



DISTRICT OF COLUMBIA

NONPOINT SOURCE MANAGEMENT PLAN FOR THE DISTRICT OF COLUMBIA, 2024

Effective September 2024 – September 2029



Contents

1	Introduction.....	5
1.1	Water Quality in the District.....	8
2	Regulatory Mechanisms.....	11
3	Structure of the Watershed Protection Division.....	16
3.1	Restoration Branch.....	17
3.2	Partnering and Environmental Conservation Branch.....	17
3.3	WPD Restructuring.....	17
4	Goals, Objectives, and Milestones.....	18
5	Key Watershed Protection Division Programs and Projects.....	27
5.1	Environmental Education and Outreach.....	27
5.1.1	Conservation Education (Project Learning Tree, Project WET, and Project WILD).....	27
5.1.2	Teacher Training Workshops.....	27
5.1.3	DC Environmental Literacy Plan.....	27
5.1.4	RiverSmart Schools.....	28
5.1.5	District of Columbia Environmental Education Consortium (DCEEC).....	28
5.1.6	The Anacostia Environmental Youth Summit.....	28
5.1.7	Meaningful Watershed Educational Experiences (MWEEs).....	28
5.2	Community Stormwater Solutions.....	28
5.3	Job Training Programs.....	29
5.3.1	Green Zone Environmental Programs (GZEP).....	29
5.3.2	River Corps.....	30
5.3.3	Watershed Stewards Academy.....	30
5.3.3	Storm Drain Marking Program.....	30
5.4	Equity.....	30
5.5	Community Programs.....	33
5.5.1	RiverSmart Homes.....	33
5.5.2	Permeable Surface Rebate Program.....	33
5.5.3	District Department of Parks and Recreation Projects.....	34
5.5.4	Tree Planting.....	34
5.5.5	Adopt-Your-District Program.....	34
5.5.6	RiverSmart Communities.....	34
5.6	Stream and Wetland Restoration.....	35
5.6.1	Wetland Restoration and Living Shorelines.....	36

5.6.2	Trash Removal	36
5.6.3	Pollution Prevention Stormwater Pollution Prevention Plans.....	37
5.6.4	Snow and Ice Removal	37
5.6.5	Pollution Prevention Workshops	37
5.7	Inspection and Enforcement.....	38
5.7.1	Anacostia Clean Up and Protection Act (Bag Law)	38
5.7.2	Sustainable DC Omnibus Amendment Act (Foam Ban)	38
5.7.3	Comprehensive Stormwater Management Enhancement Amendment Act (Coal Tar Ban).....	38
6	Other DOEE Groups Supporting NPS Activities.....	38
6.1	Water Quality Division.....	38
6.2	Inspection and Enforcement Division.....	39
6.3	Fisheries and Wildlife Division	39
6.4	Regulatory Review Division.....	39
6.5	Toxics Substance Division.....	40
7	Key Best Management Practices.....	41
7.1	Rain Barrels	41
7.2	Rain Gardens.....	41
7.3	Shade Trees.....	41
7.4	Bioretention.....	41
7.5	Permeable Pavers	42
7.6	Green Roofs	42
7.7	Stream and Wetland Restoration.....	42
7.8	Outfall Restoration.....	42
8	Partnerships.....	42
8.1	DC Agencies	42
8.1.1	Department of Transportation (DDOT)	42
8.1.2	Department of General Services (DGS).....	43
8.1.3	DC Water	43
8.1.4	Office of Planning (OP).....	44
8.1.5	Department of Parks and Recreation (DPR)	44
8.1.6	District of Columbia Public Schools (DCPS).....	44
8.2	Federal Agencies.....	44
8.2.1	Department of the Interior.....	44
8.2.2	U.S. Department of Agriculture (USDA)	45
8.2.3	U.S. Army Corps of Engineers	45

8.2.4 U.S. Environmental Protection Agency (EPA).....	45
8.2.5 U.S. Geological Survey (USGS).....	46
8.2.6 Federal Emergency Management Administration (FEMA).....	46
9 Watershed Prioritization	46
9.1 Planned or Completed Stream Restoration Projects	46
9.2 Key Impairments.....	47
9.3 Human Health	47
9.4 Ecosystem Integrity	47
9.5 Human Connectivity	48
9.6 Opportunism	48
9.7 Threats.....	48
10 Funding Sources.....	49
10.1 General Revenue.....	49
10.2 Regulatory Programs within DOEE.....	49
10.3 Federal Grant Programs	50
10.4 Capital Funds	51
10.5 National Fish and Wildlife Foundation Grants	51
10.6 FEMA	51
10.7 NOAA.....	51
10.8 U.S. Army Corps of Engineers Section 510 Grant	51
11 Funding Strategy.....	52
12 Conclusion	52

1 Introduction

The District of Columbia was established at the confluence of the Potomac and Eastern Branch (now Anacostia) rivers. The Potomac and Anacostia rivers have been vital sources of food, commerce, and recreation from pre-colonial times to today. Land use in the District has morphed from being largely forested to agricultural and now to being largely urbanized. Each land use change has brought new stressors and challenges to protecting our waterways but over the last few decades the District has made significant strides in restoring and protecting our waterways.

In 1990, the Government of the District of Columbia established its Nonpoint Source (NPS) Management Program to address the control and prevention of nonpoint source pollution to the District of Columbia's surface and groundwaters and to expedite the restoration of degraded water bodies. The NPS Management Program (NPSMP) is part of a comprehensive District watershed management program that strives to meet the national environmental goal of clean waters that support healthy communities of fish, plants, and other aquatic life, and benefit uses such as fishing and swimming. Financial support for the program primarily comes from the Federal Government through the *Clean Water Act* (CWA) §319(h) and 117(b), and the District Government. Section 319(h) provides funds to designated state and tribal agencies to implement their approved nonpoint source management programs. The nonpoint source management plan outlines these nonpoint source mitigation efforts for the District of Columbia, which is awarded funding upon approval from the U.S Environmental Protection Agency (EPA). NPS Management Plans and funding proposals are developed by the states in accordance with CWA section 117b and undergo collaborative review between District Department of Energy and Environment (DOEE) and EPA every five years. The NPS Management Program continues to evolve and expand, thus making significant headway in restoring and protecting our watersheds and waterways.

Because the District of Columbia is entirely urban, the NPS Management Program mainly targets the NPS of urban runoff as identified in the District's approved *NPS Management Program Plan (NPSMPP)* (1989, 2000, 2014 & 2019). Other NPS program plans that the EPA has approved are the District's Watershed Implementation Plans (WIPs) for the Anacostia River, Rock Creek, and Oxon Run—which has since been superseded by the District's Consolidated TMDL Implementation Plan which applies to the entire District and was accepted by EPA in 2022. NPS pollutants addressed include nutrients, sediment, toxicants, pathogens, and hydrocarbons. The District Government has shown that urban runoff is one of the more important contributors to surface water impairment in the District and is working to restore and protect waterways accordingly.

All the significant water bodies within the boundaries of the District of Columbia are monitored regularly, both for water quality and for health of aquatic species and habitats. To meet the District's CWA goals, DOEE monitors thirty-six (36) waterbody segments biannually and assesses each waterbody's designated uses based on the numeric and narrative criteria outlined in the District's water quality standards (WQS). Through the monitoring activities, the water bodies are characterized for impairments and threats. The District Government prepares Section 305(b) reports as required by the federal CWA. The 2022 Section 305(b) Report, also known as the [Integrated Report](#) described the District's water bodies as not fully supporting their swimmable (primary contact recreation) and fishable (fish consumption) uses. The District Government's standard for evaluating the primary contact use is the concentration of E. coli

bacteria. Additionally, most District water bodies fail to meet standards for secondary contact. The sources of pathogens to the water bodies are urban runoff, storm sewers, and combined sewer overflows (CSO). The fish consumption use is not supported because of the elevated levels of *polychlorinated biphenyls* (PCBs) in fish tissue. The likely conveyance systems of PCBs and other contaminants found in fish are storm sewers and urban runoff. Depending on the location, groundwater and surface water interaction in the District occurs in both directions or in the direction of groundwater to surface only. Therefore, groundwater sources of contamination such as pesticide application, waste piles, and urban runoff must also be controlled by NPS pollution management activities.

