CB52-2015 my presentation

Marshall Davidson [marshalldavidson@yahoo.com]

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Sent: Tuesday, January 19, 2016 4:48 PM
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Attachments: Council presentation on CB52.pdf (23 KB) ; 5_Polluted Runoff in Howar~1.pdf (101 KB) ; A9R1hm0try_1ga4z87_2a4.pdf (398 KB) ; A9Rf1kuwe_qho6s9_5a0.pdf (3 MB) ; Stormwater Fact Sheet.pdf (5 MB)

Dear County Council,

Attached is my presentation for tonight. Thank you for the opportunity to be heard.

Sincerely,

Marshall Davidson
Columbia, Maryland

Council presentation on CB52-2015

Good evening. My name is Marshall Davidson. I live in Clary's Forest in Columbia. Council-woman Sigaty is my representative. This is the first time I have ever spoken before the Council. I am here to respectfully request that you vote ***against*** CB52-2015.

Just a little bit of information about myself, before I explain to you my concerns. I am a registered professional civil engineer with over 25 years of experience. My area of expertise is water resources. I have worked for public and private clients throughout Maryland. In my career, I have worked on numerous stormwater management projects. I have even taught stormwater management at the undergraduate level.

For the past 7 years, I have worked as a project manager in Howard County's Department of Public Works Transportation and Special Projects Division. I am speaking here today as a private citizen. The viewpoint I am presenting ***is not*** official Department of Public Works position. It is solely mine own.

As part of the State and Federal NPDES permit requirements, Howard County has promised to reduce levels of pollution entering the County's waterways. ***The County needs a dedicated funding source to meet these State and Federal requirements.*** Eliminating the Watershed Protection and Restoration Fee would be a serious mistake. Eliminating the fee does not eliminate the County's obligations under the State and Federal permit, instead it just makes achieving the solution much more difficult.

There are consequences for the County failing to meet the permit requirements. Federal and State funds will likely be withheld and there even could be fines issued. Furthermore, there are numerous societal and financial benefits for improving the County's waters. Please see the attachments I have provided from the Center for Watershed Protection and the Chesapeake Bay Foundation. Cleaner water benefits all of us. So we should all share in helping to address this problem.

Stormwater improvement projects require significant funds, along with the expertise of scientists, engineers, contractors and inspectors to name a few. These types of projects typically run in the hundreds of thousands of dollars. The executive, whom I admire, has proposed the reduction followed in FY 2018 by the elimination of this restoration fee. The funding would be replaced by General Funds out of the County's budget. My own personal observation is that this will be very difficult to achieve. The County is still recovering from the "Great Recession" and many departments are hit with budget cuts. Our County is growing, downtown Columbia is set to be redeveloped and new subdivisions are being proposed in the west and all over. Our pollution problem needs to be addressed and will only get worse if we do not act. Now is not the time to cut a much needed funding source that will benefit the entire County for generations to come.

Thank you for the opportunity to speak tonight.

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POLLUTED RUNOFF IN HOWARD COUNTY

Many of Howard County's local waters, including the Middle Patuxent River, the Upper Patuxent, the Little Patuxent and the Patapsco River Lower North Branch, are considered "impaired" by the Maryland Department of the Environment. This means that the water quality is too low to support the designated uses for those water bodies, such as water contact recreation and public water supply. In the Little Patuxent River, and likely many others, it has been determined that the water quality issues have mostly local origins that can be addressed by local actions.[1]

A major reason Howard County local waters and streams are threatened or already seriously impacted is the amount of hard, or impervious, surface in the streams' watersheds. Significant water quality and habitat impacts are observed in streams in watersheds with average impervious cover of about 10% or greater. In Howard County, the Tiber-Hudson subwatershed containing the historic County seat Ellicott City and the Deep Run subwatershed containing Elkridge both have an average imperviousness between 25% and 30%. In fact, most streams in Howard County's Patapsco Lower North Branch have enough average imperviousness to negatively impact water quality and habitat, with the exception of the Davis Branch area.[2] Impervious surfaces do not allow water to infiltrate, but rather increase the speed, temperature and volume of water, leading to polluted runoff.

Polluted runoff contaminates our local rivers and streams and threatens local drinking water. Water running off of roofs, driveways, lawns and parking lots picks up trash, motor oil, grease, excess lawn fertilizers, pesticides, dog waste and other pollutants and washes them into the streams and rivers flowing through our communities. This pollution causes a multitude of problems, including toxic algae blooms, harmful bacteria, extensive dead zones, reduced dissolved oxygen, and unsightly trash clusters. These problems result in beach closures, fish consumption advisories, and in some cases complete closure of fisheries. Although fish such as white perch, yellow perch and herring can be found in the Patapsco River mainstem downstream of Rockburn Branch and in Deep Run, pollution has made fishing undesirable in Howard. A fish consumption advisory has been issued by the Maryland Department of Environment for six fish species that may be caught in the Patapsco lower north branch watershed in Howard County.

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[1] Maryland Department of Natural Resources. *Little Patuxent River Watershed Characterization.* July 2001.
[2] Maryland Department of Natural Resources. *Characterization of the Patapsco River Lower North Branch Watershed in Howard County, Maryland.* February 2005.

Today, polluted runoff is the only major source of water pollution still on the rise. Using the 2009 baseline, urban runoff contributed **25%** of the total Nitrogen in Howard County.[3] Without a dedicated funding source like the fee, it will be a challenge for the County to address local water quality issues. As mentioned above, the pollution in Howard County waters has local origins, and must be addressed by local actions and solutions.

Howard County's impervious surfaces and the resulting polluted runoff contribute significant sediment loads to the Patuxent and Patapsco watersheds, which it shares with other jurisdictions. According to the Maryland Department of Environment, the highest sediment loads in the Little Patuxent watershed come from Howard County, at 6,950 tons per year. Howard County also contributes 5,366 tons of sediment per year into two segments of the Patapsco Lower North Branch. These sediment loads can choke stream invertebrates and fish, clog intakes and make water treatment more expensive for cities downstream. **An estimated 18,216 acres of Howard County is covered in impervious surfaces,[4] the most of any Maryland county without a major metropolitan area and almost as much as Washington DC** (see attached map of hard surfaces in Howard County). Under Howard County's next Phase I National Pollution Discharge Elimination System (NPDES) permit, the County will be required to treat 20% of that impervious surface, or 3,643 acres, to reduce polluted runoff.

Apart from satisfying permit requirements, cleaning up our local water bodies has an immediate positive effect for the people of Howard County, including improved fishing opportunities, reduced flooding and creating local jobs. The great thing is, taking care of Howard County's local waterways also takes care of its obligations for the Bay.

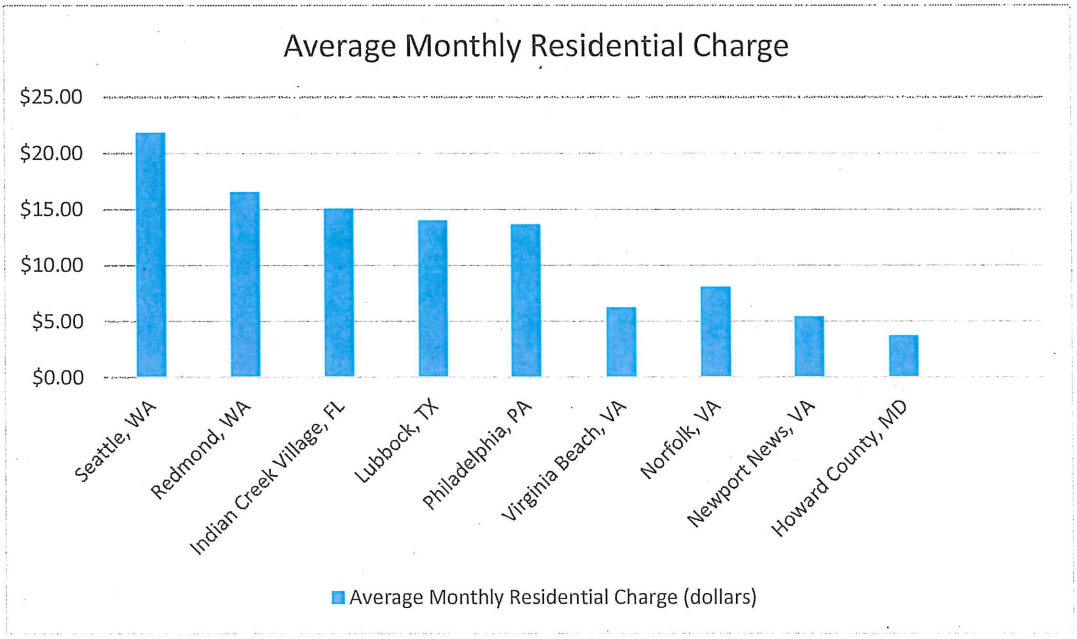
A COOPERATIVE EFFORT

All the Bay watershed states are now required to reduce runoff pollution to their local rivers and streams and the Bay – since this pollution source is the only major one that is actually growing. Each state has a specific plan in place to do so, and is now undertaking actions to make this happen. Since implementing this plan at the local level costs money, localities all around the watershed are developing different means to pay these costs. Only the ten largest and most urban jurisdictions were *required* to set fees in order to address their polluted runoff problems. They have the most land that doesn't allow water to filter slowly (impervious area), and they are also the only jurisdictions in Maryland charged with meeting very strict federal Clean Water Act permits. As requested by the Maryland Association of Counties, each jurisdiction got the freedom to set its own set of fees, according to its own polluted runoff needs. That's why businesses with the same "footprint" might have to pay a different amount in one jurisdiction or another. Maryland's

[3] Chesapeake Bay Model 5.3.2
[4] Chesapeake Bay Land Cover Change Model, Version 2

stormwater fees are not the costliest in the nation. In fact, they are not even at the higher end of the nationwide range.

The benefit to communities far outweigh the speculative concern that businesses will relocate. While businesses might wish to locate in Delaware, Pennsylvania, or Virginia instead of Maryland, it's not likely a stormwater fee that will move them to do that. And, if they do, they might be surprised to learn that eighteen local jurisdictions in Virginia, eight local governments in West Virginia, at least two municipalities in Delaware (including the largest, Wilmington), and several in Pennsylvania already have stormwater fee systems in place – and these numbers are growing. Across the United States, there are ***at least* 1,400 local jurisdictions with stormwater utility fees in place.**[5] A recent survey of jurisdictions with an existing stormwater utility fee found that the top three reasons such a fee was imposed were: to comply with regulatory requirements to reduce polluted runoff; to increase revenue stability; and to deal with the increasing costs of addressing polluted runoff.[6] These top three reasons are equally applicable to the Maryland jurisdictions, and make implementing stormwater utility fees equally important.



[5] Campbell, Warren. *Western Kentucky University Stormwater Utility Survey 2013*. Western Kentucky University, 6 July 2013. Web. 19 Nov. 2013.
[6] Black & Veatch. *2012 Storm Water Utility Survey.* Black & Veatch, 2013. Web. 19 Nov. 2013. <http://bv.com/docs/management-consulting-brochures/2012-stormwater-utility-survey>.

CHESAPEAKE BAY FOUNDATION
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FACT SHEET

November 2013

THE FACTS ABOUT POLLUTED RUNOFF AND STORMWATER UTILITY FEES

What is polluted runoff?

As water flows off of our streets, parking lots, and building rooftops, it picks up fertilizers, pesticides, oil, and automotive fluids, pet waste, sediment, and other pollutants. This simple process—untreated stormwater flowing through gutters and storm drains—pollutes our rivers and streams and threatens our drinking water. It also causes problems like local flooding of streets and homes, beach closures, fish advisories, and sewage system overflows.

Why has urban & suburban polluted runoff emerged as a national issue?

Up until about the 1980s, builders didn't know much about the problems associated with polluted runoff. They just designed developments to flush the water off the property quickly. Now we realize runoff should be slowed down, and soaked up, where possible.

In fact, in the Chesapeake Bay region, this sort of pollution is the only major pollution sector still on the rise. Air pollution is down, as is pollution from wastewater treatment plants and agriculture. Urban and suburban runoff is the last nut to crack.

Why has polluted runoff become a big issue in Maryland specifically?

Maryland's cities and suburban areas contain some of the highest concentrations of impervious surfaces in the whole Chesapeake Bay watershed. And, not surprisingly, the state also has a huge list of waterways that are officially considered polluted. In fact, the "impaired waters" list includes waterways in every county in the state. Damage from this pollution to the Chesapeake Bay is also dramatic, because Maryland's concentrated areas of urban and suburban development are close in proximity to the Bay compared to urbanized areas in most of Pennsylvania and Virginia.

The Chesapeake Clean Water Blueprint requires each of the Bay states to reduce pollution or be subject to consequences for failure. But polluted runoff has ramifications far beyond the health of the Bay. This pollution damages local rivers and streams, is often responsible for expensive flooding, and, especially after a significant rainfall, can put human health at risk.

What is the Stormwater Utility Fee?

In 2012, the Maryland General Assembly passed House Bill 987, the Watershed Protection and Restoration Program. This legislation required the 10 largest and most urban jurisdictions to set fees to address their polluted runoff problems. These 10 urban areas have the most land that doesn't allow water to filter slowly (impervious area), and they are also the only jurisdictions in Maryland charged

with meeting very strict federal Clean Water Act permits. At the request of the Maryland Association of Counties, the law allowed localities to set a fee at whatever level they wished, based on their needs.

