Revised: March 26, 2020

Sussex County Buffer Ordinance Fact Sheet

Sussex County is proposing an ordinance that would protect the property values and the safety of its residents by requiring more-extensive natural buffers between new residential developments and both wetlands and waters. The ordinance was developed with input from a workgroup of stakeholders to protect water quality and wildlife habitat, and prevent flooding, while balancing property rights.

Why is this important

Sussex has poor water quality: 87% of its waterways are polluted, many severely so. This results in unsafe conditions and lowered economic values for its residents. Sussex is highly vulnerable to flooding and is losing its wetlands to development and sea level rise. Current buffer regulations provide minimal protection for its wetlands and waters relative to science-based recommendations and what is required by nearby counties and states.

Better buffers will protect the property values through reduced flooding, improved water quality and by creating open space. Protecting wetlands and forests and providing clean drinking water and clean streams, rivers, and bays are important elements of the County's Comprehensive Landuse Plan and the Inland Bays Comprehensive Management Plan.

Better buffers protect the rural character of Sussex County. By keeping new residents out of harm's way, they will reduce tax payer expenditures on drainage issues and natural disaster recovery. Buffers not only control pollution and flooding in the developments where they are required, but they also protect downstream waters like the Inland Bays.

What Can You Do to Help

This is the most important piece of environmental policy to be considered by the County in years. The ordinance will first be considered by the County Planning and Zoning Commission and then by County Council itself. Members need to hear from their constituents regarding important issues, and one-on-one personal conversations are best.

1.) Contact Planning and Zoning Commission[1] members to share your values about buffers.
2.) Contact Sussex County Council[2] members to share your values about buffers.
3.) Attend meetings of the Commission and Council to provide testimony.
4.) Write letters to the editor about the need for better buffers in Sussex County.

[1] https://sussexcountyde.gov/planning-zoning-commission
[2] https://sussexcountyde.gov/county-council

Summary of the Proposed Ordinance

How was it developed?

By a group of stakeholders and County staff tasked to recommend updates to the County code that balance protection of the environment with the preservation of property rights.

What land uses does it apply to?

Only to new major subdivisions (6 or more residential units) in Sussex County. Not to commercial developments, farms, existing developments or proposed developments having received preliminary approval by the County.

What does the ordinance do?

- Increases the width of buffers on tidal wetlands and water from 50 to 100 feet.
- Maintains the width of buffers on perennial streams (larger streams) at 50 feet.
- Increases buffer width on intermittent streams and non-tidal wetlands from 0 to 30 feet.
- Changes buffers from a fixed width to an average width.[3]
- Defines permitted uses in two zones of a buffer.
- Protects existing forest in the buffer at proposal of development project to the County, but not before.
- Allows selective cutting of trees and vegetation in forested buffers.
- Requires a management plan administered by a homeowners association for the buffer.
- Requires public easements for drainage maintenance of streams.
- Prohibits residential lot lines in the buffer area and requires a buffer management plan.

What does the ordinance <u>not</u> do?

- Explicitly consider sea level rise and future sea level[4]
- Meet science-based recommendations for buffers to protect from flooding, protect water quality, and provide adequate wildlife habitat.
- Provide protection of forests in buffer areas before proposal for development.
- Require reestablishment of forests in buffer areas without forests
- Qualify as a regulatory takings

[3] the width of any buffer can be reduced by up to 50% in exchange for an equal increase in width on the same or different buffers within the development.

[4] For example, rates of saltmarsh migration inland and increased flooding with accelerating sea level rise were not considered when deciding on buffer width for tidal wetlands.

What Should Be Improved About the Proposed Ordinance?

1. The February 14th version of the draft ordinance requires that non-forested buffer areas be maintained as meadows that can include non-native species and, potentially, fertilized lawns. This should be changed to best meet the functions of water quality, wildlife habitat, and flood control to require that non-forested buffers be planted with native trees and shrubs or allowed to undergo natural succession to forest while controlling for invasive species.
2. The current version of the draft ordinance may require unnecessary removal of existing forest and conversion to grassed areas for drainage purposes. It should be made clear that forested buffers of streams and wetlands be protected in all cases and disturbance minimized at the time that any drainage work may need to occur.

Important Q & A About the Ordinance

1. Will the ordinance affect the density of homes in a proposed development? While it is not the purpose or intention of the ordinance it will likely result in reduced area on which to build houses for some proposed developments.
2. Will this ordinance be more consistently applied and enforced than the current code? The revised code will provide a clearer mechanism for application and enforcement but this will depend on the will of the Council.
3. Does the current code apply to proposed commercial developments? No and the proposed ordinance does not either.
4. Would the proposed ordinance apply to mixed-use communities with both commercial and residential communities (a.k.a. Residential planned communities? Yes it would.

History of Efforts to Realize Better Buffers in Sussex

In 1988, the existing County buffer ordinance was enacted in 1988 to require 50 foot wide natural buffers between new developments and tidal wetlands, tidal waters and perennial streams. Overtime the ordinance was inconsistently applied and enforced. Efforts to improve requirements for buffers on wetlands and waters have been underway for 25 years.

In 1995, the Inland Bays Comprehensive Conservation and Management Plan, to which County Council is a signatory, included an action for the County to expand a shoreline building setback from 50 to 300 feet[5]. However, no action was taken by the County to do so.

