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AN ORDINANCE TO AMEND CHAPTER 99, SECTIONS 99-5, 99-6, 99-7, 99-23, 99-24, 99-26, AND 99-30, AND CHAPTER 115 SECTIONS 115-4, 115-25, 115-193, 115-220 AND 115-221 REGARDING CERTAIN DRAINAGE FEATURES, WETLAND AND WATER RESOURCES AND THE BUFFERS THERETO.

WHEREAS, Pursuant to the provisions of Title 9, Chapters 68 and 69 of the Delaware Code, the Sussex County Government has the power and authority to regulate the use of land and to adopt a Comprehensive Land Use Plan; and

WHEREAS, Pursuant to Chapters 99 and 115 of the Code of Sussex County, the Sussex County Government has undertaken to regulate the use of land; and

WHEREAS, the existing Section 115-193 of the Code of Sussex County currently regulates the use of land adjacent to certain wetlands and water bodies; and

WHEREAS, the existing Section 115-193 of the Code of Sussex County is in need of improvement regarding its interpretation, application and protection of Resources; and

WHEREAS, certain Resources are in need of substantial enhancements to ensure that Sussex County's drainage network is improved now and maintained in the future; and

WHEREAS, the 2019 Sussex County Comprehensive Plan contemplates the review and improvement of the protection of wetlands and waterways in Sussex County; and

WHEREAS, Goal 4.3 and Objective 4.3.1 of the Future Land Use Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Consider strategies for preserving environmental areas from development and the protection of wetlands and waterways", and this Ordinance carries out that Objective; and

WHEREAS, Goal 4.6 and Strategy 4.6.2 of the Future Land Use Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Recognize the Inland Bays, their tributaries and other waterbodies as valuable open space areas of ecological importance", and this Ordinance carries out that Strategy; and

WHEREAS, Goal 5.1 of the Conservation Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Encourage development practices and regulations that support natural resource protection", and this Ordinance carries out that Goal; and

WHEREAS, Strategy 5.1.2.2 of the Conservation Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Review appropriate sections of Sussex County's zoning and subdivision codes to determine if amendments are needed that will better help protect groundwater, waterways, sensitive habitat areas and other critical natural lands in Sussex County", and this Ordinance carries out that Strategy; and

WHEREAS, Goal 5.3 of the Conservation Element of the 2019 Sussex County Comprehensive Plan calls for the protection of the natural functions and quality of the County's surface waters, groundwater, wetlands and floodplains, and as part of that Goal, the Plan includes Strategies 5.3.1.1, 5.3.1.2 and 5.3.1.6, which respectively state that Sussex County should "Consider developing a program for wetlands and waterways protection", "Identify an appropriate range of wetlands buffer distances based upon location and context", and "Recognize the Inland Bays, their tributaries and other waterbodies as valuable open space areas of ecological and economic importance", and this Ordinance carries out these Goals and Strategies; and

WHEREAS, in adopting this Ordinance, it is the intent of Sussex County Council to balance the protection of land equity with the protection of the Resources defined in the Ordinance and their associated functions; and

WHEREAS, in adopting this Ordinance, it is the intent of Sussex County to establish a framework under which future property owners and Owners Associations will maintain the Resources, Resource Buffers, the properties they are on or adjacent to, and the systems that they are a part of in the future and to ensure the ongoing positive conveyance of drainage features; and

WHEREAS, it has been determined that this Ordinance promotes and protects the health, safety, convenience, orderly growth and welfare of the inhabitants of Sussex County.

NOW, THEREFORE, THE COUNTY OF SUSSEX HEREBY ORDAINS:

Section 1. The Code of Sussex County, Chapter 99, Article I, §99-5 "Definitions," is hereby amended by inserting the italicized and underlined language alphabetically:

§99-5 Definitions.

For purposes of this Chapter, certain terms and words are hereby defined:

. . .

EPHEMERAL STREAMS

A feature that carries only runoff in direct response to precipitation with water flowing only during and shortly after large precipitation events. An Ephemeral Stream may or may not have a well-defined channel, its aquatic bed is always above the water table during a year of normal rainfall, and runoff is its primary source of water. An Ephemeral Stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

. . .

INTERMITTENT STREAMS

A well-defined channel that contains flowing water for only part of the year, typically during winter and spring when the aquatic bed is below the water table, connecting otherwise isolated Non-Tidal Wetlands to downstream Tidal/Perennial Waters/Streams. The flow may be heavily supplemented by runoff. An Intermittent Stream often lacks the biological and hydrological characteristics commonly associated with the continuous conveyance of water.

. . .

MAJOR SUBDIVISION

A*ny* subdivision of land *creating six or more new Lots* [involving a proposed new street or the extension of an existing street].

. . .

MINOR SUBDIVISION

Any subdivision *creating five or less Lots* [fronting on an existing street and not involving any new street] and not adversely affecting the development of the remainder of the parcel or adjoining property and not in conflict with any provisions or portion of the County Comprehensive Plan, Official Map, Zoning Ordinance, or this chapter. *Only one such subdivision shall be approved per year per parcel. The maximum number of lots created in the minor subdivision process shall not exceed four plus one for each 10 acres of original parcel size.*

. . .

NON-TIDAL WETLANDS

Non-Tidal Wetlands are those wetlands, not classified by this Chapter as Tidal Wetlands, which lie contiguous or abutting to Tidal Waters, Tidal Wetlands, Perennial Streams or those Intermittent Streams providing a surface water connection between adjacent Wetlands. Non-Tidal Wetlands also include those Wetlands only separated from otherwise contiguous or abutting Wetlands by constructed dikes, barriers, culverts, natural river berms and beach dunes.

. . .

ORDINARY HIGH WATER MARK DELINEATION

The boundary of Perennial Non-Tidal Rivers or Streams, Intermittent Streams or Ephemeral Streams shall be defined by the Ordinary High Water Mark. Ordinary High Water Mark means the line on a shore or bank established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other similar physical characteristics indicating the frequent presence of flowing water.

. . .

PERENNIAL NON-TIDAL RIVERS AND STREAMS

A well-defined channel that contains flowing water year-round during a year of normal rainfall with the aquatic bed located below the water table for most of the year and which is not subject to tidal influence. Groundwater is the primary source of water for a Perennial Stream, but it also carries runoff. A Perennial Stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.

. . .

RESOURCE BUFFER - WETLANDS AND WATERS

A managed area between residential land uses and Resources that is not subdividable once established, with the exception of a subdivision boundary resulting from an approved phase. Resource Buffers function to:

- *Protect the Resources and their associated functions.*
- *Improve/protect water quality via sediment filtration, reduce impact of nutrient loading on Resources, moderate water temperature, and enhance infiltration and stabilization of channel banks.*
- *Provide wildlife habitat via nesting, breeding, and feeding opportunities; provide sanctuary/refuge during high water events; protect critical water's edge habitat; and protect rare, threatened, and endangered species associated with each Resource and its upland edge.*
- *Enhance and/or maintain the flood plain storage functionality via reduction of flood conveyance velocities as well as dissipation of stormwater discharge energy.*

. . .

RESOURCES

Those Wetlands and waters to be provided with a Resource Buffer due to their importance to Sussex County. These Resources include Tidal Waters, Tidal Wetlands, Non-Tidal Wetlands, Perennial Streams, and those Intermittent Streams providing a surface water connection between Wetlands.

. . .

TAX DITCH

A Tax Ditch is a drainage channel or conveyance and the corresponding right-of-way established and/or formed in accordance with Title 7, Chapter 41 of the Delaware Code, and approved by a "ditch order" entered by the Superior Court of the State of Delaware and County of Sussex.

. . .

TIDAL WATERS (MEAN HIGH-WATER LINE)

Those waters occurring below the mean high-water line of any tidal water body, tidal stream, or tidal marsh, which is defined as the average height of all the high-tide water recorded over a nineteen-year period as defined by the National Oceanic and Atmospheric Administration tidal datum.

. . .

TIDAL WETLANDS

Areas under the jurisdiction of Title 7, Chapter 66 of the Delaware Code, as regulated and mapped by the Department of Natural Resources and Environmental Control.

. . .

WATER DEPENDENT ACTIVITIES

Activities that are approved through federal and state permit programs that meet the definition of water dependent activities included in those programs. Water-dependent uses are uses that can only be conducted on, in, over, or adjacent to the water; each involves, as an integral part of the use, direct access to and use of the water. Examples include marinas, boat ramps/launches, docks, piers, water intakes, aquatic habitat restoration, and similar uses.

. . .

WATER RELATED ACTIVITIES

Water Related Activities are those considered ancillary to and supporting permitted Water Dependent Activities completed on adjacent uplands. Examples include utility connections, limited points of access, loading/unloading areas, and similar uses.

. . .

WETLANDS

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Agricultural land consisting of "Prior Converted Croplands" as defined by the National Food Security Act Manual (August 1988), are not wetlands. The procedure for delineating the boundary of all wetlands, except for Tidal Wetlands as defined by this ordinance, shall be the methodology provided in the Corps of Engineers Wetland Delineation Manual (January 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (November 2010).

Section 2. The Code of Sussex County, Chapter 99, Article I, §99-6 "General Requirements and Restrictions", is hereby amended by deleting the language in brackets and inserting the italicized and underlined language in existing subsection J. and as a new subsection K. thereof as follows:

§99-6 General Requirements and Restrictions.

. . .

J. A forested and/or landscape buffer, as defined in § 99-5, Subsections A through J must be depicted on the preliminary and final plot plans for each major subdivision of lands [into four or more lots] and must be established in accordance with all the requirements of the definition of "forested and/or landscaped buffer strip," Subsections A through J in § 99-5.

. . .

K. Resources and Resource Buffers, as defined in § 99-5 must be depicted on the preliminary and final plot plans for each major subdivision of lands and must comply with the requirements of §115-193.

Section 3. The Code of Sussex County, Chapter 99, Article II, §99-7 "Preliminary Conference", is hereby amended by deleting the language in brackets in subsection C. thereof as follows:

§99-7 Preliminary Conference.

. . .

C. If the Director determines that the proposed subdivision represents a minor subdivision of a parcel, existing as of the effective date of this amended provision, on a street other than a major arterial roadway, and if the Director determines that review by the Commission is not necessary or desirable, he may waive the requirement of preparing a preliminary plat and may authorize the preparation of a record plat for purposes of recordation. He may, however, request review assistance from other concerned agencies prior to authorizing preparation of the plat. Lots in any minor subdivision plat approved by the Director, without review by the Commission, shall have a minimum area of 3/4 of an acre and a minimum width of 150 feet and shall utilize entrances as approved by the Delaware Department of Transportation. [Such a minor subdivision shall be limited to four lots per parcel, as well as one additional lot for each 10 acres of parcel size, with a maximum of four subdivided lots approved for recordation per calendar year.]

Section 4. The Code of Sussex County, Chapter 99, Article IV, §99-23 "Information to Be Shown", is hereby amended by inserting the italicized and underlined language as a new subsection T. thereof:

§99-23 Information to Be Shown.

The preliminary plat shall be drawn in a clear and legible manner and shall show the following information"

. . .

T. The location of all Water and Wetland Resources and their Resource Buffers.

(1) The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(2) All existing (i.e., at the time of application) native forest and non-forest meadow within the future Resource Buffer shall be identified.

(3) The area limits of the required Resource Buffers.

(4) Calculations supporting Resource Buffer width averaging (§115-193B).

(5) Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§115-193F).

(6) Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

(7) A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.

Section 5. The Code of Sussex County, Chapter 99, Article IV, §99-24 "Supporting Statements", is hereby amended by inserting the italicized and underlined language as a new subsection G thereof:

§99-24 Supporting Statements

The preliminary plat shall be accompanied by the following written and signed statements in support of the subdivision's application for tentative approval:

. . .

G. A Resource and Resource Buffer Management Plan that describes measures for managing the Resource and Resource Buffer(s) required pursuant to Chapter

115, Article XXV, Section 115-193 on the site. The Resource and Resource Buffer Management Plan shall be included as part of the recorded declaration for the subdivision.

Section 6. The Code of Sussex County, Chapter 99, Article V, §99-26, "Information to Be Shown", is hereby amended by inserting the italicized and underlined language as a new subsection A.(21) and C thereof:

§99-26 Information to Be Shown.

A. The final plat shall be legibly and accurately drawn and show the following information:

. . .

(21) The location of all Resource Buffers.

(a) The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(b) All existing (i.e., at the time of application) native forest and non-forest meadow within the future Resource Buffer shall be identified.

(c) The area limits of the required Resource Buffer.

(d) Calculations supporting Resource Buffer width averaging (§115-193B).

(e) Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§155-193F).

(f) Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

(g) A statement incorporating the Resource and Resource Management and Maintenance Plan by reference.

(h) A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.

. . .

C. An AutoCAD drawing file containing all items required in Section A above shall be submitted in electronic format. The data shall be referenced in NAD 1983 StatePlane Delaware FIPS 0700 (U.S. Feet) Projected Coordinate System.

Section 7. The Code of Sussex County, Chapter 99, Article VI, §99-30, "Plans", is hereby amended by inserting the italicized and underlined language as a new subsection J. and K. thereof:

§99-30 Plans.

Plans, profiles and specifications for the required improvements shall be prepared by the subdivider and submitted for approval by the appropriate public authorities prior to construction. No construction shall commence prior to the issuance of a notice to proceed by the County Engineer or his or her designee for the required improvements. All plans, profiles and specifications approved by the County Engineer or his or her designee with the issuance of a notice to proceed shall remain valid or, if substantial construction is not actively and continuously underway, they shall expire upon the expiration of the final site plan. Prior to the issuance of a notice to proceed, the County Engineer may require the owner and/or his designee to execute an agreement addressing the required improvements. The plans and profiles submitted for all new construction shall include the following:

. . .

J. Resources and Resource Buffers.

K. Proposed access easement layout with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

Section 8. The Code of Sussex County, Chapter 115, Article I, §115-4 "Definitions and Word Usage," is hereby amended by inserting the italicized and underlined language alphabetically in Subsection B thereof:

§115-4 Definitions and Word Usage.

. . . .

B. General definitions. For the purpose of this chapter, certain terms and words are hereby defined as follows:

. . . .

EPHEMERAL STREAMS

A feature that carries only runoff in direct response to precipitation with water flowing only during and shortly after large precipitation events. An Ephemeral Stream may or may not have a well-defined channel, its aquatic bed is always above the water table during a year of normal rainfall, and runoff is its primary source of water. An Ephemeral Stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

. . .

INTERMITTENT STREAMS

A well-defined channel that contains flowing water for only part of the year, typically during winter and spring when the aquatic bed is below the water table, connecting otherwise isolated Non-tidal Wetlands to downstream Tidal/Perennial Waters/Streams. The flow may be heavily supplemented by runoff. An Intermittent Stream often lacks the biological and hydrological characteristics commonly associated with the continuous conveyance of water.

. . .

NON-TIDAL WETLANDS

Non-Tidal Wetlands are those Wetlands, not classified by this Chapter as Tidal Wetlands, which lie contiguous or abutting to Tidal Waters, Tidal Wetlands, Perennial Streams or those Intermittent Streams providing a surface water connection between adjacent Wetlands. Non-Tidal Wetlands also include those Wetlands only separated from otherwise contiguous or abutting Wetlands by constructed dikes, barriers, culverts, natural river berms and beach dunes.

. . .

ORDINARY HIGH WATER MARK DELINEATION

The boundary of Perennial Non-Tidal Rivers or Streams, Intermittent Streams or Ephemeral Streams shall be defined by the Ordinary High Water Mark. Ordinary High Water Mark means the line on a shore or bank established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other similar physical characteristics indicating the frequent presence of flowing water.

. . .

PERENNIAL NON-TIDAL RIVERS AND STREAMS

A well-defined channel that contains flowing water year-round during a year of normal rainfall with the aquatic bed located below the water table for most of the year and which is not subject to tidal influence. Groundwater is the primary source of water for a perennial stream, but it also carries runoff. A Perennial Stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.

. . .

RESOURCE BUFFER - WETLANDS AND WATERS

A managed area between residential land uses and Resources that is not subdividable once established, with the exception of a subdivision boundary resulting from an approved phase. Resource Buffers function to:

- *Protect the Resources and their associated functions.*
- *Improve/protect water quality via sediment filtration, reduce impact of nutrient loading on Resources, moderate water temperature, and enhance infiltration and stabilization of channel banks.*
- *Provide wildlife habitat via nesting, breeding, and feeding opportunities; provide sanctuary/refuge during high water events; protect critical water's edge habitat; and protect rare, threatened, and endangered species associated with each Resource and its upland edge.*
- *Enhance and/or maintain the flood plain storage functionality via reduction of flood conveyance velocities as well as dissipation of stormwater discharge energy.*

. . .

RESOURCES

Those wetlands and waters to be provided with a Resource Buffer due to their importance to Sussex County. These Resources include Tidal Waters, Tidal Wetlands, Non-Tidal Wetlands, Perennial Streams, and those Intermittent Streams providing a surface water connection between Wetlands.

. . .

TAX DITCH

A Tax Ditch is a drainage channel or conveyance and the corresponding right-of-way established and/or formed in accordance with Title 7, Chapter 41 of the Delaware Code, and approved by a "ditch order" entered by the Superior Court of the State of Delaware and County of Sussex.

. . .

TIDAL WATERS (MEAN HIGH-WATER LINE)

Those waters occurring below the mean high-water line of any tidal water body, tidal stream, or tidal marsh, which is defined as the average height of all the high-tide water recorded over a nineteen-year period as defined by the National Oceanic and Atmospheric Administration tidal datum.

. . .

TIDAL WETLANDS

Areas under the jurisdiction of Title 7, Chapter 66 of the Delaware Code, as regulated and mapped by the Department of Natural Resources and Environmental Control.

. . .

WATER DEPENDENT ACTIVITIES

Activities that are approved through federal and state permit programs that meet the definition of water dependent activities included in those programs. Water-dependent uses are uses that can only be conducted on, in, over, or adjacent to the water; each involves, as an integral part of the use, direct access to and use of the water. Examples include marinas, boat ramps/launches, docks, piers, water intakes, aquatic habitat restoration, and similar uses.

. . .

WATER RELATED ACTIVITIES

Water Related Activities are those considered ancillary to and supporting permitted Water Dependent Activities completed on adjacent uplands. Examples include utility connections, limited points of access, loading/unloading areas, and similar uses.

. . .

WETLANDS

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Agricultural land consisting of "Prior Converted Croplands" as defined by the National Food Security Act Manual (August 1988), are not wetlands. The procedure for delineating the boundary of all wetlands, except for Tidal Wetlands as defined by this ordinance, shall be the methodology provided in the Corps of Engineers Wetland Delineation Manual (January 1987) and the Regional

Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (November 2010).

Section 9. The Code of Sussex County, Chapter 115, Article IV, §115-25 "Height, Area and Bulk Requirements," is hereby amended by deleting the language in brackets and inserting the italicized and underlined language in Subsection F(3)(a)[4] thereof:

§115-25 Height, Area and Bulk

F. Review procedures for cluster development

. . .

(3) The Planning & Zoning Commission shall determine that the following requirements are met before approving any preliminary plan and such application shall be reviewed on an expedited basis.

(a) The cluster development sketch plan and the preliminary plan of the cluster subdivision provides for a total environment and design which are superior, [and] *in* the reasonable judgment of the Planning Commission, to that which would be allowed under the regulations for the standard option. For the purposes of this subsection a proposed cluster subdivision which provides for a total environment and design which are superior to that allowed under the standard option subdivision is one which, in the reasonable judgment of the Planning Commission meets all of the following criteria:

. . .

[4] [A minimum of 25 feet of permanent setback must be maintained around the outer boundaries of all wetlands, except for tidal waters, tidal tributary streams and tidal wetlands and from the orinary high water line of perennial nontidal rivers and nontidal streams as provided for in §115-193B under Ordinance No. 774 where a fifty-foot permanent setback is required. No buildings or paving shall be placed within these setbacks.] *The*

preliminary plan shall comply with the requirements of §115-193.

Section 10. The Code of Sussex County, Chapter 115, Article XXV, §115-193 "Buffer Zones for Wetlands and Tidal and Nonperennial Waters," is hereby amended by amending the Title thereof to state "Resource Protection" and deleting the language in brackets and inserting the italicized and underlined language:

§115-193 [Buffer Zones for Wetlands and Tidal and Nonperennial Waters] *Resource Protection*

[A.

Definitions. As used in this section, the following terms shall have the meanings indicated:

BUFFER ZONE

An existing naturally vegetated area or an area purposely established in vegetation which shall not be cultivated in order to protect aquatic, wetlands, shoreline and upland environments from man-made encroachment and disturbances. The "buffer zone" shall be maintained in natural vegetation, but may include planted vegetation where necessary to protect, stabilize or enhance the area.

MEAN HIGH-WATER LINE OF TIDAL WATER

The average height of all the high-tide water recorded over a nineteen-year period as defined by the National Oceanic and Atmospheric Administration tidal datum.

PERENNIAL NONTIDAL RIVERS AND STREAMS

Any body of water which continuously flows during a year and which is not subject to tidal influence.

TIDAL TRIBUTARY STREAM

A stream under tidal influence, either connecting fresh or salt water.

TIDAL WETLANDS

Areas under the jurisdiction of Title 7, Chapter 66, of the Delaware Code, as the chapter appears as of the date of the adoption of this Article, as regulated and mapped by the Department of Natural Resources and Environmental Control.

WETLANDS

A private or state wetland as defined by the Delaware Department of Natural Resources and Environmental Control regulations and maps as promulgated pursuant to Chapter 66, Title 7, of the Delaware Code, as the chapter appears upon the date of the adoption of this Article.

B. A fifty-foot buffer zone is hereby established landward from the mean high water line of tidal waters, tidal tributary streams and tidal wetlands and from the ordinary high water line of perennial nontidal rivers and nontidal streams in Sussex County.

C. Excluded from buffer zone designation are farm ponds, tax ditches and other man-made bodies of water where these waters are not located on or within perennial streams. A buffer zone shall not be required for agricultural drainage ditches if the adjacent agricultural land is the subject of a conservation farm plan established with the Sussex Conservation District.

D. Excluded from buffer zone regulations are facilities necessarily associated with water-dependent facilities (maritime, recreational, educational or fisheries activities that cannot exist outside of the buffer by reason of the intrinsic nature of their operation) and the installation, repair or maintenance of any stormwater management facility, sanitary sewer system, culvert, bridge, public utility, street, drainage facility, pond, recreational amenity, pier, bulkhead, boat ramp, waterway improvement project or erosion-stabilization project that has received the joint approval of the County Engineering Department and the appropriate federal, state and local agencies. An existing public storm-drain system may be extended in order to complete an unenclosed gap or correct a drainage problem, subject to receiving the approval of the County Engineering Department and the appropriate federal, state and local agencies.

E. Grandfathering provision. The following types of land uses may be developed notwithstanding the provisions of this section:

(1) Existing improvements and construction as of the date of the approval of this section may continue. Alterations or expansions which shall be attached to a preexisting structure built on nonconforming land, pursuant to this section, will not be permitted unless proven that such improvement is

constructed at an equal distance or landward of the preexisting structure which is most proximate to the wetland area and a variance is granted as provided below.

(2) Subdivision plats and site plans approved and of record in the office of the Director of Planning and Zoning or in the office of the Recorder of Deeds in and for Sussex County prior to the adoption of this section, originally adopted July 19, 1988, or approved and similarly of record as of the effective date of this amendment, adopted July 2, 1991, may be developed as of record and shall be subject to setbacks or buffer restrictions established for the use when originally approved. Any previously approved and similarly recorded subdivision plats and site plans, if approved prior to the original date of this section on July 19, 1988, or prior to this amendment, adopted July 2, 1991, may be amended if it is determined by the Planning and Zoning Commission that the amended plan represents an equal or less intrusive use on the buffer area or setback area.

F. Variances to the provisions of this section will be considered by the Board of Adjustment under the following conditions:

(1) That findings are made by the Board of Adjustment which demonstrate that special conditions or circumstances exist that are peculiar to the land or structure within the county and that a literal enforcement of provisions within the buffer zone as designated by this section would result in unwarranted hardship.

(2) That the variance request is not based upon conditions or circumstances which are the result of actions by the applicant, nor does the request arise from any condition relating to land or building use, either permitted or nonconforming, on any neighboring property.

(3) That the granting of a variance will not adversely affect water quality or adversely impact fish, wildlife or plant habitat within the designated buffer zones and in waters adjacent to buffer zones. Variances will be in harmony with the general spirit and intent of the section and any subsequent regulations.

(4) That applications for a variance will be made, in writing, to the Board of Adjustment, with a copy to the County Administrator.

(3) Any land upon which development has progressed to the point of pouring of a foundation or the installation of structural improvements as of

the date of the approval of this section shall be permitted to be developed, provided that there shall be no further encroachment upon the buffer zone, as required in Subsection E(1) above.]

A. *Resource Buffer Widths.*

1. *Resource Buffer Widths shall be established in accordance with Table 1, with Zone A being closest to the Resource.*

2. *Resource Buffers are not required landward/adjacent to those portions of Resources to be filled or developed with a valid U. S. Army Corps of Engineers or Delaware Department of Natural Resources and Environmental Control permit.*

3. *No Resource Buffer shall overlay a Tax Ditch or Tax Ditch Right of Way. If a proposed development contains a Tax Ditch, with a right-of-way of less than the total Resource Buffer Width, then that area of the Resource Buffer outside of the right-of-way shall be designated as Zone B.*

Table 1: Resource Buffer Widths			
Resource Type (See Definitions, §115-4B)	***Full Buffer Width (ft)***	***Zone A (ft)***	***Zone B (ft)***
Tidal Waters	*100*	*50*	*50*
Tidal Wetlands	*100*	*50*	*50*
Perennial Non-tidal Rivers and Streams	*50*	*25*	*25*
Non-tidal Wetlands	*30*	*15*	*15*
Intermittent Streams	*30*	*15*	*15*
Ephemeral Streams	*0*	*0*	*0*

B. *Resource Buffer Width Averaging.*

1. *Resource Buffer width averaging may be utilized to adjust the required Zone B Resource Buffer width thereby allowing flexibility for the proposed development, so long as the overall square footage of the Zone B Resource Buffer is maintained.*

2. *Criteria for utilizing Resource Buffer width averaging:*

(a) *Resource Buffer width averaging is not available for Zone A.*

(b) *The overall square footage of Zone B Resource Buffer must be achieved within the boundaries of the proposed development unless a Resource Buffer Option permitted under subsection G is utilized.*

(c) *Resource Buffer width averaging may be used on all of the Zone B Resource Buffers within the boundaries of the proposed development.*

(d) Zone B Resource Buffer averaging shall not be expanded more than double the width of Zone B Resource Buffer as referenced in Section 115-193A.

(e) The overall square footage of Zone B Resource Buffer must be calculated based upon the entire length of the Resource borderline that is located within the boundaries of the proposed development.

C. *Permitted Activities.*

Activities in Zone A and B shall be "Permitted" or "Not Permitted" as set forth in the following Table. Uses not specifically identified shall be prohibited, unless the contrary is clear from the context of the Table, as determined by the Commission.

Table 2: Resource Buffer Activities by Zone

ACTIVITY	***ZONE A***	***ZONE B***
1. *Impacts to resource buffers resulting from State and/or Federally permitted disturbances to Resources (wetlands/waters) such as maintenance of Resources and Resource Buffers, utilities, roads, bridges, docks, piers, boat ramps, bulkheads, shoreline stabilization, and resources authorized to be filled or disturbed for development.*	*PERMITTED*	*PERMITTED*
2. *Water-related facilities and ancillary uses required to support water-dependent projects approved by a federal or state permit, including but not limited to: marinas, wharfs, community docking facilities, boat ramps, and canoe/kayak launches.*	*PERMITTED*	*PERMITTED*
3. *Repair or maintenance of existing infrastructure or utilities, including roads, bridges, culverts, water lines, and sanitary sewer lines.*	*PERMITTED*	*PERMITTED*
4. *Temporary impacts resulting from installation of utilities by trenching*	*PERMITTED*	*PERMITTED*

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	***ZONE A***	***ZONE B***
methods which are part of State or Federally approved utility installation projects or the installation of utilities by directional boring methods.		
5. *Stormwater Management conveyances as approved by the Sussex Conservation District.*	*PERMITTED*	*PERMITTED*
6. *Tax Ditch Maintenance as approved by DNREC Drainage Program.*	*PERMITTED*	*PERMITTED*
7. *Maintenance or repair of drainage conveyances not within a Tax Ditch Right of Way as approved by the Sussex County Engineering Department or Sussex Conservation District.*	*PERMITTED*	*PERMITTED*
8. *Structural crossings of Resources such as bridges or boardwalks which may not require a State or Federal permit.*	*PERMITTED*	*PERMITTED*
9. *Maintenance or modification to previously existing structures and improvements within existing footprint.*	*PERMITTED*	*PERMITTED*
10. *State or Federally approved wetland restoration, creation, and enhancement projects.*	*PERMITTED*	*PERMITTED*
11. *State or Federally approved flood plain restoration, or Resource restoration projects involving the maintenance, repair, restoration, creation, or enhancement of Resources and their Resource Buffers.*	*PERMITTED*	*PERMITTED*
12. *Soil Erosion and Sediment Control measures as approved by Sussex Conservation District.*	*PERMITTED*	*PERMITTED*
13. *Forest Management Activities conducted under the guidance and direction of a Licensed Forester,*	*PERMITTED*	*PERMITTED*

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	***ZONE A***	***ZONE B***
Arborist, Landscape Architect, or Qualified Resource Buffer Professional.		
14. *Invasive Species Control (plant, insect, animal) conducted in accordance with State and Federal law.*	*PERMITTED*	*PERMITTED*
15. *Planting/establishment of non-invasive native species (as listed by DNREC).*	*PERMITTED*	*PERMITTED*
16. *Installation, repair, maintenance, and removal of wells (potable, monitoring, injection as approved by state/federal agencies).*	*PERMITTED*	*PERMITTED*
17. *Walking Trails approved by a State and/or Federal Permit where any associated impervious area runoff is managed under a Sussex Conservation District permit.*	*PERMITTED*	*PERMITTED*
18. *Extended Detention dry and wet stormwater management ponds.*	*NOT PERMITTED*	*PERMITTED*
19. *Removal of any dead, dying, damaged, or unstable live tree from a Resource or Resource Buffer which presents an imminent danger to property or public safety.*	*PERMITTED*	*PERMITTED*
20. *Stormwater Management Water Quality BMPs as approved by the Sussex Conservation District.*	*PERMITTED (Limited to 10% of Total square footage of Zone A in a proposed development)*	*PERMITTED*
21. *Sewage disposal facilities.*	*NOT PERMITTED*	*NOT PERMITTED*
22. *Storage of hazardous materials and siting of industrial sites, landfills, or junkyards.*	*NOT PERMITTED*	*NOT PERMITTED*

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	***ZONE A***	***ZONE B***
23. *Swimming pools, community clubhouses, and all Non-Water-Dependent or Non-Water Related improvements not specifically permitted under this section.*	*NOT PERMITTED*	*NOT PERMITTED*

D. Resource Buffer Standards.

1. *All existing (i.e., at the time of application) conditions, including the vegetative land features, and the proposed conditions within the proposed Resource Buffer shall be identified on the Preliminary Site Plan.*

2. *If a proposed development contains a Resource, then the associated Resource Buffer shall conform with the following criteria based on vegetative features existing at the time of Preliminary Site plan Submission:*

(a) Established native forests and non-forest meadows predominated by non-invasive species shall be retained.

(i) Forest: Subject to §115-193C, all existing trees and understory constituting a proposed Resource Buffer shall be preserved and maintained in their natural state. "Selective Cutting" (Subsection E) activities may be implemented. Invasive species may be removed from the Resourse Buffer.

(ii) Non-forest Meadow: Subject to §115-193C, all existing meadows constituting a proposed non-forested Resource Buffer that are composed of herbaceous and shrub species shall be preserved and maintained in their natural state. Non-forest meadow may also include old field areas with a mixture of herbaceous vegetation, shrubs and trees transitioning to a forested condition through natural succession. Invasive species may be removed from the Resource Buffer.

(b) Grazed pasture, managed turf, active cropland or areas of bare earth not stabilized with vegetative cover shall be re- established as native forest or non-forest meadow prior to determination of substantial completion of the proposed development phase where that "unstabilized" area is located by planting of non-invasive species or through the process of natural succession augmented with invasive species control.

E. Selective Cutting.

1. *"Selective Cutting" is defined as the removal or limbing of trees greater than three inches in diameter at breast height which does not change the area of the overall forest canopy by the concentrated removal of trees in a specific location. "Selective Cutting" also permits the removal or brushing of forest understory. Disruption of a contiguous forest canopy for a width greater than thirty feet shall not occur and does not meet the definition of "Selective Cutting". "Selective Cutting" does not include stump removal.*

2. *"Selective Cutting" shall be completed under the guidance and approval of a Licensed Forester, ISA Certified Arborist, Registered Landscape Architect, or Qualified Resource Buffer Professional*

F. Maintenance of Drainage Conveyances

1. *All Resource Buffers identified on a Final Site Plan shall be designated as a drainage and access easement permitting access by any future owners' association, federal, state or local agency and the public, for the limited purpose of maintenance or monitoring of drainage capacity or conveyance by any future owners' association; federal state or local agency; and the public. In addition, a corresponding easement for access into each individual Resource Buffer established on the site shall, whenever possible, be provided from a public road or street within a proposed development.*

2. *If a Resource Buffer abuts or contains features such as ephemeral, intermittent or perennial streams which are not part of an established Tax Ditch and which convey drainage from or through a site proposed for development, a "Drainage Assessment Report" shall be prepared by a registered Delaware Professional Engineer. As part of the pre-application process, Sussex County will determine the information to be included in the Drainage Assessment Report. At a minimum, the Drainage Assessment*

Report shall identify the following concerning measures needed for drainage conveyances:

(a) Identification of any unstable or eroding stream banks or conveyance requiring stabilization or restoration measures.

(b) The location of any stream blockages such as debris jams, fallen or unstable trees, beaver dams or similar impediments to conveyance.

(c) The location of any sand or gravel deposition within a channel or conveyance which impedes the flow of water produced by a storm having an annual probability of occurrence of 10%.

(d) A discussion of all recommended measures to remedy any impediment to drainage conveyance or drainage stability.

(e) A summary of required local, state or federal permits required to remedy any impediment to drainage conveyance.

(f) The easement width and a sufficient number of easements to provide adequate access to the Resource for maintenance.

3. Remedies required by Sussex County as a result of the Drainage Assessment Report shall be shown on the Final Site Plan.

G. Resource Buffer Options

1. A proposed development shall be permitted to utilize the following options, consistent with §115-193, Section B. Resource Buffer Width Averaging, to incentivize the retention of forests:

(a) When the preservation of a forest within the Resource Buffer that has been in existence for at least five years prior to the date of application as identified by a Licensed Forester, Arborist, Landscape Architect, or Qualified Resource Buffer Professional is achieived, then a corresponding area reduction of either the Resource Buffer Zone B along the entire or part of that Resource; or the Forested and/or

Landscaped Buffer required in Chapter 99 in areas adjacent to like-zoned land is permitted.

(b) When the Preservation of a forest connected to (but not within) a Resource Buffer in excess of the requirements listed in Section 115-193.A. is achieved, then a corresponding area reduction of either non-Forest Resource Buffer Zone B on the same Resource, or Forested and/or Landscaped Buffer required in Chapter 99 in areas adjacent to like-zoned land is permitted.

(c) When the provision of Resource Buffer widths in excess of the requirements listed in Section 115-193.A. is achieved, then a corresponding area reduction of the Forested and/or Landscaped Buffer required in Chapter 99 in areas adjacent to like-zoned land is permitted.

2. A proposed development shall be permitted to utilize the following options to incentivize the retention or expansion of Resource Buffers or provide additional functional benefit of Resource Buffers:

(a) (i) When the creation of a Resource Buffer under a perpetual conservation easement for the benefit of a conservation organization approved by Sussex County on lands in the same twelve-digit hydrologic unit code as defined by the United States Geological Survey as the proposed development is achieved, then a 75 percent corresponding area reduction of the Resource Buffer Zones A and/or B on the same Resource within the proposed development is permitted.

(ii) When the creation of a Resource Buffer for forest preservation under a perpetual conservation easement for the benefit of a conservation organization approved by Sussex County on lands in the same twelve-digit hydrologic unit code as defined by the United States Geological Survey as the proposed development is achieved, then a 125 percent corresponding area reduction of the Resource Buffer Zones A and/or B on the same Resource within the proposed development is permitted.

(b) Funding, partially or entirely, an off-site restoration project under the Sussex County Clean Water Enhancement Program, subject to approval

of the Sussex Conservation District, with completion of the restoration by Sussex County in the same twelve digit hydrologic unit code as defined by the United States Geological Survey as the proposed development with a corresponding Resource Buffer Zone A and/or B reduction equal to the Resource Buffer area created in the off-site project.

(c) (i)A proposed development with a pre-existing property boundary in the center of an Intermittent or Perennial Stream that includes a perpetual conservation easement for the benefit of a conservation organization approved by Sussex County in the form of a Zone A Resource Buffer on the opposite side of the Intermittent or Perennial Stream may receive a corresponding area reduction of the Zone B Resource Buffer within the proposed development.

(ii) A proposed development with a pre-existing boundary in the center of an Intermittent or Perennial Stream may receive a 200 percent area reduction of Zone B Resource Buffer if forest lands designated as Zone A Resource Buffers are secured under a perpetual conservation easement for the benefit of a conservation organization approved by Sussex County on the opposite side of the Intermittent or Perennial Stream along the proposed development boundary.

3. For purposes of this Subsection G., "Forest" shall mean: A vegetative community dominated by trees and other woody plants covering a land area of 10,000 square feet or greater. Forest includes: (1) areas that have at least 100 trees per acre with at least 50% of those having a two-inch or greater diameter at 4.5 feet above the ground and larger, and (2) forest areas that have been cut but neither stumps were removed nor the land surface regraded.

H. Resource and Resource Buffer Maintenance and Management.

1. Resource and Resource Buffer Management Plan

Any proposed development where Resource Buffers are required shall submit a Resource and Resource Buffer Management Plan, prepared by a Qualified

Resource Buffer Management Professional, that describes measures for maintaining or improving the Resource and the Resource Buffer(s) on the site. The Resource and Resource Buffer Management Plan shall be proffered as part of the Supporting Statement requirements of §99-24, or at the time of Preliminary Site Plan approval for any residential conditional use. The maintenance standards or management actions associated with the Resource and Resource Buffer Management Plan shall be included as an obligation of the owners' association in the recorded declaration for any new development. The Resource and Resource Buffer Management Plan shall describe how the Resource Buffer will be managed to maintain its functions and cite any measures to be implemented for the enhancement of Resource Buffers or their functions. It shall also include a narrative discussing the overall plan for access easements sufficient for expected short- and long-term maintenance and management needs.

2. Any Perennial or Intermittent Stream within a proposed development that does not exhibit a positive conveyance (regardless of whether it is part of a Tax Ditch) shall be identified by phase on the Detailed Grading Plan as follows:

(a) If the deficient Perennial or Intermittent Stream has adjacent Non-Tidal Wetlands, the applicant shall restore the conveyance channel to a positive conveyance (i.e. the removal of conveyance impediments) within the entire site prior to the issuance of substantial completion of the final approved phase. This restoration shall be in compliance with all applicable federal, state and county requirements.

(b) If the deficient Perennial or Intermittent Stream has no adjacent Non-Tidal Wetlands, the applicant shall restore the conveyance channel to a positive conveyance (i.e. the removal of conveyance impediments) within the entire site prior to the issuance of substantial completion of the first approved phase. This restoration shall be in compliance with all applicable federal, state and county requirements.

I. Modifications and Exceptions.

The Planning and Zoning Commission shall be authorized, as part of the site plan review process, to grant preliminary or final site plan approval with modifications of, or exceptions to, the foregoing requirements upon the submission of a detailed

and specific written request from the applicant with supporting documentation from a Qualified Wetland Resource Professional or Qualified Resource Buffer Management Professional, but only upon the satisfaction of all of the following conditions:

1. When the Commission finds that special conditions or circumstances exist that are peculiar to the land or structure and that a literal enforcement of a specific requirement of this section would result in unwarranted hardship.

2. That the modification or exception request is not based upon conditions or circumstances which are the result of actions by the applicant, nor does the request arise from any condition relating to land or building use, either permitted or nonconforming, on any neighboring property.

3. That the granting of a modification or exception will not adversely affect the functions of the Resource or its Resource Buffer as set forth in the definition of that term. Waivers shall be in harmony with the general spirit and intent of this section and any subsequent regulations.

4. That the basis for the modification or exception cannot be achieved through Resource Buffer Width Averaging as provided by §115-193B.

5. That in no event shall there be a modification or exception to the width requirements of Zone A.

The date of any modification or exception by the Commission shall be noted on the final site plan.

J. These requirements shall only apply to subdivisions governed by Chapter 99, Residential Planned Communities and uses identified in §115-219A(1) and (2).

Section11. The Code of Sussex County, Chapter 115, Article XXVIII, §115-220 "Preliminary Site Plan Requirements", is hereby amended by inserting the italicized and underlined language as a new Subsection B(17) thereof:

§115-220 Preliminary Site Plan Requirements

. . .

B. The preliminary site plan shall show the following:

. . .

(17) In the case of a proposed development with the uses identified in §115-219A(1) and (2) or Residential Planned Communities, the site plan shall include all required Resource Buffers and the following:

(a) The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(b) All existing (i.e., at the time of application) native forest and non-forest meadow within the future Resource Buffer.

(c) The limits of the required Resource Buffers.

(d) Calculations supporting Resource Buffer width averaging (§115-193B).

(e) Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§115-193F).

(f) Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

(g) A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.

Section12. The Code of Sussex County, Chapter 115, Article XXVIII, §115-221 "Final Site Plan Requirements", is hereby amended by inserting the italicized and underlined language as a new Subsections B(19) and E. thereof:

§115-221 Final Site Plan Requirements

. . .

B. The final site plan shall show the following:

(19) In the case of a proposed development with the uses identified in §115-219A(1) and (2) or Residential Planned Communities, the site plan shall include all required Resources and Resource Buffers including the following, where applicable:

(a) The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(b) All existing (i.e., at the time of application) native forest and non-forest meadow within the future Resource Buffer.

(c) The limits of the required Resource Buffers.

(d) Calculations supporting Resource Buffer width averaging (§115-193B).

(e) Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§115-193F).

(f) Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

(g) A statement incorporating the Resource and Resource Management and Maintenance Plan by reference.

(h) A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.

. . .

E. An AutoCAD drawing file containing all items required in Section A above shall be submitted in electronic format. The data shall be referenced in NAD 1983 StatePlane Delaware FIPS 0700 (U.S. Feet) Projected Coordinate System.

Section13. Effective Date.

This Ordinance shall take effect upon _____ (__) months from the date of adoption by Sussex County Council. Provided however, that it shall not apply to any completed applications on file with the Sussex County Office of Planning & Zoning.

Sussex County
Drainage and Resource Buffer Ordinance
Summary Paper

The following information is a summary of the provisions within the Buffers – Wetlands – Drainage Ordinance to be used as a guide in the review of the Ordinance.

Section[1]	Title	Summary	Page Numbers
1	Definitions	Defines: ephemeral streams, intermittent streams, major subdivision, minor subdivision, non-tidal wetlands, ordinary high-water mark delineation, perennial non-tidal rivers and streams, resource buffer – wetlands and waters, resources, tax ditch, tidal waters (mean high-water line), tidal wetlands, water dependent activities, water related activities, and wetlands.	Pages: 3-7
2	General Requirements & Restrictions	Requires Resources and Resources Buffers to be depicted on preliminary and final plot plans for each major subdivision of lands	Pages: 7-8
3	Preliminary Conference	Amends the current Code to strike the reference to a minor subdivision	Page: 8
4	Information to Be Shown	Lists the specific information to be shown on the preliminary plat	Pages: 8-9
5	Supporting Statements	Requires a Resource and Resource Buffer Management Plan and the same to be recorded as part of the subdivision	Pages: 9-10
6	Information to Be Shown	Lists the specific information to be shown on the final plat	Pages: 10-11
7	Plans	Requires Resources and Resources Buffers and the public access easement as part of the Chapter 99 "Plans"	Page: 11
8	Definitions and Word Usage	Includes identical definitions as Section 1	Pages: 12-16
9	Height, Area and Bulk Requirements	Amends the current Code related to cluster subdivisions to come into compliance with the requirements of §115-193.	Pages: 16-17

Section[1]	Title	Summary	Page Numbers
10	Resource Protection	Strikes the current buffer ordinance (§115-193) and renames the section "Resource Protection"	Pages: 17-20
		10A. Requires Resource Buffer widths	Pages: 20-21
		10A. Lists the Resource Buffer widths (Table 1)	Page: 21
		10B. Defines Resource Buffer averaging	Pages: 21-22
		10C. Lists the Resource Buffer Permitted Activities by Zone (Table 2)	Pages: 22-25
		10D. Defines the Resource Buffer Standards	Pages: 25-26
		10E. Defines Selective Cutting	Page: 26
		10F. Defines the maintenance of drainage conveyances including a requirement for a Drainage Assessment Report	Pages: 26-27
		10G. Defines Resource Buffer Options to incentivize the retention of forests and the retention or expansion of Resource Buffers	Pages: 27-29
		10H. Defines the Resource and Resource Buffer Maintenance and Management requirements	Pages: 29-30
		10I. Defines the requirements for the PZ Commission to grant an exception or modification	Pages: 30-31
11	Preliminary Site Plan Requirements	Lists the specific information to be shown on the preliminary site plan	Pages: 31-32
12	Final Site Plan Requirements	Lists the specific information to be shown on the final site plan	Pages: 32-33
13	Effective Date	Effective date of the ordinance	Page: 33-34

1. Sections 1-7 address Chapter 99 of County Code. Sections 8-12 address Chapter 115 of County Code.

# # # #

From: Martin Yerick <lewes[illegible]tin@hotmail.com>
Sent: Saturday, December 4, 2021 8:14 PM
To: Doug Hudson
Subject: Strengthen the Draft Buffer Zone Ordinance

FILE COPY

Opposition Exhibit

Dear Mr. Hudson:

I write to urge you to oppose the draft ordinance on buffer zones for inland waterways in Sussex County as the ordinance is currently written.

I first became aware of how polluted our inland waterways were when my wife and I took our relatives tubing in the Broadkill River not far upstream from Roosevelt Inlet. All the kids went tubing and had a great time. Later, one of them got sick and vomited for hours. As we had all eaten food from the same restaurant and no one else got sick, we wondered what caused this one boy to have such a bad case of vomiting. It was only later that I learned that our inland bays and waterways are so polluted that it is not safe to participate in activities in many of them. In the case of our relative, I now believe that he ingested some of the water, and that is what made him sick.

I provide the above example as evidence of how polluted out inland waterways are. It is in all our interests to improve the water quality of our inland waterways, and that a strong county ordinance requiring buffers along tidal and non-tidal waterways would go a long way to improve the quality of these waterways. Unfortunately, I do not believe that the draft buffer ordinance before the Sussex County Council is adequate. I am concerned that there are provisions in the draft ordinance that could be used by landowners and developers to reduce the effectiveness of buffers that meet the requirements of the ordinance. Specifically, I refer to the following sections:

- Section 99-7C permits the Director of Planning and Zoning to waive the requirement of preparing a preliminary plan if he alone finds it not necessary;
- The widths of the proposed buffer zones are too narrow (I note that all other neighboring jurisdictions have larger buffer zones);
- The use of "Resource Buffer Averaging" permits a developer to create a buffer zone that is in compliance with the county ordinance, but be so narrow in areas that the zone would effectively be worthless as a buffer;
- The draft ordinance excludes commercial property; and
- Clear cutting of wooded areas before sale of the property is not prohibited, so a landowner or developer could totally remove any existing areas that act as a buffer zone, and then sell the property. There would be no penalty for doing this, and the next landholder would be free to develop without regard to the former natual buffer zone.

For these reasons, I urge you to oppose the draft buffer zone ordinance in its current form and insist on revisions that would make it an ordinance that would, in fact, help clean up our inland bays and waterways.

