



# Flint Woods Nature Preserve

Management Plan  
2010 - 2015

# **Flint Woods Nature Preserve**

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# **Section One: Introduction**

## **Overview/Purpose**

This Management Plan is intended to act as a guide to the management of the natural, cultural and recreational resources of the Flint Woods Nature Preserve for the five-year period between 2010 and 2015. It provides a general description of those resources, the history of the site prior to purchase by the Division of Parks and Recreation and its current uses and restrictions. The management recommendations set forth in this document have been designed based on site conditions and surrounding land uses at the time of writing. In all likelihood, these conditions may change through time due to natural processes (storm events, disease and harmful insect outbreaks, etc.) and human activities (development, infrastructure installation, etc.). The specific management guidelines set forth in this document were designed with all potential future contingencies taken into account. However, it is impossible to anticipate every future event that may impact the resources on this site. Due to unforeseen events, it may be necessary to alter or change some or all of the management guidelines set forth in this document. Therefore, this management plan should be viewed as a living document that can be modified to reflect on the ground changes at the site.

## **Division of Parks and Recreation Mission Statement**

Our mission is to provide Delaware's residents and visitors with safe and enjoyable recreational opportunities and open spaces, responsible stewardship of the lands and the cultural and natural resources that we have been entrusted to protect and manage and resource-based interpretive and educational services.

### **Principles of Operation:**

Recognizing that this mission cannot be successfully achieved without dedicated and professional employees and volunteers and the active support of the people we serve, we pledge to operate and abide by the following principles:

#### **A Commitment to the Customer:**

State parks and preserves are managed for Delaware's residents and visitors, and shall be both accessible and affordable to all segments of society. Since our operations are almost entirely supported by our customers, every effort shall be made to not only satisfy their needs and requests with respect and courtesy but also to ensure that the quality of the services offered remains high and the costs remain reasonable.

#### **A Commitment to Our Employees:**

By training our employees and volunteers in resource protection and customer service and by exposing them to new challenges, they will remain motivated and better able to serve the public, our customers. Because of their desire to maintain a high standard of public service, they shall be empowered to do so and their efforts and successes shall always be recognized.

#### **A Commitment to Future Generations:**

State parks and preserves are irreplaceable public assets and must be secured for future generations. We shall provide for their protection and preservation as well as their use, enjoyment and understanding through planning, strategic land acquisition, appropriate development, interpretive and educational programming and the management of grounds and facilities.

**A Commitment to Cooperation:**

We will always want to accomplish more than our resources will allow, therefore, we will continue to seek opportunities to form partnerships and alliances with other government agencies, non-profit organizations and the private sector. We will strive to lead by example in all aspects of natural and cultural resource protection and management; and whenever possible, we will offer technical and financial assistance so that others may share in our mission.

**Natural Areas Program Objectives**

The State of Delaware enacted Title 7 Delaware Code, Chapter 73: Natural Areas Preservation System on February 10, 1978. The legislation states “Because of the continuing growth of the population and development of the economy of the State, it is necessary and desirable that areas of unusual natural significance be set aside and preserved for the benefit of present and future generations before they have been destroyed, for once destroyed they cannot be wholly restored. Such areas are irreplaceable as laboratories for scientific research, as reservoirs of natural materials – not all of the uses of which are known, as habitats for plant and animal species and biotic communities whose diversity enriches the meaning and enjoyment of human life, as living museums where people may observe natural biotic and environmental systems of the earth and the interdependence of all forms of life, and as reminders of the vital dependence of the health of human communities upon the health of the natural communities of which it is an inseparable part.

The definition of a natural area is an area “of land or water, or both land and water, whether in public or private ownership, which either retains or has re-established its natural character (although it need not be undisturbed), or has biotic, geological, scenic or archaeological features of scientific or educational value” (Natural Areas Preservation System, 7 Del. Code C. 73). Natural character refers to the native plant and animal species and associations that occupied Delaware under the influence of Native North Americans at the time of European contact.

This legislation and subsequent regulations that were passed provide the State of Delaware, through the Department of Natural Resources and Environmental Control, the ability to dedicate public and private Nature Preserves, identify and maintain a state-wide Natural Areas Registry, and establish a Natural Areas Advisory Council to review and make recommendations to the Department Secretary. The legislation also established the number of Council members, how they are to be chosen, their term of membership and their responsibilities.

As defined in the legislation the purpose of the Natural Areas Program is to “establish and maintain a registry of natural areas of unusual significance” and “acquire and hold in trust for the benefit of the people and adequate system of nature preserves.” Dedication of a property only occurs with the voluntary participation of the land-owner.

Nature Preserves shall provide the following uses and purposes:

1. For scientific research in such fields as ecology, taxonomy, genetics, forestry, pharmacology, agriculture, soil science, geology, conservation and other subjects;
2. For teaching biology, natural history, ecology, geology, conservation, and other subjects;
3. As habitats for plant and animal species and communities and other natural objects;
4. As reservoirs of natural materials;
5. As places of natural interest and beauty;
6. As living illustrations of our natural heritage wherein one may observe and experience natural biotic and environmental systems of the earth and their processes;
7. To promote understanding and appreciation of the scientific, educational, esthetic, recreational and cultural values of such areas by the people of the State;
8. For preservation and protection of Nature Preserves against modification or encroachment resulting from occupation, development or other use which would destroy their natural or esthetic condition.

The legislation also granted the following additional powers and duties to the Department:

1. To formulate policies for the selection, acquisition, use, management and protection of the Nature Preserves;
2. To formulate policies for the selection of areas suitable for registration under this chapter;
3. To formulate policies for the dedication of areas as Nature Preserves;
4. To determine, supervise and control the management of Nature Preserves and to make publish and amend from time to time rules and regulations necessary or advisable for the use and protection of Nature Preserves;
5. To encourage and recommend the dedication of areas as Nature Preserves;
6. To make surveys and maintain registries and records of unique natural areas within the state;
7. To carry on interpretive programs and publish and disseminate information pertaining to nature preserves and other areas within the State, and
8. Promote and assist in the establishment, restoration and protection of, and advise in the management of, natural areas and other areas of educational or scientific value and



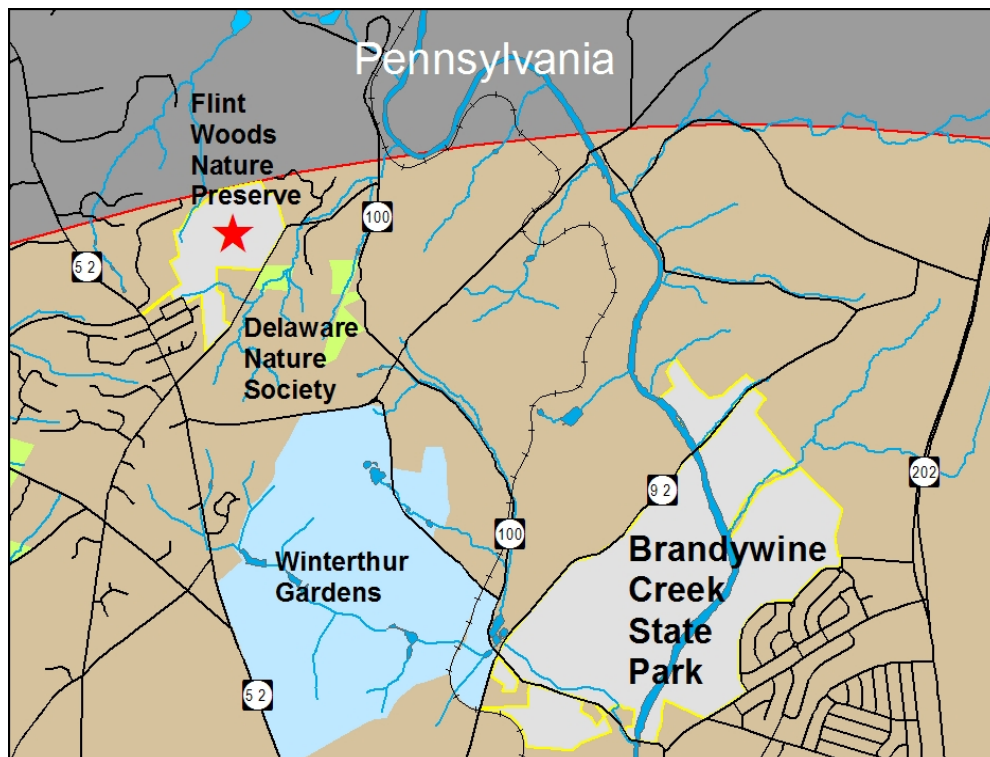
otherwise to foster and aid in the establishment, restoration and preservation of natural conditions within the State elsewhere than in the system.

### **Management Responsibility**

The Flint Woods Nature Preserve is part of the Northern Management Region which also includes Bellevue, Alapocas Run, Wilmington, White Clay Creek and Fox Point State Parks and the Auburn Heights Preserve. Overall management of this region is the responsibility of Bellevue State Park. The day to day management of the Flint Woods Nature Preserve, including facilities and grounds maintenance, enforcement and interpretive, educational and recreational programming is the responsibility of the Brandywine Creek State Park staff. Natural resource management at the preserve, including invasive species control and wildlife management is coordinated by the Environmental Stewardship Program (ESP) with Brandywine Creek State Park and region staff. As outlined in the previous section, it is the responsibility of the Office of Nature Preserves (ONP) to programmatically oversee the management of Nature Preserves. ONP maintains the rules and regulations for the protection and operation of Nature Preserves. These rules and regulations may be amended from time to time as necessary or advisable as new information dictates.

### **Location**

The Flint Woods Nature Preserve is located in Christiana Hundred and the Brandywine Creek watershed in northern New Castle County, Delaware. The site is roughly bounded by Kennett Pike (Rt. 52), private property along Selborne Dr. and the Hollingsworth Subdivision to the west, Twaddell Mill Rd. to the south and southeast, private property to the northeast and the Delaware-Pennsylvania border to the north. (Fig. 1) It is approximately 3.5 miles by road from the Nature Preserve to Brandywine Creek State Park.



## Site Description

The Flint Woods Nature Preserve contains 137.715 acres. The vast majority of the site, 133.06 acres (96.6%) is forested. The remaining 4.65 acres (0.4%) consists of an annually-mowed meadow bordering Twaddell Mill Road and an adjacent private parcel. The forested component of the site consists mostly of young deciduous forest less than 40 years of age. Just over 41 acres (30.6%) of the forest consists of trees older than 70 years. The elevation of the site ranges from a low point of 220 feet above sea level to a high point of 420 feet above sea level. There are a number of small tributary streams that flow off the preserve into larger tributaries that eventually make their way to Brandywine Creek. Two small tributary streams originate on the generally north-facing slopes of the Nature Preserve, converge at the Pennsylvania line and then flow in a generally north-northeasterly direction in to Chester County, Pennsylvania. This stream eventually turns to the east-southeast and flows to a confluence with the Brandywine Creek about 0.4 miles upstream from the state line. Four small tributary streams originate on the generally south-facing slopes of the Nature Preserve and join a larger tributary that flows roughly parallel to Twaddell Mill Road to its junction with RT 100. From near this junction the stream flows to the north-northeast approximately 1000 feet to a confluence with the Brandywine Creek.

Selborne – Flint Woods is the first entry in Lorraine Flemings 1978 book *Delaware's Outstanding Natural Areas and their Preservation*. The 165 acre area described in her book includes part of the current state owned Flint Woods Nature Preserve. The site is described as the “Largest acreage of superior old growth hardwoods in Delaware.” While the Flint Woods Nature Preserve site does contain two stands of mature woodland, it does not truly qualify as old growth. The property was dedicated as a Nature Preserve on the day it was transferred to the state as a condition of the deed.

## Facilities

Facilities at the Flint Woods Nature Preserve are limited. There is a park residence and small detached garage in the southwest corner of the Nature Preserve with driveway access to Twaddell Mill Road. The house, the Flint-Langley House, dates to the early 19<sup>th</sup>-century and is further discussed in the Cultural Resources section of this plan. The house is a three story, wood-frame, single-family dwelling with a screened porch. The house includes two bedrooms, one bathroom, kitchen, laundry room, two living areas and a finished attic.

## Access

Public access to the Nature Preserve is limited. There are three official access points to the Nature Preserve, a single dirt lane known as Carpenter Lane, a driveway leading to a park residence and a pedestrian trail that starts from the shoulder of Twaddell Mill Road. Carpenter Lane provides access for maintenance, enforcement and emergency vehicles and enters the Nature Preserve from SR-52 (Kennett Pike). There is a steel gate with a combination lock at the road end of the lane. There are no signs at this entrance indicating that the land beyond the gate is state owned property. The lane also allows pedestrian access to the Nature Preserve and the existing trail system.

The second access point is a driveway to a park residence off of Twaddell Mill Road. As with Carpenter Lane the driveway is not identified as state property and does not currently provide public access to the Nature Preserve though there is trail access near the park residence.

The third access point is a pedestrian trail that enters the Nature Preserve through the meadow fronting Twaddell Mill Road. There is no parking at this location. Twaddell Mill Road is very narrow with little to no shoulders and limited site distances in several areas near the Nature Preserve. A poorly defined trail originates at the road edge, traverses approximately 200 feet of open meadow before entering relatively young deciduous forest.

There are several unofficial access points to the Nature Preserve. There is an access point from an open field adjacent to the eastern end of Carpenter Lane that potentially allows pedestrian, equestrian and ATV access. Several social trails access the existing trail system from adjacent residential communities. Several of these trails originate from residential lots in the Hollingsworth development. These trails are exclusively pedestrian access trails.

## **Nature Preserve History**

### **Pre-Acquisition Uses/Owners**

The property that would become the Flint Woods Nature Preserve was part of 350 acres acquired by Robert and Lucille Flint between 1940 and 1970. These lands were purchased to protect the views from the family's home on an adjacent parcel and to provide recreational open space for the family to enjoy. As land prices skyrocketed in the late 1980s the Flints established a private foundation to protect their children and grandchildren from a staggering estate tax upon the event of their deaths. All of their land not previously sold or given away was placed into the foundation. Their five children, acting as the foundations directors, could give land away to a preservation organization, sell it for maximum value and use those funds for some other charitable purpose or a combination of the two.

### **Pre-Acquisition Issues**

There are no known pre-acquisition issues.

### **Management**

During the period that the land was owned by the Flints the area was managed primarily for recreational purposes. During the period between 1958 to 1994 forest acreage increased by more than 100%, from approximately 66 acres to 135 acres, as old fields were allowed to succeed to woodland. Old farm roads were maintained as trails.

### **Acquisition**

Following Robert Flint's death in 1994 Lucille duPont Flint sold the 137+ acre site to the State at a bargain price on 29 December 1994 for \$1,350,000.00. At the time of the sale the property was appraised at \$6,128,000.00. Mrs. Flint also donated \$500,000.00 to the state to establish an endowment to be used for stewardship of the property and educational and interpretive programming.

## Development

Development at the Nature Preserve has been limited to renovations to the interior and exterior of the Flint-Langley House, installation of a gate at the western end of Carpenter's Lane where it meets Kennett Pike and construction of hiking trails including a pedestrian bridge over a small stream.

## Restrictions

### Articles of Dedication

The function of a Nature Preserve is to protect important features of the natural heritage of Delaware and guarantee their existence for future generations. The Department of Natural Resources and Environmental Control of the State of Delaware, and specifically the Office of Nature Preserves within said Department, agrees to administer and to monitor the following restrictions to aid in the protection and maintenance of the Nature Preserve.

The Department reserves the right to impose regulations upon the use of the Nature Preserve by the general public provided that such regulations are reasonably related to: (a) ensuring the safety and health of persons utilizing the Nature Preserve, (b) ensuring that the natural resources located on the Nature Preserve are not materially and adversely affected by use by the general public; or (c) ensuring that use of the Nature Preserve by the general public conforms with the requirements of law. In addition, any use by the general public is limited to those areas designed for public use such as designated nature trails.

Any activity on or use of the Nature Preserve inconsistent with the purpose of these Articles of Dedication is prohibited. Without limiting the generality of the foregoing, the following activities and uses are expressly prohibited:

1. Construction or placing of buildings or other permanent structures on, above or under the ground is prohibited, except for those structures associated with approved recreational, educational or scientific uses of the Nature Preserve.
2. There shall be no signs, billboards or advertising except those necessary for resource protection, safety, boundary identification, or interpretation.
3. Construction of utilities, roads or other public works structures is prohibited except for existing utility rights-of-way.
4. No soil, trash, waste or other material shall be placed or dumped on the property. This prohibition shall not apply to approved material associated with designated nature trails.
5. There shall be no excavation, dredging or removal of loam, peat, gravel, soil, rock, sand or other material nor any building of roads or other change in the general topography of the land, excepting archaeological digs or excavations authorized by the Department and Delaware Division of Historical and Cultural Affairs, excepting habitat enhancement activities and excepting activity related to public health and safety.

6. The removal or destruction of trees, shrubs, or other vegetation is prohibited except as may be necessary for control of diseases, pests and undesirable species; for safety purposes; for the proper management of species and natural communities of special concern; for the maintenance of designated nature trails or for the maintenance of existing utility rights-of-way.
7. Intentional introduction of non-native plant and animal species is prohibited. If the natural balance of the area is seriously upset, control measures may be employed that are compatible with the maintenance of other natural features.
8. Collecting of plant and animal material, fossils, minerals or artifacts shall be for scientific and nature study only and shall be subject to State regulations and permits.
9. Hunting and trapping may be permitted to control overpopulation of specific species. Deer hunting is permitted for the purposes of habitat management.
10. Prohibited uses shall not affect current passive recreational use of the Nature Preserve.
11. No other acts or uses will be allowed which adversely affect the plant and animal species or land and water areas of the Nature Preserve.
12. All exceptions and allowances are subject to the approval of the Office of Nature Preserves.
13. An exception to item 1 – 6 above is allowed for activities related to repair, replacement and maintenance of the current residence on the site known as #17 Twaddell Mill Road and its associated buildings.
14. An exception is allowed for the construction and maintenance of a small trailhead parking area (no more than 10 parking spaces) to be located adjacent to the current residence on-site.

It is understood and agreed that the imposition of these restrictions shall in no way void or replace any protective status under law which the land would have were it not a Nature Preserve, but shall be supplement thereto.

## Section Two: Condition and Management 1997 - 2009

### Environmental Description

#### Climate

Delaware's climate is temperate and humid. The annual mean temperature in Wilmington is 54° F (12° C). The mean low and high temperatures recorded in Wilmington are 31° F (-1° C) in January and 76° F (24° C) in July. The average annual precipitation is 42.8 inches. The average annual snowfall in Wilmington is 21 inches.

#### Geology

The Piedmont Province of Delaware is composed of a thick mass of deformed metamorphic and igneous rock estimated to be more than 500 million years old. The rock underlying the Flint Woods Nature Preserve is primarily gneiss and granitic rocks of the Mt. Cuba Wissahickon Formation, which were produced under high temperature and low pressure conditions during the Taconic orogeny between 470 and 420 million years ago. The rocks are primarily metamorphosed siltstones and sandstones formed in a deep sea environment along the margin of the ancient North American plate. Fleming's *Delaware's Outstanding Natural Areas and their Preservation*, identifies the rock underlying this area as predominantly biotite-almandine-feldspar-schist combined with lesser amounts of biotite-quartz-feldspar granofels. In areas of fractured rock, the Wissahickon formation provides a water source for domestic wells.

#### Soils

The soils in the Nature Preserve are of the Glenelg-Chester-Manor association. All three of these soil types are deep, well-drained upland soils derived from the underlying micaceous bedrock. Glenelg soils are generally fine-loamy. The soil column may contain up to 35% rock fragments ranging in size from small pebbles and channer (small flat rock fragments up to 6 inches in length) to stones. Soil depths are generally up to 6 or more feet. They occur in both flat areas and on slopes up to fifty-five percent. Like Glenelg, Chester soils are very deep, well-drained upland soils. The percentage of rock fragments is less, from 0 to 15 percent, but can range up to cobblestone size. Manor soils share many of the same characteristics of the other types, though they tend to be coarse rather than fine-loamy. All three of these soils will readily support human development, except on steep slopes.

### Flora and Fauna

#### Vegetative Communities

The Delaware Natural Heritage and Endangered Species Program Community Ecologist completed identification and mapping of vegetation communities in the Brandywine Creek watershed in 2008. The survey identified five vegetative communities within the Nature Preserve. The five communities that occur here are Mesic Piedmont Mixed Hardwood Forest, Northeastern Modified Successional Forest, Golden Saxifrage Forested Seep, Northeastern Old Field and Cultivated Lawn.

The majority of the forest at the Flint Woods Nature Preserve, approximately 118 acres, is comprised of the Northeastern Modified Successional Forest community. This forest type is characterized by a modified, often dense understory, containing a high density of non-native, invasive shrubs and vines. Common native tree species that occur in the canopy may include Tuliptree (*Liriodendron tulipifera*), Wild Black Cherry (*Prunus serotina*), Northern Red Oak (*Quercus rubra*), White Oak (*Quercus alba*) as well as the non-native invasive Black Locust (*Robinia pseudoacacia*). The sub-canopy often includes small individuals of the above species as well as Sassafras (*Sassafras albidum*), and the non-native Sweet Cherry (*Prunus avium*) and the non-native invasive Tree-of-Heaven (*Ailanthus altissima*). The understory usually contains a mix of woody native and invasive shrubs and vines, with invasive species dominating in some situations. Common native understory species include Spicebush (*Lindera benzoin*), Maple-leaf Viburnum (*Viburnum acerifolium*), Arrowwood (*Viburnum dentatum*), Blackhaw (*Viburnum prunifolium*), Grape (*Vitis* sp.), Greenbriers (*Smilax* sp.) and Poison Ivy (*Toxicodendron radicans*). Common invasive understory shrubs and vines include Burning Bush (*Euonymus alata*), Multiflora Rose (*Rosa multiflora*), Morrow's Honeysuckle (*Lonicera morrowii*), Privet (*Ligustrum* sp.), Japanese Barberry (*Berberis thunbergii*), Linden Arrow-wood (*Viburnum dilatatum*), Asiatic Bittersweet (*Celastrus orbiculatus*), Japanese Honeysuckle (*Lonicera japonica*) and Porcelainberry (*Ampelopsis brevipedunculata*). Like the understory, the herbaceous layer contains a mix of native and invasive plants. In some areas native herbs are suppressed by shade cast by dense growth of invasive shrubs and vines. While native species are diverse, a few invasive species dominate. These include Japanese Stilt Grass (*Microstegium vimineum*) and Garlic Mustard (*Alliaria petiolata*).

Two relatively small areas of Northern Piedmont Mesic Oak - Beech Forest occur within the larger matrix of Modified Forest at the Nature Preserve. The larger of the two areas covers approximately 11 acres within a larger patch of approximately 28 acres of forest that was intact in 1937. It is located along the northwestern edge of the Nature Preserve adjacent to the small stream that flows north into Pennsylvania. The second small patch of this forest type is located between Twaddell Mill Road and the park residence in the southwest corner of the Nature Preserve.