An almost ubiquitous source of pollutants to the District's water bodies is urban runoff/storm sewers. In addition, the District has developed Total Maximum Daily Loads (TMDLs) for water bodies not meeting their swimmable and fishable designations. The common action needed on the listed water bodies is to control nonpoint source pollution.

The few water bodies that partially or fully support some of their designated uses are also identified through the District's monitoring activities and the Section 305(b) process. These water bodies are threatened because of the 65% imperviousness of the city, the aging infrastructure, their location, and/or construction in their watersheds. It should be noted that land uses within the District are fixed and the foreseeable threats and impairments already exist because the District is highly developed and land uses are not subject to future dramatic changes.

In 1995, the NPS Management Program developed a process to rank watersheds for NPS implementation in the District and determined that the Anacostia River and its tributaries should receive the highest priority. Since then, the NPS Management Program has aligned its project and site selection priorities with the [MS4 Permit](#) and [Clean Water Construction](#) (CWC) priorities, which emphasize opportunities for water quality improvement, habitat enhancement, climate resilience, and equity advancements for environmental justice communities. In aligning NPS efforts with complementary overlapping requirements, the DOEE cultivates a unified strategy toward watershed improvement and pollution reduction.

The Anacostia River and its tributaries remain priority areas for water quality improvement, therefore the District continues to dedicate considerable resources toward restoring the Anacostia River with the aim of making it swimmable and fishable by 2032. For more than 20 years, the District Government has used the watershed approach to raise awareness and pull together public and private sector resources to tackle the water quality problems of the Anacostia River. The District Government has taken significant steps forward toward protecting and restoring our waterways, but more progress is needed.

The identification of impaired waters is an ongoing process. As new information becomes available from monitoring studies and other aquatic resource studies within the District, the new data will be used to reassess its waters and watershed, to refine and enhance its implementation plans and, if necessary, develop new strategies within the NPS Management Program. As the Section 305(b) process requires a [biennial report](#) and the District Government requires [five-year strategic plans](#), the NPS Management Program will use these documents as opportunities to assess the success of its implementation work plans.

The District continues to adapt these plans to respond to the increasing effects of climate change. As anthropogenic climate change intensifies, District water bodies face challenges from extreme precipitation events and subsequent stormwater impacts that are expected to contribute to nonpoint source pollution. The World Health Organization predicts:

- The number of days per year with greater than 1 inch (2.5 centimeters) of rain in a 24-hour period in the District is projected to increase to 13 days by the 2050s.
- Increases in rainfall will negatively impact drainage infrastructure and sewage systems, making efforts to improve water quality more challenging.

Anticipated challenges from climate-related stressors necessitate strengthened efforts toward nonpoint source management. The combination of extreme precipitation events, sea level rise, and storm surge are predicted to increase volumes of stormwater runoff and place additional pressures on both grey and green infrastructure. [The District's 2016 Area Vulnerability Assessment](#) notes:

“The storm sewer system in the District is designed to convey stormwater for the present 15-year 24-hour storm which corresponds to 5.2 inches (according to NOAA Atlas 14) of rainfall. Based on design storm projections developed as part of the “Climate Projections and Scenario Development” report published by DOEE, the rainfall depth associated with this storm is projected to be 6.8 inches, 7.1 inches and 8 inches, by 2020s, 2050s and 2080s, respectively. Therefore, areas with storm sewers that are either at capacity or are already above capacity are more likely to experience more frequent and intense interior flooding driven by precipitation.”

That is to say, stormwater and combined sewer system (CSS) outfalls that are at low elevations compared sea level are at risk of flooding and back-ups caused by a combination of sea level rise and storm surge. Additionally, extreme precipitation events driving these outcomes will occur more frequently and with higher volumes of rainfall. Higher volumes of rainfall will contribute to increased stormwater runoff and pollutant loading in District waterways. The report notes that Ward 5, 7, and portions of Wards 6 and 8 are considered particularly over-burdened due to the high pollutant load already reported for water bodies in these areas. DOEE continues to prioritize Wards 5, 7, and 8 for green infrastructure implementation efforts to mitigate runoff volumes and increase filtration of pollutants.

Additionally, climate-driven increases in nonpoint source runoff pose disproportionate health, safety, and economic threats to the District's most vulnerable residents and communities. The District's Area Vulnerability Assessment (2016) observes that Wards 7 and 8 are especially at risk. Socioeconomic factors such as income, age, and employment status increase sensitivity to environmental events and limit strategies for adaptation. Additionally, Ward 7 is home to the largest number of vulnerable community resources such as schools, medical services and human services, particularly in the floodplain of the Watts Branch tributary. These disproportionate risks to human health and infrastructure require a targeted approach to nonpoint source management with an emphasis on environmental justice for the District's most vulnerable and over-burdened communities.

To this end, DOEE has developed and implemented an [Equity Framework](#) and an Equity Committee that serve to inform decision-making at all levels of agency work. For NPS efforts, this entails a commitment to equity and environmental justice in [watershed prioritization](#), policy development, program implementation, and community engagement. In practice, this involves increasing resource allocation and implementation of coordinated outreach strategies to serve historically underserved and overburdened communities—many of which are in the District's most impacted watersheds. Geographically, this prioritizes NPS mitigation activities for impacted watersheds in Wards 7 and 8, with additional attention to specific census tracts and watersheds of Ward 5. Multiple analysis efforts, including the District's Vulnerability Assessment, Climate Ready DC, and EPA's EJ screen, have identified these areas as disadvantaged EJ communities for a variety of reasons, including:

- High proportion of residents (above 80th percentile nationally) with EJ demographic indicators (low income and people of color);

- Disproportionately high percentage of residents with health disparities including low life expectancy;
- Consistently high pollutant loads reported for area water bodies;
- Proximity to environmental toxins from air pollution, waste-disposal locations, and historic industrial contaminants, and;
- Increased vulnerability to climate change-related risks such as flooding, infrastructure damage, and urban heat island effect.

DOEE is committed to prioritizing equity within our programs and operations and contributing to a more equitable city. Guided by these values, the District’s NPSMP continues to examine and adapt its strategies as best practices evolve. Recognizing the interconnectedness of human and environmental impacts within the historical context of trauma and disparities, ongoing NPS pollution mitigation efforts prioritize environmental justice as a driving principle. With strengthened focus on climate change and environmental justice, the District’s NPSMP is a guiding document that will help the District in making its waterways resilient, fishable and swimmable. The plan provides

a framework under which decisions are made, responsibilities are assigned, and implementation is prioritized. The District’s plan is a comprehensive strategy for how NPS pollution will be addressed and mitigated in the coming years. This plan will be updated a minimum of every five years to ensure it reflects progress toward restoring local waterbodies and improving water quality in waterways in the District.