Where did this fee come from? I knew nothing about it.

HB 987 was debated in the Maryland General Assembly in 2012. The media reported the debate. Also, nearly identical bills were debated in previous sessions of the legislature and reported by the media. Some counties and municipalities have been holding similar debates for several years as they tried to find a way to finance the upgrade of their neglected and outdated stormwater systems.

Some counties and municipalities have had similar fees in place for decades. For example, Prince George's County has assessed a tax for polluted runoff since 1986. Bowie has charged commercial properties a fee to address polluted runoff since 1988. A number of other areas implemented similar fees in the 1990s and 2000s.

If we already pay taxes, why does the government need to charge additional fees to restore the Bay?

With all the challenges they face, state and local governments have generally chosen to do the minimum required to reduce polluted runoff. HB 987 gave a nudge to local governments to act, but left it up to them to determine the size of their local fee. With an adequate fee, the local government can implement practical, proven solutions that were previously too expensive, or that could have only been done if money was taken from other important social services. The fee also provides important leverage for financing projects with bonds or state revolving loans. **Regardless of financing option, local creeks and rivers will get cleaner only to the degree local officials fund needed work.** Little or no new funding will continue to mean dirty, unhealthy local waters.

Why do we need a new fee? We already pay the Bay Restoration Fee ("flush tax").

The Bay Restoration Fund or "flush tax" money goes to upgrading sewage plants. The money is being well spent. Most major plants in the state have been upgraded or are being upgraded, reducing nitrogen pollution into local waters by more than six million pounds a year. The flush tax was doubled in 2012 to finish the job of upgrading sewage plants. **The stormwater fee goes to upgrade the stormwater system**—the ponds, pipes, gutters, and other structures that are supposed to channel and treat polluted runoff before it reaches creeks. That spending will provide substantial, additional pollution reductions in each community.

Why aren't other local governments beside mine included in those that must charge a fee?

The problem is most severe in the 10 jurisdictions that were mandated to charge some level of fee, due to the large amount of impervious surface in those areas. And those are the only local jurisdictions already required by detailed Clean Water Act permits to deal with this problem. Many other counties in Maryland that are more rural don't discharge as much polluted runoff into local creeks and rivers.

Am I being charged the same amount as other property owners with more pavement or hard surfaces?

Each of the 10 local governments was given complete freedom to decide not only the size of the fee, but how it was collected. Some opted to charge property owners with more "impervious surfaces" higher fees. Other jurisdictions opted for a "flat fee." The ten jurisdictions took different approaches.

Contact your local government for more detailed information, or visit the following website: http://www.mde.state.md.us/programs/Marylander/Pages/StormwaterFeeFAQ.aspx

What about the assertion that these fees are a tax on rain (or a "rain tax")?

That moniker is catchy but blatantly false. It is designed to mislead and confuse. The truth is that we are talking about a fee to reduce pollution from water that washes off hard surfaces and empties into local waterways. Runoff pollution is real—it is responsible for no-swimming advisories and beach closures in local waters, fish consumption advisories, and dead zones in the Bay that can't support aquatic life. It also causes localized flooding and property damage. And in many areas, it is the largest source of pollution.

The bottom line is that this work must be done. There are federal and state requirements to reduce runoff pollution from urban and suburban areas. A fee on impervious surface is the best model to do this because the fee is connected to the cause of the pollution. If counties don't implement stormwater fees, they will need to raise the revenue by other means, such as property taxes or income taxes.

What about the complaint that these fees represent a top-down mandate?

It is true that the General Assembly required the fee. But the General Assembly also gave the counties the flexibility to design a fee structure that meets our unique needs. This is not a "one size fits all" policy. Counties have the leeway to develop local policies to address their local runoff pollution problems.

Are the fees used locally?

Yes! The fees are collected by the county or city, and used only in the county or city that collects them, to fix polluted runoff problems. The money will never go into a state fund, and there is accountability and transparency.
The fee are used for simple, proven solutions that work by slowing down and absorbing much of the polluted runoff. These solutions include planting trees, planting vegetation around streams, restoring stream beds, and using rain barrels and rain gardens. These local projects not only reduce pollution and improve water quality, but also make our communities more beautiful, reduce flooding, and create jobs. Scientific monitoring will verify that the projects are effective and efficient

Why are all the fees different?

Each county and city is unique, and so are their water quality problems. The Maryland Association of Counties, a non-profit association representing the needs of local government to the Maryland General Assembly, requested that the state law provide flexibility that allowed each jurisdiction to address these differences. Each county or city therefore can set its own fee. The approach taken by each county has varied, but the approach that provides the greatest benefit to local communities is setting a fee that reflects the jurisdiction's estimated cost of compliance with Clean Water Act permits and cost of

restoring local streams and rivers. Despite the amount of work needed to restore Maryland's rivers and streams, Maryland's polluted runoff fees are lower than those in quite a few other states.

Does Chesapeake Bay Foundation receive funding from the "rain tax?"

Absolutely not. Neither do we receive a penny of funding from the Bay Restoration Fund, or "flush fee." These are government initiatives. We are a non-profit, private agency.

Can I have my fee reduced? I've heard some of the 10 jurisdictions are offering discounts.

HB987 required all the 10 local governments affected to offer some type of credits or discounts if a property owner takes steps to reduce polluted runoff from his land. Contact your local government for more information, or visit:
http://www.mde.state.md.us/programs/Marylander/Pages/StormwaterFeeFAQ.aspx

Don't we have bigger pollution problems to worry about? Isn't the water pollution that causes closed beaches and unsafe swim areas caused mostly by sewage spills, not polluted runoff?

Polluted runoff from city and suburban landscapes is the only major type of water pollution that is increasing in the region. Pollution from farms, sewage plants, and other sources is decreasing. Thanks to the "flush fee," for example, we've dramatically reduced nitrogen pollution from sewage plants. A handful of sewer systems in the state are so old it will take many years more to stop recurring spills and overflows. Spills from those systems can play a major role in beach closings. But Sally Hornor, a microbiologist with Anne Arundel Community College who has tested county water for years, says bacteria from polluted runoff is the culprit in unsafe swim areas far more often. Sewage spills are occasional. Polluted runoff occurs after every storm generating about one-half inch of rain or more.

Do the fees hurt Maryland's business competitiveness?

Forward-thinking community leaders believe the benefit to communities from addressing polluted runoff far outweigh the speculative concern that businesses will relocate. And if businesses consider relocating to Delaware, Pennsylvania, or Virginia instead of Maryland, they might be surprised to learn that 18 local jurisdictions in Virginia, eight local governments in West Virginia, at least two municipalities in Delaware (including the largest, Wilmington), and several in Pennsylvania already have stormwater fee systems in place—and these numbers are growing. Nation-wide, more than 1,400 jurisdictions—including large cities like Houston and Tampa—have similar policies in place—and they are working.

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The Value of Stormwater Fees in Maryland

In 2012, Governor O'Malley signed into law House Bill 987, which requires the ten most populous jurisdictions in Maryland to establish a local stormwater protection and restoration program and implement a local stormwater fee to fund that program by July 1, 2013.

This fact sheet explains the purpose of a stormwater fee and benefits to Maryland communities, highlighting examples from successful programs around the country.

***Stormwater runoff** occurs when precipitation flows over the land surface. The addition of roads, driveways, parking lots, rooftops and other impervious surfaces that prevent water from soaking into the ground greatly increases the amount of runoff created during storms.*

What is a stormwater fee?

Similar to a water or sewer fee, a stormwater fee is a recurring user fee charged to property owners by a stormwater utility for the service of managing the stormwater runoff and associated pollutants coming from their property. The fee is calculated based on the demands a property places on the drainage system and is administered separately from general tax fund, ensuring sustainable and adequate funding for these public services.

What is the history of stormwater fees?

Stormwater fees are by no means new. The first stormwater fee in the country was enacted in 1974 in Bellevue, Washington "to manage the storm and surface water system in Bellevue, to maintain a hydrologic balance, to prevent property damage, and to protect water quality; for the safety and enjoyment of citizens and the preservation and enhancement of wildlife habitat."[1]

Stormwater from impervious surfaces contributes to an increase in downstream flooding and erosion, and an increase in water pollution as runoff picks up contaminants such as sediment, nutrients, bacteria, oil and grease, trash, and metals.

The stormwater utilities established in the 1970s and 1980s tended to be focused primarily on flood control. The number of communities with stormwater fees grew slowly but steadily (Figure 1) until the 1990s, when they climbed sharply in response to

increasing water quality requirements under the Clean Water Act's National Pollutant Discharge Elimination System (NPDES) permit program for municipal separate storm sewer systems (MS4s).[2] By 1996, there were an estimated 300 stormwater utilities nationwide,[3] and this number had doubled by 2007 after a flurry of implementation in the mid-2000s driven by the NPDES stormwater rules being extended to small MS4 communities.[4]

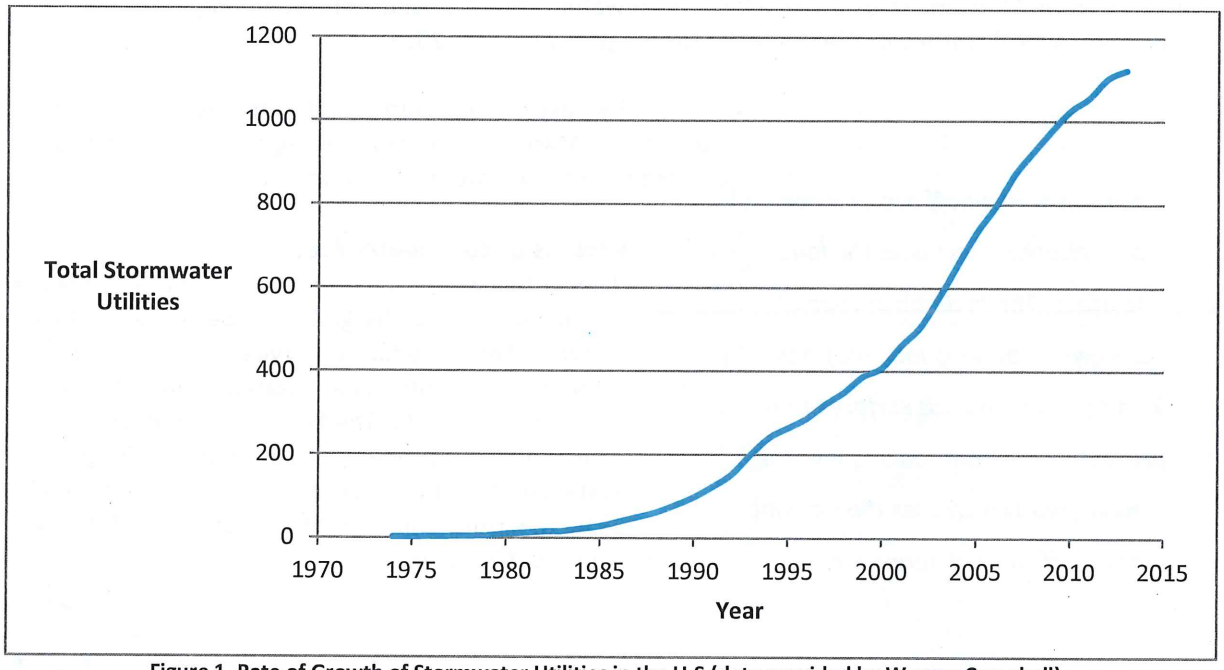


Figure 1. Rate of Growth of Stormwater Utilities in the U.S (data provided by Warren Campbell)

The State of Maryland has recognized the need to establish dedicated stormwater funding sources since the early 1990s. In 1992, the General Assembly enacted enabling legislation that allows localities to develop a stormwater fee system to finance stormwater programs. The first Maryland municipality to establish a stormwater fee was Takoma Park in 1996. Other communities followed suit, including Montgomery County, Rockville, Silver Spring, Annapolis, and the City of Frederick. The idea of a locally-based stormwater fee system continued to gain traction and was one of the key financing strategies recommended by the Chesapeake Bay Watershed Blue Ribbon Finance Panel to finance basinwide restoration plans.[5] These recommendations prompted several statewide attempts to require local governments to establish utilities, but none were successful until 2012. After the passage of House Bill 987, Anne Arundel County, Baltimore County, Baltimore City, Frederick County, Harford County, Howard County, Charles County and Prince George's County each established a stormwater fee.

