

Comments on the Charles County Draft Comprehensive Plan Maryland Department of Natural Resources

The following comments have been prepared by Maryland DNR based on the Department's review of the draft Charles County Comprehensive Plan, dated November, 2012. These comments reflect a number of concerns regarding the apparent inconsistency between many of the key provisions within the draft plan document and the legal requirements and intent of Maryland law for planning, including but not limited to key provisions as set forth in Article 66B of the Maryland Code and The Sustainable Growth & Agricultural Preservation Act of 2012.

Review of the draft plan document by DNR results in the following more specific findings or comments:

■ **Plan is inconsistent with 12 visions adopted by the Maryland General Assembly in 2012**

Pages 1-1 and 1-2 of the Draft Plan identify the 12 visions adopted by the Maryland General Assembly in 2012. The discussion does not indicate the County Plan draft can demonstrate consistency with the Visions. In particular the draft plan document demonstrates inconsistency with over ½ of the visions, and as such violates the legal requirements for local government implementation of the Visions as set forth in Article 66 B of the Annotated Code of Maryland. Specific Visions with which the plan is inconsistent include the following:

- (1) Quality of life and sustainability: a high quality of life is achieved through universal stewardship of the land, water, and air resulting in sustainable communities and protection of the environment;*
- (3) Growth areas: growth is concentrated in existing population and business centers, growth areas adjacent to these centers, or strategically selected new centers;*
- (4) Community design: compact, mixed-use, walkable design consistent with existing community character and located near available or planned transit options is encouraged to ensure efficient use of land and transportation resources and preservation and enhancement of natural systems, open spaces, recreational areas, and historical, cultural, and archeological resources;*
- (5) Infrastructure: growth areas have the water resources and infrastructure to accommodate population and business expansion in an orderly, efficient, and environmentally sustainable manner; Introduction*
- (9) Environmental protection: land and water resources, including the Chesapeake and coastal bays, are carefully managed to restore and maintain healthy air and water, natural systems, and living resources;*
- (10) Resource conservation: waterways, forests, agricultural areas, open space, natural systems, and scenic areas are conserved;*
- (11) Stewardship: government, business entities, and residents are responsible for the creation of sustainable communities by collaborating to balance efficient growth with resource protection;*

Article 66B says; "In addition to the requirements of § 3.05(c) of this article, a commission shall implement the following visions through the plan described in § 3.05 of this article:" [emphasis added].

▪ **Plan is inconsistent with PlanMaryland**

Page 1-2: The final paragraph in the section regarding the “Legal Context for the Comprehensive Plan” notes:

“This Comprehensive Plan has also been prepared with due consideration to PlanMaryland, a plan developed by the Maryland Department of Planning (MDP) and accepted by Governor O’Malley in December 2011. PlanMaryland is the State’s first comprehensive plan for sustainable growth and development and is intended to improve the way in which state agencies and local governments work together to accomplish common goals and objectives for growth, development and preservation”.

Given the treatment recommended for the Mattawoman Watershed to maintain substantial land area as part of the “Development District” and/or Deferred Development “District and the sizable land area and densities permitted in the new “Rural Residential Land Use District (1 unit per 3 acres), there is a clear indication that the County has not joined the State *“to improve the way in which state agencies and local governments work together to accomplish common goals and objectives for growth, development and preservation”* (see page 1-2 last sentence before new section titled Purpose and Consistency of the Comprehensive Plan).

The changes to the Plans language on page 3-5 further clarify this inconsistency between State and Local objectives. Here the plan notes a key change from the 2006 plan as follows: *“Rural Conservation land uses to be more accurately described as Rural Residential Land Use (1 unit per 3 acres) to correspond with the Planning Commission’s direction to designate this area as “Tier III” on the Tier Map such that the future vision for the land use will no longer be dominated by agriculture or forestry, but predominantly residential large lot uses of 3 acres or greater.*

In effect it would appear the County has turned its back on all efforts to preserve farmland or treat farming as a preferred land use in any district.