1.1 Water Quality in the District

The District of Columbia Water Quality Assessment 2022 Integrated Report provides information about the state of the District of Columbia’s waters and DOEE’s efforts to protect and improve water quality. The [Integrated Report](#) combines the comprehensive biennial reporting requirements of the CWA’s Section 305(b) and Section 303(d) listings of waters for which TMDLs may be required. To meet the District’s CWA goals, DOEE monitored 36 waterbody segments during the period of January 2017 through June 2021(2022 reporting period), evaluated the data, and assigned each waterbody designated uses based on the numeric and narrative criteria outlined in the District’s water quality standards (WQS). The evaluation found that none of the District’s monitored waters are fully supporting all their designated uses, and they generally do not support uses by humans and aquatic life. A waterbody that does not support its designated uses is considered impaired. The results of the evaluation indicate that while the District’s waterbodies show signs that water quality is improving, they continue to be impaired. This report focuses on surface water assessment, but the District also evaluates groundwater via compliance monitoring and ongoing studies. The appendices of the Integrated Report contain details regarding the conditions of both surface water and groundwater.

Typical causes of impairment to the District’s waterbodies are elevated concentrations of bacteria, high pH (acidity), low concentrations of dissolved oxygen (DO), and high turbidity. DOEE does not monitor PCBs during its ambient water quality monitoring due to high costs. Below is a summary of findings from monitoring work:

Watershed Trends from 2019-2021

While bacteria levels ranged across the three (3) watersheds and often violated both the standard for single-samples and geometric mean, other measures of water quality including pH (6.5-8), water

temperature (less than 32.3°F), and turbidity (less than 20 Nephelometric Turbidity Unit (NTU) above ambient) were generally within the acceptable range.

Anacostia River Trends: The Anacostia River sites are located on the main stem from the National Arboretum to the Washington Channel, with one (1) tributary site located on Hickey Run. Bacteria levels were generally lower downstream than upstream except at Yards Marina, which recorded seventy-five to one hundred percent (75%-100%) of the samples in violation of the E. coli geometric mean threshold (126 Most Probable Number (MPN)/100 milliliters). The geometric mean trends showed a lesser percentage of violations at the downstream sites than at upstream sites. At the Washington Channel site, all geometric means recorded were always below the E. coli geometric mean threshold (no violations found). The Anacostia Park site had ninety percent (90%) of samples in violation of the geometric mean threshold. The National Arboretum and Hickey Run sites both exceeded the threshold one hundred percent (100%) of the time. In the Anacostia River, turbidity tended to decrease downstream. The average turbidity for all Anacostia sites, except the National Arboretum site, were well below the standard. The National Arboretum site had a higher turbidity average due to a few rain events with very high turbidity spikes. Violations for low pH occasionally (less than ten percent (10%) of the time) occurred for sites along the Anacostia River. Again, the National Arboretum site was the exception in 2021, having low pH values forty-five percent (45%) of the time. This was a very different trend from 2019 and 2020 when pH only violated the standard five percent (5%) and zero percent (0%) of the time respectively. The National Arboretum and Hickey Run sites had the worst overall water quality of all sites on the Anacostia River.

Potomac River Trends: The Potomac River sites include five (5) on the mainstem from Fletcher's Cove to Columbia Island. The two (2) Potomac tributaries sampled were Battery Kemble Park and Foundry Branch. Several of the mainstem sites reported consistently low bacteria levels throughout the three (3) years of monitoring. The Tidal Basin site met water quality standards for recreation ninety-seven percent (97%) of the time and no E. coli violations of the geometric mean standard were recorded. Bacteria levels at the Washington Canoe Club site increased over time, with eighty eight percent (88%) of samples failing to meet E. coli standards in 2021. The Battery Kemble Park and Foundry Branch sites frequently exhibited very high bacteria loads and recorded the highest percentages of violations, including in dry weather. The Potomac River sites showed generally good water quality for pH, turbidity, and temperature. Turbidity levels were very low at all locations. The Battery Kemble site had the lowest turbidity level; no violations were recorded at this site or at the Tidal Basin site. The turbidity at the Fletcher's Cove site was the highest on average for the Potomac River sites, the result of river flow patterns and sedimentation issues in that section of the Potomac River.

Rock Creek Trends: Rock Creek exhibited very high levels of bacteria, oftentimes more than the Anacostia and Potomac Rivers. Based on the geometric mean standard, the percentage of violations recorded in Rock Creek was equal to or greater than seventy-five percent (75%) for all sites, reflecting the significant bacteria impairment of Rock Creek and its tributaries. Every site except for Broad Branch exceeded the E. coli threshold with one hundred percent (100%) violations recorded for at least two (2) years during the project period. Normanstone Run exhibited the highest bacteria levels in Rock Creek across all three (3) years but dropped steadily from 2019-2021. The consistently unsafe levels of bacteria across nearly every Rock Creek site show that the creek remains significantly impaired throughout the section of it that runs through the District. The average pH, turbidity, and water temperature at every Rock Creek site fell within the acceptable ranges for each category. Normanstone Run had the lowest average pH value at 6.4, and Melvin Hazen Run had the highest pH average at 7.3. Average turbidity at Pinehurst Branch and Normanstone Run were low and did not exceed the turbidity threshold (<20 NTU).

In previous years the District saw improvements to aquatic resources, such as submerged aquatic vegetation (SAV), wetlands, freshwater mussels, and fish populations. However, starting in 2018, SAV abundance and species diversity has decreased District-wide. The major factor in the decrease of SAV in 2018 was the record-breaking precipitation the region experienced. The National Weather Service gage at National Airport recorded 61.34 inches of rain as of December 15, 2018. With increased stormwater discharges, and the resulting increase in turbidity and flow, SAV was not able to obtain the nutrients needed (sunlight, etc.) to grow and flourish when looked at on a Districtwide basis. Continued effects of heavy rainfall in 2018 were seen during the 2019 SAV ground truthing survey. All SAV found in the District since 2019 is within the Anacostia River – 2019 (92.6 acres), 2020 (67.2 acres), and 2021 (6.9 acres).

The recent decrease in SAV caused by extreme precipitation is one example of a climate-change related challenge to NPS reduction and the restoration of aquatic habitats. As DOEE and its partners continue to invest a variety of resources in the shared pursuit of improving District and regional water quality, climate change presents increasing challenges that must be considered. This NPS Management Plan lays out key programs, projects, policies, and agencies that each play a role in continuing to improve water quality in the District, recognizing that updates may be needed as adaptive management strategies are developed.

2 Regulatory Mechanisms

The District implements numerous programs, discussed later in this Plan, to protect and restore our waterways, as well as a robust set of rules and regulations to protect our waterways. The laws and regulations within the District safeguard that both public and private sector players ensure that their projects do no harm to our local waterways. Below are the key laws and regulations that are used in the District to protect our waterways:

1. [Federal Clean Water Act §404](#): Issuance of permits to control the discharge of dredged or fill materials into waters of the U.S. Activities related to wetlands are also covered by this section.
2. [Title 21, Chapter 5 – Water Quality and Pollution](#): The provisions of this chapter shall be applicable to all sources of pollution affecting the Potomac River and its tributaries within the District of Columbia, including, but not limited to: pollution carried by stormwater runoff, sources of sediment wastes from vessels or other floating construction, and domestic and industrial waste.
 - a. The purposes of this chapter shall be as follows:
 - i. To prevent and control the pollution of the Potomac River and its tributaries;
 - ii. To regulate land disturbing activities;
 - iii. To prevent accelerated soil erosion and sedimentation;
 - iv. To prevent sediment deposit in the Potomac River and its tributaries, including the District sewer system; and
 - v. To control health hazards due to pollution of the Potomac River and its tributaries.
3. [Title 21, Chapter 22 – Water Pollution Enforcement](#): The purpose of the rules in this chapter is to provide enforcement procedures for the water pollution control Act of 1984. These rules are developed pursuant to §§17, 18 and 19 of D.C. Law 5-188, the Water Pollution Control Act of 1984, and apply to the Act and the rules promulgated pursuant to the Act.
4. [Title 20, Chapter 31 – Flood Hazard Rules](#): The purpose of this chapter is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by:
 - a. Regulating uses, activities, and development which, acting alone or in combination with other existing or future uses, activities, and development, will cause unacceptable increases in flood heights, velocities, and frequencies;
 - b. Restricting or prohibiting certain uses, activities, and development from locating within areas subject to flooding;
 - c. Requiring all those uses, activities, and developments that do occur in flood-prone areas to be protected in order to prevent flood damage; and
 - d. Protecting individuals from buying lands and structures which are unsuited for intended purposes because of flood hazards.
5. [Title 21, Chapter 10 – Retail Establishment Carry Out Bags](#): The purpose of this chapter is to implement the provisions of the Anacostia River Clean Up and Protection Act of 2009, effective September 23, 2009 (D.C. Law 18-55; D.C. Official Code § 2-1226.51 *et seq.*). Except as provided in Section 1006, a retail establishment shall charge each customer making a purchase from the establishment a fee of five cents (\$0.05) for each disposable carryout bag provided to the customer with the purchase. [Final Rulemaking published at 57 DCR 7208, 7209 (August 13, 2010).]