This forest community is the most common forest type in Delaware's Piedmont physiographic region. It is not dominated by a single species, but tends to be a heterogeneous mixture of several tree species. Common canopy species include Tuliptree (*Liriodendron tulipifera*), American Beech (*Fagus grandifolia*), Northern Red Oak (*Quercus rubra*), White Oak (*Quercus alba*), Black Oak (*Quercus velutina*) and Hickory (*Carya* sp.). Common sub-canopy species include smaller individuals of the above species along with Red Maple (*Acer rubrum*) and Black Gum (*Nyssa sylvatica*), American Hornbeam (*Carpinus caroliniana*), Sweet Birch (*Betula lenta*) and Flowering Dogwood (*Cornus florida*). The understory is usually dominated by native shrubs and vines with few non-native invasives present. When they are present, invasive species are patchily distributed. Native species commonly found in the understory layer include Spicebush (*Lindera benzoin*), Maple-leaf Viburnum (*Viburnum acerifolium*), Arrowwood (*Viburnum dentatum*), and Blackhaw (*Viburnum prunifolium*). The herb layer is usually diverse and may include Jack-in-the-Pulpit (*Arisaema triphyllum*), Enchanter's Nightshade (*Circaea lutetiana*), Christmas Fern (*Polystichum actrostichoides*), White Wood Aster (*Eurybia divaricata*), Solomon's Seal (*Polygonatum biflorum*), Bloodroot (*Sanguinaria Canadensis*), White Avens (*Geum canadense*), False Solomon's Seal (*Maianthemum racemosum*), Virginia Creeper (*Parthenocissus quinquefolia*), Wild Licorice (*Galium circaezans*), Rattlesnake Fern (*Botrychium virginianum*) and American hog peanut (*Amphicarpaea bracteata*).

The Golden Saxifrage Forested Seep is a relatively small plant community that occurs in seepage springs in the headwaters of Piedmont streams. There is a single occurrence of this community in the Nature Preserve. It is located at the head of one of the small tributary streams that flows north out of the Nature Preserve into Pennsylvania. This community is often located beneath a forest canopy of Northern Piedmont Mesic Oak - Beech Forest and is usually dominated by Golden Saxifrage (*Chrysosplenium americanum*). Other herbaceous species are also usually present and may include Skunk Cabbage (*Symplocarpus foetidus*), Spikerush (*Juncus effusus*), Rough Sedge (*Carex scabrata*), and prairie sedge (*Carex prasina*). This community is rare in the state with six or fewer known occurrences.

There are two non-forested vegetation communities on the Nature Preserve, Northeastern Old Field and Cultivated Lawn. Together these two communities cover approximately 5 acres. The Northeastern Old Field Community is the larger of the two covering approximately 3.75 acres, in two patches. The larger of the two is a 3.15 acre field that borders Twaddell Mill Road. The smaller 0.56 acre patch is located along the shared property line with land owned by Robert Flint. The Northeastern Old Field community is characterized by fields mowed once per year or less and is dominated by cool-season grasses. Common grasses found in this community include Red Fescue (*Festuca rubra*), Red Clover (*Trifolium pratense*), Sweet Vernal Grass (*Anthoxanthum odoratum*), Orchard Grass (*Dactylis glomerata*), Rough Bluegrass (*Poa trivialis*), Common Velvet Grass (*Holcus lanatus*), Meadow Timothy (*Phleum pratense*) and Love-Grass (*Eragrostis* sp.). A variety of forbes occurs in this community and may include Queen Anne's Lace (*Daucus carota*), goldenrods (*Solidago* sp.), milkweeds (*Asclepias* sp.) and others.

The Cultivated Lawn community is a grass dominated herbaceous community that is maintained through fairly constant mowing during the growing season. It is the ornamental lawn typically found in corporate and industrial centers, residential areas, parks and golf courses. Plant species associated with this community include Tall Fescue (*Festuca arundinaceum*), Kentucky Bluegrass (*Poa pratensis*) and White Clover (*Trifolium repens*). It is possible if mowing is reduced to once a year for this community to succeed to the Northeastern Old Field. Cultivated lawn is found in the Nature Preserve around the park residence and at scattered sites adjacent to a number of private residences in the Hollingsworth subdivision.

#### Rare Plant and Animal Occurrences

The Delaware Natural Heritage and Endangered Species Program identifies and ranks Delaware's plants, animals and natural communities using a standardized national ranking criteria used by all the states. Species are ranked on a scale from S5 (common, widespread and abundant throughout the state) to S1 (critically imperiled with 5 or fewer known locations or populations within the state). Species also are ranked on the 5 to 1 scale based on their relative abundance worldwide as well. This is the species G – rank. Some species which are considered rare in the state of Delaware may be relatively abundant across most of its range – resulting in a low S-rank but a high G-rank.

The Golden Saxifrage Forested Seep community is rare in Delaware with a state rank of S1. The global rank for this community is G3G5. This means that there is some uncertainty in the relative abundance of this community across its geographic range and there is an equal



probability, based on the current knowledge of the extent of this community, that it may be vulnerable to extinction or common and abundant.

There is a single rare plant species known to occur on the Nature Preserve. Swamp Wedgescale (*Sphenopholis pensylvanica*) is a 1.5 to 3 foot tall grass of swamps, wet woods and wet meadows. The species is ranked S1 and G4. Several plants occur in a seep on the south facing slope of the Nature Preserve.

The only rare animal species known to occur on the site is the Veery (*Catharus fuscescens*). The Veery is a small thrush that nests on the site in small numbers. The Veery is ranked S2B and G5. It is rare as a breeding species in the state (less than 20 known populations occur only on the Piedmont). Delaware's piedmont is located at the edge of this species breeding range which covers much of the northern US and southern Canada, including the northern Rocky Mountains. In the east their range extends southward along the spine of the Appalachians. This species is fairly common in spring and fall during migration to and from their wintering range in southern Brazil.

Three additional bird species, known to nest in suitable habitat nearby, may also visit the Nature Preserve occasionally. Nesting pairs of Black Vultures (S2B, G5), Broad-winged Hawks (S1B, G5) and Cerulean Warbler (S1B, G5) have all been recorded nesting within a relatively short distance from the Nature Preserve.

### Invasive Plant Species

Like much of the Piedmont region of the state, invasive plants are ubiquitous in the understory and herbaceous layers of the Nature Preserve's woodlands. Areas of old forest tend to have the lightest levels of infestation. Small old forest patches are often invaded from the edges inward from heavily infested young forest patches that surround them. Disturbance, either natural (blowdown) or human induced (dump sites, social trails) in old forest patches (even relatively large ones) can also provide opportunities for invasives to become established in the highest quality old forest patches.

Burning bush (*Euonymus alata*), Linden Viburnum (*Viburnum dilatatum*), Bush Honeysuckle (*Lonicera* sp.), Autumn Olive (*Elaeagnus umbellata*) and Multiflora Rose (*Rosa multiflora*) are all common and widespread shrubs in the Nature Preserve. Jetbead (*Rhodotypos scandens*) and Japanese Barberry (*Berberis thunbergii*) are also present. These shrubs often grow in dense patches, leaf out earlier than most native shrubs and suppress herbaceous plants, especially ephemeral wildflowers. Asiatic Bittersweet (*Celastris orbiculata*), and Japanese Honeysuckle (*Lonicera japonica*) are two invasive perennial vines that are widespread in the Nature Preserve. Bittersweet grows into the canopy and in addition to shading out the tree on which it grows, can, when it reaches large size, cause branches to break or whole trees to topple. Japanese honeysuckle may twine into the trees, but also spread along the ground shading out native herbaceous plants. Garlic Mustard (*Aliaria petiolata*), Japanese Stilt Grass (*Microstegium vimineum*) and Wineberry (*Rubus phoenicolasius*) are widespread in the herbaceous ground layer. Japanese stilt grass is most abundant along the old logging roads and trails. Large patches of Pachysandra (*Pachysandra terminalis*) occur in widely scattered patches.

### Stream/Water Quality

Water Quality information is available for the two main streams that collect the water that drains the Nature Preserve. According to the 2000 Watershed Assessment Report (DNREC. 2000) the stream that flows south off of the Nature Preserve is impaired and does not meet its primary use standards. According to the water quality coverages available on eMapPA ([www.emappa.dep.state.pa.us/emappa/viewer.htm](http://www.emappa.dep.state.pa.us/emappa/viewer.htm)) the stream that flows from the Nature Preserve to the north into Pennsylvania does meet its primary use standards. There currently are no water monitoring sites on any of the streams within the Nature Preserve.

## Riparian Resources

The streams that flow off of the Nature Preserve are typical of headwater piedmont streams. They usually flow from groundwater seeps and are often fed by seeps along the stream course. Where the topography is steep they tend to be deeply eroded. This is most apparent in the small stream that flows along the boundary with Robert Flint's property. This stream has a deeply, cut eroded channel from very near its start to the point where it flows off the Nature Preserve. With the exception of seepage wetlands, including the high quality community described above, the riparian resources present on the Nature Preserve are somewhat limited.

## Environmental Liabilities

In her 1978 book Lorraine Fleming mentions a remnant domestic dump partially obscured by vegetation. However, the book does not mention an exact location or any further description of the site. If it is similar to other domestic dump sites on State Park lands it contains a mix of domestic refuse (metal, glass and ceramic containers) and discarded construction materials. Without further investigation the exact nature of this potential liability can only be speculated.

## Adjacent Land Uses

The land surrounding the Nature Preserve in Delaware and Pennsylvania is a mix of residential development (of varying densities) and undeveloped open space consisting of fragmented forest blocks, old fields and hayfields.

## Cultural Resources

### Historical Perspective and Site History

The area that would one day become Christiana Hundred and Centreville, was populated by the Lenni Lenape when Europeans first settled in the region in the mid to late 17<sup>th</sup> century. No survey work has been conducted at the Nature Preserve to determine whether the site contains archaeological evidence of temporary and/or permanent Native American occupation. However, based on archaeological evidence from other sites in Delaware, and the Nature Preserve's distance from the Brandywine Creek, it is unlikely that evidence of a permanent Native American occupation site will be discovered on the Nature Preserve. It is possible that a permanent spring located on the Nature Preserve could have supported a possible seasonal or temporary occupation site.

The house that currently stands on the Nature Preserve dates back to at least the second decade of the nineteenth century based on the 1820 census and tax assessments from 1816-1817. At that time the house and 34 acres were owned by William Langley. Between that time and 1994 when

the land was acquired by the State of Delaware the house and associated lot passed through fourteen additional owners. The final private owner of the property had acquired additional surrounding acreage and in addition to the house and 34 acres, sold to the state an additional 103 acres in 1994.

### Historical Land Use

The site was probably virgin forest when Europeans arrived in what would become New Castle County in the late 17<sup>th</sup> century with little or no forest clearing by Native Americans. Clearing of forest for timber, firewood and creation of fields and pastures for agricultural purposes probably resulted in much of the virgin forest being removed by at least the middle to late 18<sup>th</sup> century. Farming operations in the region were fairly small scale with the average farm occupying around 125 acres. Up to the mid-1800s the dominant cash crop in New Castle County was wheat. Wheat production shifted west in the mid-19<sup>th</sup> century as transportation networks developed that allowed easy transport of this fairly non-perishable commodity to the markets in the northeast. As a result agricultural production in New Castle County shifted to more perishable fruits and vegetables. In the early 20<sup>th</sup> century agricultural production shifted again to dairy. This period lasted from the roughly 1910 to 1940. After 1940 agriculture declined precipitously in northern New Castle County and abandoned fields began to revert to forest.

Unlike other areas of the county, where large areas of agricultural land have been converted to urban and suburban development in the past 4 decades, large portions of the Brandywine Valley were purchased by wealthy landowners to create country estates.

### Archaeological Structures/Sites

With the exception of a single foundation ruin (see below) there are no known archaeological structures or sites within the preserve.

### Historical Structures

The only significant historical structure on the preserve is an early 19<sup>th</sup> century home, The Flint-Langley House, with a dilapidated springhouse and rubble stone foundation ruins of a barn or stable. The house consists of the original one-and-a-half story, gable-roofed, log and frame dwelling dating to the early 19<sup>th</sup> century and two later additions (one possibly dating to the middle to late 19<sup>th</sup> century and the second to the 20<sup>th</sup> century). The building is historically significant for its log construction and the fact that this type of structure is rare in this part of New Castle County. Records, referenced in a National Register of Historic Places application, indicate that the site has been occupied at least since 1820 and probably prior to this date. This house is currently occupied by a parks employee.

### Collections

There are no known artifact collections attributed to the Nature Preserve.

### **Administration and Management Activities**

## Facilities Management

### Maintenance

Current facilities management activities include periodic maintenance of park residence, garage and driveway as well as the gate at the entrance to Carpenter Lane at Kennett Pike.

### Enforcement

Enforcement at this site is the responsibility of the Park Ranger at Brandywine Creek State Park. At present enforcement is sporadic, usually in response to reports of improper activity noticed by park staff during visits to the Nature Preserve or rarely from neighbors.

### Encroachments – Unauthorized Access Points

Encroachment upon the boundaries by neighbors is common at the Nature Preserve. The two most egregious examples occur along the boundary between the Nature Preserve and the Hollingsworth subdivision. These encroachments include removal of understory vegetation and dumping of yard waste.

There are at least four unauthorized social trails connecting the existing Nature Preserve trail system with neighboring developments. In addition to these encroachments, crudely built structures are occasionally found on the Nature Preserve. These are most likely “forts” built by youths from neighboring developments. They are dismantled by enforcement staff when they are discovered.

### Dumping

Dumping of yard waste along the edges of the Nature Preserve adjacent to residences and roadways is common.

### Unauthorized Use

There is occasional Mountain Bike, Equestrian and ATV use at the Nature Preserve based on evidence of tracks found throughout Flint Woods. However, based on the limited enforcement presence and multiple quick escape routes to Pennsylvania and bordering open fields make tracking/detection very difficult. Unleashed dogs and visitors failing to clean up after their pets is also a problem at the Nature Preserve.

## Natural Resource Management

### Meadow Management

The meadow along Twaddell Mill Road has traditionally been managed with an annual mowing in the spring of the year to maintain grasses and forbs and suppress woody vegetation.

### Invasive Species Control

Environmental Stewardship Program staff has been working to control invasive species at the Flint Woods Nature Preserve since 2002. The primary target for invasive species control between 2002 and 2006 was mature Oriental Bittersweet (*Celastrus orbiculatus*). Stems of mature vines are cut and treated with herbicide. More than 75% of the mature vines in the Nature Preserve have been treated.

Starting in 2005 and continuing through 2007 and again in 2009 Environmental Stewardship Program staff also used basal bark and cut-stem treatments to remove mature invasive shrubs including Winged Euonymus (*Euonymus allata*) and other understory species.

### White-tail Deer Management

White-tail deer management at the Flint Woods Nature Preserve, between 1996 and 2005 consisted of annual Adult - youth mentor hunts. Hunts were usually held several times during each fall hunting season. Young hunters with an adult mentor were assigned a stand through a special lottery administered by the Division of Fish and Wildlife. In 2006 Division of Parks and Recreation Staff conducted a single day youth hunt that included additional adult hunters.

With the 2007-2008 season a new deer management program was initiated at Flint Woods. Under the direction of a hunt coordinator, a full-time staff person from the northern park region, deer hunting was conducted over several weekends of the regular Delaware deer hunting seasons. In recent years a pool of 10 – 11 hunters have been used to fill stands during hunts. All participating hunters are issued a laminated identification card. Hunting takes place from selectively placed portable deer stands. Neighbors of the Nature Preserve are contacted throughout the season to keep them informed of hunting activities on the Nature Preserve. Since the inception of the hunt coordinator concept and increased contact with neighbors, conflicts surrounding the hunting program at Flint Woods have declined significantly. Prior to all hunts signs are placed at all entrances to alert the public that active hunting is taking place. On average hunts occur on 7 days during the designated Delaware deer hunting seasons. The hunt is currently limited to five stands due to the New Castle County minimum 200 yard buffer around occupied dwellings. The harvest is primarily limited to mature does only. One or two quality bucks or injured bucks are occasionally harvested.

Five deer were harvested in the first six years of these hunts. A total of 9 deer were harvested during the 2004 – 2005 hunting season. During the 2005 -2006 season three deer were harvested. Three deer were harvested during the 2006 – 2007 season. Five deer were harvested during the 2007 – 2008 season. Seven deer were harvested during the 2008-2009 season. With several days of gun hunting still remaining in the 2009-2010 season eleven deer had been harvested. The Flint family and Delaware Nature Society (DNS) conduct an active deer management program on adjacent Flint and DNS properties. This program regularly harvests around 25 deer per season.

### **Interpretation and Programming**

#### Public Visitation

Public visitation to the site is relatively light and sporadic. Most visitors to the site (other than those participating in interpretive and educational programs) are local residents. Due to the lack of identifying signs and parking facilities visitation is limited to individuals that can walk to the

site. Pedestrian access to the Twaddell Mill Road access site is somewhat dangerous due to the lack of shoulders and limited sight distances.

### Public Programming/Interpretation

Programs at Flint Woods Nature Preserve are managed by the Brandywine Creek State Park interpretive staff. During FY08 thirty interpretive programs were offered at the Flint Woods Nature Preserve. Program topics included trail maintenance, *Leave No Trace*, Salamanders, Mysteries of the Night, History of Flint Woods, Animal Communication, Birding, Coyotes and others. Program participants come from nearby residential communities in both Delaware and Pennsylvania. Of the thirty programs offered ten were unattended. The twenty programs that were attended attracted 527 participants. Seven programs were attended by less than 10 participants (average attendance 4), one program was attended by 18 participants, nine programs were attended by 20 to 39 participants (average attendance 31) and 3 programs were attended by 40 or more participants (average attendance 66). By far the most popular program offered was "A History of Flint Woods." This program was offered nine times during FY08. A total of 423 participants attended these programs. The lowest single attendance was 21 participants. The single highest attendance was 80 participants.

### Day Camps

Day camp activities have been conducted at Flint Woods. In FY08 the Exploration Adventure Sports and Wilderness Survival camps conducted activities at Flint Woods Nature Preserve. These camps were attended by 30 participants.

### Environmental Education

One environmental education program is currently offered at the Nature Preserve and a second is under development. In FY08 a Wilderness Survival Program was begun for school and scout groups. Two scout groups and one school group participated in this program with a total attendance of 42 scouts and 8 students participating. The second program, focused on long-term monitoring of forest health and salamander populations at the Nature Preserve is in the final stages of development. (see Research in section 3)

## **Recreational Resources**

### Trails

There are currently 2.39 miles of hiking trails on the Nature Preserve. These trails are a combination of single track trail installed by the Division following acquisition and old dirt roads that date to the sites earlier agricultural use.

The trails consist of an old farm road extending from Kennett Pike along Carpenter Lane in a generally southwest to northeast direction along the divide that separates the drainages of the creeks that flow out of the Nature Preserve, two short loops and a number of connector trails. The smaller of the two loops is 0.44 miles in length and is located at the end of the 0.7 mile long farm road that originates at Kennett Pike. There is a 0.35 mile connector trail that originates at the park residence off Twaddell Mill Road and terminates on the trail described above, approximately 0.25 miles west of Kennett Pike. As of early October 2008 the junction of these

two trails has been allowed to be overgrown to the point that the connector can no longer be easily located.

A larger 0.76 mile long loop trail is located on the slope between the farm road and Twaddell Mill Road. Two short 0.07 mile connector trails connect this loop to the farm road to the north and to Twaddell Mill Road to the south.

Most of the single track trail on the Nature Preserve does not meet the sustainable trail standards currently in use in Delaware State Parks. The majority are fall line trails prone to erosion from runoff.

### Waterways

While there are several streams that originate on and flow off of the Nature Preserve, none of them are large enough to support any kind of water-based recreational activities.

## **Section Three: Management and Administration 2010 - 2015**

### **Preserve Dedication Compliance/Monitoring**

The Office of Nature Preserves (ONP) is ultimately responsible for ensuring compliance with the restrictions and permitted uses enumerated in the Articles of Dedication. The ONP makes a formal field visit to monitor the Nature Preserve at least once each year. The ONP relies on the cooperation of Park staff to ensure compliance with the Articles of Dedication on a more regular basis. To this end all Park staff at Brandywine Creek State Park should be familiar with the restrictions and permitted uses at the Nature Preserve to 1.) ensure that their activities are consistent with the Articles of Dedication and 2.) to recognize when improper activities have taken place so they can report such activities to the Park Superintendant and/or the Park Enforcement officer. The Superintendant and/or Park Enforcement Officer shall report any such activities to the Parks Operations Administrator and the ONP.

### **Administration**

#### **Budget/Funding**

Funds from the original \$500,000 endowment are invested in the Delaware Community Foundation Trust Fund. The Division draws a portion of interest annually. It currently generates approximately \$25,000 per year which is provided to Brandywine Creek as part of its normal operating budget. That money is used for supplies, contractual services and seasonal salaries. The money is allocated as needed for infrastructure support. Funding is also available from the housing rental fund for maintenance of the residence at 17 Twadell Mill Rd.

#### **Personnel/Staffing Plan**

No staff is directly assigned to the Nature Preserve. Staffing will be provided from Brandywine Creek State Park and the Northern region as needed. Some enforcement coverage will be provided by enforcement staff living at the residence. A seasonal naturalist, responsible for the current forest health research project and the interpretive and environmental education programming works from Brandywine Creek State Park.

#### **Design Standards**

All new development and construction will adhere to Division approved design standards.

#### **Future Expansion**

There are currently no plans for expansion of this Nature Preserve in the foreseeable future.



## Natural Resource Management

### Forest Management/Timbering

Active forest management through selective timbering could be utilized to improve the overall quality of the young even-aged stands of tulip poplar on the site. However, for such an effort to be effective intensive removal of existing invasive understory shrubs and herbaceous plants, and control of re-growth from the existing seed bank would be required. Staff and other resources are currently not available to make this a feasible option. Existing, relatively high deer densities across the Delaware Piedmont would make establishment of desirable native hardwood trees and understory shrubs and herbaceous vegetation difficult. The Division does not see this as an option within the time frame covered by this management plan.

### Natural Heritage Inventory Sites

A comprehensive heritage survey has never been conducted at Flint Woods Preserve. However, during the summer of 2007, as part of a larger project to map the vegetation communities of the Brandywine Creek watershed, several 50mx20m plots were surveyed within the Nature Preserve. A report is currently in production.

### Invasive Plants

Invasive plant control will continue at the Nature Preserve. Efforts will include continued monitoring of Asiatic Bittersweet vines, control of woody shrubs including Multiflora Rose, Privet, invasive Viburnum, Bush Honeysuckle, Winged Euonymus and Jetbead, control of Japanese Stilt Grass and monitoring for Garlic Mustard by ESP staff.

### Pesticide/Chemical Use

Selective, targeted use of herbicides, primarily triclopyr and glyphosate, is an important component of the Division's invasive plant control program. Application techniques most commonly used include cut stump treatment, basal bark treatment, hack and squirt and foliar spray. Chemical application is conducted in a manner that reduces impacts to desirable native vegetation and limits the amount of chemical applied to the landscape. Herbicide application has been and will continue to be utilized to control invasive plants.

### Reforestation

Reforestation is recommended in the annually mowed meadow fronting Twaddell Mill Road. However, since this area is being considered as the site of a small parking lot, reforestation efforts should not begin until the final location and design of the parking lot is known. Until this information is available, the meadow should continue to be maintained by an annual spring mow.