Sincerely,

Martin Yerick
140 Kings Hwy
Lewes, DE

FILE COPY

SUPPORT EXHIBIT

From: Frank Piorko <noreply@forms.email>
Sent: Sunday, December 5, 2021 4:47 PM
To: Todd F. Lawson <tlawson@sussexcountyde.gov>
Subject: Contact Form: Wetlands and Buffer Ordinace

Name: Frank Piorko
Email: frank.cec@comcast.net
Phone: 4846804301
Subject: Wetlands and Buffer Ordinace
Message: December 4, 2021
Good Morning County Administrator Lawson,
As a resident of eastern Sussex County, and former natural resources manager with DNREC for 26 years, I wanted to support and encourage the Sussex County Council and Administration to endorse the recommendations made by the Wetlands and Buffer Working Group (WBWG) and adopt the changes through Ordinance contemplated to Chapter(s) 99 and 115 of the Sussex County Code.
While the other two counties in Delaware have substantially more rigorous wetlands and buffer protective standards, only recently through the adoption of the 2019 Comprehensive Plan has Sussex County considered the strategies necessary for the "preservation of environmental areas and protection of wetlands and waterways" that are being offered to Council for adoption. While there are other agencies both federal and state that are responsible for some aspects of tidal and freshwater wetlands protection, Sussex County is in the unique position to carry out the Goals and Strategies in their Comprehensive Plan and implement these standards at the local level.
The County has found it particularly useful over the years to adopt local standards for stormwater, drainage, and other environmental protections for public and private property; and have done so through the adoption of local ordinances.
There is precedence for adopting protective and useful measures to mitigate some of the impacts of the continued changes that will be part of the county landscape for years to come. For decades, I worked in the areas of stormwater and drainage in Sussex County along with the Sussex Conservation District and other teams within DNREC. It was difficult to engage Sussex County government to act locally and be out in front of solutions to problems here in the county. In March of 2017, Sussex County adopted Ordinance #2489 amending Chapter(s) 90, 99 and 115 of the County Code with drainage and stormwater standards to promote health, safety, and welfare in Sussex County for its residents.
This Ordinance provides another opportunity for Sussex County to adopt local protective measures that support and are necessary to carry out the 2019 Comprehensive Plan. Once again, it's time for Sussex County to "act locally" and demonstrate a commitment to the Plan that it adopted three years ago. As a resident of Sussex County, I urge the Council and administration to take action.
Respectfully,
Frank Piorko
Lewes, DE

Jamie Whitehouse

From: Frank Piorko <noreply@forms.email>
Sent: Sunday, December 5, 2021 4:50 PM
To: Jamie Whitehouse
Subject: Contact Form: Wetlands and Buffer Ordinance

FILE COPY
SUPPORT EXHIBIT

Name: Frank Piorko
Email: frank.cec@comcast.net
Phone: 4846804301
Subject: Wetlands and Buffer Ordinance
Message: December 4, 2021
Good Morning Mr. Whitehouse,
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Respectfully,
Frank Piorko
Lewes, DE

FILE COPY

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Sent: Sunday, December 5, 2021 4:47 PM
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Respectfully,
Frank Piorko
Lewes, DE

FILE COPY

Elliott Young

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Sunday, December 5, 2021 4:55 PM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

SUPPORT EXHIBIT

RECIPIENTS: Jamie Whitehouse

Submitted on Sunday, December 5, 2021 - 4:55pm

RECEIVED
DEC 05 2021
SUSSEX COUNTY
PLANNING & ZONING

Name: Frank Piorko
Email address: frank.cec@comcast.net
Phone number: 4846804301
Subject: Wetlands and Buffer Ordinance
Message:
December 4, 2021
Good Morning Mr. Wheatley,
As a resident of eastern Sussex County, and former natural resources manager with DNREC for 26 years, I wanted to support and encourage the Sussex County Council and Administration to endorse the recommendations made by the Wetlands and Buffer Working Group (WBWG) and adopt the changes through Ordinance contemplated to Chapter(s) 99 and 115 of the Sussex County Code.
While the other two counties in Delaware have substantially more rigorous wetlands and buffer protective standards, only recently through the adoption of the 2019 Comprehensive Plan has Sussex County considered the strategies necessary for the "preservation of environmental areas and protection of wetlands and waterways" that are being offered to Council for adoption.
While there are other agencies both federal and state that are responsible for some aspects of tidal and freshwater wetlands protection, Sussex County is in the unique position to carry out the Goals and Strategies in their Comprehensive Plan and implement these standards at the local level.
The County has found it particularly useful over the years to adopt local standards for stormwater, drainage, and other environmental protections for public and private property; and have done so through the adoption of local ordinances. There is precedence for adopting protective and useful measures to mitigate some of the impacts of the continued changes that will be part of the county landscape for years to come. For decades, I worked in the areas of stormwater and drainage in Sussex County along with the Sussex Conservation District and other teams within DNREC. It was difficult to engage Sussex County government to act locally and be out in front of solutions to problems here in the county. In March of 2017, Sussex County adopted Ordinance #2489 amending Chapter(s) 90, 99 and 115 of the County Code with drainage and stormwater standards to promote health, safety, and welfare in Sussex County for its residents. This Ordinance provides another opportunity for Sussex County to adopt local protective measures that support and are necessary to carry out the 2019 Comprehensive Plan. Once again, it's time for Sussex County to "act locally" and demonstrate a commitment to the Plan that it adopted three years ago. As a resident of Sussex County, I urge the Council to take action.
Respectfully,
Frank Piorko
Lewes, DE

Jamie Whitehouse

From: preslax@gmail.com
Sent: Thursday, December 2, 2021 12:10 PM
To: Jamie Whitehouse
Cc: Mason Dyer; Pret Dyer
Subject: Fwd: Proposed Buffer Ordinance

FILE COPY

Sent from my iPhone

Subject: Proposed Buffer Ordinance

Jamie

Please allow this email to serve as Public Comment on the above Proposed Ordinance being considered by Planning and Zoning Commission and by Council at some point.

I respectfully submit, for consideration by Council, the perspective that in order to achieve fairness and avoid uncertainty in property rights ownership in Sussex County, that any existing Residential, Subdivision Approval, Site Plan Approval or RPC overlay ("Existing Approval") should be grandfathered and not subject to any provisions of this Proposed Buffer Ordinance, if enacted.
This grandfathering should include a minor or major amendment to an existing Residential Subdivision or Site Plan Approval or RPC overlay in light of the current owner's detrimental reliance upon the impact and effects of the current Buffer Requirements and the inequity of imposing said New Buffer Requirements on such Existing Approval, even I'd amendments there to are requested. An owner of property, subject to an Existing Approval, has purchased or owned the property in detrimental reliance upon the effect and impact of the currently existing Buffer Requirements and should be protected from changes in those expectations and property rights incident to the ownership of those properties which are benefitted by Approvals.

Therefore, the passage of the Proposed Buffer Ordinance should apply only to new applications seeking Approvals, not to Existing Approvals or amendments of a minor or major nature to Existing Approvals. The application of the Proposed Ordinance to properties subject to Existing Approvals would create a taking of the owner's current property rights.

Thank you for the opportunity to present the contents of this email into the Record at the Hearing before Council, when such hearing occurs, on the Proposed Buffer Requirements.

Very truly yours
Pret Dyer

Sent from my iPhone

Jamie Whitehouse

From: Nan Zamorski <nanzamorski@gmail.com>
Sent: Friday, November 19, 2021 2:46 PM
To: Planning and Zoning
Cc: Nan Zamorski
Subject: Buffer Ordinance

Dear P & Z Committee,
Please, please do NOT make refinements to the Buffer Ordinance. Our Quality of Life ,which includes our Water Quality, needs protection. If you don't provide these protections, no one else will. You have the responsibility upon your shoulders to provide real protections for ours and future generations before it is too late. Our rural lifestyle is slipping away...don't let our health do the same.
The current proposal utilizes A & B zones which basically negates any buffer protections and allows developers to manipulate at will. The proposed buffer widths are too small as it is and does NOT compare to neighboring states.

At least bring our buffers up to NJ and MD's!

The ordinance needs to apply to all waterways. Sussex County needs to have the authority to enforce these ordinances and if more employees are needed for this, then the developers need to fund inspector positions.
Selective Cutting needs to be removed.
Do not reduce or eliminate the forest and/or landscape buffer.
There should be NO options to decrease the width of a buffer.

Eliminate non-forest buffer standards and require buffers to be forested and/or contain native shrubs & native ground covers. Our state is being overrun with non-native, invasive species which contributes to the loss of our butterflies, birds, and other wildlife.

The language for maintenance and management of buffers needs to be specific so as not to disrupt the normal purpose and function of buffers, including the width and number of access points.
Please take these comments to heart and Do the Right Thing for the citizens of Delaware.
Sincerely,
Nan Zamorski
24496 Old Meadow Rd
Seaford, DE 19973

Jamie Whitehouse

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Friday, November 19, 2021 1:29 PM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

Submitted on Friday, November 19, 2021 - 1:29pm

Name: Eve Aldred
Email address: aldred5@verizon.net
Phone number: 3026441893
Subject: Buffer/Wetlands ordinance
Message: I fully support revamping the buffer/wetland ordinance. I also ask that the Sussex County Policy be inline with or exceed that of neighboring states. In addition the policy needs to be inforced in order to protect our fragile ecosystem with no option to decrease the width of a buffer. Please do not leave enforcement up to home owner associations. Please require all buffers to be either be forested or to contain naturally occurring plants and shrubs. Finally, as per Ed Launay, the section pertaining to selective cutting or clearing within a buffer, should be taken out. Thank you for your important work! -Bruce and Eve Aldred, Lewes, DE

FILE COPY

SUPPORT EXHIBIT

Jamie Whitehouse

From: Shelly Cohen <phillie gyrl1968@gmail.com>
Sent: Thursday, November 18, 2021 9:17 AM
To: Jamie Whitehouse
Subject: New or Amended Wetlands Buffers Ordinance

FILE COPY
Opposition
Exhibit

Dear Mr. Whitehouse,

Yes, please amend or create an entirely new Wetlands Buffer Ordinance. The evidence is all around us that the current or shall we say old Ordinance was entirely inadequate in the goal of protecting Sussex Wetlands, Environment, Wildlife and Water Resources.

When you do this, the Ordinance should not be full of loop holes, back doors, incentives that defeat the purpose of protecting the wetlands by "selective" cutting of trees, removal of trees, reducing the size of the Buffer widths or allowing building or destructive activities in these already narrow Buffer parameters.

Growth is always going to be necessary, but it should be controlled to preserve and protect what makes Sussex County a wonderful place to live.

Builders and developers are not going to stop building in Sussex, just like they continue to build in other jurisdictions that have two to six times the Wetlands Buffer widths and restrictions. Legislating better Ordinance Protection makes the County better. Protecting the Wetlands will enhance the natural beauty of the land and built areas while increasing the value of land - really everything.

Please do this Ordinance correctly. Make it a positive effort, not just a going through the motions to create an ordinance that is so full of holes that it would not be an improvement.

Please make this your ABSOLUTE BEST EFFORT!

The following list identifies what needs to be changed in the Proposed Wetlands Buffer Ordinance recently presented by Mr. Lawson and Mr. Robertson. The list was summarized after a recent meeting of, Sussex 2030, a grassroots community group of Sussex County Concerned Citizens.

1. **Buffer widths should be significantly larger** than those proposed in the ordinance
2. It must be clear in the ordinance that Sussex County has the **authority to enforce** it and will do so if the HOA does not.
3. **The ordinance should be applied to <u>all</u> waterways**, not just to those for the development of more than 6 housing units
4. **"Selective Cutting" must be removed.**
5. **Do not allow the reduction and/or elimination of the forest and/or landscape buffer.**
6. **Resource and Resource Buffer Maintenance and Management** section must have the following added: any and all measures for access easement must have minimal to no effect on disrupting the normal purpose and function of the buffers up to and including the width and number of access points.
7. There should be '**no option**' **to decrease the width of a buffer.**
8. **Eliminate non-forest buffer standards** and require all buffers to be forested or contain natural shrubs.

Thank you

Shelly Cohen,
Milton DE

Sent from my iPad

AN ORDINANCE TO AMEND CHAPTER 99, SECTIONS 99-5, 99-6, 99-7, 99-23, 99-24, 99-26, AND 99-30, AND CHAPTER 115 SECTIONS 115-4, 115-25, 115-193, 115-220 AND 115-221 REGARDING CERTAIN DRAINAGE FEATURES, WETLAND AND WATER RESOURCES AND THE BUFFERS THERETO.

WHEREAS, Pursuant to the provisions of Title 9, Chapters 68 and 69 of the Delaware Code, the Sussex County Government has the power and authority to regulate the use of land and to adopt a Comprehensive Land Use Plan; and

WHEREAS, Pursuant to Chapters 99 and 115 of the Code of Sussex County, the Sussex County Government has undertaken to regulate the use of land; and

WHEREAS, the existing Section 115-193 of the Code of Sussex County currently regulates the use of land adjacent to certain wetlands and water bodies; and

WHEREAS, the existing Section 115-193 of the Code of Sussex County is in need of improvement regarding its interpretation, application and protection of Resources; and

WHEREAS, certain Resources are in need of substantial enhancements to ensure that Sussex County's drainage network is improved now and maintained in the future; and

WHEREAS, the 2019 Sussex County Comprehensive Plan contemplates the review and improvement of the protection of wetlands and waterways in Sussex County; and

WHEREAS, Goal 4.3 and Objective 4.3.1 of the Future Land Use Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Consider strategies for preserving environmental areas from development and the protection of wetlands and waterways", and this Ordinance carries out that Objective; and

WHEREAS, Goal 4.6 and Strategy 4.6.2 of the Future Land Use Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Recognize the Inland Bays, their tributaries and other waterbodies as valuable open space areas of ecological importance", and this Ordinance carries out that Strategy; and

WHEREAS, Goal 5.1 of the Conservation Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Encourage development practices and regulations that support natural resource protection", and this Ordinance carries out that Goal; and

WHEREAS, Strategy 5.1.2.2 of the Conservation Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Review appropriate sections of Sussex County's zoning and subdivision codes to determine if amendments are needed that will better help protect groundwater, waterways, sensitive habitat areas and other critical natural lands in Sussex County", and this Ordinance carries out that Strategy; and

WHEREAS, Goal 5.3 of the Conservation Element of the 2019 Sussex County Comprehensive Plan calls for the protection of the natural functions and quality of the County's surface waters, groundwater, wetlands and floodplains, and as part of that Goal, the Plan includes Strategies 5.3.1.1, 5.3.1.2 and 5.3.1.6, which respectively state that Sussex County should "Consider developing a program for wetlands and waterways protection", "Identify an appropriate range of wetlands buffer distances based upon location and context", and "Recognize the Inland Bays, their tributaries and other waterbodies as valuable open space areas of ecological and economic importance", and this Ordinance carries out these Goals and Strategies; and

WHEREAS, in adopting this Ordinance, it is the intent of Sussex County Council to balance the protection of land equity with the protection of the Resources defined in the Ordinance and their associated functions; and

WHEREAS, in adopting this Ordinance, it is the intent of Sussex County to establish a framework under which future property owners and Owners Associations will maintain the Resources, Resource Buffers, the properties they are on or adjacent to, and the systems that they are a part of in the future and to ensure the ongoing positive conveyance of drainage features; and

WHEREAS, it has been determined that this Ordinance promotes and protects the health, safety, convenience, orderly growth and welfare of the inhabitants of Sussex County.

NOW, THEREFORE, THE COUNTY OF SUSSEX HEREBY ORDAINS:

Section 1. The Code of Sussex County, Chapter 99, Article I, §99-5 "Definitions," is hereby amended by inserting the italicized and underlined language alphabetically:

§99-5 Definitions.

For purposes of this Chapter, certain terms and words are hereby defined:

. . .

EPHEMERAL STREAMS

A feature, excluding laterals draining agricultural fields, that carries only runoff in direct response to precipitation with water flowing only during and shortly after large precipitation events. An Ephemeral Stream may or may not have a well-defined channel, its aquatic bed is always above the water table during a year of normal rainfall, and runoff is its primary source of water. An Ephemeral Stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

. . .

INTERMITTENT STREAMS

A well-defined channel, excluding laterals draining agricultural fields, that contains flowing water for only part of the year, typically during winter and spring when the aquatic bed is below the water table, connecting otherwise isolated Non-Tidal Wetlands to downstream Tidal/Perennial Waters/Streams. The flow may be heavily supplemented by runoff. An Intermittent Stream often lacks the biological and hydrological characteristics commonly associated with the continuous conveyance of water.

. . .

MAJOR SUBDIVISION

Any subdivision of land *creating six or more new Lots* [involving a proposed new street or the extension of an existing street].

. . .

MINOR SUBDIVISION

Any subdivision *creating five or less Lots* [fronting on an existing street and not involving any new street] and not adversely affecting the development of the remainder of the parcel or adjoining property and not in conflict with any provisions or portion of the County Comprehensive Plan, Official Map, Zoning Ordinance, or this chapter. *Only one such subdivision shall be approved per year per parcel. The maximum number of lots created in the minor subdivision process shall not exceed four plus one for each 10 acres of original parcel size.*

. . .

NON-TIDAL WETLANDS

Non-Tidal Wetlands are those wetlands, not classified by this Chapter as Tidal Wetlands, which lie contiguous or abutting to Tidal Waters, Tidal Wetlands, Perennial Streams or those Intermittent Streams providing a surface water connection between adjacent Wetlands and ultimately downstream navigable waters. Non-Tidal Wetlands also include those Wetlands only separated from otherwise contiguous or abutting Wetlands by constructed dikes, barriers, culverts, natural river berms and beach dunes.

. . .

ORDINARY HIGH WATER MARK DELINEATION

The boundary of Perennial Non-Tidal Rivers or Streams, Intermittent Streams or Ephemeral Streams shall be defined by the Ordinary High Water Mark. Ordinary High Water Mark means the line on a shore or bank established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of

terrestrial vegetation, the presence of litter and debris, or other similar physical characteristics indicating the frequent presence of flowing water.

. . .

PERENNIAL NON-TIDAL RIVERS AND STREAMS

A well-defined channel that contains flowing water year-round during a year of normal rainfall with the aquatic bed located below the water table for most of the year and which is not subject to tidal influence. Groundwater is the primary source of water for a Perennial Stream, but it also carries runoff. A Perennial Stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.

. . .

RESOURCE BUFFER - WETLANDS AND WATERS

A managed area between residential land uses and Resources that is not subdividable once established, with the exception of a subdivision boundary resulting from an approved phase. Resource Buffers function to:

- *Protect the Resources and their associated functions.*
- *Improve/protect water quality via sediment filtration, reduce impact of nutrient loading on Resources, moderate water temperature, and enhance infiltration and stabilization of channel banks.*
- *Provide wildlife habitat via nesting, breeding, and feeding opportunities; provide sanctuary/refuge during high water events; protect critical water's edge habitat; and protect rare, threatened, and endangered species associated with each Resource and its upland edge.*
- *Enhance and/or maintain the flood plain storage functionality via reduction of flood conveyance velocities as well as dissipation of stormwater discharge energy.*

. . .

RESOURCES

Those Wetlands and waters to be provided with a Resource Buffer due to their importance to Sussex County. These Resources include Tidal Waters, Tidal Wetlands, Non-Tidal Wetlands, Perennial Streams, and those Intermittent Streams providing a surface water connection between Wetlands.

. . .

TAX DITCH

A Tax Ditch is a drainage channel or conveyance and the corresponding right-of-way established and/or formed in accordance with Title 7, Chapter 41 of the Delaware Code, and approved by a "ditch order" entered by the Superior Court of the State of Delaware and County of Sussex.

. . .

TIDAL WATERS (MEAN HIGH-WATER LINE)

Those waters occurring below the mean high-water line of any tidal water body, tidal stream, or tidal marsh, which is defined as the average height of all the high-tide water recorded over a nineteen-year period as defined by the National Oceanic and Atmospheric Administration.

. . .

TIDAL WETLANDS

Areas under the jurisdiction of Title 7, Chapter 66 of the Delaware Code, as regulated and mapped by the Department of Natural Resources and Environmental Control.

. . .

WATER DEPENDENT ACTIVITIES

Activities that are approved through federal and state permit programs that meet the definition of water dependent activities included in those programs. Water-

dependent uses are uses that can only be conducted on, in, over, or adjacent to the water; each involves, as an integral part of the use, direct access to and use of the water. Examples include marinas, boat ramps/launches, docks, piers, water intakes, aquatic habitat restoration, and similar uses.

. . .

WATER RELATED ACTIVITIES

Water Related Activities are those considered ancillary to and supporting permitted Water Dependent Activities completed on adjacent uplands. Examples include utility connections, limited points of access, loading/unloading areas, and similar uses.

. . .

WETLANDS

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Agricultural land consisting of "Prior Converted Croplands" as defined by the National Food Security Act Manual (August 1988), are not wetlands. The procedure for delineating the boundary of all wetlands, except for Tidal Wetlands as defined by this ordinance, shall be the methodology provided in the Corps of Engineers Wetland Delineation Manual (January 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (November 2010).

Section 2. The Code of Sussex County, Chapter 99, Article I, §99-6 "General Requirements and Restrictions", is hereby amended by deleting the language in brackets and inserting the italicized and underlined language in existing subsection J. and as a new subsection K. thereof as follows:

§99-6 General Requirements and Restrictions.

. . .

J. A forested and/or landscape buffer, as defined in § 99-5, Subsections A through J must be depicted on the preliminary and final plot plans for each major subdivision of lands [into four or more lots] and must be established in accordance with all the requirements of the definition of "forested and/or landscaped buffer strip," Subsections A through J in § 99-5.

. . .

K. Resources and Resource Buffers, as defined in § 99-5 must be depicted on the preliminary and final plot plans for each major subdivision of lands and must comply with the requirements of §115-193.

Section 3. The Code of Sussex County, Chapter 99, Article II, §99-7 "Preliminary Conference", is hereby amended by deleting the language in brackets in subsection C. thereof as follows:

§99-7 Preliminary Conference.

. . .

C. If the Director determines that the proposed subdivision represents a minor subdivision of a parcel, existing as of the effective date of this amended provision, on a street other than a major arterial roadway, and if the Director determines that review by the Commission is not necessary or desirable, he may waive the requirement of preparing a preliminary plat and may authorize the preparation of a record plat for purposes of recordation. He may, however, request review assistance from other concerned agencies prior to authorizing preparation of the plat. Lots in any minor subdivision plat approved by the Director, without review by the Commission, shall have a minimum area of 3/4 of an acre and a minimum width of 150 feet and shall utilize entrances as approved by the Delaware Department of Transportation. [Such a minor subdivision shall be limited to four lots per parcel, as well as one additional lot for each 10 acres of parcel size, with a maximum of four subdivided lots approved for recordation per calendar year.]

Section 4. The Code of Sussex County, Chapter 99, Article IV, §99-23 "Information to Be Shown", is hereby amended by inserting the italicized and underlined language as a new subsection T. thereof:

§99-23 Information to Be Shown.

The preliminary plat shall be drawn in a clear and legible manner and shall show the following information"

. . .

T. The location of all Water and Wetland Resources and their Resource Buffers.

(1) The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(2) All existing (i.e., at the time of application) natural forest, managed forest and non-forest meadow within the future Resource Buffer shall be identified.

(3) The area limits of the required Resource Buffers.

(4) Calculations supporting Resource Buffer width averaging (§115-193B).

(5) Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§115-193F).

(6) Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

(7) A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.

(8) Any walking trails, including the method of construction and the materials used to establish the trails.

Section 5. The Code of Sussex County, Chapter 99, Article IV, §99-24 "Supporting Statements", is hereby amended by inserting the italicized and underlined language as a new subsection G thereof:

§99-24 Supporting Statements

The preliminary plat shall be accompanied by the following written and signed statements in support of the subdivision's application for tentative approval:

. . .

G. A Resource and Resource Buffer Management Plan that describes measures for managing the Resource and Resource Buffer(s) required pursuant to Chapter 115, Article XXV, Section 115-193 on the site. The Resource and Resource Buffer Management Plan shall be included as part of the recorded declaration for the subdivision.

Section 6. The Code of Sussex County, Chapter 99, Article V, §99-26, "Information to Be Shown", is hereby amended by inserting the italicized and underlined language as a new subsection A.(21) and C thereof:

§99-26 Information to Be Shown.

A. The final plat shall be legibly and accurately drawn and show the following information:

. . .

(21) The location of all Resource Buffers.

(a) The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(b) All existing (i.e., at the time of application) natural forest, managed forest and non-forest meadow within the future Resource Buffer shall be identified.

(c) The area limits of the required Resource Buffer.

(d) Calculations supporting Resource Buffer width averaging (§115-193B).

(e) Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§155-193F).

(f) Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

(g) A statement incorporating the Resource and Resource Management and Maintenance Plan by reference.

(h) A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.

(22) Any walking trails, including method of construction and the materials used to establish the trails.

. . .

C. An AutoCAD drawing file containing all items required in Section A above shall be submitted in electronic format. The data shall be referenced in NAD 1983 StatePlane Delaware FIPS 0700 (U.S. Feet) Projected Coordinate System.

Section 7. The Code of Sussex County, Chapter 99, Article VI, §99-30, "Plans", is hereby amended by inserting the italicized and underlined language as a new subsection J. and K. thereof:

§99-30 Plans.

Plans, profiles and specifications for the required improvements shall be prepared by the subdivider and submitted for approval by the appropriate public authorities prior to construction. No construction shall commence prior to the issuance of a notice to proceed by the County Engineer or his or her designee for the required improvements. All plans, profiles and specifications approved by the County Engineer or his or her designee with the issuance of a notice to proceed shall remain valid or, if substantial construction is not actively and continuously underway, they shall expire upon the expiration of the final site plan. Prior to the issuance of a notice to proceed, the County Engineer may require the owner and/or his designee to

execute an agreement addressing the required improvements. The plans and profiles submitted for all new construction shall include the following:

. . .

J. Resources and Resource Buffers.

K. Proposed access easement layout with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

Section 8. The Code of Sussex County, Chapter 115, Article I, §115-4 "Definitions and Word Usage," is hereby amended by inserting the italicized and underlined language alphabetically in Subsection B thereof:

§115-4 Definitions and Word Usage.

. . . .

B. General definitions. For the purpose of this chapter, certain terms and words are hereby defined as follows:

. . . .

EPHEMERAL STREAMS

A feature, excluding laterals draining agricultural fields, that carries only runoff in direct response to precipitation with water flowing only during and shortly after large precipitation events. An Ephemeral Stream may or may not have a well-defined channel, its aquatic bed is always above the water table during a year of normal rainfall, and runoff is its primary source of water. An Ephemeral Stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

. . .

INTERMITTENT STREAMS

A well-defined channel, excluding laterals draining agricultural fields, that contains flowing water for only part of the year, typically during winter and spring when the aquatic bed is below the water table, connecting otherwise isolated Non-tidal Wetlands to downstream Tidal/Perennial Waters/Streams. The flow may be heavily supplemented by runoff. An Intermittent Stream often lacks the biological and hydrological characteristics commonly associated with the continuous conveyance of water.

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NON-TIDAL WETLANDS

Non-Tidal Wetlands are those Wetlands, not classified by this Chapter as Tidal Wetlands, which lie contiguous or abutting to Tidal Waters, Tidal Wetlands, Perennial Streams or those Intermittent Streams providing a surface water connection between adjacent Wetlands and ultimately downstream navigable waters. Non-Tidal Wetlands also include those Wetlands only separated from otherwise contiguous or abutting Wetlands by constructed dikes, barriers, culverts, natural river berms and beach dunes.

. . .

ORDINARY HIGH WATER MARK DELINEATION

The boundary of Perennial Non-Tidal Rivers or Streams, Intermittent Streams or Ephemeral Streams shall be defined by the Ordinary High Water Mark. Ordinary High Water Mark means the line on a shore or bank established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other similar physical characteristics indicating the frequent presence of flowing water.

. . .

PERENNIAL NON-TIDAL RIVERS AND STREAMS

A well-defined channel that contains flowing water year-round during a year of normal rainfall with the aquatic bed located below the water table for most of the year and which is not subject to tidal influence. Groundwater is the primary source of water for a perennial stream, but it also carries runoff. A Perennial Stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.

. . .

RESOURCE BUFFER - WETLANDS AND WATERS

A managed area between residential land uses and Resources that is not subdividable once established, with the exception of a subdivision boundary resulting from an approved phase. Resource Buffers function to:

- *Protect the Resources and their associated functions.*
- *Improve/protect water quality via sediment filtration, reduce impact of nutrient loading on Resources, moderate water temperature, and enhance infiltration and stabilization of channel banks.*
- *Provide wildlife habitat via nesting, breeding, and feeding opportunities; provide sanctuary/refuge during high water events; protect critical water's edge habitat; and protect rare, threatened, and endangered species associated with each Resource and its upland edge.*
- *Enhance and/or maintain the flood plain storage functionality via reduction of flood conveyance velocities as well as dissipation of stormwater discharge energy.*

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RESOURCES

Those wetlands and waters to be provided with a Resource Buffer due to their importance to Sussex County. These Resources include Tidal Waters, Tidal Wetlands, Non-Tidal Wetlands, Perennial Streams, and those Intermittent Streams providing a surface water connection between Wetlands.

. . .

TAX DITCH

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. . .

TIDAL WATERS (MEAN HIGH-WATER LINE)

Those waters occurring below the mean high-water line of any tidal water body, tidal stream, or tidal marsh, which is defined as the average height of all the high-tide water recorded over a nineteen-year period as defined by the National Oceanic and Atmospheric Administration.

. . .

TIDAL WETLANDS

Areas under the jurisdiction of Title 7, Chapter 66 of the Delaware Code, as regulated and mapped by the Department of Natural Resources and Environmental Control.

. . .

WATER DEPENDENT ACTIVITIES

Activities that are approved through federal and state permit programs that meet the definition of water dependent activities included in those programs. Water-dependent uses are uses that can only be conducted on, in, over, or adjacent to the water; each involves, as an integral part of the use, direct access to and use of the water. Examples include marinas, boat ramps/launches, docks, piers, water intakes, aquatic habitat restoration, and similar uses.

. . .

WATER RELATED ACTIVITIES

Water Related Activities are those considered ancillary to and supporting permitted Water Dependent Activities completed on adjacent uplands. Examples include utility connections, limited points of access, loading/unloading areas, and similar uses.

. . .

WETLANDS

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Agricultural land consisting of "Prior Converted Croplands" as defined by the National Food Security Act Manual (August 1988), are not wetlands. The procedure for delineating the boundary of all wetlands, except for Tidal Wetlands as defined by this ordinance, shall be the methodology provided in the Corps of Engineers Wetland Delineation Manual (January 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (November 2010).

Section 9. The Code of Sussex County, Chapter 115, Article IV, §115-25 "Height, Area and Bulk Requirements," is hereby amended by deleting the language in brackets and inserting the italicized and underlined language in Subsection F(3)(a)[4] thereof:

§115-25 Height, Area and Bulk

F. Review procedures for cluster development

. . .

(3) The Planning & Zoning Commission shall determine that the following requirements are met before approving any preliminary plan and such application shall be reviewed on an expedited basis.

(a) The cluster development sketch plan and the preliminary plan of the cluster subdivision provides for a total environment and design which are superior, [and] *in* the reasonable judgment of the Planning Commission, to that which would be allowed under the regulations for the standard option. For the purposes of this subsection a proposed

cluster subdivision which provides for a total environment and design which are superior to that allowed under the standard option subdivision is one which, in the reasonable judgment of the Planning Commission meets all of the following criteria:

. . .

[4] [A minimum of 25 feet of permanent setback must be maintained around the outer boundaries of all wetlands, except for tidal waters, tidal tributary streams and tidal wetlands and from the orinary high water line of perennial nontidal rivers and nontidal streams as provided for in §115-193B under Ordinance No. 774 where a fifty-foot permanent setback is required. No buildings or paving shall be placed within these setbacks.] *The preliminary plan shall comply with the requirements of §115-193*.

Section 10. The Code of Sussex County, Chapter 115, Article XXV, §115-193 "Buffer Zones for Wetlands and Tidal and Nonperennial Waters," is hereby amended by amending the Title thereof to state "Resource Protection" and deleting the language in brackets and inserting the italicized and underlined language:

§115-193 [Buffer Zones for Wetlands and Tidal and Nonperennial Waters] *Resource Protection*

[A.

Definitions. As used in this section, the following terms shall have the meanings indicated:

BUFFER ZONE

An existing naturally vegetated area or an area purposely established in vegetation which shall not be cultivated in order to protect aquatic, wetlands, shoreline and upland environments from man-made encroachment and disturbances. The "buffer zone" shall be maintained in natural vegetation, but may include planted vegetation where necessary to protect, stabilize or enhance the area.

MEAN HIGH-WATER LINE OF TIDAL WATER

The average height of all the high-tide water recorded over a nineteen-year period as defined by the National Oceanic and Atmospheric Administration tidal datum.

PERENNIAL NONTIDAL RIVERS AND STREAMS

Any body of water which continuously flows during a year and which is not subject to tidal influence.

TIDAL TRIBUTARY STREAM

A stream under tidal influence, either connecting fresh or salt water.

TIDAL WETLANDS

Areas under the jurisdiction of Title 7, Chapter 66, of the Delaware Code, as the chapter appears as of the date of the adoption of this Article, as regulated and mapped by the Department of Natural Resources and Environmental Control.

WETLANDS

A private or state wetland as defined by the Delaware Department of Natural Resources and Environmental Control regulations and maps as promulgated pursuant to Chapter 66, Title 7, of the Delaware Code, as the chapter appears upon the date of the adoption of this Article.

B. A fifty-foot buffer zone is hereby established landward from the mean high water line of tidal waters, tidal tributary streams and tidal wetlands and from the ordinary high water line of perennial nontidal rivers and nontidal streams in Sussex County.

C. Excluded from buffer zone designation are farm ponds, tax ditches and other man-made bodies of water where these waters are not located on or within perennial streams. A buffer zone shall not be required for agricultural drainage ditches if the adjacent agricultural land is the subject of a conservation farm plan established with the Sussex Conservation District.

D. Excluded from buffer zone regulations are facilities necessarily associated with water-dependent facilities (maritime, recreational, educational or fisheries activities that cannot exist outside of the buffer by reason of the intrinsic nature of their operation) and the installation, repair or maintenance of any stormwater

management facility, sanitary sewer system, culvert, bridge, public utility, street, drainage facility, pond, recreational amenity, pier, bulkhead, boat ramp, waterway improvement project or erosion-stabilization project that has received the joint approval of the County Engineering Department and the appropriate federal, state and local agencies. An existing public storm-drain system may be extended in order to complete an unenclosed gap or correct a drainage problem, subject to receiving the approval of the County Engineering Department and the appropriate federal, state and local agencies.

E. Grandfathering provision. The following types of land uses may be developed notwithstanding the provisions of this section:

(1) Existing improvements and construction as of the date of the approval of this section may continue. Alterations or expansions which shall be attached to a preexisting structure built on nonconforming land, pursuant to this section, will not be permitted unless proven that such improvement is constructed at an equal distance or landward of the preexisting structure which is most proximate to the wetland area and a variance is granted as provided below.

(2) Subdivision plats and site plans approved and of record in the office of the Director of Planning and Zoning or in the office of the Recorder of Deeds in and for Sussex County prior to the adoption of this section, originally adopted July 19, 1988, or approved and similarly of record as of the effective date of this amendment, adopted July 2, 1991, may be developed as of record and shall be subject to setbacks or buffer restrictions established for the use when originally approved. Any previously approved and similarly recorded subdivision plats and site plans, if approved prior to the original date of this section on July 19, 1988, or prior to this amendment, adopted July 2, 1991, may be amended if it is determined by the Planning and Zoning Commission that the amended plan represents an equal or less intrusive use on the buffer area or setback area.

F. Variances to the provisions of this section will be considered by the Board of Adjustment under the following conditions:

(1) That findings are made by the Board of Adjustment which demonstrate that special conditions or circumstances exist that are peculiar to the land or structure within the county and that a literal enforcement of provisions within the buffer zone as designated by this section would result in unwarranted hardship.

(2) That the variance request is not based upon conditions or circumstances which are the result of actions by the applicant, nor does the request arise from any condition relating to land or building use, either permitted or nonconforming, on any neighboring property.

(3) That the granting of a variance will not adversely affect water quality or adversely impact fish, wildlife or plant habitat within the designated buffer zones and in waters adjacent to buffer zones. Variances will be in harmony with the general spirit and intent of the section and any subsequent regulations.

(4) That applications for a variance will be made, in writing, to the Board of Adjustment, with a copy to the County Administrator.

(3) Any land upon which development has progressed to the point of pouring of a foundation or the installation of structural improvements as of the date of the approval of this section shall be permitted to be developed, provided that there shall be no further encroachment upon the buffer zone, as required in Subsection E(1) above.]

A. *Resource Buffer Widths.*

1. Resource Buffer Widths shall be established in accordance with Table 1, with Zone A being closest to the Resource.

2. Resource Buffers are not required landward/adjacent to those portions of Resources to be filled or developed with a valid U. S. Army Corps of Engineers or Delaware Department of Natural Resources and Environmental Control permit.

3. No Resource Buffer shall overlay a Tax Ditch or Tax Ditch Right of Way. If a proposed development contains a Tax Ditch, with a right-of-way of less than the total Resource Buffer Width, then that area of the Resource Buffer outside of the right-of-way shall be designated as Zone B.

672

Table 1: Resource Buffer Widths			
Resource Type (See Definitions, §115-4B)	***Full Buffer Width (ft)***	***Zone A (ft)***	***Zone B (ft)***
Tidal Waters	*100*	*50*	*50*
Tidal Wetlands	*100*	*50*	*50*
Perennial Non-tidal Rivers and Streams	*50*	*25*	*25*
Non-tidal Wetlands	*30*	*15*	*15*
Intermittent Streams	*30*	*15*	*15*
Ephemeral Streams	*0*	*0*	*0*

673

674 *B. Resource Buffer Width Averaging.*

675

676 *1. Resource Buffer width averaging may be utilized to adjust the required*
677 *Zone B Resource Buffer width thereby allowing flexibility for the*
678 *proposed development, so long as the overall square footage of the*
679 *Zone B Resource Buffer is maintained.*

680

681 *2. Criteria for utilizing Resource Buffer width averaging:*

682 *(a) Resource Buffer width averaging is not available for Zone A.*

683 *(b) The overall square footage of Zone B Resource Buffer must be*
684 *achieved within the boundaries of the proposed development unless a*
685 *Resource Buffer Option permitted under subsection G is utilized.*

686 *(c) Resource Buffer width averaging may be used on all of the Zone*
687 *B Resource Buffers within the boundaries of the proposed development.*

(d) Zone B Resource Buffer averaging shall not be expanded more than double the width of Zone B Resource Buffer as referenced in Section 115-193A.

(e) The overall square footage of Zone B Resource Buffer must be calculated based upon the entire length of the Resource borderline that is located within the boundaries of the proposed development.

C. *Permitted Activities.*

Activities in Zone A and B shall be "Permitted" or "Not Permitted" as set forth in the following Table. Uses not specifically identified shall be prohibited, unless the contrary is clear from the context of the Table, as determined by the Commission.

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	***ZONE A***	***ZONE B***
1. *Impacts to resource buffers resulting from State and/or Federally permitted disturbances to Resources (wetlands/waters) such as maintenance of Resources and Resource Buffers, utilities, roads, bridges, docks, piers, boat ramps, bulkheads, shoreline stabilization, and resources authorized to be filled or disturbed for development.*	*PERMITTED*	*PERMITTED*
2. *Water-related facilities and ancillary uses required to support water-dependent projects approved by a federal or state permit, including but not limited to: marinas, wharfs, community docking facilities, boat ramps, and canoe/kayak launches.*	*PERMITTED*	*PERMITTED*
3. *Repair or maintenance of existing infrastructure or utilities, including roads, bridges, culverts, water lines, and sanitary sewer lines.*	*PERMITTED*	*PERMITTED*
4. *Temporary impacts resulting from installation of utilities by trenching*	*PERMITTED*	*PERMITTED*

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	***ZONE A***	***ZONE B***
methods which are part of State or Federally approved utility installation projects or the installation of utilities by directional boring methods.		
5. *Stormwater Management conveyances as approved by the Sussex Conservation District.*	*PERMITTED*	*PERMITTED*
6. *Tax Ditch Maintenance as approved by DNREC Drainage Program.*	*PERMITTED*	*PERMITTED*
7. Maintenance or repair of drainage conveyances not within a Tax Ditch Right of Way as approved by the Sussex County Engineering Department or Sussex Conservation District.	*PERMITTED*	*PERMITTED*
8. *Structural crossings of Resources such as bridges or boardwalks which may not require a State or Federal permit.*	*PERMITTED*	*PERMITTED*
9. *Maintenance or modification to previously existing structures and improvements within existing footprint.*	*PERMITTED*	*PERMITTED*
10. *State or Federally approved wetland restoration, creation, and enhancement projects.*	*PERMITTED*	*PERMITTED*
11. *State or Federally approved flood plain restoration, or Resource restoration projects involving the maintenance, repair, restoration, creation, or enhancement of Resources and their Resource Buffers.*	*PERMITTED*	*PERMITTED*
12. *Soil Erosion and Sediment Control measures as approved by Sussex Conservation District.*	*PERMITTED*	*PERMITTED*
13. *Forest Management Activities conducted under the guidance and direction of a Licensed Forester,*	*PERMITTED*	*PERMITTED*

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	***ZONE A***	***ZONE B***
Arborist, Landscape Architect, or Qualified Resource Buffer Professional.		
14. *Invasive Species Control (plant, insect, animal) conducted in accordance with State and Federal law.*	*PERMITTED*	*PERMITTED*
15. *Planting/establishment of non-invasive native species (as listed by DNREC).*	*PERMITTED*	*PERMITTED*
16. *Installation, repair, maintenance, and removal of wells (potable, monitoring, injection as approved by state/federal agencies).*	*PERMITTED*	*PERMITTED*
17. *Walking Trails where any impervious area runoff is managed under a Sussex Conversation District Permit*	*PERMITTED*	*PERMITTED*
18. *Extended Detention dry and wet stormwater management ponds.*	*NOT PERMITTED*	*PERMITTED*
19. *Removal of any dead, dying, damaged, or unstable live tree from a Resource or Resource Buffer which presents an imminent danger to property or public safety.*	*PERMITTED*	*PERMITTED*
20. *Stormwater Management Water Quality BMPs as approved by the Sussex Conservation District.*	*PERMITTED (Limited to 10% of Total square footage of Zone A in a proposed development)*	*PERMITTED*
21. *Sewage disposal facilities.*	*NOT PERMITTED*	*NOT PERMITTED*
22. *Storage of hazardous materials and siting of industrial sites, landfills, or junkyards.*	*NOT PERMITTED*	*NOT PERMITTED*

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	***ZONE A***	***ZONE B***
23. Swimming pools, community clubhouses, and all Non-Water-Dependent or Non-Water Related improvements not specifically permitted under this section.	*NOT PERMITTED*	*NOT PERMITTED*

D. Resource Buffer Standards.

1. *All existing (i.e., at the time of application) conditions, including the vegetative land features, and the proposed conditions within the proposed Resource Buffer shall be identified on the Preliminary Site Plan.*

2. *If a proposed development contains a Resource, then the associated Resource Buffer shall conform with the following criteria based on vegetative features existing at the time of Preliminary Site plan Submission:*

(a) Established natural forests and non-forest meadows predominated by non-invasive species shall be retained.

(i) Forest: Subject to §115-193C, all existing trees and understory constituting a proposed Resource Buffer shall be preserved and maintained in their natural state. Invasive species may be removed from the Resourse Buffer.

(ii) Non-forest Meadow: Subject to §115-193C, all existing meadows constituting a proposed non-forested Resource Buffer that are composed of herbaceous and shrub species shall be preserved and maintained in their natural state. Non-forest meadow may also include old field areas with a mixture of herbaceous vegetation, shrubs and trees transitioning to a forested condition through natural succession. Invasive species may be removed from the Resource Buffer.

(b) Grazed pasture, managed turf, active cropland or areas of bare earth not stabilized with vegetative cover shall be re- established as native forest or

non-forest meadow prior to determination of substantial completion of the proposed development phase where that "unstabilized" area is located by planting of non-invasive species or through the process of natural succession augmented with invasive species control.

E. Removal of Invasive Species.

1.Invasive species control shall be completed under the guidance and approval of a Licensed Forester, ISA Certified Arborist, Registered Landscape Architect, or Qualified Resource Buffer Professional.

F. Maintenance of Drainage Conveyances

1. All Resource Buffers identified on a Final Site Plan shall be designated as a drainage and access easement permitting access by any future owners' association, federal, state or local agency and the public, for the limited purpose of maintenance or monitoring of drainage capacity or conveyance by any future owners' association; federal state or local agency; and the public. In addition, a corresponding easement for access into each individual Resource Buffer established on the site shall, whenever possible, be provided from a public road or street within a proposed development.

2. If a Resource Buffer abuts or contains features such as ephemeral, intermittent or perennial streams which are not part of an established Tax Ditch and which convey drainage from or through a site proposed for development, a "Drainage Assessment Report" shall be prepared by a registered Delaware Professional Engineer. As part of the pre-application process, Sussex County will determine the information to be included in the Drainage Assessment Report. At a minimum, the Drainage Assessment Report shall identify the following concerning measures needed for drainage conveyances:

(a) Identification of any unstable or eroding stream banks or conveyance requiring stabilization or restoration measures.

(b) The location of any stream blockages such as debris jams, fallen or unstable trees, beaver dams or similar impediments to conveyance.

(c) The location of any sand or gravel deposition within a channel or conveyance which impedes the flow of water produced by a storm having an annual probability of occurrence of 10%.

(d) A discussion of all recommended measures to remedy any impediment to drainage conveyance or drainage stability.

(e) A summary of required local, state or federal permits required to remedy any impediment to drainage conveyance.

(f) The easement width and a sufficient number of easements to provide adequate access to the Resource for maintenance.

3. Remedies required by Sussex County as a result of the Drainage Assessment Report shall be shown on the Final Site Plan.

G. Resource Buffer Options

1. A proposed development shall be permitted to utilize the following options, consistent with §115-193, Section B. Resource Buffer Width Averaging, to incentivize the retention of forests:

(a) When the preservation of a forest within the Resource Buffer that has been in existence for at least five years prior to the date of application as identified by a Licensed Forester, Arborist, Landscape Architect, or Qualified Resource Buffer Professional is achieived, then a corresponding area reduction of either the Resource Buffer Zone B along the entire or part of that Resource; or the Forested and/or Landscaped Buffer required in Chapter 99 in areas adjacent to like-zoned land is permitted.

(b) When the Preservation of a natural forest connected to (but not within) a Resource Buffer in excess of the requirements listed in Section 115-193.A. is achieved by adding the area to Zone B, then a corresponding area reduction of either non-Forest Resource Buffer Zone B on the same Resource, or Forested and/or Landscaped Buffer required in Chapter 99 in areas adjacent to like-zoned land is permitted.

(c) When the provision of Resource Buffer area in excess of the requirements listed in Section 115-193.A. is achieved, then a corresponding area reduction of the Forested and/or Landscaped Buffer required in Chapter 99 in areas adjacent to like-zoned land is permitted.

2. A proposed development shall be permitted to utilize the following options to incentivize the retention or expansion of Resource Buffers or provide additional functional benefit of Resource Buffers:

(a) (i) When the creation of an off-site Resource Buffer is protected under a perpetual conservation easement, then a 75 percent corresponding area reduction of the Resource Buffer Zones A and/or B ib the same Resource within the development is permitted. The upland line of that new off-site Resource Buffer and perpetual conservation easement shall be considered the edge of the Resource for locating a Resource Buffer in the event that the off-site land is developed in the future. The perpetual conservation easement shall be for the benefit of a conservation organization approved by Sussex County, and it must be located within the same twelve-digit hydrologic unit code as defined by the United States Geological Survey as the proposed development.

(ii) When the creation of an off-site Resource Buffer for forest preservation is protected under a perpetual conservation easement, then a 125 percent corresponding area reduction of the Resouce Buffer Zones A and/or B in the same Resouce within the development is permitted. The upland line of that new off-site Resouce Buffer and perpetual conservation easement shall be considered the edge of the Resource for locating a Resouce Buffer in the event that the off-site land is developed in the future. The perpetual conservation easement shall be for the benefit of a conservation organization approved by Sussex County, and it must be located within the same twelve-digit hydrologic unit code as defined by the United States Geological Survey as the proposed development.

(b) Funding, partially or entirely, an off-site restoration project under the Sussex County Clean Water Enhancement Program, subject to approval of the Sussex Conservation District, with completion of the restoration

by Sussex County prior to final acceptance of the first phase of the proposed development by the Sussex County Engineering Department in the same twelve digit hydrologic unit code as defined by the United States Geological Survey as the proposed development with a corresponding Resource Buffer Zone A and/or B reduction equal to the Resource Buffer area on that same resource created in the off-site project.

(c) (i) When a proposed development has a pre-existing property boundary that is located in the center of an Intermittent or Perennial Stream and the entire Resource (including the off-site portion of it) including an off-site Resource Buffer Zone A is protected under a perpetual conservation easement, then a corresponding area reduction of the Resource Buffer Zones B on the same Resouce development is permitted. The upland line of that new off-site Resource Buffer Zone A and perpetual conservation easement shall be considered the edge of the Resouce for locating a Resource Buffer in the event that the off-site land is developed in the future. The perpetual conservation easement shall be for the benefit of a conservation organization approved by Sussex County.

(ii) When a proposed development has a pre-existing property boundary that is located in the center of an Intermittent or Perennial Stream and the entire Resource (including the off-site portion of it) including an off-site Resource Buffer Zone A in the form of a natural forest is protected under a perpetual conservation easement, then a corresponding 125% area reduction of the Resource Buffer Zones B on the same Resource within the development is permitted. The upland line of that new off-site Resource Buffer Zone A and perpetual conservation easement shall be considered the edge of the Resource for locating a Resource Buffer in the event that the off-site land is developed in the future. The perpetual conservation easement shall be for the benefit of a conservation organization approved by Sussex County.

3. For purposes of this Subsection G., "Forest" shall mean: A vegetative community dominated by trees and other woody plants covering a land area of 10,000 square feet or greater. Forest includes: (1) areas that have at least 100 trees per acre with at least 50% of those having a two-inch or greater

diameter at 4.5 feet above the ground and larger, and (2) forest areas that have been cut but neither stumps were removed nor the land surface regraded.

