

## **SENSITIVE AREAS ELEMENT**

### **Introduction**

This sensitive areas element supports and addresses Vision Two of the Economic Growth, Resource Protection, and Planning Act of 1992, "*Sensitive areas are protected.*" The need to protect environmentally sensitive areas is based on the concept that these resources are vital to the well being of the Town and its residents. Disturbance of these areas degrades or eliminates natural processes that provide protection from localized flooding, as well as habitat protection and groundwater supply. Furthermore, alteration of these areas can impact the natural resources which contribute to the Town's character and the residents' quality of life.

### **Sensitive Areas**

The Economic Growth, Resource Protection, and Planning Act of 1992, and as amended by House Bill 1141 (enacted during the 2006 Maryland Legislative Session), requires that the comprehensive plan address protection of the following sensitive areas:

- Streams, wetlands, and their buffers; •  
100-year floodplain;
- Habitats of threatened and endangered species;
- Steep slopes;
- Agricultural and forestlands intended for resource protection; and,
- Other sensitive areas a jurisdiction wants to protect from the adverse impacts of development.

### **Sensitive Areas Goals**

- (1) Preserve the natural resources and features of Mardela Springs and the surrounding environs to insure a balance between development and the need to protect natural resources or features.

- (2) Minimize adverse impacts on water quality (including ground water) that result from high nutrient loadings or pollutants in runoff from surrounding lands or from pollutants that are discharged from structures; and to conserve fish, wildlife, and plant habitats in the Town.

## **Sensitive Areas Analysis**

### **Streams, Wetlands, and Their Buffers**

Mardela Springs is located on Barren Creek, a tidal tributary of the Nanticoke River. The Nanticoke River is among the many bodies of water that feed into the Chesapeake Bay, the Nation's largest and most productive estuary. The balance of the Bay's delicate ecosystem can be damaged by development, which creates stormwater runoff that overloads the Bay with nutrients and clouds it with sediments. Streams are important spawning ground for fish and help to support other types of wildlife. Therefore, it is important Barren Creek is protected and that development which could degrade the water quality of the Bay be controlled.

The non-tidal wetlands within Mardela Springs are generally confined to land adjacent to or near Barren Creek and its tributaries, and are found in the form of forested wetlands. (See Map #6) These areas help maintain the ecological balance of plant and animal life and contribute to the quality of our environment, both urban and rural.

Stream buffers are areas along the lengths of stream banks, established to protect streams from man-made disturbances. Buffers are a "best management technique" that reduces sediment, nitrogen, phosphorous, and other runoff pollutants by acting as a filter, thus minimizing damage to streams. Stream buffers also improve habitat for fish and other stream life, and provide for wetland habitats. Within the Town's Critical Area, a 100' Tidal Buffer is required from the landward edge of tidal water, tidal marsh, and tributary streams. Both within and outside of the Town's Critical Area, there is a State non-tidal wetland regulation that requires a 25-foot buffer from non-tidal wetlands.

### **Wetlands Of Special State Concern (WSSC)**

Wetlands of Special State Concern are the best examples of Maryland's non-tidal wetland habitats and are designated for special protection

under the State's nontidal wetlands regulations. These wetlands have exceptional ecological and educational value. Many of these special wetlands contain the last remaining populations of native plants and animals that are now rare and threatened with extinction in the State.

A small portion of a WSSC is present within the current municipal boundary with a larger portion of the WSSC located within the proposed growth area. A guidance map indicating the location of the WSSC is on file at the Mardela Springs Town Hall. The Town intends to work with landowners to maintain the WSSC in its natural state, avoiding impacts to the native vegetation or the quantity and quality of water in the wetland. Where possible, forestry, agricultural, and development activities in the WSSC shall be avoided.

### **100-Year Floodplain**

Historical reasons for floodplain protection have been to guard against injury to people and to prevent the destruction of property. In the context of sensitive areas protection, relatively undisturbed floodplains provide a variety of benefits including moderation and storage of flood waters, reduction of erosion and sedimentation, and maintenance of water quality.

The 100-year tidal floodplain is the land along or adjacent to tidal water that is susceptible to inundation by the 100-year flood generated by coastal or tidal flooding due to high tides, hurricanes, tropical storms, or steady on-shore winds. The non-tidal 100-year floodplain is the land area along or adjacent to non-tidal streams and bodies of water that is susceptible to inundation by the 100-year flood as a result of rainfall and runoff from upland areas.

Floodplain mapping is based on information adapted from the 1992 Federal Insurance Rates Map. Floodplain areas are characterized by relatively flat topography and soil types that were deposited during past inundations by floodwaters.

The Town adopted a Floodplain Ordinance on March 16, 2004, which delegated authority to Wicomico County to administer the floodplain regulations under County Code provisions.

## **Habitats of Threatened and Endangered Species**

At this time, there is no known Federal, State, or locally designated Rare, Threatened, or Endangered Species according to the Maryland Department of Natural Resources, Natural Heritage Division.