When it is determined that reforestation efforts can begin, it is recommend that one or a combination of the following reforestation techniques be utilized. Hand sowing of acorns and nuts collected from beneath oak, hickory and other mast producing trees on the Nature Preserve or from nearby forests in the autumn would be the preferred method. A more costly alternative would be to purchase and plant small caliber trees of the desired species. This method is not

only more costly, but also reduces the likelihood that the trees will be of local genetic stock. Prior to any reforestation, control of invasive woody vegetation already present in the meadow (but suppressed by annual mowing) will be required. All mowing should cease following initiation of reforestation efforts. Control of all invasive species and undesirable native trees and shrubs will be needed for several years following initial seed sowing or tree planting until desirable species are well established.

## Wildlife Management

Over the next five years the Division will continue its deer management program under the direction of a northern region staff member. A maximum of 15 hunters will be chosen annually from the pool of public hunters maintained by the Environmental Stewardship Program. All hunters participating in the hunt must provide proof of proficiency with one or all of the following; shotgun, muzzleloader or bow. A minimum of five stands will be placed in the Nature Preserve for each hunt. The number of active hunting days will continue to be around 7 per year.

Harvest of mature does will continue to be the primary goal of the program. The limited harvest of a few quality bucks each season will continue. Participating hunters will be required to harvest a mature doe in order to qualify to harvest a quality buck. The number of bucks to be harvested each season will be determined by the hunt program leader. The target harvest goal will be at least 10 deer per season. A target annual buck harvest of one quality buck per four mature does will be strived for each season.

Several issues that have hampered this program over the years will seek to be addressed during the next five years. The Division will petition New Castle County to reduce the current buffer of 200 yards around occupied dwellings to 100 yards for managed hunts on State-owned lands. The 200 yard buffer severely limits the proportion of the Nature Preserve that can be legally hunted. Staff will investigate potential additional parking locations to facilitate easier access by hunters. Following each hunting season the hunt leader, Brandywine Creek State Park staff, ESP staff and the ONP will meet to review and evaluate the hunt and suggest any changes that need to be implemented prior to the next season.

## Objectives 2010 – 2015:

- Invasive Species control program shall continue with emphasis on Asiatic Bittersweet, understory shrubs, Garlic Mustard and Japanese Stilt Grass.
- Continue deer management program with maximum of 15 hunters chosen from pool of public hunters maintained by Environmental Stewardship Program.
- Petition New Castle County to reduce the current buffer of 200 yards around occupied dwellings to 100 yards for managed hunts on State-owned lands.
- Harvest of at least 10 deer per season. Harvest goal shall not exceed one quality buck per 4 mature does.

## Research

There is one ongoing research project currently underway in the Nature Preserve being conducted by Brandywine Creek State Park staff. It is a long-term forest health study focusing on salamander populations. The study consists of 30 arrays of coverboards that are monitored on

a weekly basis in spring and fall for presence of salamanders. Data collected includes date, time, temperature, wind speed, amount of precipitation within 24 hours and within 7 days of date, soil temperature, soil pH, soil moisture, all organisms encountered under boards as well as salamander total length and snout to vent length measured in millimeters. Eventually the project will also include an environmental education component.

There have been no recent requests by outside investigators to conduct research on the site. However, the Division receives several dozen requests to conduct research on park property each year. It is possible that there will be future requests to conduct research at the Nature Preserve. Any such requests will undergo the Division's review process and approved or rejected on a case by case basis. All approved projects will be coordinated by staff from the ESP, Office of Nature Preserves and Brandywine Creek State Park.

## **Visitor Management (Visitor Services)**

### Visitor Profile

With no designated parking facilities visitors to the Nature Preserve are primarily walking in from Centerville, via Carpenter Lane and surrounding residential developments and homes. Unless a public parking lot is constructed and regularly open to the public the Nature Preserve user base is unlikely to change in the near future. Visitation from outside of the immediate area is associated with nature center run interpretive programming. There are no plans to market these programs beyond the current audience.

### Target Clientele

Programs will continue to be developed and targeted for three primary audiences, school groups, local families and the Brandywine Creek Day Camp program. Most Flint Woods program attendees are from North Wilmington, Hockessin, Centerville, Delaware and Kennett Square and Chadds Ford, Pennsylvania.

### Benefits to Community and Economy

The Nature Preserve is primarily a resource for local residents and probably provides little or no direct benefit to the local economy. Benefits to local residents are mostly in recreational opportunities, nature study and wildlife viewing opportunities and physical exercise.

### Fees

With no parking facilities the only fees collected will be those associated with interpretive and environmental education programs.

### Hours of Operation

The Nature Preserve will be open to walk in visitation during normal park hours, 8 am to sunset.

## **Facilities Management**

### Parking

The Articles of Dedication allow construction and maintenance of a small trailhead parking area (no more than 10 parking spaces) to be located adjacent to the current residence on-site. The topography of the site along with its proximity to an occupied park residence and a candidate National Register complex are incompatible with a parking facility.

The western end of the open meadow along Twaddell Mill Road has been identified as a possible alternative site. We recommend a comprehensive site survey be completed to determine the suitability of the site for this use. If the site does prove suitable, only then should the process be initiated to amend the Articles of Dedication.

## Trails

The existing trail system consists primarily of old agricultural roads with additional trail segments that were designed with little regard to sustainability. The proposed trail realignment included in this plan calls for installation of a new 2-mile single-track contour trail and abandonment of existing unsustainable fall line trails and much of the double-track or wider farm road trail segments. Work needed to complete the proposed trail would include flagging a possible trail corridor followed by a natural resource survey to determine any possible resource conflicts. If any conflicts are identified, trail crew staff with assistance from resource management staff will reroute affected trail segments. Trail construction will proceed only after corridor is approved through consensus of resource managers and trail crew staff.

The proposed trail will be designed as single track suitable for both hiking and mountain biking. The trail shall be managed exclusively for hiking. However managed mountain bike use through nature center led programs may be admissible. Such programs would require completion of a new parking lot.

Trail construction in the piedmont is possible from spring through late fall. Trail construction of the entire 2-mile trail at Flint Woods would require this entire time period. Construction of this proposed trail shall be determined by the following conditions: 1.) completion of a new parking lot and 2.) existing trail priorities within the division.

## Signage

There are three signs at, or near the gate on Carpenter Lane near Kennett Pike. There is a "Do Not Block Gate" sign affixed to the gate. A few feet up the lane from the gate is an "All Dogs on Leash, 6' Max." sign affixed to a wood post. A short distance beyond this sign is a "Please Respect Private Property Stay on Marked Trails" sign affixed to a wood post. Farther down the lane, adjacent to neighboring lots with a history of dumping yard waste in the Nature Preserve is a "State Park Property Dumping Prohibited" sign affixed to a wood post. On a visit in December 2009 the post was "decorated" with corn stalks. The perimeter of the Nature Preserve is posted with a few irregularly placed Nature Preserve signs. These signs are relatively old and include a telephone number that is no longer in service.

New signs need to be produced and installed around the perimeter of the preserve, especially along the boundary with the Hollingsworth residential development, The Meadows residential development and along Twaddell Mill Road. A sign identifying the preserve including the Brandywine Creek State Park telephone number should be designed and installed at each of the

three entrances to the preserve; Carpenter Lane at Kennett Pike, the driveway to the residence at Twaddell Mill Road and at the trail entrance on Twaddell Mill Road. It may also be prudent to install an “Authorized Vehicles Only” sign at the driveway entrance at Twaddell Mill Road.

In the event that a parking lot is constructed a regulation state parks bulletin board should be installed. Construction of the proposed hiking trail should include trail markers and posts.

#### Trash Management

Trash management on the Nature Preserve will remain consistent with the system-wide Carry in – Carry Out policy.

#### Maintenance

Maintenance at the preserve will continue to be limited to regular trail maintenance along with periodic maintenance to resolve safety issues, annual mowing of the meadow along Twaddell Mill Road until the parking lot issue is resolved and a reforestation plan is completed, regular maintenance to the Carpenter Lane gate and regular maintenance to the park residence.

#### Structures

The existing historical (park) residence and garage will be maintained to standards for candidate national register structures. When funds are available installation of a new roof on the existing spring house adjacent to the garage is recommended. New trail construction will require the installation of a new pedestrian bridge.

#### **Objectives:**

- Identify and investigate potential options for a small parking lot.
- Amend Articles of Dedication to allow installation of a small parking lot somewhere in the Nature Preserve other than in the vicinity of the park residence
- Install “State Nature Preserve” signs around perimeter of Nature Preserve, especially along boundary with residential developments and frontage on Twaddell Mill Road.
- Annually monitor and maintain all Nature Preserve signage

#### **Enforcement**

##### Rules and Regulations

As with any State Park property the Division Rules and Regulations apply on all state nature preserves. The enforcement of the Division’s Rules and Regulations in this area should reflect the preserve’s designation and be dealt with in a strict and serious manner. Since enforcement presence at the preserve will always be limited, it is imperative that all Brandywine Creek State Park and region staff that are likely to work at the preserve should be familiar with Division Rules and Regulations and the restrictions set forth in the Articles of Dedication. All infractions should be reported to Brandywine Creek State Park enforcement staff and the Park Superintendant.

##### Park Watch

Establishing a Park Watch program at the preserve to assist the Brandywine Creek State Park enforcement and management staff would provide an added measure of security at the preserve. Over the next five years the enforcement staff at Brandywine Creek State Park will evaluate the possibility of establishing a park watch program dedicated to the preserve.

### **Objectives 2010 – 2015:**

- Establish volunteer park watch at the Nature Preserve

## **Interpretation and Programming**

### Publications

Currently Brandywine Creek Nature Center provides a brochure on the History of Flint Woods. There is hiking information on the Delaware state parks website about Flint Woods. There are no plans to produce new publications related to the preserve.

### Interpretive Programming

Flint Woods Nature Preserve interpretive program planning is included in the Brandywine Creek Interpretive plan developed in 2007. The plan is scheduled to be updated in 2010. The current goal is to offer 15-20 onsite programs per year.

### Environmental Education

Currently in 2009, the environmental education program Forest Health Monitoring is offered. This program includes an introductory outreach program followed by onsite applied research and concludes at the nature center with data analysis. Plans are to research, create and provide relevant School and Group Programming.

### Support Facilities

With the exception of a new parking lot there are no plans to develop additional support facilities.

### **Objectives 2010 – 2015:**

- Offer 15 – 20 on-site programs annually

## **Partners**

### Local Government

New Castle County is the only local government entity operating in the area surrounding the Preserve. The county will be contacted sometime over the next five years to discuss the 200 yard buffer around occupied dwellings in reference to the hunting program at the preserve.

### Non-Governmental Organizations

The Delaware Nature Society (DNS) owns and manages the 37 acre Flint Woods Preserve on the south side of Twaddell Mill Road. Through the Ashland Nature Center they conduct interpretive and educational programs as well as monitor flora and fauna on site. Brandywine Creek State Park has an agreement with DNS for use of the DNS parking facilities when BCSP staff is conducting programs on the state's Flint Woods Nature Preserve.

### Neighbors

The preserve is bordered directly by twenty-three individual landowners. An additional seven landowners are located on the south side of Twaddell Mill Road adjacent to the preserve. Additional neighbors reside in the three surrounding residential developments of Hollingsworth, The Meadows and Laurel Ridge.

### Volunteers

Brandywine Creek State Park has an active volunteer group. They may be a source of manpower for trail maintenance and invasive species control projects. The Environmental Stewardship Program manages a volunteer invasive species control program in its southern region, called Weed Warriors, which could potentially be expanded to include volunteers at Flint Woods Nature Preserve.

### Friends

The Friends of Brandywine Creek State Park has a membership of approximately 30 individuals. They meet monthly. The Division staff liaisons with this group are Dwight Anttila and Andy Meanor. They have not been involved with issues related to the preserve. Their involvement in management of the preserve is unlikely in the near future.

### **Objectives 2010 – 2015:**

- Investigate feasibility of establishing a Weed Warriors program at Flint Woods Nature Preserve as a collaborative effort between the Environmental Stewardship Program and Brandywine Creek State Park

# **Section Four: Acknowledgements and Appendices**

## **Acknowledgements**



## Appendix 1

### Plants of Flint Woods Nature Preserve

The following list includes those plants that have been positively identified at the Flint Woods Nature Preserve. It includes those plants listed for this site in *Delaware's Outstanding Natural Areas and their Preservation* by Lorraine Fleming (1978) and those identified subsequently by the Delaware Natural Heritage and Endangered Species Program staff and staff of the Delaware Division of Parks and Recreation. It is not a complete list of the plants that occur within the preserve.

#### Ferns and Fern Allies

<i>Asplenium platyneuron</i>	Ebony Spleenwort
<i>Athyrium filix-femina</i>	Lady Fern
<i>Deparia acrostichoides</i>	Silvery Spleenwort
<i>Botrychium dissectum</i>	Cutleaf Grapefern
<i>Cystopteris tenuis</i>	Bladderfern
<i>Dennstaedtia punctilobula</i>	Eastern Hay-scented Fern
<i>Dryopteris marginalis</i>	Marginal Wood Fern
<i>Dryopteris carthusiana</i>	Spinulose Wood Fern
<i>Huperzia lucidula</i>	Shining Clubmoss
<i>Osmunda cinnamomea</i>	Cinnamon Fern
<i>Phegopteris hexagonopetala</i>	Broad Beech Fern
<i>Polystichium acrostichoides</i>	Christmas Fern
<i>Thelypteris novaboracensis</i>	New York Fern
<i>Woodsia obtusa</i>	Blunt-lobe Woodsia

#### Angiosperms

<i>Acer rubrum</i>	Red Maple
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Amelanchier arborea</i>	Downy Serviceberry
<i>Alnus serrulata</i>	Smooth Alder
<i>Berberis thunbergii</i>	Japanese Barberry
<i>Caprinus caroliniana</i>	Ironwood
<i>Carya glabra</i>	Pignut Hickory
<i>Carya tomentosa</i>	Mockernut Hickory
<i>Celastrus orbiculatus</i>	Asiatic Bittersweet
<i>Chrysosplenium americanum</i>	Golden Saxifrage
<i>Cornus florida</i>	Flowering Dogwood
<i>Elaeagnus umbellata</i>	Autumn Olive
<i>Euonymus alata</i>	Burning Bush
<i>Euonymus americana</i>	Strawberry Bush
<i>Fagus grandifolia</i>	American Beech
<i>Fraxinus pennsylvanica</i>	Green Ash
<i>Hammelis virginiana</i>	Witch Hazel
<i>Kalmia latifolia</i>	Mountain Laurel

<i>Ligustrum vulgare</i>	European Privet
<i>Lindera Benzoin</i>	Spicebush
<i>Liriodendron tulipifera</i>	Tuliptree
<i>Lonicera japonica</i>	Japanese Honeysuckle
<i>Microstegium vimineum</i>	Japanese Stilt Grass
<i>Nyssa sylvatica</i>	Black Gum
<i>Pachysandra terminalis</i>	Pachysandra
<i>Parthenocissus quinquefolia</i>	Virginia Creeper
<i>Prunus serotina</i>	Black Cherry
<i>Quercus alba</i>	White Oak
<i>Quercus prinus</i>	Chestnut Oak
<i>Quercus rubra</i>	Northern Red Oak
<i>Quercus stellata</i>	Post Oak
<i>Quercus velutina</i>	Black Oak
<i>Rhododendron nudiflorum</i>	Pink Azalea
<i>Rubus argutus</i>	Prickly Florida Blackberry
<i>Rhodotypos scandens</i>	Jetbead
<i>Rubus flaggelaris</i>	Northern Dewberry
<i>Rubus phoenicolasius</i>	Wineberry
<i>Sassafras albidum</i>	Sassafras
<i>Smilax glauca</i>	Glaucous-leaved Greenbrier
<i>Sphenopholis pennsylvanica</i>	Swamp Wedgescale
<i>Symplocarpus foetidus</i>	Skunk Cabbage
<i>Vaccinium angustifolium</i>	Late Lowbush Blueberry
<i>Vaccinium corymbosum</i>	Highbush Blueberry
<i>Vaccinium pallidum</i>	Early Lowbush Blueberry
<i>Viburnum acerifolium</i>	Maple-leaf Viburnum
<i>Viburnum dentatum</i>	Southern Arrowwood
<i>Viburnum dilataum</i>	Linden Viburnum
<i>Viburnum prunifolium</i>	Smooth Black-haw

## Appendix 2

### Birds of Flint Woods Nature Preserve

The following list of birds is based primarily on the observations of Anna Mae and Frank Buhl who lived at 55 Woodside Drive in the Hollingsworth Subdivision adjacent to the Flint Woods Nature Preserve and others.

<i>Branta Canadensis</i>	Canada Goose
<i>Aix sponsa</i>	Wood Duck
<i>Phasianus colchicus</i>	Ring-necked Pheasant
<i>Colinus virginianus</i>	Northern Bobwhite
<i>Plegadis falcinellis</i>	Glossy Ibis
<i>Accipiter striatus</i>	Sharp-shinned Hawk
<i>Accipiter cooperii</i>	Cooper's Hawk
<i>Buteo lineatus</i>	Red-shouldered Hawk
<i>Buteo jamaicensis</i>	Red-tailed Hawk
<i>Coragyps atratus</i>	Black Vulture
<i>Cathartes aura</i>	Turkey Vulture
<i>Falco sparverius</i>	American Kestrel
<i>Falco peregrinus</i>	Peregrine Falcon
<i>Scolopax minor</i>	American Woodcock
<i>Columba livia</i>	Rock Pigeon
<i>Zenaida macroura</i>	Mourning Dove
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo
<i>Otus asio</i>	Eastern Screech-Owl
<i>Bubo virginianus</i>	Great Horned Owl
<i>Chaetura pelagica</i>	Chimney Swift
<i>Archilocus colubris</i>	Ruby-throated Hummingbird
<i>Melanerpes carolinus</i>	Red-bellied Woodpecker
<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker
<i>Picoides pubescens</i>	Downy Woodpecker
<i>Picoides villosus</i>	Hairy Woodpecker
<i>Colaptes auratus</i>	Northern Flicker
<i>Dryocopus pileatus</i>	Pileated Woodpecker
<i>Contopus virens</i>	Eastern Wood Pewee
<i>Sayornis phoebe</i>	Eastern Phoebe
<i>Myiarchus crinitis</i>	Great Crested Flycatcher
<i>Tyrannus tyrannus</i>	Eastern Kingbird
<i>Vireo gilvus</i>	Warbling Vireo
<i>Vireo olivaceus</i>	Red-eyed Vireo
<i>Cyanocitta cristata</i>	Blue Jay
<i>Corvus brachyrhynchos</i>	American Crow
<i>Corvus ossifragus</i>	Fish Crow
<i>Progne subis</i>	Purple Martin
<i>Tachycineta bicolor</i>	Tree Swallow
<i>Hirundo rustica</i>	Barn Swallow
<i>Poecile carolinensis</i>	Carolina Chickadee

<i>Poecile atricapilla</i>	Black-capped Chickadee
<i>Baeolophus bicolor</i>	Tufted Titmouse
<i>Sitta Canadensis</i>	Red-breasted Nuthatch
<i>Sitta carolinensis</i>	White-breasted Nuthatch
<i>Certhia americana</i>	Brown Creeper
<i>Thryothorus ludovicianus</i>	Carolina Wren
<i>Troglodytes aedon</i>	House Wren
<i>Troglodytes troglodytes</i>	Winter Wren
<i>Regulus satrapa</i>	Golden-crowned Kinglet
<i>Regulus calendula</i>	Ruby-crowned Kinglet
<i>Sialia sialis</i>	Eastern Bluebird
<i>Catharus fuscescens</i>	Veery
<i>Catharus minimus</i>	Gray-cheeked Thrush
<i>Catharus ustulatus</i>	Swainson's Thrush
<i>Catharus guttatus</i>	Hermit Thrush
<i>Hylocichla mustelina</i>	Wood Thrush
<i>Turdus migratorius</i>	American Robin
<i>Dumetella carolinensis</i>	Gray Catbird
<i>Mimus polyglottos</i>	Northern Mockingbird
<i>Toxostoma rufum</i>	Brown Thrasher
<i>Sturnus vulgaris</i>	European Starling
<i>Bombycilla cedrorum</i>	Cedar Waxwing
<i>Vermivora pinus</i>	Blue-winged Warbler
<i>Dendroica petechia</i>	Yellow Warbler
<i>Dendroica tigrina</i>	Cape May Warbler
<i>Dendroica caerulescens</i>	Black-throated Blue Warbler
<i>Dendroica coronata</i>	Yellow-rumped Warbler
<i>Dendroica virens</i>	Black-throated Green Warbler
<i>Dendroica pinus</i>	Pine Warbler
<i>Dendroica discolor</i>	Prairie Warbler
<i>Mniotilta varia</i>	Black and White Warbler
<i>Setophaga ruticilla</i>	American Redstart
<i>Prothonotaria citrea</i>	Prothonotary Warbler
<i>Seiurus aurocapillus</i>	Ovenbird
<i>Seiurus noveboracensis</i>	Northern Waterthrush
<i>Seiurus motacilla</i>	Louisiana Waterthrush
<i>Oporornis formosus</i>	Kentucky Warbler
<i>Geothlypis trichas</i>	Common Yellowthroat
<i>Wilsonia canadensis</i>	Canada Warbler
<i>Icteria virens</i>	Yellow-breasted Chat
<i>Piranga olivacea</i>	Scarlet Tanager
<i>Pipilo erythrophthalmus</i>	Eastern Towhee
<i>Spizella arborea</i>	American Tree Sparrow
<i>Spizella passerine</i>	Chipping Sparrow
<i>Spizella pusilla</i>	Field Sparrow
<i>Passerella iliaca</i>	Fox Sparrow
<i>Melospiza melodia</i>	Song Sparrow
<i>Zonotrichia albicollis</i>	White-throated Sparrow
<i>Junco hyemalis</i>	Dark-eyed Junco

<i>Cardinalis cardinalis</i>	Northern Cardinal
<i>Pheucticus ludovicianus</i>	Rose-breasted Grosbeak
<i>Passerina cyanea</i>	Indigo Bunting
<i>Euphagus carolinus</i>	Rusty Blackbird
<i>Agelaius phoeniceus</i>	Red-winged Blackbird
<i>Quiscalus quiscula</i>	Common Grackle
<i>Molothrus ater</i>	Brown-headed Cowbird
<i>Icterus galbula</i>	Baltimore Oriole
<i>Carpodacus purpureus</i>	Purple finch
<i>Carpodacus mexicanus</i>	House finch
<i>Carduelis flammea</i>	Common redpoll
<i>Carduelis pinus</i>	Pine siskin
<i>Carduelis tristis</i>	American goldfinch
<i>Coccothraustes vespertinus</i>	Evening Grosbeak
<i>Passer domesticus</i>	House sparrow

## Appendix 3

### TITLE 7 Conservation

#### Natural Resources

### CHAPTER 73. NATURAL AREAS PRESERVATION SYSTEM

#### § 7301. Statement of policy.

(a) Because of the continuing growth of the population and the development of the economy of the State, it is necessary and desirable that areas of unusual natural significance be set aside and preserved for the benefit of present and future generations before they have been destroyed, for once destroyed they cannot be wholly restored. Such areas are irreplaceable as laboratories for scientific research, as reservoirs of natural materials -- not all of the uses of which are now known, as habitats for plant and animal species and biotic communities whose diversity enriches the meaning and enjoyment of human life, as living museums where people may observe natural biotic and environmental systems of the earth and the interdependence of all forms of life, and as reminders of the vital dependence of the health of the human community upon the health of the natural communities of which it is an inseparable part.