H. Resource and Resource Buffer Maintenance and Management.

1. Resource and Resource Buffer Management Plan

Any proposed development where Resource Buffers are required shall submit a Resource and Resource Buffer Management Plan, prepared by a Qualified Resource Buffer Management Professional, that describes measures for maintaining or improving the Resource and the Resource Buffer(s) on the site. The Resource and Resource Buffer Management Plan shall be proffered as part of the Supporting Statement requirements of §99-24, or at the time of Preliminary Site Plan approval for any residential conditional use. The maintenance standards or management actions associated with the Resource and Resource Buffer Management Plan shall be included as an obligation of the owners' association in the recorded declaration for any new development. The Resource and Resource Buffer Management Plan shall describe how the Resource Buffer will be managed to maintain its functions and cite any measures to be implemented for the enhancement of Resource Buffers or their functions. It shall also include a narrative discussing the overall plan for access easements sufficient for expected short- and long-term maintenance and management needs.

2. Any Perennial or Intermittent Stream within a proposed development that does not exhibit a positive conveyance (regardless of whether it is part of a Tax Ditch) shall be identified by phase on the Detailed Grading Plan as follows:

(a) If the deficient Perennial or Intermittent Stream has adjacent Non-Tidal Wetlands, the applicant shall restore the conveyance channel to a positive conveyance (i.e. the removal of conveyance impediments) within the entire site prior to the issuance of substantial completion of the final approved phase. This restoration shall be in compliance with all applicable federal, state and county requirements.

(b) If the deficient Perennial or Intermittent Stream has no adjacent Non-Tidal Wetlands, the applicant shall restore the conveyance

channel to a positive conveyance (i.e. the removal of conveyance impediments) within the entire site prior to the issuance of substantial completion of the first approved phase. This restoration shall be in compliance with all applicable federal, state and county requirements.

I. Modifications and Exceptions.

The Planning and Zoning Commission shall be authorized, as part of the site plan review process, to grant preliminary or final site plan approval with modifications of, or exceptions to, the foregoing requirements upon the submission of a detailed and specific written request from the applicant with supporting documentation from a Qualified Wetland Resource Professional or Qualified Resource Buffer Management Professional, but only upon the satisfaction of all of the following conditions:

1. When the Commission finds that special conditions or circumstances exist that are peculiar to the land or structure and that a literal enforcement of a specific requirement of this section would result in unwarranted hardship.

2. That the modification or exception request is not based upon conditions or circumstances which are the result of actions by the applicant, nor does the request arise from any condition relating to land or building use, either permitted or nonconforming, on any neighboring property.

3. That the granting of a modification or exception will not adversely affect the functions of the Resource or its Resource Buffer as set forth in the definition of that term. Waivers shall be in harmony with the general spirit and intent of this section and any subsequent regulations.

4. That the basis for the modification or exception cannot be achieved through Resource Buffer Width Averaging as provided by §115-193B.

5. That in no event shall there be a modification or exception to the width requirements of Zone A.

The date of any modification or exception by the Commission shall be noted on the final site plan.

J. These requirements shall only apply to subdivisions governed by Chapter 99, Residential Planned Communities and uses identified in §115-219A(1) and (2).

Section11. The Code of Sussex County, Chapter 115, Article XXVIII, §115-220 "Preliminary Site Plan Requirements", is hereby amended by inserting the italicized and underlined language as a new Subsection B(17) thereof:

§115-220 Preliminary Site Plan Requirements

. . .

B. The preliminary site plan shall show the following:

. . .

(17) In the case of a proposed development with the uses identified in §115-219A(1) and (2) or Residential Planned Communities, the site plan shall include all required Resource Buffers and the following:

(a) The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(b) All existing (i.e., at the time of application) natural forest, managed forest and non-forest meadow within the future Resource Buffer shall be indentified.

(c) The limits of the required Resource Buffers.

(d) Calculations supporting Resource Buffer width averaging (§115-193B).

(e) Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§115-193F).

(f) Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

(g) A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.

(h) Any walking trails, including the method of construction and the materials used to establish the trails.

Section12. The Code of Sussex County, Chapter 115, Article XXVIII, §115-221 "Final Site Plan Requirements", is hereby amended by inserting the italicized and underlined language as a new Subsections B(19) and E. thereof:

§115-221 Final Site Plan Requirements

. . .

B. The final site plan shall show the following:

(19) In the case of a proposed development with the uses identified in §115-219A(1) and (2) or Residential Planned Communities, the site plan shall include all required Resources and Resource Buffers including the following, where applicable:

(a) The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(b) All existing (i.e., at the time of application) natural forest, managed forest and non-forest meadow within the future Resource Buffer shall be identified.

(c) The limits of the required Resource Buffers.

(d) Calculations supporting Resource Buffer width averaging (§115-193B).

(e) Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§115-193F).

(f) Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

(g) A statement incorporating the Resource and Resource Management and Maintenance Plan by reference.

(h) A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.

(g) Any walking trails, including the method of construction and the materials used to establish the trails.

. . .

E. An AutoCAD drawing file containing all items required in Section A above shall be submitted in electronic format. The data shall be referenced in NAD 1983 StatePlane Delaware FIPS 0700 (U.S. Feet) Projected Coordinate System.

Section13. Effective Date.

This Ordinance shall take effect upon six (6) months from the date of adoption by Sussex County Council. Provided however, that it shall not apply to any completed applications on file with the Sussex County Office of Planning & Zoning.

Jamie Whitehouse

From: Kathi Colman <kathicolman@hotmail.com>
Sent: Sunday, November 21, 2021 1:03 PM
To: Michael H. Vincent; Cynthia Green; Mark Schaeffer; Doug Hudson; John Rieley; Todd F. Lawson
Subject: Proposed Ordinance Amendments - Buffers

To Sussex County Council Members:

The proposed amendments to the buffer ordinance under consideration fails to provide adequate protection for the Sussex County coastal area and needs to be improved. The proposed buffer widths are significant less protective than our other counties and those in neighboring states. Sussex County, with far more coastline, should be among the most protected – not the least.

Given the current and projected sea-level rise that scientists predict, having inadequate buffers will create far more problems for all of us in the future. The time to act is now. Strengthening protections needs to be a priority. Inadequate protections hurt all of us. Flooding and property damage have an impact on all of us even if we personally do not live in areas that flood. Insurance costs increase, taxes to assist those in flood prone areas increase, and our environment degrades as well.

The inadequacy of the proposed amendments is too great to list here, but a few of my concerns include:

- Insufficient buffer widths (far worse than neighboring counties and states),
- Lack of incentives (or penalties) for developers and land owners to preserve existing buffers,
- Too many potential loopholes and opportunities for inconsistencies in application,
- Inadequately defined terms (e.g. "hardship"), conditions, and options that would be difficult to enforce or control, and
- Excluding commercial properties. (WHY??)

We owe it to future generations of Sussex Countians to protect our environment and the beauty of this area. Please do the right thing and make major changes to protect what we have before more is lost and it is beyond hope.

From:
Katherine Colman

Opposition
Exhibit

Jamie Whitehouse

From: Bette Goldman <bettegoldman@gmail.com>
Sent: Saturday, November 20, 2021 10:38 AM
To: Todd F. Lawson
Subject: Draft buffer ordinance

Dear Mr. Lawson,

Please use your influence and judgement to stop the approval of the draft buffer ordinance as written. You have brought much forward thinking to the Sussex County government, and I hope you will encourage our county to align with our neighboring states and current science to protect our natural environment from the uncontrolled growth suburb we are becoming. It is sad after so many decades of protection legislated by Governor Peterson in the 1970s to preserve the special nature east of route 1.

Best,
Bette Goldman
140 Kings Hwy
Lewes DE

Recommendations for an Inland Bays Watershed Water Quality Buffer System

by Christopher Bason

June 2008

The Delaware Center for the Inland Bays

The Delaware Center for the Inland Bays

Recommendations for an Inland Bays Watershed Water Quality Buffer System

by Christopher Bason, Science & Technical Coordinator, the Delaware Center for the Inland Bays

on behalf of the Scientific and Technical Advisory Committee of the Delaware Center for the Inland Bays,

Dr. Sergio Huerta, Chair

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Cover: Aerial photography of Dirickson Creek, Inland Bays Watershed, Sussex County, Delaware.

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This document provides science-based recommendations for a water quality buffer system designed to protect and restore the quality of wetlands and waterbodies of the Inland Bays watershed located in coastal Sussex County, Delaware. The document focuses on the long-term nutrient removal and retention function of buffers with respect to the total maximum daily load (TMDL) reductions of nitrogen and phosphorus needed for the Inland Bays and their tributaries. A Pollution Control Strategy (PCS) is being developed to meet these reductions in a timely fashion. The PCS is also a major tactic of the Inland Bays Comprehensive Conservation and Management Plan (CCMP) which has among its major goals 1) requiring the maximization of open space in developments, 2) establishing shoreline setbacks regulations that maintain tidal marshes, and 3) securing maximum protection for wetlands and waterways. Literature focused on Atlantic Coastal Plain buffers was reviewed to recommend buffer alternatives by waterbody type and by buffer system characteristics. The alternatives were then applied to eleven randomly selected developments to determine acreage of buffer zones in buildable areas. Further recommendations based on these results are then provided.

Executive Summary

1. Water quality buffers are natural areas between waterbodies and active landuses that are managed for the primary purposes of 1) sustainable removal and retention of excess nutrients entering waterbodies, 2) protecting waterbodies against encroachment and physical alterations and 3) allowing waterbodies themselves to maximize their own capacity to ameliorate pollution.
2. Buffers in small watersheds of the coastal plain have been shown to remove 23 to 65 lbs. of nitrogen and 1.1 to 2.6 lbs of phosphorus per acre of buffer per year. Buffers can remove pollutants from groundwater, surface water runoff, and from in-stream flow while improving the condition of the waterbody they buffer.
3. The 40 to 85% reductions of nitrogen and phosphorus loads needed to restore the water quality and habitats of the Inland Bays, combined with uncertainty in their achievement due to changes in landuse and climate suggests that an extensive and effective riparian buffer system should be included in the PCS.
4. Forested buffers are on average 36% more effective at nitrogen removal than grassed buffers and can improve instream processing of nutrients.
5. Wider buffers remove higher levels of nutrients, and buffers over 150 feet are more likely to meet their maximum potential for nitrogen removal. Variable width buffers remove lower levels of pollutants than fixed width buffers of the same average width.
6. To maximize the efficiency and sustainability of a buffer system, buffers should a) be required on all new subdivisions and redevelopments, b) be forested, c) begin from the wetland-upland boundary of a riparian area, d) and be of sufficient width to allow tidal wetlands to migrate inland with sea level rise.
7. Two buffer system alternatives with different pollution removal performances based on differences in buffer width are provided. The adequate protection alternative provides buffers of 80' on non-tidal waterways, 80' on riparian wetlands, 80' on tidal areas by steep uplands, 300' on tidal areas by gradual uplands, and 50' on freshwater flats and depressional wetlands. The optimum protection alternative provides buffers of 150' on non-tidal waterways, 150' on riparian wetlands, 150' on tidal areas by steep uplands, 500' on tidal areas by gradual uplands, and 100' on freshwater flats and depressional wetlands.
8. An analysis of the buffer systems applied to developments in the watershed revealed that buffer acreage was highly variable and controlled by the type, amount, and distribution of waterbodies within a development. On average, buffer area fell within the range of Sussex County open space requirements (adequate protection = 13.8% and optimum protection = 33.2% of buildable area). Those developments with tidal areas by gradual uplands, those in the southern region of the watershed, and those that are smaller, will often have to modify site design to accommodate buffer acreage. Governments should cooperate to refine their codes to enable and encourage site design that accommodates buffers.
9. To better accommodate buffers of more functionally important wetlands and waterways, shallow ditches should be disconnected from the drainage network where feasible, or alternatively afforded narrower buffers. Narrow buffers on shallow ditches substantially reduced total buffer area while likely retaining much functionality. Governments should encourage cooperation within and among developments to reduce ditch networks and further improve nutrient reduction in remaining ditches.

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Abbreviations: CCMP, Comprehensive Conservation and Management Plan; CIB, Center for the Inland Bays; DNREC, Department of Natural Resources and Environmental Control; ERES Exceptional Recreational and Ecological Significance; PCS, Pollution Control Strategy; PLUS, Preliminary Land Use Service

Introduction

The Inland Bays are degraded Waters of Exceptional Recreational and Ecological Significance (ERES) that are committed to being restored, by both government and stakeholder groups, to a healthy condition. The ERES designation affords the Bays a level of protection that goes beyond most other waters of the State. Commitments to the protection and restoration of the Bays are detailed in the Comprehensive Conservation and Management Plan (CCMP) for these estuaries of national significance. In this guiding document, buffers for waterways and wetlands are essential to CCMP tactics including implementing the Pollution Control Strategy (PCS), maximizing open space for environmentally sensitive development, and establishing shoreline setbacks to protect tidal ecosystems. Specifically, the CCMP has as one of its most important goals requiring maximum protection of waterways, groundwater, natural areas, open space, and tidal and non-tidal wetlands. Buffers are a necessary component of protecting the Inland Bays because they maintain critical habitat and are highly effective at removing and retaining pollutants for the long-term, with little maintenance costs or risk of failure.

Water quality buffers are natural areas between active landuses and wetlands or waterways that are managed for the primary purposes of 1) sustainable removal and retention of excess nutrients entering waterbodies, 2) protecting wetlands or waterways against encroachment and physical alterations and 3) allowing wetlands or waterways to maximize their own natural capacities to ameliorate pollution. Buffers vary in their capacity to improve and protect water quality based on a number of different factors including buffer vegetation type, buffer width, and physiographic region of the country or world.

Despite the large number of studies on the water quality functions of buffers [3], regulations requiring buffers have been developed using little scientific input or using studies from regions with different physical and ecological characteristics. This report develops science based alternatives for a water quality buffer system in the Inland Bays watershed by reviewing studies conducted in the Atlantic Coastal Plain,[1] and complemented, where needed, by wider reviews of buffer effectiveness. While buffers are best managed to maximize the host of ecological services that they provide, the recommendations here were developed to maximize the efficiency of pollution reduction from buffers implemented at the development of land, per the regulatory intent of the Inland Bays PCS.

[1] The Atlantic Coastal Plain is a physical region of the United States where similar geology, hydrology, and resulting patterns of landuse makes ecological comparisons more relevant.

The alternatives are intended to provide options for implementing the recommendations. This report recognizes that all environmental regulations are developed within the framework of past and present legal, social, and economic conditions, and it at times refers to these factors specific to the Inland Bays watershed. It is hoped that this approach proves educational for others developing recommendations under other such conditions, and should not limit the use of the report as a reference for other watersheds of the Atlantic Coastal Plain.

The Condition of the Inland Bays and the Strategy to Restore Them

"The ecology of the Bays has changed… from a clear water system that supported bay grasses, bay scallops and a variety of shellfish, finfish, and waterfowl to a murky water system that no longer supports a healthy ecology but one that engenders toxic algal blooms, nuisance seaweed blooms, low oxygen episodes, and one that suppresses bay grasses, bay scallops, and the variety and abundance of shellfish, finfish and waterfowl seen earlier [4]." This eutrophic system now contains very high levels of nitrogen and phosphorus which promotes excessive algal blooms including harmful red tides, brown tides, nuisance seaweeds, and dangerous and sometimes fatal levels of oxygen for fish and shellfish. Reductions of nitrogen and phosphorus loads of 40 – 85% are needed to meet the standards selected for the restoration of bay water quality. The reductions were modeled through a Total Maximum Daily Load (TMDL) analysis using baseline data from 1988 to 1990 and they include a margin of safety to account for uncertainty [5, 6].

To meet the reductions in a timely manner, a PCS has been drafted by DNREC based on input by the CIB, DNREC, and the public. The draft PCS includes sections addressing water quality buffers, the reduction of agricultural and urban sources, onsite wastewater systems, stormwater management, government accountability, and the elimination of point sources [7].

Factors Affecting TMDL Achievement

To put the development of a buffer system as a part of the PCS into context, a number of influential factors affecting TMDL achievement are considered. First, an implicit margin of safety to account for uncertainty related to field data interpretation and modeling was included within TMDL development [5, 6]. This supports the likelihood of a timely achievement of the TMDL. In contrast, a number of factors add uncertainty to the timely achievement of the TMDL under the current PCS. Of primary consideration is the level of development that has been permitted without PCS protections in critical areas of the watershed. At the time of this report, over 60,000

housing units were under construction, had been permitted, or were under review for permit in Sussex County [8]. Much of this growth is concentrated in the Environmentally Sensitive Area of the Inland Bays watershed. A draft analysis by DNREC determined that new construction raises pre-construction phosphorus loads by 30% [9]. Nitrogen loads are estimated to decrease by 15%, but this is far from the lowest reduction target of 40%. This suggests that additional amounts of nutrients will need to be reduced watershed-wide to meet TMDLs. It also increases the difficulty of meeting reduction goals for both phosphorus and nitrogen from this new development, because pollution control opportunities and cost efficiencies decrease post construction. Additionally, as permitted development occurs, it is expected that the nutrient processing capacity of the streams that drain these areas will decline [see 10, 11].

Other factors that add uncertainty to meeting the TMDL are the predictions of increased runoff, nitrogen loading[2], and saltmarsh loss (and associated nutrient assimilation capacity) resulting from climate change (see [12, 13]); all of which were not considered during TMDL or PCS development. Finally, the primarily voluntary actions of the PCS combined with past difficulties in obtaining compliance with water quality regulations in the watershed, [14, 15] do not add confidence to the achievement of nutrient reductions. These factors suggest that a buffer system with the maximum efficiency to reduce pollutant loads be required as a part of the PCS.

Condition of the Watershed Stream Network

Streams function as the arteries and wetlands the kidneys of the watershed; together they supply and filter water moving towards estuaries. Thus the acreage and health of these systems affects estuarine water quality. Buffers are implemented to not only reduce and remove nitrogen and phosphorus travelling towards water bodies, but also to protect and improve the capacity of wetlands and waterways to themselves filter pollutants. In the Inland Bays watershed, wetlands and waterways have been severely altered and are limited in their capacity to reduce pollution. Sixty percent of the watershed's freshwater wetlands were eliminated since European settlement [16]. Further, a quarter of the watershed's tidal wetlands were eliminated between 1938 and 1980 [17]. The condition of the remaining Inland Bays wetlands was being assessed at the time of this report. Preliminary information shows that over 75% of riverine (streamside) wetlands have highly degraded hydrologic and water quality functions [16]. These wetlands are impacted by inadequate buffers and pervasive hydrologic modifications. In particular, stream channelization (channel excavation) has increased the delivery of nutrients to streams and disconnected streams from their adjacent wetland filters. The condition of the watershed's streams themselves is also poor with 29% supporting their designated societal uses [7]. Nutrient and bacteria pollution, lax enforcement of existing regulations, ditching and stream channelization practices, and the lack of buffers has contributed to this condition. DNREC describes 78% of rivers, streams, and ditches in the watershed as inadequately buffered [18]. Buffer implementation should begin to restore the capacity of waterbodies to treat pollution and protect them from the effects of development.

Effects of Development on Waterways

Wetlands and waterways face increased stress as the watershed develops. The watershed is the fastest growing region of the State with developed lands increasing by 35% from 1992 to 2002 [7]. In the mid-Atlantic, the more development that occurs and the closer it is to a waterbody, the greater chance those aquatic resources will be degraded [19]. Elsewhere, permanent degradation of rivers and streams has been shown to occur as a watershed's impervious cover exceeds 25-60% (see Miltner et al. 2004 and references therein) [20]. Increases in impervious surfaces generally increases stream channel erosion and the speed at which pollutants are delivered downstream. This results in streams downcutting their channels and losing connection with their streamside wetland filters. It also reduces the capacity for riparian areas to filter nutrients from groundwater and the capacity for in-stream processing of nutrients [10, 21]. Research suggests that the nutrient processing capacity of waterways will likely decline as the permitted development in our watershed occurs [10, 11].

To date, development without the required buffers and adequate sediment and stormwater controls have stressed waterways (Figure 1). Buffers of tidal wetlands and waters have particularly been affected by lax enforcement of existing County regulations. Buffers maintained or installed prior to development can help to control runoff from an active construction site, and filter delayed discharges of high nitrogen groundwater from previously existing agricultural operations and more distant, ongoing farms [22].

[2] Climate change during this century is likely to have a profound effect on nutrient loading to estuaries. Predictions for increased precipitation in the mid-Atlantic suggest that both river flows and the fraction of land-applied nitrogen entering estuaries will increase. This could increase the number of "wet years" our estuary experiences when nutrient pollution and its affects are more severe (see citations in text above).

Figure 1. Typical examples of inadequate water quality buffers and sediment and erosion control from the Inland Bays watershed, 2006/2007. A. Chronically silted ditch on construction site with fertilized turf grass buffer. B. Sediment control failure and lack of buffer near White's Creek. C. Excessive turbidity from runoff in White's Creek and construction site with minimal buffer. Parts of the buffer here leaves little if any room for wetland migration with rising sea levels. D. Fertilized turfgrass buffer and exposed sediment near freshwater wetland. E. Lack of buffer on new development on Dirickson's Creek. F. Seamless transition from saltmarsh to golfcourse.

The Case for Riparian Buffers

Mass balance studies that measure all watershed inputs and outputs provide the most accurate estimates of buffer effectiveness to reduce pollution. The Atlantic Coastal Plain is fortunate to have multiple nutrient mass balance studies of buffers. In small coastal plain watersheds with well-buffered waterways, riparian zones retained from 23 to 65 pounds of nitrogen per acre of buffer per year (67 – 89% of inputs) and 1.1 to 2.6 pounds of phosphorus per acre of buffer per year (24 – 81% of inputs) [23, 24]. Difference in effectiveness of individual buffers results from the great amount of natural variability among riparian areas [25]. On the whole, compelling evidence exists for the use of buffers to restore water quality, and the characteristics of buffers that best accomplish this are reviewed below.

Planning Buffers for the Whole Watershed: Why Different Waterbody Types Require Different Buffers

Watersheds have different types of waterbodies, all with their own unique set of characteristics. Figure 2 illustrates these waterbodies and describes some of their water quality functions. There are the Bays themselves, their tidal tributaries, the freshwater streams of varying sizes, and the network of ditches that extends the natural drainage system. There are also wetlands of various types including tidal marshes, riparian (streamside) wetlands, flats wetlands such as the Great Cypress Swamp, and depressional wetlands such as Delmarva bays (Figure 3). Because these wetland and waterway types occur at different positions on the landscape, they receive water from different sources and thus function somewhat differently [26, 27]. For example, tidal wetlands move inland with rising sea levels while nontidal wetlands generally do not. People also interact with each waterbody type in different ways, and thus tend to appreciate their various functions more or less based on these interactions. For example, most homeowners seem to prefer a view across the waters of a tidal marsh, but usually do not manage their properties for a view across a drainage ditch. Waterway and wetland types are given individual consideration to design the most efficient buffer system.

Table 1. Wetland and waterway classification for a watershed buffer system.

Tidal Wetlands and Waters
Gradual Upland/Wetland Boundary
Steep Upland/Wetland Boundary
Nontidal Wetlands and Waterways
Wetlands
Flats and Depressional Wetlands
Riparian Wetlands
Headwaters
Larger Streams
Constructed Ditches

The wetland and waterway classification developed for this report is presented as Table 1. It is one of many potential classification schemes. Tidal wetlands and waterways are separated from nontidal wetlands and waterways because tidal systems move with rising sea levels. Headwaters are separated from larger streams because they are the most important for water quality protection and can be so numerous that their buffers can have a relatively greater impact on how a parcel is developed. Ditches are separated from natural streams because filling or integrating ditches into a stormwater management system during development can result in more spatially efficient nutrient reductions relative to buffering ditches as they are. Riparian wetlands are separated from flats and depressional wetlands because they are more directly connected to flowing waterways.

This literature review focuses on buffers of waterways and their associated wetlands, generally called riparian areas. Less study has been given to water quality buffers of flats and depressional wetlands, and thus less review is presented. However, flats and depressions remain important to water quality protection, because they make up about three quarters of all freshwater wetland acreage [28]

~ In small coastal plain watersheds with well-buffered waterways, riparian zones retained from 23 to 65 pounds of nitrogen per acre of buffer per year (67 – 89% of inputs) and 1.1 to 2.6 pounds of phosphorus per acre of buffer per year (24 – 81% of inputs) ~

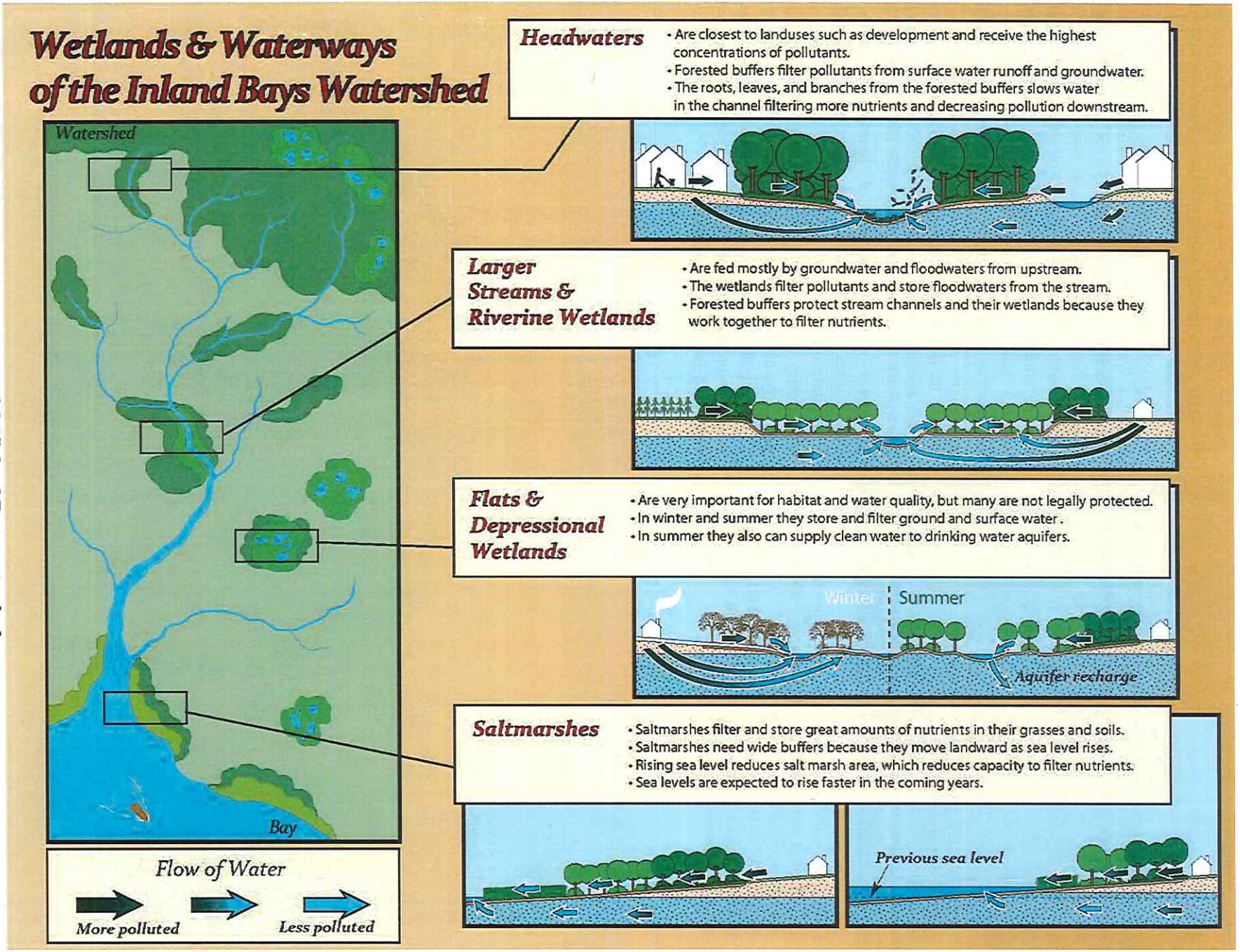

Figure 2. Wetland and waterway types of the Inland Bays watershed.

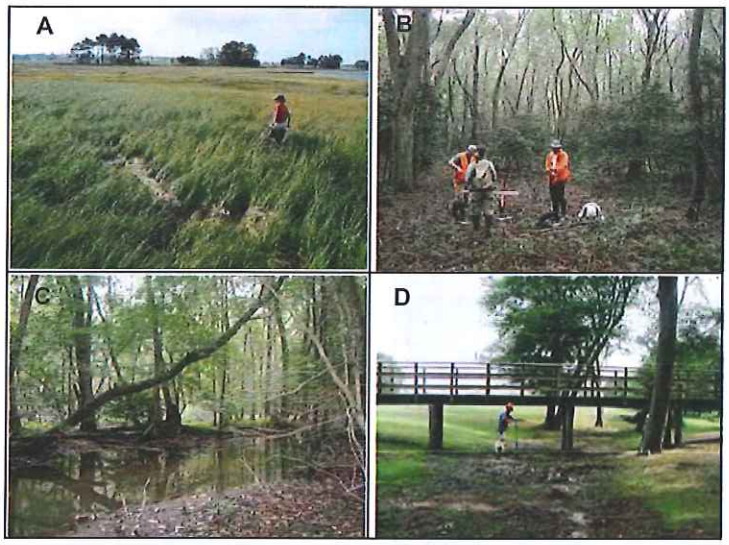

Fig. 3. Examples of wetland and waterway types in the Inland Bays watershed. A. Tidal marsh with gradual upland-wetland boundary in background. B. Freshwater flats wetland. C. Larger natural stream with extensive riparian wetlands. D. Headwaters without adjacent wetlands.

Sources of Water and Pollution to Riparian Ecosystems

Riparian areas receive water primarily from groundwater, runoff, and upstream flow [26] (Figure 4). Tidal areas also receive water from the Bays, and direct precipitation supplies water to all wetlands. While buffers act to remove pollution from all sources of water to varying degrees, nitrogen primarily enters and is removed from groundwater flow [29] and phosphorus primarily from surface runoff [30] (*but see Box 1*). Once through a riparian buffer, much of the remaining nitrogen and phosphorus enters ditch or stream channels that flow toward the Bays. Thus a comprehensive buffer system should be developed to control pollution from upstream flows, adjacent surface water runoff, and groundwater; not just runoff as is sometimes focused on. In fact, runoff comprises a small portion of hydrologic inputs to waterbodies of the watershed. As much as 80% of precipitation not evapotranspired, infiltrates into the earth to become groundwater on its way to the Bays [31]. Similarly, nearly three quarters of all nitrogen is delivered to Rehoboth Bay through groundwater [32], placing emphasis on the capacity of buffers to treat this source of water and associated pollution.

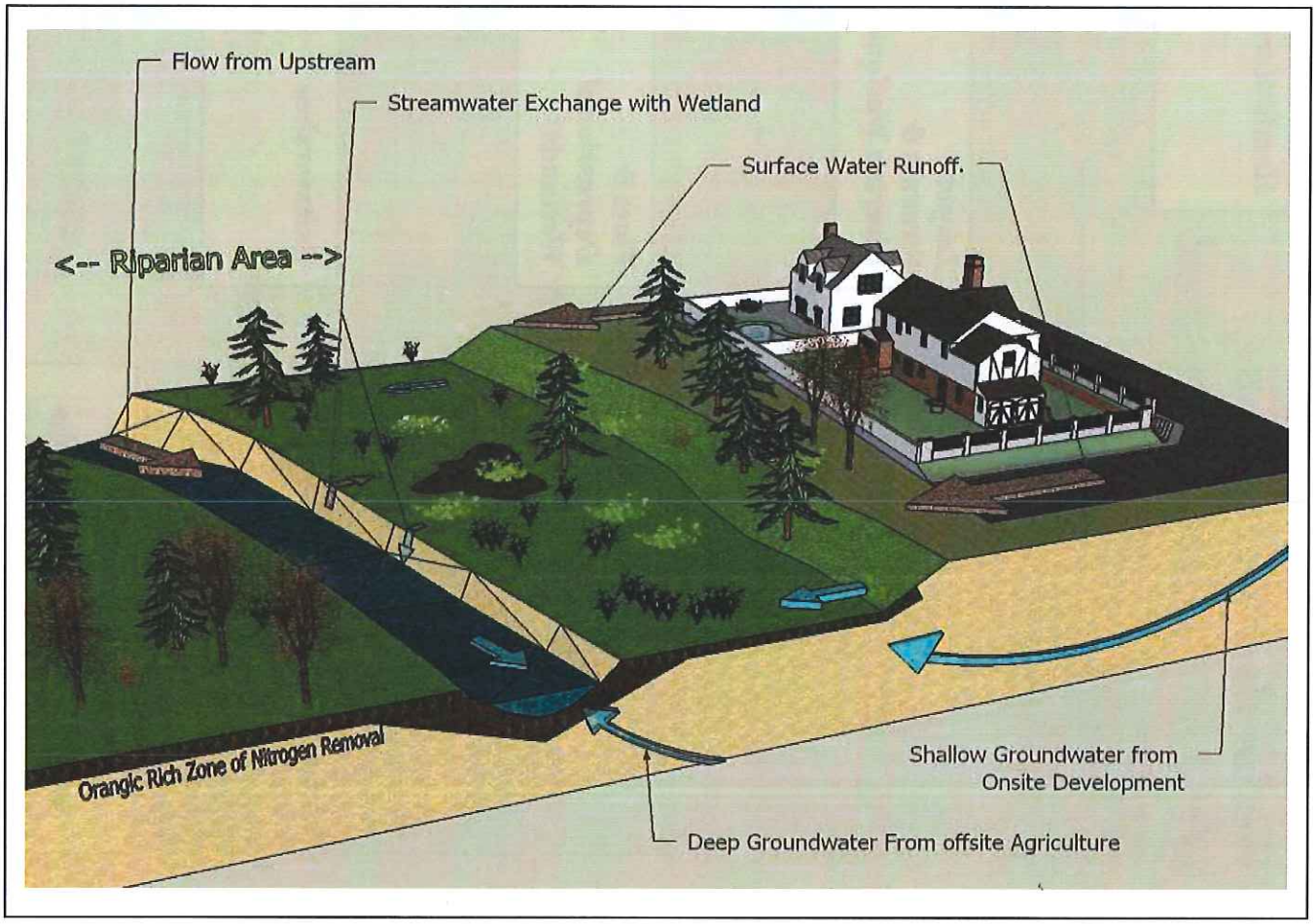

Fig 4. Conceptual model of the primary sources of water and pollution to riparian areas. Arrows indicate flows.

BOX 1. Phosphorus In Groundwater.

Phosphorus in groundwater is a particular concern for the Inland Bays watershed. Phosphorus can leach into groundwater to be later absorbed by riparian buffers [1]. But this function of buffers has been overwhelmed in some areas by over-application of phosphorus rich poultry manure on agricultural fields. Certain soils in our watershed are naturally susceptible to phosphorus leaching and because they are phosphorus-saturated, will do less to control this pollutant even after converted to development [2]. Identification of these areas by soil type and phosphorus status could be used to prioritize areas of wider buffers or soil amendments that might make up for this deficiency. The laboratory of Tom Sims at the University of Delaware has been working to identify these soils and developing methods to better bind excess phosphorus to soils.

Groundwater

Groundwater flows are often classified as shallow and deep groundwater. Shallow groundwater comes from lands close to a waterbody, including designated buffers, and discharges within a few months to a few years. Shallow groundwater is the most plentiful for most of our waterways, and it tends to pass through zones of nitrogen removal in healthy riparian areas. Deep groundwater takes longer flow paths from lands more distant from waterbodies, and may take 20 to 50 years to discharge. Deep groundwater may discharge directly to the bottom of a waterbody, bypassing important areas of nutrient removal in certain riparian zones of well drained landscapes [33, 34]. Deep groundwater means that decades may pass before reduction in some pollutant loads finally begin to improve surface water quality. But it also means that buffers installed now can treat pollution from years when there was little nutrient management.

There is variation in how waterways receive groundwater and associated pollutants. Waterways can receive disproportionately more or less groundwater because of their orientation relative to the direction of groundwater flow [35]. Also, not all groundwater discharges evenly along riparian zones. Some groundwater follows preferential flow paths, where discharge concentrates into a riparian area. Preferential flow paths may form due to small differences in soil texture along a riparian zone or they may form due to larger features such as lateral ditches [36-39]. These relatively small areas of the total riparian zone can be responsible for disproportionate amounts of nitrogen discharge to a waterway (40% of nitrogen discharge in one study) [38]. Buffer systems should avoid gaps and maintain a consistent minimum effective width for maximum water quality protection [40], partly to ensure areas of preferential flow paths are fully addressed.

In-stream Processing of Nutrients

The power of stream channels to treat pollutants is often overlooked. Waterways are not just drains but complex ecosystems with the capacity to retain pollution from waters flowing downstream [41-43]. Their capacity to do so varies with their condition [10, 44-46], with healthier streams retaining more pollutants. For example, channelized streams (or those that have had their channels excavated to increase drainage) have higher nitrogen and phosphorus concentrations [46], and much of the sediment loads to downstream waters originate from within the channels of such eroding waterways [47, 48]. This may be especially so in watersheds where development and stream channelization has increased the hydrologic energy of waterways. Streams with fewer hydrologic alterations provide more tortuous flowpaths and a greater hydrologic exchange with any adjacent wetlands which results in more opportunities for pollutant trapping and removal.

Direct Precipitation

All wetlands receive part of their water from precipitation that falls directly onto their surfaces. In the Inland Bays watershed, wet and dry atmospheric deposition of nitrogen and phosphorus make up a significant portion of nutrient inputs, especially during the summer months [49, 50]. Because flats and depressional wetlands tend to receive the greatest portion of their water from precipitation [26], they are particularly important for their role as interceptors and filters of this nutrient source. Furthermore, the fact that these types comprise the great majority of freshwater wetlands in the watershed (~75%) increases their importance in reducing pollution from direct precipitation. It is also notable that these wetland types are most likely to be considered non-jurisdictional under the federal Clean Water Act [51] and thereby legally unprotected in the State of Delaware at the writing of this report.

Developing A Buffer System One Characteristic at a Time

This section uses the available literature to develop recommendations for a buffer system with maximum efficiency to reduce pollutants. Each identified characteristic of a buffer system including extent, vegetation, width, waterbody type, and buffer restoration is treated by asking and answering questions.

Buffer Extent

What Waterways are the Most Important to Buffer?

To maximize the effectiveness of a watershed buffer system, all waterways that are to remain after development should be buffered. However, headwater streams are particularly recognized for their importance in reducing nitrogen loads downstream. Rates of nitrogen removal are higher in headwaters relative to larger waterways [42, 43, 52, 53]. Headwaters make up approximately 75% of total waterway length in watersheds [27, 54]. They tend to have the highest nitrate concentrations [55] because they are in the closest connection with the sources of pollution from the surrounding landuse [27]. And their small and shallow geometry allow water the greatest opportunity to interact with areas of the highest nutrient removal on the bottom and sides of the channel (Figure 6). Among waterways, the headwaters should be afforded the most protective buffers.

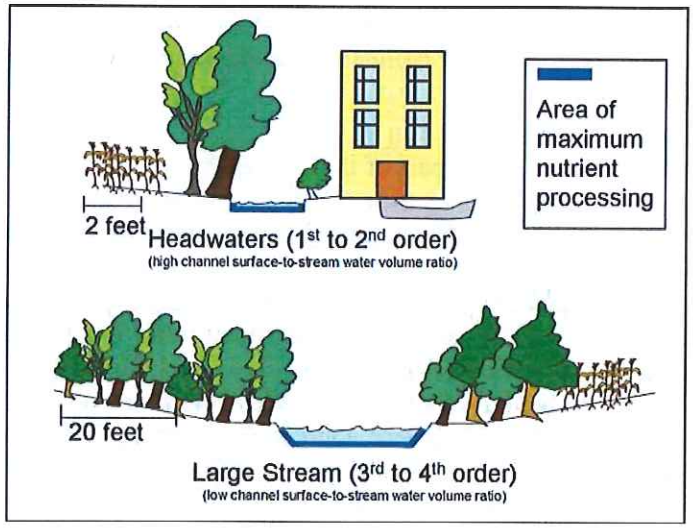

Fig. 6. Headwaters are smaller, more numerous, more closely connected to the surrounding landuse, and provide proportionately greater areas of nutrient processing than larger streams. For stream order explanation see section directly below.

How Can Headwaters be differentiated from Larger Streams?

Because headwaters are the most important for water quality protection, they will need to be differentiated from larger streams in order to be assigned the most protective buffers. Conversely, the great numbers of headwater ditches in the southern portion of the watershed (see below), may here require narrower buffers to accommodate development. A consistent method of differentiating headwaters from other waterways can facilitate requiring buffers with different characteristics including width.

One common method of differentiating waterways is to split them between those that normally flow perennially, and those that normally flow intermittently throughout the year. However, rapid determination of a waterways' flow regime as intermittent or perennial is difficult due to great variation in the flow patterns of the upstream drainage network and due to short and long-term changes in weather. Further, topographic maps indicate waterways categorized as perennial or intermittent based on observations that did not correspond well with the category definitions; and this can be a source of confusion. A more consistent and simple approach is to map the drainage network and assign waterways as either headwaters or larger streams based on their position in the drainage network. Unfortunately, many headwaters do not appear on coastal plain topographic maps and soil surveys that are commonly used for resource planning, and thus their protection cannot be ensured from plan review. Accurate, detailed and standardized maps of headwaters should be developed prior to regulation (see Baker et al. 2007) [56]. North Carolina is an example of a state that has undertaken this work, and one such tested method from their coastal plain is included as Appendix 1.

During the mapping process, natural streams should be differentiated from ditches. This can facilitate flexibility for land planners to fill those ditches that will not significantly impact on or off site drainage. Filling of unnecessary ditches will also help to restore stream network hydrology, reduce pollutant transport, and minimize buffer areas.

The Strahler stream order method [57] is suggested for designating headwaters. Using this approach, first order streams have no tributaries. Second order streams start at the confluence of two first order streams. The confluence of two second order streams is a third order stream, and so on. Often, first and second order streams are together designated as headwaters [58, 59].

In a Riparian Ecosystem, Where Should the Buffer Begin: From the Edge of the Wetland or the Edge of the Channel?

Stream channels and their adjacent wetlands are inextricably linked in their natural capacity to filter pollution [60]. Even small streams in the watershed support wetlands. Because coastal plain stream slopes are gradual, channels regularly flood their banks after rains allowing the wetlands to slow and store water and to filter pollutants. Groundwater also discharges laterally into streamside wetlands where it is filtered and this can occur preferentially at the landward edge of the wetland [37]. To fully protect stream channels and their wetlands

buffers should begin from the upland/wetland boundary and not from the channel. Figure 7 illustrates this concept. Buffering from the upland/wetland boundary 1) eliminates a potential source area of excess nutrients that is closest to surface waters, 2) retains any existing forest buffering the wetland 3) provides full protection to wetlands themselves from common residential impacts such as filling, grading, and sediment runoff. Buffering from the channel may not even include the existing streamside wetlands in the buffer area. Former floodplains that have drained and are no longer wetlands but are within stream valleys should also be protected. Providing a buffer around these areas offers the opportunity for future restoration of the water quality functions of the former floodplain [61].

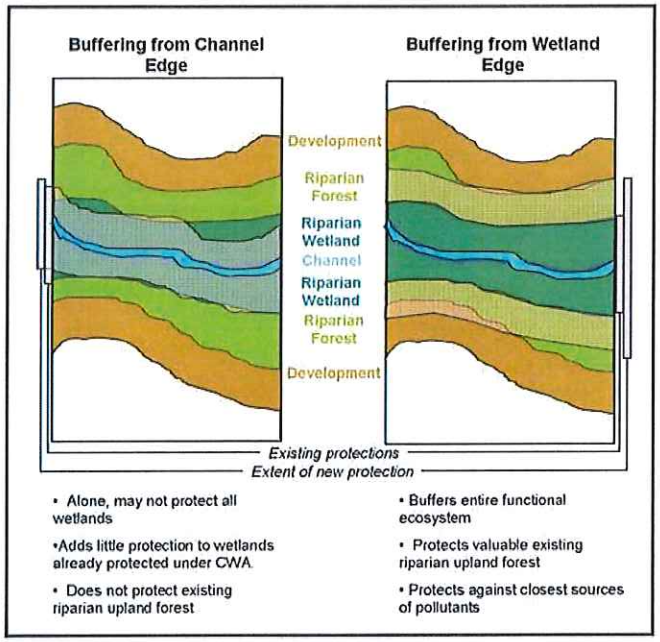

Fig 7. The effect of buffering from channel or wetland edge in riparian areas. CWA = federal Clean Water Act.

Buffer Vegetation Type

The type of vegetation in a buffer influences the hydrology and nutrient processing capacity of riparian areas. Since most coastal plain streams have no rocks, the roots, logs, and branches of a forest provide the structure that influences how streams flow. Forests hold the sediments of streams in place and provide the coarse and dissolved organic material that helps remove nitrogen.

What Type of Vegetation Reduces the Most Nutrients?

Studies of this question have focused on the efficiency of native grass versus forested buffers (Figure 8). In general, forests reduce more nitrogen than other buffers [62, 63], but little coastal plain specific information is available. Data from a wide ranging review indicated that, on average, forested buffers reduced 36% more nitrogen than grassed buffers[3][29]. This difference may be smaller when corrected for differences in width. Another comprehensive study in the Piedmont found that headwaters with forested buffers had dramatically higher rates of in-stream nitrogen uptake than those without forests in their buffers[64].

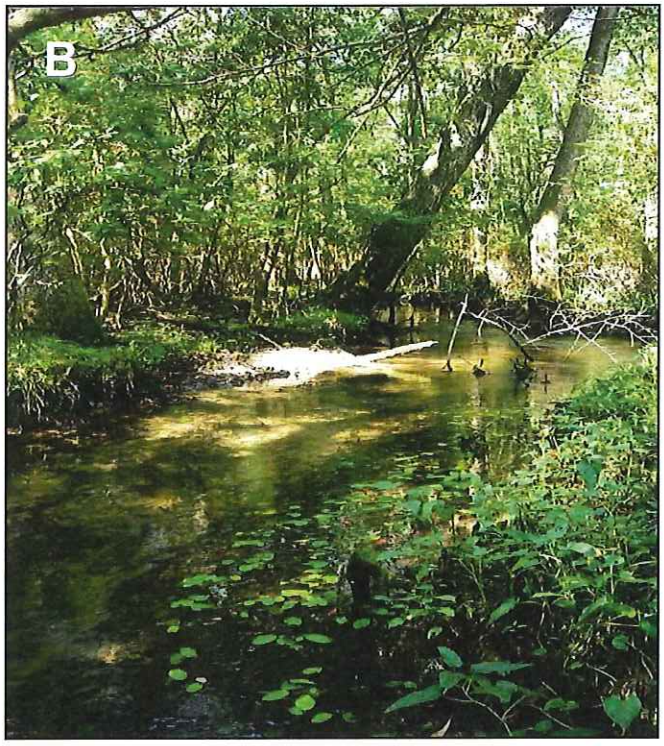

Fig 8. Turfgrass (A) versus forested (B) buffers. Note the differences in complexity, aboveground nutrient storage, and habitat quality.

[3] Forested buffers are the weighted average of forested and forested wetland buffers for 29 studies (mean reduction = 88.8%); grassed buffers were from 22 studies (mean reduction 53.3%).

Jamie Whitehouse

From: Paul Herman <phkhherman@gmail.com>
Sent: Friday, November 19, 2021 2:57 PM
To: Todd F. Lawson
Subject: Buffer ordinance

>>
>> Dear Mr. Lawson,
>>
>> I do not approve of the buffer ordinance as written and ask that you not approve it.
>> We need better buffers to protect Sussex County.
>>
>> Respectfully submitted,
>> Paul Herman
>> 17692 Venables Drive
>> Lewes, DE19958
>>
>>
>>
>> Sent from my iPhone

Jamie Whitehouse

From: Mark Schaeffer
Sent: Monday, November 22, 2021 9:55 AM
To: Pam Glick; Michael H. Vincent; Cynthia Green; Doug Hudson; John Rieley; Todd F. Lawson
Subject: Re: Buffer ordinance

Pam,
I dont completely agree with your assumptions. If you read the data in the Center for Inland Bays paper on buffer widths and their effectiveness I believe it will refute your claims. The SC P&Z office does excellent work in enforcing all regulatory ordinances.

I also believe it would be helpful to desist with the gratuitous attacks on the P&Z Commissioners. They are all citizen volunteers who put in an enormous amount of time and work away from their family's, work and daily lives to serve the people of Sussex County.

I will leave you with an analogy: If I could pick a regulatory board to oversee brain surgeons I would nominate individuals from the brain surgery profession who have knowledge and hands on expertise in brain surgery, not laypeople. Same with the P&Z Commission.

Call me anytime.

Thanks.