▪ **Draft Plan inconsistency with County Plan goals established in the 1990 plan**

Table 1-1 on page 1-6 of the draft plan identifies three plan goals that originated in the 1990 County Comprehensive Plan and implies that they are still viable. These goals include,

“Limit sprawl development”

“Protect the agricultural industry and the land base necessary to support the industry”, and

“Develop greater control and management by County Government over the rate, location, quality and cost of future development”

Review of the substantive changes identified in the draft plan indicate that these goals are no longer valid and that retaining them as if they are still valid is disingenuous and misleading. Such an assumption is particularly misleading to County residents and State agencies reviewing the plan. The document should be revised, either to note that these goals established in 1990 are no longer applicable or to reflect

substantive changes on the proposed land use plan map to demonstrate the County continues to support them. Two key changes would include elimination of the Deferred Development District in the Mattawoman watershed and substantially downzoning the proposed "Rural Residential Land Classification" to one residential unit per 20 acres and maintaining its current classification as "Rural Conservation"

- **Assumptions driving the plans population projections are questionable.**

Table 2-2 located on page 2-4 of the draft plan indicates that from 2010 to 2040 the County projection for growth in the Deferred Development district is limited to an estimated 416 residential units. Does this figure assume that density in this district will remain one unit per 10 acres and that no change in classification will occur over the 30 year period? If not, then the case for a more realistic and higher projection for growth in this district should be re-evaluated.

- **Assumptions concerning projected changes in land cover are not well supported in light of past trends.**

Table 2-3 located on page 2-7 notes that from 1997 to 2009 some 22, 600 acres land cover were converted to low density residential development while only 2,300 acres were converted to both medium and high density development during the same period. Assumptions listed on page 2-6 in support of Comprehensive Plan population projections indicate that "*Growth control mechanisms, especially zoning, water and sewer policies, and adequate public facility regulations, will continue to result in 70 to 75 percent of new growth occurring in the Development District and the towns.*"

If low density development has changed land cover tenfold over land cover changes for higher densities it would seem unlikely that 75% of all future growth would occur in the Development District or Towns. What is expected to change that pattern since few, if any, new growth control mechanisms are proposed to support this 70 to 75% assumption?

- **Purposes of the Deferred Development District are misleading**

Page 3-9 notes the purposes of the Deferred Development District as shown on the Land Use Plan Map are "*to preserve the rural environment, natural features and established character of the area and to maintain low-density residential development*". This offers a very misleading expectation for long term protection of land identified for future development since it is planned for extension of public water and sewer services.

Since there is a provision within "*Ordinance Number 00-93 is for the County Commissioners to reconsider all RC(D) zoning on a not less than five-year basis as part of, or concurrent with, the update of the Comprehensive Plan*" which could commit some of these lands to development, what assurance is there that the purposes stated for this district would be achieved over a 30 year time frame? If the County intends development in this area at any future point in time, the purpose for this district should not

misrepresent that expectation. If the County intends to “*preserve the rural environment*” in this location it should not be characterized as a development district, nor planned for public water and sewer services to support higher densities as shown on maps in the plan’s Water Resources Element.

- **Density permitted in the proposed “Rural Conservation District” is too high to permit protection of such an ecologically sensitive area.**

Page 3-12 characterizes the proposed “Rural Conservation District.” The plan document notes that although zoning here will continue to permit “*1 unit per 3 acres, any development in this ecologically sensitive area should be designed to minimize impacts to the Zekiah watershed, drainage and environmentally sensitive resources*”. The plan also proposes a Tier IV designation for this area.

In this particular area of the County, requiring development to “minimize impacts to the Zekiah Watershed” is not enough. A permitted zoning density of 1 unit per 3 acres, is not consistent with the proposed Tier IV designation for this area and in fact does not distinguish it from Tier 3 designated areas. We are not aware of any scientific evidence indicating that ecological conservation can be achieved at this development density. In fact, the scientific studies DNR has reviewed indicate that regardless of the protection strategies implemented (e.g., stormwater ponds, riparian buffers, rain gardens, wetland creation, etc.), this density is consistent with ecologically degraded aquatic ecosystems (in both freshwater and estuarine systems). Furthermore, once this level of development has occurred, ecological restoration has so far also proven to be unsuccessful, according to recent scientific studies. The habitat fragmentation that will result from this development density will prevent the conservation of the vulnerable species and habitats that this designation is intended to preserve. Therefore, we would encourage greater development limitations in this, the only area identified for focus on protection of environmentally sensitive resources.