(b) It is essential to the people of the State that they retain the opportunities to maintain close contact with such living communities and environmental systems of the earth and to benefit from the scientific, educational, esthetic, recreational and cultural values they possess. It is therefore the public policy of the State that a registry of such areas be established and maintained by the Department of Natural Resources and Environmental Control, that such areas be acquired and preserved by the State, and that other agencies, organizations and individuals, both public and private, be encouraged to set aside such areas for the common benefit of the people of present and future generations. (61 Del. Laws, c. 212, § 2.)

#### § 7302. Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them except where the context clearly indicates a different meaning:

(1) "Articles of dedication" shall mean the writing by which any estate, interest or right in an area is formally dedicated as permitted by § 7306 of this title.

(2) "Council" shall mean the Delaware Natural Areas Advisory Council.

(3) "Dedicate" and "dedication" shall mean the transfer to the Department of Natural Resources and Environmental Control, for and on behalf of the State, of an estate, interest or right in an area in any manner permitted by § 7306 of this title.

(4) "Department" shall mean the Department of Natural Resources and Environmental Control.

(5) "Natural area" shall mean an area of land or water, or of both land and water, whether in public or private ownership, which either retains or has reestablished its natural character (although it need not be undisturbed), or has unusual flora or fauna, or has biotic, geological, scenic or archaeological features of scientific or educational value.

(6) "Nature preserve" shall mean a natural area, any estate, interest or right in which has been formally dedicated under this chapter.

(7) "Secretary" shall mean the Secretary of the Department of Natural Resources and Environmental Control.

(8) "System" shall mean the nature preserves held under this chapter. (61 Del. Laws, c. 212, § 2.)

### **§ 7303. Statement of purpose.**

In order to secure for the people of the State of present and future generations the benefits of an enduring resource of areas having 1 or more of the characteristics referred to in subdivision (5) of § 7302 of this title, the State, acting through the Department, shall acquire and hold in trust for the benefit of the people an adequate system of nature preserves for the following uses and purposes:

(1) For scientific research in such fields as ecology, taxonomy, genetics, forestry, pharmacology, agriculture, soil science, geology, conservation, archaeology and other subjects;

(2) For the teaching of biology, natural history, ecology, geology, conservation and other subjects;

(3) As habitats for plant and animal species and communities and other natural objects;

(4) As reservoirs of natural materials;

(5) As places of natural interest and beauty;

(6) As living illustrations of our natural heritage wherein one may observe and experience natural biotic and environmental systems of the earth and their processes;

(7) To promote understanding and appreciation of the scientific, educational, esthetic, recreational and cultural values of such areas by the people of the State;

(8) For the preservation and protection of nature preserves against modification or encroachment resulting from occupation, development or other use which would destroy their natural or esthetic conditions.

In order to give recognition to natural areas, the Department shall establish and maintain a registry of natural areas of unusual significance, but no area so registered shall be a nature preserve unless and until it shall have been dedicated as provided for in § 7306 of this title. (61 Del. Laws, c. 212, § 2.)

### **§ 7304. Designation of Office of Nature Preserves.**

There is hereby designated within the Department an Office of Nature Preserves, which shall administer for the Department this chapter. (61 Del. Laws, c. 212, § 2.)

### **§ 7305. Delaware Natural Areas Advisory Council.**

(a) There is hereby created a Delaware Natural Areas Advisory Council to advise the Secretary of the Department on the administration of nature preserves and the preservation of natural areas.

(b) The Council shall have 8 members. The Secretary of the Department of Natural Resources and Environmental Control shall be an ex officio member of the Council, with a voice in its deliberations, but without the power to vote. The other members, appointed by the Governor of the State, with the advice and consent of the Senate, shall be persons who have been active or have demonstrated an interest in preserving natural areas, and shall include members of public and private educational organizations, conservation organizations, industry leaders active in environmental matters, sport hunting organizations, and sport fishing organizations and shall not include more than 4 persons who belong to the same political party. Council members shall serve for a period of 4 years, except that members initially appointed to the Council shall serve as follows: Two members shall serve for 1 year; 2 members shall serve for 2 years; 2 members shall serve for 3 years; and, 2 persons shall serve for 4 years.

(c) The Department shall furnish clerical, technical, legal and other services required by the Council in the performance of its official duties.

(d) Members of the Council shall receive no compensation but may be reimbursed for their actual and necessary expenses incurred in the performance of their official duties. The Council shall hold at least 1 regular meeting in each quarter of each calendar year and shall keep a record of its proceedings, which shall be open to the public for inspection.

(e) The Council shall:

(1) Review and make recommendations on the Department's criteria for acquisition and dedication of nature preserves;

(2) Review and make recommendations regarding inventories and registries of natural areas and nature preserves;

(3) Review and make recommendations on departmental plans for the selection of particular natural areas for state acquisition;

(4) Advise the Secretary on policies, rules and regulations governing the management, protection and use of nature preserves;

(5) Recommend the extent and type of visitation and use to be permitted within each nature preserve;

(6) Advise and consult with the Secretary and departmental employees on preservation matters;

(7) Advise and consult regarding any change from dedicated status of a nature preserve;

(8) Within 10 days of receiving plans from the Department for the selection of particular natural areas for state acquisition, issue written notice to adjacent landowners that such areas are being considered for state acquisition. (61 Del. Laws, c. 212, § 2; 63 Del. Laws, c. 240, § 1.)

### **§ 7306. Dedication process.**

(a) The Department is authorized and empowered, for and on behalf of the State, to acquire nature preserves by gift, devise, purchase, exchange or any other method of acquiring real property or any estate, interest or right therein, provided that such acquisition shall not be made through the exercise of the power of eminent domain, and further provided that any interest owned by the State or by any subdivision thereof may be dedicated only by voluntary act of the agency having jurisdiction thereof. The Department may acquire the fee simple interest in an area or any 1 or more lesser estates, interests and rights therein, including (without limitation upon the generality of the foregoing by reason of specification) a leasehold estate, an easement either appurtenant or in gross and either granting the State specified rights of use or denying to the grantor specified rights of use or both, a license, a covenant, and other contractual rights. A nature preserve may be acquired voluntarily for such consideration as the Department deems advisable or without consideration.

(b) The Secretary of the Department, upon the advice and concurrence of the Council, shall accept natural areas by articles of dedication or gift. A nature preserve is established when articles of dedication have been filed by or at the direction of the owner of land, or a governmental agency having ownership or control thereof, in the office of the county recorder of the county in which the land is located.

(c) Articles of dedication shall be executed by the owner of the land in the same manner and with the same effect as a conveyance of an interest in land and shall be irrevocable except as provided in this section. The county recorder may not accept articles of dedication for recording unless they contain terms restricting the use of the land which adequately provide for its preservation and protection against modification or encroachment resulting from occupation, development or other use which would destroy its natural or esthetic conditions for 1 or more of the uses and purposes set forth in this section.



(d) Articles of dedication may contain provisions for the management, custody and transfer of land, provisions defining the rights of the owner or operating agency and the Department, and such other provisions as may be necessary or advisable to carry out the uses and purposes for which the land is dedicated. They may contain conditions under which the owner and the Department may agree to rescind the articles.

(e) The Department may make or accept amendments of any articles of dedication upon terms and conditions that will not destroy the natural or esthetic condition of a preserve. If the fee simple interest in the area is not held by the State, no amendment shall be made without the written consent of the owner. Each amendment shall be recorded in the same manner as the articles of dedication. (61 Del. Laws, c. 212, § 2.)

### **§ 7307. Additional powers and duties of Department.**

In furtherance of the purposes of this chapter and in implementation of the powers and duties elsewhere provided in this chapter, the Department shall have the following additional powers and duties:

(1) To formulate policies for the selection, acquisition, use, management and protection of nature preserves;

(2) To formulate policies for the selection of areas suitable for registration under this chapter;

(3) To formulate policies for the dedication of areas as nature preserves;

(4) To determine, supervise and control the management of nature preserves and to make, publish and amend from time to time rules and regulations necessary or advisable for the use and protection of nature preserves;

(5) To encourage and recommend the dedication of areas as nature preserves;

(6) To make surveys and maintain registries and records of unique natural areas within the State;

(7) To carry on interpretive programs and publish and disseminate information pertaining to nature preserves and other areas within the State; and

(8) To promote and assist in the establishment, restoration and protection of, and advise in the management of, natural areas and other areas of educational or scientific value and otherwise to foster and aid in the establishment, restoration and preservation of natural conditions within the State elsewhere than in the system. (61 Del. Laws, c. 212, § 2.)

### **§ 7308. Change in status from that of dedicated nature preserve.**

Nature preserves dedicated under § 7306 of this title are to be held in trust, for the uses and purposes set forth for the benefit of the people of the State of present and future generations. They shall be managed and protected in the manner approved by, and subject to, the rules and regulations established by the Department. They shall not be taken for any other use except another public use after a finding by the Department of the existence of an imperative and unavoidable public necessity for such other public use and with the approval of the Governor after consultation with the Advisory Council, and by act of the General Assembly not less than 6 months from the date of the Governor's approval. Except as may otherwise be provided by the articles of dedication, the Department may grant, upon such terms and conditions as it may determine, an estate, interest or right in, or dispose of, a nature preserve, but only after a finding by the Department of the existence of an imperative and unavoidable public necessity for such grant of disposition, and with the approval of the Governor after consultation with the Advisory Council, and by act of the General Assembly not less than 6 months from the date of the Governor's approval. (61 Del. Laws, c. 212, § 2.)

### **§ 7309. Public participation.**

Before the Department makes any finding of the existence of an imperative and unavoidable public necessity, or grants any estate, interest or right in a nature preserve or disposes of a nature preserve or of any estate, interest or right therein, as provided in § 7308 of this title, it shall give notice of such proposed action and an opportunity for any person to be heard at a public hearing in the county in which the preserve is located. The public hearing shall be published at least once in newspapers with a statewide circulation and general circulation in the county in which the nature preserve is located. The notice shall set forth the substance of the proposed action and describe, with or without legal description, the nature preserve affected, and shall specify a place and time not less than 30 days after such publication for a public hearing before the Department on such proposed action. All persons desiring to be heard shall have a reasonable opportunity to be heard prior to action by the Department on such proposal. (61 Del. Laws, c. 212, § 2.)

### **§ 7310. Enforcement.**

Enforcement of this chapter, including enforcement of the articles of dedication, shall be the responsibility of the Department. (61 Del. Laws, c. 212, § 2.)

### **§ 7311. Transfer of natural areas.**

All units, departments, agencies and instrumentalities of the State, including (without limitation upon the generality of the foregoing by reason of specification) counties, municipalities, schools, colleges and universities, are empowered and urged to dedicate as nature preserves suitable areas or portions of areas within their jurisdiction. (61 Del. Laws, c. 212, § 2.)

### **§ 7312. Additional protection unimpaired.**

Nothing contained in this chapter shall be construed as interfering with the purposes stated in the establishment of or pertaining to any state or local park, preserve, wildlife refuge or other area or the proper management and development thereof, except that any agency administering an area dedicated as a nature preserve under this chapter shall be responsible for preserving the character of the area in accordance with the articles of dedication and the applicable rules and regulations with respect thereto established by the Department from time to time. Neither the dedication of an area as a nature preserve nor any action taken by the Department under any of the provisions of this chapter shall void or replace any protective status under law which the area would have were it not a nature preserve, and the protective provisions of this chapter shall be supplemental thereto. (61 Del. Laws, c. 212, § 2.)

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## Appendix 4

### Delaware Division of Parks and Recreation Rules and Regulations

#### 1.0 Definitions

"Activity Charge" means any fee assessed to offset the costs associated with a particular program or activity.

"Actively Engaged in Surf Fishing" means when a person is taking all reasonable and necessary actions to maximize the probability of hooking and landing game fish by rod, reel and line attached to a baited rig, artificial lure or artificial fly. A person is also actively engaged in surf fishing when they are within 50 feet of their fishing equipment and are tending, casting and recasting their fishing equipment.

"Alcoholic Liquor", "Alcoholic Beverages" include the 4 varieties of liquor defined in 4 Del.C. §101 (alcohol, spirits, wine and beer) as well as every liquid or solid, patented or not, containing alcohol, spirits, wine or beer and capable of being consumed by a human being and any liquid or solid containing more than 1 of the 4 varieties defined in 4 Del.C. §101 is considered as belonging to that variety which usually has the higher percentage of alcohol.

"Authorized Agent" shall mean any employee of the Division or volunteer who has been delegated the authority to perform or cause to be performed, certain designated acts or functions within the scope of his duties.

"Commission" means the Commission created under 4 Del.C. Ch. 3, under the name of "The Delaware Alcoholic Beverage Control Commission".

"Department" shall mean the Department of Natural Resources and Environmental Control.

"Director" shall mean the Director of the Division of Parks and Recreation.

"Division" shall mean the Division of Parks and Recreation of the Department of Natural Resources and Environmental Control.

"Drug Paraphernalia" for the purposes of this chapter shall be defined in 16 Del.C. §4701.

"Highway" means the entire width between the boundary lines of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel.

"Hunter Registration Card" means a document issued by the Division which confers eligibility to participate in hunting programs on parks subject to special restriction.

"License" means any license, temporary instructor's permit or temporary license issued under the laws of the state pertaining to the licensing of persons to operate motor vehicles or vessels.

"License" shall also mean any document issued by the State for hunting or fishing.

"Motorized Vehicle" means every vehicle which is self-propelled including, but not limited to, mopeds, motorcycles, all terrain vehicles (ATV) and other two, three, or four-wheel vehicles.

"Operator" means any person who is in actual physical control of any motor vehicle, vessel, snowmobile or other means of conveyance.

"Owner" means a person who holds legal title to a vehicle, vessel or snowmobile.

"Permit" shall mean any written license issued by the Department permitting the performance of a specified act or acts.

"Resident" shall mean any person, persons or corporations owning a motor vehicle(s) duly registered by the Delaware Motor Vehicle Division of the Department of Public Safety and possessing a valid Delaware Motor Vehicle operator's license.

"Restaurant" means any establishment, provided with special space and accommodation, where, in consideration of payment, food is habitually furnished to a park visitor, and does not include the following types of establishments defined in 4 Del.C. §101, tavern or taproom.

"Restricted Use Parking Area" means those parking areas which may be set aside and reserved for use by persons patronizing certain facilities within the park. Such areas will be signed designating type of use: i.e., Restaurant Parking, Marina Parking, etc.

"Secretary" shall mean the Secretary of the Department of Natural Resources and Environmental Control.

"Snowmobile" means a motor vehicle designed to travel over ice or snow supported in whole or in part by skis, belts, or cleats, or an engine-driven vehicle of a type which uses sled-type runners or skis or an endless belt tread or any combination of these or other similar means of contact with the surface upon which it is operated, but does not include any farm tractor, highway or other construction equipment or any military or law enforcement vehicle.

"State" shall mean the State of Delaware.

"Surf Fishing Vehicle Permit" means the owner's copy of the written permit and a surf fishing vehicle plate with current year validation sticker affixed.

"Vending" means to: solicit or receive an order for; keep or expose for sale; deliver or value in any other way than purely gratuitously; keep with intent to sell; traffic in; or for any valuable consideration, promise or obtain, directly or indirectly, or under any pretext or by any means whatsoever, procure, or allow to be procured for any other person.

"Vendor" means a person who is in the act of vending as defined in these regulations.

"Vessel" includes every description of water craft, other than a seaplane on water, used or capable of being used as a means of transportation.

## **2.0 General Information**

### **2.1 Purpose**

It shall be the intent and purpose of the Division of Parks and Recreation to adopt only those minimal Rules and Regulations that are essential to the protection of Park resources and improvements thereto and to the safety, protection and general welfare of the visitors and personnel on properties under its jurisdiction.

### **2.2 Scope**

Unless otherwise provided by statute, the following shall constitute the Rules and Regulations of the Division of Parks and Recreation and shall govern the use of all applicable lands, recreation areas, historic sites, natural areas, nature preserves, rights as grantee to conservation easements, marinas, waters and facilities administered by the Division of Parks and Recreation. No Rule or Regulation herein shall preclude the enforcement of any statute under the Delaware Code.

### **2.3 Regulation Authority**

In accordance with Title 7 Del.C. §4702©, of the Delaware Code Annotated, the Administrative Procedures Act, all Rules and Regulations of the Department of Natural Resources and Environmental Control, Division of Parks and Recreation, shall have the effect of law and shall be

published in at least two newspapers, of general circulation in the territory to be affected, 30 days prior to the date the Rules and Regulation become effective, except in the case of an emergency, the Department or Division shall give such advance notice as deemed necessary or desirable.

## 2.4 Construction

2.4.1 No Rule or Regulation herein shall be interpreted or construed in such a manner as to prevent or delay authorized personnel of the Department or other state, county or municipal agencies from completing official duties or emergency services.

2.4.2 In special circumstances, events or emergencies, the Secretary or Director may, when it is deemed to be in the public interest, waive a specific Rule, Regulation or fee.

2.4.3 Failure to enforce a specific Rule or Regulation at a particular instance or instances shall not affect the validity of any other Rule or Regulation or affect the validity of such Rule or Regulation at any other time.

## 2.5 Park Policies

2.5.1 In order to promote the safety and welfare of park visitors and protect and manage property in the parks, the Director, Chief of Enforcement, Part Administrators and Superintendents shall have the authority to develop reasonable policies for State Parks that are not in conflict with 7 Del.C. Ch. 47 and these Rules and Regulations. These policies must be approved by the Director and posted in a conspicuous place in the park prior to their becoming effective. Copies of all policies shall also be maintained in the office of the Park Superintendent or Administrator of the park.

2.5.2 Violation of any park policy shall be grounds for eviction from the park and the denial, revocation or suspension of any permit issued or privilege granted by the Division.

2.5.3 The Division shall have the authority to enforce safety rules and/or policies developed in accordance with 2.5.1 of these Regulations or the protection of visitors and property.

## 2.6 Severability

If any section, subsection, paragraph, sentence, phrase or word of these Rules and Regulations are declared unconstitutional by a court of competent jurisdiction, the remainder of these Rules and Regulations shall remain unimpaired and shall continue in full force and effect, and proceedings there under shall not be affected.

## 2.7 Terms

2.7.1 Any term contained in these Rules and Regulations shall be construed as follows:

2.7.1.1 Any term in the singular shall include the plural and vice versa;

2.7.1.2 Any term in the masculine shall include the feminine and neuter;

2.7.1.3 The prohibition of an act shall tend to include an attempt to commit such act and the causing and/or the procuring directly or indirectly of such act;

2.7.1.4 No provision contained in these Rules and Regulations and no act performed by an officer or employee of the Department in the line of duty or in the scope of employment, or any act performed by a person, his agents, or employees in the performance or execution of the terms of an agreement with the Department shall be cause to be deemed unlawful; and

2.7.1.5 Any reference to the Director, Park Administrator, Superintendent or Marina Manager shall include their authorized agent.

- 2.8 Permit Violation Penalties. The violation of or the refusal to obey, any Law, these Rules and Regulations, Park Policies or the terms or conditions of any permit issued or privilege granted by the Division shall be grounds for the suspension or revocation of any permit issued or privilege granted by the Division, the removal or eviction from State Park lands and/or the denial of future entry to, or the denial of future permits or privileges within State Parks. Any and all applicable permit fees shall be forfeited to, and retained by, the Division. Any such suspension, revocation, removal, eviction or the denial of entry, permit or privilege shall not preclude the prosecution of any person for violation of any Law or these Rules and Regulations.

### **3.0 Rules and Regulations**

#### **3.1 Use Restriction/Trespassing**

3.1.1 The Director may limit or close specific public use areas, lands, waters and/or facilities and/or temporarily prohibit certain activities, including possession and/or consumption of alcoholic beverages within those areas when such action is deemed necessary for property management, protection of flora, faunas and their habitats or when it is in the best interest of the health, safety, and the general welfare of the visitors and/or general public.

3.1.2 Entering or remaining on lands under the jurisdiction of the Division when such lands are closed or entering or remaining within any building, structure of facility when such building, structure or facility is closed, shall be prohibited without a written permission from the Director, or designee.

3.1.3 No person shall enter upon or be present upon lands administered by the Division, except as authorized by statute, regulation or written permission from the Director.

3.1.4 No structure, facility, building or area administered by the Division will be used for any activity other than that for which it was intended.

3.1.4.1 No person(s) shall sleep, or attempt to sleep, or otherwise be present who are not engaged in the activity for which the 24 hour facility or area is designated.

3.1.5 No person shall use or attempt to use a State Park campground as a principle residence or as a base of operations for conducting any type of business either on a permanent or temporary basis.

3.1.6 Use of metal detectors on lands under the jurisdiction of the Division shall be prohibited except during normal park hours in the following areas:

3.1.6.1 Lums Pond State Park swimming area beach;

3.1.6.2 Ocean beaches east of the dune line.

3.1.7 No person shall collect, excavate, injure, destroy or appropriate prehistoric or historic artifacts or human skeletal remains from lands under the jurisdiction of the Division except with written permission from the Director. Violations under this paragraph may be charged under the provisions of 7 Del.C. §5306 or 7 Del.C. §5411.

3.1.7.1 Possession or use of tools or devices specifically designed for the excavation and removal of artifacts or human skeletal remains shall be deemed prima facie evidence of a violation of this Regulation and will be confiscated, held as evidence and be subject to forfeiture upon conviction.

3.1.8 In areas where activities such as rock climbing, rappelling or similar activities are permitted on lands administered by the Division a program fee/registration may be required.

3.1.9 The Division maintains exhibits at the Brandywine Zoo, various Nature Centers and temporary exhibits to provide recreational interpretation to the public. The following regulations apply in these areas:

3.1.9.1 No person shall bring pets or other animals into the Zoo.

3.1.9.2 No person shall throw any object(s) at animals or into the animal enclosures.

3.1.9.3 No person shall feed or attempt to feed any animal other than persons designated by the Zoo Director.

3.1.9.4 No person shall harass or attempt to harass any of the zoo animals by making unreasonable sounds, gestures, movements or use any object to touch the animals.

3.1.9.5 No person shall attempt to cross any safety barriers to prevent the animals from coming in contact with the general public.

3.1.9.6 No person shall put or attempt to put any body parts in the animal enclosures.

3.1.9.7 No person shall throw any objects(s) into any exhibit.

#### **4.0 Campground Policy**

4.1 The Division shall develop policies as necessary pursuant to Section 2.5.1 of these regulations to ensure the safe and efficient operation of its campgrounds. Copies of the Campground Policy shall be kept on file in the park offices, posted in the campgrounds and will be made available to campers at the time of registration.