Opposition Exhibit

RECEIVED
NOV 22 2021
SUSSEX COUNTY
PLANNING & ZONING

Mark G. Schaeffer
Sussex County Council
District 3
Email: mschaeffer@sussexcountyde.gov
Phone: 302-855-7743
Cell: 302-423-4801

From: Pam Glick <pamglick436@comcast.net>
Sent: Monday, November 22, 2021 9:41:07 AM
To: Mark Schaeffer <mschaeffer@sussexcountyde.gov>; Michael H. Vincent <mvincent@sussexcountyde.gov>; Cynthia Green <cgreen@sussexcountyde.gov>; Doug Hudson <doug.hudson@sussexcountyde.gov>; John Rieley <jlrieley@sussexcountyde.gov>; Todd F. Lawson <tlawson@sussexcountyde.gov>
Subject: Re: Buffer ordinance

Mark,

Thanks for taking the time to review my message. Below is clarification and specifics:

- Section 99-7C states "if the Director determines that review by the Commission is not necessary or desirable, he may waive the requirement of preparing a preliminary plat.."

Effectively, the Director of Planning and Zoning (presently a commercial realtor) may approve a plan if only he/she determines a review by others "is not necessary or desirable".

- The proposed Sussex County buffer widths are way below the widths required in neighboring counties and states.
- Resource Buffer Averaging is described as "allowing flexibility for the proposed development..." This allows the buffer to be "thinned" at places along the development to point where the buffer is no longer functional.
- This ordinance excludes commercial property.
- Resource Buffer Options (Section G): This section should be removed completely. It allows developers to reduce or remove buffers, not protect existing buffers. Areas of buffers may be reduced in exchange for protecting a conservation easement in a different area of the county. How does the County demonstrate functional equivalence of one area being protected by conservation easement in another part of the County in exchange for a buffer being destroyed?
- Section I – Modifications and Exceptions
  This section allows the Planning and Zoning Commission (which consists of developers and realtors) to approve plans if there is a "hardship". What is a "hardship"? "Hardship" needs a clear definition.

How is this ordinance going to be enforced?
This is not an ordinance to protect buffers, rather this ordinance mostly provides incentives for developers to destroy buffers.

Pam Glick

On 11/20/2021 4:01 PM Mark Schaeffer <mschaeffer@sussexcountyde.gov> wrote:

Pam, I dont think your " one person" comment or that there would be a reduction in buffers comments are accurate. Please give me specific language so that I can ensure that can't happen. I appreciate your comments and email very much.

Mark G. Schaeffer
Sussex County Council
District 3
Email: mschaeffer@sussexcountyde.gov
Phone: 302-855-7743
Cell: 302-423-4801

From: Pam Glick <pamglick436@comcast.net>
Sent: Friday, November 19, 2021 10:48:53 AM
To: Michael H. Vincent <mvincent@sussexcountyde.gov>; Cynthia Green <cgreen@sussexcountyde.gov>; Mark Schaeffer <mschaeffer@sussexcountyde.gov>; Doug Hudson <doug.hudson@sussexcountyde.gov>; John Rieley <jlrieley@sussexcountyde.gov>; Todd F. Lawson <tlawson@sussexcountyde.gov>
Subject: Buffer ordinance

To the Sussex County Council:

Please don't approve the draft buffer ordinance as written.

I oppose the proposed Buffer Ordinance because it includes too many incentives for developers to destroy our remaining buffers. It is not a buffer protection ordinance but an ordinance to allow developer's large profits over protecting our environment.

This ordinance enables one commissioner to dismiss an application review and allow exceptions based on 1 person's opinion.

Incentives in this ordinance should encourage the design of subdivisions with larger buffers beyond the minimum standard – NOT a reduction in buffer minimums.

Because of lack of protection in the past we need to preserve the buffers we have left.

Pam Glick
Sussex County Resident

From: Pam Glick <pamglick436@comcast.net>
Sent: Friday, November 19, 2021 10:49 AM
To: Michael H. Vincent <mvincent@sussexcountyde.gov>; Cynthia Green <cgreen@sussexcountyde.gov>; Mark Schaeffer <mschaeffer@sussexcountyde.gov>; Doug Hudson <doug.hudson@sussexcountyde.gov>; John Rieley <jlrieley@sussexcountyde.gov>; Todd F. Lawson <tlawson@sussexcountyde.gov>
Subject: Buffer ordinance

To the Sussex County Council:

Please don't approve the draft buffer ordinance as written.

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Because of lack of protection in the past we need to preserve the buffers we have left.

Pam Glick
Sussex County Resident

Christin Scott

From: Judy <judyk15@verizon.net>
Sent: Thursday, November 18, 2021 5:57 AM
To: Planning and Zoning
Subject: BUFFER ORDINANCE

I am writing in favor of a buffer ordinance that meets the standards suggested of the Center for Inland Bays. At least 100 feet should be in place, with enforcement regulations to go along with it. Why have an ordinance for buffers if they can be encroached upon or even accessed at one or multiple points? Allowing such access or encroachment would negate the whole purpose of having buffers.

Furthermore, the ordinance should apply to all waterways, regardless of housing unit numbers. And wouldn't it be prudent to require buffers to be treed?

Sussex county is quickly changing, we need an ordinance that protects our vital waterways, the heart blood of this great county.

Thank you,

Judy Kane
23514 Oak St E
Lewes, De 19958

Christin Scott

From: Rose Minetti <rose.minetti@asu.edu>
Sent: Thursday, November 18, 2021 8:15 AM
To: Planning and Zoning
Subject: Buffer Ordinance

Please take into consideration the numerous issues and concerns listed below. These items reflect the t bipartisan concern for Delaware coastal environment. We the people are speaking to the well being of Sussex County and the state of Delaware.

Some points are listed below:

1. **Buffer widths should be significantly larger** than those proposed in the ordinance - See the comparison chart below. If the chart is not clear enough to read, click for a PDF file.
2. It must be clear in the ordinance that Sussex County has the **authority to enforce** it and will do so if the HOA does not.
3. **The ordinance should be applied to all waterways**, not just to those for the development of more than 6 housing units
4. **"Selective Cutting" must be removed.**
5. **Do not allow the reduction and/or elimination of the forest and/or landscape buffer.**
6. **Resource and Resource Buffer Maintenance and Management** section must have the following added: any and all measures for access easement must have minimal to no effect on disrupting the normal purpose and function of the buffers up to and including the width and number of access points.
7. There should be **'no option' to decrease the width of a buffer.**
8. **Eliminate non-forest buffer standards** and require all buffers to be forested or contain natural shrubs.

Christin Scott

From: gdubowe@pil.net
Sent: Thursday, November 18, 2021 2:21 PM
To: Planning and Zoning
Subject: Sussex Buffer Zone Ordinance
Attachments: Bay Pointe - Buffer Zone Removed Summer 2021.JPG; Bay Pointe May 15, 2021 #5.JPG

Hello,
Please implement a new buffer zone ordinance for tidal wetlands and other properties.
The buffer zones need to be expanded to actually provide a benefit for native trees and wildlife. A row of crepe myrtle trees - see Marsh Farms on Arrowhead Road - is of no benefit.
The massive amounts of high density housing with no buffer zones is sad and depressing.
Sussex County also needs someone who has the authority to enforce the regulations and to monitor the remediation process when tress are clear-cut from the buffer zones.
Sussex County now has numerous large housing developments with clear cut trees, no protection for the wetlands, and no landscape buffers.
Please look at other states such as Maryland and Pennsylvania to see how guidelines can be established and implemented.
Thank you,
Gail Dubowe
Delaware Master Naturalist Intern


DO NOT FIL OVE THIS LINE
NO HAZARDOUS, SPECIAL OR LIQUID WASTE ACCEPTED
1. No tires, appliances or yard waste.
2. DO NOT fill over top of container.
3. If loading dirt, concrete, gravel or any heavy materials, fill container half full only.
4. DO NOT force the back door closed. Load back of container after the door is closed.
5. DO NOT block access to container.
6. DO NOT burn in this container.
7. Hauler is not responsible for any damage caused due to the placement of this container.
CDI
684-4221


Dynamic
Acera
SK210LC

FILE COPY

Christin Scott

SUPPORT EXHIBIT

From: conteestat <conteestat@aol.com>
Sent: Thursday, November 18, 2021 3:42 PM
To: Planning and Zoning
Subject: Comments to revise buffer ordinance draft

OMG. the County finally sets up an appropriate method with the correct partners to work together to draft an important ordinance to protect our wetlands. And then what happens? Several if the critical parts are omitted or ignored and now the process is changing the schedules for input and hearings.
These critical changes are needed. Buffers need to be bigger than outlined here. There should be on pairing or merging together the size of buffers.
The county needs to have authority to enforce the ordinace. Ordinance should apply to ALL waterways.
Selective cutting must be ignored!!!!!
Last there shall be NO way to decrease the width of the buffer.
In many ways this could be the most important ordinance in county history and that could make a critical difference in ensuring the wildlife and health of our wetlands in this climate change world.
These items and ideas were all stated in the original working group...something got lost in translation.

Linda Sullivan Schulte
30718 bufflehead ln.
Selbyville DE

Sent from my Verizon, Samsung Galaxy smartphone

Christin Scott

From: Gretchen Klein <metamargaret@gmail.com>
Sent: Thursday, November 18, 2021 3:37 PM
To: Planning and Zoning
Subject: Suggested refinements to the draft of the Buffer/Wetlands Ordinance

I have spoken before both the Planning and Zoning Commission and the County Council frequently over the last seven years encouraging both bodies to incorporate increased wetlands protection, including increasing the ability of buffers to guard and protect waterways, into the governance of Sussex County.

Although the County has put much effort into the design of a buffer ordinance that will improve the ability of buffers to do the jobs we ask of them, the draft of this ordinance has fallen short of its promise to improve and guard the enormous economic value our waterways provide to Sussex County and to the State of Delaware.

I am an avocational wetland scientist, having taken numerous professional courses over the last 7 years. Here are my concerns:

1. To align with the practices of other counties, recommendations of wetland professionals, other states, and other countries, the buffer widths stated here must be increased significantly. Please reeamine the Buffer Policy Comparison published by the Delaware Center for Inland Bays. Note the buffer widths for nontidal wetlands. Professional recommendations cite 50' to 100' buffers. Smaller, intermittent streams in New Castle County and New Jersey require 100' to 300' buffers.

2. The environmental nature of buffers is as important as their size. To watch builders cut down acres and acres of old, established forests that provide natural buffers and habitats, states that County interests lie with dismissal of the economic value of such environments in favor of the financial gain of those who profit from this destructive pattern of land use planning.

3. To wit, the option "selective cutting" must be removed from the draft. There are excellent guidance documents available from a variety of HOA's in Sussex County which govern everything from which, what kind, and how many trees can be removed in site preparation, where and how heavy equipment can traverse the site, avoiding land compaction within a certain width from the base of trees, buffer widths, maintenance of existing flora and buffer widths, etc. I'm familiar with what can be done to maximize the quality of life for new residents and the continuing natural life of the natural environment. I'm familiar with the breadth of such documents because I wrote one.

4. That said. however, it must be clear in the ordinance that Sussex County has the authority to enforce it, and will do so if an individual HOA does not

5. Strongly, there must be "no option" to decrease the width of a buffer.

6. A buffer ordinance such as this must be applied to ALL waterways, not just those in a development of 6 or more housing units.

You will receive many letters from homeowners living inside and outside Delaware adding their concerns to mine about changes that need to be done for the draft.

You will receive many letters encouraging you to develop a buffer ordinance that will be hailed as innovative, educated, wise, and a model for other municipalities working to bring their practices into line with BMP for the nation's waterways.

Gretchen Klein

22558 Hughes Lane
Lewes, DE 19958
metamargaret@gmail.com

Christin Scott

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Thursday, November 18, 2021 11:57 AM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

Submitted on Thursday, November 18, 2021 - 11:56am

Name: Stephen Corona
Email address: SC22306@gmail.com
Phone number: 3025675353
Subject: Sussex Buffer Ordinance
Message:
Thank you for offering the public the opportunity to comment on the proposed buffer ordinance. I moved to Sussex County about 3 years ago, finding much of the county's beauty natural and appealing. I read the article in the Cape Gazette and I support the commission's efforts to protect the buffer zone. I urge the commission not to take action to disseminate the area like so many other parts of the country. Buffer zones provide much benefit to the public and I fear that selective cutting will only benefit the developer and not the public. Fresh and clean water is needed for quality life and I read with interest the statement by Chris Bason that discusses how we are "backsliding" on water quality. Perhaps the solution is to increase the minimum standard for Buffer-zone widths in the interest of improving water quality and removing phosphorus and nitrogen. Moreover, I support the suggestion to eliminate non-forest buffer standards. Whatever the new standards ar
e,
it's imperative that the county have an enforcement process. Otherwise, I'm afraid the new standards will become ineffective. The community I live in is similar to what was said about Coastal Club, I.e. some homeowners take it upon themselves to trim and cut down trees in the buffer zone, sometimes with the help of landscape companies.

I'm sorry if this message is not clear, but I realized I was up against the deadline for submitting comments.

Thank you.

FILE COPY

SUPPORT EXHIBIT

Christin Scott

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Thursday, November 18, 2021 2:30 PM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

Submitted on Thursday, November 18, 2021 - 2:30pm

Name: Robert Nadig
Email address: outofcontext3@comcast.net Phone number: 1-302-226-5225
Subject: County Wetlands buffers and drainage ordinance - Accurate Designation and Effective Enforcement Protection of Tidal Wetlands
Message:
Dear Planning & Zoning Commission:

We have lived in our Sussex County community for over 20 years. In our community, and next to our community, every year there are tidal wetlands that are flooded during the high tides that routinely occur at various times each year. Storms do not need to be involved. Other times the wetlands may appear dry on the surface during periods of low tides or drought.

The wetlands buffer ordinance needs to assure that there is accurate designation of wetlands, especially tidal wetlands even if sometimes the tidal wetlands may appear dry on the surface when the tides are low or during periods of drought. In addition to proper designation of wetlands, the ordinance needs to assure the means and mechanisms for monitoring of the development and enforcement of the tidal wetlands designations.

Loss of wetlands is a threat to the wonderful living creeks and bays surrounding Sussex County Delaware. Loss of tidal wetlands has the additional harm that the high tide water has to go somewhere and if previously existing tidal wetlands are filled in or otherwise obstructed, the tidal water harms the adjacent communities and property owners with new man-made flooding.

During County hearing testimony by our community and by developers of a property next to our community, the developers gave assurances that wetlands would be protected, including and especially tidal wetlands that community members testified and documented were routinely flooded. However, tidal wetlands have been filled in or otherwise obstructed. Now, during routine very high tides, the pattern of flooding in our community is changed and exacerbated. The only exit road from our community has a new flooding pattern preventing some residents from leaving or help from arriving. The misdirected tide water has to go somewhere. Developers should not be able to harm neighbors.

Thank you all for your efforts on this wetlands buffers ordinance. Please make sure the ordinance is clearly written such that it can be enforced and not evaded.

Robert Nadig

Christin Scott

From: Lpodolske <lpodolske@aol.com>
Sent: Thursday, November 18, 2021 1:30 PM
To: Planning and Zoning
Subject: Comments and recommendations for the proposed buffer ordinance

1. **Buffer widths should be significantly larger** than those proposed in the ordinance - See the comparison chart below.
2. It must be clear in the ordinance that Sussex County has the **authority to enforce** it and will do so if the HOA does not.
3. **The ordinance should be applied to all waterways**, not just to those for the development of more than 6 housing units
4. **"Selective Cutting" must be removed.**
5. **Do not allow the reduction and/or elimination of the forest and/or landscape buffer.**
6. **Resource and Resource Buffer Maintenance and Management** section must have the following added: any and all measures for access easement must have minimal to no effect on disrupting the normal purpose and function of the buffers up to and including the width and number of access points.
7. There should be **'no option' to decrease the width of a buffer.**
8. **Eliminate non-forest buffer standards** and require all buffers to be forested or contain natural shrubs.

Wetlands and Waterways Buffer Policy Comparison

Characteristic	Sussex Co. Current	Sussex Co. Proposed	CIB Recommends	Kent Co.	New Castle Co.	State of NJ	State of MD Critical Areas.
Tidal Wetlands & Waters Width	50 ft.	100 ft.	80 - 500 ft.	100 ft.	100 ft.	300 ft.	100 - 200 ft.
Nontidal Wetlands Width	0 ft.	30 ft.	50 - 100 ft.	25 ft.	50 ft.	0 - 150 ft.	25 ft.
Smaller / Intermittent Streams Width	0 ft.	30 ft.	35 - 150 ft.	50 ft.	100 ft.	300 ft.	≥100 ft.
Larger / Perennial Streams Width	0 - 50 ft.*	50 ft.	80 - 150 ft.	100 ft.	100 ft. or 50 ft. from floodplain	300 ft.	≥100 ft.
Variable Width Buffer Allowance	No	Yes**	No	No	No	Yes***	No
Vegetation Type	Natural	Forest or meadow****	Natural/Forest	Natural/Forest	Natural/Forest	Existing Veg. or Natural/Forest	Natural/Forest
Protects Existing Forest	Yes, but not enforced.	No	Yes	Yes	Yes	Yes	Yes
Revegetation with Trees	Yes, but not enforced.	No	Yes	Yes	Yes	Yes	Yes

Christin Scott

From: E Lee <eulmlee@gmail.com>
Sent: Thursday, November 18, 2021 12:30 PM
To: Planning and Zoning
Subject: Buffer/Wetlands Ordinance - Public Comment

Thank you for considering the 'refinements' of the ordinance draft.

Here, I will address only the things that have not been talked about much yet because they may be considered 'minor' things to many. However, these minor things may unnecessarily arouse the public's distrust and suspicions on the intentions of the parties drafting the ordinances.

- Line 522 - **[and]** ***in***

  I have to ask the reason for this change.
  If anything should be changed, the term 'reasonable' should be defined in detail.

- **Changes in Size of Major vs. Minor Subdivision**

  Is the number of lots for minor vs. major subdivisions changed? Why did this become part of the new Buffer/Wetlands Ordinance?

  This seemingly unrelated change was never discussed in the introduction of the ordinance.

  Furthermore, this change was made by inserting the new definitions (in lines 96-104) and removing the specific numbers from the **§99-6 General Requirements and Restrictions** (in lines 235 and 263). This way, it takes scrutiny to find what replaced what was removed.

  Please explain the need for this or remove the change from the ordinance.

Thank you very much.

Eul Lee

Christin Scott

From: michele@micheleforzley.com
Sent: Thursday, November 18, 2021 11:34 AM
To: Planning and Zoning
Subject: Comments on the Draft Buffer/Wetlands Ordinance

Please take note of these comments on the Draft Buffer/Wetlands Ordinance:

1. Given the complex nature of the proposed provisions, it would be instructive to conduct several " dry runs " on different scenarios can be tested against the proposed provisions. This will enable an understanding of how the provisions apply, the results and whether the provisions are adequate to achieve the goals of the ordinance and whether from a practical perspective they are functional for all concerned including developers, land owners, the P &Z staff and if the P &Z Commission can apply them with certainty and predictability.
   A possible method to achieve this " dry run" is to look back at recent and pending applications that have wetlands and see how the proposed provisions would apply. Of course the new provisions would not be applicable to existing or past applications. Their use is limited only to testing out the regulatory clarity of the proposed ordinance.
2. The powers of the P&Z director should be enhanced to require full compliance with the application requirements so that he or she can reject outright any application that does not fulfill application requirements.
3. Application requirements should include a full DNREC and or Army Corps of Engineersjurisdictional determination of the location of all wetlands, both tidal and non tidal, and a determination of the mean high water line and where any and all tidal wetlands buffers should be located. The applicant should not be allowed to make this determination. Instead this determination should be made by DNREC and binding on the applicant and the P &Z.

Michele Forzley
1 301 565 0680

Christin Scott

From: davejaeger@verizon.net
Sent: Thursday, November 18, 2021 11:10 AM
To: Planning and Zoning
Subject: Buffer ordinance

My wife and I have lived in Sussex County for over 20 years and strongly believe that the buffer ordinance needs to be strengthened to widen tidal wetlands to at least 80 feet from the current 50 feet and for nontidal wetlands to at least 50 feet.
Thank you,
Ann & Dave Jaeger
17030 Cadbury Circle
Lewes, DE 19958

Jamie Whitehouse

From: Rich Borrasso <richbor0614@gmail.com>
Sent: Thursday, November 18, 2021 12:40 PM
To: Todd F. Lawson; Jamie Whitehouse; Hans Medlarz; Vince Robertson
Cc: 'Chris Bason'; Jeff Stone; Jeffrey W Seemans
Subject: FW: CIB Buffer Ordinance Markup and Comments
Attachments: CIB DIRECT EDITS 111621 Sussex County - Drainage and Resource Buffer - Ordinance - TO BE INTRODUCED.docx; CIB Justification for Markups to County Buffer Ordinance to P&Z 111821.pdf

My name is Rich Borrasso and I represent SARG. After review of the CIB Buffer Ordinance Mark Up and Comments (attached), we feel the CIB is the most uniquely qualified body on this matter and we are in complete agreement and support the Center's position.

Regards,

Rich Borrasso

From: webmaster@sussexcountyde.gov <webmaster@sussexcountyde.gov>
Sent: Thursday, November 18, 2021 2:01 PM
To: Kelly Manogue <kelly.manogue@sussexcountyde.gov>
Subject: Contact Form: Sussex buffer ordinance

SUPPORT EXHIBIT

RECIPIENTS: Chip Guy, Robin Griffith, Bobbi Albright, Kelly Manogue

Submitted on Thursday, November 18, 2021 - 2:00pm

FILE COPY

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NOV 18 2021

SUSSEX COUNTY
PLANNING & ZONING

Name: Susan Lee

Email address: susanleemailbox@gmail.com

Phone number: 6462766796

Subject: Sussex buffer ordinance

Message:

I strongly encourage you to support the proposed buffer ordinance and to take into account the recommendations offered by members of the working group assigned to review the county's current wetlands buffers and drainage ordinance. In my view, it is critical to take effective measures now to safeguard our wetlands particularly in the face of rampant property development in the area. Thank you. Susan D. Lee, Lewes, DE

From: Shelly Cohen <phillieqyrl1968@gmail.com>
Sent: Thursday, November 18, 2021 9:18 AM
To: Todd F. Lawson <tlawson@sussexcountyde.gov>
Subject: New or Amended Wetlands Buffers Ordinance

Dear Mr. Lawson

Yes, please amend or create an entirely new Wetlands Buffer Ordinance. The evidence is all around us that the current or shall we say old Ordinance was entirely inadequate in the goal of protecting Sussex Wetlands, Environment, Wildlife and Water Resources.

When you do this, the Ordinance should not be full of loop holes, back doors, incentives that defeat the purpose of protecting the wetlands by "selective" cutting of trees, removal of trees, reducing the size of the Buffer widths or allowing building or destructive activities in these already narrow Buffer parameters.

Growth is always going to be necessary, but it should be controlled to preserve and protect what makes Sussex County a wonderful place to live.

Builders and developers are not going to stop building in Sussex, just like they continue to build in other jurisdictions that have two to six times the Wetlands Buffer widths and restrictions. Legislating better Ordinance Protection makes the County better. Protecting the Wetlands will enhance the natural beauty of the land and built areas while increasing the value of land - really everything.

Please do this Ordinance correctly. Make it a positive effort, not just a going through the motions to create an ordinance that is so full of holes that it would not be an improvement.

Please make this your ABSOLUTE BEST EFFORT!

The following list identifies what needs to be changed in the Proposed Wetlands Buffer Ordinance recently presented by Mr. Lawson and Mr. Robertson. The list was summarized after a recent meeting of, Sussex 2030, a grassroots community group of Sussex County Concerned Citizens.

1. **Buffer widths should be significantly larger** than those proposed in the ordinance
2. It must be clear in the ordinance that Sussex County has the **authority to enforce** it and will do so if the HOA does not.
3. **The ordinance should be applied to all waterways**, not just to those for the development of more than 6 housing units
4. **"Selective Cutting" must be removed.**
5. **Do not allow the reduction and/or elimination of the forest and/or landscape buffer.**
6. **Resource and Resource Buffer Maintenance and Management** section must have the following added: any and all measures for access easement must have minimal to no effect on disrupting the normal purpose and function of the buffers up to and including the width and number of access points.

7. There should be '**no option' to decrease the width of a buffer.**
8. **Eliminate non-forest buffer standards** and require all buffers to be forested or contain natural shrubs.

Thank you
Shelly Cohen,
Milton DE

Sent from my iPad

Jamie Whitehouse

From:	Dale Larrimore <dale.larrimore@gmail.com>
Sent:	Thursday, November 18, 2021 9:41 AM
To:	Planning and Zoning
Subject:	Buffer Ordinance

FILE COPY

SUPPORT EXHIBIT

I understand that you are considering changes to the buffer ordinance in Sussex County. In my view, you should not allow the reduction or elimination of the forest or landscape buffer. The ordinance should be applied to ALL waterways and the buffer widths should be significantly larger than those proposed in this ordinance.

Selective cutting should be eliminated. Any and all measures for access easement must have minimal to no effect on disrupting the normal purpose and function of the buffers up to and including the width and number of access points. Eliminate all non-forrest buffer standards and require that all buffers be forested or contain natural shrubs.

Thank you for considering my opinions.

Dale Larrimore

36450 Wild Rose Circle

Selbyville, DE 19975

Jamie Whitehouse

From: Karen Beck <k3beck@gmail.com>
Sent: Thursday, November 18, 2021 9:05 AM
To: Planning and Zoning
Subject: Comments on Buffer Ordinance

FILE COPY
SUPPORT EXHIBIT

The proposed Buffer Ordinance explains in great detail the need for enhancement of wetlands buffers in Sussex County. The county has a duty to enact ordinances that address these critical concerns. As the county in Delaware with the most wetlands, and the most fragile ecology in the state, Sussex County should be a leader in protecting our land and the quality of our drinking water. The recent storm and tide surge was a harbinger of what's ahead for us in coming years. Properly managed wetlands give us resiliency in the face of such storms. I ask that you strengthen this ordinance in the following ways:
It should apply to major and minor developments
Do not remove forest buffers. This will prevent developers from removing trees before requesting permits to get around current proposals.
No selective cutting. Buffers should be forest or native grasses, which offer the best resiliency.
No options to exchange removal of one buffered area for another. All waterways are vulnerable and need buffer protection. There is no way of saying one is "equivalent" to another.
Enforcement: The ordinance and rules for maintenance and management must be enforced by the county so that changes will not be made by HOA's or landowners.

I fully support the recommendations of the Center for Inland Bays. This non-profit organization was established in 1994 by the Inland Bays Watershed Enhancement Act. Thay have been doing research and outreach for the protection of the bays since that time, and they can be considered experts in the areas of wetlands and shoreline protection.
The County Council and Planning and Zoning Commission should weigh heavily the recommendations made by such experts since changes were made to the original Working Group findings.

Karen Beck
23601 Elmwood Ave West
Lewes DE 19958

Jamie Whitehouse

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Thursday, November 18, 2021 9:12 AM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

Submitted on Thursday, November 18, 2021 - 9:12am

FILE COPY

SUPPORT EXHIBIT

Name: Shelly Cohen
Email address: phillieqyrl1968@gmail.com Phone number: 3026642929
Subject: Wetlands Buffers - New and or an
Message:
Dear Planning and Zoninf Commissioners and Department Staff Yes, please amend or create an entirely new Wetlands Buffer Ordinance. The evidence is all around us that the current or shall we say old Ordinance was entirely inadequate in the goal of protecting Sussex Wetlands, Environment, Wildlife and Water Resources.

When you do this, the Ordinance should not be full of loop holes, back doors, incentives that defeat the purpose of protecting the wetlands by "selective" cutting of trees, removal of trees, reducing the size of the Buffer widths or allowing building or destructive activities in these already narrow Buffer parameters.

Growth is always going to be necessary, but it should be controlled to preserve and protect what makes Sussex County a wonderful place to live.

Builders and developers are not going to stop building in Sussex, just like they continue to build in other jurisdictions that have two to six times the Wetlands Buffer widths and restrictions. Legislating better Ordinance Protection makes the County better. Protecting the Wetlands will enhance the natural beauty of the land and built areas while increasing the value of land - really everything.

Please do this Ordinance correctly. Make it a positive effort, not just a going through the motions to create an ordinance that is so full of holes that it would not be an improvement.

Please make this your ABSOLUTE BEST EFFORT!

The following list identifies what needs to be changed in the Proposed Wetlands Buffer Ordinance recently presented by Mr. Lawson and Mr. Robertson. The list was summarized after a recent meeting of, Sussex 2030, a grassroots community group of Sussex County Concerned Citizens.

1. Buffer widths should be significantly larger than those proposed in the ordinance 2. It must be clear in the ordinance that Sussex County has the authority to enforce it and will do so if the HOA does not.
3. The ordinance should be applied to all waterways, not just to those for the development of more than 6 housing units
4. "Selective Cutting" must be removed.
5. Do not allow the reduction and/or elimination of the forest and/or landscape buffer.
6. Resource and Resource Buffer Maintenance and Management section must have the following added: any and all measures for access easement must have minimal to no effect on disrupting the normal purpose and function of the buffers up to and including the width and number of access points.

7. There should be 'no option' to decrease the width of a buffer.
8. Eliminate non-forest buffer standards and require all buffers to be forested or contain natural shrubs.
Thank you

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NOV 18 2021

SUSSEX COUNTY
PLANNING & ZONING

DELAWARE CENTER FOR THE
INLAND BAYS
Research. Educate. Restore.

TO: Sussex County Planning & Zoning Commission & Sussex County Staff

FROM: Chris Bason, Executive Director, Delaware Center for the Inland Bays

DATE: November 17, 2021

SUBJECT: Markup and Justification for AN ORDINANCE TO AMEND CHAPTER 99, SECTIONS 99-5, 99-6, 99-7, 99-23, 99-24, 99-26, AND 99-30, AND CHAPTER 115 SECTIONS 115-4, 115-25, 115-193, 115-220 AND 115-221 REGARDING CERTAIN DRAINAGE FEATURES, WETLAND AND WATER RESOURCES AND THE BUFFERS THERETO.

Please find attached the following requested changes to the above ordinance with justification provided herein on behalf of the Center for the Inland Bays. I am a biologist with over 20 years of local experience in the field of wetlands and estuarine research, management, and restoration and I had the pleasure of serving on the County's Wetlands and Buffers Workgroup. Part of my past professional experience involved assessing the condition of wetlands within Sussex County and I have published multiple times on wetlands in the peer-reviewed scientific literature as well as through the Center's extensive technical publications. I previously provided in person testimony and reports from the Center to the Planning and Zoning Commission on the day of the hearing of this ordinance. The marked up ordinance I am providing was converted to a word document from pdf and thus there are some formatting inconsistencies that I hope you may forgive. While there are markups throughout the document I am presenting my justification in major areas of focus below.

Buffer Widths

The buffer widths proposed in this ordinance were developed by the consensus of the Wetlands and Buffer Working Group. However, most of these widths are much less than what is generally recommended in the scientific literature to protect the functions of the resources covered by the ordinance. For example, buffers on small streams are generally recommended to be at least 100 feet[1] to protect the water quality, habitat, and biology of the stream, whereas the buffers of streams proposed in this ordinance are 30 to 50 feet. This means that buffers proposed in this ordinance will continue to allow the degradation of the streams in Sussex County where water quality is already poor and wildlife habitat is rapidly disappearing near the coast (see appendix for supporting information).

The Center's science-based recommendations for buffer widths based upon water quality protection alone are provided in our 2008 report[2]. Buffers designed for all the purposes in this

[1] Sweeney, Bernard W. and J. Denis Newbold, 2014. Streamside Forest Buffer Width Needed to Protect Stream Water Quality, Habitat, and Organisms: A Literature Review. Journal of the American Water Resources Association (JAWRA) 50(3): 560-584. DOI: 10.1111/jawr.12203

[2]https://www.inlandbays.org/wp-content/uploads/2011/01/Recommendations-for-an-Inland-Bays-Watershed-Buffer-System-Final.pdf

ordinance are often wider than our recommendations particularly when considering the protection of wildlife habitat. This is born out through a comparison of the proposed ordinance to similar ordinances of other nearby jurisdictions (appendix). Should the Commision seek to increase the width of the buffers, we suggest reference to these resources.

Resource Buffer Width Averaging

The Center supports buffer width averaging which was a point of consensus reached by the Workgroup. However, we request that averaging for buffers of tidal wetlands and waters and for buffers of freshwater mill ponds be limited to within these resource buffers. In other words, a reduced buffer width on a tidal resource could only be compensated for with a wider buffer on another tidal resource and not on an intermittent stream for example.

This will help prevent potential misuse of this provision to minimize buffer width in the highly-desirable for building yet ecologically-sensitive nearshore areas of tidal wetlands and waters and of freshwater mill ponds. There are multiple examples around the County of what can happen when homes are sited too close to sensitive resources in regards, and I offer one from Ellis Point below. Maintaining adequate widths of buffers on tidal areas is particularly important because tidal waters and wetlands migrate inland, often rapidly, with sea level rise. Rates of migration of tidal wetlands over uplands in the Indian River Bay watershed range from 1.44 to 5.25 feet per year on average depending on the slope of the adjacent upland.

This small change will continue to allow flexibility in site design, while discouraging misuse of the provision, and ensure that minimum protections for one type of resource are not exchanged for additional, but less beneficial, protection of a different resource.

Homes on Ellis Point located very close to tidal waters.

Resource Buffer Activities By Zone

The Center is supportive of all the Activities which were achieved by the consensus of the Working Group except for Activity 18. Extended Detention dry and wet stormwater management ponds. Stormwater management ponds provide hydrologic retention and some

water quality improvement benefits. However they clearly do not provide the wildlife habitat function that is one of the purposes of the buffer (see below and an example of Love Creek).

> *"Provide wildlife habitat via nesting, breeding , and feeding opportunities; provide sanctuary/refuge during high water events; protect critical water 's edge habitat; and protect rare, threatened, and endangered species associated with each Resource and its upland edge."*

Dry stormwater detention feature in buffer on Love Creek.

Removal of a forest to install a stormwater feature in the buffer would be counter to the purpose of the ordinance by resulting in a net reduction in the total desired function of the buffer. And it is unnecessary because stormwater features can be installed elsewhere on a proposed development.

<u>Resource Buffer Standards</u>

Remove the non-forested meadow option and require both maintenance of existing forests and reforestation of non-forested areas.

In addition to the buffer extent and width, the vegetation required within the buffer is the most important aspect to determine its function. Forested buffers clearly provide superior function than do non-forested buffers through 1) their capacity to sequester nutrients within their above

and below ground biomass, 2) their provision of multi-layered animal habitat, 3) their capacity to control flooding and intercept precipitation within their multiple layers, 4) and their provision of a physical buffer between human activities and sensitive aquatic life. For more supporting information, please to the appendix of these comments on forests (page 14).

The inclusion of non-forested meadows as a vegetation option will not protect existing forests and will result in similar situations seen across the County today where highly functioning buffers are torn down. As written, the proposed ordinance will allow a landowner to completely remove a buffer, seed it with a grass mix and then submit an application for development. As written, there is no requirement to reforest the buffer. In fact, the vegetation within the non-forested meadow does not even have to be native. This runs counter to the intent of a buffer ordinance and in fact would be a step backward in protection from the existing code which states:

> *"BUFFER ZONE — An existing naturally vegetated area or an area purposely established in vegetation which shall not be cultivated in order to protect aquatic, wetlands, shoreline and upland environments from man-made encroachment and disturbances. The "buffer zone" shall be maintained in natural vegetation, but may include planted vegetation where necessary to protect, stabilize or enhance the area."*

In Sussex County, forest is the natural vegetation community for nearly all upland areas, and if uplands are left to grow without interference they eventually will undergo natural ecological succession to a forest. Allowing non-forested meadows clarifies any ambiguities of the current code to allow forested buffers to be cut down prior to application and to perpetuate poorly-functioning non-forested buffers. Furthermore, the non-forested meadow section is unclear and seemingly contradictory. For example D.2.a. states that non-forested meadows must be retained but then later D.2.a.ii and D.2.b. state that non-forested meadows be allowed to undergo natural succession or be planted to a forest.

The solution to this is to both require maintenance of existing forested buffers and require the reforestation of buffers using a detailed set of standards where forests do not exist This makes clear that any forested buffer removed prior to an application will have to be reforested as a part of the development project. This takes away any perceived incentive to remove the buffer prior to application. In fact, it creates a disincentive to removing the forest of the buffer because reforestation is costly and takes additional effort to achieve within required timeframes. This approach is similar to that taken in the County code for forested and landscape buffers (perimeter buffer) and is standard in buffer ordinances of nearby jurisdictions.

Refine Selective Cutting.

As written in the proposed ordinance, selective cutting would allow the complete removal of non-canopy tree vegetation from all buffers at any time. It also appears to allow the removal of every other canopy tree. All without purpose. This is counter to the purpose of the proposed ordinance, is a giant step backward in protection from the existing ordinance, and again codifies the worst examples of buffers being torn down across the County currently.

As included in this ordinance, selective cutting has no stated purpose and so it is difficult to regulate. The provision of viewsheds over regulated resources where they are traditionally desired (tidal wetlands and waters and freshwater mill ponds) appears to be the only purpose of this provision and should be stated as such for clarity. Any other activity similar to selective cutting that may have a different purpose is indicated under Permitted Activities. Making the

purpose of selective cutting clear will allow the County and ultimately the HOA to minimize the reduction of buffer function in exchange for the viewscape. We propose language to clarify this and minimize impact to the buffer by 1) limiting selecting cutting to only those buffers where it has a widely accepted purpose for viewscapes and by 2) limiting selective cutting to 10% of the total length of the buffer.

Maintenance of Drainage Conveyances

We request that the report to identify measures needed for drainage conveyances clarify measure "(b) the location of any stream blockages such as debris jams, fallen or unstable trees, beaver dams or similar impediments to conveyance." Debris dams, fallen trees, and beaver dams are naturally occurring and important components of stream ecosystems that provide important contributions to the functions that this ordinance seeks to protect. These features slow the flow of water, create and enhance zones of sediment pollution trapping and nutrient pollution filtration, and provide essential wildlife habitat diversity. These features have long been known as essential components of healthy streams that improve pollution removal and unless they pose a credible and imminent threat to property or safety should be left in place and not be identified as problems.

Resource Buffer Options

We request that this section be completely removed from the proposed ordinance on the basis that the already narrow widths of the buffers proposed relative to the recommendations in the scientific literature for minimum buffer widths and relative to the greater widths of buffers required by nearby jurisdictions should in no way be reduced. Furthermore, the fact that water quality continues to be poor in Sussex County and the fact that flooding and wildlife habitat loss are increasing dramatically do not support reduction in buffer widths. We believe the opposite should occur and that should incentives for increasing widths of buffers be desired, exploration of win-win solutions including the allowance for a few extra lots be considered in exchange.

The options also inexplicably allow reduction of forested and landscape buffers which were established for a different purpose. Very simply this doesn't make any sense. The section continues to raise important questions such as, how can the County demonstrate that the areas protected in exchange for reduced buffers wouldn't already be protected? (This is the tricky concept of additionality which must be clearly demonstrated for such a program of trade offs to be successful.) How does the County demonstrate functional equivalence of one area being protected by conservation easement in another part of the County in exchange for a buffer being destroyed and the associated loss of protection of water resources that are seriously in need of protection?

Finally, this very simply would allow buffers of 25 feet on tidal waters just as a starting point, and this would constitute a significant roll-back in environmental protection from the current ordinance. How does this relate to the Comprehensive Plan or the Inland Bays Comprehensive Conservation and Management Plan? Could you imagine the public outcry?

Resource and Resource Buffer Maintenance and Management

Under Section G.2., the definition of positive conveyance is not provided and needs to be made clear prior to inclusion. It is completely unclear what the County would be requiring a developer to do to the water resources. We look forward to providing comments once clarity

is provided. In the meantime, it seems like this is an unnecessary part of the code and that in rare situations where a stream is not flowing a condition of approval could be placed on the development.

Enforcement

Numerous instances of vegetation removal in buffers of HOAs have occurred over the past few years around the Inland Bays. HOAs are often not equipped or educated to understand and properly manage a buffer. In such situations, the County needs to be able to ensure that buffers are maintained to provide their functions to protect public resources through a program of inspection and enforcement. This is a critical part of ensuring this ordinance is successful. It is requested that the proposed ordinance include a clear statement of the County's authority and responsibility to enforce the maintenance of the buffer including level of penalties and mitigation requirements in the instance when an HOA does not.

APPENDIX: SUPPLEMENTARY INFORMATION

Buffer Policy Comparison

Characteristic	Sussex Co. Current	Sussex Co. Proposed	Inland Bays Recommends	Kent Co.	New Castle Co.	State of NJ	State of MD Critical Areas.
Tidal Wetlands & Waters Width	50 ft.	100 ft.	80 - 500 ft.	100 ft.	100 ft.	300 ft.	100 - 200 ft.
Nontidal Wetlands Width	0 ft.	30 ft.	50 - 100 ft.	25 ft.	50 ft.	0 - 150 ft.	25 ft.
Smaller / Intermittent Streams Width	0 ft.	30 ft.	35 - 150 ft.	50 ft.	100 ft.	300 ft.	≥100 ft.
Larger / Perennial Streams Width	0 - 50 ft.*	50 ft.	80 - 150 ft.	100 ft.	100 ft. or 50 ft. from floodplain	300 ft.	≥100 ft.
Variable Width Buffer Allowance	No	Yes**	No	No	No	Yes***	No
Vegetation Type	Natural	Forest or meadow ****	Natural/ Forest	Natural/ Forest	Natural/ Forest	Existing Veg. or Natural/ Forest	Natural/ Forest
Protects Existing Forest	Yes*	Yes and No	Yes	Yes	Yes	Yes	Yes
Replanting of Trees	No	No	Yes	Yes	Yes	Yes	Yes

Note: Some variation may exist within a jurisdiction due to overlapping regulations and site considerations. Based upon 2/14/20 version of Sussex County draft ordinance.

**Currently interpreted and enforced irregularly*

*** By right, buffer can be reduced to half its width with equal square footage compensation to twice the width of any other buffered feature.*

**** Through a highly conditioned waiver process*

***** Non-native species allowed*

Buffer Facts & Rationale for Improvement

What is a Buffer and What Do They Do

In general, buffers are natural areas between developments and wetlands and waters that are managed to protect these features from human encroachment and pollution. Buffers improve the health of wetlands, protect water quality, prevent flooding, and provide wildlife habitat.

- Buffers remove large amounts of pollutants from groundwaters and surface water runoff while improving the ecological health of the wetland and waterway they buffer.
- Buffers protect wetlands and waters from the impacts of an adjacent development. And buffers also help absorb and treat flood waters and pollution originating from far away (upstream).
- Buffers on tidal wetlands and waters allow the natural inland migration of these dynamic resources with sea level rise.
- Buffers protect against hazards of climate change including more extreme storm events, more intense floods, and sea level rise.
- Buffers serve as habitat for aquatic and wetland-dependent species of wildlife (particularly bird species) that rely on complementary upland habitat for critical stages of their life. They also screen adjacent human disturbance and serve as habitat corridors through the landscape.[3]
- Buffers protect shallow water habitats such as baygrass meadows and oyster reefs.
- Buffers sustain open space, property values and the rural character of Sussex County.

Why Should Sussex Require Better Buffers?

Better Buffers Will Protect Sussex County's Wetland Resources

Sussex County has 47% of all of Delaware's wetlands. Wetlands protect the quality of our drinking water and our streams, rivers, and bays by filtering pollutants. They also protect property by storing flood waters and buffering coastal storm surge. Wetlands are biologically diverse and hold high concentrations of rare species: 41% of wetland plant species in Delaware are rare.

But Sussex is losing its wetlands. About half of this area's original wetlands have been lost due to drainage, conversion to other landuses, and sea level rise. Wetlands and their beneficial functions continue to be lost: 1,434 acres of Sussex County's wetlands were lost from 1992 to 2007[4]. At that rate another 1,147 acres would have been lost from 2007 to 2019. Saltmarshes

[3] Environmental Law Institute. 2008. Planner's Guide to Wetland Buffers for Local Governments.
[4] Tiner et al. 2011. Delaware Wetlands: Status and Changes from 1992 to 2007

in particular continue to disappear. Saltmarshes around the Inland Bays have decreased from 10,838 acres in 1938 to 7,300 acres in 2007[5].

Many of the wetlands that remain are in poor condition. For example, the health of streamside wetlands and saltmarshes in the Inland Bays watershed have received a grade of D[6]. Loss and degradation of wetlands have contributed to flooding and poor water quality in Sussex. Better buffers will reduce further degradation and loss of wetlands and their beneficial functions.

Better Buffers will Help with Sussex County's Poor Water Quality

Sussex County has poor water quality. The most recent DNREC assessment of water pollution found that 87% streams, ponds, and bays in Sussex were polluted due to high bacteria levels, high levels of nutrients or low dissolved oxygen levels. Forty-four percent of waters (44%) were polluted by bacteria, 18% had low dissolved oxygen, and 78% had high nutrient levels.

In the Inland Bays Watershed, all assessed waters were found to be polluted by excess nutrients, 50% by bacteria, and 11% had low dissolved oxygen. While improvements to the water quality of the Inland Bays have been realized, measured pollutant loads from the watershed to the Bays have not decreased despite decades of voluntary and regulatory action. Many of the tributaries of the Inland Bays have very high pollutant levels and very poor water quality. The situation is so bad in the Indian River, that dissolved oxygen can fall to zero during the summer months.

Better buffers are an important part of the strategy to protect and restore the water quality of the Inland Bays and other ecologically and economically important waterways of the County.

Better Buffers Will Prevent Flooding in Sussex County

Sussex County is prone to flooding due to its low elevation, high ground water table and proximity to sea level. Flooding of property and infrastructure can have significant costs to individuals, businesses and governments. Just one inch of water in an average home can cost more than $25,000 in damage[7].

Coastal and areal flooding is increasing. Flooding that decades ago usually happened only during a powerful or localized storm can now happen when a steady breeze or a change in coastal current overlaps with a high tide. From 1950-2018, nearly half of all major and moderate flooding events in Lewes occurred since the year 2000. Lewes recorded an average number of 4 flood days in 2000. In 2017, 15 flood days were recorded. In 2030, between 15-30 high tide flood days are projected.

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[5] Center for the Inland Bays. 2016. State of Delaware's Inland Bays 2016.
[6] Center for the Inland Bays & DNREC. 2010. Wetland Health Report Card.
[7] Delaware Seagrant. 2019. Homeowner's Handbook To Prepare for Natural Hazards.

Despite increases in flooding, building in Sussex County is happening in floodprone areas. From 2010 to 2017, Sussex County had the third highest number of homes (1,233) built in 10-year flood risk zones of any county in the United States.[8]

Buffers not only provide areas designed to absorb floodwaters, they keep residences out of areas most prone to flooding. By doing so they will reduce the tax-payer burden for addressing community drainage and flooding issues. As of 2018, there were over $28 million worth of unmet needs to resolve community drainage problems in Sussex County[9].

Better Buffers will Protect from Hazards Associated with Climate Change

Sussex County is highly vulnerable to climate-change driven sea-level rise. Sea-level rise increases the average sea level over time, which in turn increases the height of high tides and increases the height of low tides. Sea-level rise also amplifies the risks of flooding from storms that bring heavy rain and waves.

Sea level off Lewes and Ocean City, Maryland has risen at a rate of 1.3 to 2.2 inches per decade since record keeping began[10]. Our coast is a global hotspot for sea level rise and the rate of sea level rise is increasing while the land of Delaware is sinking. Global greenhouse gas emissions are contributing significantly to the rise. Projections for sea level rise off Lewes under continued trends in greenhouse gas emissions are 9 inches by 2030, 1.5 feet by 2050, 3.3 feet by 2080, and 4.7 feet by 2100.

Three to five feet of sea level rise in Sussex County is projected to result in the inundation of 4 to 11% of businesses, 8 to 13% of residences, over half of parkland acreage, 7 to 10% of road miles, 31 to 37% of wastewater pumping stations, and 32 to 36% of sites where hazardous substances have been released[11]. The loss of nearly all saltmarshes due to drowning is projected.

Groundwater tables in coastal Delaware have also been projected to rise significantly in response to sea level rise[12]. This will expand the boundaries of existing freshwater wetlands and create new wetlands in areas that were formerly uplands.

We are already experiencing significant increases in the frequency and severity of tidal flooding as well as increased flooding from more intense precipitation events. Many of our saltmarshes are already disappearing. Already underway are expensive adaptation measures including frequent beach replenishment, shoreline stabilization, elevation of homes and roads, and avoidance of areas prone to flooding.

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[8] Climate Central. 2019. Ocean at the Door: New Homes and the Rising Sea, 2019 Edition. *10-year flood risk zone defined as area exposed to at least a ten year flood threat in 2050 under moderate global greenhouse gas emission cuts and corresponding median projections for sea level rise.,*

[9] DNREC. 2018. Resource, Conservation & Development Projects 21st Century Fund Annual Report

[10] Callahan et al. 2017. Recommendation of Sea-Level Rise Planning Scenarios for Delaware.

[11] Delaware Coastal Programs. 2012. Preparing for Tomorrow's High Tide.

[12] McKenna. 2014. Presentation to the Center for the Inland Bays Scientific & Technical Advisory Committee.

Buffers not only provide areas designed to absorb floodwaters, they keep residences out of areas most prone to flooding. Buffers on tidal wetlands also provide wetlands areas to migrate into under conditions of rising sea level.