6. The Sustainable DC Omnibus Amendment Act of 2014 (L20-0142): Prohibits the sale, use, or provision of expanded polystyrene containers for food service, and to require disposable food service ware provided by food service businesses to be compostable or recyclable.
7. [Limitations on Products Containing Polycyclic Aromatic Hydrocarbons Amendment Act of 2018](#): This act expands the District's ban on coal tar pavement sealants to include products containing ethylene cracker residue and products with high concentrations of polycyclic aromatic hydrocarbons.
8. [Title 21 Chapter 6 – Riparian Rights and Water Privileges](#): No structure shall be constructed, reconstructed, or repaired in any waters shoreward of the pierhead line unless the Mayor, pursuant to this chapter, issues a permit for the construction, reconstruction, or repair of the structure.
9. [Water Pollution Control Act of 1984 \(DC Law 5-188\)](#) The *D.C. Water Pollution Control Act of 1984*, D.C. Law 5-188, was enacted to regulate the restoration of the cleanliness and purity of District of Columbia waters and to protect the fish and aquatic life and their habitats. This allows the District to regulate any activities that may impact the waters of D.C. Stormwater management activities are regulated under § 509-518 of this law.

Other changes to District law that greatly improve the NPS pollution abatement efforts of the District of Columbia are listed below:

- a. Ground Water Standards, 21 DCMR Chapter 11, published at 40 DCR 4203, July 2, 1993. This chapter establishes narrative and numerical criteria for groundwater quality.
- b. Water Quality Standards, 21 DCMR Chapter 11, published at 41 DCR 1075, March 4, 1994. This amendment allows for classification of District surface waters based on their current uses and future uses to which they will be restored.
- c. Water Quality Monitoring Regulations, 21 DCMR Chapter 19, February 2, 1995. These rules were adopted to provide for accurate, consistent and reproducible water quality monitoring data for decision making purposes.

Delegation of Authority under the *D.C. Water Pollution Control Act*, Mayor's Order 98-50 dated April 15, 1998, superseded Mayor's Order 87-278, 12/11/87. This order transferred regulatory authority to the Department of Health when Ground Water Quality Division was assigned to that administration.

10. [Water Quality Standards for Surface Waters](#) the following standards apply to surface waters in the District: This chapter establishes the Water Quality Standards (WQS) for the waters of the District of Columbia, as authorized by section 5 of the Water Pollution Control Act of 1984, effective March 16, 1985 (D.C. Law 5188; D.C. Official Code § 8-103.04).

For the purposes of the water quality standards, the surface waters of the District shall be classified on the basis of their (i) current uses, and (ii) future uses to which the waters will be restored. DOEE provides guidance in its [Draft Surface Water Assessment and Listing Methodology](#) and [2020 Integrated Report](#) that describe the thresholds used to assess designated use determinations for physical pollutants, chemical pollutants and E. coli. The thresholds include the following: 1) Fully supporting – for any pollutant, standard exceeded in <10% of measurements meaning pollutants were not found at levels of concern; 2) Not supporting – for any one pollutant, standard exceeded in > 10% of measurements meaning pollutants were found at levels of concern; 3) Not assessed – meaning the water body was not assessed in a manner which could determine if it met its designated use; and 4) Insufficient Information: Data to determine if

the designated use is fully supporting/not supporting is not available. The categories of beneficial uses for the surface waters of the District shall be as follows:

Categories of Uses that Determine Water Quality Standards	Classes of Water
Primary contact: recreation	A
Secondary contacts: recreation and aesthetic enjoyment	B
Protection and propagation of fish, shellfish, and wildlife	C
Protection of human health related to consumption of fish and shellfish	D
Navigation	E

The surface waters of the District are designated for beneficial use classes according to the categories delineated in subsection as follows:

CLASSIFICATION OF THE DISTRICT'S WATERS

Surface Waters of the District	USE CLASSES	
	Current Use	Designated Use
Potomac River	B, C, D, E	A, B, C, D, E
Potomac River tributaries (except as listed below)	B, C, D	A, B, C, D
Battery Kemble Creek	B, C, D	A, B, C, D
C&O Canal	B, C, D, E	A, B, C, D, E
Rock Creek	B, C, D, E	A, B, C, D, E
Rock Creek tributaries	B, C, D, E	A, B, C, D, E
Tidal Basin	B, C, D, E	A, B, C, D, E

CLASSIFICATION OF THE DISTRICT'S WATERS

Surface Waters of the District	USE CLASSES	
	Current Use	Designated Use
Washington Ship Channel	B, C, D, E	A, B, C, D, E
Oxon Run	B, C, D	A, B, C, D
Anacostia River	B, C, D, E	A, B, C, D, E
Anacostia River tributaries	B, C, D	A, B, C, D
(except as listed below)		
Hickey Run	B, C, D	A, B, C, D
Watts Branch	B, C, D	A, B, C, D
Wetlands	C, D	C, D

11. [Ground Water Quality Standards \(21 DCMR §§ 1150-1158\)](#): Sections 1150 through 1158 shall describe the following categories:
 - a. Classes of groundwaters within the District;
 - b. Establish criteria to protect the designated uses;
 - c. Establish the concepts of Enforcement Standards and Early Warning Values; and
 - d. Provide groundwater monitoring requirements.
12. [Water Quality Research Grant Regulations \(21 DCMR Ch. 13\)](#): This chapter shall establish the procedures for issuing grants to universities and institutions pursuant to §13 of D.C. Law 5-188, the "Water Pollution Control Act of 1984."
13. [Submerged Aquatic Vegetation \(SAV\) Regulations \(21 DCMR Ch. 14\)](#): The purpose of this chapter is to provide for the management of submerged aquatic vegetation. This chapter is promulgated under §4 of D.C. Law 5-188, the Water Pollution Control Act of 1984, D.C. Code §6-923 (1995 Repl. Vol.).
14. [Water Quality Monitoring Regulations \(21 DCMR Ch. 19\)](#): The purpose of this chapter is to provide for accurate, consistent and reproducible water quality monitoring data for decision making purposes. This chapter shall apply to ambient surface and groundwater quality monitoring, special monitoring studies, compliance monitoring, monitoring required as a part of a permit, or to modify a permit, and self-monitoring of discharges.
15. [Stormwater Management and Soil Erosion and Sediment Control](#): The District's 2013 Stormwater Rule set the stage for maximizing stormwater capture, retention, and reuse for all future development on disturbed areas of greater than 5,000 square feet. The stormwater regulations not only regulate new developments but create incentives for property owners

throughout the District to retrofit existing properties to manage stormwater and reduce NPS pollution.