#### **5.0 Vessel Regulations**

5.1 No person shall launch or recover vessels from waters within or bordering on State Park lands except at designated boat launch areas or docks.

5.2 No person shall operate a vessel except at slow-no-wake speed on any pond or lake, canal or within any marina under the jurisdiction of the Division.

5.2.1 No person shall launch or operate a vessel powered by an internal combustion engine on Trussum Pond and Raccoon Pond.

5.3 All laws, rules and regulations as established by the Department governing boating in the State of Delaware shall apply to all ponds, lakes, rivers, canals, waterways, and marinas owned, leased, licensed or under the jurisdiction of the Division.

5.4 No person shall operate or use vessels of any type, including inflatable rafts, sailboats, rowboats and canoes on waters administered by the Division without one (1) Coast Guard approved lifejacket on board for each person.

5.4.1 Operators and passengers of Division rental canoes and sailboats, or kayaks or other watercraft rented or provided by the Division must wear a Coast Guard approved life jacket in the manner prescribed at all times while aboard such craft.

5.5 No person shall operate any vessel within fifty (50) feet of or through any designated public swimming area within any inland pond under the Division's jurisdiction.

5.6 No person shall operate any vessel within one hundred (100) feet of a swimmer or any designated swimming or surfboarding area, any swimmer or surfer or the coastline of any ocean beach or inland bay unless designated for such purpose.

- 5.7 Vessels and/or trailers shall not be anchored, moored, beached, stored or left unattended between the hours of sunset and 8 a.m. on lands or waters administered by the Division without authorization of the Park Administrator, Superintendent or Marina Manager.
- 5.8 Swimming or diving from any vessel, including a seaplane is prohibited in waters under the jurisdiction of the Division.
- 5.9 A person renting a vessel from the Division shall comply with the manufacturer's rated capacity for such vessel.
- 5.10 Operation of a vessel in a negligent or reckless manner which could endanger life, limb or property is prohibited.
- 5.11 Vessels shall not be permitted to dock at Cape Henlopen State Park fishing pier, Holts Landing State Parks fishing pier or at Fort Delaware dock except in an emergency when in distress. The following stipulations must be adhered to:
- 5.11.1 Approval for emergency docking must be obtained from the Park Superintendent or Administrator either prior to docking or within eight (8) hours after docking.
- 5.11.2 A docking fee based on prevailing rates in the area will be paid by vessels docking at Cape Henlopen fishing pier or at Fort Delaware Dock.
- 5.11.3 The owner and/or vessel master shall be responsible for any damage to the docks.
- 5.12 The parking or leaving overnight of vessels, or vessel trailers in marina parking lots or marina areas shall be prohibited unless prior written permission is given by the Marina Manager. This shall not apply to vessels and trailers legally stored within designated vessel storage areas or if the area is designated as a 24-hour facility by the Division.

## **6.0 Marinas**

- 6.1 Any vessel entering the waters of any marina administered, operated, leased or licensed by the Division shall immediately come under the jurisdiction of the Division. All rules and regulations of the Division, in addition to the laws, rules and regulations governing vessels established by the Department and the U.S. Coast Guard shall apply.
- 6.2 No person shall dock or anchor a vessel within the waters of a marina complex administered, operated, leased or licensed by the Division unless the owner master of such vessel pays such fees as required for dockage. Dockage contracts may be obtained from the marina office or from the Marina Manager. This regulation shall not apply to vessels docking at refueling stations to take on fuel.
- 6.2.1 In addition to any penalties assessed for violations of this Regulation, the owner or operator of the vessel shall also pay the dockage or anchorage fee.
- 6.3 Docking or anchoring of vessels will be permitted only in areas designated by the Marina Manager.
- 6.4 No major repair work, other than minor repairs and routine maintenance shall be performed on any vessel within a marina complex administered, operated, leased or licensed by the Division without the approval of the Marina Manager.
- 6.4.1 No major repair work shall take place on any vessel, except in such areas as designated by the Marina Manager.
- 6.5 Refueling of vessels will be permitted only at the designated refueling bulkhead stations.



Distributors shall not deliver fuel to vessels docked in a marina administered, operated, leased or licensed by the Division.

- 6.5.1 No vessel shall dock or anchor at a refueling station except to take on fuel.
  - 6.5.2 Vessels docked at refueling stations to take on fuel shall not be left unattended and shall be removed immediately upon completion of refueling.
  - 6.5.3 Only the owner, master or a crew member shall remain on board during refueling. All passengers must disembark until refueling operations are completed.
  - 6.5.4 All engines must be shut down during refueling.
  - 6.5.5 Smoking or open flames are prohibited within fifty (50) feet of the refueling stations.
  - 6.5.6 No person shall use any refueling station for the purpose of loading or unloading supplies or passengers, except when complying with 6.5.3 above.
  - 6.5.7 No gasoline or diesel fuel shall be pumped or siphoned from any vessel within the marina complex without the Marina Manager's prior approval and then only within an approved area designated by the Marina Manager. Under no circumstances will fuel be removed while the vessel is docked within a slip.
- 6.6 No refuse, trash, oil or effluents shall be thrown or pumped overboard into the waters of a marina, channel approaches or other areas administered by the Division or Department.
- 6.6.1 Waste oil and used oil filters shall be transported in sealed containers and deposited in a waste oil tank located within the marina. Waste oil filters will be deposited in an oil filter receptacle located adjacent to the waste oil tank or other authorized recycle centers.
- 6.7 Disorderly conduct by vessel owners, their crew or guests shall be cause for cancellation of a pier dockage agreement and any assigned dock or mooring space.
- 6.8 Safety precautions must be observed and complied with in all marina areas administered by the Division.
- 6.8.1 Swimming or diving is prohibited from all piers, docks, bulkheads and vessels within marina waters.
  - 6.8.2 Running or horseplay is prohibited on all piers, docks and bulkheads within the marina.
  - 6.8.3 Fishing is prohibited from all piers, docks, bulkheads and vessels within marina waters.
  - 6.8.4 Use of barbecue grills or other types of portable open flame cooking devices are prohibited on docks or vessels moored within the marina complex.
- 6.9 Fish cleaning is prohibited within a marina complex, except at authorized fish cleaning facilities that may be provided.
- 6.9.1 It is prohibited to throw or dump into the waters or onto the grounds of the marina any fish remains, parts or pieces thereof, except in receptacles provided for such purposes.
- 6.10 No person shall go aboard any vessel docked, anchored or stored within a marina

complex, unless such person is accompanied by the owner or master, or has written permission from the owner or master of such vessel.

- 6.11 No person shall enter upon the grounds, waters, docks or piers of a marina from one-half (½) hour after sunset until one-half (½) hour before sunrise except authorized persons such as vessel owners, masters, crew members and passengers returning from or embarking on boating excursions for fishing or pleasure, or authorized persons residing aboard a vessel.
- 6.12 The parking or leaving overnight of vessels or vessel trailers in marina parking lots or marina areas shall be prohibited unless prior written permission is given by the Marina Manager. This shall not apply to vessels and trailers legally stored within designated vessel storage areas.

## **7.0 Water Sports**

- 7.1 Persons swimming or sunbathing on areas administered by the Division shall be attired in acceptable swimwear, worn so as to prevent any indecent or lewd exposure of the person.
  - 7.1.1 Males – must cover buttocks and genitals.
  - 7.1.2 Females – must cover buttocks, breasts and genitals.
- 7.2 Swimsuits must be worn when using Division swimming pools. Cut-off jeans, trousers or other clothing not designed and sold as swimwear will not be permitted.
- 7.3 Lifeguards shall have the authority to enforce safety rules or policies which are deemed necessary for the protection of the public. Such rules shall be posted in a conspicuous place and shall be on file in the Park Administrator/Superintendent's office. Lifeguards shall have the authority to expel any person or persons who are violating the Park Rules, Regulations and Policies. Swimming outside of designated swimming areas is prohibited.
- 7.4 No surfboards, sailboards, kayaks or similar watercraft shall be allowed in designated guarded swimming areas unless approved by the Director or their designee.
- 7.5 Water skiing or towing of any person on any type of device, other than on another vessel, shall be prohibited on all non-tidal waters administered by the Division, except by written permission of the Director or their designee.
- 7.6 Use of scuba diving equipment shall be prohibited in all waters administered by the Division, unless written permission is given by the Director or their designee.
- 7.7 The possession of glass containers within any swimming area or on any beach administered by the Division shall be prohibited.

## **8.0 Ice Skating**

- 8.1 No person shall ice skate or enter upon any frozen pond, lake or stream administered by the Division except on areas as may be designated by the Division.
- 8.2 Areas where ice skating is permitted by the Division shall be marked and no person shall be permitted on the ice outside of such designated area.

## **9.0 Snowmobiles**

- 9.1 Snowmobiles used or operated on lands under the jurisdiction of the Department must be registered with the State of Delaware. Exempt from this requirement are snowmobiles owned by non-residents evidenced by a valid registration of another state, province, county or political subdivision thereof, or the United States.

9.2 Registration of a snowmobile hereunder shall not be deemed to grant permission for operation of a snowmobile on any public roadway or highway or on private property.

## **10.0 Surf Fishing Vehicles**

10.1 The Division through its authorized agents shall collect an annual fee and issue an appropriate permit for each four (4) wheel vehicle equipped for travel upon sand beaches for the purpose of surf fishing at Cape Henlopen State Park, Delaware Seashore State Park, Fenwick Island State Park, and Beach Plum Island.

10.1.1 Surf Fishing Vehicle Permits shall be issued only to those vehicles duly registered and licensed to operate on public highways.

10.1.2 Four (4) wheel vehicles for purposes of this Section shall mean a vehicle equipped with four (4) wheels which makes contact with the road surface.

10.1.3 No Surf Fishing Permit shall be issued to any vehicle which measures less than seven (7) inches between the lowest point of the vehicle and the ground.

10.1.4 Surf fishing vehicles must be equipped with a shovel, jack, tow rope or chain, board or similar support for the jack and a low-pressure tire gauge.

10.1.5 Failure to possess adequate saltwater fishing tackle, bait and/or lures commonly used for surf fishing shall be deemed prima facie evidence of a violation of this regulation.

10.2 No person shall operate a vehicle upon the beach areas or dune crossings administered by the Division without a permit for such vehicle as set forth in Section 10.1.

10.3 The surf fishing vehicle plate must be properly displayed on the vehicle for which the permit was issued prior to operation on beach areas administered by the Division.

10.3.1 The surf fishing vehicle plate shall be affixed to the front of the vehicle.

10.3.2 The owner's copy of the permit receipt shall be available for inspection at all times when the vehicle is being operated on such beach areas.

10.4 It shall be unlawful to operate any vehicle on any authorized dune crossing or on any beach area administered by the Division at any speed that is greater than is reasonable and prudent under the conditions, and having regard to the actual and potential hazards then existing, but never exceeding 15 m.p.h. In every event, speed shall be controlled and limited to that speed necessary to maintain traction and steering.

10.5 The capacity of the beaches administered by the Division to absorb the impact of vehicles, without substantial environmental degradations and decreased quality of experience for all visitors is limited. Therefore, vehicle use on the designated beaches is restricted to persons actively engaged in surf fishing. Permitted surf fishing vehicle operation on the beaches administered by the Division for reasons other than traveling to and from fishing areas for the express purpose of actively engaged in surf fishing, is prohibited. Any permitted surf fishing vehicle parked for any period of time on the beaches administered by the Division, without one or more persons who arrived in that vehicle being actively engaged in surf fishing is prohibited. When no one who arrived in the surf fishing vehicle is actively engaged in surf fishing, the surf fishing vehicle shall exit the beach immediately. In addition to other penalties prescribed in these regulations and by statute, violation of this subsection is grounds for suspension or revocation of the permit.

10.5.1 Use of a surf fishing permit for the purpose of commercial bait fishing is permitted on the beaches administered by the Division provided all conditions and requirements of said permit are met and a permit is obtained from the Director.

- 10.6 The Division shall designate areas for surf fishing vehicle use on beaches under its jurisdiction. These areas shall be marked with symbol signs indicating 24-hour access, limited access and no access. Operation of a vehicle in an area not authorized for such use or during times and/or dates the area is closed to vehicles shall be a violation of this regulation.
- 10.7 The use or operation of any vehicle whatsoever, on, over, or across the sand dunes on Division lands is expressly prohibited, except when it is a vehicle displaying a valid Delaware Surf Fishing Vehicle Permit and is crossing dunes at authorized dune crossings, which are designated and maintained for that purpose by the Division.
- 10.7.1 Any other use or operation of a vehicle on, over or across the primary sand dunes, except at authorized crossings, is expressly prohibited. Violators of this regulation may be charged under 7 Del. C. §6805(b) which carries a penalty of \$200 to \$5,000 or imprisonment for up to two years or both, in addition to reimbursing the Department for reasonable expenses in remedying damages created.
- 10.8 Beach areas, including surf fishing areas, may be closed to pedestrians and vehicles, in whole or in part, for resource protection or for health, welfare, and/or safety reasons for such a period as may be determined by the Department. Unauthorized entry into a posted and/or barricaded closed area shall be a violation of this regulation.
- 10.9 It shall be a violation of this Section to loan a Surf Fishing Vehicle Permit, or to use or attempt to use a Surf Fishing Vehicle Permit on any vehicle other than the vehicle it is assigned to. In addition to other action that may be taken, the permit will be confiscated and held as evidence.
- 10.10 The Director shall have the right to suspend Surf Fishing Vehicle Permits for up to 90 days or to revoke permits for up to three (3) years for conviction of reckless operation of a surf fishing vehicle or operation of a surf fishing vehicle under the influence of alcoholic beverages and/or drugs on lands administered by the Division or for violations of these regulations.

## **11.0 Vehicles**

- 11.1.1 No person shall operate any motorized vehicle upon any lands administered by the Division, unless said vehicle is licensed for use upon public highways and roadways.
- 11.1.2 Vehicles operated on lands administered by the Division must be properly equipped with brakes, headlights, tail lights, tag light, turn signal, and horn all in good working order.
- 11.1.3 Towed trailers must have an adequate towing hook-up, complete with safety chains. They must also be equipped with operating taillights, turn signals, tag light, and be currently registered to be towed on public roads.
- 11.2 No person shall operate a motor vehicle, motorcycle, motor bike or other two or three-wheeled motor driven vehicle upon any lands administered by the Division, unless said person has been issued and is the holder of a valid license or permit to operate said vehicle on public highways and roadways.
- 11.2.1 The license or permit shall be in the immediate possession of the licensee at all times when driving a motor vehicle, motorcycle, motor bike or other two or three-wheeled motor driven vehicle and he/she shall display same upon demand of Department Enforcement personnel.
- 11.3 No person shall authorize or permit a motor vehicle of any type owned by him or under

- his control to be driven by any person on lands administered by the Division, knowing that said person has no legal right to do so, or shall authorize or permit said vehicle to be driven in violation of any of the provisions of the said Division's Rules and Regulations.
- 11.4 The driver of a motor vehicle when on lands administered by the Division shall not follow another vehicle more closely than is reasonable and prudent, having due regard for the speed of such vehicle, the traffic and the condition of the roadway or area.
- 11.5 Every driver shall yield preferential right-of-way at an intersection or other place indicated by stop signs or yield signs authorized and installed by the Division.
- 11.5.1 Except when directed to proceed by an enforcement officer or traffic control device, every driver of a vehicle approaching a stop intersection indicated by a stop sign shall come to a complete stop before entering the intersection.
- 11.5.2 The operator of any vehicle who has come to a full stop, as provided in 11.1.1 of this Regulation, shall not enter upon or across such intersection until such movement can be made in safety.
- 11.6 Specific motor vehicle speed limits on lands administered by the Division:
- 11.6.1 Every driver shall observe all posted speed limits. When no special hazard exists the following speed shall be lawful, but any speed in excess of such limits shall be absolute evidence that the speed is not reasonable or prudent and that it is a violation of this Section:
- 11.6.1.1 25 m.p.h. – on roads administered by the Division unless otherwise posted or stated in Regulations.
- 11.6.1.2 10 m.p.h. – in parking, camping and congested areas unless otherwise posted.
- 11.7 No person shall operate a motor vehicle on lands administered by the division in a willful or wanton disregard for the safety of persons or property.
- 11.7.1 No person shall operate a motor vehicle on lands administered by the Division in a careless, inattentive or imprudent manner without due regard for road, weather and traffic conditions.
- 11.7.2 The intentional accelerating of a motor vehicle causing spinning of tires or what is commonly known as "burning rubber" on any park facility or roadway within an area administered by the Division is prohibited and shall be a violation of this Section.
- 11.8 An operator and/or passenger of a motorcycle under the age of 18 must wear a safety helmet of a type approved by the Secretary of Public Safety.
- 11.9 An operator of a motor vehicle shall not permit any person riding upon any bicycle, coaster, roller skates, sled or toy vehicle to attach same or himself to any motor vehicle being operated on lands administered by the Division.
- 11.10 No person, while on lands administered by the Division, shall ride upon any vehicle without the consent of the driver, and when any person is riding on any vehicle with the driver's consent, no part of the person's body may protrude beyond the limits of the vehicle.
- 11.11 No person shall drive or operate a motor vehicle on lands administered by the Division, unless such motor vehicle is equipped with a muffler in good working order and in constant operation to prevent excessive or unusual noise.
- 11.12 No vehicle shall be driven, moved or parked on any lands administered by the Division

unless so loaded or constructed as to prevent its contents from dropping, sifting, leaking or otherwise escaping therefrom.

- 11.13 It shall be unlawful for any person to operate any motor vehicle or any other type of vehicle within any area administered by the Division except on such roads or areas specifically designated by the Division for such purpose.
- 11.14 No driver shall at any time drive to the left of a solid center line on a roadway when operating a vehicle on lands administered by the Division.
- 11.15 Where traffic control devices establish one-way traffic, it shall be unlawful to drive in the opposite direction unless directed by a Law Enforcement Officer.

## **12.0 Parking Violations**

- 12.1 It shall be unlawful to stop, park or leave unattended any motor vehicle on any roadways, berms, trails, no parking zones or in any other areas not specifically designated as a parking area on lands administered by the Division.
  - 12.1.1 No person shall park any vehicle in a parking space marked or signed as a designated handicap parking space unless such vehicle bears a special handicap license plate or displays an authorized identification card indicating the vehicle is a vehicle of the handicapped and bearing the license number of the vehicle to which it was issued.
  - 12.1.2 No person shall park a vehicle and allow said vehicle to remain parked in an area longer than the posted time limit.
  - 12.1.3 No person shall park in any parking space that is signed and marked as reserved for a Park Ranger or emergency vehicles or employee parking.
  - 12.1.4 No person shall park in a "Restricted Use Parking Area" unless parking is for use of the facility so designated.
  - 12.1.5 No person shall park in any fire lane or within fifteen (15) feet of a fire hydrant.
  - 12.1.6 No person shall park a vehicle in any designated area without first having paid the appropriate rate, fee or charge established by the Division or Department.
- 12.2 It shall be unlawful for any vehicle to remain on lands administered by the Division after "closing hours" for any day-use areas closed from sunset until 8 a.m.
- 12.3 It shall be unlawful to leave any motor vehicle unattended on lands administered by the Division for a period exceeding 24 hours, without prior notification to the Park Administrator or Superintendent or written approval from the Director.
- 12.4 Any officer empowered to enforce Division Rules and Regulations during the performance of his duties may remove or cause to be removed from any lands administered by the Division, at the owner's or operator's expense, any motor vehicle, camping unit, or part thereof, parked or standing illegally or in violation of these regulations.
  - 12.4.1 No vehicle or camping unit removed or caused to be removed pursuant to this Section shall be released until payment is made for such removal and/or storage and proper authority to process and operate said vehicle, camping unit or part thereof displayed by the person attempting to recover said vehicle, camping unit or part thereof.
  - 12.4.2 No liability shall occur to the Division or its authorized agents for any damage or loss caused by such removal or storage.

12.5 A summons in appropriate form adopted by the Division may be attached to an unattended vehicle found in violation of any of the provisions of these Rules and Regulations.

12.5.1 If the identity of an operator of an unattended vehicle in violation is not otherwise apparent, the person in whose name the vehicle is registered shall be held prima facie responsible.

### **13.0 Bicycles**

13.1 Anyone riding a bicycle or propelling a vehicle by human power shall have all the rights and all the duties applicable to the operator of any other vehicle referenced within these Regulations and shall be in compliance with all State laws, rules and regulations when operating on lands administered by the Division.

13.1.1 Bicycling is permitted only on roadways designated for public use, designated and signed bike paths and multiple-use trails designated and signed for such use.

13.1.2 Bicycles must be ridden as far to their right as possible on roadways.

13.1.3 Bicyclists must give hand signals when stopping or turning on Park roadways.

13.1.4 Bicycles operated on designated bike trails/paths shall yield right of way at all locations where the trail or path intersects with any roadway.

13.1.5 Bicycles operated at night shall be equipped with:

13.1.5.1 A lamp on the front which shall emit a white light and be visible for 500 feet.

13.1.5.2 Reflectors or reflectorized material on the rear and be visible from 600 feet.

13.1.6 No one shall operate a bicycle on Park roadways with ear plugs in both ears or while wearing a headset covering both ears.

### **14.0 Roller Skating, Skateboards, Roller Skis**

14.1 Using roller skates, skateboards, roller skis or similar devices is prohibited on lands administered by the Division except in areas which may be designated for such use.

14.2 No person shall operate a motorized scooter, moped or similar device not defined in 21 Del.C. §101(53).

14.3 Persons on skateboards, roller skates, coasters, sleds or toy vehicles are prohibited from being towed or propelled by a motor vehicle on lands administered by the Division.

### **15.0 Aviation**

15.1 No person shall voluntarily bring, land or cause to descend or alight on or upon any lands or waters administered by the Division any aircraft, flying machine, balloon, parachute or other apparatus for aviation except with the prior consent of the Director. "Voluntarily" shall mean for purposes of this paragraph anything other than a forced or emergency landing.

15.2 Flying of radio-controlled model aircraft or the launching of model rockets shall not be permitted in areas administered by the Division except in areas set aside and designated for such purposes. Special policies regarding insurance and operating conditions will be posted.

## **16.0 Domesticated Animals/Pets**

- 16.1 No person shall ride or lead a horse through any area or upon any roadway, trail or path administered by the Division unless such area, trail, roadway or path is designated for such use by the Division.
- 16.1.1 Animal-drawn vehicles are permitted upon roadways and parking areas and shall be granted all the rights and shall be subject to all the regulations applicable to motor vehicles except for those regulations which by their very nature can have no application.
- 16.2 In areas where horses are permitted on ocean beaches administered by the Division, owners/riders must stay within the parameters outlined in the Horseback Riding Policy.
- 16.2.1 On State Park ocean beach areas, horses must use the designated crossings as outlined in the Horseback Riding Policy.
- 16.2.2 Vehicle and trailers used to transport horses shall be parked in accordance with the Division's Horseback Riding Policy.
- 16.3 Except guide dogs accompanying blind and/or deaf persons, dogs and other domesticated animals, shall not be permitted within or upon designated picnic areas, nature trails, public buildings, structures and other designated areas administered by the Division.
- 16.3.1 Except guide dogs accompanying blind and/or deaf persons, dogs and other domesticated animals shall not be permitted upon or within any Division - administered swimming area, or swimming area beach or surfboard/sailboard areas at anytime, day or night, from May 1 through September 30 each year, 7 Del.C. §1715.
- 16.3.2 Leashes are not required when lawfully hunting with a dog or when training dogs within designated and authorized hunting and/or dog training areas.
- 16.3.3 In areas where such animals are permitted, person(s) having custody of said animal must keep it restrained on a leash not to exceed six (6) feet in length and must be under proper control.
- 16.3.4 Areas where such animals are permitted person(s) having custody of said animal shall not leave the pet unattended.
- 16.3.5 Any person(s) with a dog or other domesticated animal or pet, that creates a nuisance or disturbance, or who fails to properly control such animals, may be evicted without refund or reduction of fee.
- 16.3.6 Owners or persons having custody of dogs or other domesticated animals shall be responsible for clean up and removal of any feces deposited by the animal.

