life has evolved along the Bayshore and the role nature has played. The Town should work with DNREC to achieve this goal.
5. **Traffic Law Enforcement in Little Creek:** The Town needs assistance in addressing a speeding problem that continues even in the face of enforcement. DeIDOT and the State Police should convene a study to develop a plan to address the problem. Solutions from stepped up enforcement to traffic calming should be investigated.
6. **Branding and Positioning:** Package Pickering Beach and its internationally recognized horseshoe crab spawning beaches and shorebird foraging grounds as part of the Little Creek experience.



Kingston-upon-Hull House: *The house at the Ted Harvey Conservation Area belonged to John Briggs and Mary Phillips according to a 1677 survey. The survey also indicates a house standing on or near the site occupied by the present brick house. A patent in 1678 to Briggs and Phillips says their land adjoins the Town Point property. John Briggs was known for the petition he signed for the creation of St. Jones County. In 1680 he was responsible for taking its first census. He also was a member of the first assembly under Penn's government where he served from 1682-1685. In 1684 he was commissioned as a justice of the peace as well as the sheriff for Kent County. It is believed that the house at Kingston was perhaps the first Kent County courthouse since it is known that the County Court met at Town Point in 1680. However, later records indicate that Kingston-upon-Hull was not the site of the first county courthouse meeting. These records show the meeting took place at Town Point, the residence of Edward Pack who owned the tract jointly with Briggs. Pack was appointed as justice of the peace in 1680.*

3.13 ST. JONES NECK DISCOVERY ZONE

The St. Jones Neck Discovery Zone – the southern gateway to the Byway – is the site of one of the state's earliest English settlements. Plantations began to establish along the St. Jones River in the early 1660's. This early development is a testament to the importance of the St. Jones River. Today, the beauty of the agricultural lands surrounding the wildlife areas offers history, heritage and natural resource exploration opportunities.

A good place to start in the Discovery Zone is at the Visitor Center at the John Dickinson Plantation where area history is explored. From here, a visitor can venture into the natural areas of the St. Jones Reserve and Ted Harvey Conservation Area.

The strong link of history and cultural traditions to the natural landscape is the hallmark of this Discovery Zone. It is part of the great outdoors, a place for birding, fishing, hiking, and hunting. The working agricultural landscape and the globally-significant horseshoe crabs and shorebirds spectacle add to the area's wonder and resources.

The Discovery Zone is defined by the natural landscape of salt marshes, bay beaches, and the St. Jones River. The cultural landscape of the working farms, the historic John Dickinson Plantation and evidence of colonization dating to the 1660's, offers much to the Byway traveler. Getting the byway traveler to experience these diverse assets is both an opportunity and a challenge. Historic markers note the locations of Byfield, the boyhood home of Caesar Rodney, one of the signers of the Declaration of Independence, Hangar 1301 at Air Mobility Museum, the home of John Dickinson, and the bay-front community of Kitts Hummock.

Byway Related Opportunities

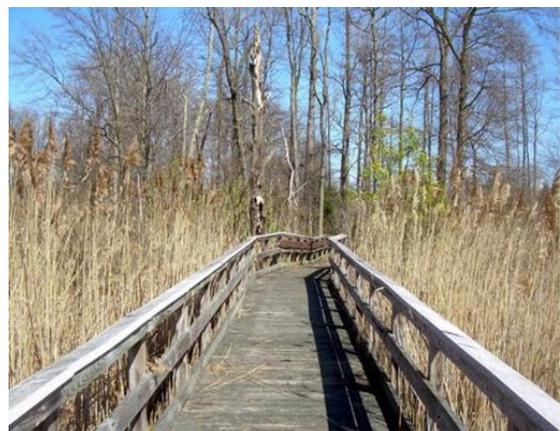
- **John Dickinson Plantation**
<http://history.delaware.gov/>– Home of John Dickinson, signer of the United States Constitution and “Penman of the Revolution”. This historic plantation on Jones Neck, which the family called Poplar Hall, takes you back to 18th Century America. The Visitor Center offers an orientation video, exhibits and historic interpreters about John Dickinson – the man, family, farmer, slave holder and politician as well as many programs and events.
- **St. Jones River** – The St. Jones River, which has its headwaters in the western part of the county, begins about 22 miles upstream from the Delaware Bay. Significant ponds in the watershed are Silver Lake, Moores Lake, and Wyoming Lake. Flat wetlands, usually forested, exist mostly in the upper portion of the watershed. Tidal wetlands line the banks of the river as it nears the Bay. The River offers great bird sightings, wildlife habitats, stunning marsh lands and a rich history. Access to St. Jones River for canoe, kayak, and other boats is located at Scotton Landing just west of the Route 1 Bridge over the river.
- **St. Jones Reserve** <http://de.gov/dnerr> - Located along the St. Jones River, the 5,119 acre Reserve is a part of the Delaware National Estuarine Research Reserve. It is open to the public year round and provides hiking trails (including a boardwalk linking to Ted Harvey Conservation Area), green construction and conservation demonstrations, a native plant nursery for restoration projects as well as a Visitor Center with hands-on interactive activities and interpretive exhibits, research laboratory, offices and meeting space. The Reserve supports ongoing research and monitoring as well as a number of programs for the community and visitors year round including:



Entrance to the Home of John Dickinson Plantation



St. Jones River



Boardwalk at St. Jones Reserve



- Community Education offers free public programs to generate meaningful experiences for all kinds of people interested in learning about, protecting and restoring our coast and Bayshore. They include boat and canoe trips, coastal heritage tours, workshops, seminars, citizen science projects, festivals and habitat hikes.
- School Programs offer site based and outreach environmental educational programs for grades K-16. The Reserve Curriculum provides students with an opportunity to understand ecosystem functions through the exploration of an estuary.
- Teacher Professional Development opportunities through various programs including Green Eggs & Sand, Estuaries 101, and Project WET (Water Education for Teachers).
- The Thank You Delaware Bay Campaign is an outreach campaign developed to showcase the Delaware Bay and to encourage actions and activities that will help protect the bay's health and resources. The Delaware Bay takes care of us. Let's return the favor.
<http://www.tydb.org>
- **Ted Harvey Conservation Area** – Over 2,700 acres, this conservation area is named after the founder of Delaware Wild Lands, a conservation organization which purchased the property in 1967. Logan Lane Tract is on the Delaware Birding Trail offering three principal areas for birders including the north impoundment, Bayshore, and south impoundment, which have limited access during the hunting season.
- **Kitts Hummock** – Like the Native Americans before them, European settlers used this rising ground or “hummock” on the shore of the Delaware Bay as a place for fishing and recreation. In 1738, Jehu Curtis received a patent for lands that he called “Kitts Hammock.” By the early 1800s, the Pleasanton family had established a tavern here for the entertainment of visitors. Around 1846, a hotel was built nearby. Known for a time as the Bay View Hotel, it was long the center of local activities. In the latter decades of the 19th century, a number of small cottages were erected here. Many were owned by residents of Dover who left the sweltering heat of summer behind for the cooling effects of the waters and bay breezes. Kitts Hummock continues to provide a serene refuge for residents and visitors alike. It is the perfect location to see horseshoe crabs, shore birds or just listen to the waves gently undulate. This peaceful Bay Beach provides shallow waters, un-crowded access, beautiful habitat and safe family recreation. Kitts Hummock Beach is a registered Horseshoe Crab Sanctuary and has public beach access, public parking and special events throughout the year. For more information, visit their website: www.kittshummockbeach.com.
- **Air Mobility Command Museum** – This museum is part of the National Museum of the United States Air Force's field museum system. The Air Mobility Command is a major command of the United States Air Force. Its mission is to deliver maximum war-fighting and humanitarian efforts for America through rapid and precise global air mobility. The museum is ADA accessible and guided tours available. It is kid-friendly with free flight simulators, a junior pilot's plane, school





Delaware's Bayshore Byway

CHAPTER 3 – INTRODUCING DELAWARE'S BAYSHORE INITIATIVE AND THE BYWAY'S DISCOVERY ZONES

tours and a research library. In addition to the exhibits and planes, public programs include special events. For more information, visit their website: <http://amcmuseum.org>

Byway Program Strategies and Recommendations

1. **Expand upon and improve trails:** Expand the trails connecting the John Dickinson Plantation, St. Jones Reserve and Ted Harvey Conservation Area. Kitts Hummock plans to expand its network of pedestrian, biking, and running trails.
2. **Planned improvements to the Ted Harvey Conservation Area** – Two observation platforms will be added to the North and South Impoundments with interpretative signs to enhance the visitor experience at this byway attraction.
3. **Develop Informational and Interpretive Materials:** Trail Guides, signs, maps and interpretation of this Discovery Zone themes and attractions can improve the quality of the traveler experience.
4. **St Jones Reserve visitor center exhibits:** Exhibit area contains a wealth of exhibits and should be updated to reflect the Byway.
5. **Improve rest facilities:** Ted Harvey Conservation Area and Kitts Hummock are lacking in rest facilities for visitors. Undertake a study to master plan outdoor opportunities as well as traveler amenities and services.
6. **Improve parking and traffic control at Kitts Hummock:** During the peak season, study solutions for handling people and cars that provide for adequate access while protecting the assets of this area.
7. **Kingston-upon-Hull House:** Develop a plan to stabilize and restore the Kingston-upon-Hull House and install interpretative signing.