Better Buffers Protect and Improve Economic Value

Buffers function to directly and indirectly provide benefits to the public including flood control, water quality improvement, recreation, wildlife habitat, and carbon storage. Delaware's wetlands in total have been estimated to provide $1 billion to $3 billion in annual economic value and support to 25,000 jobs with $568 million in wages.[13] Economists estimate buffers in the Delaware River Watershed provide over $10,000 per acre per year of benefits to the public[14]. Because buffers help to keep new residences further from areas more likely to flood, less public expenditures will be needed for drainage issues and disaster relief associated with acute flooding events. For example, east coast wetlands avoided $625 million in direct flood damages during Hurricane Sandy[15].

Better buffers will function as an important part of protected community open space in Sussex County. Open space enhances home values and homeowners are willing to pay a premium to live next to open space. In Chester County PA, there is an average increase of over $11,000 in the value of homes that are located up to a half mile from protected open space. When added together, this proximity to protected open space totals $1.65 billion and increases property and transfer tax revenues a total of $27.4 million per year[16].

Better Buffers are Supported by the Sussex Comprehensive Plan and the Inland Bays Comprehensive Conservation & Management Plan

Better buffers are central to achieving multiple goals, objectives, and strategies of the County's 2018 Comprehensive land use plan, a priority of which is to "better preserve the rural character and natural resources of the County," including "considering larger buffers in sensitive environmental areas." Some Goals, Strategies, and Objectives of the Plan that support better buffers are as follows:

> Conservation Chapter Goal 5.1. Preserve, maintain, and enhance natural resources and natural systems. Objective 5.1.1 Encourage development practices and regulations that support natural resource protection.
>
> Goal 5.2: Encourage protection of farmland and forestland.
>
> Goal 5.3: Ensure the protection of the natural functions and quality of surface waters, groundwater, wetlands, and floodplains. Objective 5.3.1 Protect surface water and drinking water quality.

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[13] Kauffman, G.J. 2018. Socioeconomic Value of Delaware Wetlands.
[14] Econorthwest. 2018. The Economic Value of Riparian Buffers in the Delaware River Basin.
[15] Narayan et al. 2017. Scientific Reports.
[16] RETURN ON ENVIRONMENT The Economic Value of Protected Open Space in Chester County, Pennsylvania. 2019.

Strategy 5.3.1.3 Identify an appropriate range of wetlands buffer distances based on location and context. Objective 5.3.5 Reduce flooding and erosion.

And strategy 12.1.3.2 Consider creating an ordinance designed to protect established, mature, healthy trees during the construction of new developments to better preserve existing trees and green spaces.

Better buffers have also been an important action of the Inland Bays Comprehensive Conservation and Management Plan since the original 1995 version to which Sussex County is signatory. This plan is the blue print of actions needed to successfully restore the water quality and habitat of the Bays.

Better Buffers are Supported by the Public

A 2018 online survey of 395 individuals by the Sussex Alliance for Responsible Growth found that Future Land Use and Conservation were the top two priority elements of the Sussex Comprehensive Plan.

In 2019, the Sussex Alliance for Responsible Growth distributed an online petition for the County to increase the extent and width of forested buffers that garnered 508 signers.

A 2014 survey of Delawareans found that 77% support avoiding building new structures in areas at risk from sea level rise, 64% support allowing beaches and wetlands to naturally migrate inland, and 85% support changing building codes and regulations to reduce risk in flood prone areas.

Better Buffers will Help Manage Extraordinary Growth in Sussex

Sussex is Delaware's fastest growing county with a current estimated population of 336,634 people[17]. Over the past decade, an additional 47,705 people are projected to have moved to Sussex. An additional 48,457 to 159,167 people are projected to be living here within 25 years.

From 2008 to 2015 over 13,500 building permits were issued in Sussex. From 2017 to 2019, 66 new subdivisions with 5,827 units were given preliminary approval by Sussex Planning and Zoning. Over the same time period, another 20 developments with a total of 1,294 residential units were approved as conditional uses or changes of zone by County Council.[18] These developments would be grandfathered under a new ordinance and receive minimal buffers relative to science based recommendations.

A significant portion of this development has been in areas at risk of flooding. From 2010 to 2017, Sussex County had the third highest number of homes (1,233) built in 10-year flood risk zones of any county in the United States.[19]

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[17] Sussex County. 2019. Sussex County Comprehensive Plan.
[18] Sussex County 2020. Application data provided Feb. 2020.
[19] Climate Central. 2019. Ocean at the Door: New Homes and the Rising Sea, 2019 Edition. *10-year flood risk zone defined as area exposed to at least a ten year flood threat in 2050 under moderate global greenhouse gas emission cuts and corresponding median projections for sea level rise.,*

The growth drives up impervious surface coverage that contributes to flooding and poor water quality. In 2010, the Inland Bays Watershed surpassed 10% impervious surface coverage, the threshold at which many estuaries begin to express noticeable degradation in response. Better buffers are needed to protect residents and the environment from the effects of rapid population growth in the County.z

What are the Important Characteristics of Better Buffers?

Wider Buffers are Better

The benefits of a buffer are based on its width. Wider buffers ensure that the greatest amount of pollution is kept out of the wetland or waterway buffered to a certain extent. Wider buffers also offer more habitat for wildlife that rely on both the wetland or water buffered and the buffer area itself.

The Center for the Inland Bays recommended adequate and optimum buffer widths for the protection of water quality based on the type of wetland or waterway buffered[20]. Adequate widths were 80 feet for non-tidal streams, 80 to 300 feet for tidal waters and wetlands, 80 feet for streamside wetlands, and 50 feet for other non-tidal wetlands. Optimum widths were 150 feet for non-tidal streams, 150 to 500 feet for tidal waters and wetlands, 150 feet for streamside wetlands, and 100 feet for other non-tidal wetlands. Another recent comprehensive study recommended a minimum of 98 foot forested buffers on small streams[21]. Adequate widths for buffers to protect wildlife habitat can be in the 1000s of feet.

Why Forested Buffers are Essential

Benefits of Native Forested Buffers

Forests are crucial to maintaining the water quality of streams, rivers, and bays. They also are essential habitat for wildlife, they protect public health, they provide recreation opportunities, they increase property values, and they enhance quality of life.

Nowhere are forests more important than where they are close to water. Research has demonstrated that the amount of forest in an estuary's watershed, particularly near the water, has a significant influence on the health of the estuary's baygrasses, crabs, and marsh birds.[22]

Forested buffers are also especially important to a wide variety of bird species. These include raptors such as bald eagles and osprey. Colonial waterbirds such as great blue herons, which often establish groups of nests in mature trees, use the forested buffers for food, cover, and nesting. Numerous species of migratory birds depend on coastal areas to rest and feed during their long flights from Central and South America. A range of mammal, amphibian, and reptile species also use these areas near shore. The number and variety of species are highly dependent on the amount and type of vegetation within the buffer. The more natural the

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[20] Center for the Inland Bays. 2008. Recommendations for an Inland Bays Water Quality Buffer System.
[21] Sweeney & Newbold. 2014. Journal of the American Water Resources Association.
[22] Li et al. 2007. Estuaries and Coasts. 30, 840-854; and references therein.

condition of the Buffer is, the greater the number of species that will use it. A fertilized and manicured lawn that leads to a bulkheaded shoreline provides none of the important habitat benefits found in a naturally forested Buffer.

Birds are ecological indicators of healthy ecosystems. There are now 432 species of North American birds at risk of extinction, more than a third of all species[23]. Almost all North American terrestrial birds rear their young on insects, and most of those insects are caterpillars. It takes 6,000-9,000 caterpillars to rear one clutch of Carolina chickadees to fledging[24] and many more to bring chicks to independence. So, to have birds, we need to plant the species that make caterpillars (bird food). Essential land stewardship entails reducing lawn area and transitioning from alien ornamental plants to native ornamental plants. Native oaks, cherries, willows, birches, maples, elms, blueberries, alders, and pines produce about 75% of the insect food that drives food webs in Delaware[25].

Forested buffers provide superior water quality, habitat, and flood mitigation benefits than do non-forested buffers. Forested buffers have been shown to retain over 30% more nitrogen pollution than grassed buffers. Forested buffers provide extensive vertical structure to hold precipitation and thus prevent runoff. Non-forested buffers do not provide this structure. Forested buffers provide multiple layers of vertical habitat and food sources for insects, bats, mammals, and particularly birds, that meadows or grassed buffers do not provide. Forests also provide physical structure to stream channels through their roots and contribute to the food web of stream channels through provision of organics such as leaves and sticks. Forested buffers also regulate the temperature of streams. The quality of streamside forests has been cited as the single most important factor altered by humans that affects...water quality of the streams providing water to coastal bays[26].

Disappearing Sussex Forests

Despite these benefits forests are at risk. Forest cover in Delaware is at its lowest level since 1907[27]. It has been estimated that by 2050, 43% of Delaware's remaining forestland will be converted to urban areas. Only four other states are expected to experience a greater degree of forest conversion to expanding urban areas.

Forests are disappearing rapidly from Sussex County due to development. From 1992 to 2012, upland forests decreased by 14 square miles in the Inland Bays watershed. In Sussex County, over half of the forests within proposed developments are intended for clearing.[28] Forested ecosystems are replaced by non-native lawns with little value for native wildlife. In Delaware suburbs, 92% of the area that could be landscaped (not hardscape) is lawn, 79% of the plants are introduced species, and only 10% of the tree biomass that could be in our developments is actually there[29].

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[23] North American Bird Conservation Initiative. 2016. The State of North America's Birds 2016.
[24] Brewer. 1961. The Wilson Bulletin.
[25] Narango et al. 2018. Proceedings of the Natural Academy of Sciences.
[26] Sweeney, B.W. 1992, Water Science and Technology.
[27] Delaware Wildlife Action Plan and references therein.
[28] State of Delaware. 2020. Preliminary Landuse Service Data 2017 to 2019. *accessed* Jan. 2020.
[29] Delaware Statewide Ecological Extinction Task Force. 2017. Final Report.

Public Preference for Forested Buffers

The peer reviewed scientific literature shows that landowners on the rural/urban fringe prefer forested buffers to corridors with little vegetation, and they best preferred more extensive forested buffers.[30]

Another study found residents preferred forested buffers over grassed buffers in both rural and suburban areas.[31] Additionally, in a recent study of nearly 12,000 Americans, seven out of 10 kids surveyed said they "would rather explore woods and trees than play on neat-looking grass."[32]

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[30] Sullivan, W.C., et al. 2004. Landscape and Urban Planning. 69, 299–313.
[31] Kenwick, R. a., et al. 2009. Landscape and UrbanPlanning, 91, 88–96.
[32] Kellert, S. and DJ Case and Associates. 2017. The Nature of Americans National Report: Disconnection and Recommendations for Reconnection.

Benefits of Native Forested Buffers

Forests are crucial to maintaining the water quality of streams, rivers, and bays. They also are essential habitat for wildlife, they protect public health, they provide recreation opportunities, they increase property values, and they enhance quality of life.

Nowhere are forests more important than where they are close to water. Research has demonstrated that the amount of forest in an estuary's watershed, particularly near the water, has a significant influence on the health of the estuary's baygrasses, crabs, and marsh birds.[33]

Forested buffers are also especially important to a wide variety of bird species. These include raptors such as bald eagles and osprey. Colonial waterbirds such as great blue herons, which often establish groups of nests in mature trees, use the forested buffers for food, cover, and nesting. Numerous species of migratory birds depend on coastal areas to rest and feed during their long flights from Central and South America. A range of mammal, amphibian, and reptile species also use these areas near shore. The number and variety of species are highly dependent on the amount and type of vegetation within the buffer. The more natural the condition of the Buffer is, the greater the number of species that will use it. A fertilized and manicured lawn that leads to a bulkheaded shoreline provides none of the important habitat benefits found in a naturally forested Buffer.

Birds are ecological indicators of healthy ecosystems. There are now 432 species of North American birds at risk of extinction, more than a third of all species[34]. Almost all North American terrestrial birds rear their young on insects, and most of those insects are caterpillars. It takes 6,000-9,000 caterpillars to rear one clutch of Carolina chickadees to fledging[35] and many more to bring chicks to independence. So, to have birds, we need to plant the species that make caterpillars (bird food). Essential land stewardship entails reducing lawn area and transitioning from alien ornamental plants to native ornamental plants. Native oaks, cherries, willows, birches, maples, elms, blueberries, alders, and pines produce about 75% of the insect food that drives food webs in Delaware[36].

Forested buffers provide superior water quality, habitat, and flood mitigation benefits than do non-forested buffers. Forested buffers have been shown to retain over 30% more nitrogen pollution than grassed buffers. Forested buffers provide extensive vertical structure to hold precipitation and thus prevent runoff. Non-forested buffers do not provide this structure. Forested buffers provide multiple layers of vertical habitat and food sources for insects, bats, mammals, and particularly birds, that meadows or grassed buffers do not provide. Forests also provide physical structure to stream channels through their roots and contribute to the food web of stream channels through provision of organics such as leaves and sticks. Forested buffers also regulate the temperature of streams. The quality of streamside forests has been

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[33] Li et al. 2007. Estuaries and Coasts. 30, 840-854; and references therein.
[34] North American Bird Conservation Initiative. 2016. The State of North America's Birds 2016.
[35] Brewer. 1961. The Wilson Bulletin.
[36] Narango et al. 2018. Proceedings of the Natural Academy of Sciences.

cited as the single most important factor altered by humans that affects...water quality of the streams providing water to coastal bays[37].

Disappearing Sussex Forests

Despite these benefits forests are at risk. Forest cover in Delaware is at its lowest level since 1907[38]. It has been estimated that by 2050, 43% of Delaware's remaining forestland will be converted to urban areas. Only four other states are expected to experience a greater degree of forest conversion to expanding urban areas.

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[37] Sweeney, B.W. 1992, Water Science and Technology.
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[43] Kellert, S. and DJ Case and Associates. 2017. The Nature of Americans National Report: Disconnection and Recommendations for Reconnection.

Jamie Whitehouse

From: Chris Bason <chrisbason@inlandbays.org>
Sent: Thursday, November 18, 2021 11:51 AM
To: Todd F. Lawson; Hans Medlarz; Jamie Whitehouse; Planning and Zoning
Cc: Susie Ball
Subject: Center for the Inland Bays Comments on Proposed Buffer Ordinance
Attachments: CIB DIRECT EDITS 111621 Sussex County - Drainage and Resource Buffer - Ordinance - TO BE INTRODUCED.docx; CIB Justification for Markups to County Buffer Ordinance to P&Z 111821.pdf

Good Morning,

Please accept these markups and supporting information (2 documents attached) on the proposed buffer ordinance per its initial hearing on NOV 4. It is my understanding that the record was to remain open until today for additional comment. Thank you for the opportunity to provide comments.

--

Chris Bason
Executive Director
Delaware Center for the Inland Bays

Get on Board with the Bays!

CENTER FOR THE INLAND BAYS DIRECT EDITS 11/16/21 **ADDITIONS.** ~~DELETIONS.~~

AN ORDINANCE TO AMEND CHAPTER 99, SECTIONS 99-5, 99-6, 99-7, 99-23, 99-24, 99-26, AND 99-30, AND CHAPTER 115 SECTIONS 115-4, 115-25, 115-193, 115-220 AND 115-221 REGARDING CERTAIN DRAINAGE FEATURES, WETLAND AND WATER RESOURCES AND THE BUFFERS THERETO.

WHEREAS, Pursuant to the provisions of Title 9, Chapters 68 and 69 of the Delaware Code, the Sussex County Government has the power and authority to regulate the use of land and to adopt a Comprehensive Land Use Plan; and

WHEREAS, Pursuant to Chapters 99 and 115 of the Code of Sussex County, the Sussex County Government has undertaken to regulate the use of land; and

WHEREAS, the existing Section 115-193 of the Code of Sussex County currently regulates the use of land adjacent to certain wetlands and water bodies; and

WHEREAS, the existing Section 115-193 of the Code of Sussex County is in need of improvement regarding its interpretation, application and protection of Resources; and

WHEREAS, certain Resources are in need of substantial enhancements to ensure that Sussex County's drainage network is improved now and maintained in the future; and

WHEREAS, the 2019 Sussex County Comprehensive Plan contemplates the review and improvement of the protection of wetlands and waterways in Sussex County; and

WHEREAS, Goal 4.3 and Objective 4.3.1 of the Future Land Use Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Consider strategies for preserving environmental areas from development and the protection of wetlands and waterways", and this Ordinance carries out that Objective; and

WHEREAS, Goal 4.6 and Strategy 4.6.2 of the Future Land Use Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Recognize the Inland Bays, their tributaries and other waterbodies as valuable open space areas of ecological importance", and this Ordinance carries out that Strategy; and

WHEREAS, Goal 5.1 of the Conservation Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Encourage development practices and regulations that support natural resource protection", and this Ordinance carries out that Goal; and

WHEREAS, Strategy 5.1.2.2 of the Conservation Element of the 2019 Sussex County Comprehensive Plan states that Sussex County should "Review appropriate sections of Sussex County's zoning and subdivision codes to determine if amendments are needed that will better help protect groundwater, waterways, sensitive habitat areas and other critical natural lands in Sussex County", and this Ordinance carries out that Strategy; and

WHEREAS, Goal 5.3 of the Conservation Element of the 2019 Sussex County Comprehensive Plan calls for the protection of the natural functions and quality of the County's surface waters, groundwater, wetlands and floodplains, and as part of that Goal, the Plan includes Strategies 5.3.1.1, 5.3.1.2 and 5.3.1.6, which respectively state that Sussex County should "Consider developing a program for wetlands and waterways protection", "Identify an appropriate range of wetlands buffer distances based upon location and context", and "Recognize the Inland Bays, their tributaries and other waterbodies as valuable open space areas of ecological and economic importance", and this Ordinance carries out these Goals and Strategies; and

WHEREAS, in adopting this Ordinance, it is the intent of Sussex County Council to balance the protection of land equity with the protection of the Resources defined in the Ordinance and their associated functions; and

WHEREAS, in adopting this Ordinance, it is the intent of Sussex County to establish a framework under which future property owners and Owners Associations will maintain the Resources, Resource Buffers, the properties they are on or adjacent to, and the systems that they are a part of in the future and to ensure the ongoing positive conveyance of drainage features; and

WHEREAS, it has been determined that this Ordinance promotes and protects the health, safety, convenience, orderly growth and welfare of the inhabitants of Sussex County.

NOW, THEREFORE, THE COUNTY OF SUSSEX HEREBY ORDAINS:

Section 1. The Code of Sussex County, Chapter 99, Article I, §99-5 "Definitions," is hereby amended by inserting the italicized and underlined language alphabetically:

§99-5 Definitions.

For purposes of this Chapter, certain terms and words are hereby defined:

. . .

EPHEMERAL STREAMS

A feature that carries only runoff in direct response to precipitation with water flowing only during and shortly after large precipitation events. An Ephemeral Stream may or may not have a well-defined channel, its aquatic bed is always above the water table during a year of normal rainfall, and runoff is its primary source of water. An Ephemeral Stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

. . .

INTERMITTENT STREAMS

A well-defined channel that contains flowing water for only part of the year, typically during winter and spring when the aquatic bed is below the water table, connecting otherwise isolated Non-Tidal Wetlands to downstream Tidal/Perennial Waters/Streams. The flow may be heavily supplemented by runoff. An Intermittent Stream often lacks the biological and hydrological characteristics commonly associated with the continuous conveyance of water.

. . .

MAJOR SUBDIVISION

A*ny* subdivision of land *creating six or more new Lots* [involving a proposed new street or the extension of an existing street].

. . .

MINOR SUBDIVISION

Any subdivision *creating five or less Lots* [fronting on an existing street and not involving any new street] and not adversely affecting the development of the remainder of the parcel or adjoining property and not in conflict with any provisions or portion of the County Comprehensive Plan, Official Map, Zoning Ordinance, or this chapter. *Only one such subdivision shall be approved per year per parcel. The maximum number of lots created in the minor subdivision process shall not exceed four plus one for each 10 acres of original parcel size.*

. . .

NON-TIDAL WETLANDS

Non-Tidal Wetlands are those wetlands, not classified by this Chapter as Tidal Wetlands, which lie contiguous or abutting to Tidal Waters, Tidal Wetlands, Perennial Streams or those Intermittent Streams providing a surface water connection between adjacent Wetlands. Non-Tidal Wetlands also include those Wetlands only separated from otherwise contiguous or abutting Wetlands by constructed dikes, barriers, culverts, natural river berms and beach dunes.

. . .

ORDINARY HIGH WATER MARK DELINEATION

The boundary of Perennial Non-Tidal Rivers or Streams, Intermittent Streams or Ephemeral Streams shall be defined by the Ordinary High Water Mark. Ordinary High Water Mark means the line on a shore or bank established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other similar physical characteristics indicating the frequent presence of flowing water.

. . .

PERENNIAL NON-TIDAL RIVERS AND STREAMS

A well-defined channel that contains flowing water year-round during a year of normal rainfall with the aquatic bed located below the water table for most of the year and which is not subject to tidal influence. Groundwater is the primary source of water for a Perennial Stream, but it also carries runoff. A Perennial Stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.

. . .

RESOURCE BUFFER - WETLANDS AND WATERS

A managed area between residential land uses and Resources that is not subdividable once established, with the exception of a subdivision boundary resulting from an approved phase. Resource Buffers function to:

- *Protect the Resources and their associated functions.*
- *Improve/protect water quality via sediment filtration, reduce impact of nutrient loading on Resources, moderate water temperature, and enhance infiltration and stabilization of channel banks.*
- *Provide wildlife habitat via nesting, breeding, and feeding opportunities; provide sanctuary/refuge during high water events; protect critical water's edge habitat; and protect rare, threatened, and endangered species associated with each Resource and its upland edge.*
- *Enhance and/or maintain the flood plain storage functionality via reduction of flood conveyance velocities as well as dissipation of stormwater discharge energy.*

. . .

RESOURCES

Those Wetlands and waters to be provided with a Resource Buffer due to their importance to Sussex County. These Resources include Tidal Waters, Tidal Wetlands, Non-Tidal Wetlands, Perennial Streams, and those Intermittent Streams providing a surface water connection between Wetlands.

. . .

TAX DITCH

A Tax Ditch is a drainage channel or conveyance and the corresponding right-of-way established and/or formed in accordance with Title 7, Chapter 41 of the Delaware Code, and approved by a "ditch order" entered by the Superior Court of the State of Delaware and County of Sussex.

. . .

TIDAL WATERS (MEAN HIGH-WATER LINE)

Those waters occurring below the mean high-water line of any tidal water body, tidal stream, or tidal marsh, which is defined as the average height of all the high-tide water recorded over a nineteen-year period as defined by the National Oceanic and Atmospheric Administration tidal datum.

. . .

TIDAL WETLANDS

Areas under the jurisdiction of Title 7, Chapter 66 of the Delaware Code, as regulated and mapped by the Department of Natural Resources and Environmental Control.

. . .

WATER DEPENDENT ACTIVITIES

Activities that are approved through federal and state permit programs that meet the definition of water dependent activities included in those programs. Water-dependent uses are uses that can only be conducted on, in, over, or adjacent to the water; each involves, as an integral part of the use, direct access to and use of the water. Examples include marinas, boat ramps/launches, docks, piers, water intakes, aquatic habitat restoration, and similar uses.

. . .

WATER RELATED ACTIVITIES

Water Related Activities are those considered ancillary to and supporting permitted Water Dependent Activities completed on adjacent uplands. Examples include utility connections, limited points of access, loading/unloading areas, and similar uses.

. . .

WETLANDS

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Agricultural land consisting of "Prior Converted Croplands" as defined by the National Food Security Act Manual (August 1988), are not wetlands. The procedure for delineating the boundary of all wetlands, except for Tidal Wetlands as defined by this ordinance, shall be the methodology provided in the Corps of Engineers Wetland Delineation Manual (January 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (November 2010).

Section 2. The Code of Sussex County, Chapter 99, Article I, §99-6 "General Requirements and Restrictions", is hereby amended by deleting the language in brackets and inserting the italicized and underlined language in existing subsection J. and as a new subsection K. thereof as follows:

§99-6 General Requirements and Restrictions.

. . .

J. A forested and/or landscape buffer, as defined in § 99-5, Subsections A through J must be depicted on the preliminary and final plot plans for each major subdivision of lands [into four or more lots] and must be established in accordance with all the requirements of the definition of "forested and/or landscaped buffer strip," Subsections A through J in § 99-5.

. . .

K. Resources and Resource Buffers, as defined in § 99-5 must be depicted on the preliminary and final plot plans for each major subdivision of lands and must comply with the requirements of §115-193.

Section 3. The Code of Sussex County, Chapter 99, Article II, §99-7 "Preliminary Conference", is hereby amended by deleting the language in brackets in subsection C. thereof as follows:

§99-7 Preliminary Conference.

. . .

C. If the Director determines that the proposed subdivision represents a minor subdivision of a parcel, existing as of the effective date of this amended provision, on a street other than a major arterial roadway, and if the Director determines that review by the Commission is not necessary or desirable, he may waive the requirement of preparing a preliminary plat and may authorize the preparation of a record plat for purposes of recordation. He may, however, request review assistance from other concerned agencies prior to authorizing preparation of the plat. Lots in any minor subdivision plat approved by the Director, without review by the Commission, shall have a minimum area of 3/4 of an acre and a minimum width of 150 feet and shall utilize entrances as approved by the Delaware Department of Transportation. [Such a minor subdivision shall be limited to four lots per parcel, as well as one additional lot for each 10 acres of parcel size, with a maximum of four subdivided lots approved for recordation per calendar year.]

Section 4. The Code of Sussex County, Chapter 99, Article IV, §99-23 "Information to Be Shown", is hereby amended by inserting the italicized and underlined language as a new subsection T. thereof:

§99-23 Information to Be Shown.

The preliminary plat shall be drawn in a clear and legible manner and shall show the following information"

. . .

T. The location of all Water and Wetland Resources and their Resource Buffers.

(1)The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(2)All existing (i.e., at the time of application) native forest ~~and non-forest meadow~~ within the future Resource Buffer ***and areas requiring reforestation*** *shall be identified.*

(3) The area limits of the required Resource Buffers.

(4)Calculations supporting Resource Buffer width averaging (§115-193B).

~~(5)Calculations supporting Resouree Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§115-193F).~~

(6)Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

(7)A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.

Section 5. The Code of Sussex County, Chapter 99, Article IV, §99-24 "Supporting Statements", is hereby amended by inserting the italicized and underlined language as a new subsection G thereof:

§99-24 Supporting Statements

The preliminary plat shall be accompanied by the following written and signed statements in support of the subdivision's application for tentative approval:

. . .

G. A Resource and Resource Buffer Management Plan that describes measures for managing the Resource and Resource Buffer(s) required pursuant to Chapter

115, Article XXV, Section 115-193 on the site. The Resource and Resource Buffer Management Plan shall be included as part of the recorded declaration for the subdivision.

Section 6. The Code of Sussex County, Chapter 99, Article V, §99-26, "Information to Be Shown", is hereby amended by inserting the italicized and underlined language as a new subsection A.(21) and C thereof:

§99-26 Information to Be Shown.

A. The final plat shall be legibly and accurately drawn and show the following information:

. . .

(21)*The location of all Resource Buffers.*

(a) The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(b) All existing (i.e., at the time of application) native forest ***and areas to be reforested*** ~~*non-fores meadow*~~ *within the future Resource Buffer shall be identified.*

(c) The area limits of the required Resource Buffer.

(d)Calculations supporting Resource Buffer width averaging (§115-193B).

(e) Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§155-193F).

(f) Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.

(g)A statement incorporating the Resource and Resource Management and Maintenance Plan by reference.

(h)A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.

. . .

C. An AutoCAD drawing file containing all items required in Section A above shall be submitted in electronic format. The data shall be referenced in NAD 1983 StatePlane Delaware FIPS 0700 (U.S. Feet) Projected Coordinate System.

Section 7. The Code of Sussex County, Chapter 99, Article VI, §99-30, "Plans", is hereby amended by inserting the italicized and underlined language as a new subsection J. and K. thereof:

§99-30 Plans.

Plans, profiles and specifications for the required improvements shall be prepared by the subdivider and submitted for approval by the appropriate public authorities prior to construction. No construction shall commence prior to the issuance of a notice to proceed by the County Engineer or his or her designee for the required improvements. All plans, profiles and specifications approved by the County Engineer or his or her designee with the issuance of a notice to proceed shall remain valid or, if substantial construction is not actively and continuously underway, they shall expire upon the expiration of the final site plan. Prior to the issuance of a notice to proceed, the County Engineer may require the owner and/or his designee to execute an agreement addressing the required improvements. The plans and profiles submitted for all new construction shall include the following:

. . .

J.*Resources and Resource Buffers.*

K. *Proposed access easement layout with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.*

Section 8. The Code of Sussex County, Chapter 115, Article I, §115-4 "Definitions and Word Usage," is hereby amended by inserting the italicized and underlined language alphabetically in Subsection B thereof:

§115-4 Definitions and Word Usage.

. . . .

B. General definitions. For the purpose of this chapter, certain terms and words are hereby defined as follows:

. . . .

EPHEMERAL STREAMS

A feature that carries only runoff in direct response to precipitation with water flowing only during and shortly after large precipitation events. An Ephemeral Stream may or may not have a well-defined channel, its aquatic bed is always above the water table during a year of normal rainfall, and runoff is its primary source of water. An Ephemeral Stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

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- *Protect the Resources and their associated functions.*
- *Improve/protect water quality via sediment filtration, reduce impact of nutrient loading on Resources, moderate water temperature, and enhance infiltration and stabilization of channel banks.*
- *Provide wildlife habitat via nesting, breeding, and feeding opportunities; provide sanctuary/refuge during high water events; protect critical water's edge habitat; and protect rare, threatened, and endangered species associated with each Resource and its upland edge.*
- *Enhance and/or maintain the flood plain storage functionality via reduction of flood conveyance velocities as well as dissipation of stormwater discharge energy.*

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RESOURCES

Those wetlands and waters to be provided with a Resource Buffer due to their importance to Sussex County. These Resources include Tidal Waters, Tidal Wetlands, Non-Tidal Wetlands, Perennial Streams, and those Intermittent Streams providing a surface water connection between Wetlands.

. . .

TAX DITCH

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. . .

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Those waters occurring below the mean high-water line of any tidal water body, tidal stream, or tidal marsh, which is defined as the average height of all the high-tide water recorded over a nineteen-year period as defined by the National Oceanic and Atmospheric Administration tidal datum.

. . .

TIDAL WETLANDS

Areas under the jurisdiction of Title 7, Chapter 66 of the Delaware Code, as regulated and mapped by the Department of Natural Resources and Environmental Control.

. . .

WATER DEPENDENT ACTIVITIES

Activities that are approved through federal and state permit programs that meet the definition of water dependent activities included in those programs. Water-dependent uses are uses that can only be conducted on, in, over, or adjacent to the water; each involves, as an integral part of the use, direct access to and use of the water. Examples include marinas, boat ramps/launches, docks, piers, water intakes, aquatic habitat restoration, and similar uses.

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WATER RELATED ACTIVITIES

Water Related Activities are those considered ancillary to and supporting permitted Water Dependent Activities completed on adjacent uplands. Examples include utility connections, limited points of access, loading/unloading areas, and similar uses.

. . .

WETLANDS

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Agricultural land consisting of "Prior Converted Croplands" as defined by the National Food Security Act Manual (August 1988), are not wetlands. The procedure for delineating the boundary of all wetlands, except for Tidal Wetlands as defined by this ordinance, shall be the methodology provided in the Corps of Engineers Wetland Delineation Manual (January 1987) and the Regional

Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (November 2010).

Section 9. The Code of Sussex County, Chapter 115, Article IV, §115-25 "Height, Area and Bulk Requirements," is hereby amended by deleting the language in brackets and inserting the italicized and underlined language in Subsection F(3)(a)[4] thereof:

§115-25 Height, Area and Bulk

F. Review procedures for cluster development

. . .

(3) The Planning & Zoning Commission shall determine that the following requirements are met before approving any preliminary plan and such application shall be reviewed on an expedited basis.

(a) The cluster development sketch plan and the preliminary plan of the cluster subdivision provides for a total environment and design which are superior, [and] *in* the reasonable judgment of the Planning Commission, to that which would be allowed under the regulations for the standard option. For the purposes of this subsection a proposed cluster subdivision which provides for a total environment and design which are superior to that allowed under the standard option subdivision is one which, in the reasonable judgment of the Planning Commission meets all of the following criteria:

. . .

[4] [A minimum of 25 feet of permanent setback must be maintained around the outer boundaries of all wetlands, except for tidal waters, tidal tributary streams and tidal wetlands and from the orinary high water line of perennial nontidal rivers and nontidal streams as provided for in §115-193B under Ordinance No. 774 where a fifty-foot permanent setback is required. No buildings or paving shall be placed within these setbacks.] *The*

preliminary plan shall comply with the requirements of §115-193.

Section 10. The Code of Sussex County, Chapter 115, Article XXV, §115-193 "Buffer Zones for Wetlands and Tidal and Nonperennial Waters," is hereby amended by amending the Title thereof to state "Resource Protection" and deleting the language in brackets and inserting the italicized and underlined language:

§115-193 [Buffer Zones for Wetlands and Tidal and Nonperennial Waters] ***Resource Protection***

[A.

Definitions. As used in this section, the following terms shall have the meanings indicated:

BUFFER ZONE

An existing naturally vegetated area or an area purposely established in vegetation which shall not be cultivated in order to protect aquatic, wetlands, shoreline and upland environments from man-made encroachment and disturbances. The "buffer zone" shall be maintained in natural vegetation, but may include planted vegetation where necessary to protect, stabilize or enhance the area.

MEAN HIGH-WATER LINE OF TIDAL WATER

The average height of all the high-tide water recorded over a nineteen-year period as defined by the National Oceanic and Atmospheric Administration tidal datum.

PERENNIAL NONTIDAL RIVERS AND STREAMS

Any body of water which continuously flows during a year and which is not subject to tidal influence.

TIDAL TRIBUTARY STREAM

A stream under tidal influence, either connecting fresh or salt water.

TIDAL WETLANDS

Areas under the jurisdiction of Title 7, Chapter 66, of the Delaware Code, as the chapter appears as of the date of the adoption of this Article, as regulated and mapped by the Department of Natural Resources and Environmental Control.

WETLANDS

A private or state wetland as defined by the Delaware Department of Natural Resources and Environmental Control regulations and maps as promulgated pursuant to Chapter 66, Title 7, of the Delaware Code, as the chapter appears upon the date of the adoption of this Article.

B. A fifty-foot buffer zone is hereby established landward from the mean high water line of tidal waters, tidal tributary streams and tidal wetlands and from the ordinary high water line of perennial nontidal rivers and nontidal streams in Sussex County.

C. Excluded from buffer zone designation are farm ponds, tax ditches and other man-made bodies of water where these waters are not located on or within perennial streams. A buffer zone shall not be required for agricultural drainage ditches if the adjacent agricultural land is the subject of a conservation farm plan established with the Sussex Conservation District.

D. Excluded from buffer zone regulations are facilities necessarily associated with water-dependent facilities (maritime, recreational, educational or fisheries activities that cannot exist outside of the buffer by reason of the intrinsic nature of their operation) and the installation, repair or maintenance of any stormwater management facility, sanitary sewer system, culvert, bridge, public utility, street, drainage facility, pond, recreational amenity, pier, bulkhead, boat ramp, waterway improvement project or erosion-stabilization project that has received the joint approval of the County Engineering Department and the appropriate federal, state and local agencies. An existing public storm-drain system may be extended in order to complete an unenclosed gap or correct a drainage problem, subject to receiving the approval of the County Engineering Department and the appropriate federal, state and local agencies.

E. Grandfathering provision. The following types of land uses may be developed notwithstanding the provisions of this section:

(1) Existing improvements and construction as of the date of the approval of this section may continue. Alterations or expansions which shall be attached to a preexisting structure built on nonconforming land, pursuant to this section, will not be permitted unless proven that such improvement is

constructed at an equal distance or landward of the preexisting structure which is most proximate to the wetland area and a variance is granted as provided below.

(2) Subdivision plats and site plans approved and of record in the office of the Director of Planning and Zoning or in the office of the Recorder of Deeds in and for Sussex County prior to the adoption of this section, originally adopted July 19, 1988, or approved and similarly of record as of the effective date of this amendment, adopted July 2, 1991, may be developed as of record and shall be subject to setbacks or buffer restrictions established for the use when originally approved. Any previously approved and similarly recorded subdivision plats and site plans, if approved prior to the original date of this section on July 19, 1988, or prior to this amendment, adopted July 2, 1991, may be amended if it is determined by the Planning and Zoning Commission that the amended plan represents an equal or less intrusive use on the buffer area or setback area.

F. Variances to the provisions of this section will be considered by the Board of Adjustment under the following conditions:

(1) That findings are made by the Board of Adjustment which demonstrate that special conditions or circumstances exist that are peculiar to the land or structure within the county and that a literal enforcement of provisions within the buffer zone as designated by this section would result in unwarranted hardship.

(2) That the variance request is not based upon conditions or circumstances which are the result of actions by the applicant, nor does the request arise from any condition relating to land or building use, either permitted or nonconforming, on any neighboring property.

(3) That the granting of a variance will not adversely affect water quality or adversely impact fish, wildlife or plant habitat within the designated buffer zones and in waters adjacent to buffer zones. Variances will be in harmony with the general spirit and intent of the section and any subsequent regulations.

(4) That applications for a variance will be made, in writing, to the Board of Adjustment, with a copy to the County Administrator.

(3) Any land upon which development has progressed to the point of pouring of a foundation or the installation of structural improvements as of

the date of the approval of this section shall be permitted to be developed, provided that there shall be no further encroachment upon the buffer zone, as required in Subsection E(1) above.]

A. *Resource Buffer Widths.*

1. *Resource Buffer Widths shall be established in accordance with Table 1, with Zone A being closest to the Resource.*

2. *Resource Buffers are not required landward/adjacent to those portions of Resources to be filled or developed with a valid U. S. Army Corps of Engineers or Delaware Department of Natural Resources and Environmental Control permit.*

3. *No Resource Buffer shall overlay a Tax Ditch or Tax Ditch Right of Way. If a proposed development contains a Tax Ditch, with a right-of-way of less than the total Resource Buffer Width, then that area of the Resource Buffer outside of the right-of-way shall be designated as Zone B.*

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Table 1: Resource Buffer Widths			
Resource Type (See Definitions, §115-4B)	***Full Buffer Width (ft)***	***Zone A (ft)***	***Zone B (ft)***
Tidal Waters	*100*	*50*	*50*
Tidal Wetlands	*100*	*50*	*50*
Perennial Non-tidal Rivers and Streams	*50*	*25*	*25*
Non-tidal Wetlands	*30*	*15*	*15*
Intermittent Streams	*30*	*15*	*15*
Ephemeral Streams	*0*	*0*	*0*

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666 *B. Resource Buffer Width Averaging.*

667

668 *1. Resource Buffer width averaging may be utilized to adjust the required*
669 *Zone B Resource Buffer width thereby allowing flexibility for the*
670 *proposed development, so long as the overall square footage of the*
671 *Zone B Resource Buffer is maintained.*

672

673 *2. Criteria for utilizing Resource Buffer width averaging:*

674 *(a) Resource Buffer width averaging is not available for Zone A.*

675 *(b) The overall square footage of Zone B Resource Buffer must be*
676 *achieved within the boundaries of the proposed development ~~unless a~~*
677 *~~Resource Buffer Option permitted under subsection G is utilized.~~*

678 *(c) Resource Buffer width averaging may be used on all of the Zone*
679 *B Resource Buffers within the boundaries of the proposed development.*

(d) Zone B Resource Buffer averaging shall not be expanded more than double the width of Zone B Resource Buffer as referenced in Section 115-193A.

(e) The overall square footage of Zone B Resource Buffer must be calculated based upon the entire length of the Resource borderline that is located within the boundaries of the proposed development.

(f) Resource buffer width averaging of buffers on tidal wetlands and/or waters shall be limited to buffers of tidal wetlands and/or tidal waters within the boundaries of the proposed development and not extend to buffers of other feature types.

C. Permitted Activities.

Activities in Zone A and B shall be "Permitted" or "Not Permitted" as set forth in the following Table. Uses not specifically identified shall be prohibited, unless the contrary is clear from the context of the Table, as determined by the Commission.

Table 2: Resource Buffer Activities by Zone

ACTIVITY	ZONE A	ZONE B
1. Impacts to resource buffers resulting from State and/or Federally permitted disturbances to Resources (wetlands/waters) such as maintenance of Resources and Resource Buffers, utilities, roads, bridges, docks, piers, boat ramps, bulkheads, shoreline stabilization, and resources authorized to be filled or disturbed for development.	*PERMITTED*	*PERMITTED*
2. Water-related facilities and ancillary uses required to support water-dependent projects approved by a federal or state permit, including but not limited to: marinas, wharfs, community docking facilities, boat ramps, and canoe/kayak launches.	*PERMITTED*	*PERMITTED*

3. Repair or maintenance of existing infrastructure or utilities, including roads, bridges, culverts, water lines, and sanitary sewer lines.	*PERMITTED*	*PERMITTED*
4. Temporary impacts resulting from installation of utilities by trenching	*PERMITTED*	*PERMITTED*

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	***ZONE A***	***ZONE B***
methods which are part of State or Federally approved utility installation projects or the installation of utilities by directional boring methods.		
5. *Stormwater Management conveyances as approved by the Sussex Conservation District.*	*PERMITTED*	*PERMITTED*
6. *Tax Ditch Maintenance as approved by DNREC Drainage Program.*	*PERMITTED*	*PERMITTED*
7. *Maintenance or repair of drainage conveyances not within a Tax Ditch Right of Way as approved by the Sussex County Engineering Department or Sussex Conservation District.*	*PERMITTED*	*PERMITTED*
8. *Structural crossings of Resources such as bridges or boardwalks which may not require a State or Federal permit.*	*PERMITTED*	*PERMITTED*
9. *Maintenance or modification to previously existing structures and improvements within existing footprint.*	*PERMITTED*	*PERMITTED*
10. *State or Federally approved wetland restoration, creation, and enhancement projects.*	*PERMITTED*	*PERMITTED*
11. *State or Federally approved flood plain restoration, or Resource restoration projects involving the maintenance, repair, restoration, creation, or enhancement of Resources and their Resource Buffers.*	*PERMITTED*	*PERMITTED*
12. *Soil Erosion and Sediment Control measures as approved by Sussex Conservation District.*	*PERMITTED*	*PERMITTED*
13. *Forest Management Activities conducted under the guidance and direction of a Licensed Forester,*	*PERMITTED*	*PERMITTED*

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	***ZONE A***	***ZONE B***
Arborist, Landscape Architect, or Qualified Resource Buffer Professional.		
14. *Invasive Species Control (plant, insect, animal) conducted in accordance with State and Federal law.*	*PERMITTED*	*PERMITTED*
15. *Planting/establishment of non-invasive native species (as listed by DNREC).*	*PERMITTED*	*PERMITTED*
16. *Installation, repair, maintenance, and removal of wells (potable, monitoring, injection as approved by state/federal agencies).*	*PERMITTED*	*PERMITTED*
17. *Walking Trails approved by a State and/or Federal Permit where any associated impervious area runoff is managed under a Sussex Conservation District permit.*	*PERMITTED*	*PERMITTED*
18. *Extended Detention dry and wet stormwater management ponds.*	*NOT PERMITTED*	***NOT PERMITTED***
19. *Removal of any dead, dying, damaged, or unstable live tree from a Resource or Resource Buffer which presents an imminent danger to property or public safety.*	*PERMITTED*	*PERMITTED*
20. *Stormwater Management Water Quality BMPs as approved by the Sussex Conservation District.*	*PERMITTED (Limited to 10% of Total square footage of Zone A in a proposed development)*	*PERMITTED*
21. *Sewage disposal facilities.*	*NOT PERMITTED*	*NOT PERMITTED*
22. *Storage of hazardous materials and siting of industrial sites, landfills, or junkyards.*	*NOT PERMITTED*	*NOT PERMITTED*

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	***ZONE A***	***ZONE B***
23. Swimming pools, community clubhouses, and all Non-Water-Dependent or Non-Water Related improvements not specifically permitted under this section.	*NOT PERMITTED*	*NOT PERMITTED*

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693 *D. Resource Buffer Standards.*
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695 1. *All existing (i.e., at the time of application) conditions, including the*
696 *vegetative land features, and the proposed conditions within the proposed*
697 *Resource Buffer shall be identified on the Preliminary Site Plan.*
698
699 2. *If a proposed development contains a Resource, then the associated Resource*
700 *Buffer shall conform with the following criteria based on vegetative features*
701 *existing at the time of Preliminary Site plan Submission:*

702 *(a) Established native forests* ~~***and non-forest meadows***~~ ***inlcuding***
703 ***all existing trees and understory constituting a Resource***
704 ***Buffer shall be preserved and maintained in their natural***
705 ***state. "Selective Cutting" (Subsection E) activities may***
706 ***be implemented. Invasive species are encouraged be***
707 ***removed from the Resource Buffer.***

708 ~~*(i) Forest: Subject to §115-193C, all existing trees and understory*~~
709 ~~*constituting a proposed Resource Buffer shall be preserved and*~~
710 ~~*maintained in their natural state. "Selective Cutting" (Subsection E)*~~
711 ~~*activities may be implemented. Invasive species may be removed from the*~~
712 ~~*Resourse Buffer.*~~
713
714 ~~*(ii)Non-forest Meadow: Subject to §115-193C, all existing meadows*~~
715 ~~*constituting a proposed non-forested Resource Buffer that are composed*~~
716 ~~*of herbaceous and shrub species shall be preserved and maintained in*~~
717 ~~*their natural state. Non-forest meadow may also include old field areas*~~
718 ~~*with a mixture of herbaceous vegetation, shrubs and trees transitioning to*~~
~~*a forested condition through natural succession. Invasive species may be*~~
~~*removed from the Resource Buffer.*~~

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(b) Grazed pasture, ***meadows****,* ***fallow fields,*** *managed turf, active cropland or areas of bare earth not stabilized with vegetative cover shall be re- established as native forest* ~~***or non-forest meadow***~~ *prior to determination of substantial completion of the proposed development phase* ~~***where that "unstabilized" area is located***~~ *by* ***planning and planting of a diverse mixture of trees and shrubs native to Delaware and by controlling invasive species.*** ~~*non-invasive species or through the process of natural succession augmented with invasive species control.*~~

(i) **A reforestation plan including species, planting rates, planting schedule, planting survival standards, and maintenance actions during reestablishment shall be designed by a Licensed Forester, ISA Certified Arborist, Registered Landscape Architect, or Qualified Resource Buffer Professional and included in the Resource and Resource Buffer Management Plan under Section H.**

(ii) **Mulch or native ground cover must cover the area until buffer plantings are established.**

(iii) **Plantings must include canopy trees, understory trees, and shrubs and be distributed throughout the buffer to optimize buffer function under *§99-5***

(iv) **A diversity of Delaware native species of no less than 5 species of trees and 2 species of shrubs normally found in and adapted to the conditions in the buffer must be planted.**

(v) **Flexibility of tree stock is allowed based on the following survival standards over a period of 2 years:**

Stock Size (Trees Only)	Number per Acre	Required Survival Rate
Bare-root seedling or whip	700	50% 350 per acre
½" to 1" Container grown trees	450	75% 338 per acre
More than 1-inch container grown tree	350	80% 280 per acre

(vi) **Natural regeneration of native forest is permitted in place of planting within 25 feet of a mature forest that contains a seed bank of native species adequate for natural regeneration. The reforestation plan must include a supplemental planting plan to be implemented if, at the end of 5 years, the areal coverage of the Buffer does not contain, on a per-acre basis, at least 300 native woody stems at least 4 feet in height.**

3. *"Selective Cutting" is defined as the removal or limbing of trees greater than three inches in diameter at breast height which does not change the area of the overall forest canopy by the concentrated removal of trees in a specific location. "Selective Cutting" also permits the* ***limited*** *removal or brushing of forest understory. Disruption of a contiguous forest canopy for a width greater than thirty feet shall not occur and does not meet the definition of "Selective Cutting". "Selective Cutting" does not include stump removal.* ***"Selective Cutting" shall only be allowed in buffers of tidal wetlands and waters, or freshwater ponds upon which views are desired and shall only allowed along 10% of the total buffer length of these features combined.***

4. *"Selective Cutting" shall be completed under the guidance and approval of a Licensed Forester, ISA Certified Arborist, Registered Landscape Architect, or Qualified Resource Buffer Professional*

E. Maintenance of Drainage Conveyances

1. *All Resource Buffers identified on a Final Site Plan shall be designated as a drainage and access easement permitting access by any future owners' association, federal, state or local agency and the public, for the limited purpose of maintenance or monitoring of drainage capacity or conveyance by any future owners' association; federal state or local agency; and the public. In addition, a corresponding easement for access into each individual Resource Buffer established on the site shall, whenever possible, be provided from a public road or street within a proposed development.*

2. *If a Resource Buffer abuts or contains features such as ephemeral, intermittent or perennial streams which are not part of an established Tax Ditch and which convey drainage from or through a site proposed for development, a "Drainage Assessment Report" shall be prepared by a registered Delaware Professional Engineer. As part of the pre-application process, Sussex County will determine the information to be included in the Drainage Assessment Report. At a minimum, the Drainage Assessment*

Report shall identify the following concerning measures needed for drainage conveyances:

(a) Identification of any unstable or eroding stream banks or conveyance requiring stabilization or restoration measures.