Stormwater fees across the country

Today, 1,417 stormwater utilities have been documented in 39 states and the District of Columbia (Figure 2) and it is estimated that between 1,800-2,000 stormwater utilities exist nationwide.[6] Six states—Florida, Minnesota, Washington, Ohio, Texas, and Wisconsin—each now have more than 100 stormwater utilities.[7] Many types of communities charge stormwater fees. The population served by the respondents of a 2012 stormwater utility survey ranged from 86 (Village of Indian Creek, Fla.) to 4 million (City of Los Angeles), and the area served varies from 6 to 900 square miles.[8] All jurisdictions surveyed are regulated under the MS4 program; 84% had separate stormwater systems while 16% had a mix of separate and combined sewer systems.[9]

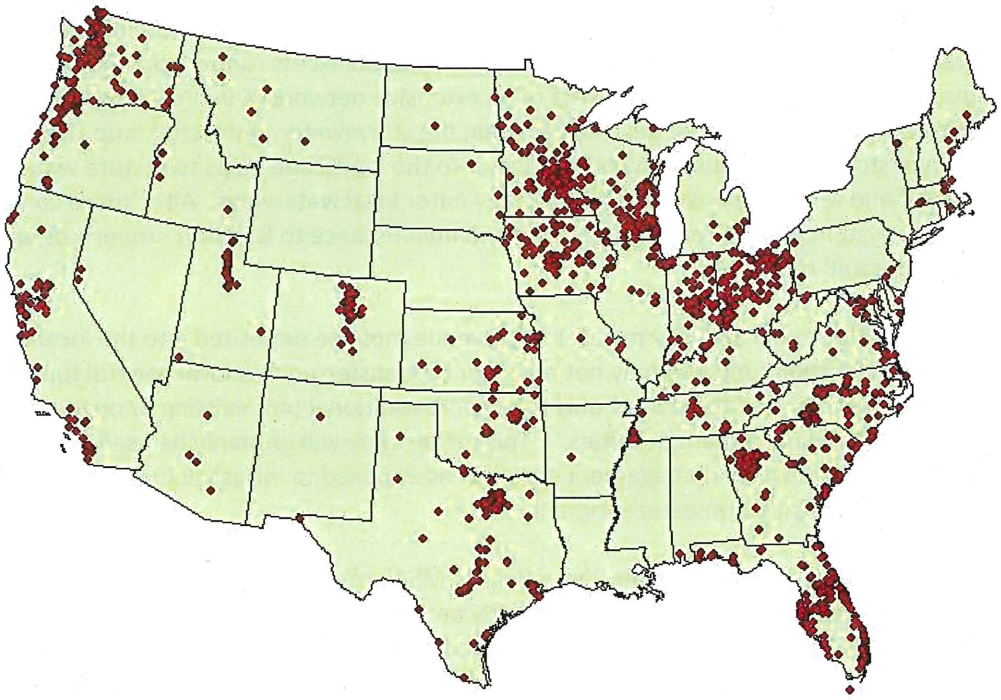


Figure 2. Stormwater Utilities in the U.S. (Source: Campbell, 2013)

Municipalities that do not charge a stormwater fee typically fund stormwater management through the general revenue. Under this system, some property owners may overpay for stormwater services, while others are being subsidized because the fee is based on property taxes as opposed to the actual stormwater runoff of a property (Figure 3). For example, a homeowner who builds an addition onto a house will pay higher property taxes than one who merely installs a patio of the same area, yet they would generate the same amount of runoff. For this reason, a stormwater fee is a more equitable approach to paying for stormwater services.

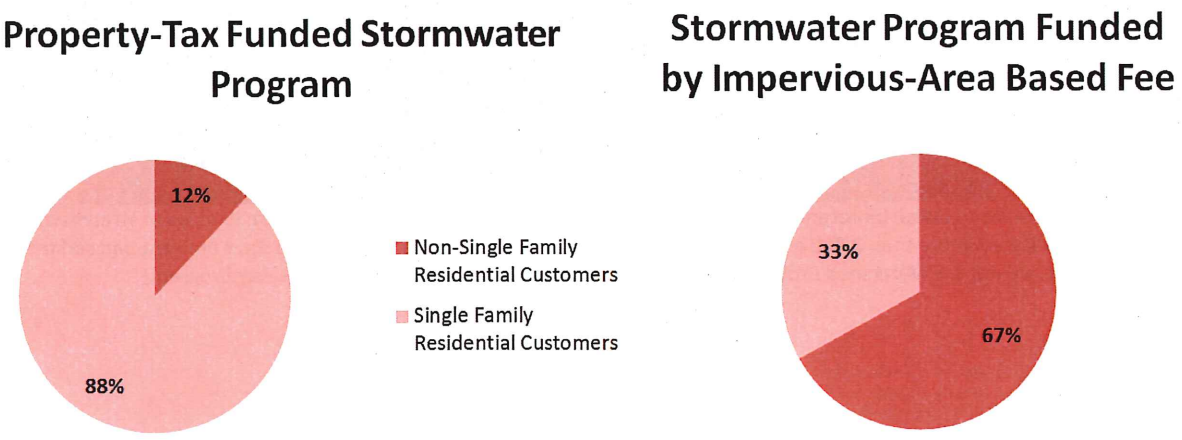


Figure 3. Distribution of stormwater management costs in Baltimore City based on property taxes (left) versus an impervious-area based stormwater fee (right). (Source: Baltimore City Department of Public Works, 2013)

What are stormwater fees used for?

Stormwater fees are dedicated to the maintenance, design, construction, and administration of the storm sewer system. A storm sewer system is designed to drain excess runoff from paved streets, parking lots, sidewalks, and roofs and consists of an extensive network of inlets, pipes and outfalls. Many storm drainage systems were designed to drain the stormwater, untreated, into rivers or streams. The insertion of stormwater management practices into the landscape helps to restore water quality by reducing runoff and removing pollutants before they enter local waterways. All of these components of the stormwater system require regular operation and maintenance to function properly as well as periodic upgrades and repairs.

Under Maryland's House Bill 987, stormwater fee revenue must be deposited into the local watershed protection and restoration fund and may not revert or be transferred to a local general fund. The stormwater fees are intended to be used only to support additional (not existing or ongoing) efforts for specified stormwater management activities.[10] This means they will primarily be used for implementation of stormwater management practices as opposed to infrastructure repair or administration of the local stormwater program.

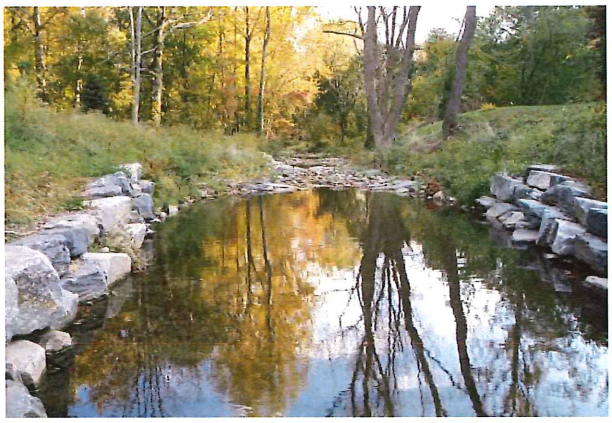
Maryland municipalities regulated under Phase I of the MS4 program are required to install stormwater management practices to treat 20% of their currently untreated impervious surfaces. According to the Maryland Department of the Environment, only 8.7% of untreated impervious cover has been restored in the Phase I MS4 communities since the beginning of the MS4 permit program over 20 years ago.[11] The 20% requirement is equivalent to restoring 31,300 acres of impervious cover by 2017, with additional impervious cover treatment requirements likely needed to meet the Chesapeake Bay total maximum daily load (TMDL) by 2025.

Some examples of projects funded by stormwater fees in Maryland are shown below.

Howard County plans to install bioretention practices like this one that will treat more than 2,000 acres of land in the county (Source: Center for Watershed Protection)

Baltimore County plans to reforest 50 acres of streamside land such as this to help achieve their nutrient and sediment reductions (Source: Chesapeake Bay Program)

In Prince George's County, infiltration practices, such as this planter, will be installed to treat more than 5,400 acres of land (Source: Radcliffe Dacanay).



Charles County's restoration plan includes construction of up to 54,543 feet of stream restoration projects like this one (Source: Center for Watershed Protection)

Anne Arundel County has identified 455 stormwater ponds that are slated to be retrofitted to provide water quality treatment, such as in this photo (Source: Center for Watershed Protection)

Montgomery County's restoration plan focuses heavily on installing stormwater retrofits, such as this permeable pavement, on existing developed land (Source: Chesapeake Bay Program)

What are the benefits of a stormwater fee?

In Maryland, jurisdictions are responsible for reducing stormwater runoff pollution by implementing practices and programs that reduce runoff and remove contaminants. Municipalities regulated under Phase I of the MS4 program must install stormwater management practices to treat 20% of their currently untreated impervious surfaces within the next five year permit term, and are also responsible for specific reductions in nutrients and sediment from stormwater to meet the Chesapeake Bay TMDL or "pollution diet" as well as other local TMDLs for pollutants such as bacteria and trash A stormwater fee enables jurisdictions to meet these responsibilities by creating a dedicated revenue stream. The estimated local government cost to meet the Bay TMDL for stormwater alone by 2025 is $5.9 billion[12] Many local governments are already behind schedule and communities without stormwater fees will need to rely heavily on the general fund to pay for these improvements.

Everyone benefits from the clean water found in our rivers and streams that is supported by local stormwater management programs. The benefits associated with clean water also translate into monetary and social benefits such as healthier communities and reduced public monies spent on

emergencies related to flooding and other water damage. A properly funded and managed stormwater utility can mean more parks and open space, less flooding, reductions in trash and litter, and increased property values. A more desirable community improves the local economy.

Stormwater managers across the country are beginning to recognize these economic and social benefits of stormwater management practices. Cities such as Seattle, Milwaukee, and Philadelphia are taking an approach that focuses on sustainability and multiple benefits and have identified millions of dollars in annual benefits that would have been unrealized had they chosen to continue to invest in only traditional gray infrastructure.[13] Table 1 summarizes the numerous environmental economic and social benefits of "green infrastructure," or stormwater management practices that use processes that are found in natural vegetated systems to reduce and treat stormwater runoff. Because many of these practices increase tree canopy and vegetation, they are associated with numerous quality of life benefits.

Table 1. Benefits of Green Infrastructure

Benefit	Practice				
	Green Roof	Tree Planting	Bioretention/ Infiltration	Permeable Pavement	Water Harvesting
Reduces water treatment needs	●	●	●	●	●
Improves water quality	●	●	●	●	●
Reduces grey infrastructure needs	●	●	●	●	●
Reduces flooding	●	●	●	●	●
Increases available water supply			○		
Increases groundwater recharge		○	○	○	○
Reduces salt use				●	
Reduces energy use	●	●		○	○
Improves air quality	●	●	●	●	○
Reduces atmospheric CO_2	●	●	●	●	○
Reduces urban heat island	●	●	●	●	
Improves aesthetics	●	●	●		
Increases recreational opportunity	○	●	●		
Reduces noise pollution	●	●	○	●	
Improves community cohesion	○	●	○		
Urban agriculture	○	○			
Improves habitat	●	●	●		

Compiled from CNT (2011); ● = Yes, ○ = Maybe

The massive investment in stormwater management in Maryland and across the Chesapeake Bay region expected over the next few years has the potential to contribute significantly to local economies and their associated businesses and industries. Every dollar invested in stormwater management and restoration activities will directly support jobs in a variety of industries and businesses (e.g., engineering, landscaping, manufacturing and distribution, construction), and this direct spending influences industry purchases as they respond to new demands (e.g., new purchase of machinery, supplies, plant stock) and spending from households that are stimulated by resulting income and employment changes.[14] In addition, these economic impacts on employment and associated population levels can affect

government expenditures by changing demand for public services–these are referred to as fiscal impacts.

The estimated economic and fiscal impacts of spending on stormwater management practice construction (Table 2) and operation and maintenance (Table 3) were evaluated by the University of Maryland Environmental Finance Center for two Maryland jurisdictions.[15] This study shows that the economic impact of stormwater investments in Maryland communities has the potential to be significant, in addition to resulting in cleaner environments and more livable communities.

Table 2. Estimated Impacts Per $100 Million Invested in Stormwater BMP Construction

Jurisdiction	Economic Impact	Jobs Supported	Fiscal Impacts	
			Federal	State and Local
Anne Arundel County	$220.2 million	776	$8.9 million	$4.6 million
Baltimore City	$145.0 million	344	$5.0 million	$3.9 million

Source: UMD EFC (2012)

Table 3. Estimated Impacts Per $10 Million Invested in Stormwater O&M

Jurisdiction	Annual Economic Impact	Jobs Supported	Fiscal Impacts	
			Federal	State and Local
Anne Arundel County	$33.6 million	118	$1.6 million	$0.8 million
Baltimore City	$22.9 million	75	$0.9 million	$0.6 million

Source: UMD EFC (2012)

How are stormwater fees calculated?

Stormwater utilities generally determine their user fees based on the total amount of revenue needed to fund the stormwater program, which is then allocated to individual properties based on impervious cover, property size, runoff volume generated, or some other metric that approximates the share of stormwater management services related to the property. The fee may be a flat rate, graduated based on the amount of impervious surface on each property, or based on another method of calculation.