## **Steep Slopes**

Steep slopes are defined as slopes 15% or greater. Although there are few steep lands in Mardela Springs, development is regulated on steep slopes within and adjacent to the 100-foot Tidal Buffer (Buffer) within the Town's Critical Area. In such cases, the 100' Buffer should be expanded to include steep slopes and should not be disturbed unless for development of a water dependent facility or via variance approval.

## **Agricultural and Forestlands Intended for Resource Protection**

Currently, Mardela Springs' forested areas are principally comprised of forested non-tidal wetlands, and therefore, are generally well protected under State non-tidal wetland regulations. While the Town does have a few larger parcels which are being actively tilled, these farms are too small in size for conventional long-term resource protection programs such as the Maryland Agricultural Land Preservation Foundation Program.

## **Other Sensitive Areas**

### Chesapeake Bay Critical Area

In adopting the Chesapeake Bay Critical Area Law (Natural Resources Article 8-1801 through 8-1816) the Maryland General Assembly specifically found that there is a critical and substantial State interest in fostering more sensitive development activity along tidal shorelines of the Bay so as to minimize damage to water quality and wildlife habitats. In general, the Critical Area is defined as all lands and water areas within 1,000 feet beyond the landward boundaries of State or private wetlands and the heads of tides. Furthermore, the Critical Area Law established a 100-foot Tidal Buffer, which is a measured 100 feet landward from the mean high water line of tidal waters, tributary streams, and tidal wetlands.

The Critical Area Law required the Town to adopt and implement a Critical Area Program consistent with the guidelines established by the Chesapeake Bay Critical Area Commission. Mardela Springs'

Chesapeake Bay Critical Area Protection Program was adopted on January 20, 1992.

Of the three land management classifications associated with the Critical Area Law, only one such classification, Limited Development Area (LDA), lies within Mardela Springs. (See Map #6) LDA's, as established by the Critical Area Law, are generally defined as those areas currently developed in low or moderate intensity uses, such as single family dwellings and churches, however they can also contain areas of natural plant and animal habitats. There are approximately 126 acres of LDA within the Town, which constitutes approximately 66% of Mardela Springs' total land area.

A large portion of the Town's residential growth area is located within the Critical Area and is classified as Resource Conservation Area (RCA). (See Maps #5 and #6) RCA's allow a permitted density of only one dwelling unit per 20 acres, therefore, upon annexation, Critical Area growth allocation is necessary in order to develop RCA lands at a density consistent with current municipal development patterns. The growth allocation process allows a local government to change a land use management designation from Resource Conservation Area to either Limited Development Area or Intensely Developed Area or to change a Limited Development Area to an Intensely Developed Area. This Critical Area land use management classification change allows for the land to be development at higher per acre densities. The Critical Area Commission's standard for review of growth allocation requests is that the use of growth allocation be consistent with the goals and criteria of the Critical Area Program.

#### Tree Preservation and Forest Conservation

The Maryland Forest Conservation Law requires that clearing of forest be regulated as of December 1992 to insure that certain forest conservation measures are implemented. Jurisdictions are required to adopt a local Forest Conservation Program and implement regulations that are consistent with the requirements of the Law. These requirements apply to building permits, subdivision plats, or applications for a grading and sediment control permit on areas 40,000 square feet or greater. On February 14, 1994, Wicomico County amended Chapter 126 of its County Code to allow the Wicomico County Department of Planning, Zoning, and Community Development to administer the Forest Conservation Act requirements for the Town.

### Groundwater Protection

Groundwater is the sole source of drinking water in Mardela Springs. Increasing demand for groundwater and the relatively shallow level of the local groundwater source make protection of this water source a major concern to the Town. Since surface water in and adjacent to the Town is not suitable for drinking water supply without extensive treatment, it is important that the Town conserve and protect its groundwater supply.

The issue of groundwater protection is further addressed within the Water Resources Element of this Plan.

### **Sensitive Areas Objectives**

The following Mardela Springs' Plan objectives are meant to preserve the natural resources and features of Mardela Springs and the surrounding environs to insure a balance between development and the need to protect natural resources or features:

- (1) Protect the quality of air, water, and land from the adverse effects of growth and development.
- (2) Ensure that development and re-development are controlled so that negative on-site impacts are minimized both during and after construction.
- (3) Maintain, to the extent possible, the natural state of the WSSC in order to preserve its ecological and educational value.
- (4) Continue implementing the Town's Critical Area Program to protect the aquatic habitat along Barren Creek and its tributaries, thereby preserving and enhancing this water body as a natural asset to the community.
- (5) Maintain, to the extent practical, the natural resource base within the Town.
- (6) Assess future development proposals in light of the site's physical suitability to accommodate development while protecting natural resources and the quality of the Town's groundwater.