*(b) The location of any stream blockages such as debris jams~~, **fallen or unstable trees***, beaver dams or similar impediments to conveyance ***that pose a credible and impending threat of flooding to nearby landuses or property***.

(c) The location of any sand or gravel deposition within a channel or conveyance which impedes the flow of water produced by a storm having an annual probability of occurrence of 10%.

(d) A discussion of all recommended measures to remedy any impediment to drainage conveyance or drainage stability.

(e) A summary of required local, state or federal permits required to remedy any impediment to drainage conveyance.

(f) The easement width and a sufficient number of easements to provide adequate access to the Resource for maintenance.

3. Remedies required by Sussex County as a result of the Drainage Assessment Report shall be shown on the Final Site Plan.

~~*F. Resource Buffer Options*~~

~~*1. A proposed development shall be permitted to utilize the following options, consistent with §115-193, Section B. Resource Buffer Width Averaging, to incentivize the retention of forests:*~~

~~(a) *When the preservation of a forest within the Resource Buffer that has been in existence for at least five years prior to the date of application as identified by a Licensed Forester, Arborist, Landscape Architect, or Qualified Resource Buffer Professional is achieved, then a corresponding area reduction of either the Resource Buffer Zone B along the entire or part of that Resource; or the Forested and/or*~~

~~Landscaped Buffer required in Chapter 99 in areas adjacent to like-zoned land is permitted.~~

~~(b) When the Preservation of a forest connected to (but not within) a Resource Buffer in excess of the requirements listed in Section 115-193.A. is achieved, then a corresponding area reduction of either non-Forest Resource Buffer Zone B on the same Resource, or Forested and/or Landscaped Buffer required in Chapter 99 in areas adjacent to like-zoned land is permitted.~~

~~(c) When the provision of Resource Buffer widths in excess of the requirements listed in Section 115-193.A. is achieved, then a corresponding area reduction of the Forested and/or Landscaped Buffer required in Chapter 99 in areas adjacent to like-zoned land is permitted.~~

~~2. A proposed development shall be permitted to utilize the following options to incentivize the retention or expansion of Resource Buffers or provide additional functional benefit of Resource Buffers:~~

~~(a) (i) When the creation of a Resource Buffer under a perpetual conservation easement for the benefit of a conservation organization approved by Sussex County on lands in the same twelve-digit hydrologic unit code as defined by the United States Geological Survey as the proposed development is achieved, then a 75 percent corresponding area reduction of the Resource Buffer Zones A and/or B on the same Resource within the proposed development is permitted.~~

~~(ii) When the creation of a Resource Buffer for forest preservation under a perpetual conservation easement for the benefit of a conservation organization approved by Sussex County on lands in the same twelve-digit hydrologic unit code as defined by the United States Geological Survey as the proposed development is achieved, then a 125 percent corresponding area reduction of the Resource Buffer Zones A and/or B on the same Resource within the proposed development is permitted.~~

~~(b) Funding, partially or entirely, an off-site restoration project under the Sussex County Clean Water Enhancement Program, subject to approval~~

~~of the Sussex Conservation District, with completion of the restoration by Sussex County in the same twelve digit hydrologic unit code as defined by the United States Geological Survey as the proposed development with a corresponding Resource Buffer Zone A and/or B reduction equal to the Resource Buffer area created in the off-site project.~~

~~(c) (i)A proposed development with a pre-existing property boundary in the center of an Intermittent or Perennial Stream that includes a perpetual conservation easement for the benefit of a conservation organization approved by Sussex County in the form of a Zone A Resource Buffer on the opposite side of the Intermittent or Perennial Stream may receive a corresponding area reduction of the Zone B Resource Buffer within the proposed development.~~

~~(ii) A proposed development with a pre-existing boundary in the center of an Intermittent or Perennial Stream may receive a 200 percent area reduction of Zone B Resource Buffer if forest lands designated as Zone A Resource Buffers are secured under a perpetual conservation easement for the benefit of a conservation organization approved by Sussex County on the opposite side of the Intermittent or Perennial Stream along the proposed development boundary.~~

~~3. For purposes of this Subsection G., "Forest" shall mean: A vegetative community dominated by trees and other woody plants covering a land area of 10,000 square feet or greater. Forest includes: (1) areas that have at least 100 trees per acre with at least 50% of those having a two-inch or greater diameter at 4.5 feet above the ground and larger, and (2) forest areas that have been cut but neither stumps were removed nor the land surface regraded.~~

G. Resource and Resource Buffer Maintenance and Management.

1. Resource and Resource Buffer Management Plan

Any proposed development where Resource Buffers are required shall submit a Resource and Resource Buffer Management Plan, prepared by a Qualified

Resource Buffer Management Professional, that describes measures for maintaining or improving the Resource and the Resource Buffer(s) on the site. The Resource and Resource Buffer Management Plan shall be proffered as part of the Supporting Statement requirements of §99-24, or at the time of Preliminary Site Plan approval for any residential conditional use. The maintenance standards or management actions associated with the Resource and Resource Buffer Management Plan shall be included as an obligation of the owners' association in the recorded declaration for any new development. The Resource and Resource Buffer Management Plan shall describe how the Resource Buffer will be managed to maintain its functions and cite any measures to be implemented for the enhancement of Resource Buffers or their functions ***including reforestation plans****. It shall also include a narrative discussing the overall plan for access easements sufficient for expected short- and long-term maintenance and management needs.*

~~***2. Any Perennial or Intermittent Stream within a proposed development that does not exhibit a positive conveyance (regardless of whether it is part of a Tax Ditch) shall be identified by phase on the Detailed Grading Plan as follows:***~~

~~***(a)If the deficient Perennial or Intermittent Stream has adjacent Non-Tidal Wetlands, the applicant shall restore the conveyance channel to a positive conveyance (i.e. the removal of conveyance impediments) within the entire site prior to the issuance of substantial completion of the final approved phase. This restoration shall be in compliance with all applicable federal, state and county requirements.***~~

~~***(b)If the deficient Perennial or Intermittent Stream has no adjacent Non-Tidal Wetlands, the applicant shall restore the conveyance channel to a positive conveyance (i.e. the removal of conveyance impediments) within the entire site prior to the issuance of substantial completion of the first approved phase. This restoration shall be in compliance with all applicable federal, state and county requirements.***~~

I.*Modifications and Exceptions.*

The Planning and Zoning Commission shall be authorized, as part of the site plan review process, to grant preliminary or final site plan approval with modifications

on the submission of a detailed

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and specific written request from the applicant with supporting documentation from a Qualified Wetland Resource Professional or Qualified Resource Buffer Management Professional, but only upon the satisfaction of all of the following conditions:

1. When the Commission finds that special conditions or circumstances exist that are peculiar to the land or structure and that a literal enforcement of a specific requirement of this section would result in unwarranted hardship.

2. That the modification or exception request is not based upon conditions or circumstances which are the result of actions by the applicant, nor does the request arise from any condition relating to land or building use, either permitted or nonconforming, on any neighboring property.

3. That the granting of a modification or exception will not adversely affect the functions of the Resource or its Resource Buffer as set forth in the definition of that term. Waivers shall be in harmony with the general spirit and intent of this section and any subsequent regulations.

4. That the basis for the modification or exception cannot be achieved through Resource Buffer Width Averaging as provided by §115-193B.

5. That in no event shall there be a modification or exception to the width requirements of Zone A.

The date of any modification or exception by the Commission shall be noted on the final site plan.

J. These requirements shall only apply to subdivisions governed by Chapter 99, Residential Planned Communities and uses identified in §115-219A(1) and (2).

Section11. The Code of Sussex County, Chapter 115, Article XXVIII, §115-220 "Preliminary Site Plan Requirements", is hereby amended by inserting the italicized and underlined language as a new Subsection B(17) thereof:

§115-220 Preliminary Site Plan Requirements

. . .

B. The preliminary site plan shall show the following:

. . .

(17) In the case of a proposed development with the uses identified in §115-219A(1) and (2) or Residential Planned Communities, the site plan shall include all required Resource Buffers and the following:

(a) The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.

(b) All existing (i.e., at the time of application) native forest and non-forest meadow within the future Resource Buffer.

(c)*The limits of the required Resource Buffers.*

(d)*Calculations supporting Resource Buffer width averaging (§115-193B).*

(e) *Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§115-193F).*

(f) *Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.*

(g)*A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.*

Section12. The Code of Sussex County, Chapter 115, Article XXVIII, §115-221 "Final Site Plan Requirements", is hereby amended by inserting the italicized and underlined language as a new Subsections B(19) and E. thereof:

§115-221 Final Site Plan Requirements

. . .

B. The final site plan shall show the following:

(19) In the case of a proposed development with the uses identified in §115-219A(1) and (2) or Residential Planned Communities, the site plan shall include all required Resources and Resource Buffers including the following, where applicable:

(a)*The boundary and type of any Non-Tidal/Tidal Wetland or water resources (Tidal, Perennial, Intermittent) which require a Resource Buffer. The boundary will be shown per methods identified in the definitions of Wetlands and Ordinary High Water Line Delineation.*

(b)*All existing (i.e., at the time of application) native forest and non-forest meadow within the future Resource Buffer.*

(c)*The limits of the required Resource Buffers.*

(d)*Calculations supporting Resource Buffer width averaging (§115-193B).*

(e) *Calculations supporting Resource Buffer enhancement calculations and corresponding Forested and/or Landscaped Buffer reductions, if applicable (§115-193F).*

(f) *Proposed access easement layout for access to Resource Buffers and the adjacent Resources with a note that such access easements are "public access easements for maintenance purposes". For purposes of this requirement, "public" shall mean, and be limited to, those parties requiring access for maintenance purposes.*

(g)*A statement incorporating the Resource and Resource Management and Maintenance Plan by reference.*

(h)*A reference by title, author and date, to the "Drainage Assessment Report" required by Section 115-193.F.2.*

. . .

E. An AutoCAD drawing file containing all items required in Section A above shall be submitted in electronic format. The data shall be referenced in NAD 1983 StatePlane Delaware FIPS 0700 (U.S. Feet) Projected Coordinate System.

Section13. Effective Date.

This Ordinance shall take effect upon_____(__) months from the date of adoption by Sussex County Council. Provided however, that it shall not apply to any completed applications on file with the Sussex County Office of Planning & Zoning.

Jamie Whitehouse

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Wednesday, November 17, 2021 10:53 AM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

FILE COPY

Submitted on Wednesday, November 17, 2021 - 10:53am

Name: Steven Counts
Email address: slcounts@gmail.com
Phone number: 9012929514
Subject: Buffers
Message:
The Sussex County Planning and Zoning Commission should not approve the proposed wetlands buffer ordinance in its current form. As currently drafted, the proposed ordinance will not protect wetlands and their resource value - the stated purpose of the ordinance. First, understand that the ordinance, if adopted, would only apply to residential developments of six housing units or more and thereby ignores the impacts of commercial development or residential development that might be built with less than six units at one time.

Protection of forested wetlands initially sounds good, but if you read further you see that selective cutting would be allowed, and that the definition of such cutting includes a 30-foot-wide swath of forest canopy that need not be maintained. You realize that they are allowing the clear-cutting of haul roads. That isn't protection. Other means of access are available without causing such permanent damage.

The Resource Buffer Options section (Section G) of the draft ordinance was added to "incentivize" wetland resource preservation and provide flexibility for the development community. First, I believe that based on what I see in my community alone, developers have more than enough economic incentives for the pursuit of their projects, and strict enforcement of the buffer requirements without incentives would not alter that significantly. Why "incentivize" preservation by requiring less of it on the site of the development? That is unnecessarily surrendering the authority of the planning and zoning commission. Instead, Sussex County might recognize with an award the achievements of developers who go above and beyond the basic preservation requirements and promote this. Developers would be promoting this with their sales teams the very next day, most likely to greater long-term advantage than the incentives proposed here.

The buffer averaging in Section G provides such loopholes that it makes a mockery of the rest of the ordinance. As currently drafted, in certain cases it allows the reduction of the Zone A buffer (closest to the resource) despite saying a few pages earlier that Zone A can't be averaged.

Flexibility itself is not the issue. For example, a hardship exemption in concept is fine, but hardship should be strictly defined, which it is not now, and it should be rarely used. Otherwise, every developer might claim a hardship, causing such a flood of crocodile tears that the offices of the planning and zoning commission would need its own drainage ditch, clearly a taxing situation. Wetland buffers need to be strictly enforced to protect the resource. Limiting development in buffer areas is not a hardship. It is the point. The need for flexibility should be up to the commission on a case-by-case basis within strict limitations.

Jamie Whitehouse

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Wednesday, November 17, 2021 8:22 AM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

FILE COPY

SUPPORT EXHIBIT

Submitted on Wednesday, November 17, 2021 - 8:22am

Name: Judi Rindler
Email address: jdboat1@gmail.com
Phone number: 3012521931
Subject: Proposed wetlands and buffer ordinance
Message:

I am in support the Sussex County Council approving the proposed new wetlands and buffers ordinance!

Christin Scott

From: M Schertzer <mshirtsir@gmail.com>
Sent: Wednesday, November 17, 2021 11:49 PM
To: Planning and Zoning
Subject: Buffer ordinance comments

I totally support what most of the general public wants ;

Marty Schertzer
63 Bryan Drive
Rehoboth Beach 19971.
1.

1. **Buffer widths should be significantly larger** than those proposed in the ordinance.
2. It must be clear in the ordinance that Sussex County has the **authority to enforce** it and will do so if the HOA does not.
3. **The ordinance should be applied to all waterways**, not just to those for the development of more than 6 housing units
4. **"Selective Cutting" must be removed.**
5. **Do not allow the reduction and/or elimination of the forest and/or landscape buffer.**
6. **Resource and Resource Buffer Maintenance and Management** section must have the following added: any and all measures for access easement must have minimal to no effect on disrupting the normal purpose and function of the buffers up to and including the width and number of access points.
7. There should be **'no option' to decrease the width of a buffer.**
8. **Eliminate non-forest buffer standards** and require all buffers to be forested or contain natural shrubs.

9.

Christin Scott

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Wednesday, November 17, 2021 8:01 PM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

Categories: Christin

RECIPIENTS: Jamie Whitehouse

Submitted on Wednesday, November 17, 2021 - 8:00pm

Name: Merrilee Levesque
Email address: merrillev@gmail.com
Phone number: 7036226868
Subject: Wetland Buffer Ordinance
Message:
I would like to start by saying that the preservation of our unique and fragile ecosystem and the critical watershed in Sussex County should be a "no brainer." We need clean water to be able to live here and so do all the living things in the County. And yet there are forces at work who want to ignore the vital importance of these natural areas in order to continue developing more subdivisions and selling land at premium prices. Why is this? One can only assume it is financially motivated and that our county leaders are "too close" to the issue or unable to operate freely. Either scenario is unacceptable.

Neighboring jurisdictions have created strong buffer ordinances to protect their water resources and, in spite of more stringent rules, have continued to attract plenty of builders and residents. When will the elected officials in Sussex County stop being influenced by the wrong people and pressures? We need leaders who are willing to do the right thing for everyone.

Instead of taking an existing, effective ordinance from another coastal jurisdiction and adopting it for Sussex, County Council decided to create a working group in 2019 of stakeholders to come up with a new ordinance. Obviously two years later residents are still awaiting a new buffer ordinance, and what has been presented as a draft is fatally flawed in major ways.

1) There is NO protection for any forested areas in buffer zones – or anywhere else. Mature trees can all be cut down in buffer areas prior to submitting an application for development and seedlings planted as replacements. Seedlings that will take 20-50 years to grow are not a replacement for mature trees, they are simply a substitute for no trees. Since they are not adequate for the task, eliminate the option of non-forested meadows. Also, "selective cutting" should be eliminated completely.

2) There should be no options available in the Buffer Ordinance – period. No "case by case" consideration of requested changes. Required setbacks for buildings should START where the buffer ends. Individuals in a subdivision should never own any land within a wetland buffer. If a development cannot be built following the stated rules, then it should be denied.

3) The number of feet for all buffer areas needs to be increased AND applied to all wetlands – tidal, non-tidal and freestanding. The proposed ordinance is still much less than other coastal jurisdictions and we should want the best

ordinance for our County. I'm in favor of the buffer sizes recommended by the Center for the Inland Bays. They did all the hard work to provide you with what should be considered expert testimony on the subject.

4) The enforcement of buffer maintenance cannot fall to the individual HOAs. This is a recipe for disaster. HOA's are not equipped to enforce these types of rules. Buffer requirements should be posted along buffers and the County should step in should there be any attempt to change anything within that area.

When will the Planning & Zoning Commission and the County Council begin to recognize the tide is turning in Sussex County. You will come to realize that many of the new residents you are encouraging and welcoming into the new subdivisions, are not okay with environmental degradation and poor water quality.

Now is the time to rewrite this buffer ordinance to codify needed changes - wider protected buffers with NO exceptions.

FILE COPY

SUPPORT EXHIBIT

Scott Shaughnessy
36486 Warwick Drive
Rehoboth Beach, DE 19971

November 12, 2021

RE: Proposed ordinance on wetlands and buffers

Sussex County Planning & Zoning Commission
Planning & Zoning Office
PO Box 417
Georgetown, DE 19947

Dear Commission members,

This email is following up on comments I made at the November 4th hearing on the proposed new wetlands and buffers ordinance.

It is long overdue that the county's wetlands and buffers rules be updated.

I generally support the proposed new ordinance but with some caveats, which I note below.

Enforcement

I believe specific enforcement mechanisms and penalty rules for violations need to be included in the ordinance. Any ambiguity around this leaves 'wiggle room', excuse-making, exception-making, and "I can get away with it" attitudes and actions.

>>*My Story:*

>>In my condominium community of 120 dwellings in Rehoboth Beach, about 50% of the condos are vacation/2nd home condos. Full-time residents rarely see these owners, particularly in the off-season. In my efforts to raise awareness about the benefits of buffers, natural vegetation in buffers, and the impact on filtration and habitat, and bring this to the attention of fellow condo-owners, I find, generally, that the majority of those who are not full-time resident (and even many full-time residents) tend to not care about such matters in our community (or the county) when they are here (or when they are back in their primary homes). Perhaps it is because they have limited time when here and wish to devote it towards recreation and relaxation and prefer to not get involved in condo-owners' association decisions/operations.

>>Additionally, of all our condo-owners (full-time residents and part-time residents), only a portion of them have the good fortune to live along Johnson Branch (also known as Wolf Pit Branch), a tidal creek that empties out eventually into Rehoboth Bay – about 30 homes or so are situated along the creek. So, the majority of condo-owners do not even see the creek or what is happening along the creek. Some of these owners who live along the creek, seem not to care about environmental protections and ensuring cleaner water and air – they just want their views opened up to the creek and to implement their aesthetic of manicured lawns and yards – even though, technically, these are not their yards or lawns to manicure (it is land owned collectively by the condo association). Others do care about environmental protections and ensuring

cleaner water and air. But, of the former, they cut trees and branches, remove shrubs in the buffer and lay sod right down to the creek's edge, minimizing or eliminating the buffer that exists between our condos' builder-installed lawn lines and the creek.

>>Before the builders turned the community over to a condo-owners association, early condo-buyers/owners who live/lived along the creek were doing what they wanted; again, clearing trees and vegetation and running lawn lines right to the creek's edge. The builder did nothing. The builder's sales agent (who lived on site in the community), wagged her finger and delivered lectures, but there was no enforcement, no penalty. Her main concern was selling condos as fast as possible, so the builder could turn the profit he hoped for and get the 'heck out of Dodge'. Now that we have a condo-owners association and a board of directors, the current Board, says "What's done is done". They – who have to live here – don't want to reprimand and enforce rules (that are not in our condo by-laws). They want to stay on everyone's good side. So, what happened right under the builder's nose is happening now, under the condo-owners association's. This is wrong. It is anti-environmental, with detrimental consequences for our watershed and "resident", indigenous, as well as transitory habitat. And sadly, there just isn't the 'power in numbers' factor in this community to elect a new Board that is pro-environment and willing to make the tough, but right, decisions, or pressure the existing one to do the right thing.

This is likely not particular to our community, nor an isolated incident. It is likely happening all over the county. Mr. Preston Schell, of Ocean Atlantic, who was at the November 4th hearing to deal with another matter before the Commission rose and spoke to this issue, "Don't let them [homeowners] get in there and think they can start cutting down trees in the buffer." He described a situation along Coastal Club Trail where one property will have saplings and large trees growing and the next one will have none. He said, "Some will cut down every single sapling and some will even cut down big trees… homeowners will get down there in the dark of night sometimes and take down trees." This is not consistent with leading environmental practices and flies in the face of the proposed wetlands and buffers regulations.

This is why **detailed enforcement and penalty rules are key** – at least for future developments (if not for existing ones). And leaving it to the homeowners' associations to enforce and penalize is ineffective.

And this is why **selective tree cutting permissions need to be removed** from the proposed ordinance (which I write about below).

Selective Tree Cutting – section 10, D2, lines 705 to 707

Mr. Roberston said in his presentation on the proposed buffer ordinance on November 4th that the new rules aim to avoid clear-cutting of trees and clearing of meadows. He said, "If it is in its natural state, let's try and keep it that way." And that if this is not adhered to, then re-establish it.

I believe the section on selective cutting (how is this defined? Is the definition tight enough?) to be vague and open to interpretation and rife with potential risks to tree under-stories and the aim of keeping things in their natural state.

I refer to my story above, where, now, in our community along Johnson Branch, we see a patchwork of sections of properties that have drastically cut trees (to the point it does not look

natural), tree and shrub clearing, and lawns extended to the creek's edge against sections that have left buffers in their natural state, encouraged natural vegetation and tree growth and/or replanted native species to reinforce the buffer – all along the same waterway. It's a mess. And the condo-owners' association (and homeowners' in the case of Mr. Schell's story) does nothing to right the wrongs or address the problems and violations. This can only have a detrimental impact on the protection and enhancement of our environment in terms of flooding, soil erosion, water and air quality, and the fostering of healthy and thriving habitat.

I do not believe selective cutting in buffer zones should be permitted except in very limited circumstances: a risk/threat to human life or property.

This provision, in its current form should either be removed entirely or considerably tightened up (including how it is to be enforced).

It is my hope that Sussex County Planning and Zoning commissioners will acknowledge the gaps and loopholes in the proposed rules as currently written and make recommendations for removing ambiguity and tightening up the above-noted (and other) provisions in the proposed ordinance.

Thank you for all the good work you do.

Kind regards,

Scott Shaughnessy
36486 Warwick Drive
Rehoboth Beach, DE 19971

Jamie Whitehouse

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Monday, November 15, 2021 5:09 PM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

FILE COPY
SUPPORT EXHIBIT

Submitted on Monday, November 15, 2021 - 5:08pm

Name: Michael Burke
Email address: rehomikeb@aol.com
Phone number: 4103823213
Subject: Wetlands and Buffer Ordinance
Message:
I fully support the proposed new wetlands and buffer regulations for Sussex County. There is a significant need for these regulations, as there is much abuse of these areas throughout the community. I live in a condominium community, and some owners who live along the wetlands area do whatever they feel like doing without consequences. I hope these proposed regulations will be a step towards ending such abuse. Thank you for taking up this important matter.

Sincerely,
J. Michael Burke
20846 Kenwood Lane
Rehoboth Beach, DE 19971
410-382-3213

Jamie Whitehouse

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Monday, November 15, 2021 2:39 PM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

Submitted on Monday, November 15, 2021 - 2:39pm

FILE COPY
SUPPORT EXHIBIT

Name: Henry Strohminger III
Email address: strohtow@aol.com
Phone number: 410-382-3900
Subject: NEW Wetlands and Buffer Ordinance
Message:
I wanted to state that the Wetlands and Buffer Ordinances are long overdue for updating. I support Sussex County Council approving the proposed new wetlands and buffers ordinance. We must protect the future of our wetlands!!

Henry Strohminger and Michael Burke
20846 Kenwood Lane
Rehoboth Beach, DE 19971-1317

From: Lynn Farina <lynnfarina@gmail.com>
Sent: Friday, November 12, 2021 1:16 PM
To: Robin Griffith <rgriffith@sussexcountyde.gov>
Subject: Comments on buffer ordinance

Dear Ms. Griffith,

I'm a Lewes resident and my daughter Lee Dunham originally wrote this and I agree with all she says. I am sending this as my contribution to the public comments on the buffer ordinance. I would be very appreciative if you would forward this to the County Council members.

I am very much in support of expansion of the expansion of the buffer ordinance, with the modifications recommended by Mr. Launay, Mr. Borasso and Mr. Bason. I particularly support the expansion of the proposed buffer widths to fall within the recommendations of the Delaware Center for Inland Bays, the removal of the options section in the ordinance permitting the reduction of buffer widths, and the requirement that all buffers be forested or contain natural shrubs. Sussex County's natural and environmental resources are our most precious asset, and it's critical to preserve them for current residents and future generations to enjoy.

Also, it's inevitable that Delaware will see another Nor'Easter or major hurricane. I fear that many of the people buying properties close to the wetlands are newcomers who haven't been here long enough to see the damage that a major storm can do, and that they would not be buying or building in the places where they are if they truly and fully understood the risks. It's very important for the safety of both new and existing residents that new development be carefully regulated to account for the significant risks of flooding and the maintenance of safe evacuation routes and access for emergency vehicles.

Sincerely,

Lynn Farina

From: Lee Dunham <lee@leedunham.com>
Sent: Friday, November 12, 2021 12:13 PM
To: Robin Griffith <rgriffith@sussexcountyde.gov>
Subject: Comments on Buffer Ordinance

Dear Ms. Griffith,

I'm a Lewes resident and am sending this as my contribution to the public comments on the buffer ordinance. I would be very appreciative if you would forward this to the County Council members.

I am very much in support of expansion of the expansion of the buffer ordinance, with the modifications recommended by Mr. Launay, Mr. Borasso and Mr. Bason. I particularly support the expansion of the proposed buffer widths to fall within the recommendations of the Delaware Center for Inland Bays, the removal of the options section in the ordinance permitting the reduction of buffer widths, and the requirement that all buffers be forested or contain natural shrubs. Sussex County's natural and environmental resources are our most precious asset, and it's critical to preserve them for current residents and future generations to enjoy.

Also, it's inevitable that Delaware will see another Nor'Easter or major hurricane. I fear that many of the people buying properties close to the wetlands are newcomers who haven't been here long enough to see the damage that a major storm can do, and that they would not be buying or building in the places where they are if they truly and fully understood the risks. It's very important for the safety of both new and existing residents that new development be carefully regulated to account for the significant risks of flooding and the maintenance of safe evacuation routes and access for emergency vehicles.

Sincerely,

Lee Dunham
The Law Offices of Lee P. Dunham
Lee@LeeDunham.com

From: Sturges Dodge <msdodge@udel.edu>
Sent: Friday, November 12, 2021 10:41 AM
To: Mary Dodge <msdodge@udel.edu>; Robin Griffith <rgriffith@sussexcountyde.gov>
Subject: Proposed changes to Buffer Zone Ordinance

To the Council,

I am pleased that you are addressing a need for changes in this ordinance and involving the public in these areas. I am distressed that the County has lost significant marshland and wetlands, and urge you to put in place development restrictions that will protect not only what remains, but also protects land sufficient to allow wetlands to migrate inland as a response to sea level rise and land subsistence.
In reviewing the newspaper article in today's Cape Gazette I read the recommendations of Ed Launay, Rich Borrasso and Chris Bason. I agree with all of their recommendations, but especially Mr. Bason's larger buffer widths that stand a better chance of mitigating climate change effects on marsh and wetlands.
I also support tree preservation throughout the State, including penalties, which should result in at a minimum, replanting of trees, for those who violate buffer area and other prohibitions against removal of trees.
Thank you for your attention to my opinions and your service,
Ms Sturges Dodge,
Rehoboth Beach, DE

See link below:

https://dnrec.alpha.delaware.gov/watershed-stewardship/wetlands/and-sea-level-rise/

--
Sent from Gmail Mobile

From: Patrick Farina <patvfarina@gmail.com>
Sent: Friday, November 12, 2021 11:15 PM
To: Robin Griffith <rgriffith@sussexcountyde.gov>
Subject: Comments On Buffer Ordinance

Dear Ms. Griffith,

I'm a Lewes resident and am sending this as my contribution to the public comments on the buffer ordinance. I would be very appreciative if you would forward this to the County Council members.

I am very much in support of expansion of the expansion of the buffer ordinance, with the modifications recommended by Mr. Launay, Mr. Borasso and Mr. Bason. I particularly support the expansion of the proposed buffer widths to fall within the recommendations of the Delaware Center for Inland Bays, the removal of the options section in the ordinance permitting the reduction of buffer widths, and the requirement that all buffers be forested or contain natural shrubs. Sussex County's natural and environmental resources are our most precious asset, and it's critical to preserve them for current residents and future generations to enjoy.

I also particularly agree that references that the one section addressing and allowing for selective cutting should be removed. The only potential for keeping any of that section is to limit it to removal of invasive species, which I assume mainly refers to phragmites.

Also, it's inevitable that Delaware will see another Nor'Easter or major hurricane. I fear that many of the people buying properties close to the wetlands are newcomers who haven't been here long enough to see the damage that a major storm can do, and that they would not be buying or building in the places where they are if they truly and fully understood the risks. It's very important for the safety of both new and existing residents that new development be carefully regulated to account for the significant risks of flooding and the maintenance of safe evacuation routes and access for emergency vehicles.

Our natural resources are our most precious quality of life differentiator and protection of our wetlands is critical to keeping this gem of a place to live that coastal Delaware is. Development will march on, but please keep it away from sensitive parts of the county. It will prove to be a very wise decision in the short as well as long run. Developers can continue to thrive but careless growth could kill the golden goose. Let's work together to keep the goose alive and thriving.

Sincerely,

Patrick V. Farina
418 Johnson Ave.
Lewes, DE 19958
302-242-5422
patvfarina@gmail.com

Jamie Whitehouse

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Friday, November 12, 2021 4:14 PM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

Submitted on Friday, November 12, 2021 - 4:14pm

FILE COPY

SUPPORT EXHIBIT

Name: Scott Shaughnessy
Email address: shaughn40@msn.com
Phone number: 3022787380
Subject: Comments on proposed new wetlands and buffers ordinance
Message:

Scott Shaughnessy
36486 Warwick Drive
Rehoboth Beach, DE 19971

November 12, 2021

RE: Proposed ordinance on wetlands and buffers

Sussex County Planning & Zoning Commission Planning & Zoning Office PO Box 417 Georgetown, DE 19947

Dear Commission members,

This email is following up on comments I made at the November 4th hearing on the proposed new wetlands and buffers ordinance.

It is long overdue that the county's wetlands and buffers rules be updated.

I generally support the proposed new ordinance but with some caveats, which I note below.

Enforcement

I believe specific enforcement mechanisms and penalty rules for violations need to be included in the ordinance. Any ambiguity around this leaves 'wiggle room', excuse-making, exception-making, and "I can get away with it" attitudes and actions.

>>My Story:

>>In my condominium community of 120 dwellings in Rehoboth Beach, about 50% of the condos are vacation/2nd home condos. Full-time residents rarely see these owners, particularly in the off-season. In my efforts to raise awareness about the benefits of buffers, natural vegetation in buffers, and the impact on filtration and habitat, and bring this to the attention of fellow condo-owners, I find, generally, that those who are not full-time resident (and even many full-time residents) tend to not care about such matters here in our community when they are here (or when they are back in

their primary homes). Perhaps it is because they have limited time when here and devote it towards recreation and relaxation and prefer to not get involved in condo-owners' association decisions/operations.

>>Additionally, of all our condo-owners (full-time residents and
>>part-time residents), only a portion of them are lucky enough to live
>>along Johnson Branch (also known as Wolf Pit Branch), a tidal creek
>>that empties out eventually into Rehoboth Bay – about 30 homes or so
>>are situated along the creek. So, the majority of condo-owners do not
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>>these owners lucky enough to live along the creek, seem not to care
>>about environmental protections and ensuring cleaner water and air –
>>they just want their views opened up to the creek and to implement
>>their aesthetic of manicured lawns and yards – even though,
>>technically, these are not their yards or lawns to manicure (it is
>>land owned collectively by the condo association). Others do care
>>about environmental protections and ensuring cleaner water and air.
>>But, of the former, they cut trees and branches, remove shrubs in the
>>buffer and lay sod right down to the
creek's edge, minimizing or eliminating the buffer that exists between our condos builder-installed manicured lawn lines and the creek.

>>Before the builders turned the community over to a condo-owners
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>>the creek's edge. The builder did nothing. The builder's sales agent
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>>was selling condos as fast as possible, so the builder could turn the
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>>happened right under the builder's nose is happening now, under the
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>>with detr
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consequences for our watershed and "resident", indigenous, as well as transitory habitat. And sadly, there just isn't the 'power in numbers' factor in this community to elect a new Board or pressure the existing one to do the right thing.

This is likely not particular to our community, nor an isolated incident. It is likely happening all over the county. Mr. Preston Schell, of Ocean Atlantic, who was at the November 4th hearing to deal with another matter before the Commission rose and spoke to this issue, "Don't let them [homeowners] get in there and think they can start cutting down trees in the buffer." He described a situation along Coastal Club Trail where one property will have saplings and large trees growing and the next one will have none. He said, "Some will cut down every single sapling and some will even cut down big trees... homeowners will get down there in the dark of night sometimes and take down trees." This is not consistent with leading environmental practices and flies in the face of the proposed wetlands and buffers regulations.

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And this is why selective tree cutting permissions need to be removed from the proposed ordinance (which I write about below).

Selective Tree Cutting – section 10, D2, lines 705 to 707

Mr. Mears said in his presentation on the proposed buffer ordinance on November 4th that the new rules aim to avoid clear-cutting of trees and clearing of meadows. He said "If it is in its natural state, let's try and keep it that way." And that if this is not adhered to, then re-establish it.

I believe the section on selective cutting (how is this defined? Is the definition tight enough?) to be vague and open to interpretation and rife with potential risks to tree under-stories and the aim of keeping things in their natural state.

I refer to my story above, where, now, in our community along Johnson Branch, we see a patchwork of sections of properties that have drastically cut trees (to the point it does not look natural), tree and shrub clearing, and lawns extended to the creek's edge against sections that have left buffers in their natural state, encouraged natural vegetation and tree growth and/or replanted native species to reinforce the buffer – all along the same waterway. It's a mess. And the condo-owners' association (and homeowners' in the case of Mr' Schell's story) does nothing to right the wrongs or address the problems and violations. This can only have a detrimental impact on the protection and enhancement of our environment in terms of flooding, soil erosion, water and air quality, and the fostering of healthy and thriving habitat.

I do not believe selective cutting in buffer zones should be permitted except in very limited circumstances: a risk/threat to human life or property.

This provision, in its current form should either be removed entirely or considerably tightened up (including how it is to be enforced).

It is my hope that Sussex County Planning and Zoning commissioners will acknowledge the gaps and loopholes in the proposed rules as currently written and make recommendations for removing ambiguity and tightening up the above-noted (and other) provisions in the proposed ordinance.

Thank you for all the good work you do.

Kind regards,

Scott Shaughnessy
36486 Warwick Drive
Rehoboth Beach, DE 19971

Jamie Whitehouse

From: Linda B Gumeny <noreply@forms.email>
Sent: Sunday, November 7, 2021 11:35 AM
To: Jamie Whitehouse
Subject: Contact Form: Ord. 21-10 Proposed Buffer Ordinance

Name: Linda B Gumeny
Email: lbgumeny@gmail.com
Phone: 2012070918
Subject: Ord. 21-10 Proposed Buffer Ordinance
Message: I applaud the effort to protect our valuable wetlands and environmentally sensitive areas. However, I recommend the proposed ordinance be further strengthened to eliminate the many loopholes that would allow a developer or homeowner to encroach on these valuable resources.
1. The ordinance should apply to ANY proposed development that disturbs 5000 square feet or more – residential, commercial, industrial, or a public entity. The number of lots is irrelevant. The area of land disturbance is paramount, not number of lots. Reference to "residential" should be changed to refer to "proposed development".
2. Wetland delineation line should be certified. Who will confirm information about the presence or absence, or boundaries of freshwater wetlands, transition areas, and/or perennial intermittent streams? (DNREC, SCD…)
3. The resource buffer area should be held in a permanent conservation easement, and not included within a residential lot area (which would clearly undermine the future protection of the resource).
4. Buffer areas should include enhanced vegetation to further protect the resource.
5. Resource Buffer width should be a minimum of 50 feet, and no transition area averaging less than 25-feet wide should be allowed.
• "A transition area serves as: 1. An ecological transition zone from uplands to freshwater wetlands which is an integral portion of the freshwater wetlands ecosystem, providing temporary refuge for freshwater wetlands fauna during high water episodes, critical habitat for animals dependent upon but not resident in freshwater wetlands, and slight variations of freshwater wetland boundaries over time due to hydrologic or climatologic effects; and 2. A sediment and storm water control zone to reduce the impacts of development upon freshwater wetlands and freshwater wetlands species." NJAC 7:7A-3.3
6. Selective cutting should be limited to removal of dead/ dying trees and invasive plants only. There is no ecological value in "brushing of forest understory" and will only promote the proliferation of invasive plants, or turf, which has zero resource value.
7. The incentive to maintaining the wetland buffer is the premium a developer can charge each homeowner for increased protection from building in the floodplain, increased beauty of a forested lot or open meadow, increased value of additional space and privacy. There is NO reason to "incentivize" adherence to a required buffer. This is a loophole that should be eliminated.
8. In no way should you encourage the reduction of forested or landscaped buffers in other areas of the proposed development as an incentive for providing the required resource buffer. Sussex County needs more trees throughout its communities to mitigate the negative impacts of overdevelopment. Protecting and enhancing existing wildlife habitat is essential, but equally urgent is the creation of new wildlife corridors.
I hope to see new ordinances for greater protection of riparian zones, flood hazard areas.
Thank you
Linda Gumeny, Milton

Jamie Whitehouse

FILE COPY

From: Keith Steck <steckke@gmail.com>
Sent: Thursday, November 4, 2021 12:34 PM
To: Planning and Zoning; Lauren DeVore; Jamie Whitehouse
Subject: Comments on Draft Wetlands Buffer Ordinance 21-10

Members of the P&Z Commission

I would appreciate my comments added to the record on today's hearing on the draft ordinance 21-10. Overall, I support the concept of and need for wetland buffers in Sussex County with qualifications. These buffers are essential for protecting farmland, forests, homes and other property, wildlife, and human life.

The wetlands and setback working group that helped develop the original proposals spent considerable time and energy developing the majority of what's being proposed today. I applaud their commitment and efforts.

That said, here are some issues that I believe need to be addressed.

First, in Sec. 99-23 T. (1)--lines 276-278--the sentence "The boundary will be shown per the methods identified in the definitions of Wetland and Ordinary High Water Delineation" needs to be modified. Lines 124 - 132 simply define Ordinary High Water Delineation; there is no method discussed so the language in lines 276 - 278 needs to be modified.

Second, and more substantive, there are some aspects included in the proposed ordinance that were not part of the original package and should not be included. Specifically, allowing exceptions for what are often called "viewscapes" by selectively cutting trees and vegetation in the buffer areas should not be allowed, as they are counter to the purpose of the buffers and are potentially dangerous to property, the land, and lives. Allowing "selective" removal of trees and branches damage and destroy the integrity of woods above and below ground. If you think of forests as buildings, you can better appreciate the importance of the need to leave the trees intact and integrated. For example, building codes don't allow for selective removal of studs or floor joists or rafters without supporting structures like doorways or headers. But allowing removal of trees or tree topping or removal of branches to improve the view of something without any other reason such as to remove damaged trees is the same thing as building a house and not putting in the required placement and number of needed studs and rafters and joists, etc. Talk to landscape architects and arborists and the like and they will tell you that trees in forests are integrated and if you remove trees and root balls it's like poking a hole in a wall or basement or fence; the strength of the building is seriously compromised because the trunk and branches and roots are intertwined with other trees and they collectively support each other in high winds and storms and help hold each other and soil in place. And even undergrowth is important to the integrity of the soil. Trees weakened by removal of trees in the middle or edges of buffers or trees "topped" or indiscriminately pruned are much more susceptible to wind damage or being blown over and often damage other trees, homes, other buildings, cars and even people.

Similarly, marsh grass and other non-tree vegetation is important to soil integrity, erosion control, and minimizing flooding. Farmers, land preservation experts and the like will tell you that is why riparian zones

and other vegetative strips along waterways are critical to controlling erosion and limiting silting and contamination of waterways.

So even seemingly "minor" changes have much greater impacts than are frequently understood. So allowing for these "selective" changes and exceptions are in fact exceptionally dangerous to property, life, and the environment.

Thanks for your attention,
Keith Steck
210 Lavinia St.
Milton, DE 19968

Jamie Whitehouse

From: Scott Shaughnessy <shaughn40@msn.com>
Sent: Thursday, November 4, 2021 12:43 PM
To: Planning and Zoning
Subject: Question/comment today's 3pm meeting on proposed buffer regs

Hello!

I strongly feel that the county's buffer and wetlands regulations need updating and support the proposed new ordinance.

At the end of last week, my area of Sussex County experienced considerable flooding. Besides climate change, the extent of paving over of land and wetlands, the degree of construction of residential and commercial premises, and the loss of forest/wooded areas and natural vegetation as a result, are important contributors, that are impacting flooding but also acting to detrimentally impact our environment and stem the release/emission of greenhouse gases.

These proposed regulations are critical to helping reverse the above-noted trends.

If passed, what will enforcement look like? I ask, because I have seen much builder activity and existing commercial/residential developments that flaunt the existing rules. Buffers that abut wetlands are ignored and are treated as "personal property" to be manicured and cultivated and/or used to dump waste. How will enforcement be different under the new proposed rules?

Thank you.

-- Scott Shaughnessy
36486 Warwick Drive
Rehoboth Beach, DE 19971

11 PAGES TOTAL.

FILE COPY

Received at Public Hearing
11.04.2021.

Good afternoon, Mr. Chairman, Commissioners, Mr. Whitehouse, Counselor and staff.

My name is Rich Borrasso and I am representing the Sussex Alliance for Responsible Growth (SARG)

I am here this afternoon to provide commentary on the introduction of the Proposed Amendments regarding Certain Drainage Features, Wetland and Water Resources and Buffers.

My interest and knowledge of the topic runs fairly deep because of heavy engagement in the Comprehensive Plan process as well as a participant in the Wetland Buffer Working Group. The latter was a great experience in an open forum which allowed for the free expression of points of view, exchange of ideas and at times spirited dialogue. Subject matter experts brought their talents and experiences to the table. For me It was a learning experience that enabled me to gain a broader perspective on what may be one of the most critical conservation decisions in County history. After all it has been over 30 years since current wetland buffers has been deliberated and a lot has happened in Sussex County over the last 3 decades.

One of the biggest take aways from the groups work was that updating buffer regulations is not a property rights issue, but one of, striking a balance between private and public need. To better reinforce this point, allow me to share an abstract that I recently read entitled THE PUBLIC/PRIVATE BALANCE IN LAND USE REGULATION* by Stanford Professor Mark W. Cordes in which he states and I quote:

"Private land ownership in America has always involved a balance between private and public interests. Protection of private interests is necessary to encourage investments to improve property, essential to meeting critical needs such as housing, as well as providing for personal autonomy and privacy. At the same time private property has also long been limited by implied public interests. First, any reasonable investment expectations regarding future uses of undeveloped land should include the possibility of regulation to protect public interests. Second, much of the value in private property has been added by government "giving's' in the first instance, and it cannot be viewed as unfair when government regulations for important purposes diminish some of that same value. Third, fairness concerns must also be evaluated from a broader perspective of "reciprocity," which recognizes that although a landowner might be adversely affected by some regulatory actions, the same person is often benefitted by other regulatory actions, and that overall, a general adjustment of benefits and burdens occurs.

Let me say upfront how pleased for the public I am in the Council exercising its power an authority to regulate land use and even more grateful these actions are aligned to specific goals and objectives outlined in the Sussex County Comprehensive Plan. The public wants to see Council priorities guided by the strategies laid out in the plan. This is a good example and the public wants and expects better alignment in the amending of existing codes and introduction of new ordinances in the future.

Up front, this Ordinance seeks to;

- Consider strategies for preserving environmental areas from development and the protection of wetlands and waterways

- Recognizes the Inland Bays, their tributaries and other waterbodies as valuable open space areas of ecological importance
- Determines if amendments are needed that will better help protect groundwater, waterways, sensitive habitat areas and other critical natural lands in Sussex County
- Calls for the protection of the natural functions and quality of the County's surface waters, groundwater, wetlands and floodplains
- To identify an appropriate range of wetlands buffer distances based upon location and context
- To balance the protection of land equity with the protection of the Resources defined in the Ordinance and their associated functions
- To establish a framework under which future property owners and Owners Associations will maintain the Resources, Resource Buffers, the properties they are on or adjacent to, and the systems that they are a part of in the future and to ensure the ongoing positive conveyance of drainage features
- This Ordinance promotes and protects the health, safety, convenience, orderly growth and welfare of the inhabitants of Sussex County

- **What are the conditions of our water resources today?**

According to The State of Delaware 2018 Combined Watershed Assessment Report (305(b)) and Determination for the Clean Water Act Section 303(d) List of Waters Needing TMDLs and the Center for the Inland Bays research findings:

- Our area has lost about half of its original wetlands due to drainage, conversion to other land uses, and sea level rise. Wetlands and their beneficial functions continue to be lost: 1,434 acres of Sussex County's wetlands were lost from 1992 to 2007. At that rate another 1,147 would have been lost from 2007 to 2019.
- Saltmarshes in particular continue to disappear and have decreased around the Inland Bays from a total of 10,838 acres in 1938 to 7,300 acres in 2007; a 32% decrease.
- Many of the wetlands that remain are in poor condition. For example, the health of streamside wetlands and saltmarshes in the Inland Bays watershed have received a grade of D.

  - <u>Water Quality</u>
    - The most recent DNREC assessment of water pollution found that 87% of streams, ponds, and bays in Sussex County were polluted due to high bacteria levels, high levels of nutrients or low dissolved oxygen levels.
    - In the Inland Bays Watershed, all assessed waters were found to be polluted by excess nutrients, 50% by bacteria, and 11% had low dissolved oxygen.
    - While significant improvements to the water quality of the Inland Bays have been realized, measured pollutant loads from the watershed to the Bays have not decreased. Many of the tributaries of the Inland Bays have very high pollutant levels and very poor water quality.
  - <u>Flooding</u>

- Flooding that decades ago usually happened only during a powerful or localized storm can now happen when a steady breeze or a change in coastal current overlaps with a high tide.
- Lewes recorded an average number of 4 flood days in 2000. In 2017, 15 flood days were recorded. In 2030, between 15-30 high tide flood days are projected.
- From 2008 to 2015 over 13,500 building permits were issued. A significant portion of this development has been in areas at risk of flooding. **From 2010 to 2017, Sussex County had the third highest number of homes (1,233) built in 10-year flood risk zones of any county in the United States.**

- Sea Level Rise
  - Sea levels have been rising off the coast of Delaware for more than a century and will continue to do so at about twice the global average because of a geological phenomenon known as "subsidence," meaning the section of Earth's crust beneath the mid-Atlantic states is sinking at a rate slightly greater than 1 inch per decade, or about 1 foot per century.
  - Delaware's coastal communities already experience several days of high-tide flooding annually, and the problem is forecasted to grow. The National Oceanic and Atmospheric Administration (NOAA) predicts that Lewes could

see upwards of 30 high-tide flooding days annually by 2030 and as many as 135 by 2050.

- Sussex County roads and bridges have the highest risk of inundation due to sea level rise in the state, according to DNREC's Sea Level Rise Vulnerability Assessment. Sea level rise directly affects travel on roadways as a result of flooding, inundation, erosion of road bases, removal of sediment around bridge abutments or piers, and reduced bridge clearance. In Sussex County approximately 357 miles of roads and bridges that lie in the path of sea level rise may be adversely impacted.

- <u>Value of Forested Buffers</u>
  - According to the 2016 State of the Delaware Inland Bays, from 1992 to 2012 upland forests decreased by 14 square miles in the Inland Bays watershed.

There is no doubt the existing water resource and buffer regulations are inadequate and failing to protect groundwater, waterways, sensitive habitat areas and other critical natural lands in Sussex County

Regarding this proposed Ordinance Amendment, SARG has read, understands and is in agreement with the findings of the Wetland Buffer Workgroup relating to:

1. Definitions:
2. Resources subject to the Ordinance:
3. Buffer Purpose
4. Buffer Widths

5. Two-Zone Buffer Approach
6. Buffer Activities Permitted and Restricted
7. Buffer Averaging
8. Buffers and Lot Lines
9. Resource Management Requirements

However, there are provisions in the Proposed Ordinance amendments that were altered or added post Workgroup recommendations. There was either no or limited debate on these provisions except one off with County officials in recent months. Personally, I spent three hours with two other colleagues earlier this week, but nevertheless, feel strongly that this alone does not constitute an implied workgroup recommendation. In fact, there are most likely modifications to the Buffer Ordinance Introduction dated 10-21-21 in front of you today.