- **“Rural Conservation District” is too limited in land area to permit protection of the most important ecologically sensitive areas.**

Page 3-16 of the Draft Plan states:

Tier IV areas have significant contiguous agricultural and forest land. Residential major subdivisions are prohibited in Tier IV areas.

The Tier IV, Rural Conservation District, does not adequately protect the highly significant natural resources of the Zekiah because it excludes the southern portion of the watershed which supports numerous rare, threatened and endangered species of plants and wildlife. The other areas of high, statewide ecological significance in the County in portions of the Nanjemoy and Mattawoman watersheds should also be added to this Tier in order to afford protection these important natural systems since these areas currently have “significant contiguous forested and agricultural lands” consistent with the draft Plan’s definition of Tier IV areas.

- **The Zekiah’s protection is less than adequate.**

Only the northern portion of the Zekiah is identified for conservation. It certainly makes sense to include this area as it is highly significant, particularly given that it abuts the development district, but there are significant natural resources in the southern half of the watershed that also warrant Tier IV designation.

Many of the ecologically important Resources in both the Northern and Southern portions of the Zekiah will be lost if the watershed is fragmented by 1 unit/3acre development.

▪ **The Draft Plan affords the Nanjemoy area no significant protection.**

The Nanjemoy area is heavily forested and rich in natural resources but has no conservation area identified beyond existing public lands and private lands protected by easement. With Tier III septic designation it will ultimately be fragmented and negatively impacted from subdivisions. This is too great an opportunity for sprawl to reasonably protect the significant natural resources which are found there. It will also lead over time to the environmental degradation of the lands currently protected by easement that are located in the area.

▪ **Plan reflects very little effort to provide habitat connections between blocks of protected lands.**

The limited land area designated Tier 4 indicates in the draft Land Use Plan indicates the County has made no significant effort to provide habitat connections between blocks of protected lands. There are no corridors identified for conservation and it seems that there were no green infrastructure considerations at all. That lack of landscape connectivity will ultimately lead to detrimental habitat fragmentation.

▪ **Rural Residential District and Tier III designation renders too much rural land area a candidate for sprawl development that will place a long term burden on delivery of public services.**

Page 3-13 of the Draft Plan notes:

“The designation of this area (Rural Residential District) as Tier III, contradicts the previous land use designation of Agricultural Conservation (AC). The legislation requires that areas planned or zoned for agriculture, resource protection or conservation be placed in a Tier IV designation, with further limitations on the use of septic systems.

The decision to designate this as a Tier III area means that the expectation for the long range future land uses in these rural lands will not be dominated by agricultural uses, or for resource protection, preservation or conservation.

While farming can and is expected to continue in the near future, the long-range land use over time can be replaced by rural residential housing on large lots as the dominant use. Therefore, the designation of Tier III is appropriate and the change in land use designation from Agricultural Conservation (AC) to Rural Residential (RR) is provided to match this policy. Future comprehensive rezoning of this area will be required to better match the land use designation”.

DNR believes this designation moves the ball backwards in Charles County indicating little, if any, commitment to farmland protection or preservation and will result in a sprawl development pattern that

will increase the cost of public service delivery systems over the long term. It will also result in a distributed growth pattern that will weaken objectives to support transit-oriented development over time.

- **Rural Residential District and Tier III designation renders too much rural land area a candidate for sprawl development that will prevent adequate resource conservation, particularly of waterways, forests and natural systems.**

Page 3-16 of the Draft Plan states:

Tier III areas are areas that are not dominated by agricultural or forest land and are not planned for sewerage service. Generally these are areas planned for large lot and rural development.