## **17.0 Conduct**

- 17.1 Disorderly conduct is unlawful and enforcement action may be taken against any person who intentionally causes public inconvenience, annoyance, nuisance, or alarm to any other person or who creates a risk thereof by:
- 17.1.1 Engaging in fighting or in violent, tumultuous or threatening behavior;
- 17.1.2 Making an unreasonable noise or an offensively coarse utterance, gesture or display or addressing abusive language to any person present;
- 17.1.3 Disturbing any lawful assembly or meeting of persons without lawful authority;



- 17.1.4 Obstructing vehicular or pedestrian traffic;
  - 17.1.5 Congregating with other persons and refusing to comply with a lawful order of an enforcement officer to disperse;
  - 17.1.6 Creating a hazardous or physically offensive condition which serves no legitimate purpose; or
  - 17.1.7 Engaging with at least one other person in a course of disorderly conduct, which is likely to cause substantial harm or serious inconvenience, annoyance or alarm and refuses or knowingly fails to obey an order to disperse made by an enforcement officer to the participants.
- 17.2 No person shall expose themselves in any manner which would be considered as indecent exposure or perform any lewd act which they know is likely to be observed by others who would be affronted or alarmed by such act or exposure on lands or waters or in facilities administered by the Division.
- 17.2.1 The disposal of human body waste is prohibited except within designated facilities provided for that purpose.
- 17.3 Gambling is prohibited and no person shall bring into any area administered by the Division, with the intention of engaging in a game of chance for money or other valuables, any implement or device commonly used or intended for gambling purposes.
- 17.4 Practicing, playing or using equipment pertaining to archery or golf on lands administered by the Division is prohibited except in those areas specifically designated for such use.
- 17.5 The playing of games on lands administered by the Division involving thrown objects such as hardballs, frisbees, horseshoes, etc. shall be restricted to such areas set aside for such activities.
- 17.6 While on lands administered by the Division no person shall, without a valid written permit, use any radio or other sound - producing device or article which, in any way, may annoy or disturb a reasonable person of normal sensitivities.
- 17.7 While on lands administered by the Division, no person shall at any time use a horn other than as a reasonable warning signal or make any unnecessary or unreasonable harsh sound by means of a horn or other amplified warning devices.
- 17.8 Reasonable quiet must be maintained at all times within all overnight facilities, particularly between the hours of 10 p.m. and 7 a.m. Unnecessary loud noises or disturbances of any nature, which are disturbing to others, shall be prohibited.

## **18.0 Fires**

- 18.1 No person shall kindle, build, maintain or use a fire on lands administered by the Division, unless there is written permission from the Director or their designee. Said fire shall be in a designated area and confined within fireplaces, grills, fire rings or other equipment designed for the purpose of containing cooking fires.
- 18.1.1 Any fire shall be under the care and direction of a competent person from the time it is kindled until it is extinguished.
  - 18.1.2 All fires must be properly extinguished and the ashes, embers or coals disposed of in receptacles provided for such purpose, so as to cause no danger whatsoever to persons, structures, animals, plant life, or vehicles.

- 18.1.3 Fires shall be prohibited on designated swimming/surfing beaches administered by the Division.
- 18.1.4 No fires larger than one necessary for cooking purposes shall be permitted.
- 18.1.5 Fires of any type or the use or possession of lanterns which use inflammable fuel, are not permitted on fishing piers.
- 18.2 The possession, explosion or discharge of any firecrackers, torpedoes, rockets or other fireworks or explosives in areas administered by the Division is prohibited, except with prior written permission of the Director.
- 18.3 No person shall leave fuel containers open and/or unattended within boat launch areas, docks, piers or bulkheads or on lands under the jurisdiction of the Division.

## **19.0 Property Violations**

- 19.1 It shall be unlawful to place, dump, deposit, throw or leave any garbage, refuse, trash, cans, bottles or other debris of any kind within or upon any public beach, lands or waters administered by the Division, except in receptacles provided for such purpose.
  - 19.1.1 No person shall bring into a State Park from an area outside of the Park any garbage, refuse, waste, rubbish or obnoxious materials for the purpose of disposing of such in park litter receptacles.
- 19.2 Disposing or discharging of solid waste on lands or waters under the jurisdiction of the Division is prohibited. Violators may be charged under 7 Del.C. §6025(b).
- 19.3 Unless specifically authorized by the Department for management, research or educational purposes, the cutting, injuring or removal of trees, shrubs, wildflowers, ferns, mosses, or other plants from lands administered by the Division is strictly prohibited.
- 19.4 Removal or defacing, damaging, removing or altering of any structures, buildings, natural-land features or other park property or equipment from the lands administered by the Division is strictly prohibited.
- 19.5 The willful, harming, collecting, harassing or possessing of wildlife, flora, or fauna on lands administered by the Division is strictly prohibited.
- 19.6 Walking on, over or across a primary dune administered by the Division, except at locations specified by the Department or Division for such use, shall be prohibited.
- 19.7 Operating a motor vehicle in such a manner as to cause willful, wanton or reckless damage to lands administered by the Division, commonly known as "turfig", is prohibited and shall be a violation of this Section.
- 19.8 Use of dedicated state nature preserves shall be limited to posted trails and permitted activities. Property violations are enforceable under these Rules and Regulations and 7 Del.C. Ch. 73.

## **20.0 Multiple Use Trails**

- 20.1 Bicycle riders shall yield to horseback riders and/or hikers encountered on multiple use trails administered by the Division. Bike riders shall come to a complete stop and allow horseback riders and/or hikers to pass.
- 20.2 Horseback riders shall yield to hikers encountered on multiple use trails administered by

the Division. The horseback rider shall stop and remain stopped until the hiker passes.

**21.0 Public Assemblies, Meetings, Distribution or Posting of Printed Matter**

- 21.1 In order to maintain the recreational nature of State Parks as a haven for the public from the rigors of work and the commercial environment, and to promote the State's interest in its concessions and sales to the public, no commercial advertising by the distribution or posting of printed matter, other than by the State or its concessionaires, shall be permitted in State Parks.
- 21.2 Public meetings, assemblies, gatherings, demonstrations and/or the distribution or posting of printed matter are allowed on lands administered by the Division provided a permit or approval to do so has been issued by the Park Administrator or Superintendent.
- 21.3 An application for such a permit shall set forth the name of the applicant, the name of the organization (if any), the date, time, duration and the number of persons expected to attend or participate, the location of the proposed distribution or posting of printed matter, and a statement designating the equipment and facilities to be used in connection therewith. The application shall be submitted to the Park Administrator or Superintendent at least 72 hours in advance of the proposed event, distribution or posting.
- 21.4 Within 48 hours the Park Administrator or Superintendent shall issue a permit unless:
- 21.4.1 A prior application for a permit for the same time and location has been made, which has been or will be granted; and the activities authorized by that permit do not reasonably allow multiple occupancy of the particular area;
- 21.4.2 It appears that the event or the distribution or posting of printed matter will present a clear and present danger to the health or safety of park visitors and/or general public by inciting riots or public disturbances, or by encouraging injury to others, damage to property, or the violation of other people's civil rights; or
- 21.4.3 The event or the distribution or posting is of such nature or duration that it cannot reasonably be accommodated in the particular location applied for considering possible damage to park resources or facilities, impairment of a protected area's atmosphere of peace and tranquillity, interference with Park program activities or impairment of public use facilities.
- 21.5 The Park Superintendent or Administrator shall designate on a map, which shall be available in the Park office, the locations available for public assemblies and/or distribution or posting of printed matter. Locations may be designated as not available only if such activity would:
- 21.5.1 cause injury or damage to Park resources;
- 21.5.2 be contrary to the purposes for which the natural, historic, development and special use zones are maintained;
- 21.5.3 unreasonably interfere with interpretive, visitor service or other program activities or with the administrative function of the area; or
- 21.5.4 substantially impair the operation of public use facilities or services of concessionaires or contractors.
- 21.6 The permit may contain such conditions as are reasonably consistent with protection and use of the area for the purposes for which it is maintained.
- 21.7 Persons engaged in the distribution or posting of printed matter under this Section shall

not obstruct or impede pedestrians or vehicles, harass visitors with physical contact or verbal demands, misrepresent the purposes or affiliations of those engaged in the distribution or misrepresent whether the printed matter is available without cost or donation.

- 21.8 A permit may be revoked under any of those conditions as listed in 21.5 of this Section which constitutes grounds for denial of a permit, or for violation of the terms or conditions of the permit, Park Regulations or Park Policies. Such a revocation shall be made in writing with the reason(s) for revocation clearly set forth, except under emergency circumstances, when an immediate verbal revocation or suspension may be made, to be followed by a written confirmation.

## **22.0 Solicitations and Concessions**

- 22.1 Vending of merchandise, services or food upon lands administered by the Division is prohibited without the express written approval of the Director.
- 22.2 No person shall solicit for money or goods on any lands administered by the Division without the written permission of the Director.
- 22.3 No person, group of persons, nor any business or commercial entity shall utilize parks or their facilities for business gain, whether for profit or otherwise, except those concessionaires or groups who have followed procedures, met established requirements, paid appropriate program charges and have been authorized by the Director.

## **23.0 Alcoholic Beverages and Drugs**

- 23.1 The sale of alcoholic beverages without a permit from the Division of Alcoholic Beverage Control and written permission from the Director is prohibited on lands and waters administered by the Division.
- 23.2 No person under the age of twenty-one (21) years shall possess or consume alcoholic beverages of any type. Any person suspected of being in violation of this subsection, who fails to provide sufficient identification to prove otherwise may, in addition to any other action taken, be evicted without refund of any fee.
- 23.3 No person who is of legal age to possess or consume alcoholic beverages shall sell, give or in any way provide alcoholic beverages to a person under the age of twenty-one (21) years.
- 23.4 No person under the influence of alcohol, narcotics or any other drug, to the extent of being considered publicly intoxicated, shall enter or remain upon or within lands or waters administered by the Division.
- 23.5 The unlawful possession, use or consumption of narcotics, drugs, drug substances or controlled substances and/or drug paraphernalia as listed and defined in Title 16, Delaware Code is expressly prohibited upon lands or waters or within facilities administered by the Division.
- 23.6 Unless authorized by the Director the possession, consumption, or public display of alcoholic beverages or intoxicating liquors within or upon the following areas is prohibited:
- 23.6.1 Brandywine Creek State Park -- Prohibited in all areas.
- 23.6.2 Fort Delaware State Park -- Prohibited in all areas.
- 23.6.3 Wilmington State Parks-Prohibited in all areas.
- 23.6.4 Fox Point State Park-Prohibited in all areas.
- 23.6.5 Specific Areas Within all State Parks -- All nature trails, nature preserves, youth

camps public restrooms, bath houses, parking facilities, roadways, designated swimming areas, pools, surfing beach areas or other areas designated by the Director.

23.7 No person shall operate or be in actual physical control of any motorized vehicle, vessel, bicycle or other means of conveyance while under the influence of alcohol or any drug.

23.7.1 Possession and/or use of any alcoholic beverage and/or drugs while aboard Division rental vessels shall be prohibited.

23.8 The bringing in of draft beer in kegs or by a vehicle equipped to dispense draft beer shall not be permitted upon lands administered by the Division without prior written permission from the Director.

#### **24.0 Hunting, Fishing and Wildlife Management**

24.1 No person shall hunt, pursue, trap, shoot, injure, kill or molest in any way by gun, archery equipment or dog any wild bird or animal on lands or waters administered by the Division, nor shall any person have any such wild bird or animal in his possession; provided however, that such wild bird or animal was not hunted, pursued, trapped, injured or killed by gun, archery equipment or dog in areas designated by the Division for hunting when such hunting is lawful.

24.2 Hunting may be permitted in certain areas at times authorized by the Division. Hunting shall be in accordance with State and Federal laws, rules and regulations.

24.3 It shall be unlawful to display, possess or discharge firearms of any description, air rifles, B.B. guns, sling shots or archery equipment upon any lands or waters administered by the Division, except by those persons lawfully hunting in those areas specifically designated for hunting by the Division, or except with prior written approval of the Director.

24.4 A hunter registration card issued by the Division in addition to a valid Delaware hunting license, is required for hunting on lands administered by the Division which are open for hunting. Hunting registration cards shall be issued by the Park Administrator or Park Superintendent and shall be valid for the entire hunting season unless revoked for violation of hunting laws, rules or regulations. All hunting activities shall be regulated by the registration card and all card holders shall abide by the conditions of the registration card. This hunting registration card shall not be valid for deer hunting on any park where a drawing is held for assignment of deer stands or hunting areas. A special registration card is required in areas that regulate deer hunting by lottery.

24.4.1 In areas where elevated deer stands are provided, hunters must remain on their assigned stand during the shotgun season. Archery deer hunters must stay within the area assigned to their stand.

24.4.2 Trapping is prohibited except for management purposes as authorized by the Director.

24.4.3 Raccoon hunting is restricted to chase by dogs only, with firearms prohibited. Firearms are prohibited while raccoon hunting.

24.5 Persons under the influence of alcoholic beverages, liquors or drugs or possessing and/or consuming alcoholic beverages, liquors or drugs shall not be permitted to hunt on Division lands.

24.6 Fishing shall be permitted, in accordance with the laws and regulations as set forth by the Division of Fish and Wildlife. A fishing license is required for non-tidal waters.

24.6.1 Fishing is not permitted in designated swimming areas and surfboard areas during day-use hours.

24.7 The disturbance of nesting or interference with the raising of young of wildlife, including amphibians, reptiles, birds or mammals on any lands or waters administered by the Division is prohibited.

24.7.1 The heronry at Pea Patch Island Nature Preserve shall be closed to the public year round. Entry without specific prior written authorization by the Division Director is prohibited.

24.8 No person, pet or vehicle shall be permitted to enter an area designated and posted by the Division as a bird-nesting/breeding area.

24.9 It shall be prohibited for any person to bring in or otherwise introduce any species of domestic or wild animal onto lands administered by the Division

## **25.0 Rates, Fees and Charges**

25.1 No person shall use or gain admittance to, or attempt to use or gain admittance to, any area or facilities for which a rate, fee or charge is made by the Division or Department unless he pays the rate, fee or charge established by said Division or Department.

25.2 The purchase or resale of a daily entrance fee ticket, except through an authorized Division agent, is prohibited.

25.3 The use or attempt to use any altered daily entrance fee ticket is prohibited.

25.4 The vehicle permit for entering a State Park shall be affixed to a conspicuous place on the vehicle as designated by the Division. Adhesive backing on the permit shall be used to attach the permit to the vehicle. Use of any other material or device to attach the permit shall be prohibited.

## **26.0 Facility Rentals and Special Events**

26.1 No person shall make use of or attempt to make use of any State Park pavilion or other facility which has been reserved, unless they are a member of the family or group reserving the pavilion or facility.

26.2 No person, group or organization shall schedule, hold or conduct an activity or event which requires special arrangements, considerations and/or planning by the staff unless a written request is submitted to the Director or their designee for approval at least 7 days prior to the activity or event. Additional costs may be charged for special arrangements, considerations and/or planning may include but not be limited to traffic and crowd control, parking, special equipment use, and the use of facilities for activities other than their intended purposes.

## **27.0 Enforcement Powers**

27.1 In accordance with the provision set forth in 7 Del.C. §4701(a)(8), the Division may employ personnel who shall have all the powers of investigation, detention and arrest, conferred by law on peace officers, sheriffs, or constables for the enforcement of the Division Rules and Regulations.

27.2 Powers, duties and functions of law enforcement officers of the Department of Natural Resources and Environmental Control:

27.2.1 In accordance with 29 Del.C. §8003(a), law enforcement officers of the Department of Natural Resources and Environmental Control shall see to the enforcement of all laws, regulations, rules, permits, licenses, orders and program requirements of the Department of Natural Resources and Environmental Control.

27.2.2 Law enforcement officers of the Department of Natural Resources and

Environmental Control shall have police powers similar to those of sherriffs, constables, peace officers and other police officers when enforcing the laws, rules, regulations, permits, licenses, orders and program requirements of the Department of Natural Resources and Environmental Control. Such police powers shall include, but not be limited to, powers of investigation, search, seizure, detention and arrest conferred by law on sherriffs, constables, peace officers and other police officers.

- 27.2.3 Law enforcement officers of the Department of Natural Resources and Environmental Control shall have the authority to serve and return summonses, subpoenas and warrants.
- 27.3 Each employee vested with the enforcement responsibility as authorized in paragraphs a and b shall be required to show proper identification as issued by the Department of Natural Resources and Environmental Control or other county or state law enforcement agencies.
- 27.4 No person shall willfully fail or refuse to comply with any lawful order or direction of any Enforcement Officer on lands or waters administered by the Division.
- 27.5 Anyone interfering with enforcement personnel during the performance of their duty in enforcing these regulations shall be cited for "interfering with enforcement personnel in the performance of his or her duty".
- 28.0 Penalty and Court Powers**
- 28.1 In accordance with the provisions set forth in the 7 Del.C. §4702(a), whoever violates the Rules and Regulations promulgated by the Department of Natural Resources and Environmental Control, Division of Parks and Recreation, shall be fined not less than \$50 nor more than \$250.00 and costs for each offense or imprisoned not more than thirty (30) days or both. For each subsequent like offense, he/she shall be fined not less than \$100.00 nor more than \$500.00. In addition to such fines, costs or imprisonment, any person who is convicted of any violation involving the damage, destruction or removal of property owned or administered by the State shall be required to make restitution to the Department for replacement or restoration of such property. Furthermore, in lieu of or in addition to the aforesaid penalties, the court may order violators convicted of violations involving the damage, destruction or removal of State Park property to perform work projects in State Parks.
- 28.2 Justices of the Peace shall severally throughout the State have jurisdiction of violations of the Rules and Regulations of the Department of Natural Resources and Environmental Control, Division of Parks and Recreation, with the condition that any person arrested for such violation be taken before the closest available magistrate in the county where such violation is alleged to have occurred. An arresting officer may issue a summons to any person arrested for any violation of these Rules and Regulations and have said person appear at a subsequent date at the Justice of the Peace Court which is the nearest available Justice of the Peace to the place of arrest during the regularly scheduled hours of said court. For the purposes of this Section, the summons for later appearance shall be sufficient to grant jurisdiction over the offense to the said nearest available Justice of the Peace. A Justice of the Peace is available when he is at his office or court.
- 28.3 Failure to answer any summons issued for violations of these Rules and Regulations shall result in an additional charge of Failure to Answer Summons.
- 28.4 Nothing contained herein shall preclude an action being brought in a court of equity for injunctive or other relief.

NPS Form 10-900  
(Rev. 10-90)

OMB No. 1024-0018

United States Department of the Interior  
National Park Service

**NATIONAL REGISTER OF HISTORIC PLACES  
REGISTRATION FORM**

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

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=====  
**1. Name of Property**

=====

historic name Langley-Flint House

other names/site number Flint House/CRS# N-7676.000

=====

=====  
**2. Location**

street & number 215 Twaddell Mill Road  
not for publication \_\_\_ city or town Centerville vicinity Centerville  
state Delaware code DE county New Castle code 003 zip code 19807

=====

=====  
**3. State/Federal Agency Certification**

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this \_\_\_ nomination \_\_\_ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property \_\_\_ meets \_\_\_ does not meet the National Register Criteria. I recommend that this property be considered significant nationally \_\_\_ statewide X locally.

Signature of certifying official

Date



Delaware Division of Historical and Cultural Affairs  
State or Federal agency and bureau

In my opinion, the property \_\_\_ meets \_\_\_ does not meet the National Register criteria.

Signature of commenting or other official      Date

State or Federal agency and bureau

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#### 4. National Park Service Certification

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I, hereby certify that this property is:

- entered in the National Register  
     See continuation sheet.
- determined eligible for the \_\_\_\_\_ National Register  
     See continuation sheet.
- determined not eligible for the \_\_\_\_\_ National Register
- removed from the National Register
- other (explain):

Signature of Keeper    Date  
                                    of Action

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#### 5. Classification

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Ownership of Property  
     private  
     public-local  
     public-State  
     public-Federal

Category of Property  
     building(s)  
     district  
     site  
     structure  
     object

Number of Resources within Property

Contributing	Noncontributing	
<u>  2  </u>	<u>  1  </u>	buildings
<u>  1  </u>	<u>  0  </u>	sites
<u>  1  </u>	<u>  0  </u>	structures
<u>  0  </u>	<u>  0  </u>	objects
<u>  4  </u>	<u>  1  </u>	Total

Number of contributing resources previously listed in the National Register   0  

Name of related multiple property listing   N/A

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## 6. Function or Use

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Historic Functions (Enter categories from instructions)

Cat: Domestic Sub: Single Dwelling  
Secondary Structure (spring house)  
Agricultural Agricultural Outbuilding (barn)  
Landscape Other (retaining wall)

Current Functions (Enter categories from instructions)

Cat: Domestic Sub: Single Dwelling  
Secondary Structure (garage)  
Vacant/Not in Use (spring house)  
Agricultural Vacant/Not in Use (barn)  
Landscape Other (retaining wall)

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## 7. Description

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Architectural Classification (Enter categories from instructions)

Other: early 19<sup>th</sup> century log dwelling  
Mixed: log dwelling with later additions

Materials (Enter categories from instructions)

foundation STONE  
roof ASPHALT  
walls WOOD SHINGLE  
STONE  
other CONCRETE

Narrative Description

See continuation sheets

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## 8. Statement of Significance

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### Applicable National Register Criteria

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or is likely to yield information important in prehistory or history.

### Criteria Considerations

- A** owned by a religious institution or used for religious purposes.
- B** removed from its original location.
- C** a birthplace or a grave.
- D** a cemetery.
- E** a reconstructed building, object, or structure.
- F** a commemorative property.
- G** less than 50 years of age or achieved significance within the past 50 years.

### Areas of Significance (Enter categories from instructions)

ARCHITECTURE, AGRICULTURE

Period of Significance 1815-1950

Significant Dates circa 1815

Significant Person (Complete if Criterion B is marked above) N/A

Cultural Affiliation N/A

Architect/Builder Unknown

### Narrative Statement of Significance

See continuation sheets

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## 9. Major Bibliographical References

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See continuation sheets.