Although I have no objection and I look forward to potential modifications, it is unrealistic to expect the public to be able to review and consider the day of the public hearing and at the very least a motion to keep this record open and allow for future public comment would be warranted.

So, let's focus on some of the unvetted provisions:

The first is "Selected Cutting"

I refer you to what was Line 705 D. Resource Buffer Standards

i) Forest: Subject to §115-193C, all existing trees and understory constituting a proposed Resource Buffer shall be preserved and maintained in their natural state. "Selective Cutting" (Subsection

E) activities may be implemented. Invasive species may be removed from the Resource Buffer

Subsection E Selected Cutting provision has been a moving target.

- In the January 9, 2020 Draft it was defined "Selective Clearing" is defined as the removal or limbing of trees greater than two inches in diameter measured at breast height which does not change the areal extent of the forest boundary by concentrated removal of trees in one specific area
- Based on the March 4, 2020 draft shared with County Council defined "Selective Cutting" to be forest management activities: (a)Removal of trees **less than three inches** diameter at breast height(c) Removal of understory vegetation less than three inches DBH and "Selective Cutting" shall not alter the canopy extent of the Resource by impacting an area more than 30 feet wide or one third the width of the Resource Buffer, whichever is less.
- However, this proposed Ordinance Amendment states "Selective Cutting" is defined as the removal or limbing of trees **greater than three inches** in diameter at breast height and no Disruption of a contiguous forest canopy for a width greater than thirty feet.

It is apparent that "selective clearing" or "cutting" is a contradiction with the aforementioned overarching Buffer Standard, it is vague and open for interpretation by developers, but more importantly the future caretakers of the Standards, that being the ability for HOA's to govern their residents.

The Selective Cutting provision must be removed!

The most difficult to understand workgroup unvetted are provisions in Section G. Resource Buffer Options.

Before I talk about specific points in Section G. I want to make clear that I understand that any improvements to the resource water and

wetland buffers are not intended to reduce density. In the AR Zone up to 2 dwellings per acre is permitted today and will be with the proposed increases in buffer widths outlined in the proposed amendment. However, we also understand that not all major subdivision boundaries are perfect squares or rectangles and sometimes boundary irregularities present site plan design challenges. And for this very reason there was consensus from the work group to include the buffer averaging tool to provide flexibility to developers in these unique situations. Some believe that the Buffer Averaging provisions more that sufficiently provides for flexibility.

And yet there continues to be this desire for more "flexibility". Depending on who you talk to "flexibility to some is evading the proposed buffer width guidelines in order to respond to consumer demand for greater access and or proximity to the water resources, or the belief that some buffer options provide superior benefit via conservation and preservation easements in exchange for buffer reductions. Whichever the case each must scientifically demonstrate their ability protect the resources and their associated functions by:

- Improve/protect water quality via sediment filtration, reduce impact of nutrient loading on Resources, moderate water temperature, and enhance infiltration and stabilization of channel banks.
- Provide wildlife habitat via nesting, breeding, and feeding opportunities provide sanctuary/refuge during high water events; protect critical water's edge habitat; and protect rare, threatened, and endangered species associated with each Resource and its upland edge
- Enhance and/or maintain the flood plain storage functionality via reduction 158 of flood conveyance velocities as well as dissipation of stormwater discharge

Each must demonstrate functional equivalency, both in terms of timing, protection, enforcement, and ongoing maintenance and remediation. And furthermore, at no time shall any incentives allow for Resource

Buffer Zone A reductions and at no time reduce the buffer widths or permitted uses to less that the current Resource Buffer regulations.

Specifically,

Regarding G. 1. which proffers "incentivizing the retention of forests", I believe this is a band aide on a much more critical wound in Sussex County that goes way beyond forest preservation in resource buffer areas alone. If the County is serious about addressing the vast decimation of forests and trees then there must be a separate study with solutions that encompasses tree conservation throughout all of Sussex County. There are countless examples in neighboring jurisdictions where tree conservation is a priority and it is working. What we have here is a distraction especially when G.1 (a), (b), and (c) considers allowing the encroachment on the existing Forest and/or Landscape Buffers on the same property. Forest and /or Landscape Buffers intended purpose is to provide screening and open space between major subdivisions. Allowing the reduction and/or elimination of the Forest and / or landscape buffer has no relevance and provides absolutely no substitute or remedy for protecting the buffer resource and this option must be removed.

Regarding H. Resource and Resource Buffer Maintenance and Management, I believe this is long time in coming and will help to ensure that resource buffers will continue to perform their intended purpose. However, there needs to be language included that any and all measures for access easement have minimal to no effect on disrupting the normal purpose and function of the buffers up to and including the width and number of access points.

In closing, I would like to make reference to Aesop's Fable

Some may be familiar with the

- The Hare and the Tortoise.
- The Ant and the Grasshopper.
- The Fox and the Crow.

The fable that I think may apply here is "The Goose that Laid the Golden Egg"

Metaphorically, the Goose represents the world class water resources in Sussex County and depending on your perspective the golden egg represents the benefits the public derives from their grandeur as well as the indirect value derived from the ability for economic gain. But the golden egg is finite, we are not creating more of these resources. We must work together to not kill the goose that laid the golden egg.

Thank you,

Rich Borrasso
SARG

ENVIRONMENTAL RESOURCES, INC.

4 Pages.
FILE COPY
Received at Public Hearing 11. 04. 2021.

38173 DUPONT BOULEVARD
P.O. BOX 169
SELBYVILLE, DE 19975
PHONE: 302-436-9637
FAX: 302-436-9639

WETLAND BUFFER ORDINANCE AMMENDMENT
PLANNING & ZONING PUBLIC HEARING, NOVEMBER 4, 2021

KEY POINTS OF TESTIMONY OF
EDWARD M. LAUNAY, SENIOR PROFESSIONAL WETLAND SCIENTIST NO. 875, SOCIETY OF WETLAND SCIENTISTS

I am here today to support this proposed ordinance as currently written with one notable exception and with the understanding and hope that a newer section of this ordinance, Section G Resource Buffer Options, will become more refined and better articulated as the ordinance moves through the approval process.

SELECTIVE CLEARING

Resource Buffer Standards, Section 10.D,2 (Line 705-707) states that "Forest subject to 115-193C, all existing trees and understory shall be preserved and maintained in their natural state".

The proposed ordinance then goes on to refer to something called "Selective Cutting" on line 707 as being allowed in the Resource Buffer. "Selective Cutting" is then defined in Section 10E 1 & 2 (lines 725 to 737).

Allowing Selective Cutting within a forested Resource Buffer does not constitute "maintaining the Resource Buffer in a natural state". As specified in the definition of Resource Buffers (Line 145 through 159), Resource Buffers under this ordinance are intended to provide resource protection, water quality protection, protection and conservation of wildlife habitats and flood plain functions.

It is my personal and professional opinion the provision allowing for "Selective Cutting" within Resource Buffers severely diminishes the functional values of proposed Resource Buffers. Allowing the removal of the entire natural forest understory, including shrubs and trees smaller than 3 inches in diameter, then compounding this adverse impact by allowing the intensive selective removal of large caliper trees (as written, the wording allows the potential removal of every other large tree) is nearly equal to having no buffer at all with respect to all four of these functions.

I therefore request and recommend that all references to Selective Cutting be removed from the proposed ordinance so that forested resource buffers are truly protected in their "natural state".

Many provisions are included in the ordinance which already allow for a wide variety of activities within the Resource Buffer, such as walking trails and access to the waterfront. Removal of any invasive species or individual trees that pose a safety hazard is included on the list of permitted activities. There is simply no need for "Selective Cutting". Including "Selective Cutting" in this document only serves to give a developer a blueprint for how to adversely impact and disturb a Resource Buffer prior to turning it over to a Homeowners Association.

I have attached herein the lines related to "Selective Cutting" which in my professional and personal opinion should be removed from the ordinance.

RESOURCE BUFFER OPTIONS SECTION

A more recently developed part of the proposed ordinance, largely composed after the involvement of the "Wetland Working Group" is Section 10G Resource Buffer Options (Line 782 to 859).

Over the past several weeks I have had a chance to review this section of the proposed ordinance. I have had the chance to discuss it with other members of the Wetland Working Group and members of County staff. Many questions about the intent and how this section of the ordinance would be applied have been answered in my mind. Many needed improvements to the text have been made in order to better define the intent, right up to the date of this hearing, where it now comes before you.

I want to say that I do support the goals and intentions outlined in the Buffer Option Section. I appreciated having the opportunity to better understand them and to provide my input. I have no doubt, however, that this section of the ordinance will require additional work as the ordinance moves forward to the County Council.

I plan to continue working with the County staff on improving this part of the document. There are topics such as developing a suitable template for future Conservation Easement documents for protection to any offsite Resource Buffers that definitely need to be worked out.

It is my professional and personal opinion that the current ordinance does provide adequate flexibility through buffer averaging and other measures to ensure flexibility and enhanced design for the projects it applies to, without the Resource Buffer Section. However, based on my most recent review of this section and consultations with County staff, I am in support of the Resource Buffer Option Section. As intended, I believe that it will provide a positive net impact to the goals of resource protection and I believe it will offer incentives for the retention of existing forest prior to the development of a future project. The latter is an important consideration which somehow needs to be addressed in some fashion. I also recognize that ongoing refinement to this Section will undoubtedly be needed and I trust that effort can be continued through this approval process.

Table 2: Resource Buffer Activities by Zone		
ACTIVITY	ZONE A	ZONE B
23. Swimming pools, community clubhouses, and all Non-Water-Dependent or Non-Water Related improvements not specifically permitted under this section.	NOT PERMITTED	NOT PERMITTED

D. Resource Buffer Standards.

1. All existing (i.e., at the time of application) conditions, including the vegetative land features, and the proposed conditions within the proposed Resource Buffer shall be identified on the Preliminary Site Plan.

2. If a proposed development contains a Resource, then the associated Resource Buffer shall conform with the following criteria based on vegetative features existing at the time of Preliminary Site plan Submission:

(a) Established native forests and non-forest meadows predominated by non-invasive species shall be retained.

(i) Forest: Subject to §115-193C, all existing trees and understory constituting a proposed Resource Buffer shall be preserved and maintained in their natural state. ~~"Selective Cutting" (Subsection E) activities may be implemented~~. Invasive species may be removed from the Resourse Buffer. per Section 10 C, Table 2, Item 14. ← optional addition

DELETE

(ii) Non-forest Meadow: Subject to §115-193C, all existing meadows constituting a proposed non-forested Resource Buffer that are composed of herbaceous and shrub species shall be preserved and maintained in their natural state. Non-forest meadow may also include old field areas with a mixture of herbaceous vegetation, shrubs and trees transitioning to a forested condition through natural succession. Invasive species may be removed from the Resource Buffer.

(b) Grazed pasture, managed turf, active cropland or areas of bare earth not stabilized with vegetative cover shall be re- established as native forest or non-forest meadow prior to determination of substantial completion of the proposed development phase where that "unstabilized" area is located by planting of non-invasive species or through the process of natural succession augmented with invasive species control.

~~E. Selective Cutting.~~

DELETE

~~1. "Selective Cutting" is defined as the removal or limbing of trees greater than three inches in diameter at breast height which does not change the area of the overall forest canopy by the concentrated removal of trees in a specific location. "Selective Cutting" also permits the removal or brushing of forest understory. Disruption of a contiguous forest canopy for a width greater than thirty feet shall not occur and does not meet the definition of "Selective Cutting". "Selective Cutting" does not include stump removal.~~

~~2. "Selective Cutting" shall be completed under the guidance and approval of a Licensed Forester, ISA Certified Arborist, Registered Landscape Architect, or Qualified Resource Buffer Professional~~

F. Maintenance of Drainage Conveyances

1. All Resource Buffers identified on a Final Site Plan shall be designated as a drainage and access easement permitting access by any future owners' association, federal, state or local agency and the public, for the limited purpose of maintenance or monitoring of drainage capacity or conveyance by any future owners' association; federal state or local agency; and the public. In addition, a corresponding easement for access into each individual Resource Buffer established on the site shall, whenever possible, be provided from a public road or street within a proposed development.

2. If a Resource Buffer abuts or contains features such as ephemeral, intermittent or perennial streams which are not part of an established Tax Ditch and which convey drainage from or through a site proposed for development, a "Drainage Assessment Report" shall be prepared by a registered Delaware Professional Engineer. As part of the pre-application process, Sussex County will determine the information to be included in the Drainage Assessment Report. At a minimum, the Drainage Assessment

32 Pages Total.

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Received at Public Hearing 11.04.2021

Comments on Proposed Wetlands, Buffers & Drainage Ordinance to Sussex Planning & Zoning

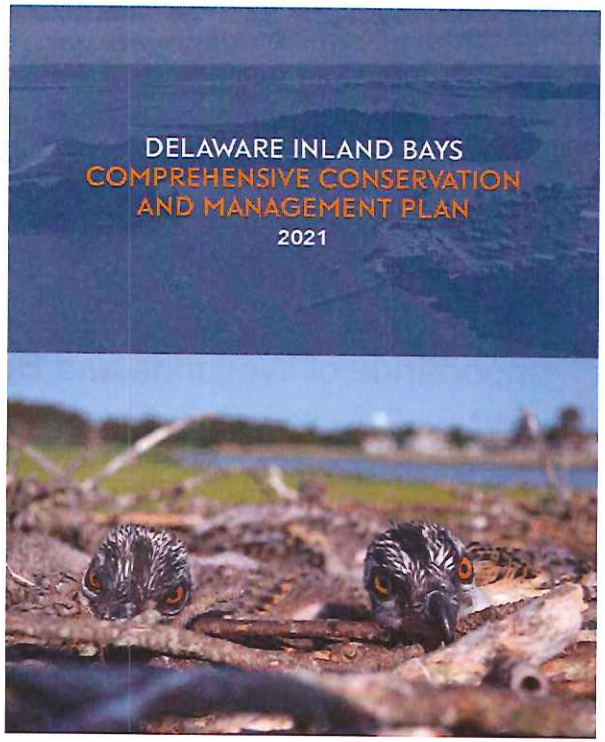
Chris Bason
Center for the Inland Bays

Content

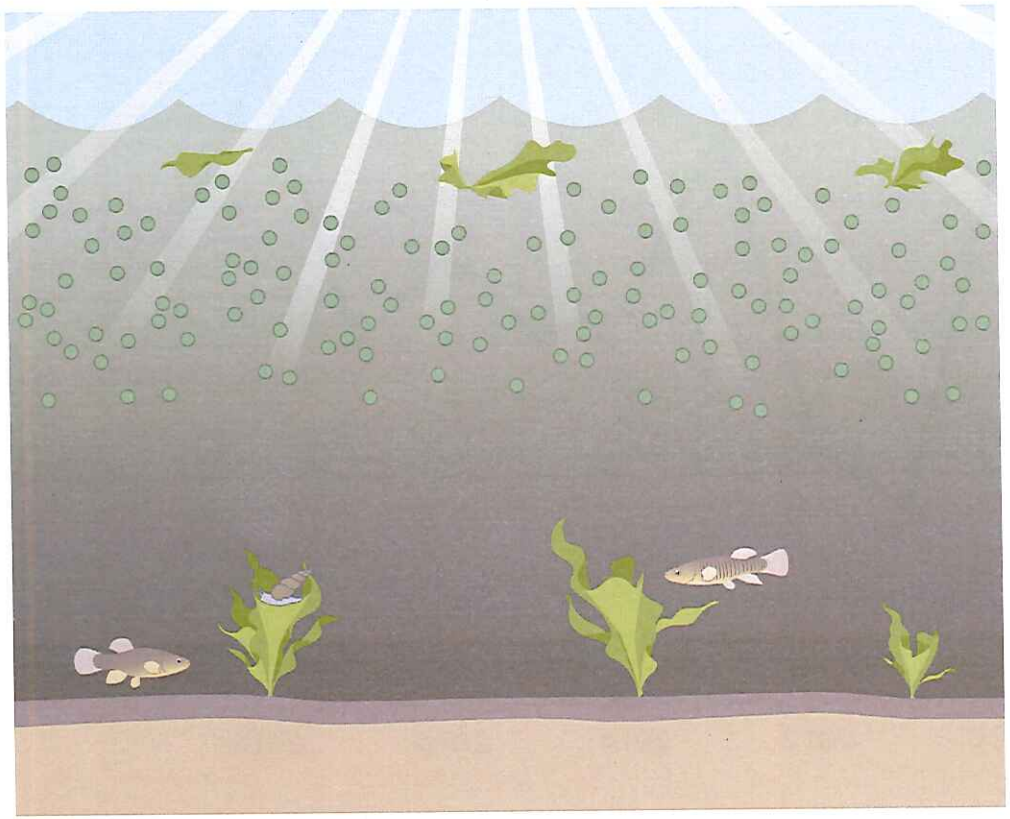
1. Importance of Wetlands and Buffers to Inland Bays Comprehensive Conservation & Management Plan
2. Relevant Water Quality and Landuse Trends in the Inland Bays
3. Comparison of Proposed Ordinance to Those of Nearby Jurisdictions
4. Recommended Amendments to the Proposed Ordinance

Buffers are an important action of the 2021 Inland Bays Comprehensive Conservation & Management Plan

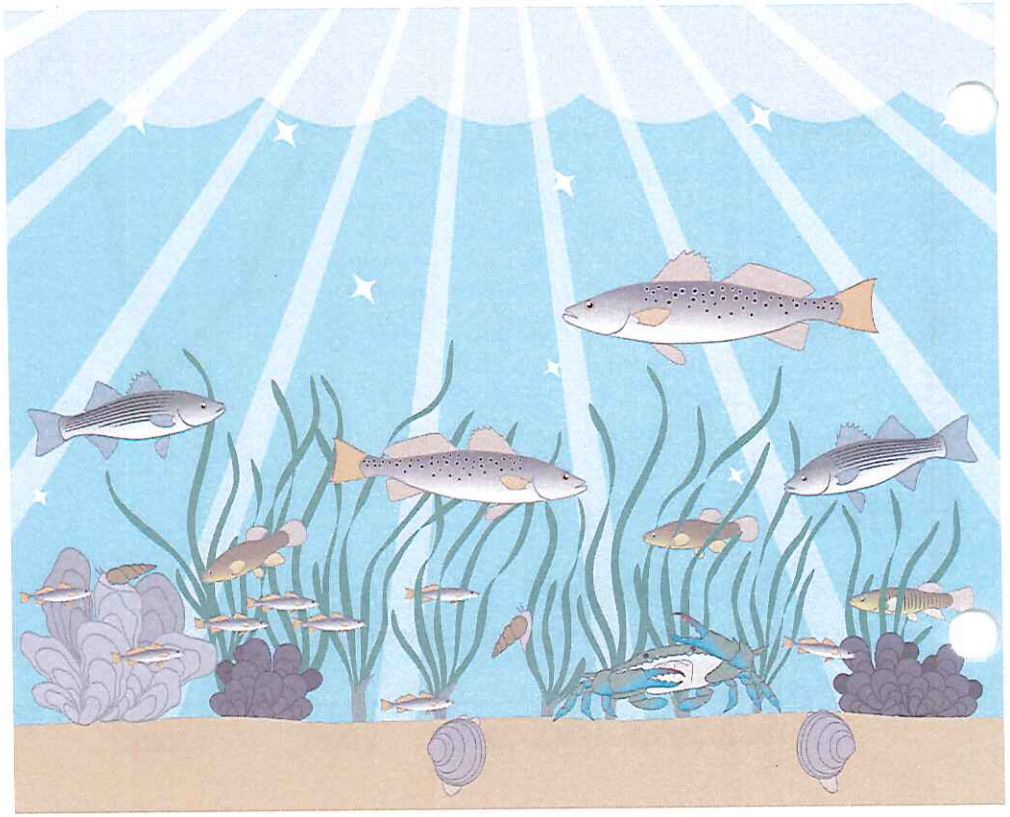
- 67 actions focused on
  - reducing nutrient pollution
  - protecting and restoring forests, wetlands, baygrasses, and oyster reefs
  - education
  - mitigating and adapting to flooding and climate change
- County 1 of 7 Signatories
- 60% of 500 public surveyed identified runoff from developments as the biggest threat.
- Increasing protection of buffers by County included in 1995 CCMP, 2012 Addendum, and 2021 Revision.

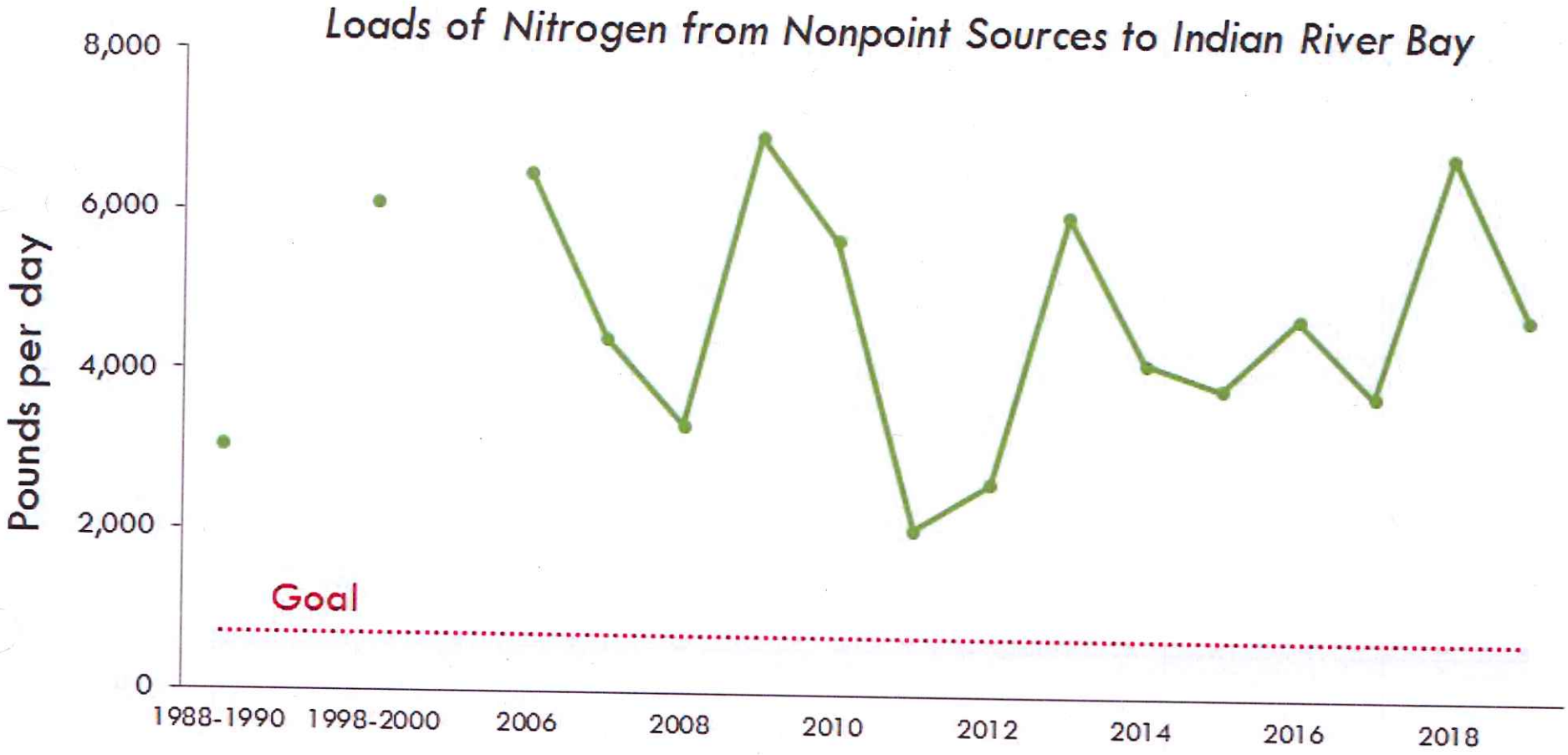


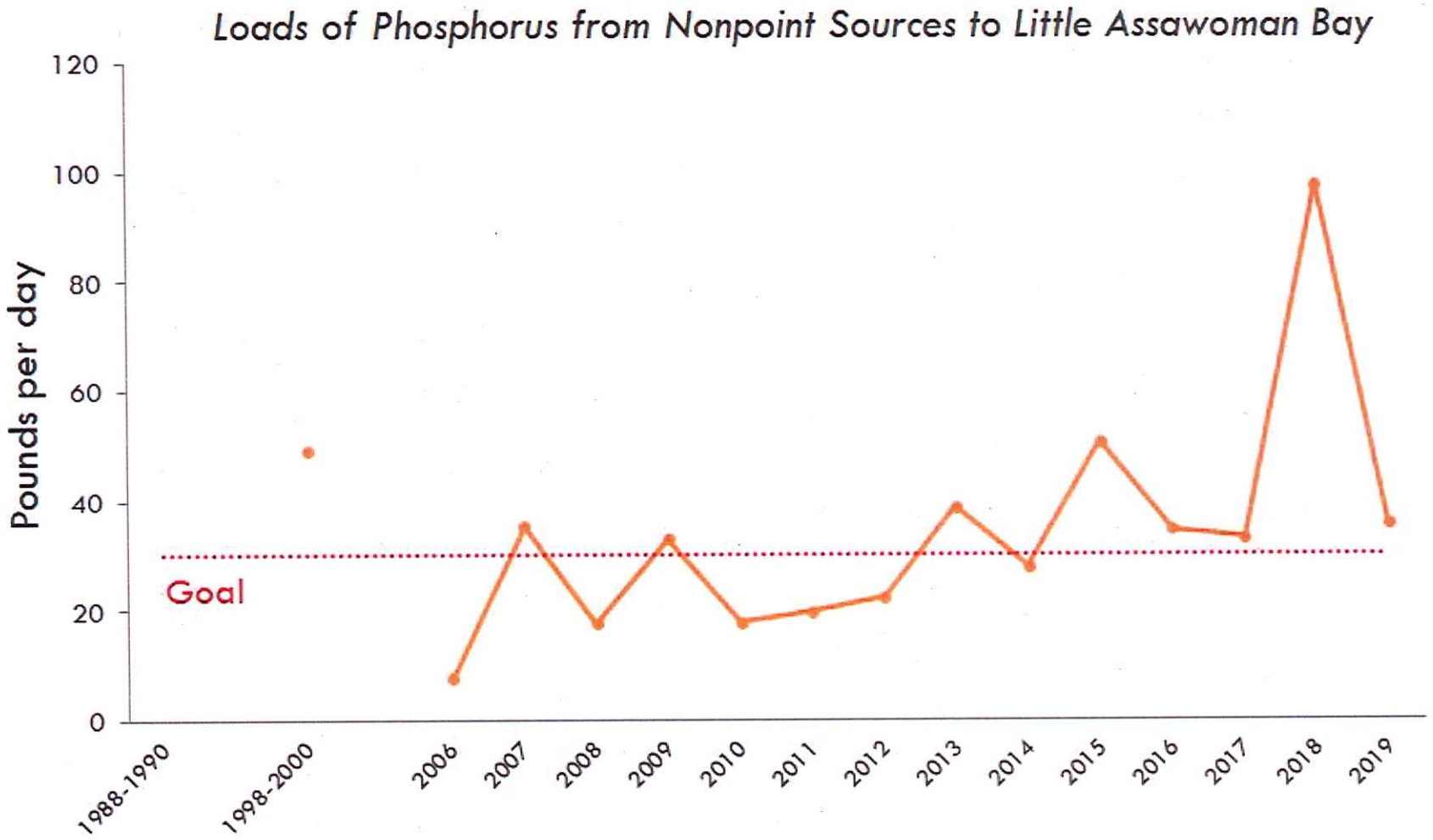
Excess Nutrients: Current Condition



Healthy Bay: Restoration Target




Loads of Nitrogen from Nonpoint Sources to Indian River Bay
Pounds per day
8,000
6,000
4,000
2,000
0
Goal
1988-1990
1998-2000
2006
2008
2010
2012
2014
2016
2018


Loads of Phosphorus from Nonpoint Sources to Little Assawoman Bay
Pounds per day
120
100
80
60
40
20
0
Goal
1988-1990
1998-2000
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019

Watershed Trends Show Mixed Results That Differ for Nitrogen and Phosphorus

USGS updates trends in total nitrogen and phosphorus on the basis of data from the nontidal monitoring network. Trends (fig. 1) are normalized for watershed area and the magnitude of stream flow, to make it easier to compare sites and distinguish trends resulting from human actions.

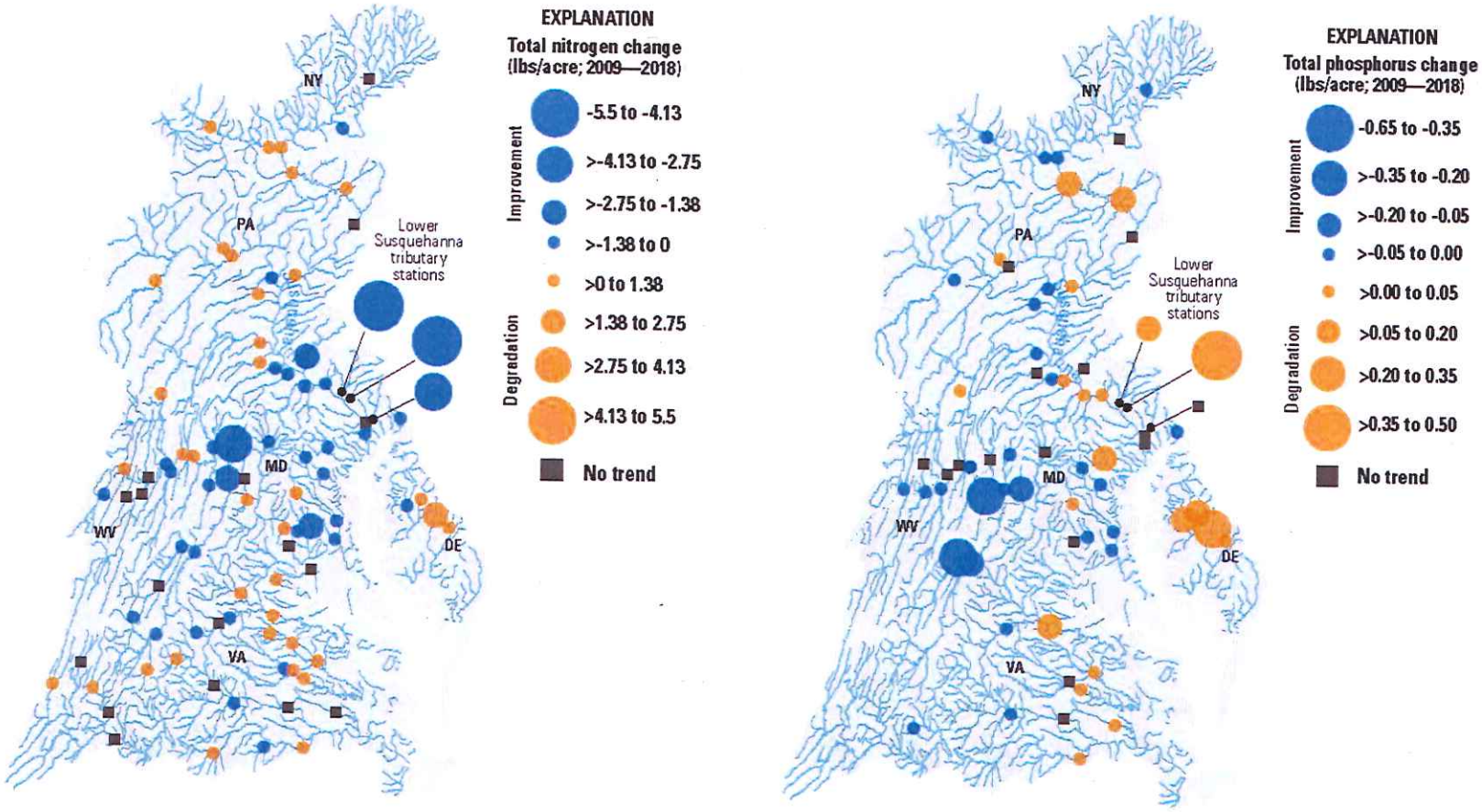
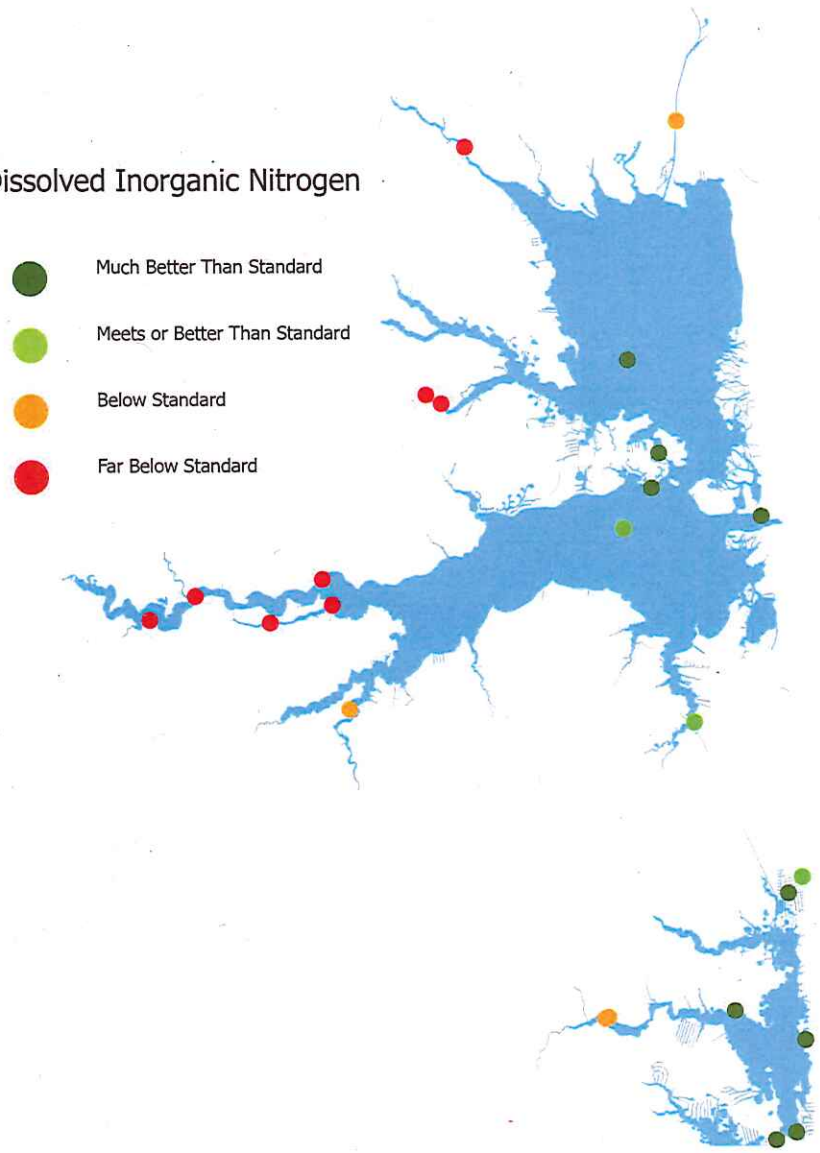
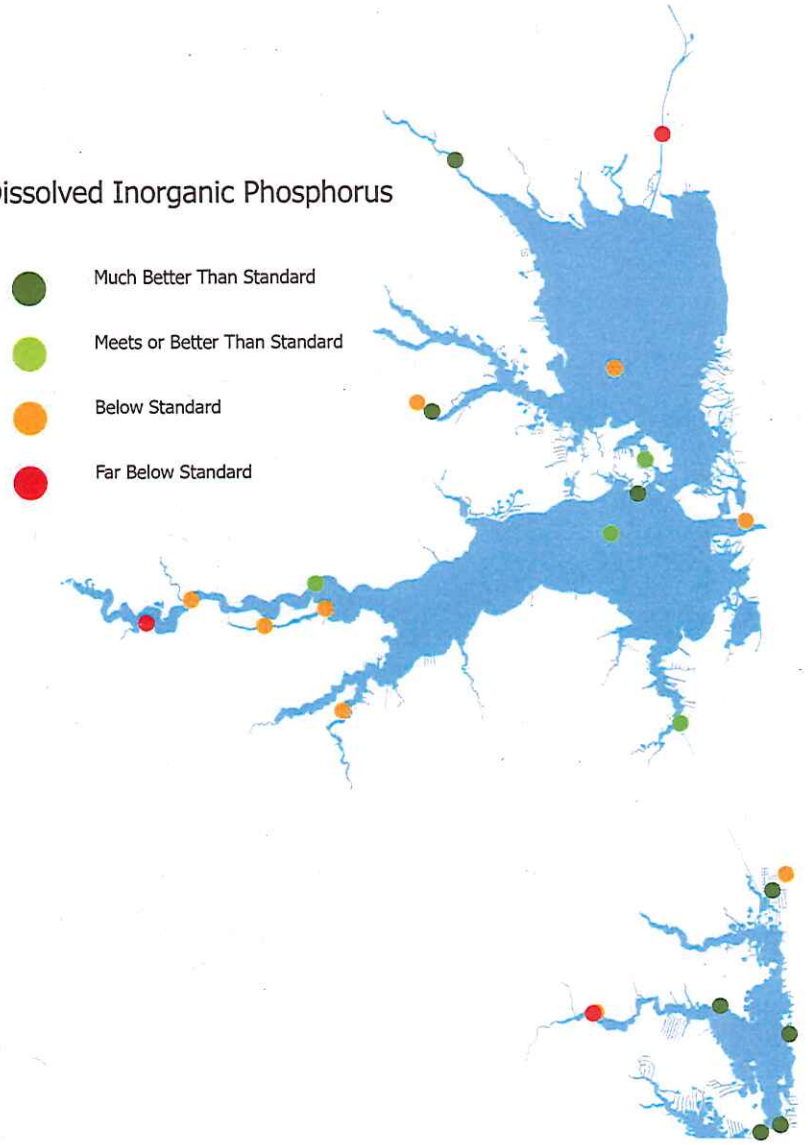


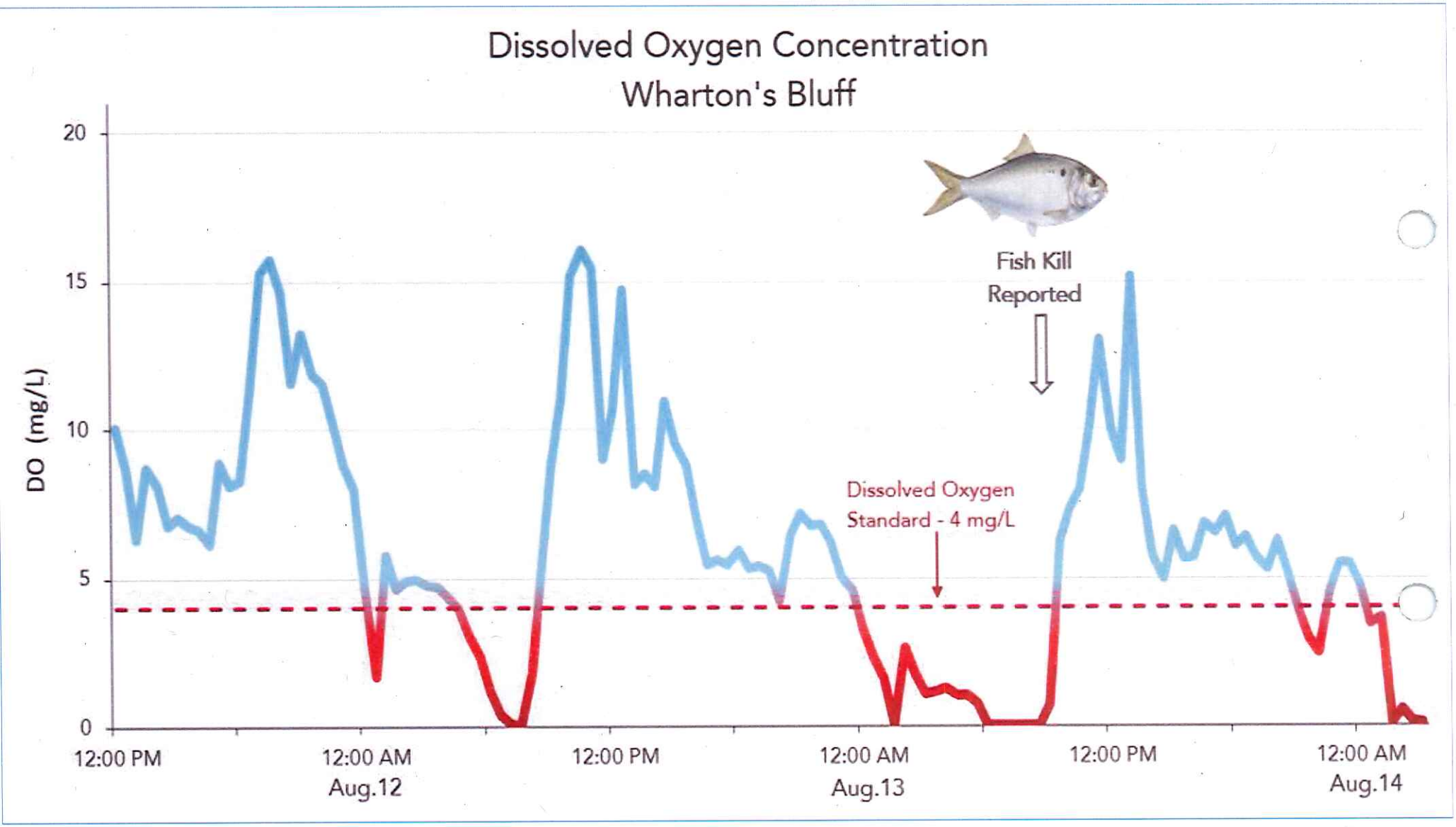
Figure 1. Total nitrogen and total phosphorus trends at nontidal monitoring stations in the Chesapeake Bay watershed. Data from Moyer and Langland (2020). (lbs, pounds; NY, New York; MD, Maryland; PA, Pennsylvania; VA, Virginia; WV, West Virginia; DE, Delaware) ***CREDIT USGS***

Dissolved Inorganic Nitrogen



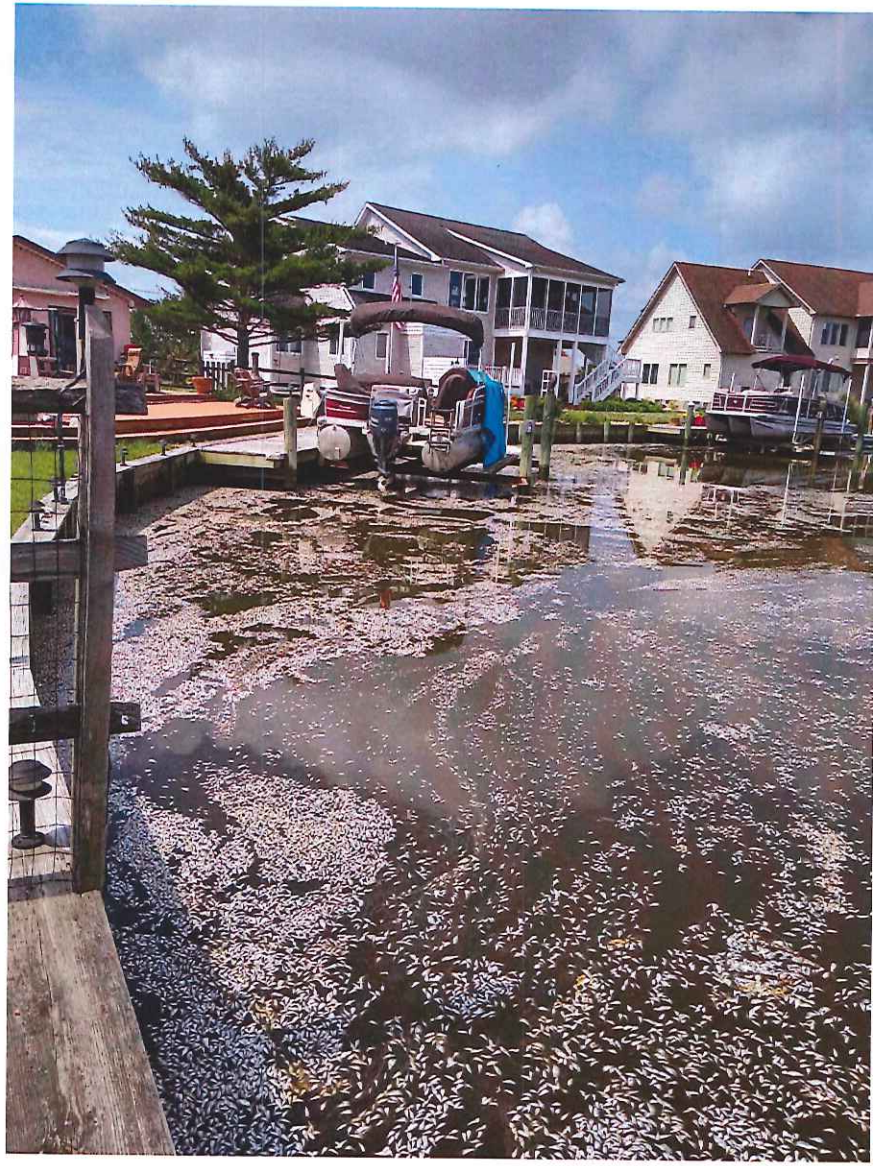
Dissolved Inorganic Phosphorus

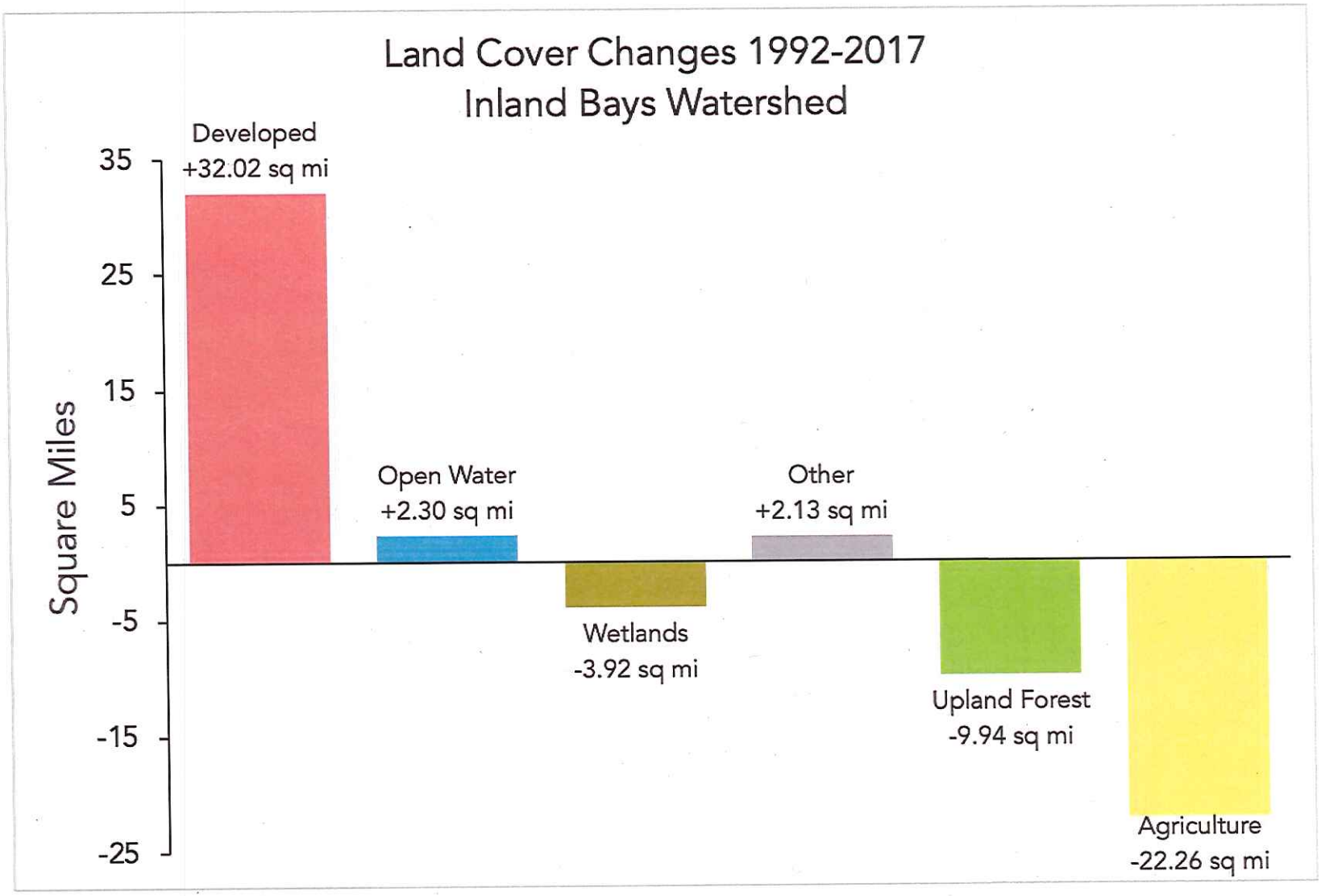



Dissolved Oxygen Concentration
Wharton's Bluff
DO (mg/L)
20
15
10
5
0
Fish Kill
Reported
Dissolved Oxygen
Standard - 4 mg/L
12:00 PM
12:00 AM
Aug.12
12:00 PM
12:00 AM
Aug.13
12:00 PM
12:00 AM
Aug.14