The District's Stormwater Rule was amended in 2020 to provide compliance flexibility and exemptions for projects that have been disproportionately burdened by compliance, to improve environmental outcomes through updates to the District's Stormwater Retention Credit Trading Program, and to update review fees and processes.

The District's Stormwater Rule and subsequent amendments is significantly improving protection for District water bodies by effectuating a fundamental shift in the management of stormwater runoff within the District. Unlike the previous approach in which the fundamental goal of stormwater management is simply to manage the timing and quality of stormwater conveyed into the public sewer infrastructure, the Stormwater Rule requires the retention of stormwater volume on site with a menu of stormwater management practices through which stormwater is absorbed by the soil, infiltrated into the ground, evapotranspired by plants, or stored ("harvested") for use on site. This more closely approximates the "sponginess" of the natural environment, where rainwater is captured by foliage, absorbed into the soil, and infiltrated into groundwater reserves.

The Stormwater Rule further improves the equity of how the impacts of stormwater runoff and the burden of stormwater management are distributed in the District. Over the years, inadequate stormwater management has become a leading cause of the severe degradation of District water bodies such as the Anacostia and Potomac rivers and Rock Creek. This degradation diminishes the value of these public resources for residents, visitors, and businesses in the District of Columbia, and it necessitates the use of public resources to pay the costs of managing stormwater and remedying its impacts.

The Stormwater Rule more equitably allocates the costs of stormwater management by requiring properties undergoing major development or redevelopment to do more to reduce the stormwater runoff from their property. The idea that these costs should be reflected in the costs of developing properties is in keeping with the established principle of environmental policy and economics that external environmental costs should be internalized into the costs of a transaction. For these projects, the cost to design and install runoff reducing green infrastructure is small relative to the total project cost. By making the shift to the retention-based approach in these amendments, regulated development will become a major driver behind the long-term effort to retrofit impervious surfaces in the District and, ultimately, to restore health to the District's water bodies.

However, for projects with a relatively low total project cost, the cost to achieve stormwater compliance can be relatively high. This includes single- and two-family affordable houses, projects to install or maintain athletic playing fields, trails for walking and biking, small structures such as picnic shelters at parks, and landscaping maintenance. DOEE recognizes that these projects provide a public benefit and does not want to create disincentives to completing them. The 2020 Stormwater Rule amendments provide compliance flexibility and exemptions to these projects for which compliance with the 2013 Stormwater Rule is a disproportionate burden. These updates improve environmental justice within the regulatory framework by more equitably distributing the costs of stormwater management and providing flexibility for projects that serve low-income and/or historically overburdened populations.

Enhancing sustainability in the District is another important objective, and Mayor Muriel Bowser has released an updated sustainability plan (Sustainable D.C. 2.0) that will help the District achieve this vision. Amendments to the Stormwater Rule were designed to support that vision not only by improving protection for District water bodies, but also by providing that protection while maximizing flexibility and cost-savings for regulated sites. Notably, these amendments allow regulated sites the option of achieving

a portion of their stormwater retention requirement off site, but still within the District, without having to first prove that on-site retention is infeasible. Sites that opt to use off-site retention have two (2) off-site options: use of Stormwater Retention Credits (SRCs), which can be purchased from the private market, or payment of an in-lieu fee to DOEE.

In addition to the flexibility and cost-savings that these off-site provisions allow, they also enhance sustainability's triple bottom line of social, economic, and environmental impacts via the installation of more retention BMPs in more parts of the District than would otherwise be achieved under a strict on-site retention approach. The preamble to the Stormwater Rule provides an overview of the benefits to District water bodies that may result from the increase in retention BMPs (available via www.DOOE.dc.gov/swregs). To summarize, this increase has the potential to significantly reduce the volume of stormwater runoff into District water bodies and to capture a greater share of the dirtiest "first flush" volume carrying pollutants to our water bodies. That is to say, the SRC program incentivizes BMP installation upstream of vulnerable tributaries, thus protecting District watersheds closer to their sources. By shifting the installation of retention BMPs from areas draining into the tidal Anacostia and Potomac rivers to areas draining into the District's relatively vulnerable tributary water bodies, these off-site retention provisions are also likely to result in more protection for the District's most vulnerable water bodies. Socioeconomically, an increase in retention BMPs should increase the number of green jobs in the District, including low-skill and moderately skilled installation, operation, and maintenance jobs, as well as relatively high-skilled design and engineering jobs.

The increase in retention BMPs also provides aesthetic, health, and ancillary environmental benefits to the District. Finally, it is worth pointing out that DOEE sees the off-site provisions in Stormwater Rule as having the potential to result in more retention BMPs than might otherwise be installed in less affluent parts of the District, meaning that these amendments also have the potential to improve environmental justice outcomes in the District. The greater proportion of low to medium density residential land use in Wards 5, 7, and 8 provides opportunities for increased BMP installation and the associated co-benefits including ecosystem services, health/wellness advantages, educational opportunities, and reduced urban heat island effects.

The Stormwater Rule also contains other provisions to provide flexibility to regulated sites and promote sustainable development in the District. To facilitate retention on site, the Stormwater Rule allows a regulated site to exceed the retention requirement in one area ("over-control") in order to compensate for retention that falls short in another area on the site. Additionally, on-site retention can also be achieved via direct drainage to a Shared Best Management Practice (S-BMP) that may serve multiple sites. Finally, although a site draining into the Combined Sewer System (CSS) must retain a minimum volume of stormwater from the entire site, it has the flexibility to over-control without having to meet minimum requirements for retention or treatment in individual drainage areas on the site.

3 Structure of the Watershed Protection Division

The Watershed Protection Division has been composed of two branches since 2018: the Restoration Branch and the Partnering and Environmental Conservation Branch.

3.1 Restoration Branch

The Restoration Branch implements watershed restoration projects and sponsors activities that protect and restore urban river, stream, and wetland habitats. This branch manages large scale LID, stream, and wetland restoration projects, and implemented DOEE’s signature RiverSmart Homes and Communities programs that offer several incentives for property owners to manage stormwater and reduce NPS pollution.

3.2 Partnering and Environmental Conservation Branch

The Partnering and Environmental Conservation Branch brings together District and federal agencies, local non-government organizations, and local communities to take actions to restore and preserve the District’s waterways. This branch develops agreements and issues grants to help restore watersheds, conduct outreach and education, and reduce litter to waterbodies. The branch also oversees partnering efforts for watershed restoration, pollution prevention work, environmental education and outreach, and some inspection and enforcement around plastic bags, food service wares, and coal tar sealants.

3.3 WPD Restructuring

In 2022 the Watershed Protection Division proposed a reorganization, which was finalized in 2024 (at the time of drafting this plan). Responding to the growing staff numbers, new maintenance efforts, and division of program implementation responsibilities, WPD expanded from its two branches above to encompass four distinct branches to include: the Restoration Branch, the Partnering and Engagement Branch, the RiverSmart and Incentives Branch, and the Maintenance and Pollution Prevention Branch. Under this structure, the Restoration Branch and Partnering and Engagement Branch continue to carry out their core functions, with the RiverSmart and Incentives Branch separating to administer residential stormwater management incentive programs, and the Maintenance and Pollution Prevention Branch spearheading new maintenance efforts to repair and service green stormwater infrastructure on District properties, and to prevent pollution from District critical source facilities. The following organization chart illustrates WPD new structure and four branches.