Previous documentation on file (NPS)

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey #
- recorded by Historic American Engineering Record #

Primary Location of Additional Data

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository: University of Delaware Center for Historic Architecture and Design

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## 10. Geographical Data

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Acreage of Property 137.715

UTM References

	Zone Easting	Northing	Zone Easting	Northing
1	__	_____	3	__
2	__	_____	4	__

\_\_\_\_ See continuation sheet.

Verbal Boundary Description

See continuation sheet

Boundary Justification

See continuation sheet

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**11. Form Prepared By**

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name/title Zara Anishansliln-Bernhardt, Catherine Kaser, Christie Kershaw, Anne Samuel, Aaron Shriber, Graduate Research Assistants; Elizabeth Ross, Professional Staff; Rebecca J. Sheppard, Associate Director  
organization Center for Historic Architecture & Design, University of Delaware date Summer 2005

street & number 307 Alison Hall telephone (302) 831-8097

city or town Newark state DE zip code 19716-7360

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**Additional Documentation**

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Continuation Sheets

Maps

- USGS quad map
- Floor plans
- Site plan
- Beers map (1868)
- Tax parcel map

Black and white photographs

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**Property Owner**

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See continuation sheet.

name The Delaware Department of Natural Resources and Environmental Control  
Division of Parks and Recreation

street & number 89 Kings Highway telephone \_\_\_\_\_

city or town Delaware state DE zip code 19901

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Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

United States Department of the Interior  
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES  
CONTINUATION SHEET

Section 7

Page 1

Langley-Flint House  
name of property  
New Castle County, Delaware  
county and State

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Located in northern New Castle County, Delaware, near Centerville on Twaddell Mill Road, the Langley-Flint House and its surrounding 137.7 acres was purchased by the state in 1994. Listed on Delaware's significant natural habitat area's inventory, a list of bio-diverse land in private and public ownership throughout Delaware, the state's acquisition of the parcel secured the property's protection from future development. Noting the rare, intact log construction of the dwelling and realizing the potential significance of the property, Delaware's Department of Natural Resources and Environmental Control (DNREC), contracted the Center for Historic Architecture and Design (CHAD) in fall 2000 to document and research the Langley-Flint House.

The Langley-Flint House is a typical example of the housing standard for ordinary farmers in northern New Castle County during the late eighteenth and early nineteenth centuries. The original two-and-one-half story log dwelling was built into an embankment on a stone foundation. Its exterior reflects four additional, later phases of construction and the entire house is now covered with cedar siding. In sharp contrast to the modern exterior finish, the interior presents original materials and features that are exposed to view and remarkably intact. The house represents a well-preserved example of early nineteenth century log construction.

The Langley-Flint House is located north of the town of Centerville, in Christiana Hundred, in northern New Castle County, Delaware, on Twaddell Mill Road near its intersection with Kennett Pike (Route 52). The property is within the Flint Woods Nature Preserve of the Division of Parks and Recreation, Delaware Department of Natural Resources and Environmental Control, and a park ranger currently occupies the house. The house is named for its earliest documented owner, William Langley, whose name is associated with the log dwelling as early as 1816-1817 and one of its twentieth-century owners, Lucile E. duPont Flint, who donated the property to the state, deeding it for just \$10 in 1994. The Langley-Flint House itself sits back from Twaddell Mill Road up a long dirt lane, on a hilly and wooded lot. Nearby the house are a dilapidated stone springhouse, modern garage, and the rubble stone foundation ruins of a large barn or stable.<sup>1</sup> A stream runs through the springhouse and traces of an old path or road are visible alongside the ruins of the barn. A stone retaining wall and steps, apparently dating to two later periods of construction, run parallel to the south side of the house, facing Twaddell Mill Road.

**Exterior:** Containing at least five identifiable periods of construction, the Langley-Flint House is now an ell-plan building. Its original, Period I, form was a rectangular log-and-frame dwelling of approximately twenty-four feet wide by seventeen-and-a-half feet deep. Because it is banked into a hill, the Langley-Flint House's full two-and-a-half stories are visible only on its southern elevation. The original stuccoed, whitewashed rubble stone foundation that covered the ground level of the Period I house is still visible, though the majority of the house is sheathed in wood siding. The gable roof has been raised since initial construction, and is now covered by asphalt shingles and is rimmed with white galvanized metal gutters and downspouts.

The original front elevation of Period I faces north, away from Twaddell Mill Road and toward the old path. This side of the house is banked into the sloping landscape, leaving only one-and-a-half stories visible on its northern façade. Roughly centered on the Period I north elevation is the original entryway, outfitted with an early batten door of hand-planed bead-

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<sup>1</sup> The two-room springhouse is constructed of stuccoed and whitewashed rubble stone and has a wood-shingled gable roof.

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board construction with wrought-iron strap hinges. An early sash window is placed just to the right of the door. Above and slightly to the left of the door, a dormer window provides light to the dwelling's attic story. A Period IV addition, to the left of the door, overlaps and obscures approximately one-third of the Period I log dwelling. Also altering the appearance of the Period I dwelling is a portico with sloped roof, most likely of Period IV construction. Sheltering the central door, it is supported by wooden beams.

The west elevation offers a relatively unimpeded view of the Period I log dwelling. An interior brick chimney is centered on its western gable end. On the first floor, just south of the chimney, there is a splayed six-over-six-light, double-hung-sash window. Another, smaller casement window is located in the attic story, also south of the chimney. Portions of both Period II and Period V construction conceal the eastern elevation of Period I, while a Period III one-story shed-roofed porch hides the first story of Period I's southern elevation. Several Period I features, however, are visible above this south-facing porch such as the two six-over-six-light, double-hung-sash windows in the second story, while four large casement windows fill the shed dormer that rises from the attic story. These original elements are joined by significant, later additions, made to blend with the original block by the modern wood siding.

Most difficult to separate from the original block visually is a two-and-one-half-story addition (likely Period II), extending the main block of the house at its east end. Later additions conceal all but the attic level of the east gable end of this addition, with its two small casement windows and centered chimneystack. On the south elevation, the extension of the main block is visible on the second floor, where a single window matches the six-over-six-light, double-hung-sash windows in the earlier log house.

Later construction attached a one-room, single-story addition (Period III) to the first floor of the south elevation of Period II, likely used as a kitchen and a single-story porch. The kitchen addition is punctuated by two small casement windows, one on its eastern elevation and one on its southern elevation. The enclosed porch, with a bank of six six-over-six-light, double-hung-sash windows, runs along the remainder of the south elevation. The west end of this porch, flush with the Period I block, contains three additional, matching windows, as well as a door.

A large, approximately twenty-by-fourteen-foot, Period IV ell is attached to the northeast corner of the dwelling. The roof peak of this addition runs perpendicular to the main block; its north elevation marked by a gable end. On this one-and-one-half story northern elevation, three windows pierce its gable end. A small sash window, similar in size and shape to the attic window on the west elevation of the Period I block, is located in the attic story, while a large, six-over-six-light double-hung-sash window and a very small and high window pierce the ground floor of the north elevation. Single six-over-six-light double-hung-sash windows complete the fenestration of this addition's first floor.

Another porch (Period V), atop a cement block addition, is appended to the east elevation of the two-and-one-half-story addition, running nearly the full length of the main block. The screened-in porch is of frame construction, with a shed roof and bead-board eave detail. Entry to the porch is through a screen door on the north side, above two stone slab steps. The cement block addition is banked into the hillside, and has three high small windows, evenly spaced along the east elevation. A smaller cement block addition abuts this addition and the one-story kitchen addition on the south elevation. A door with a single stone step leads into this small addition, and its roof, covered with flat shingles, slopes to the south.



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**Interior:** Today, one enters the ground floor of the Langley-Flint House through a door on the west side of the Period III porch that runs along the south elevation of the house. The porch's interior is finished with bead-board walls and banks of sash windows to the south and west. On the north side of the porch, where it joins the Period I house, one sees the original exterior walls, which are plastered over with a white, roughly-finished stucco treatment. The door leading into the Period I block on its southern wall, and the two windows flanking the door, all retain their original deep setback in the masonry walls. The door provides direct entry to the ground floor room of the original log house. The room's original stone walls are evident under the rough plaster that covers the stone. The three-and-a-half inch floorboards appear to be replacement flooring. The ceiling of this ground floor room consists of the whitewashed joists and undersides of the second floor's floorboards.

The major features in the room are the fireplace and stairs, on opposite ends of the north wall. In the northeast corner of the room, an enclosed corner stair, with an under-stair closet, leads to the second and third floors. The stair closet door is consistent with the doors throughout the house, which are batten and made of hand-planed bead-boards. Ghosts of previous hinges, visible on the door frame, suggest that this is probably not the earliest door in this location. Throughout the house, one sees similar hardware: Colonial-Revival-style wrought-iron strap hinges attached with flathead screws and nails. On the west wall, a widely-splayed window is angled out into the room at a similar angle to that of the fireplace adjacent to it. The large, walk-in fireplace was likely an original cooking space. Its stone hearth extends to the northern wall, and its original construction remains intact. Modern copper flashing conceals the lintel above the fireplace.

On the east wall of the Period I, ground-level room, a door with a concrete stoop leads to the Period II addition. One first enters a small hall, with double doors leading into the rest of the space furnished by the addition, which now functions as a furnace room at the ground level. The furnace room has two windows on its east wall and a door on its south wall. This door provides entry to the one-story Period III addition that houses a modern kitchen. The kitchen has a door on its west wall, leading back to the porch that contains the door to the Period I block. On the east wall of the kitchen, another door leads to an even smaller laundry room (Period V). A door on the north wall of the laundry room opens into an unfinished dirt cellar, running along the east end of the furnace room.

To reach the second floor, one must return to the corner stair in the Period I ground-level room. Upstairs, in the second-floor space of the Period I log house, original, exposed log-and-chink constructed walls reveal the building materials beneath the exterior's cedar siding. The log construction exhibits rough craftsmanship, as the logs are unevenly hewn with only a slight attempt at chamfering their edges. Although it seems that some of the logs may have been plank sawn, the majority appear to have been only roughly boded before construction. The spaces between the logs have been plastered and painted white. The log construction of the north wall is generally more smoothly finished than the other walls.

In the northwest corner of Period I block's second floor room, a small fireplace is surrounded by a plastered-over stone wall, introducing the building materials that dominate the Period I ground level interior. The plastered stone extends midway across the western wall. From the endpoint of the plastered stone to the southwest corner, on both the second and attic levels, the floorboards are different from those in the rest of the Period I space. These floorboards bear evidence of

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previous construction, of what was probably either an early stair or a corner cupboard. Throughout the room, the floor appears to be a mixture of original white pine boards and replacement, machine-cut planks. The floorboards are roughly joined, and in some cases have gaps between them. The ceiling joists have beaded corners and are straight sawn, suggesting that they, too, do not date to the earliest phase of construction.

The second floor Period I interior is illuminated by two windows on the south wall, and one window on the north wall which nearly abuts the fireplace. An exterior door in the north wall, similar in style to the doors on the first floor but of heavier construction, opens onto the banked side of the site. Two interior doors, one on the east wall and the other on the north, connect the Period I block to subsequent additions. On the north wall, the interior door leads to the northern, Period IV one-story addition. This addition contains a hallway leading to a bedroom to the northeast, and a bathroom to the northwest. On the east wall of the Period I block, to the right of the stairs, a door abuts the ghost of a door that once adjoined the enclosed corner stair. The extant door leads to the two-and-one-half-story Period II addition, which on the second level houses a bedroom. This bedroom also connects to the bedroom in the northern Period IV addition and to the eastern Period V screened-in porch. Access to the attic story of Period I is made via the corner stair located in the northeast corner of the Period I second floor.

Unlike the stair leading from the first floor to the second floor, the stair leading from the second floor to the attic floor is not enclosed. It opens onto a large loft above the Period I block. Evidence of alteration to the space is readily seen in the mixture of materials that compose the walls. The roof of the Period I attic was raised subsequent to Period I construction. An eighteen-inch-tall border of original log construction runs along the base of all of the Period I attic-level walls. From this point upward, battened asbestos siding covers the walls, rising to nearly nine-and-a-half feet in height at the gable ends. Access to the small attic of the Period II addition is provided on the Period I attic's eastern wall, through a board and batten door. The brick chimneystack dominates the west gable end, as it rises almost the entire height and spreads over half the width of the wall, leaving space for one small two-over-two casement window. A set of four tall casement windows line the south wall, and the north wall of the Period I attic room contains a single tall casement window. A modern closet has been added in the southeast corner. At the east gable end, several stairs rise before a short, batten door that leads to the attic of the Period II two-and-one-half-story addition. The attic space of the Period II addition reveals two small windows on either side of the centrally-placed interior-end chimney on its eastern gable end, and a door leading to the north attic. The north attic has a single window on the north, gable end.

***Outbuildings and Significant Landscape Features:*** The Langley-Flint House property also contains the ruins of a large stable, an intact spring house, a fieldstone retaining wall, and a late twentieth century concrete block garage. All of these structures, save the garage, exhibit the use of fieldstone in their composition. The 1816-1817 tax assessments for Christiana hundred ascribe one log dwelling and one stable to the earliest documented owner William Langley.<sup>2</sup> Neither the spring house nor the retaining wall, however, is described in any of the historic accounts of the property. Each of these features display the use of the same granite stone in its construction. The stable's location, north and upgrade of both the dwelling and the spring house, is curious, as runoff from livestock waste would have undoubtedly affected both the water supply and the immediate exterior environment of the dwelling.

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<sup>2</sup> New Castle County Assessments, Christiana Hundred, 1816—17, Delaware Public Archives, Dover, Delaware

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Built circa 1815, the Langley-Flint House stands as a rare, intact and surviving example of log construction methods employed at the turn of the eighteenth century. Erroneously categorized as architecture of the frontier, log was the preferred building material during the late eighteenth and early nineteenth centuries in Delaware. Its decline in use and popularity, brought on in part by the rebuilding cycles associated with agricultural reform during the second quarter of the nineteenth century, underscores how many log structures disappeared from the landscape entirely. The discovery of an extant log structure, constructed with methods like those used in the Langley-Flint House, is an important find. Contextually, the Langley-Flint House relates to patterns noted and described in the statewide (draft) context *Log Dwellings in Delaware, 1780-1860 +/-*. The House meets National Register Criterion A for its association with building patterns common to Delaware between 1780 and 1830. The Langley-Flint House also meets National Register Criterion C area of architecture because it is an excellent example of the skill and craftsmanship needed and involved in constructing a dwelling of its type.

***Historic Context***

William Penn described, in great detail, his preferred housing model for new immigrants in his "Information and Directions to such persons as are inclined to America," which consisted of timber framing members and clapboards sheathing both the exterior envelope of the dwelling as well as the dwelling's interior (thus, creating a space between outer and inner coverings which could be filled in between).<sup>3</sup> The ground floor interior was divided with partition walls, forming one large room and two small rooms. The one-and-one-half story structure contained space for a loft or garret and while clapboards comprised the flooring of the loft, no provisions were made for flooring on the lower level, nor did Penn mention chimneys, windows, or doors in his plan. The cost of a house and barn of similar dimensions was estimated at fifteen pounds, ten shillings; the labor for its construction provided by the landowner and his servants. Although Penn estimated this type of housing nearly maintenance free for at least ten years, other construction methods, contemporaries of his frame and clapboard technique, provided more durability, stability, and overall comfort. The noted Delaware historian J. Thomas Scharf wrote:

A better class of houses than these clapboard ones with dirt floors were soon built. Indeed, the old log houses of the Swedes were more comfortable, especially when built like that of Sven Seners' at Coaquannoc, with a first story of stone and the superstructure of logs. A well-built log house, on a stone foundation, well filled in with bricks or stone and mortar, and ceiled inside with planking like a ship, makes the dryest, warmest and most durable country house that can be built.<sup>4</sup>

<sup>3</sup> J. Thomas Scharf, *History of Delaware: 1609-1888*. Vol. I ( Philadelphia: L. J. Richards & Co., 1888), 165.

<sup>4</sup> Scharf, 166.

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Although he described Sven Sener's house at Coaquannoc, Scharf could have well been writing about the Langley-Flint House. Seated on a hilltop near Centerville, a one-and-a-half "log superstructure" rests atop a single-story stone foundation. The interstices "well filled in with bricks or stone and mortar, and ceiled inside with planking like a ship." Even though Scharf credited the Swedes as the source for log construction methods, many ethnic groups contributed to the American catalog of log construction.

Log was used as a construction material in America from European contact to the early twentieth century.<sup>5</sup> Many of America's early immigrants were certainly acquainted with log dwellings upon their arrival to the colonies. Antecedents of both horizontally- and vertically-laid log dwellings were a part of the western European building tradition for thousands of years and although the regional differences were discernable between many cultural groups in Europe, the building methods were alike enough to be easily merged.<sup>6</sup> Immigrants to America and their decedents continued in the same tradition, using readily-available materials and well-known and practiced construction techniques, often synthesizing methods from different ethnic groups.

With seemingly endless supplies of forested land in the new world, the basic materials for log buildings, trees, were readily available. By the late eighteenth century, log was the preferred construction material in Delaware. Between 1780 and 1830, log buildings were nearly two-times more prevalent on the Delaware landscape than both frame and brick buildings.<sup>7</sup> The use of log during this period was common to both agricultural laborers and members of society's elite.<sup>8</sup> The variety in form ranged from single-story hall-chamber plans to three-story center-passage mansions while exterior and interior finishes also varied widely and typically corresponded to the owner's social and economic status.<sup>9</sup>

Construction details, level of finish, and scale varied throughout the state. All of the log dwellings built in Delaware, however, share one construction method: the use of horizontally-laid timbers which were attached at the corners.<sup>10</sup> The defining characteristics of the log house include: the method used in dressing the logs, the structure's corner notching, and

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<sup>5</sup> Gabrielle M. Lanier and Bernard L. Herman, *Everyday Architecture of the Mid-Atlantic: Looking at Buildings and Landscapes* (Baltimore: Johns Hopkins University Press, 1997), 71.

<sup>6</sup> Dell Upton, Introduction, *America's Architectural Roots: Ethnic Groups that Built America*, edited by Dell Upton (Washington, DC: The Preservation Press, 1986), 13.

<sup>7</sup> Statistics compiled by Rebecca J. Siders, et al. from New Castle, Kent, and Sussex County Orphans Court Records, and reported in the National Register of Historic Places draft nomination *Log Dwellings in Delaware, 1780-1860 +/-* (Newark, Delaware: Center for Historic Architecture and Engineering, 1996), E-1 (hereafter *Log Dwellings in Delaware*).

<sup>8</sup> *Log Dwellings in Delaware*, E3 – E4.

<sup>9</sup> *Log Dwellings in Delaware*, E3 – E4.

<sup>10</sup> *Log Dwellings in Delaware*, E-1.

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the chinking filling the gaps between the logs.<sup>11</sup> Although sawn timbers with dovetailed notches represented the finest techniques in log construction and logs left “in the round” represented the lowest of treatments, most commonly, the logs were hewn as seen in the Langley-Flint House. “Hewn log structures were normally composed of logs worked flat with a broad axe on the two vertical or wall sides, and the upper and lower edges left in the round. In some instances hewing extended to all four surfaces.”<sup>12</sup> The corner joints, or notching, of the Langley-Flint House are not visible on the building’s exterior. The exposed walls of the dwelling’s interior, however, provide insight into the notching technique likely used. Of the three notching methods common to the Delaware valley, dovetailing, mortise-and-tenon joints, and V-notching, the Langley-Flint House appears to utilize the last.<sup>13</sup> The absence of corner posts in the building’s interior provides sufficient evidence that the builder did not use mortise-and-tenon joinery. Dovetailing is most often associated with sawn log and plank buildings.<sup>14</sup> Therefore, it is most likely that the Langley-Flint House utilized V-notching in its corners, the method most commonly associated with the use of hewn timbers.<sup>15</sup> Openings between timbers were filled with various materials mixed into a mortar. These often included what was found on or near the construction site: rubble, wood scraps, bricks, or a combination of two.<sup>16</sup> Evidence of the composite chinking of the Langley-Flint House is seen in the dwelling’s exposed interior walls. A covering of whitewash on the interstices between logs does little to conceal the material underneath. Uneven rubble stone, most likely the same type of stone used in the building’s foundation, can be felt below the whitewashed surface.

The Langley-Flint House fits into the general pattern of log building construction in Delaware during the early nineteenth century. Built of horizontally-laid hewn timbers, the two-and-a-half-story single-pen dwelling exhibits both refined and coarse interior finishes. The difference in interior treatment is seen in the comparison of the first and second floors where the lower floor, that once housed the dwelling’s kitchen, displays whitewashed but plain floor joists and a large fireplace and hearth while the second floor exhibits beaded joists and a small fireplace and hearth.

The Langley-Flint House began its life as a single-pen two-and-one-half story log dwelling on the hilly landscape of northwestern New Castle County in the first quarter of the nineteenth century. At least four additions were appended to the original log structure, which speak to its continued use as a residence throughout the nineteenth and twentieth centuries. Its location, on a cleared, slightly terraced lot, set back from the road, may have precluded the need or desire to raze the building when opportunities to make improvements arose. For one reason or another, the owners, of which there

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<sup>11</sup> Lanier and Herman, 73.

<sup>12</sup> Bernard L. Herman, *Architecture and Rural Life in Central Delaware, 1700-1900* (Knoxville: The University of Tennessee Press, 1987), 91.

<sup>13</sup> Lanier and Herman, 73.

<sup>14</sup> Lanier and Herman, 73.

<sup>15</sup> Lanier and Herman, 73.

<sup>16</sup> *Log Dwellings in Delaware*, E-1.

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were many, found the log dwelling sufficient and unlike many of its contemporaries, the Langley-Flint House survived the rebuilding cycles associated with the agricultural reform movement.

Amid the onset of the agrarian reformation during the second quarter of the nineteenth century and improved modes of transportation near mid-century the use of log waned and construction materials such as brick and frame rose in popularity. Agricultural reform was brought about by the “industrialization of agriculture” - changes in agricultural science and farming tools which improved farm yields and allowed the farmer to work larger tracts of land in shorter periods of time through the use of new and improved mechanized farm equipment.<sup>17</sup> This reform brought with it a “new order of architecture;” a system which compartmentalized uses into distinct spaces on the farm, in the house, and within social order.<sup>18</sup> The rebuilding cycles that accompanied the changes in agricultural technology during the second and third quarters of the nineteenth century changed the built landscape of Delaware. “From 1830 to 1860 architectural renewal would run its course and scarcely a single farm house emerged unaltered; most were significantly enlarged or replaced.”<sup>19</sup>

During the same period, changes were also occurring that altered how people transported themselves and their products throughout the mid-Atlantic. The completion of the Chesapeake and Delaware Canal in 1829 opened a trade route that bisected lower New Castle County by providing merchant ships a shorter route between the Delaware and Chesapeake Bays than the long journey around the peninsula. During the mid-1850s, a railroad corridor, running along the spine of Delaware, and its many spur tracks linked the north, central, and southern counties. These improved means of transport changed commerce, particularly agricultural trade. Tender crops, such as fruit, which were susceptible to spoilage during long journeys, could be transported quickly to large urban markets. In addition, the railroad and canal provided a nexus of idea sharing; filtering and communicating modern philosophies of the urban world. Fueling the rise in wealth brought on by the scientific improvements and technological advancements of the agricultural reform movement the canal and railroad provided more and larger venues for the agricultural market.