The Tier III category encompasses the largest acreage of land in the County. As such we find many areas are, in fact, dominated by agricultural or forest land in contrary to this statement. The absence of any emphasis on forest conservation and habitat protection in this widespread tier will result in habitat fragmentation that will prevent adequate conservation of the County's most important natural systems, particularly in the lower Zekiah and Nanjemoy areas which are of statewide significance. The resulting fragmentation will prevent adequate forest conservation to sustain both common and declining wildlife species in the County that rely on large blocks of forest interconnected by corridors. The remnants of forest that will remain will become increasingly isolated and homogenous, losing the species of plants and wildlife that are vulnerable to the habitat changes that occur along forest edges.

- **Proposed Suburban Large Lot (SL) zoning of one unit per acre will intensify sprawl development pattern.**

Table 3-2 of the Comprehensive Plan draft proposes that the new SL zone to be created change the density of areas surrounding the Towns from one unit per three acres to one unit per one acre. This will further intensify sprawl patterns of development and add additional septic loads that will work at cross purposes with the County Watershed Implementation Plan efforts to reduce nutrient loads. Development occurring in these areas will virtually preclude opportunities for the Towns' of Indian Head and La Plata to annex additional lands for Town growth. Landowners in this district will have little or no incentive to request annexation to foster "Town-scale" additions to development since the pattern of development will preclude a more town appropriate development form. Area proposed for SL zone treatment should remain at lower densities to create incentives to encourage landowner or developers to seek extension of Town infrastructure and to secure higher densities through annexation.

- **Water Resources Plan element (Chapter 4) fails to account for increase in nutrient loads that will result with the Preferred Land Use Plan.**

Under the preferred land use scenario, vast areas of the County are delineated as Tier III Septic areas. The county can expect to see a large increase in non-point source pollution as a result of greater development in these areas on septic systems. The plan references the need to achieve nutrient reduction targets through offsets, as required by the State's Growth Offset policy, but provides no accountability for estimating what the anticipated increase in loads might be and how these offsets might be achieved. The county should provide more detail related to increased loads and offset capacity for non-point source pollution.

- **Deferred Development District designation for public water and sewer service is not consistent with stated purpose.**

Figures 4-2 and 4-3 located on pages 4-8 and 4-18 identify the Deferred Development District as planned for public Sewer and public Water supply services. As noted previously, Page 3-9 notes the purposes of the Deferred Development District as shown on the Land Use Plan Map are "*to preserve the rural environment, natural features and established character of the area and to maintain low-density residential development*".

Planning for provision of public water and sewer services in this area is clearly not in keeping with preserving the rural environment, natural features and established character of the area or in maintaining low-density residential development. The intent or purpose for this district should be clarified and plan maps or provisions regarding Deferred Development District treatment should consistently support this purpose.

- **Impervious surface projections make a compelling argument for selection of the "Merged Scenario" as the preferred plan**

Page 4-27 provides a discussion of impervious surface projections in the County by Watershed. Language on page 4-27 notes:

"The amount of impervious surface in a watershed—particularly impervious surfaces that are not treated by stormwater management facilities—can be a key indicator of water quality. All other factors being equal, water quality in streams tends to decline as impervious coverage increases in a watershed".

DNR agrees that impervious surface in a watershed is indeed a key indicator of water quality and that water quality in streams declines as impervious coverage increases in a watershed. However, increases in impervious surface cannot simply be offset by application of best management practices in stormwater management and sediment and erosion control or any number of measures to mitigate the impacts of development. Mitigation can reduce the degree of impact, but the limits of technology will nevertheless result in sustained adverse impacts to the watershed. Therefore we recommend the portion of the sentence in italics above between hyphens be deleted.

The first two paragraphs at the top of page 4-28 of the draft Comprehensive Plan state:

“Under the Preferred Land Use Plan, total impervious surface would increase to 7.1 percent of land area, and would reach 15 percent in the Mattawoman watershed. Under the Merged Scenario, overall impervious surface would increase to 6.0 percent, and nearly 11 percent in the Mattawoman watershed.

Under the Preferred Land Use Plan, total impervious surface would increase by approximately 7,000 acres. By comparison, the Merged Scenario would result in approximately 3,500 acres of new impervious surface, approximately half of the increase under the Preferred Land Use Plan.”