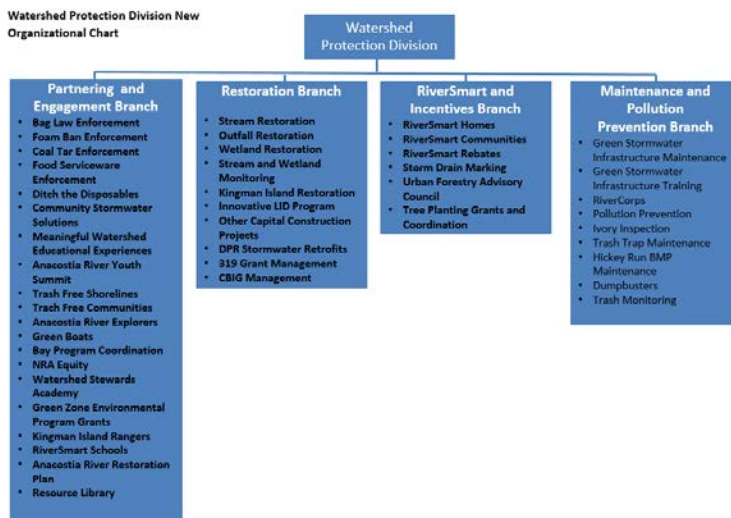


Figure 1: DOEE’s Watershed Protection Division added two new branches

4 Goals, Objectives, and Milestones

With the pending WPD reorganization and following a strategic planning process completed in 2023, the following goals, objectives, and milestones were developed for our NPS Management activities.

GOAL ONE: Support activities that reduce pollutant loads from urban runoff, litter prevention, and trash removal.

Goal One	Objective	Milestones	2024	2025	2026	2027	2028	Total
Support activities that reduce pollutant loads from urban runoff, litter prevention, and trash removal.	To complete at least 2,250 inspections of businesses regulated by the Anacostia Clean Up and Protection Act (Bag Law) between 2024 and 2028.	450 inspections per year of businesses regulated by the Anacostia Clean Up and Protection Act						
	To complete at least 1,000 inspections of entities regulated by the Sustainable DC Omnibus Amendment Act 2014, which includes both the foam, or Styrofoam™, food service ware ban, plastic straw ban and other recyclable and compostable food service ware requirements between 2024 and 2028.	200 inspections per year of entities regulated by the Sustainable DC Omnibus Amendment Act of 2014						
	To educate 25,000 businesses regulated by the Bag Law and Food Service Ware Regulations and the public about any changes in requirements in an effective and efficient manner between 2024 and 2028.	Educate 5,000 businesses per year on the Bag Law and Food Service Ware Regulations						

Non-Point Source Management Plan for the District of Columbia, 2024

	<p>To complete at least 250 inspections of regulated properties to ensure compliance with the Coal Tar Pavement Sealant Ban (Comprehensive Stormwater Management Enhancement Amendment Act of 2008) between 2024 and 2028.</p>	<p>50 inspections per year for compliance with the Coal Tar Pavement Sealant Ban</p>						
	<p>To remove 2,500,000 pounds of trash through a combination of street, stream, and shoreline clean-up efforts; maintenance of trash traps, skimmer boat operations; street sweeping; and implementation of litter reduction policies (e.g. the Bag Law) between 2024 and 2028.</p>	<p>500,000 pounds of trash removed annually</p>						
	<p>To develop a comprehensive strategy by 2028 to incorporate diversity, equity, inclusion, and justice into Clean Water Act objectives as required by the District’s MS4 Permit.</p>	<p>To pilot at least one DEIJ initiative annually culminating in a unified strategy by 2028. This could include efforts such as conducting a REIA, testing training modules, piloting outreach strategies, adjusting program implementation, or other DEIJ focused activity.</p>						

Goal Two: Support and implement activities that restore and maintain healthy habitat, species diversity, and water flows to all tributaries to the Anacostia River, Rock Creek, and Potomac River.

Goal Two	Objective	Milestones	2024	2025	2026	2027	2028	Total
To support and implement activities that restore and maintain healthy habitat, species diversity, and water flows to all tributaries to the Anacostia River, Rock Creek, and Potomac River.	To complete stream restoration projects on 3.5 miles of stream by 2028.	To complete at least one critical step in the contracting process annually, including solicitation development, assessment, public/council review, design, permitting, construction, or other required process for stream restoration. Progress will be reported in the narrative section of the NPS annual report.						
	To restore 20 acres of wetlands by 2028.	To complete at least one critical step in the contracting process annually, including solicitation development, assessment, public/council review, design, permitting, construction, or other required process for wetland restoration. Progress will be reported in the narrative section of the NPS annual report.						
	To restore 20 outfalls by 2028.	To complete at least one critical step in the contracting process annually, including solicitation development, assessment, public/council review, design, permitting, construction, or other required process for outfall restoration. Progress will be reported in the narrative section of the NPS annual report.						
	To provide routine maintenance to at least 12,500 of BMPs by 2028	To provide routine maintenance to at least 2,500 BMPs annually						

Goal Three: Install low impact development (LID) practices on public and private properties throughout the District to maximize reductions in stormwater runoff.

Goal Three	Objective	Milestones	2024	2025	2026	2027	2028	Total
Install Low Impact Development (LID) practices on public and private properties throughout the District to maximize reductions in stormwater runoff.	To retrofit 25 District facilities with LID projects between 2024 and 2028.	To install 5 LID retrofit projects on District facilities annually.						
	To retrofit 15 private facilities with LID projects through our RiverSmart Communities Program between 2024 and 2028.	To install 3 LID retrofit projects on private facilities annually.						
	To audit 5,000 residential homes (via RiverSmart Homes) between 2024 and 2028.	To audit 1,000 residential homes annually for the RiverSmart Homes Program.						
	To plant 50,000 trees between 2024 and 2028.	To plant 10,000 trees annually in the District.						
	To install 1,750 rain barrels between 2024 and 2028.	To install 350 rain barrels annually.						
	To install 425 rain gardens between 2024 and 2028.	To install 85 rain gardens annually.						
	To convert 125,000 square feet of impervious surface to permeable pavers or vegetation between 2024 and 2028.	To convert 25,000 square feet of impervious surface annually.						

Goal Four: Coordinate NPS Management Program efforts with other District, federal, and private sector programs and adjoining jurisdictions.

Goal Four	Objective	Milestones	2024	2025	2026	2027	2028	Total
To coordinate NPS Management Program efforts with other District, Federal, and private sector programs and adjoining jurisdictions.	To meet with DC Water, the National Park Service, and/or other local and regional partners at least 50 times on NPS management issues between 2024 and 2028.	To have at least ten coordination meetings on NPS management issues per year.						
	To participate in five Chesapeake Bay Program Executive Council meeting between 2024 and 2028.	To participate in one Chesapeake Bay Program Executive Council meeting per year.						
	To participate in 60 CBP Management Board Meetings between 2024 and 2028.	To participate in twelve (12) CBP Management Board Meetings per year.						
	To participate in at least 125 Region 3 and Chesapeake Bay Program Goal Implementation Team, Working Group, Advisory Committee or similar meetings between 2024 and 2028.	To participate in at least thirty (25) Region 3 and Chesapeake Bay Program Goal Implementation Team, Working Group, Advisory Committee or similar meetings per year.						
	To participate in at least 30 Metropolitan Washington Council of Governments meetings (including Anacostia Watershed Restoration Partnership, Chesapeake Bay Policy Committee, and Water Resources Technical Committee) meetings between 2024 and 2028.	To participate in at least six (6) Metropolitan Washington Council of Governments meetings (including Anacostia Watershed Restoration Partnership, Chesapeake Bay Policy Committee, and Water Resources Technical Committee) per year.						
	To issue 50 Community Stormwater Solutions grants to entities to further NPS work in the District between 2024 and 2028.	To issue at least 10 Community Stormwater Solutions grants to entities to further NPS work in the District per year.						

Goal Five: Support programs that aim to prevent NPS pollution from individual actions by carrying out effective information and education campaigns.