In Maryland, each of the 10 jurisdictions subject to House Bill 987 have developed preliminary estimates of the level of resources needed to comply with the MS4 permits and Chesapeake Bay TMDL requirements. The jurisdictions' forecasted costs include operating and maintenance costs, capital costs, and debt service associated with the issuance of any bonds to support the capital component of the local stormwater program. The total estimated stormwater program costs vary across the jurisdictions, and are best compared by taking into account the extent of untreated impervious cover, which is quite variable across the jurisdictions. Table 4 presents the average annual cost per untreated impervious acre for each jurisdiction. The differences in the municipalities' fee per acre of untreated impervious surface is reflective of the cost of the strategies used to address the jurisdiction's impervious surfaces, as well as other geographic and economic factors.[16] For example, Prince George's County's cost per impervious acre is more than double that of Baltimore County because their Watershed Implementation Plan strategies focus heavily on structural stormwater practices such as bioretention, filtering and infiltration practices, compared to Baltimore County's focus on reforestation, stream restoration and street sweeping.[17]

Table 4. Average Annual Cost Per Acre of Untreated Impervious Surface			
Jurisdiction	Acres of Untreated Impervious Surface	Projected Stormwater Costs Annualized	Average Annual Cost Per Acre
Anne Arundel County	14,887	$80,540,000	$5,410
Baltimore County	23,373	$45,700,000	$1,955
Baltimore City	28,983	$33,400,000	$1,152
Carroll County	6,449	$6,813,873	$1,057
Charles County	2,607	$9,488,120	$3,639
Frederick County	6,725	$22,400,000	$3,331
Harford County	8,308	$18,000,000	$2,167
Howard County	11,453	$42,000,000	$3,667
Montgomery County	21,458	$66,580,942	$3,103
Prince George's County	22,020	$89,800,000	$4,078

Source: MD Dept of Legislative Services (2013)

The actual stormwater fees instituted to finance restoration vary in part due to the differences in the total projected program costs, but also because the jurisdictions were given flexibility in determining how much of the stormwater program to support using other sources of funding (such as the general fund, plastic bag charges, bond proceeds or environmental services fees; see Figure 4), whether to charge now for future projected costs or gradually phase in the fees over time, the actual fee structure, and the role of bond revenues. For these reasons, the total program cost is the important figure to use when comparing costs across jurisdictions. For example, Howard County's fee per-acre equivalent for non-residential properties is more than three times that of Prince George's County; however, stormwater fee revenues are expected to fund more than half the total cost of the stormwater program in Howard County, while bond revenues will play a significant funding role in Prince George's County program.

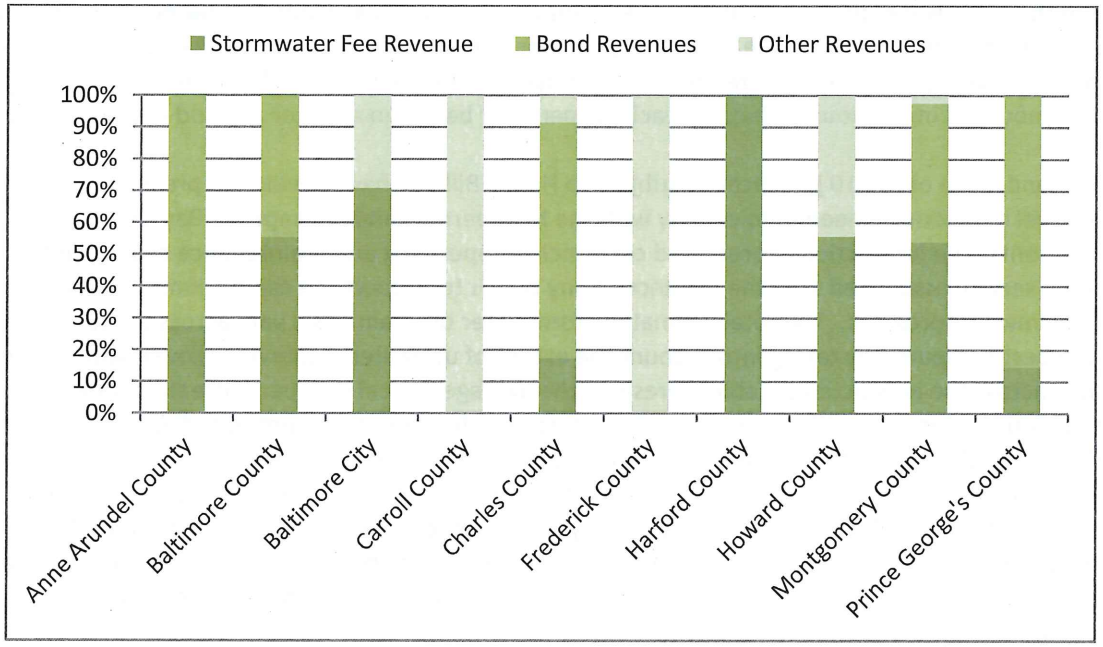


Figure 4. Sources of Funding for Maryland Stormwater Programs (Source: MD Dept of Legislative Services 2013)

In a 2012 survey of stormwater utilities, only 31 percent of respondents indicate that funding is adequate for meeting most stormwater program needs. Ten percent of respondents indicated that funding was not sufficient to meet even the "most urgent" needs. Similarly, the Maryland Department of Legislative Services found that several of the 10 jurisdictions still appear to have a long term funding shortfall for their stormwater program, even with the newly established stormwater fee.[18] To meet the restoration goals, additional funding may need to be secured.

How can property owners reduce their stormwater fee?

Each Maryland jurisdiction that has established a stormwater remediation fee has implemented or intends to implement a stormwater credit program. Stormwater credits are ongoing reductions to a property's calculated stormwater fees that are given to properties that either reduce demand on the stormwater system and/ or reduce the utility's cost of service through functional stormwater management practices and best management practices. So, for example, single family residential property owners in Baltimore City who install a rain garden, plant trees on their property, or participate in a community stream cleanup or pavement removal project can receive a credit towards their stormwater fee.

In addition to credits, several Maryland jurisdictions have established rebate programs to incentivize the installation of stormwater practices by property owners. Anne Arundel, Charles, Howard, and Prince George's counties have authorized the establishment of a rebate program to help defray some of the costs of implementing BMPs. Montgomery County has a preexisting rebate program to assist in the construction of BMPs, including special rebates for those in designated target neighborhoods.[19]

Two success stories of how stormwater utility fees have been used to improve local communities are profiled on the following pages for Portland, Oregon and Philadelphia, Pennsylvania.

Case Study: Portland, Oregon

The City of Portland, Oregon created its stormwater utility and fee in 1977 to pay for programs and facilities to address urban drainage and flood control problems. In 1983, the Bureau of Environmental Services (BES) was created to protect the City's clean rivers through water quality protection, watershed planning, wastewater collection and treatment, sewer installation, and stormwater management. From 1977-1992, the stormwater fees collected by BES paid for traditional engineering strategies to collect and safely convey runoff to city sewers and stream/rivers. In the 1990s, the City turned to a more sustainable stormwater management program driven by a better understanding of the negative impacts of stormwater runoff and by new regulatory requirements, including combined sewer overflow reduction, the MS4 permit, TMDLs, federal listing of salmon and steelhead trout as endangered species under the Endangered Species Act and the listing of Portland Harbor as a superfund cleanup site.

Today, Portland's stormwater utility works together with the sanitary sewer utility to operate and maintain 2,300 mile of sanitary, stormwater and combined sewers, 8,600 stormwater sumps in public rights of way, 123 miles of stormwater drainage ditches and 750 detention and pollution reduction facilities serving an estimated population of 550,000. Portland's dual approach to address CSOs by increasing storage capacity of the sewer pipes (aka the gray infrastructure) and reducing stormwater inputs to the sewer system by implementing lot- level green infrastructure strategies has saved the City millions by simultaneously addressing these multiple objectives. The City's stormwater utility includes numerous credit and incentive programs to encourage property owners to install green infrastructure practices on their properties in exchange for a fee reduction. Between these incentive programs and the City's Capital Improvement Project programs, the City's green infrastructure has been greatly expanded, improving the environment and supporting jobs.

- **Downspout Disconnection**
  Since 1994, the Downspout Disconnection program has reached 56,000 properties and disconnected 1.5 billion gallons of runoff from the combined sewer system.

- **Controlling Invasive Plants**
  Over 7,400 acres have been treated for invasive plants. This includes new area managed and follow up land management through two programs that are part of the city's comprehensive approach to invasive species management. The invasive species programs also supported the Youth Conservation Crew, which provides employment opportunities for a diverse population of youth ages 14-18 who help clear ivy from city parks.

Figure 5. Downspouts at the BES lab disconnected from the combined sewer system and directed into infiltration swales next to the Willamette River (Printed with permission ©2013 Environmental Services, City of Portland, OR)

- **Constructing Green Streets**
  A green street facility is a small rain garden that collects stormwater runoff from streets to keep stormwater out of the sewer system and local streams. Green street facilities increase urban green space, improve air quality, replenish groundwater, and reduce air temperature. In the City of Portland, 867 new green street facilities have been constructed under the City's various programs. While some of the work is done by City staff, a bulk of it is bid out to contractors. Jeanie Braun of Braun Construction says "We have seen a lot more work in this area in recent years." Braun alone has had four such projects in the past year, one a $300,000 contract with the City. Under the Green Street Stewardship Program, businesses and individuals helping to care for green streets and beautify their neighborhoods, while BES continues to monitor facility performance and improve designs to reduce maintenance costs.

Figure 6. The SW 12th Avenue Green Street at SW 12th and Montgomery on the Portland State University campus utilizes a series of landscaped stormwater planters designed to capture and infiltrate approximately 8,000 square feet of street runoff. This innovative streetscape project effectively manages street runoff while still maintaining strong pedestrian circulation and on-street parking. Built in summer 2005, this street retrofit project demonstrates how both new and existing streets in downtown or highly urbanized areas can be designed to provide direct environmental benefits and be aesthetically integrated into the urban streetscape. This green street project is effective and functional, and it also successfully integrates landscaped stormwater planters into the urban fabric (Printed with permission ©2013 Environmental Services, City of Portland, OR)

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Figure 7. Part of the Holman Pocket Park and Green Street Bike Boulevard Project, two green streets in the ROW adjacent to the park accept runoff from the street (Printed with permission ©2013 Environmental Services, City of Portland, OR)

- **Planting Yard and Street Trees**
  Over 32,200 new street and yard trees have been planted. These trees will capture more than 18 million gallons of stormwater each year when they are mature. Environmental Services' Urban Canopy Program, in partnership with Friends of Trees and other contractors, uses innovative outreach and planting models to get more trees planted in low-canopy, underserved neighborhoods and communities. Canvassers have visited over 190,000 Portland properties to map available planting spaces and talk to residents about tree planting. Community volunteers with Friends of Trees have contributed nearly $2 million worth of volunteer hours in this effort.

- **Acquiring and Protecting Open Spaces**
  Environmental Services and partners have purchased 406 acres of natural areas in the city to help protect natural stormwater management functions and clean water sources.

- **Replacing Culverts**
  BES and its partners are on track to remove or replace all nine culverts that block fish passage and create water quality problems in Crystal Springs Creek by 2015. In addition to this work in Crystal Springs, eight other culverts in the city have been removed or replaced to improve fish passage, water quality and hydrology.

- **Private Property Retrofits**
  The Private Property Retrofit Program works closely with targeted property owners to plan, design and install rain garden, ecoroofs, and/or other stormwater facilities.

Before

After

Before

After

Figure 8. The City recently partnered the Western Seminary at SE 55th and Hawthorne to manage stormwater from a total of 25,700 ft^2 of roof and paved area. This project used two infiltration planters and 3 tiered infiltration basins to reduce stormwater flows entering the local sewer by an average of 570,000 gallons of runoff annually. These facilities were constructed by Ted's Excavating and Braun Construction (Printed with permission ©2013 Environmental Services, City of Portland, OR)

Figure 9. In 2002, BES began planning for a project to protect residents from sewer backups on SE Pine Street adjacent to Mt. Tabor Middle School. The project included a rain garden, a vegetated swale, six smaller infiltration planters, and three drywells. BES also constructed a stormwater curb extension and sump adjacent to the school at SE 57th and Pine Street. The facilities together manage runoff from approximately two acres of roof, playground, parking lot, and street surface. The photo shows the site of the rain garden prior to construction. The parking lot swale was constructed between the rows of parking stalls in the foreground (Printed with permission ©2013 Environmental Services, City of Portland, OR)

Figure 10. The Mt. Tabor Middle School rain garden in January 2007. The trench drain in the foreground delivers runoff from the asphalt play area (Printed with permission ©2013 Environmental Services, City of Portland, OR)

Figure 11. View of rain garden in 2013 (Printed with permission ©2013 Environmental Services, City of Portland, OR)

- **Natural Area Revegetation**
  The Watershed Revegetation Program works with public and private property owners to restore native vegetation on more than 4,100 acres since 2008. This includes planting over 500,000 new native tree and shrub seedlings and following up to make sure the new plants and trees are well established.

Figure 12. The Headwaters at Tryon Creek serves as a demonstration in sustainable stormwater management, green development practices, wildlife habitat restoration and water conservation. The daylighted tributary stream of Tryon Creek originally ran through a pipe under the site is approximately 450 linear feet, connects an upstream, forested wetland to a downstream rain garden, is planted with native trees, shrubs, and grasses that restore lost riparian and wetland habitat, and has a 5 foot (1.5 meter) deep gravel lens below the stream bed that helps direct flow below the surface for groundwater recharge (Printed with permission ©2013 Environmental Services, City of Portland, OR)

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- **Building Ecoroofs**
  More than 500 ecoroofs covering 38 acres of rooftop have been completed since 2008. Combined, these roofs manage 38 million gallons of stormwater before it reaches the sewer system. Many of these projects were constructed despite the economic downturn in the early years of Grey to Green with assistance from the city's Ecoroof Incentive program. More development projects are pairing

ecoroofs with photovoltaic panels, or adding habitat features, to maximize benefits on Portland's rooftops. Portland's ecoroof industry has grown considerably since the program began (Box 1).