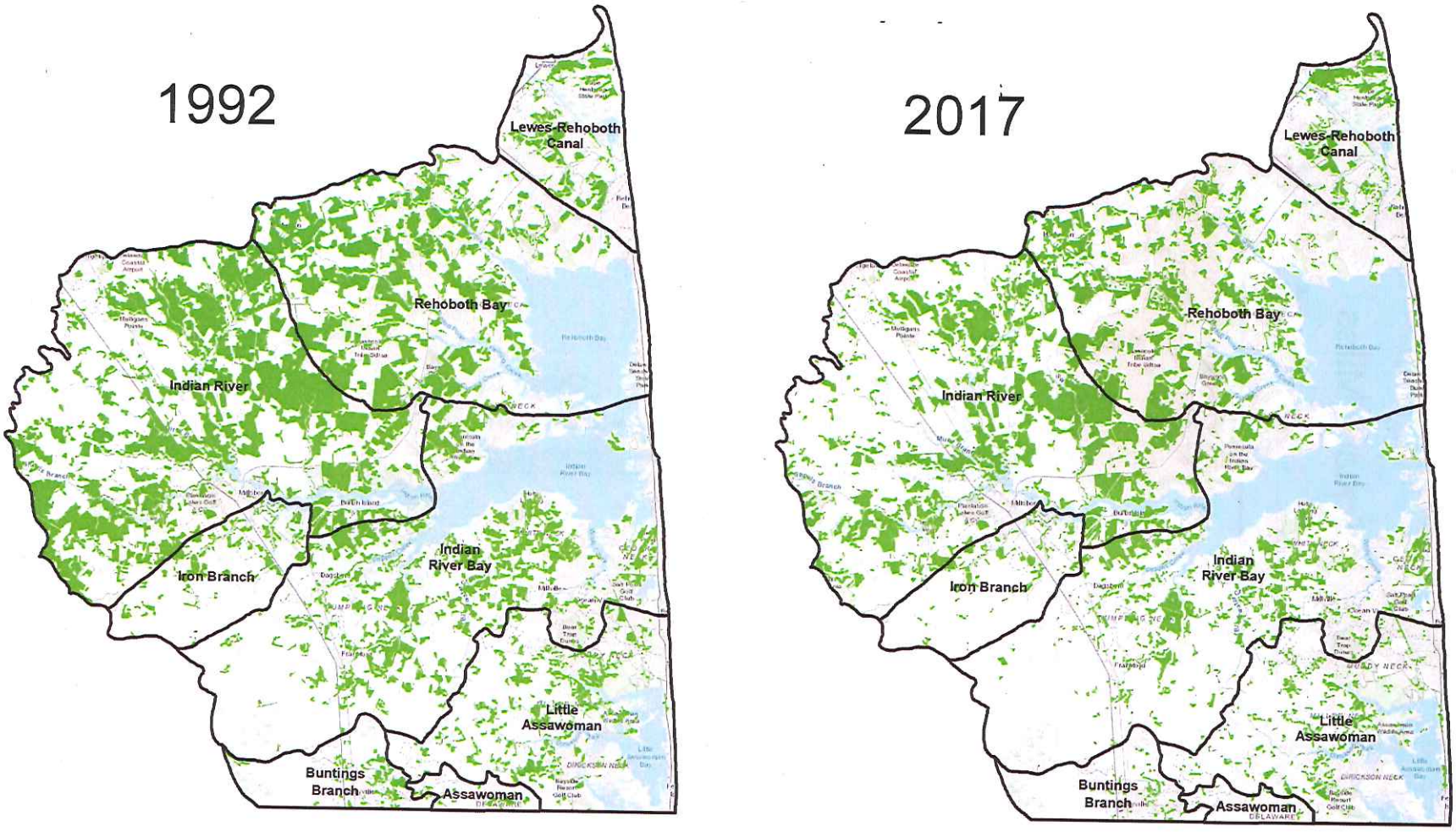
2021 set record for number of Inland Bays fish kills

- 15 recorded
- In canals creeks and open waters
- ~2 million fish mostly menhaden
- Low dissolved oxygen

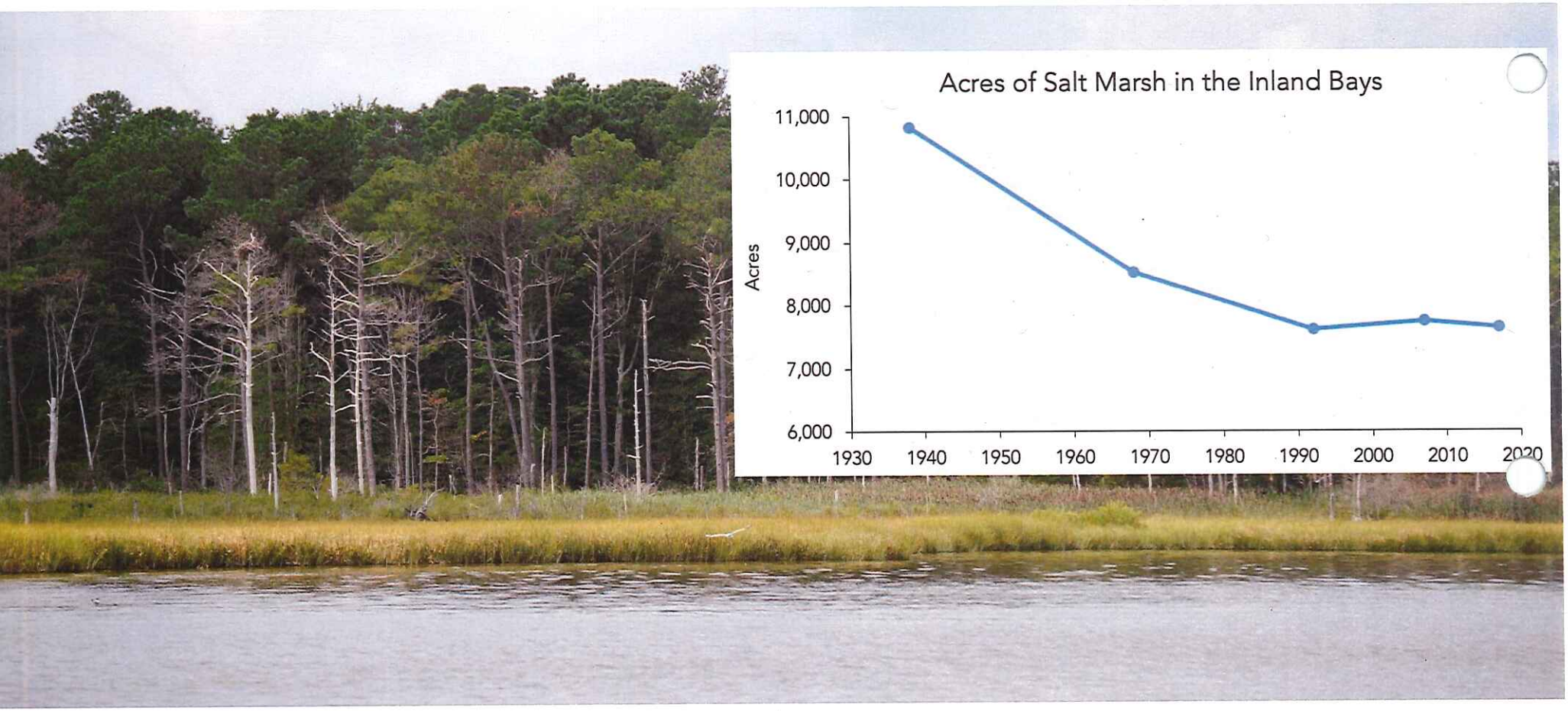


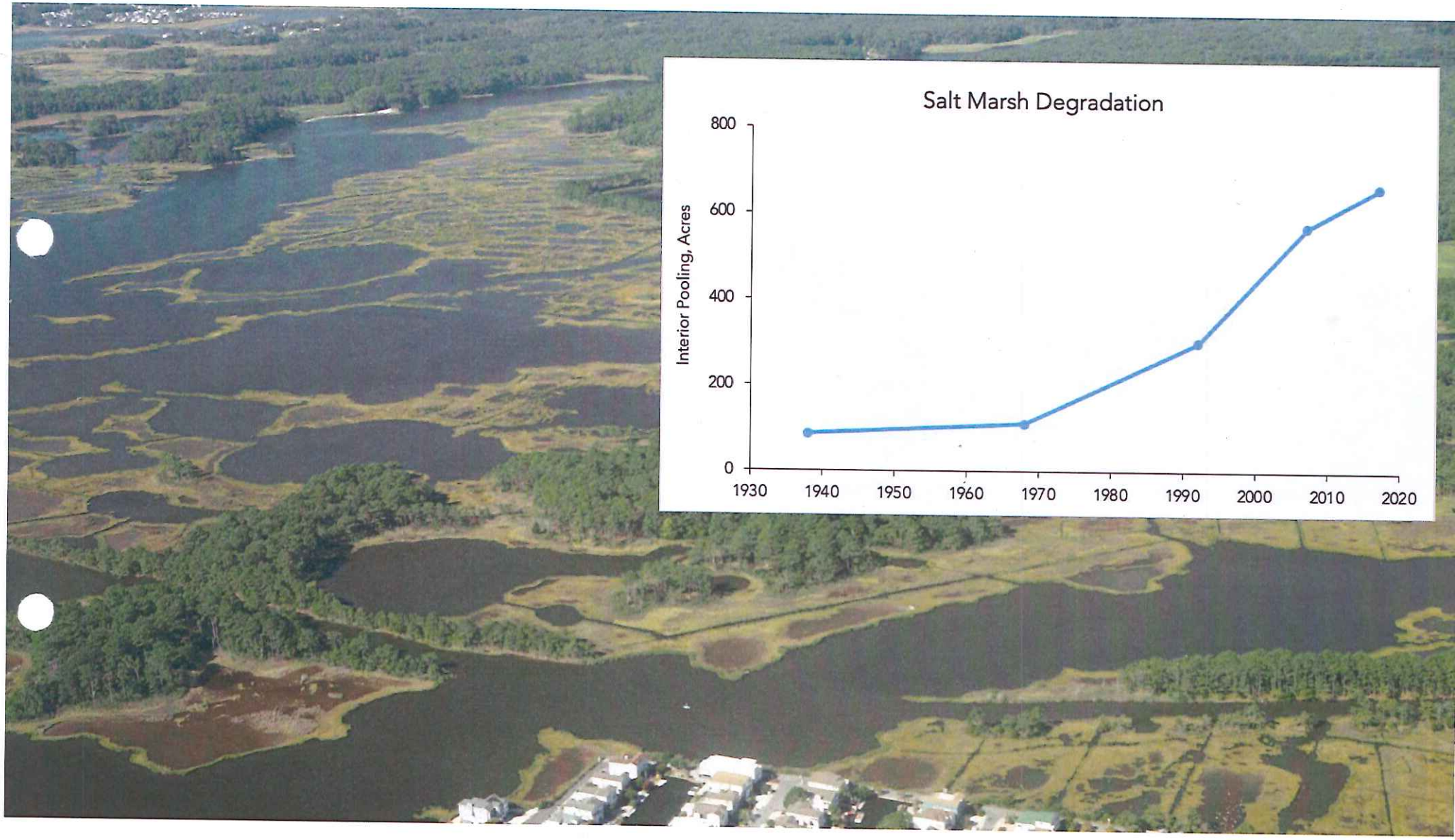

Land Cover Changes 1992-2017
Inland Bays Watershed
Square Miles
35
25
15
5
-5
-15
-25
Developed
+32.02 sq mi
Open Water
+2.30 sq mi
Wetlands
-3.92 sq mi
Other
+2.13 sq mi
Upland Forest
-9.94 sq mi
Agriculture
-22.26 sq mi

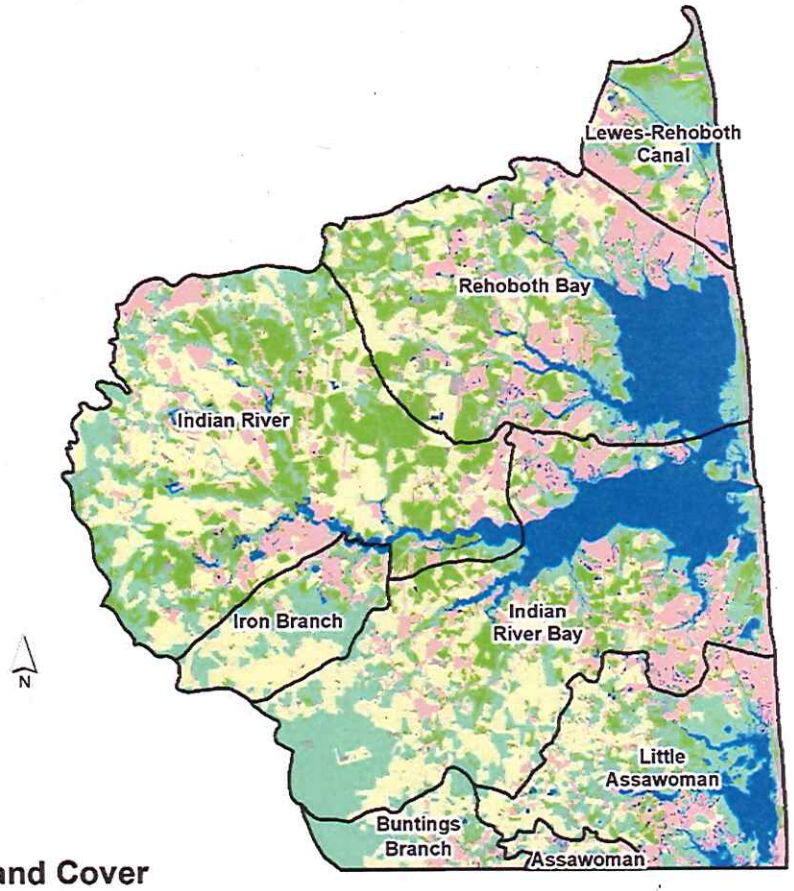
Changes in Upland Forest Cover Over Time



Salt Marsh Acreage and Condition Trends



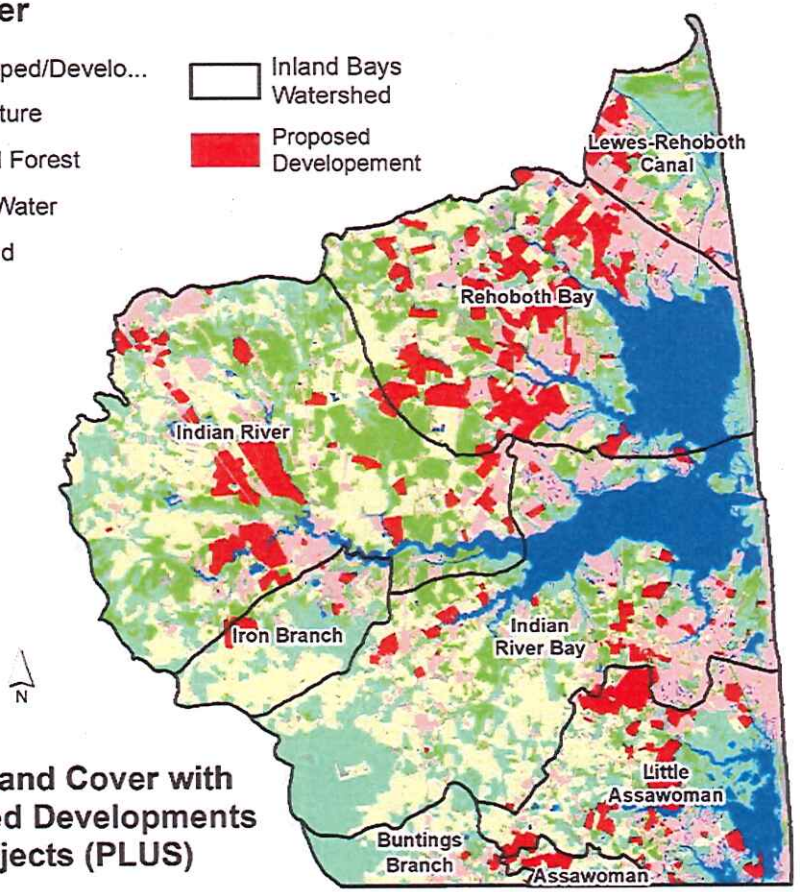

Salt Marsh Degradation
Interior Pooling, Acres
800
600
400
200
0
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020



2017 Land Cover

Land Cover

- Developed/Develo...
- Agriculture
- Upland Forest
- Open Water
- Wetland
- Other
- Inland Bays Watershed
- Proposed Developement



2017 Land Cover with Proposed Developments Projects (PLUS)

Flooding on the rise

- 2021 State of High Tide Flooding for Lewes by NOAA
  - 4 high tide flood days in yr 2000
  - 8 high tide flood days in yr 2020
  - 15-30 high tide floods days projected for yr 2030

- Sea level rise off our coast is 1.3 to 2.2 inches/yr (NOAA); global and atlantic coast hotspot for rise

- Sea level rise projections from Delaware Geological Survey are
  - 1.5 feet by 2050
  - 3.3 feet by 2080


2008 Bethany


3129
2015 Fred Hudson Road


2016 Dewey Beach


2019 Bethany Beach

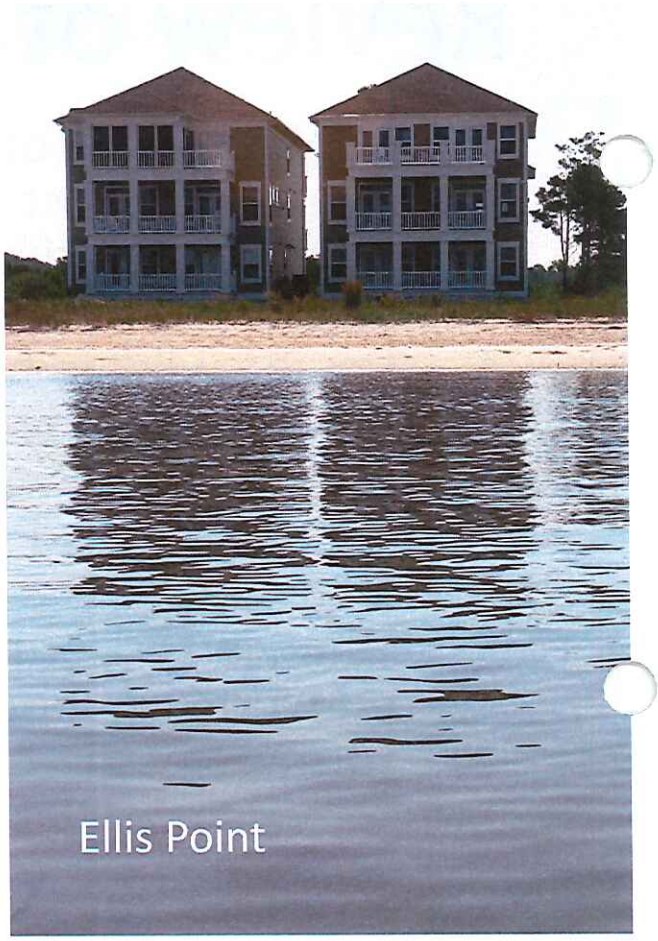

Long Neck 2019 - credit
Driscoll Drones

Building happening in flood prone areas

From 2010 to 2017 Sussex Co. had 3rd-highest number of homes built in 10-year flood risk zone of any ocean coastal county in US.

Flood risk zone defined as area projected to be exposed to at least a 10-year flood threat in yr 2050 under sea level rise projections corresponding to moderate green house gas emission cuts.

From *Ocean at the Door: New Homes and the Rising Sea 2019 Edition. Climate Central.*



Review of Buffer Purposes

1. Protect the Resources and their associated functions.
2. Improve/protect water quality via sediment filtration, reduce impact of nutrient loading on Resources, moderate water temperature, and enhance infiltration and stabilization of channel banks.
3. Provide wildlife habitat via nesting, breeding, and feeding opportunities; provide sanctuary/refuge during high water events; protect critical water's edge habitat; and protect rare, threatened, and endangered species associated with each Resource and its upland edge.
4. Enhance and/or maintain the flood plain storage functionality via reduction of flood conveyance velocities as well as dissipation of stormwater discharge energy.

Wetlands and Waterways Buffer Policy Comparison

Characteristic	Sussex Co. Current	Sussex Co. Proposed	CIB Recommends	Kent Co.	New Castle Co.	State of NJ	State of MD Critical Areas.
Tidal Wetlands & Waters Width	50 ft.	100 ft.	80 - 500 ft.	100 ft.	100 ft.	300 ft.	100 - 200 ft.
Nontidal Wetlands Width	0 ft.	30 ft.	50 - 100 ft.	25 ft.	50 ft.	0 - 150 ft.	25 ft.
Smaller / Intermittent Streams Width	0 ft.	30 ft.	35 - 150 ft.	50 ft.	100 ft.	300 ft.	≥100 ft.
Larger / Perennial Streams Width	0 - 50 ft.*	50 ft.	80 - 150 ft.	100 ft.	100 ft. or 50 ft. from floodplain	300 ft.	≥100 ft.
Variable Width Buffer Allowance	No	Yes**	No	No	No	Yes***	No
Vegetation Type	Natural	Forest or meadow****	Natural/Forest	Natural/Forest	Natural/Forest	Existing Veg. or Natural/Forest	Natural/Forest
Protects Existing Forest	Yes, but not enforced.	No	Yes	Yes	Yes	Yes	Yes
Revegetation with Trees	Yes, but not enforced.	No	Yes	Yes	Yes	Yes	Yes

Achievements of Ordinance

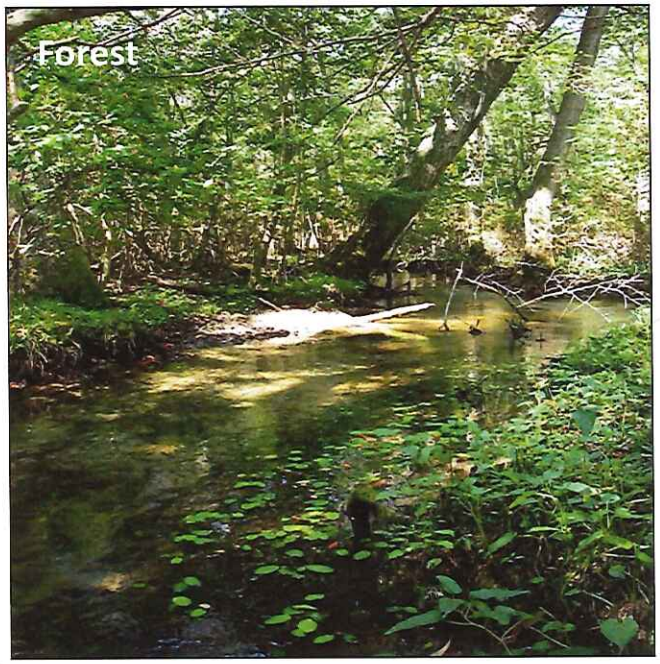
- Includes consensus points of buffer work group regarding features, widths, activities, and site design flexibility (buffer averaging)
- Specifies purposes of buffer
- Requires Management Plan
- Includes access to features through easement

Recommended Amendments to the Proposed Ordinance

- Requirement for protecting and restoring forest
- Restriction of selective cutting to small lengths of buffers on only tidal wetlands and waters and freshwater ponds.
- Removal of Resource Buffer Options Section
- Clarify Maintenance of Drainage Conveyance

Protection and Restoration of Forest

- Forested buffers best meet purposes of the ordinance.
- Forests existing at time of application must be preserved.
- Eliminate non-forest buffer standard and require forest or natural shrubland in all buffer areas except where otherwise permitted by activities list.
- Buffers without forest at time of application must submit native species planting plan and invasive species control plan to restore native forest to defined standard and time period
  - In agreement with activities section
  - similar in approach to forested and/or landscape buffer strip code
  - Include forest maintenance requirement in management plan

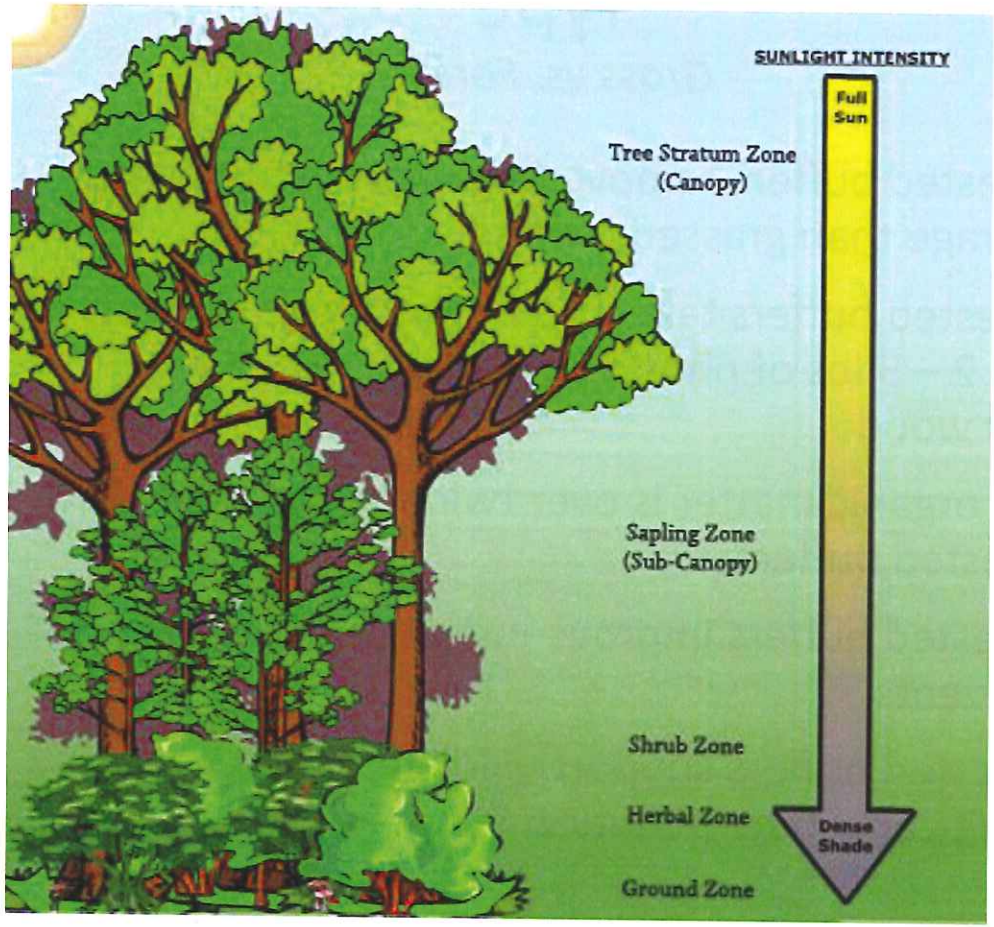


Buffer Vegetation Type

Grass vs. Forest

- Forested buffers remove 36% more nitrogen on average than grassed buffers
- Forested buffers take up 11 – 37 lbs of nitrogen and 2 – 5 lbs of phosphorus per acre per year into wood
- Soil organic matter is over twice as high in forested buffers
- Forested buffers improve instream processing of nutrients
- Forested buffers support wildlife habitat and don't contribute pollution

FOREST STRUCTURE



- The amount of forest in an estuary's watershed, particularly near the water, has significant positive influence on the health of the estuary's baygrasses, crabs, and marsh birds (Li et al. 2007. Estuaries and Coasts. 30, 840-854; and references therein)
- Each layer of forest provides buffering capacity to the wetland or water.
- Each layer provides habitat niches for wildlife

Selective Cutting

- Current permission has no defined purpose

- Should be clarified it is to provide viewscapes and be permitted for only buffers on tidal waters and wetlands and freshwater ponds where views are commonly desired.

- Selective cutting should only be allowed in 20% of the length a buffer feature and cutting should be minimized to preserve buffer function while allowing views.

Remove Resource Buffer Options

- Need for flexibility in site design provided by buffer averaging.
- Options should not reduce width of buffers which are already on the low end of effectiveness.
- Options should not reduce the effectiveness of another ordinance with a separate purpose (perimeter buffer) to attempt to create an effective waterway and wetland buffer ordinance.
- Incentives for additional buffer protection above the baseline increase proposed should be considered (e.g. extra units)

Clarification of Maintenance of Drainage Conveyances

- Page 27, Line 763. "The location of any stream blockages such as debris jams, fallen or unstable trees, beaver dams or similar impediments to conveyance..."

- Add... "that have a high likelihood of causing flooding resulting in damage to property and infrastructure."

- Clarifies that these are natural and beneficial features of streams to be managed appropriately.

- Define "positive conveyance."

Lauren DeVore

From: E Lee <eulmlee@gmail.com>
Sent: Wednesday, November 3, 2021 3:08 PM
To: Planning and Zoning
Subject: Buffer/Wetlands Ordinance

FILE COPY

Follow Up Flag: Follow up
Flag Status: Completed

These are my comments for the new Buffer/Wetlands Ordinance:

- Line 522 - **[and]** ***in***

  I have to ask the reason for this change.
  If anything should be changed, the term 'reasonable' should be defined in categories.

- **Table 2: Resource Buffer Activities by Zone** shows that the following is permitted both in Zone A and Zone B:

  8. Structured crossings or Resources such as bridges or boardwalks which may not require a State or Federal permit.

  So, in what circumstances there would not be a requirement for a permit? Does this mean the Boardwalk community in North Bethany and bridges over wetlands will continue to be allowed?

- **Selective Cutting**

  This is ambiguous. Please define the criteria of 'selective cutting.'

- **Resource Buffer Averaging and Enhancement**

  The language is difficult to picture the situations where buffer swapping occurs. Could you explain more in the presentation? Also, could you take questions after the presentation?

- **Size of Major vs. Minor Subdivision**

  Is the number of lots for minor vs. major subdivisions changed? Why did this become part of the Buffer Ordinance?

Thank you.

FILE COPY

Christin Scott

From: Swallow, Danielle <dswallow@udel.edu>
Sent: Tuesday, November 2, 2021 1:10 PM
To: Planning and Zoning
Cc: Mark Schaeffer; Mark Schaeffer
Subject: Proposed Buffer Ordinance comments

SUPPORT EXHIBIT

I served as an official member of the County's Wetlands and Buffers Working Group, representing my organization, Delaware Sea Grant based at the University of DE. I hereby submit my comments relating to: AN ORDINANCE TO AMEND CHAPTER 99, SECTIONS 99-5, 99-6, 99-7, 99-23, 99-24, 99-26, AND 99-30, AND CHAPTER 115 SECTIONS 115-4, 115-25, 115-193, 115- 220 AND 115-221 REGARDING CERTAIN DRAINAGE FEATURES, WETLANDS AND WATER RESOURCES AND THE BUFFERS THERETO.

1. The working group agreed to this definition for Resource Buffer Functions as it pertains to flood management: "Reduce flood velocities, *provide additional storage/conveyance*, reduce stormwater discharge energy." (This definition was briefed to Council). The proposed ordinance's definition misses a critical piece after "via". It says, "Enhance and/or maintain the flood plain storage functionality via reduction of flood conveyance velocities as well as dissipation of stormwater discharge energy" but the examples listed after "via" are only part of it. Storage cannot be achieved without land and vegetation which is part of the reason for a buffer. Please revise the definition in the proposed ordinance to: "Enhance and/or maintain the flood plain storage functionality via **land and vegetation for storage**, reduction of flood conveyance velocities as well as dissipation of stormwater discharge energy."
2. As a member of the Working Group, I applaud the County for wanting to expand buffers and I support the ordinance and the need to provide some incentives and options to developers. However I worry the buffers will not remain intact or perform their required functions with so many options/incentives that reduce buffer size, etc. I respectfully request that the County reduce the # of options/incentives to strike a more appropriate balance.
    a. Incentives should NEVER result in a net reduction of buffer size from today's existing levels. Buffer reductions of 75- 200 ft are allowed in exchange for forest preservation or conservation easements in §115-193 G.2. What is the County's science/methodology for proposing the size of these reductions?
    b. Trading buffers for forest and conservation easements should be allowed if all 3 functions that a buffer performs (water quality, habitat, and flood management) are met by that easement and it is on the same water resource. Otherwise it's not 1 for 1.
3. I do not see many enforcement mechanisms included in this ordinance. Who enforces the Selective Cutting part, for instance? Most HOAs do not have the expertise to manage this. What is to stop one parcel from selective cutting up to 30 ft and then two parcels down, another property selective cuts for 30 ft? I worry this section could result in a patchwork of cutting and a buffer incapable of performing all 3 of its functions. If a provision in this ordinance hampers the ability of buffers to perform any one of their 3 functions, please revise that provision.
4. The Drainage provisions in §115-193 F.1 classifies all resource buffers as drainage easements, but the County did not produce any data showing the need. This topic came up very late in our working group process and was not part of our scope. The majority of this language was developed outside of the working group process and should not be considered an endorsement by our group. Please produce data showing the need is widespread. Otherwise it feels like overreach.

5. Will the provisions in §115-193 F.1 (Resource Buffer Options) undercut the intent of the recently passed ordinance concerning cluster subdivisions in the coastal areas? If cluster subdivisions are to follow higher standards, will allowing the developer to trade the resource buffer for conservation easements or preservation of forest undermine the original intent, which is to have them go above and beyond?

Respectfully,
Danielle Swallow
Coastal Hazards Specialist
Delaware Sea Grant

Christin Scott

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Sunday, October 31, 2021 11:49 AM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

Submitted on Sunday, October 31, 2021 - 11:48am

Name: John King
Email address: 254jk@comcast.net
Phone number: 302-629-4173
Subject: Buffer ordinance
Message: Please support the proposed buffer ordinance this coming November 4. We need to protect our wetlands, and the land that will become wetlands in the future.

FILE COPY

SUPPORT EXHIBIT

FILE COPY

Jamie Whitehouse

From: webmaster@sussexcountyde.gov on behalf of Sussex County DE <webmaster@sussexcountyde.gov>
Sent: Wednesday, October 27, 2021 10:47 AM
To: Planning and Zoning
Subject: Submission from: Planning & Zoning Commission contact form

RECIPIENTS: Jamie Whitehouse

SUPPORT EXHIBIT

Submitted on Wednesday, October 27, 2021 - 10:46am

Name: L Cherney
Email address: chern5@aol.com
Phone number: 410-419-9464
Subject: Buffers
Message:
Please let it be known that I support increasing buffer zones around wetlands and forest, and bringing them in line with the other counties here in Delaware. Increasing the buffers will have a tremendous positive effect on reducing runoff, and increasing the health of inland bays and wetlands. It is important in this time of increased development, that we be forward- thinking in protecting the great amount of wetlands in Sussex county. We are the lowest county in the state, which has the lowest mean elevation of any state in the country. We have a responsibility and a privilege to protect our resources. Thank you, L Cherney

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Of the **The News Journal Media Group,** a newspaper printed, published and circulated in the State of Delaware, who being duly sworn, deposeth and saith that the advertisement of which the annexed is a true copy, has been published in the said newspaper 1 times, once in each edition dated as follows :

10/16/2021 **A.D 2021**

Melanie Altz
Sworn and subscribed before me, this 16 day of October, 2021

Linda Kennedy

Ad Number: 0004958499

Legal notification printed at larger size for affidavit.

MELANIE C. ALTZ
MY COMMISSION EXPIRES
NOV. 19, 2024
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NEW JERSEY

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NOV 01 2021
SUSSEX COUNTY
PLANNING & ZONING

Ad Number: 0004958499 Run Dates: 10/16/2021

The Sussex County Planning & Zoning Commission will hold a Public Hearing on **Thursday, November 4, 2021 at 3:00 pm.** The Sussex County Council will hold a Public Hearing on **Tuesday, November 30, 2021 at 1:30 pm** to hear and consider the following applications. All public hearings are held in County Council Chambers, 2 The Circle, Georgetown, DE. The hearings will be conducted using both in-person appearances and teleconference technology. The public is encouraged to participate in the hearings. Further instructions describing the method of public participation and the manner of viewing the hearings will be contained within the Agendas for both of these meetings that will be posted at least 7 days in advance of each meeting at sussexcountyde.gov.

C/U 2273 Michael Parsons

AN ORDINANCE TO GRANT A CONDITIONAL USE OF LAND IN AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT FOR THE USE OF COMMERCIAL DELIVERIES OF PARTS TO BE SOLD OFFSITE TO BE LOCATED ON A CERTAIN PARCEL OF LAND LYING AND BEING IN INDIAN RIVER HUNDRED, SUSSEX COUNTY, CONTAINING 0.99 ACRES, MORE OR LESS. The property is lying on the south side of Pecan Drive, approximately 475 ft. east of Hopkins Road (S.C.R. 286). 911 Address: 30274 Pecan Drive, Lewes. Tax Parcel: 234-5.00-49.00

C/U 2314 Millsboro Fire Company

AN ORDINANCE TO GRANT A CONDITIONAL USE OF LAND IN AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT FOR A FIRE DEPARTMENT SUBSTATION TO BE LOCATED ON A CERTAIN PARCEL OF LAND LYING AND BEING IN DAGSBORO HUNDRED, SUSSEX COUNTY, CONTAINING 1.54 ACRES, MORE OR LESS. The property is lying on the northeast corner of Millsboro Highway (Rt. 24) and Lewis Road (S.C.R. 409). 911 Address: 30134 Millsboro Highway, Millsboro. Tax Parcel: 133-20.00-17.16

C/Z 1936 OA-BP Marina Bay-Lakeside, LLC

AN ORDINANCE TO AMEND THE COMPREHENSIVE ZONING MAP OF SUSSEX COUNTY FROM A MR-RPC MEDIUM DENSITY RESIDENTIAL DISTRICT – RESIDENTIAL PLANNED COMMUNITY TO A MR-RPC MEDIUM DENSITY RESIDENTIAL DISTRICT RESIDENTIAL PLANNED COMMUNITY TO AMEND CONDITIONS OF APPROVAL OF CHANGE OF ZONE NO. 1883 (ORDINANCE NO. 2690) AND CHANGE OF ZONE NO. 1475 (ORDINANCE NO. 1573) RELATING TO THE MAXIMUM NUMBER AND TYPES OF HOUSING PERMITTED FOR A CERTAIN PARCEL OF LAND LYING AND BEING IN INDIAN RIVER HUNDRED, SUSSEX COUNTY, CONTAINING 778.39 ACRES, MORE OR LESS. The property is lying on the south end of Bay Farm Road (S.C.R. 299) and the south side of Trinity Road (S.C.R. 299A). 911 Address: N/A. Tax Parcels: 234-30.00-1.00 thru 430.00.

C/Z 1937 Double DB, LP

AN ORDINANCE TO AMEND THE COMPREHENSIVE ZONING MAP OF SUSSEX COUNTY FROM AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT AND GR GENERAL RESIDENTIAL DISTRICT TO AN AR-1/MR-RPC AGRICULTURAL RESIDENTIAL DISTRICT AND MEDIUM DENSITY RESIDENTIAL DISTRICT-RESIDENTIAL PLANNED COMMUNITY FOR A CERTAIN PARCEL OF LAND LYING AND BEING IN INDIAN RIVER HUNDRED, SUSSEX COUNTY, CONTAINING 29.07 ACRES, MORE OR LESS. The property is lying on the west side of Wil King Rd. (Route 288) approximately 0.89 miles north of Conleys Chapel Road (Route 280B). 911 Addresses: 20440, 20452, and 20464 Wil King Road, Lewes. Tax Parcels: 234-6.00-26.00, 26.01, 26.02, 26.03, 26.05, and 59.19.

The Sussex County Planning & Zoning Commission will hold a Public Hearing on **Thursday, November 4, 2021 at 3:00 pm.** The Sussex County Council will hold a Public Hearing on **Tuesday, December 7, 2021 at 1:30 pm** to hear and consider the following applications. All public hearings are held in County Council Chambers, 2 The Circle, Georgetown, DE. The hearings will be conducted using both in-person appearances and teleconference technology. The public is encouraged to participate in the hearings. Further instructions describing the method of public participation and the manner of viewing the hearings will be contained within the Agendas for both of these meetings that will be posted at least 7 days in advance of each meeting at sussexcountyde.gov.

AN ORDINANCE TO AMEND CHAPTER 99, SECTIONS 99-5, 99-6, 99-7, 99-23, 99-24, 99-26, AND 99-30, AND CHAPTER 115 SECTIONS 115-4, 115-25, 115-193, 115-220 AND 115-221 REGARDING CERTAIN DRAINAGE FEATURES, WETLANDS AND WATER RESOURCES AND THE BUFFERS THERETO.

AN ORDINANCE TO AMEND THE FUTURE LAND USE MAP OF THE COMPREHENSIVE PLAN IN RELATION TO TAX PARCEL NO. 234-23.00-270.00

All interested parties should participate and provide testimony. If you are unable to participate in the public hearing, written comments will be accepted. Written comments shall be submitted prior to the public hearing.

Additional information pertaining to the applications may be reviewed online at sussexcountyde.gov prior to the meeting or by calling 302-855-7878. Office hours are Monday through Friday, 8:30 am to 4:30 pm.
10/16-NJ

0004958499-01

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County of Kent:

Before me, a Notary Public, for the County and State aforesaid. Darel LaPrade, known to me to be such, who being sworn according to law deposed and says that he is the Publisher of **Delaware State News,** a daily newspaper published at Dover, County of Kent, and State of Delaware,and that the notice, a copy of which is hereto attached, as published in the **Delaware State News** in its issue of 10/16/21.

Darel LaPrade

Publisher
Independent Newsmedia Inc. USA

Sworn to and subscribed before me this 16th Day of October, A.D., 2021

ROXANNE BROOKS
NOTARY PUBLIC
STATE OF DELAWARE
MY COMMISSION EXPIRES March 9, 2023

Roxanne Brooks

Notary Public

The Sussex County Planning & Zoning Commission will hold a Public Hearing on **Thursday, November 4, 2021 at 3:00 pm.** The Sussex County Council will hold a Public Hearing on **Tuesday, November 30, 2021 at 1:30 pm** to hear and consider the following applications. All public hearings are held in County Council Chambers, 2 The Circle, Georgetown, DE. The hearings will be conducted using both in-person appearances and teleconference technology. The public is encouraged to participate in the hearings. Further instructions describing the method of public participation and the manner of viewing the hearings will be contained within the Agendas for both of these meetings that will be posted at least 7 days in advance of each meeting at sussexcountyde.gov.

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C/Z 1936 OA-BP Marina Bay-Lakeside, LLC
AN ORDINANCE TO AMEND THE COMPREHENSIVE ZONING MAP OF SUSSEX COUNTY FROM A MR-RPC MEDIUM DENSITY RESIDENTIAL DISTRICT – RESIDENTIAL PLANNED COMMUNITY TO A MR-RPC MEDIUM DENSITY RESIDENTIAL DISTRICT RESIDENTIAL PLANNED COMMUNITY TO AMEND CONDITIONS OF APPROVAL OF CHANGE OF ZONE NO. 1883 (ORDINANCE NO. 2690) AND CHANGE OF ZONE NO. 1475 (ORDINANCE NO. 1573) RELATING TO THE MAXIMUM NUMBER AND TYPES OF HOUSING PERMITTED FOR A CERTAIN PARCEL OF LAND LYING AND BEING IN INDIAN RIVER HUNDRED, SUSSEX COUNTY, CONTAINING 778.39 ACRES, MORE OR LESS. The property is lying on the south end of Bay Farm Road (S.C.R. 299) and the south side of Trinity Road (S.C.R. 299A). 911 Address: N/A. Tax Parcels: 234-30.00-1.00 thru 430.00.

C/Z 1937 Double DB, LP
AN ORDINANCE TO AMEND THE COMPREHENSIVE ZONING MAP OF SUSSEX COUNTY FROM AN AR-1 AGRICULTURAL RESIDENTIAL DISTRICT AND GR GENERAL RESIDENTIAL DISTRICT TO AN AR-1/MR-RPC AGRICULTURAL RESIDENTIAL DISTRICT AND MEDIUM DENSITY RESIDENTIAL DISTRICT-RESIDENTIAL PLANNED COMMUNITY FOR A CERTAIN PARCEL OF LAND LYING AND BEING IN INDIAN RIVER HUNDRED, SUSSEX COUNTY, CONTAINING 29.07 ACRES, MORE OR LESS. The property is lying on the west side of Wil King Rd. (Route 288) approximately 0.89 miles north of Conleys Chapel Road (Route 280B). 911 Addresses: 20440, 20452, and 20464 Wil King Road, Lewes. Tax Parcels: 234-6.00-26.00, 26.01, 26.02, 26.03, 26.05, and 59.19.

The Sussex County Planning & Zoning Commission will hold a Public Hearing on **Thursday, November 4, 2021 at 3:00 pm.** The Sussex County Council will hold a Public Hearing on **Tuesday, December 7, 2021 at 1:30 pm** to hear and consider the following applications. All public hearings are held in County Council Chambers, 2 The Circle, Georgetown, DE. The hearings will be conducted using both in-person appearances and teleconference technology. The public is encouraged to participate in the hearings. Further instructions describing the method of public participation and the manner of viewing the hearings will be contained within the Agendas for both of these meetings that will be posted at least 7 days in advance of each meeting at sussexcountyde.gov.

AN ORDINANCE TO AMEND CHAPTER 99, SECTIONS 99-5, 99-6, 99-7, 99-23, 99-24, 99-26, AND 99-30, AND CHAPTER 115 SECTIONS 115-4, 115-25, 115-193, 115-220 AND 115-221 REGARDING CERTAIN DRAINAGE FEATURES, WETLANDS AND WATER RESOURCES AND THE BUFFERS THERETO.

AN ORDINANCE TO AMEND THE FUTURE LAND USE MAP OF THE COMPREHENSIVE PLAN IN RELATION TO TAX PARCEL NO. 234-23.00-270.00

All interested parties should participate and provide testimony. If you are unable to participate in the public hearing, written comments will be accepted. Written comments shall be submitted prior to the public hearing.

Additional information pertaining to the applications may be reviewed online at sussexcountyde.gov prior to the meeting or by calling 302-855-7878. Office hours are Monday through Friday, 8:30 am to 4:30 pm.

502823 DSN 10/16/2021

Jamie Whitehouse

From: Keith Steck <steckke@gmail.com>
Sent: Thursday, November 4, 2021 12:34 PM
To: Planning and Zoning; Lauren DeVore; Jamie Whitehouse
Subject: Comments on Draft Wetlands Buffer Ordinance 21-10

Members of the P&Z Commission

I would appreciate my comments added to the record on today's hearing on the draft ordinance 21-10. Overall, I support the concept of and need for wetland buffers in Sussex County with qualifications. These buffers are essential for protecting farmland, forests, homes and other property, wildlife, and human life.

The wetlands and setback working group that helped develop the original proposals spent considerable time and energy developing the majority of what's being proposed today. I applaud their commitment and efforts.

That said, here are some issues that I believe need to be addressed.

First, in Sec. 99-23 T. (1)--lines 276-278--the sentence "The boundary will be shown per the methods identified in the definitions of Wetland and Ordinary High Water Delineation" needs to be modified. Lines 124 - 132 simply define Ordinary High Water Delineation; there is no method discussed so the language in lines 276 - 278 needs to be modified.

Second, and more substantive, there are some aspects included in the proposed ordinance that were not part of the original package and should not be included. Specifically, allowing exceptions for what are often called "viewscapes" by selectively cutting trees and vegetation in the buffer areas should not be allowed, as they are counter to the purpose of the buffers and are potentially dangerous to property, the land, and lives. Allowing "selective" removal of trees and branches damage and destroy the integrity of woods above and below ground. If you think of forests as buildings, you can better appreciate the importance of the need to leave the trees intact and integrated. For example, building codes don't allow for selective removal of studs or floor joists or rafters without supporting structures like doorways or headers. But allowing removal of trees or tree topping or removal of branches to improve the view of something without any other reason such as to remove damaged trees is the same thing as building a house and not putting in the required placement and number of needed studs and rafters and joists, etc. Talk to landscape architects and arborists and the like and they will tell you that trees in forests are integrated and if you remove trees and root balls it's like poking a hole in a wall or basement or fence; the strength of the building is seriously compromised because the trunk and branches and roots are intertwined with other trees and they collectively support each other in high winds and storms and help hold each other and soil in place. And even undergrowth is important to the integrity of the soil. Trees weakened by removal of trees in the middle or edges of buffers or trees "topped" or indiscriminately pruned are much more susceptible to wind damage or being blown over and often damage other trees, homes, other buildings, cars and even people.

Similarly, marsh grass and other non-tree vegetation is important to soil integrity, erosion control, and minimizing flooding. Farmers, land preservation experts and the like will tell you that is why riparian zones

and other vegetative strips along waterways are critical to controlling erosion and limiting silting and contamination of waterways.

So even seemingly "minor" changes have much greater impacts than are frequently understood. So allowing for these "selective" changes and exceptions are in fact exceptionally dangerous to property, life, and the environment.

Thanks for your attention,
Keith Steck
210 Lavinia St.
Milton, DE 19968

Jamie Whitehouse

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