DNR would submit that these two paragraphs make a compelling water quality and ecosystem conservation argument for selection of the “Merged Scenario” as the preferred plan alternative rather than the alternative selected. Review of Table 4-8 reinforces this finding that the Merged Scenario would result in reductions in the growth of impervious surface, particularly within the Mattawoman Watershed.

DNR’s Fisheries Services Fish Habitat and Ecosystem’s Program has concerns with the projected growth in impervious surface that would be generated by the “Preferred Plan”. The Fisheries Service, based on experience and monitoring have found a 5% impervious surface or less to support habitat conditions conducive to productive fisheries and that 10% or greater impervious surface in a watershed creates conditions where habitat problems prevail and deterioration of fisheries and fish production follow. Fisheries Service analysis indicates that the County’s current estimates and projections for impervious surface in various watersheds as shown in Table 4-8 may be low. Based on Fisheries’ projections, Charles County’s impervious surfaces will increase beyond the threshold for productive fisheries in Mattawoman Creek and Port Tobacco River. Zekiah Swamp, Maryland’s top hotspot for biodiversity will cross this threshold as well, but is more threatened because of the sensitivity of rare, threatened, and endangered species to development. Nanjemoy Creek and Gilbert Swamp will remain below the target level of development. Appendix A provides our Fisheries Services estimates and projections and identifies the methodology they utilized to conduct their analysis. Applying the fisheries targets and thresholds directly to the County’s projections of impervious surface under the preferred plan does not change concerns for fisheries of Mattawoman Creek and Port Tobacco River, and biodiversity of Zekiah Swamp.

- **Projected losses in Forest Cover indicate that the “Preferred Plan” alternative is the wrong choice.**

Pages 4-28 and 4-29 note “changes in forest cover over time are good indicators of changes in water quality. All other factors being equal, water quality in streams tends to decline as forest coverage decreases in a watershed.” DNR agrees with these statements. Therefore we fail to understand the County’s selection of the “Preferred Plan” since Table 4-9 indicates the expected losses in forest cover (5,500 acres) more than double the 2,600 acres of loss expected under the Merged Scenario. (See top of page 4-29).

Review of Table 4-9 indicates that the impacts in loss of forest cover with the “Preferred Plan” are even greater within the Mattawoman Watershed since only an estimated 400 acres of forest loss would be sustained under the merged scenario as compared to approximately 2000 acres under the preferred scenario.

▪ **Draft Plan fails to assure commitment to Natural Resource Protection.**

The Actions identified on pages 5-22 and 5-23, if enacted, would provide important and effective measures for natural resource protection. However, the vague wording inherent in the intent to implement these actions leaves a great deal of uncertainty that these actions would ever be executed. The county should provide a greater level of commitment that goes beyond “consideration” to ensure these actions are developed and implemented.

APPENDIX A

Fisheries Comments on Charles County Comprehensive Plan
Jim Uphoff, Margaret McGinty, and Marek Topolski
January 8, 2013.

Fisheries Service's Fish Habitat and Ecosystem's Program has reviewed the November 2012 Charles County Comprehensive Plan. We will largely base our comments on comparisons of projections of impervious surface cover to a 5% impervious surface (IS) target for habitat conditions conducive to productive fisheries and a 10% IS threshold where habitat problems prevail and deterioration of fisheries and fish production follows.

We have confined our comparisons to subestuaries or tributaries of subestuaries (in the case of Wicomico River) that have much of their drainage in Charles County and will experience direct impacts of county development. These tributaries are Mattawoman Creek, Nanjemoy Creek, Port Tobacco River, Gilbert Swamp, Zekiah Swamp, and Wicomico River; the latter three are tributaries of the Wicomico River subestuary. All estimates of IS are for Charles County only. Mainstem Potomac River and Patuxent River are excluded in our comments.

Table 4-8 in the plan provides Charles County's estimates of impervious coverage for each watershed. It appears that projections are made through 2040 and may not represent development at build-out.