Figure 13. Ecoroofs at Portland's south waterfront neighborhood (Printed with permission ©2013 Environmental Services, City of Portland, OR)

These green infrastructure projects are paid for by Portland residents via sanitary and stormwater utility fees. Already, a combination of infrastructure improvements and private property stormwater management initiatives has virtually eliminated CSOs to the Columbia Slough, which discharges into the Willamette River, and has eliminated or controlled eight Willamette River CSO outfalls. Upon completion, the number of CSO events is expected to shrink to an average of four every winter and one every third summer.

In addition to the water quality benefits, green infrastructure has improved Portland in more intangible ways. For example, numerous industries are influenced by an increased demand for green infrastructure practices, from plant, stone and dirt suppliers, to engineers, landscape contractors and landscape architects.

Box 1: Economic Benefits of Ecoroofs in Portland

Portland's "Gray to Green" initiative, debuted in 2008, focuses on using practices such as green streets, ecoroofs, rain gardens and simple downspout disconnection to keep stormwater out of the sewer system, reduce flooding and erosion, filter pollutants, provide habitat and increase neighborhood green space for healthier watersheds. The idea was that these green strategies were less costly than gray ones and could help to transform the landscape and achieve multiple objectives such as cooling the air, enhancing neighborhoods, and improving property values.

To help place a value on these benefits to the public and private stakeholders, BES conducted a cost-benefit analysis of their ecoroof program. BES concluded that the construction of ecoroofs provides both an immediate and a long-term benefit to the public from reduced stormwater management costs, carbon reduction, improved air quality, and habitat creation. At year five, the benefit is $101,660, and at year 40 the benefit is $191,421. For building owners, the benefits of ecoroofs do not exceed the costs until year 20, when conventional roofs require replacement. In the long term (over the 40-year life of an ecoroof), the net present benefit of ecoroofs to building owners is more than $400,000. This cost savings is calculated from onetime and ongoing reduction in stormwater management fees, avoided stormwater management facility costs, reduced cooling and heating costs, avoided roof replacement costs, and reduced HVAC equipment sizing costs.

One benefit not measured by the study was the influence of an increased demand for ecoroofs on the local economy. There is growing evidence that Portland has taken ecoroofs beyond a grant-funded initiative to one that has built a new industry around local expertise for such projects. The City's initial goal of building 43 acres of ecoroofs through grants is close to being achieved, with ecoroofs currently covering 38 acres of the City. Matt Burlin, outreach coordinator for Sustainable Stormwater Management at Portland's BES, noted in a presentation to the City Council that many customers now eager for ecoroofs are going directly to businesses.

Amy Chomowicz, the City's Ecoroof Program Administrator, observes that green roofs are becoming more conventional. "We're seeing green roofs used in more conventional ways including on commercial, industrial, institutional, single family residential buildings. This is significant because it shows confidence in the technology and greater awareness of the project's overall value. It also indicates that costs to the building owner may come down as simpler approaches and designs are developed." The City maintains a list of companies and firms that are involved with green roof design and construction. The resource list has grown by 30% and now has more than 100 companies listed. At least three of those business partnerships now offer the full package from design to installation.

Jon Crumrine, president of Enviroscapes NW, says that since starting his business in 2008, prices have dipped from $16-20 per square foot to $9-12 per square foot today. Crumrine launched his business specializing in greenroofs and living walls shortly after the City developed its incentive program. Since that time, Enviroscapes NW has grown to build more than an acre of greenroofs in Oregon and Washington, constructing 10,000 square feet of ecoroofs using Portland's grants. Crumrine is now considering expanding operations in California. "This really has allowed us to become a leading contractor in the Northwest," he said.

Crumrine may not be alone. Chomowicz notes that "anecdotally, we have heard that companies have opened offices here and have expanded in recent years to meet the growing demand for green roofs." Another indicator of the industry's growth is the Green Roof Information Think-tank (GRiT), formed in 2009 to provide education, advocacy and technical assistance to advance the use of green roofs. GRiT has grown from four members to over 300. "This is significant because it indicates a more resilient and skilled work force" says Chomowicz.

Case Study: Philadelphia, PA

Since 1968, the City of Philadelphia began billing property owners for stormwater collection and treatment. Until recently, the rate structure for stormwater fees was based on each property's water usage (an in turn, sewage use), as measured by the size of the water meter on each parcel. There was not a strong connection between the stormwater fee rate and the amount of runoff generated by each parcel. This eventually led to complaints that the stormwater billing system was not equitable: properties with low water usage and high impervious cover were essentially under-paying relative to their contribution of runoff, while parcels with high water usage and little impervious cover were seen to be over-paying. In response, the City's Philadelphia Water Department established a Citizens Advisory Council in 1994 to help resolve perceived deficiencies in the stormwater management billing structure. Over the next decade the City would gradually move toward a fee structure based on impervious cover.

The City is now phasing in a new parcel-based stormwater fee structure, initiated on July 1, 2010. Over four years, the stormwater fee for all properties (residential and non-residential) will completely switch from being charged based on water meter readings to a fee based on impervious cover on each parcel. The Water Department does not define the utility fee as a new or additional charge, but as an alternate and more equitable method for calculating the rate. The new method is based on the amount of stormwater runoff generated by the property and therefore varies by the size and impervious cover of each lot. In addition, a credit system is in place that reduces the stormwater rate for property owners who implement best management practices to reduce runoff.

Activities Supported by Stormwater Utility

The utility currently brings in approximately $120 million of revenue a year, but this will increase over time with inflation and higher costs. The stormwater utility revenues pay for stormwater operation and maintenance, City-built stormwater retrofits, and cost-share funds for implementing stormwater practices on non-City properties (see description of SMIP, below). Most of the City's public works projects are funded through bonds, so a large portion of the stormwater fee revenues pays the debt service on large public infrastructure projects.

The City has developed a long-term control plan for its combined sewer system that relies heavily on green infrastructure for managing stormwater. As such, the City has reduced capital investments in underground stormwater detention structures and other "grey infrastructure," and directed more funds to plant-based and infiltration-based "green infrastructure" to reduce and treat stormwater runoff. In its *Green City, Clean Waters* plan signed in 2011, the City aims to convert 9,500 impervious areas to "green acres" over 25 years. To date, the Philadelphia Water Department has used stormwater utility funds to develop hundreds of green infrastructure practices throughout the city. The following have been completed or are in the design process:

- 191 Stormwater Tree Trenches
- 20 Stormwater Planters
- 21 Stormwater Bumpouts
- 61 Rain Gardens
- 5 Stormwater Basins
- 72 Infiltration/Storage Trenches
- 34 Porous Paving Projects
- 16 Swales
- 2 Stormwater Wetlands
- 1 Cistern or Rain Barrel
- 33 Downspout Planters (not shown in map)
- 12 Other Projects

Figure 14: Stormwater trench at Columbus Square.

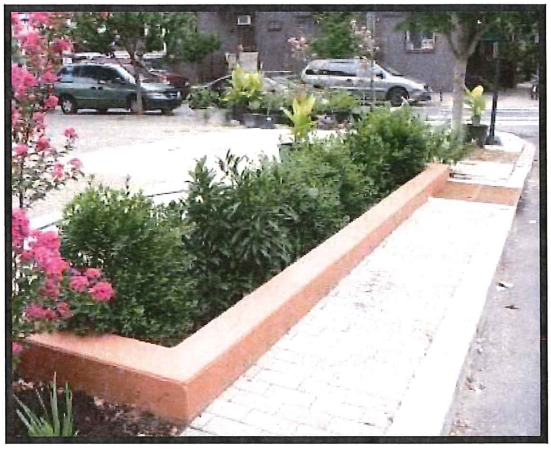

Figure 15: Infiltration trench at Clark Park.

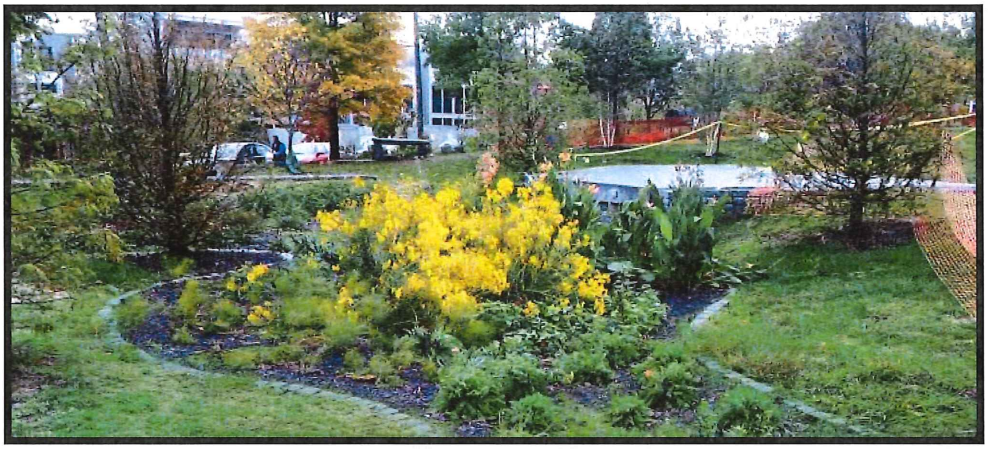

Figure 16: Rain Garden in Liberty Lands in Northern Liberties.

Figure 17: Porous pavement on Percy Street.
(Photos courtesy of: Philadelphia Water Department)

Leveraging Private Funds

To help meet its ambitious goal, Philadelphia recently established the *Stormwater Management Incentives Program* (SMIP) which offers financial assistance for private property owners or non-residential parcels to build rain gardens, vegetated infiltration basins, porous asphalt, green roofs, and other stormwater retrofits. As mentioned above, the SMIP program is funded through the City's stormwater utility fee. In its first year, 2012, the SMIP awarded eight grants totaling $3.2 million, to create 64 new green acres. In 2013, grants were awarded for 17 projects that will create 77 green acres for a total of $4.7 million. A "greened acre" is an acre of impervious area that has some type of stormwater system to manage the first 1" of rainfall, which the Philadelphia Water Department estimates can prevent 85 to 90 percent of that stormwater runoff from entering the overloaded combined sewer system.

The following SMIP-sponsored retrofits have been completed to date:

1. **Greene Street Friends School**, 5500-06 Germantown Ave
   Grant amount: $91,080
   Greened acres: 0.7
   Practices: rain garden + pavement removal

2. **Cardone Industries**, 5400 Whitaker Ave
   Grant amount: $3,361,441
   Greened acres: 52
   Practices: vegetated detention basins + underground infiltration basins
   Design/Construction/Maintenance Firm: Infrastructure Solution Services

Figure 18: One of the vegetated detention basins built at Cardone Industries with the help of SMIP funds *(Photo courtesy of: Philadelphia Water Department)*

The Stormwater Management Incentives Program leverages private spending on stormwater management by providing cost-share dollars. The combination of a stormwater utility fee and a way to

get a discount on one's fee (through the credit system and SMIP) creates multiple incentives for Philadelphia property owners to implement stormwater practices. This motivating factor and ability to leverage private funds did not exist prior to 2010 when the City raised its stormwater revenues based on water meter readings. The *impervious-based fee + credit + cost-share money* formula is crucial for Philadelphia to be able to get enough stormwater management practices in the ground to meet its stormwater management and water quality needs.

A 2012 analysis of options by the Natural Resources Defense Council to fund stormwater retrofitting concluded that a financing system that could leverage private funds is very promising. The report claims that "Philadelphia's transition to a parcel-based fee, coupled with the opportunity for near-100 percent fee reduction, makes that city one of the most attractive jurisdictions for structuring third-party financed stormwater retrofits on private property. Philadelphia alone represents a potential market for private investment on the order of $376 million while hundreds of other cities nationwide are facing similar stormwater challenges and seeking cost-effective solutions."

Other Benefits

In putting together its Long Term Control Plan Update, Philadelphia conducted a triple-bottom-line analysis to understand the economic, environmental, and social benefits of the *Green City, Clean Waters* plan goals. The city estimated that if 50% of the stormwater runoff from the City's impervious area was managed by green infrastructure, it would accrue billions of dollars-worth of public benefits over a 40-year period. Among other benefits, this includes:

- Additional recreational use of the city's waterways ($520 million in present value);
- Reduction of premature deaths and asthma attacks caused by air pollution and excessive heat ($1.1 billion);
- Increased property values in greened neighborhoods ($1.1 billion);
- Ecosystem values of restored or created wetlands ($1.6 million);
- Poverty reduction from the creation of local green jobs ($125 million); and
- Energy savings from the shading, cooling, and insulating effects of vegetation ($34 million).

This triple-bottom-line study also estimated that if 50% of the stormwater runoff from the City's impervious area was managed by green infrastructure, the construction, operation, and maintenance of that infrastructure would support approximately 380 jobs per year. The study projects that a large portion of these jobs would be available for workers with no prior experience and who may currently be unemployed.

Conclusions

During its 45 years of experience in raising funds for stormwater management and treatment, the City of Philadelphia has experimented with a variety of rate structures. It is telling that *now*, for reasons of equity and to achieve ambitious stormwater management goals, it has chosen to use an impervious-based stormwater utility fee structure. This is the way the City has decided will work best for not only being able to provide the necessary level of service in stormwater management for its citizens, but for also motivating those same citizens to reduce stormwater runoff on their own properties.