Already in decline by the 1820s, very few farmers engaged in log construction by mid-century; only the poorest of the community continued its employ.<sup>20</sup> The disappearance of log structures can be attributed to the agricultural reform and the subsequent rise in wealth and status among many of the state’s farmers. The reform and its practices brought an appreciation for order and its application to all things within society.<sup>21</sup> This pervasive philosophy extended into their households and changed how they viewed order within the built environment. It required discreet spaces, serving

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<sup>17</sup> Lanier and Herman, 178.

<sup>18</sup> Herman, 119-120.

<sup>19</sup> Herman, 128.

<sup>20</sup> *Log Dwellings in Delaware*, E-4.

<sup>21</sup> Herman, 119.

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particular functions; order. The small, single-pen log house allowed for multiple uses within the same place and was often open-plan in design; admitting all into the nucleus of the house. While a closed plan grouped spaces according to use, it also directed residents and guests through specific corridors and chambers (stair hall, parlor, kitchen, bedroom). The center-hall and side-passage hall answered the call for order. This philosophical change, played out in the built environment, saw the demise of the log structure.

Log dwellings suffered several fates during the rebuilding period. Affluent farmers demolished some [log] structures entirely, replacing them with new frame or brick homes. Other log dwellings served new functions as outbuildings. In some cases, owners incorporated the older dwellings into their new homes as service ells.<sup>22</sup>

Obtaining an accurate count of extant log dwellings is nearly impossible; as many were sheathed in an exterior cladding and those that survived the agricultural reform may now lie within the core of several appended additions.

*Narrative*

The Langley-Flint House has changed hands numerous times, with eleven documented owners in the nineteenth century, and four additional owners in the twentieth century prior to its transfer to the State of Delaware in 1994. Local lore asserts that a British deserter from the Battle of the Brandywine built the Langley-Flint House.<sup>23</sup> No documentary records support such a tale, though in the 1920s, a resident's discovery of an antique muzzle loader in the chimney corner of the attic provides anecdotal evidence.<sup>24</sup>

Contemporary records describe the first documented owner of Langley-Flint House, William Langley, as a "yeoman."<sup>25</sup> He was first listed as a Christiana Hundred property owner in the 1816--17 tax assessment, which valued his property at \$1258. The assessment described 34 acres of land valued at \$37. Langley's parcel included one log dwelling and a stable, 8 acres of woodland and 26 acres of improved land. He also owned \$80 worth of livestock.<sup>26</sup> An 1820 description places Langley's property in relation to his Christiana Hundred neighbors, "bounded by lands of George Matson, Joseph Hollingsworth and William Twaddell, with a log dwelling house and stable...containing thirty four acres."<sup>27</sup> Langley first

<sup>22</sup> *Log Dwellings in Delaware*, E-2.

<sup>23</sup> The Centreville Civic Association, Centreville, "Delaware, 1750—1976: A History of the Village from Colonial Times Prepared and Published by the Centreville Bicentennial Committee" (Wilmington, DE: Opportunity Center, Inc., 1976), p. 58.

<sup>24</sup> *Ibid.*

<sup>25</sup> New Castle County Court of Common Pleas, Appearance Docket, May Term 1807, John Anderson v. John Hemphill et al.

<sup>26</sup> New Castle County Assessments, Christiana Hundred, 1816—17, Delaware Public Archives, Dover, Delaware.

<sup>27</sup> *Ibid.*

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appears in Christiana Hundred census records in 1820, as head of a household of seven people.<sup>28</sup> Little is known about his household, except for his wife's name, Sarah.<sup>29</sup> The region's early census reports recorded two or three Langleys at most, and although William Langley is not named in the census prior to 1820, it is likely that previous reports counted him in the household of his father or another male relative. In both the 1800 and 1810 censuses, Thomas Langley was listed as head of households that include males of ages that seem chronologically appropriate for William Langley.<sup>30</sup>

In 1817, Benjamin Lobb sued Langley for debts of \$800 and \$1400.<sup>31</sup> Interestingly enough, Benjamin Lobb also sued the Langley-Flint House's second documented owner, Bernard Dolton, and one of Langley's neighbors, wheelwright Joseph Hollingsworth, on the same day in 1817 and for the same amount of money.<sup>32</sup> Langley evidently failed to repay the debt as ordered by the court, and in 1820 the sheriff seized his property against the \$800 owed to Lobb.<sup>33</sup> In 1821, having established that the profits yielded from Langley's property would not be sufficient to pay the debt within seven years, the sheriff auctioned Langley's property. Bernard Dolton, carpenter and yeoman, purchased Langley's seized property for \$700.<sup>34</sup>

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<sup>28</sup> Langley's household included one boy under 10, one girl under 10, one female 15 to 26, one male 26 to 45, one female 26 to 45, and one male over 45. Fourth Census of the United States, 1820, Manuscript Population Schedules, Christiana Hundred, New Castle County, Delaware, page 115, Bureau of the Census, National Archives.

<sup>29</sup> Langley to Hollingsworth, New Castle County Deed Book I, Vol. 4, Page 105, 1829, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>30</sup> In the census of 1800 a Thomas Langley is listed as head of a household that includes six people: one boy under 10, one boy 10 to 15, two girls under 10, one girl 10 to 15, and one male 26 to 44 (Second Census of the United States, 1800, Manuscript Population Schedules, Christiana Hundred, New Castle County, Delaware, page 182, Bureau of the Census, National Archives). The 1810 census identifies Thomas Langley as head of a household of seven people: one boy 10 to 15, two boys 15 to 25, three female 26 to 45, and one male over 45 (Third Census of the United States, 1810, Manuscript Population Schedules, Christiana Hundred, New Castle County, Delaware, page 163, Bureau of the Census, National Archives). If William Langley was between the ages of 26 and 45 in 1820, he could have been the boy under 10 or the boy age 10 to 15 in the 1800 census, and in 1810, could have been one of the two boys between age 15 and 25. Thomas Langley is not listed separately in the 1820 census and under this scenario, he could be the "male over 45" in the William Langley household.

<sup>31</sup> Langley also faced a lawsuit in 1807, when he was among thirty-eight men sued by John Anderson. New Castle County Supreme Court, March Term 1817, Case Files 261 to 333, Delaware Public Archives, Dover, Delaware.

<sup>32</sup> New Castle County Supreme Court, March Term 1817, Case Files 261 to 333, Delaware Public Archives, Dover, Delaware.

<sup>33</sup> Langley to Dolton, New Castle County Deed Book B, Vol. 4, page 474, 1821, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>34</sup> *Ibid.*



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Bernard Dolton was a carpenter and yeoman when he purchased the property from Langley.<sup>35</sup> His wife Sarah and three minor children, Joel, Thomas, and Lydia,<sup>36</sup> are most likely among the eight household members recorded by the census of 1820.<sup>37</sup> The census noted that none of the household was engaged in agriculture, though two people worked in “manufactures,” implying that at least one of the younger males of the household worked with Dolton in his carpentry trade. Upon his death in September 1825, Dolton’s goods were appraised at \$183 and consisted primarily of carpentry tools.<sup>38</sup>

In addition to the tools of his trade, Dolton left three plots of land: in the village of Centreville, a house on a one-and-a-half-acre lot and another one-and-a-half-acre lot, and the Christiana Hundred log house with its thirty-four acres, later known as the Langley-Flint House.<sup>39</sup> At that time, the thirty-four acre lot contained “a log house thereon and a stone cellar under it.”<sup>40</sup> It is unclear whether the Dolton family lived in the log house during Bernard Dolton’s lifetime or subsequent to his death. In 1826, Peter Hendrickson, administrator of Bernard Dolton’s estate, petitioned the Orphans Court for permission to sell Dolton’s three properties for payment of his debts.<sup>41</sup> Sarah Dolton, Bernard’s widow, then petitioned the court for retention of one-third of the property as her widow’s dower.<sup>42</sup> The 1827 survey submitted to the court to determine her widow’s dower included a map showing the location of the lot Dolton purchased from Langley, designated “Lot No. 3.”<sup>43</sup> In 1828, Bernard Dolton’s estate, exclusive of the widow’s dower, was sold. Benjamin Hollingsworth purchased “Lot No. 3,” with the log house, paying either \$505 or \$572.60, according to conflicting public records.<sup>44</sup> The 1828 tax assessment listed the “log house and thirty acres of Bernard Dolton’s estate” as “transferred to

<sup>35</sup> J. Thomas Scharf, *History of Delaware: 1609-1888*, Volume II (Philadelphia, PA: Richards & Co., 1888), 887.

<sup>36</sup> New Castle County Orphans Court Docket, Book M, Volume 1, page 173, Bernard Dolton, 1826, Delaware Public Archives, Dover, Delaware.

<sup>37</sup> The census of 1820 lists Bernard Dolton (listed as Barnard Dalton) as head of a household that includes: two boys under 10, one girl under 10, one boy 16 to 18, one male 18 to 26, one male 26 to 45, one woman 18 to 26, and one woman 26 to 45. Fourth Census of the United States, 1820, Manuscript Population Schedules, Christiana Hundred, New Castle County, Delaware, page 121, Bureau of the Census, National Archives.

<sup>38</sup> New Castle County Assessments, Christiana Hundred, 1825 to 1828, Delaware Public Archives, Dover, Delaware.

<sup>39</sup> *Ibid.*

<sup>40</sup> *Ibid.*

<sup>41</sup> New Castle County Orphans Court Docket, Book M, Volume 1, page 173, Bernard Dolton, 1826, Delaware Public Archives, Dover, Delaware.

<sup>42</sup> New Castle County Orphans Court Docket, Book M, Volume 1, page 184, Bernard Dolton, 1826, Delaware Public Archives, Dover, Delaware.

<sup>43</sup> New Castle County Orphans Court Docket, Book M, Volume 1, page 265, Bernard Dolton, 1826, Delaware Public Archives, Dover, Delaware.

<sup>44</sup> According to the Orphans Court, Hollingsworth paid \$505 for the property. New Castle County Orphans Court, Book N, Volume 1, page 50, Bernard Dolton, 1828, Delaware Public Archives, Dover, Delaware. The recorder of deeds, however, notes that he paid

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Benjamin Hollingsworth” and worth \$550.<sup>45</sup> The assessment also implied that Sarah Dolton retained the Centreville house and lot as her widow’s dower.<sup>46</sup> In 1829, for the sum of \$50, Sarah Langley, William Langley’s widow, sold Hollingsworth any claim of dower rights she had on the property, confirming his full possession of the property.<sup>47</sup>

Like his predecessor Bernard Dolton, Benjamin Hollingsworth was a carpenter and it is unclear whether the Langley-Flint House served as a residence or rental property for him.<sup>48</sup> At the time of his purchase of the Langley-Flint House, Hollingsworth owned property and livestock worth \$762.<sup>49</sup> A decade later, at his death in 1838, Hollingsworth’s personal goods were assessed for just \$93, although they included such niceties as a card table and secretary.<sup>50</sup> In 1838, Benjamin Hollingsworth and his wife Elizabeth sold the lot and house to Charles and Susan Todd for \$950.<sup>51</sup> The Todds still owed Hollingsworth a mortgage of \$450 at the time of his death later that same year,<sup>52</sup> and they did not pay the mortgage in full to Hollingsworth’s estate until 1841.<sup>53</sup> The Todds completed payment of their mortgage debt on the same day that they sold the thirty-four-and-one-half-acre property, along with a nearby 12 acre lot, for \$1500 to Thomas and Elizabeth Neals of Christiana Hundred.<sup>54</sup>

In 1843 Rebecca Todd obtained a sheriff’s writ granting her possession of the forty-five-and-one-half acres that the Neals purchased from the Todds in 1841. Rebecca Todd, presumably an heir to Charles and Susan Todd, then sold the property to Elizabeth Pierce that same year.<sup>55</sup> The conditions of the sale were that Elizabeth Pierce pay Rebecca Todd \$700, and

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\$572.60. Dolton to Hollingsworth, New Castle County Deed Book G, Vol. 4, page 47, 1828, New Castle Recorder of Deeds, Wilmington, Delaware.

<sup>45</sup> New Castle County Assessments, Christiana Hundred, 1828, Delaware Public Archives, Dover, Delaware.

<sup>46</sup> In the 1828 tax assessment, his widow Sarah’s property included one lot and house not on rent valued at \$300, while Bernard Dolton’s estate also included one lot not on rent worth \$150 and one log house not on rent with thirty acres worth \$500. New Castle County Assessments, Christiana Hundred, 1828, Delaware Public Archives, Dover, Delaware.

<sup>47</sup> Langley to Hollingsworth, New Castle County Deed Book I, Vol. 4, page 105, 1829, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>48</sup> Scharf, 887.

<sup>49</sup> New Castle County Assessments, Christiana Hundred, 1828, Delaware Public Archives, Dover, Delaware.

<sup>50</sup> Benjamin Hollingsworth, 1838, New Castle County Probate Records, Delaware Public Archives, Dover, Delaware.

<sup>51</sup> Hollingsworth to Todd, New Castle County Deed Book B, Vol. 5, page 6, 1838, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>52</sup> Benjamin Hollingsworth, 1838, New Castle County Probate Records, Delaware Public Archives, Dover, Delaware.

<sup>53</sup> *Ibid.*

<sup>54</sup> Todd to Neal, New Castle County Deed Book D, Vol. 5, page 497, 1841, New Castle County Record of Deeds, Wilmington, Delaware.

<sup>55</sup> Todd to Pierce, New Castle County Deed Book N, Vol. 5, page 120, 1843, New Castle County Recorder of Deeds, Wilmington, Delaware.

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pay Thomas Neals \$750.<sup>56</sup> The 1850 Rea & Price Map of Christiana Hundred shows “I. (or J.) S. Pierce” as the owner of the house [see map]. In 1851, Elizabeth Pierce sold both lots, including forty-five-and-one-half acres and the Langley-Flint House, to Joseph Crosgrove for \$1820.<sup>57</sup>

In 1857, Joseph and Rachel Crosgrove, in turn, sold the same two lots, containing a total of forty-five-and-one-half acres, to Jesse and Ann Graves of Christiana Hundred for \$2750.<sup>58</sup> The Graves held the property for only two years, and sold it for \$2750 to Cromwell P. Moore of Birmingham Township, Chester County, Pennsylvania, in 1859.<sup>59</sup> Cromwell Moore also purchased additional land from the children of the second documented owners, Bernard and Sarah Dalton.<sup>60</sup>

The family of Cromwell Moore held this consolidated acreage until 1889.<sup>61</sup> Moore apparently owned additional land, for the 1877 to 1881 Christiana Hundred tax assessment listed his property as 76 acres, with buildings “LH and FB” (log house and frame barn), livestock worth \$150 and poll tax of \$400, for a total valuation of \$4750.<sup>62</sup> Upon the death of Cromwell Moore, his wife and two sons sold two lots to John Mullen of Wilmington. The first lot, sold to Mullen for \$75 in January 1889, consisted of the one-and-three-quarter-acre lot “beginning in Twaddels Road near Thomas Kent’s dwelling.”<sup>63</sup> This was the lot laid aside in 1828 as widow’s dower for Sarah Dalton, and sold by her children to Cromwell Moore. In March 1889, Mullen paid Edith B. Moore \$2675 for the log house and its forty-five-and-one-half acres

<sup>56</sup> *Ibid.*

<sup>57</sup> Pierce to Crosgrove, New Castle County Deed Book F, Vol. 6, page 458, 1851, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>58</sup> Crosgrove to Graves, New Castle County Deed Book F, Vol. 7, page 412, 1857, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>59</sup> Graves to Moore, New Castle County Deed Book F, Vol. 7, page 427, 1859, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>60</sup> In 1863, two of Bernard and Sarah Dalton’s children, Joel Dalton and his wife Rebecca and Lydia Dalton and her husband William Massey, sold the widow’s dower granted to their mother in 1828. They sold two lots to their brother Thomas Dalton, for the sum of \$20. Included in the two lots sold was the widow’s dower acreage, here designated as “Lot No. 2,” laid aside from the lot Bernard Dalton purchased in the sheriff’s sale of William Langley’s property. Dalton and Massey to Dalton, New Castle County Deed Book U, Vol. 7, page 83, 1863, New Castle County Recorder of Deeds, Wilmington, Delaware. The same year, Cromwell Moore purchased the 1 ¼ 18 perches “Lot No. 2” from Thomas and Eliza Dalton for \$75. Dalton to Moore, New Castle County Deed Book T, Vol. 7, page 331, 1863, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>61</sup> “C. Moore” is shown as the owner of the house in both Pomeroy & Beers Map of 1868 and Hopkins Map of 1881. *Atlas of the State of Delaware From Actual Surveys by and under the Direction of D. G. Beers* (Philadelphia: Pomeroy & Beers, 1868) and *Map of New Castle County, Delaware. From Actual Surveys and Records* (Philadelphia: G. M. Hopkins & Co., 1881)

<sup>62</sup> New Castle County Assessments, Christiana Hundred, 1877 to 1881 Taxables, Delaware Public Archives, Dover, Delaware.

<sup>63</sup> Moore, et. al., to Mullen, New Castle County Deed Book O, Vol. 14, page 314, 1889, New Castle County Recorder of Deeds, Wilmington, Delaware.

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“beginning at a stone in the middle of Twaddell Road.”<sup>64</sup> John Mullen owned the property until August 1912, and was a widower when he sold both lots for a total of \$3,800. His purchaser, Ernest T. Kimberly of Wilmington, was a single man who owned the property for just under two years.<sup>65</sup> In July 1914, Kimberly sold both lots to Morris and Sarah Frankel of Wilmington for \$4800.<sup>66</sup> The Frankels’ ownership was even briefer, for one year later, in July 1915, they sold both lots to Hannah Earp Porter of Wilmington. Porter, daughter of William H. and Annie E. Armstrong and widow of attorney Willard Hall Porter, Senior, purchased the property for \$5200, and it remained in her possession until her death in 1958.<sup>67</sup> In 1918, the property was assessed for \$4220, with thirty tillable acres valued at \$2000, seventeen unimproved acres valued at \$500, and buildings valued at \$1700.<sup>68</sup> By 1938, the property increased in assessed value to \$5550, with thirty tillable acres valued at \$3000, seventeen unimproved acres valued at \$850, and buildings, including a tenant’s dwelling, still assessed at \$1700 as they had been twenty years earlier.<sup>69</sup>

Hannah Porter initially used the house as a “summer cottage” and only later made it a rental property.<sup>70</sup> When it was her summer home, Porter landscaped the grounds and planted numerous roses. Early twentieth-century tenants remembered the property as wooded and beautiful, despite its unappealing moniker, “Skunk Hollow.” At some point between 1915 and 1927, Porter’s daughter died of typhoid, caught at the family’s summer home “perhaps from manure draining from the adjoining pasture” into the springhouse, which was the house’s sole water supply. After that tragedy, Porter ceased using the home and made the Langley-Flint House a rental property. Her tenants included Thomas Edison, Junior and his wife, who lived in the property before 1927, and Charles Lee Reese, Junior, his wife and infant son, from 1927 to 1929. According to Reese by the time of their occupancy, significant additions had been made to the log house, including a frame kitchen, bathroom, sitting room, bedroom and porch, and a “large bedroom above the living room, under a peaked

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<sup>64</sup> Moore, et. al., to Mullen, New Castle County Deed Book O, Vol. 14, page 311, 1889, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>65</sup> Mullen to Kimberly, New Castle County Deed Book X, Vol. 23, page 524, 1912, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>66</sup> Kimberly to Frankel, New Castle County Deed Book C, Vol. 25, page 200, 1914, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>67</sup> Frankel to Porter, New Castle County Deed Book R, Vol. 25, page 324, 1915, New Castle County Recorder of Deeds, Wilmington, Delaware and Hanna Earp Porter, New Castle County Will Book D, Vol. 9, page 182, New Castle County Register of Wills, Wilmington, Delaware.

<sup>68</sup> New Castle County Assessments, Christiana Hundred, 1918, Delaware Public Archives, Dover, Delaware.

<sup>69</sup> New Castle County Assessments, Christiana Hundred, 1938, Delaware Public Archives, Dover, Delaware.

<sup>70</sup> Information in this paragraph concerning Hannah Porter’s ownership of the house, unless otherwise noted, is taken from: The Centreville Civic Association, Centreville, “Delaware, 1750—1976: A History of the Village from Colonial Times Prepared and Published by the Centreville Bicentennial Committee” (Wilmington, DE: Opportunity Center, Inc., 1976), pp. 58-9.

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roof.” The house’s heat sources were the original fireplaces and coal and wood-burning stoves. Water pipes for the house ran above ground, and the water tank was in the barn, which apparently was not the ruin it is today.

Hannah Porter or her son Willard Hall Porter, Junior, may have also occupied the house between 1938 and 1943.<sup>71</sup> At the time of Hannah Porter’s death in 1958, she retained the house and approximately nineteen of the nearly 47 acres she had purchased from the Frankels in 1915. Despite the reduced acreage, the lot was valued at \$57,500, a considerable increase above its 1938 value.<sup>72</sup>

The arrangements made between the heirs of Hannah Porter and the next buyer of the property are unclear. In 1958, Lucile E. du Pont Flint of Christiana Hundred purchased the nineteen-acre property from the Bank of Delaware, Administrator of Hannah Porter’s estate, for “\$5 and other valuable considerations.”<sup>73</sup> Lucile du Pont Flint and her husband, Robert Flint, owned extensive property in Christiana Hundred. In 1994, she deeded 137 acres of land, including the Langley-Flint House, to the State of Delaware for \$10,<sup>74</sup> to establish the Flint Woods Nature Preserve. The preserve is administered by the Department of Natural Resources and Environmental Control of the State of Delaware.<sup>75</sup> A park ranger currently resides in the dwelling.

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<sup>71</sup> Hannah Porter is listed as a resident of Centerville in 1943, when she registered her will, and her son’s death certificate notes his place of death in 1952 as “Twaddell Road.” Hannah E. Porter, New Castle County Register of Wills File Folder No. 38840, Roll No. 490, New Castle County Register of Wills, Wilmington, Delaware.

<sup>72</sup> *Ibid.*

<sup>73</sup> Bank of Delaware (Administer of Porter’s Estate) to Flint, New Castle County Deed Book W, Vol. 62, page 590, 1958, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>74</sup> Flint to State of Delaware, New Castle County Deed Book 1863, page 328, 1994, New Castle County Recorder of Deeds, Wilmington, Delaware.

<sup>75</sup> *Ibid.*

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The Langley-Flint House fits into the Delaware Comprehensive Plan under the following framework:

Zone: Piedmont  
Period: 1770-1830 +/- (Early Industrialization)  
Theme: Architecture, Engineering, and Decorative Arts  
Property Type: Hall Plan, Single Pen Log Dwelling

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**Verbal Boundary Description**

New Castle County Tax Parcel 07-007.00-095. Currently owned by the Delaware Department of Natural Resources and Environmental Control (DNREC) and administered as the Flint Woods Nature Preserve.

**Verbal Boundary Justification**

The nomination includes the entire Flint Woods Nature Preserve because it includes the Langley-Flint House and 137 acres of open space that is protected by the State of Delaware from development that is rapidly occurring in this part of New Castle County, Delaware.

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