We have made estimates of IS through 2040 based on tax map data and projected growth in housing units by Comprehensive Plan Survey Areas in Table 2-2. Tax map data are the preferred indicator of watershed development for analyses conducted by the Fish Habitat and Ecosystem Program. We estimated the structure count and watershed area in the Charles County Survey Area for each specific watershed for 2010. These watershed-specific estimates of counts were then multiplied by the survey area growth projections summarized in the Table 2-2 as change of housing units from 2010 to 2040. Tax map estimates of structures per hectare (C / ha) were converted to impervious surface (IS) by the non-linear regression relationship derived from the relationship we derived for 1999-2000 Towson University estimates of IS : $IS = 10.98 * ((C / ha)^{0.63})$; $r^2 = 0.96$, $P < 0.0001$. Impervious surface targets and thresholds for fisheries were originally developed from Towson University estimates. Other methodologies for

calculating impervious surface often result in estimates that match the trend but not the scale of Towson University estimates.

The following table compares tax map based estimates of watershed-specific IS in 2010 and 2040 for what we assume to be the County’s preferred plan to the County’s estimates for both the preferred and merged scenarios.

Table 1. Comparison of percent impervious surface estimates from Fisheries Service analysis of tax map data and those provided by Charles County.

Watershed	Tax map	Preferred Tax map	County		County
	2010	Projected	County Existing	County Preferred	County Merged
Mattawoman	11.5	15.1	9.8	15.0	10.6
Nanjemoy	2.4	3.0	1.5	2.7	2.3
Port Tobacco	7.4	10.3	6.7	7.0	6.7
Wicomico					
River	2.1	2.8	1.3	3.0	3.7
Zekiah					
Swamp	7.3	10.1	5.5	8.4	6.6
Gilbert					
Swamp	3.7	4.8	3.2	3.8	3.2

Tax map estimates of existing and projected IS in Charles County were higher than those provided by the County in all cases. Tax map estimates indicated that three systems will exceed the threshold for fisheries production by 2040: Mattawoman Creek, Port Tobacco River, and Zekiah Swamp. Mattawoman Creek currently exceeds the threshold. Zekiah Swamp is considered a biodiversity hotspot in Maryland and current levels of IS are already much higher than recommended for biodiversity outlined by the Department of Natural Resources in *The Case for Protection of Mattawoman Creek*. Zekiah Swamp is a major freshwater source for the Wicomico River subestuary. Nanjemoy Creek, Gilbert Swamp, and the portion of Wicomico River in Charles County will remain below the target level of IS, but there may be concerns about biodiversity. A tax map based estimate that combines the three Wicomico River

tributaries in Charles County indicates that IS will increase from 5.9% to 7.7% between 2010 and 2040 under the County's preferred plan.

Based on tax map analysis, Charles County's preferred Comprehensive Plan seriously threatens fish habitat and fisheries in three subestuaries that have most or all of their watersheds in Charles County. We believe that projected growth in Mattawoman Creek in particular will make ecological reconstruction and revitalization prohibitively expensive and largely unsuccessful on a whole watershed basis. It appears possible that estimates of growth in the deferred development district in Mattawoman Creek's watershed do not represent full build-out since the projected increase in this district is low compared to all other districts in this watershed. Ecological reconstruction and revitalization of Port Tobacco River and Zekiah Swamp are possibilities, but cannot be depended on to restore biodiversity or fisheries production to "normal". These measures will simply make the best of bad situations.

Fisheries Service's concerns do not change if fisheries targets and thresholds are applied directly to the County's projections. Mattawoman Creek will still be developed well beyond the threshold and biodiversity in Zekiah Swamp will still be highly threatened under the preferred plan. Port Tobacco River will be developed between the target and threshold level, requiring investment in watershed revitalization and reconstruction to improve function.

The merged plan offers some improvement based on comparison of County estimates. We do not have data to evaluate this option with tax map data.

In *The Case for Protection of Mattawoman Creek*, Fisheries Service outlined its concerns for Mattawoman Creek in detail and voiced its support for what was then the natural resource based comprehensive plan (Scenario 1 at the time). The approach in Scenario 1 offered the best hope for the fisheries resources of Charles County and not just Mattawoman Creek. We are extremely disappointed that the considerable public support for this option was dismissed and that the County is promoting a preferred plan that will create considerable fisheries management problems in the future.