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[17] Gardina, V.J. 2012. *Baltimore County Phase II Watershed Implementation Plan.* Baltimore County Department of Environmental Protection and Sustainability. Prince George's County Department of Environmental Protection. 2012. *Revised Draft. Prince George's County, Maryland Phase II Watershed Implementation Plan. For inclusion in the Maryland final Phase II Watershed Implementation Plan*.
[18] Maryland Department of Legislative Services. 2013. *Stormwater Remediation Fees in Maryland; Local Implementation of House Bill 987 of 2012*. Office of Policy Analysis. Annapolis, MD.
[19] Ibid.

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About the Center for Watershed Protection

The Center for Watershed Protection, Inc. is a 501(c)(3) non-profit organization dedicated to fostering responsible land and water management through applied research, direct assistance to communities, award-winning training, and access to a network of experienced professionals. The Center was founded in 1992 and is headquartered in Ellicott City, Maryland. As national experts in stormwater and watersheds, our strength lies in translating science into practice and policy, and providing leadership across disciplines and professions. To learn more about the Center's commitment to protect and restore our streams, rivers, lakes, wetlands and bays, go to www.cwp.org.

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CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

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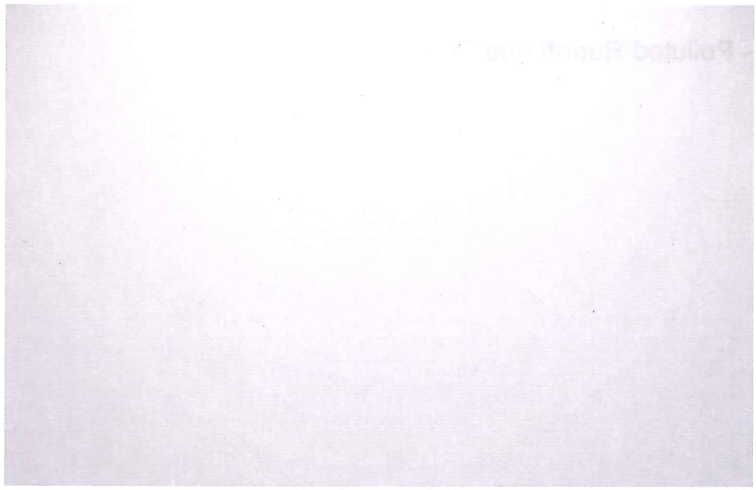
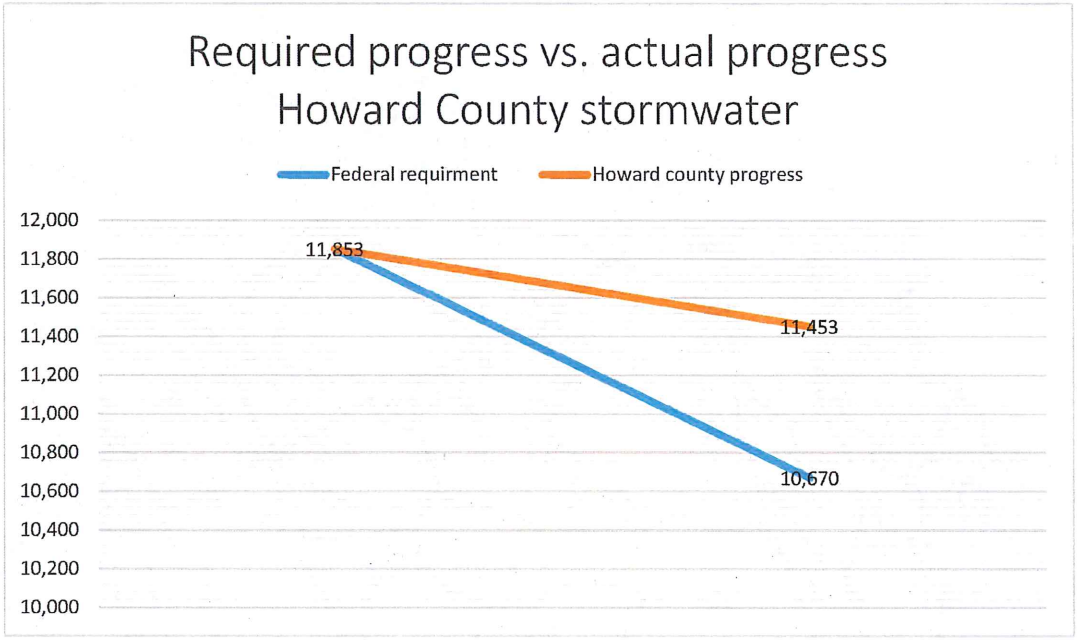
HOWARD COUNTY HAS A BIG PROBLEM: POLLUTED RUNOFF

Polluted runoff is a major source of pollution in Howard County. About one-quarter of the nitrogen pollution in county rivers comes from polluted runoff, and much of its sediment pollution. Dog waste, chemicals and other contaminants run off county streets, parking lots, and other surfaces during a rain storm, and discharge straight into the Patuxent River, Patapsco River and other rivers and creeks. This toxic flush is called stormwater. Howard County and the state are getting a handle on the largest source of nitrogen pollution: sewage plants. Thanks in part to funding from the "flush fee," for instance, the upgrading of the Little Patuxent sewage plan was completed in 2012. The plant is discharging 205,000 fewer pounds of nitrogen pollution a year after the upgrade. The Patapsco sewage plant that also receives county sewage will be upgraded by 2016. The county isn't making the same progress reducing polluted runoff (see page 2). This problem increases the flooding of basements and roads. It also makes downstream water unfit for human recreation and marine life.



THE COUNTY LAGS FAR BEHIND FEDERAL REQUIREMENTS TO REDUCE POLLUTED RUNOFF; DEPENDABLE FUNDING IS CRITICAL



Source: Mark S. Richmond, Howard County Storm Water Management Division

Howard County is well behind the "watershed restoration" requirements set in its current federal National Pollutant Discharge Elimination System (NPDES) permit. To reduce polluted runoff, the permit required the county to improve treatment of polluted runoff on 1,185 acres – or 10 percent of the county's total hard (impervious) acres where the pollution wasn't being treated. The county had five years to achieve the improvements, from 2005-2010. The permit has been extended, giving Howard County two extra years. But as of June, 2012, the county had improved 400 acres, or about 3.3 percent of its impervious surfaces. The county is doing some excellent work to reduce polluted runoff: restoring streams, better managing residential and commericial application of lawn fertilizer, improving stormwater ponds, planting trees and using other strategies. It also has plans for effective new projects. But a new NPDES is about to be issued to the county which will DOUBLE the requirments for watershed restoration, requiring the county to improve treatment on an additional 20 percent of its impervious surface. The county isn't meeting current requrements with current funding; it can't possible meet the tougher new standards without some increased, dependable source of revenue.

Innovative solutions are sitting on county drawing boards. What's missing: funding.

Stay strong on stormwater fees.

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Saving a National Treasure

Founded in 1967, the Chesapeake Bay Foundation is a nonprofit 501(c)(3) conservation organization dedicated to saving a national treasure—the Chesapeake Bay and its rivers and streams. Its motto, Save the Bay, defines the organization's mission and commitment. With headquarters in Annapolis, MD, offices in Maryland, Virginia, Pennsylvania, and the District of Columbia, and 17 field centers, CBF works throughout the Chesapeake Bay's 64,000-square-mile watershed to build an informed citizenry, advocate pollution-reduction strategy, and enforce the law. CBF is supported by more than 200,000 active members and has a staff of 170 full-time employees. Approximately 80 percent of CBF's $23.6 million annual budget is privately raised.

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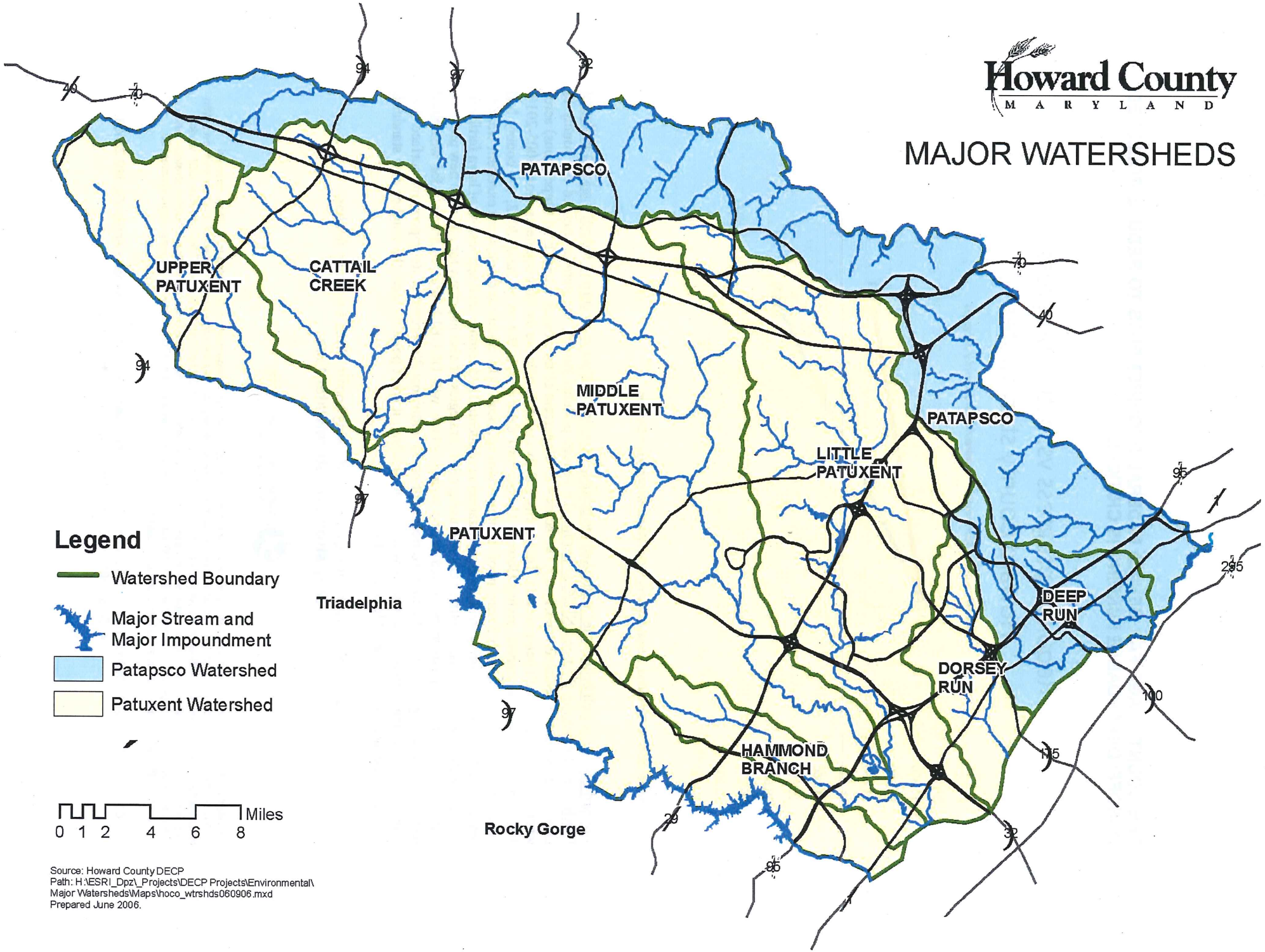
Howard County
MARYLAND
MAJOR WATERSHEDS
PATAPSCO
UPPER PATUXENT
CATTAIL CREEK
MIDDLE PATUXENT
PATAPSCO
LITTLE PATUXENT
PATUXENT
Triadelphia
DEEP RUN
DORSEY RUN
HAMMOND BRANCH
Rocky Gorge
Legend
Watershed Boundary
Major Stream and Major Impoundment
Patapsco Watershed
Patuxent Watershed
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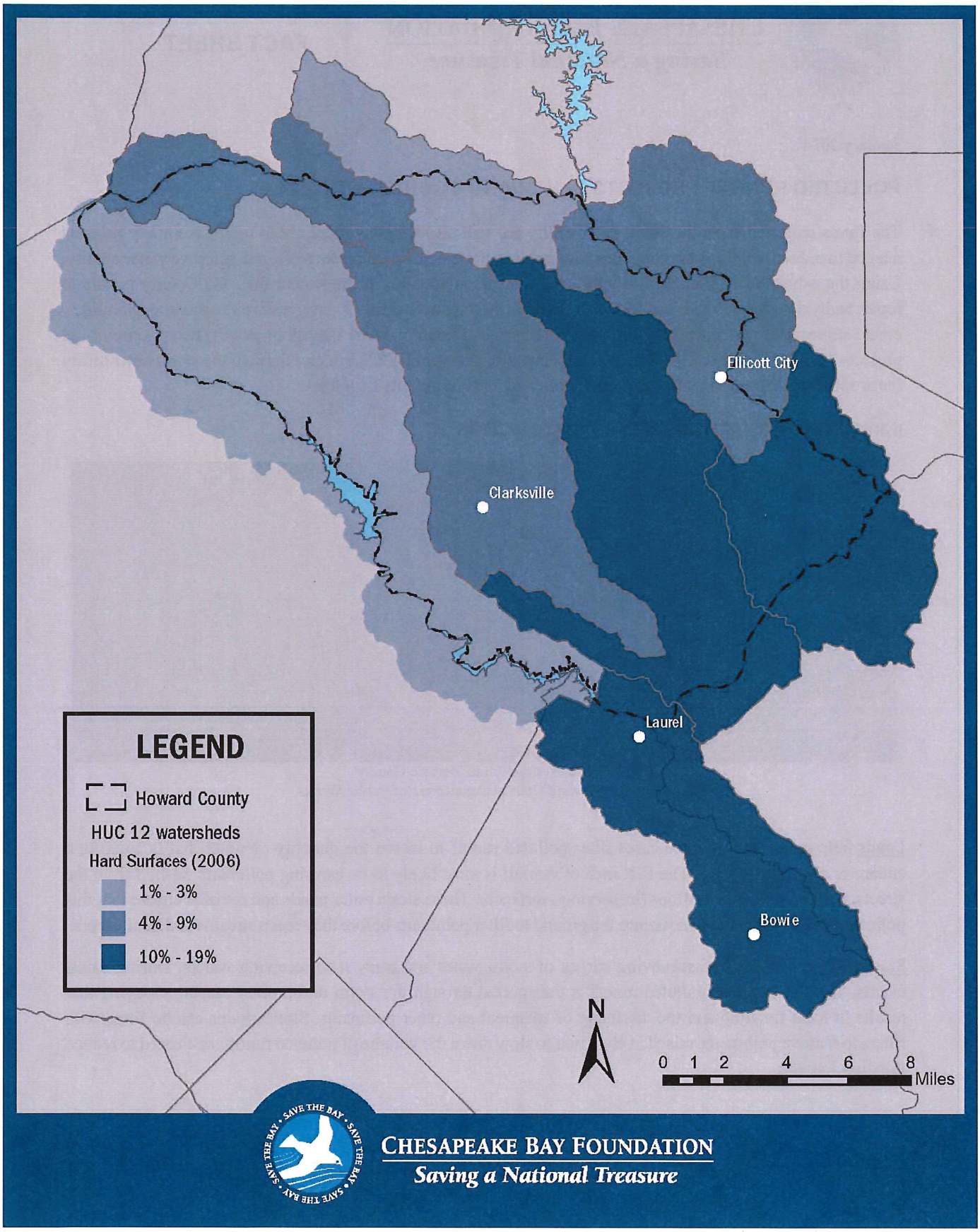
Prepared June 2006.