Goal Five	Objective	Milestones	2024	2025	2026	2027	2028	Total
To support programs that aim to prevent NPS pollution from individual actions by carrying out effective information and education campaigns.	To provide 7,500 school students with a meaningful watershed experience between 2024 and 2028.	To provide 1,500 school students annually with a meaningful watershed experience.						
	To train 125 teachers through training that integrates hands-on watershed education with system-wide standards of learning between 2024 and 2028.	To train 25 teachers annually through training that integrates hands-on watershed education with system-wide standards of learning.						
	To implement the Anacostia River Explorers program to provide free boat tours to at least 12,500 residents on the importance of restoring the Anacostia River between 2024 and 2028.	To implement the Anacostia River Explorers program to provide free boat tours to at least 2,500 residents annually on the importance of restoring the Anacostia River.						
	To install 1,500 storm drain markers in the District between 2024 and 2028.	To install 300 storm drain markers annually in DC.						
	Annually provide a clear and concise report to the EPA, regulators, partners, and the public outlining the major accomplishments of the District’s NPS Management Program consistent with EPA reporting guidelines.	By March 15th of each year, to prepare a draft annual report describing the reported major accomplishments of the NPS Management Program.						
	The District will continue to report semi-annually on its progress in implementing the active projects within the approved Section 319 grant work plans.	To twice annually submit to EPA the requisite “Semi-Annual Performance Report.”						

Non-Point Source Management Plan for the District of Columbia, 2024

	<p>To provide updates on pollution reduction and BMP implementation, District NPS programs staff will continue to input the required project reports into the Grants Reporting and Tracking System (GRTS) database system to allow for easy access and monitoring of the program activities by our EPA Section 319 Program Project Officer and other interested parties.</p>	<p>To annually provide and upload the IPMT report into the Watershed Plan Tracker.</p>						
	<p>To provide the public with updates on its efforts to restore impaired waterbodies by developing at least five success stories between 2024 and 2028.</p>	<p>To develop a minimum of one success story annually.</p>						
	<p>To train a minimum of 150 District residents on issues addressing watershed restoration and water quality through the Watershed Steward Academy between 2024 and 2028.</p>	<p>To train a minimum of 30 District residents annually in issues addressing watershed restoration and water quality through the Watershed Steward Academy.</p>						
	<p>To educate 500 youth enrolled in job training programs on the importance of watershed protection activities between 2024 and 2028.</p>	<p>To educate 100 youth per year enrolled in job training programs on the importance of watershed protection activities.</p>						
	<p>To complete the development of the FloodSmart Homes Program. Once completed, to report annually on the number of homes enrolled in the program.</p>	<p>To complete the development of the FloodSmart Homes Program by November 20, 2025. Once completed, report annually on the number of homes enrolled.</p>						

Goal 6 - Pollution prevention: Coordinate a pollution prevention program that reduces stormwater pollution from industrial and commercial facilities in the District by providing compliance assistance and encouraging the adoption of practices that will improve water quality in District waterways.

Goal Six	Objective	Milestones	2024	2025	2026	2027	2028	Total
Pollution Prevention: Coordinate a pollution prevention program that reduces stormwater pollution from industrial and commercial facilities in the District by providing compliance assistance and encouraging the adoption of practices that will improve water quality in District waterways.	To provide training to 225 District employees on how to review Stormwater Pollution Prevention Plans (SWPPPs) so that staff can self-administer and inspect facility SWPPPs.	To provide training to 45 District employees on how to review Stormwater Pollution Prevention Plans (SWPPPs).						
	To provide trainings to 1,000 municipal snow and ice removal staff on good housekeeping, spill response, and techniques that reduce salt use between 2024 and 2028.	To provide annual trainings to 200 municipal snow and ice removal staff on good housekeeping, spill response, and techniques that reduce salt use.						
	To fully support NPS reduction efforts and associated reporting by maintaining appropriate staff capacity to administer the program.	To employ six (6) FTEs who support the implementation of the District’s NPS program.						

Goal 7 - Monitoring: Support NPS water quality monitoring, data collection, and reporting efforts as required under the District’s TMDL Implementation Plan, MS4 permit, and WQX participation.

Goal Seven	Objective	Milestones	2024	2025	2026	2027	2028	Total
Monitoring: Support NPS water quality monitoring, data collection, and reporting efforts as required under the District’s MS4 Permit, 305(b) requirements, and TMDL implementation plan.	Through monitoring and assessment efforts conducted by DOEE, water bodies previously impaired by NPS pollution will be documented as newly restored from impaired categories (4a, 4b, 4c, 5, and 5r) in the biennial Integrated Water Quality Monitoring and Assessment Report.	Changes in impaired status will be reported biennially in the Integrated Report.						
	DOEE will conduct wet weather discharge monitoring for all the following pollutants (TSS, N, P, Copper, Lead, Zinc, Cadmium, E.coli for a minimum of fifteen (15) wet weather events during the period of this NPSMP as required per subsection 4.2.4 of the MS4 Permit.	DOEE will conduct wet weather discharge monitoring for all the following pollutants (TSS, N, P, Copper, Lead, Zinc, Cadmium, E.coli for a minimum of three (3) wet weather events annually. Results will be reported in the MS4 Annual Report Attachment.						
	DOEE will update the Consolidated TMDL and submit for public comment and EPA approval in accordance with section 2.2.5 of the District’s MS4 NPDES permit.	Post updated TMDL plan for public comment no later than 15 months prior to existing permit expiration. Submit updated TMDL to EPA no later than 9 months prior to permit expiration.	N/A	N/A	N/A			
	Continue to provide a table of annual pollutant load reductions by watershed from BMP implementation as part of the NPS Annual Report. Trends in load reductions and WLA achievements will be summarized in the report.	Provide one load reduction table annually in the NPS report with executive summary of associated trends and comparison with annual load reduction benchmarks for TN, TP, TSS, and BOD in the Anacostia.						

5 Key Watershed Protection Division Programs and Projects

5.1 Environmental Education and Outreach

The DOEE Watershed Protection Division sponsors and conducts environmental education and outreach activities targeted to teachers, environmental educators, and students throughout the District. These programs and resources advance NPS pollution prevention efforts by equipping and empowering residents to lead advancements in the stewardship of District's watersheds. DOEE recognizes that a key principle of environmental justice involves enabling over-burdened communities to access information, participate in decision-making, and drive the vision for a more sustainable future. To this end, DOEE promotes environmental education geared toward elevating the voices of impacted communities and preparing the next generation of watershed advocates. Further, through community-focused grants and green jobs preparation programs, the District funds community-based innovation and supports the development of economic opportunities in the burgeoning green jobs sector of NPS management.

5.1.1 Conservation Education ([Project Learning Tree](#), [Project WET](#), and [Project WILD](#))

These internationally recognized programs are used to train educators in innovative techniques for exploring a wide range of environmental concepts with students and teaching critical thinking skills that lead to environmental stewardship (grades K-12).

5.1.2 Teacher Training Workshops

Teacher-training workshops in environmental education can provide teachers with continuing education credits through accredited environmental curriculums that support the District of Columbia Public Schools (DCPS) teaching and learning standards and provide students with meaningful environmental education experiences via outdoor activities and events. DOEE staff and grantees provide these trainings which include teacher preparation for leading and participating in [Meaningful Watershed Education Experiences](#) and [RiverSmart Schools](#).

5.1.3 DC Environmental Literacy Plan

On July 2, 2012, Mayor Vincent C. Gray submitted the state [Environmental Literacy Plan](#) to the Council of the District of Columbia. Like other states across the country, the development of the District's state Environmental Literacy Plan (ELP) was mandated by legislation, in the District's case the DC Healthy Schools Act of 2010. Passed by the DC Council, the Healthy Schools Act and its 2011 amendments seek to improve the health and wellness of all District students. The legislation addresses nutrition, health education, physical education and physical activity, Farm-to-School programs, and school gardens. Additionally, the law acknowledges that creating and sustaining an environmentally-friendly school environment and integrating environmental education into the schools' curriculum are essential to the health and wellness of students, as well as the health of the local environment and community.