In 2008, the Delaware Department of Natural Resources and Environmental Control passed a buffer zone regulation as a part of the Inland Bays Pollution Control Strategy requiring buffers of 30 to 100 feet on tidal wetlands, tidal waters and both perennial and intermittent streams. In 2011, the Delaware Supreme Court struck the regulation from the Strategy as a result of a legal challenge by Sussex County and others which asserted that zoning was the purview of the County and not the State.

In 2012, the Inland Bays Comprehensive Conservation and Management Plan was updated with an addendum that included an action to revise the existing Sussex County buffer ordinance to be in line with recommendations published by the Center in 2008. In 2018, Sussex County completed their Comprehensive Plan in which assessing buffer requirements was included. In February of 2019, County Council formed the Wetlands and Waters Buffer Workgroup to develop recommendations for updating the existing County code. The time to improve the Sussex County code pertaining to buffers is now.

[5] Center for the Inland Bays. 1995. Delaware Inland Bays Comprehensive Conservation and Management Plan.

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.[6]
- 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[7]. At that rate another 1,147 acres would have been lost from 2007 to 2019. Saltmarshes

[6] Environmental Law Institute. 2008. Planner's Guide to Wetland Buffers for Local Governments.
[7] 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[8].

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[9]. 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[10].

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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[8] Center for the Inland Bays. 2016. State of Delaware's Inland Bays 2016.
[9] Center for the Inland Bays & DNREC. 2010. Wetland Health Report Card.
[10] 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.[11]

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[12].

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[13]. 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[14]. 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[15]. 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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[11] 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.,*
[12] DNREC. 2018. Resource, Conservation & Development Projects 21st Century Fund Annual Report
[13] Callahan et al. 2017. Recommendation of Sea-Level Rise Planning Scenarios for Delaware.
[14] Delaware Coastal Programs. 2012. Preparing for Tomorrow's High Tide.
[15] 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.[16] Economists estimate buffers in the Delaware River Watershed provide over $10,000 per acre per year of benefits to the public [17]. 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[18].

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[19].

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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[16] Kauffman, G.J. 2018. Socioeconomic Value of Delaware Wetlands.
[17] Econorthwest. 2018. The Economic Value of Riparian Buffers in the Delaware River Basin.
[18] Narayan et al. 2017. Scientific Reports.
[19] 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[20]. 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.[21] 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.[22]

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[20] Sussex County. 2019. Sussex County Comprehensive Plan.
[21] Sussex County 2020. Application data provided Feb. 2020.
[22] 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[23]. 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[24]. 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.[25]

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

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

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[26]. 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[27] 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[28].

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[29].

Disappearing Sussex Forests

Despite these benefits forests are at risk. Forest cover in Delaware is at its lowest level since 1907[30]. 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.[31] Forested ecosystems are replaced by non-native lawns with little value for native wildlife. In Delaware

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

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[32].

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.[33]

Another study found residents preferred forested buffers over grassed buffers in both rural and suburban areas.[34] 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."[35]

Would Better Buffers be a "Takings"

The potential of a regulatory takings, when a government limits the uses of property to such a degree that the regulation deprives the owners of economically reasonable use, is often raised as an argument against environmental policy changes.

According to Ken Kristl, Professor of Law and Director of the Environmental & Natural Resources Law Clinic at the Widener University Delaware Law School, the Takings Clause of the U.S. Constitution's Fifth Amendment (which is applicable to states and local governments) and Article I, § 8 of the Delaware Constitution both prohibit the taking of private property for public use without just compensation. Regulatory takings—that is, a taking of private property via the imposition of a government regulation—can occur when the regulation is said to "go too far." In Delaware, regulatory takings occur "when the government's regulation leaves no reasonable economically viable use of the property." *Port Penn Hunting Lodge Ass'n v. Meyer*, 2019 WL 2077600 at *6 (Del. Chancery May 9, 2019). While takings are a fact-specific inquiry, Delaware courts have found that a buffer requirement which results in the land still being available for use does not rise to the level of a regulatory taking. *See Ellery v. State ex rel. Secretary of Dept of Trans.*, 1993 WL 370839 at *2 (Del. Aug. 24, 1993) (100-foot buffer under Kent County zoning ordinance); *Village, L.L.C. v. Del. Agr. Lands Found.*, 2001 WL 168101 (Del. Super. Jan. 19, 2001), *rev'd on other grounds, In re 244.5 Acres of Land*, 808 A.2d 753 (Del. 2002) (50-foot buffer under Agricultural Lands Preservation Act).

Because the increase in the buffer area due to the ordinance will be small and only apply to major subdivisions, this will limit the effect on what can be built on the property or how it can

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[32] Delaware Statewide Ecological Extinction Task Force. 2017. Final Report.
[33] Sullivan, W.C., et al. 2004. Landscape and Urban Planning. 69, 299–313.
[34] Kenwick, R. a., et al. 2009. Landscape and UrbanPlanning, 91, 88–96.
[35] Kellert, S. and DJ Case and Associates. 2017. The Nature of Americans National Report: Disconnection and Recommendations for Reconnection.

be otherwise used economically. Furthermore the ordinance contains a waiver provision for an unwarranted hardship.