HUC12 Watersheds by Percentage of Hard Surface

Howard County, Maryland



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FACT SHEET

January 2014

POLLUTED RUNOFF PROJECTS IN HOWARD COUNTY IN FY2014

The funds collected from the stormwater utility fee will allow Howard County to undertake many projects needed to reduce localized flooding, improve public infrastructure, restore streams, and improve water quality. Using the estimated $8.9 million in new revenue from stormwater management fees, the County is able to repair badly deteriorated and inadequate storm drain systems across the County, restore streams and shorelines, create stormwater management ponds and wetlands, and monitor water quality in local waters. Some of the projects being designed and implemented by Howard County in FY2014 in part through the stormwater utility fee are listed below, along with their environmental and community benefits.

IMPLEMENTING PRACTICAL AND PROVEN SOLUTIONS

Stream Restoration in Howard County
Photos by Howard County Department of Public Works

Ponds help retain and in some cases filter polluted runoff to lessen the quantity of water that is entering a stream or river at one time. The first inch of rainfall is most likely to be carrying pollutants washed from the streets, parking lots, and rooftops (impervious surfaces). These stormwater ponds and retrofits ensure that this polluted runoff is allowed to soak into the ground to filter pollutants before they reach streams and tidal waters.

Storm drains collect the fast-moving surges of storm water and carry it to receiving waters. During storm events, trash, debris, and polluted runoff is transported through the storm drain, often causing clogging that results in local flooding and the discharge of sediment and other pollutants. Storm drains can be fitted with filters to remove pollutants, raised in elevation to slow down the volume of polluted runoff, or cleared to reduce flooding impacts.

Stream restoration usually involves installation of stone structures and vegetation that reduces erosion of the stream bed, and reconnecting the stream to the surrounding floodplain. These projects can provide a large number of benefits, including flood control, habitat for fish, amphibians, insects and other aquatic organisms, stabilized stream banks, better protection of wetlands, higher quality stream valley trail systems for recreation such as walking, birding, and biking, and reducing pollution flowing downstream to the Chesapeake Bay.

Shoreline stabilization can help reduce the load of suspended sediment in the stream when done in conjunction with upstream runoff reduction practices. A stabilized stream bank is also much healthier for fish and invertebrates than a highly eroded bank.

Street sweeping reduces the amount of suspended sediment, nitrogen from atmospheric deposition and phosphorus. EPA estimates of street sweeping efficiency are 30% reduction in Total Suspended Solids, 15.4 pounds of Nitrogen per impervious acre per year and 2 pounds of Phosphorus per impervious acre per year.

Tree planting on re-stabilized stream banks can have a very beneficial effect on temporary nitrogen storage, long term phosphorus and sediment reductions as well as cooling water temperatures and attenuating flows. Once trees mature, fallen limbs and trunks provide excellent fish habitat.

ELLICOTT CITY

Due to the extensive impervious surface in Ellicott City, Howard County is planning several projects in and around the area. One such project will be to improve and expand stormwater management in Lot D, near the post office and Main Street. The Tiber-Hudson stream corridor, part of the Patapsco River watershed, is currently channelized through Lot D. The County has recognized the potential for the Tiber-Hudson to be improved as a natural and visual amenity and public gathering space. Funded in part by the revenue raised by the stormwater utility fee, the County has planned to address and control polluted stormwater runoff, create a public amenity space for the community, and improve parking conditions on the lot. Stormwater utility fees will also fund several stormwater management projects such as stormwater management ponds, detention basins, and streambank restoration. Project locations include Newcastle Court in west Ellicott City and Tiller Drive near Mt. Hebron High School. Stream restoration projects will also be taking place near the Bonnie Branch middle school, the Our Lady of Perpetual Help church, and near St. Johns Lane Elementary School.

COUNTYWIDE

Howard County is also using stormwater utility fees to undertake much needed stormwater management retrofit projects for existing facilities. Some of the locations include Misty Woods Lane pond, Paul Harris Court pond, Waverly Woods pond, Ashton Woods pond, Patapsco Park Estates pond, Turf Valley Overlook pond, County Lane pond, Hearthstone Road pond, Whitworth Way pond, and a project at Stevens Forest Elementary school.

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POLLUTED RUNOFF IN HOWARD COUNTY

Many of Howard County's local waters, including the Middle Patuxent River, the Upper Patuxent, the Little Patuxent and the Patapsco River Lower North Branch, are considered "impaired" by the Maryland Department of the Environment. This means that the water quality is too low to support the designated uses for those water bodies, such as water contact recreation and public water supply. In the Little Patuxent River, and likely many others, it has been determined that the water quality issues have mostly local origins that can be addressed by local actions.[1]

A major reason Howard County local waters and streams are threatened or already seriously impacted is the amount of hard, or impervious, surface in the streams' watersheds. Significant water quality and habitat impacts are observed in streams in watersheds with average impervious cover of about 10% or greater. In Howard County, the Tiber-Hudson subwatershed containing the historic County seat Ellicott City and the Deep Run subwatershed containing Elkridge both have an average imperviousness between 25% and 30%. In fact, most streams in Howard County's Patapsco Lower North Branch have enough average imperviousness to negatively impact water quality and habitat, with the exception of the Davis Branch area.[2] Impervious surfaces do not allow water to infiltrate, but rather increase the speed, temperature and volume of water, leading to polluted runoff.

Polluted runoff contaminates our local rivers and streams and threatens local drinking water. Water running off of roofs, driveways, lawns and parking lots picks up trash, motor oil, grease, excess lawn fertilizers, pesticides, dog waste and other pollutants and washes them into the streams and rivers flowing through our communities. This pollution causes a multitude of problems, including toxic algae blooms, harmful bacteria, extensive dead zones, reduced dissolved oxygen, and unsightly trash clusters. These problems result in beach closures, fish consumption advisories, and in some cases complete closure of fisheries. Although fish such as white perch, yellow perch and herring can be found in the Patapsco River mainstem downstream of Rockburn Branch and in Deep Run, pollution has made fishing undesirable in Howard. A fish consumption advisory has been issued by the Maryland Department of Environment for six fish species that may be caught in the Patapsco lower north branch watershed in Howard County.

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[1] Maryland Department of Natural Resources. *Little Patuxent River Watershed Characterization.* July 2001.
[2] Maryland Department of Natural Resources. *Characterization of the Patapsco River Lower North Branch Watershed in Howard County, Maryland.* February 2005.

Today, polluted runoff is the only major source of water pollution still on the rise. Using the 2009 baseline, urban runoff contributed **25%** of the total Nitrogen in Howard County.[3] Without a dedicated funding source like the fee, it will be a challenge for the County to address local water quality issues. As mentioned above, the pollution in Howard County waters has local origins, and must be addressed by local actions and solutions.

Howard County's impervious surfaces and the resulting polluted runoff contribute significant sediment loads to the Patuxent and Patapsco watersheds, which it shares with other jurisdictions. According to the Maryland Department of Environment, the highest sediment loads in the Little Patuxent watershed come from Howard County, at 6,950 tons per year. Howard County also contributes 5,366 tons of sediment per year into two segments of the Patapsco Lower North Branch. These sediment loads can choke stream invertebrates and fish, clog intakes and make water treatment more expensive for cities downstream. **An estimated 18,216 acres of Howard County is covered in impervious surfaces,[4] the most of any Maryland county without a major metropolitan area and almost as much as Washington DC** (see attached map of hard surfaces in Howard County). Under Howard County's next Phase I National Pollution Discharge Elimination System (NPDES) permit, the County will be required to treat 20% of that impervious surface, or 3,643 acres, to reduce polluted runoff.

Apart from satisfying permit requirements, cleaning up our local water bodies has an immediate positive effect for the people of Howard County, including improved fishing opportunities, reduced flooding and creating local jobs. The great thing is, taking care of Howard County's local waterways also takes care of its obligations for the Bay.

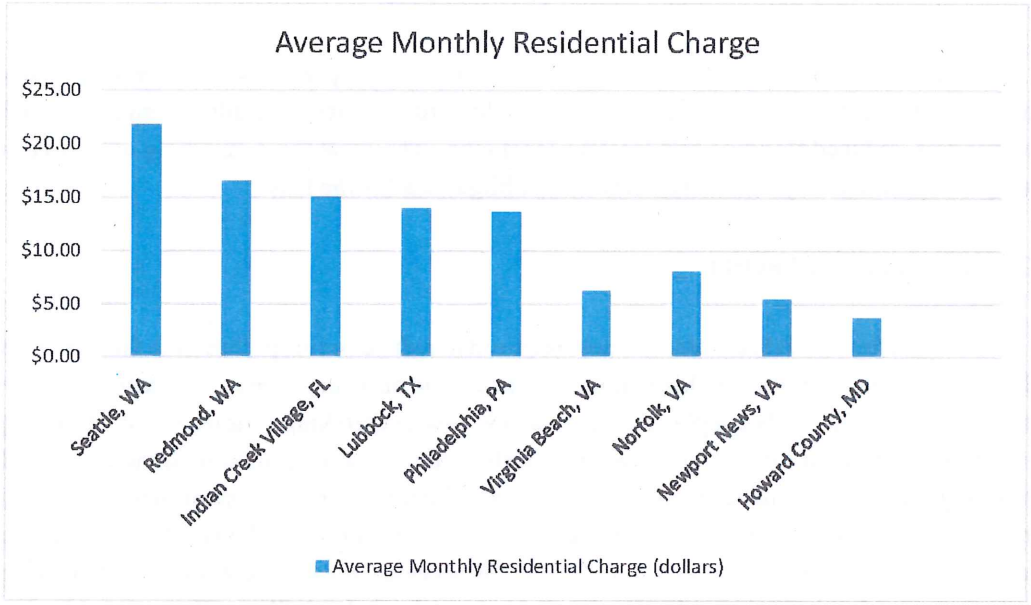
A COOPERATIVE EFFORT

All the Bay watershed states are now required to reduce runoff pollution to their local rivers and streams and the Bay – since this pollution source is the only major one that is actually growing. Each state has a specific plan in place to do so, and is now undertaking actions to make this happen. Since implementing this plan at the local level costs money, localities all around the watershed are developing different means to pay these costs. Only the ten largest and most urban jurisdictions were *required* to set fees in order to address their polluted runoff problems. They have the most land that doesn't allow water to filter slowly (impervious area), and they are also the only jurisdictions in Maryland charged with meeting very strict federal Clean Water Act permits. As requested by the Maryland Association of Counties, each jurisdiction got the freedom to set its own set of fees, according to its own polluted runoff needs. That's why businesses with the same "footprint" might have to pay a different amount in one jurisdiction or another. Maryland's

[3] Chesapeake Bay Model 5.3.2
[4] Chesapeake Bay Land Cover Change Model, Version 2

stormwater fees are not the costliest in the nation. In fact, they are not even at the higher end of the nationwide range.