- (7) Preserve and protect fragile groundwater resources within the Town. (Protection of these resources is specifically addressed within the Water Resources Element of this Plan)

## **Sensitive Areas Policies**

- (1) Direct intensive development activities away from natural areas adjacent or proximate to sensitive areas such as steep slopes, non-tidal wetlands, WSSC, floodplains, and naturally occurring areas.
- (2) Preserve environmentally sensitive areas along Barren Creek and its tributaries.
- (3) Establish specific development policies for reviewing all development activities within sensitive areas, paying particular respect to impacts upon and the protection of groundwater.
- (4) When it is not possible for development to avoid sensitive areas, developers should be required to use construction techniques that minimize impacts. Any necessary adverse impacts to sensitive areas should be sufficiently mitigated.
- (5) Development should be compatible with sensitive areas. Development regulations, such as lot size and yard setbacks, should be revised to provide flexibility for avoiding development in sensitive areas.
- (6) Preserve natural drainageways and provide public access points for maintenance purposes.

## **Sensitive Areas Recommendations**

The recommendations for the Sensitive Areas Element are grouped according to the type of sensitive area, as follows:

### **Streams, Wetlands, and Their Buffers**

- (1) Outside of the Critical Area, it is recommended that the Town define a stream corridor to be measured 100 feet from the stream bank. Any development occurring within this area should be evaluated for its potential impact on adjacent

streams. The minimum stream buffer requirement for areas outside the Critical Area should be 25 feet from the edge of the bank. This stream buffer should be expanded (to as much as 100 feet) if the Town determines it to be in the best interest of protecting the stream.

- (2) It is recommended that the Town continue to ensure the establishment of both the 100-foot Tidal Buffer and the 25-foot non-tidal wetland buffer during the Town's review and approval of subdivision plats and site plans, as well as approvals of individual building permits.
- (3) It is recommended that the Town work with the Maryland Department of Natural Resources (DNR) Natural Heritage Program to develop a review process for any activity within the WSSC. The Town should work with DNR to make sure that the WSSC is protected and that required Buffers are in place.

### **Floodplains**

- (1) The Town should continue to work cooperatively with Wicomico County to ensure the continued adherence to the Town's Floodplain Ordinance.

### **Habitat and Species Protection**

- (1) The Town should require that all development activities address protection of State and federally designated threatened and endangered species. The Town should also require property owners and developers to contact the Maryland Fish, Heritage, and Wildlife Administration (MFHWA) to determine whether proposed activities will occur within or adjacent to identified threatened and endangered species habitat.
- (2) If it is established that an activity will occur within or adjacent to a threatened and endangered species habitat, the Town should require that the property owner or developer provide protection measures in the project design. A written environmental assessment including site design plans and a description of measures to be taken to protect the identified habitat should be required to be submitted to the Town as part of the development review process. The property owner



or developer should also work with the Maryland Natural Heritage Program in establishing species/site-specific protection measures.

### **Steep Slopes**

- (1) The Town should continue to effectively implement the steep slope requirements of its Critical Area Program.
- (2) For steep slopes outside of the Critical Area, land cover or structure placement should be severely limited on any slope with a grade of twenty-five (25) percent. For slopes between fifteen (15) and twenty-five (25) percent, good engineering practices should be required to insure sediment and erosion control and slope stabilization before, during, and after disturbance activities, and to minimize cut and fill.

### **Agricultural and Forestlands Intended for Resource Protection**

- (1) Within its existing boundary, the Town does not currently have any agricultural land and forest land of substantial enough size for resource protection. However, the Town should work in conjunction with Wicomico County to designate important agricultural and forest lands outside of its municipal boundary that may be key resource protection areas.

### **Critical Area Program**

- (1) Mardela Springs' Chesapeake Bay Critical Area Program regulates those lands in the Critical Area. The Town should keep its Critical Area Program current, with respect to the State required six-year update, thereby ensuring that the Town's program is reflective of recent amendments to the State Critical Area Law.
- (2) The Critical Area Program should be used as a reference guide for making educated decisions on land use issues affecting lands outside of the Critical Area. Many of the resource protection measures required in the Critical Area; e.g., stream buffers, limiting development in areas with development constraints, and limits on forest clearing, should be considered for application outside of the Critical Area.

- (3) The Town should continue to work with the Chesapeake and Atlantic Coastal Bays Critical Area Commission Staff to evaluate the most effective means to implement the Town's Critical Area Program, given the fact that the Town has no full-time staff.
- (4) The Town may want to explore the feasibility of establishing a cooperative agreement with Wicomico County, similar to that already established for floodplain and forest conservation laws, to facilitate effective administration of the Critical Area Program.

### **Forest Conservation Law**

- (1) The Town should continue to work cooperatively with Wicomico County to ensure adherence to the Forest Conservation Law.

### **Groundwater Protection**

- (1) The Town should explore development of alternative drinking water supplies where groundwater levels and quality are found to be decreasing. This may include fostering inter-jurisdictional cooperation with the County for development of potable water supplies.