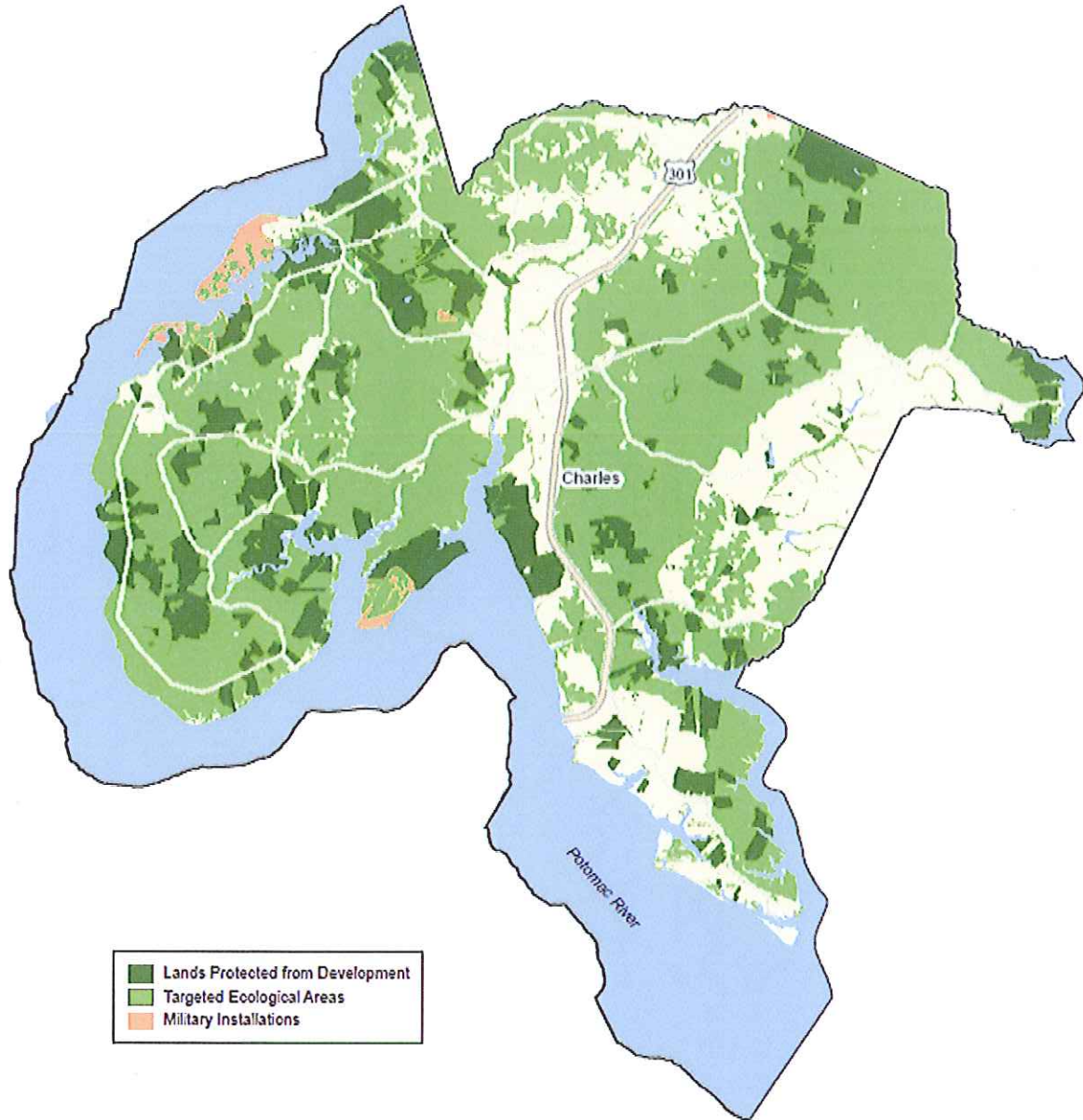
BioNet Ecologically Significant Areas of Charles County




DNR GreenPrint

Targeted Ecological Areas

Lands Protected from Development



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