The benefit to communities far outweigh the speculative concern that businesses will relocate. While businesses might wish to locate in Delaware, Pennsylvania, or Virginia instead of Maryland, it's not likely a stormwater fee that will move them to do that. And, if they do, they might be surprised to learn that eighteen local jurisdictions in Virginia, eight local governments in West Virginia, at least two municipalities in Delaware (including the largest, Wilmington), and several in Pennsylvania already have stormwater fee systems in place – and these numbers are growing. Across the United States, there are ***at least* 1,400 local jurisdictions with stormwater utility fees in place.**[5] A recent survey of jurisdictions with an existing stormwater utility fee found that the top three reasons such a fee was imposed were: to comply with regulatory requirements to reduce polluted runoff; to increase revenue stability; and to deal with the increasing costs of addressing polluted runoff.[6] These top three reasons are equally applicable to the Maryland jurisdictions, and make implementing stormwater utility fees equally important.



[5] Campbell, Warren. *Western Kentucky University Stormwater Utility Survey 2013*. Western Kentucky University, 6 July 2013. Web. 19 Nov. 2013.
[6] Black & Veatch. *2012 Storm Water Utility Survey*. Black & Veatch, 2013. Web. 19 Nov. 2013. <http://bv.com/docs/management-consulting-brochures/2012-stormwater-utility-survey>.

SOURCES OF POLLUTION IN HOWARD COUNTY

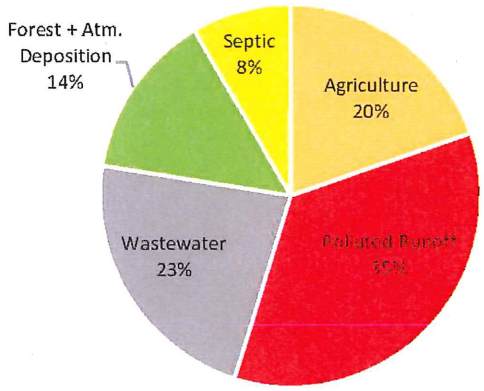
Chesapeake Bay Watershed Model 5.3—2011 Progress Run Edge of Stream Load Estimates

Upper Patuxent River

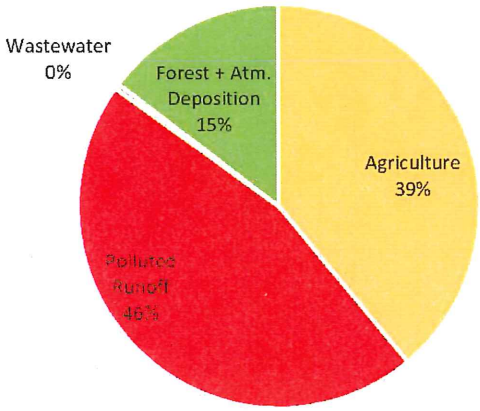
Includes the Western Branch, Little Patuxent River, Patuxent River Upper, Middle Patuxent River, Rocky Gorge Dam and the Brighton Dam

The Upper Patuxent River is polluted by nitrogen, phosphorus and sediment, and is listed on the Maryland Department of the Environment's impaired waters list, meaning it does not meet the water quality standards for its designated purpose.

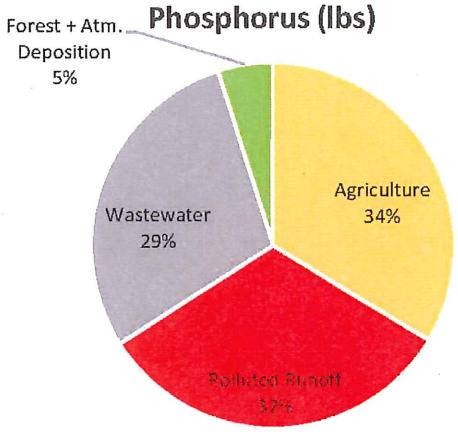
2011 Progress Run Modeled Loads Nitrogen (lbs)



2011 Progress Run Modeled Loads Suspended Sediment (lbs)



2011 Progress Run Modeled Loads Phosphorus (lbs)



SOURCES OF POLLUTION IN HOWARD COUNTY

Chesapeake Bay Watershed Model 5.3—2011 Progress Run Edge of Stream Load Estimates

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FACT SHEET

November 2013

THE FACTS ABOUT POLLUTED RUNOFF AND STORMWATER UTILITY FEES

What is polluted runoff?

As water flows off of our streets, parking lots, and building rooftops, it picks up fertilizers, pesticides, oil, and automotive fluids, pet waste, sediment, and other pollutants. This simple process—untreated stormwater flowing through gutters and storm drains—pollutes our rivers and streams and threatens our drinking water. It also causes problems like local flooding of streets and homes, beach closures, fish advisories, and sewage system overflows.

Why has urban & suburban polluted runoff emerged as a national issue?

Up until about the 1980s, builders didn't know much about the problems associated with polluted runoff. They just designed developments to flush the water off the property quickly. Now we realize runoff should be slowed down, and soaked up, where possible.

In fact, in the Chesapeake Bay region, this sort of pollution is the only major pollution sector still on the rise. Air pollution is down, as is pollution from wastewater treatment plants and agriculture. Urban and suburban runoff is the last nut to crack.

Why has polluted runoff become a big issue in Maryland specifically?

Maryland's cities and suburban areas contain some of the highest concentrations of impervious surfaces in the whole Chesapeake Bay watershed. And, not surprisingly, the state also has a huge list of waterways that are officially considered polluted. In fact, the "impaired waters" list includes waterways in every county in the state. Damage from this pollution to the Chesapeake Bay is also dramatic, because Maryland's concentrated areas of urban and suburban development are close in proximity to the Bay compared to urbanized areas in most of Pennsylvania and Virginia.

The Chesapeake Clean Water Blueprint requires each of the Bay states to reduce pollution or be subject to consequences for failure. But polluted runoff has ramifications far beyond the health of the Bay. This pollution damages local rivers and streams, is often responsible for expensive flooding, and, especially after a significant rainfall, can put human health at risk.

What is the Stormwater Utility Fee?

In 2012, the Maryland General Assembly passed House Bill 987, the Watershed Protection and Restoration Program. This legislation required the 10 largest and most urban jurisdictions to set fees to address their polluted runoff problems. These 10 urban areas have the most land that doesn't allow water to filter slowly (impervious area), and they are also the only jurisdictions in Maryland charged

with meeting very strict federal Clean Water Act permits. At the request of the Maryland Association of Counties, the law allowed localities to set a fee at whatever level they wished, based on their needs.

Where did this fee come from? I knew nothing about it.

HB 987 was debated in the Maryland General Assembly in 2012. The media reported the debate. Also, nearly identical bills were debated in previous sessions of the legislature and reported by the media. Some counties and municipalities have been holding similar debates for several years as they tried to find a way to finance the upgrade of their neglected and outdated stormwater systems.

Some counties and municipalities have had similar fees in place for decades. For example, Prince George's County has assessed a tax for polluted runoff since 1986. Bowie has charged commercial properties a fee to address polluted runoff since 1988. A number of other areas implemented similar fees in the 1990s and 2000s.

If we already pay taxes, why does the government need to charge additional fees to restore the Bay?

With all the challenges they face, state and local governments have generally chosen to do the minimum required to reduce polluted runoff. HB 987 gave a nudge to local governments to act, but left it up to them to determine the size of their local fee. With an adequate fee, the local government can implement practical, proven solutions that were previously too expensive, or that could have only been done if money was taken from other important social services. The fee also provides important leverage for financing projects with bonds or state revolving loans. **Regardless of financing option, local creeks and rivers will get cleaner only to the degree local officials fund needed work.** Little or no new funding will continue to mean dirty, unhealthy local waters.

Why do we need a new fee? We already pay the Bay Restoration Fee ("flush tax").

The Bay Restoration Fund or "flush tax" money goes to upgrading sewage plants. The money is being well spent. Most major plants in the state have been upgraded or are being upgraded, reducing nitrogen pollution into local waters by more than six million pounds a year. The flush tax was doubled in 2012 to finish the job of upgrading sewage plants. **The stormwater fee goes to upgrade the stormwater system**—the ponds, pipes, gutters, and other structures that are supposed to channel and treat polluted runoff before it reaches creeks. That spending will provide substantial, additional pollution reductions in each community.

Why aren't other local governments beside mine included in those that must charge a fee?

The problem is most severe in the 10 jurisdictions that were mandated to charge some level of fee, due to the large amount of impervious surface in those areas. And those are the only local jurisdictions already required by detailed Clean Water Act permits to deal with this problem. Many other counties in Maryland that are more rural don't discharge as much polluted runoff into local creeks and rivers.

Am I being charged the same amount as other property owners with more pavement or hard surfaces?

Each of the 10 local governments was given complete freedom to decide not only the size of the fee, but how it was collected. Some opted to charge property owners with more "impervious surfaces" higher fees. Other jurisdictions opted for a "flat fee." The ten jurisdictions took different approaches.

Contact your local government for more detailed information, or visit the following website: http://www.mde.state.md.us/programs/Marylander/Pages/StormwaterFeeFAQ.aspx

What about the assertion that these fees are a tax on rain (or a "rain tax")?

That moniker is catchy but blatantly false. It is designed to mislead and confuse. The truth is that we are talking about a fee to reduce pollution from water that washes off hard surfaces and empties into local waterways. Runoff pollution is real—it is responsible for no-swimming advisories and beach closures in local waters, fish consumption advisories, and dead zones in the Bay that can't support aquatic life. It also causes localized flooding and property damage. And in many areas, it is the largest source of pollution.

The bottom line is that this work must be done. There are federal and state requirements to reduce runoff pollution from urban and suburban areas. A fee on impervious surface is the best model to do this because the fee is connected to the cause of the pollution. If counties don't implement stormwater fees, they will need to raise the revenue by other means, such as property taxes or income taxes.

What about the complaint that these fees represent a top-down mandate?

It is true that the General Assembly required the fee. But the General Assembly also gave the counties the flexibility to design a fee structure that meets our unique needs. This is not a "one size fits all" policy. Counties have the leeway to develop local policies to address their local runoff pollution problems.

Are the fees used locally?

Yes! The fees are collected by the county or city, and used only in the county or city that collects them, to fix polluted runoff problems. The money will never go into a state fund, and there is accountability and transparency.
The fee are used for simple, proven solutions that work by slowing down and absorbing much of the polluted runoff. These solutions include planting trees, planting vegetation around streams, restoring stream beds, and using rain barrels and rain gardens. These local projects not only reduce pollution and improve water quality, but also make our communities more beautiful, reduce flooding, and create jobs. Scientific monitoring will verify that the projects are effective and efficient

Why are all the fees different?

Each county and city is unique, and so are their water quality problems. The Maryland Association of Counties, a non-profit association representing the needs of local government to the Maryland General Assembly, requested that the state law provide flexibility that allowed each jurisdiction to address these differences. Each county or city therefore can set its own fee. The approach taken by each county has varied, but the approach that provides the greatest benefit to local communities is setting a fee that reflects the jurisdiction's estimated cost of compliance with Clean Water Act permits and cost of

restoring local streams and rivers. Despite the amount of work needed to restore Maryland's rivers and streams, Maryland's polluted runoff fees are lower than those in quite a few other states.

Does Chesapeake Bay Foundation receive funding from the "rain tax?"

Absolutely not. Neither do we receive a penny of funding from the Bay Restoration Fund, or "flush fee." These are government initiatives. We are a non-profit, private agency.

Can I have my fee reduced? I've heard some of the 10 jurisdictions are offering discounts.

HB987 required all the 10 local governments affected to offer some type of credits or discounts if a property owner takes steps to reduce polluted runoff from his land. Contact your local government for more information, or visit:
http://www.mde.state.md.us/programs/Marylander/Pages/StormwaterFeeFAQ.aspx

Don't we have bigger pollution problems to worry about? Isn't the water pollution that causes closed beaches and unsafe swim areas caused mostly by sewage spills, not polluted runoff?

Polluted runoff from city and suburban landscapes is the only major type of water pollution that is increasing in the region. Pollution from farms, sewage plants, and other sources is decreasing. Thanks to the "flush fee," for example, we've dramatically reduced nitrogen pollution from sewage plants. A handful of sewer systems in the state are so old it will take many years more to stop recurring spills and overflows. Spills from those systems can play a major role in beach closings. But Sally Hornor, a microbiologist with Anne Arundel Community College who has tested county water for years, says bacteria from polluted runoff is the culprit in unsafe swim areas far more often. Sewage spills are occasional. Polluted runoff occurs after every storm generating about one-half inch of rain or more.

Do the fees hurt Maryland's business competitiveness?

Forward-thinking community leaders believe the benefit to communities from addressing polluted runoff far outweigh the speculative concern that businesses will relocate. And if businesses consider relocating to Delaware, Pennsylvania, or Virginia instead of Maryland, they might be surprised to learn that 18 local jurisdictions in Virginia, eight local governments in West Virginia, at least two municipalities in Delaware (including the largest, Wilmington), and several in Pennsylvania already have stormwater fee systems in place—and these numbers are growing. Nation-wide, more than 1,400 jurisdictions—including large cities like Houston and Tampa—have similar policies in place—and they are working.

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