The Act directed DOEE to draft an Environmental Literacy Plan in conjunction with other District education agencies and stakeholders. WPD staffed this two-year effort to create a road map that laid the foundation for District-wide implementation and integration of environmental education into the K-12 curriculum. The plan includes:

- Relevant teaching and learning standards adopted by the State Board of Education;

- Professional development opportunities for teachers;
- How to measure environmental literacy;
- Governmental and nongovernmental entities that can assist schools; and
- Implementation of the plan.

DOEE continues to collaborate with DC Public Schools, DC Office of the State Superintendent of Education, DC Public Charter School Board, DC State Board of Education, DC Department of Parks and Recreation, the University of the District of Columbia, the DC Environmental Education Consortium, and other community stakeholders to implement this plan.

5.1.4 RiverSmart Schools

RiverSmart schools works with applicant schools to install LID practices to control stormwater. These practices are specially designed to be functional as well as educational to fit with the school environment. Additionally, schools that take part in the RiverSmart Schools program receive teacher training on how to use the sites to teach to curriculum standards and how to properly maintain the sites.

5.1.5 District of Columbia Environmental Education Consortium (DCEEC)

DOEE helps to organize a network of environmental educators throughout the city so that ideas and resources can be shared among them. The D.C. Environmental Education Consortium (DCEEC) provides opportunities for networking, event coordination, and program partnering among its members. The members provide environmental expertise, professional development opportunities, curricula and resources, and hands-on classroom and field studies to District schools.

5.1.6 The Anacostia Environmental Youth Summit

This annual outdoor event offers District school children a variety of educational experiences designed to promote a conservation and stewardship ethic toward their watersheds, the Anacostia and Potomac Rivers, and the Chesapeake Bay. The fair also provides additional resources to District teachers interested in enriching their curriculum through environmental studies. The District plans to host the summit in years to come as it's a valuable hands-on program that links students to the Anacostia River in a very personal and effective way.

5.1.7 Meaningful Watershed Educational Experiences (MWEEs)

As part of DOEE's sub-grant program, several initiatives were funded for nonprofit partners to create meaningful watershed educational experiences for hundreds of District young people on an annual basis. The District plans to continue to implement the MWEE program and increase its reach. In the coming years DOEE plans to expand the program so that all 5th graders in Wards 7 and 8 have a meaningful watershed experience. By allocating additional education resources to Wards 7 and 8, the District hopes to better serve overburdened communities and EJ demographic populations in these areas.

5.2 Community Stormwater Solutions

[Community Stormwater Solutions Grants](#) provide short-term start-up funding of up to \$35,000 for innovative, community-oriented projects aimed at improving water quality in the District, reducing trash, and raising awareness about what citizens can do to restore the District's rivers, streams, and parks. Two challenges the Chesapeake Partner Advisory Group (C-PAG) identified are: 1) developing or supporting new or nontraditional partnerships, and 2) engaging partners in DOEE programs throughout all eight Wards of the District. This grant program is uniquely positioned to continue to address these challenges. The program started in 2016 with the goal of expanding DOEE's work with community partners and strengthening existing relationships by supporting projects that are inspired and supported by the

community. Funding for this program is provided by the Stormwater Enterprise Fund and the Anacostia River Clean Up and Protection Fund (aka the “Bag Law”) DOEE annually budgets \$350,000 total for this program.

The target audience for this program is any individual, group, business, or organization located in the District that is interested in implementing projects to improve the District’s water bodies. The program has successfully partnered with non-environmental organizations to help expand the reach of the program. Individuals or unincorporated groups interested in these grants may apply through a fiscal agent. In line with the goal to reach new community partners and build capacity among small business and community-based organizations, DOEE implemented several measures with the intent to make the application process more accessible, including:

- Use of an online application system.
- Pre-application meetings to inform and support potential applicants.
- Free grant-writing workshops in disadvantaged communities.

Projects funded by this program can take place anywhere in the District. However, DOEE has assigned location-based points to focus projects on specific target areas, which are informed by the priorities of the source of its funding. The Stormwater Enterprise Fund prioritizes projects in the MS4 areas of the District that reduce the volume of stormwater runoff and the amount of pollution in the runoff. The Anacostia River Clean Up and Protection Fund prioritizes education and restoration projects in the Anacostia Watershed. In addition to these target areas, the Request for Applications includes special focus areas, e.g., Kingman and Heritage Islands and [targeted subwatersheds](#) that offer greater co-benefits for priorities within the District, including improving local water quality, reducing runoff and erosion to stream restoration sites, and reducing vulnerabilities associated with climate change. Projects in these focus areas receive additional points in the application review. Each year, DOEE revisits the priority and focus areas as a mechanism to support DOEE’s current work and priorities.

Projects must accomplish one or more of the following project areas:

- Install GI
- Maintain existing GI
- Provide pathways to green jobs focused on stormwater solutions
- Restore natural habitat
- Clean up an area affected by high volumes of litter and address causes of litter
- Reduce sources of pollution to District water bodies
- Engage communities, raise awareness, and bring about behavior change on issues impacting water quality

5.3 Job Training Programs

5.3.1 Green Zone Environmental Programs (GZEP)

Each summer, the [Green Zone Environmental Program \(GZEP\)](#) provides paid training and work experiences to up to 300 teenagers and young adults ages 14-24 through the Marion S. Barry Summer Youth Employment Program (SYEP). The GZEP Watershed Protection Grant funds outside organizations to provide education, training, and hands-on activities to GZEP participants. The goal is for projects to raise awareness, educate, and ultimately lead to behavior changes that will help improve water quality in the District’s watersheds.

Funding for this program is provided by the Stormwater Enterprise Fund and the Anacostia River Clean Up and Protection Fund. DOEE posts a Request for Applications (RFA) once a year in the winter and awards projects the following spring for implementation in summer. The target audience for participating in these grants is GZEP participants. Nonprofits, businesses, and universities are eligible to apply.

GZEP cohorts are dispersed throughout the District, and applicants are encouraged to site their projects close to the GZEP assembly sites. Therefore, there are no location-based priority points associated with this grant.

Projects must accomplish one or more of the following project areas:

- Site assessment and design of GI
- Install GI
- Inspect and maintain existing GI
- Restore natural habitat
- Educate and engage communities on issues affecting watershed health
- Reduce sources of pollution to District water bodies
- Clean up an area affected by high volumes of litter and address causes of litter
- Foster engagement in, restoration of, and support for existing efforts at Kingman and Heritage Islands, including projects in the adjacent communities

5.3.2 [River Corps](#)

In 2017, DOEE commenced a green infrastructure and job training program. Each year two cohorts comprised of ten youth each participate in a five-month long green infrastructure job training program where young people learn how to maintain LID sites, inspect RiverSmart Homes installations, perform trash cleanups, remove invasive plant species, and photo-monitor upcoming and existing stream restoration projects.

5.3.3 [Watershed Stewards Academy](#)

The Watershed Stewards Academy is an eight-week certification course taught by DOEE and a grantee for District residents who want to address local pollution problems in their local watersheds. The program is funded by a DOEE grant and is part of the National Capital Region Watershed Stewards Academy, which is a coalition of watershed protection groups in the Potomac, Rock Creek, Anacostia, and East Patuxent watersheds. Once they've completed the course, these residents are Master Watershed Stewards in their local watershed. These alumni serve as resource people and community leaders in the effort to clean up local waterways, to coordinate efforts to infiltrate and reduce stormwater runoff.

5.3.3 [Storm Drain Marking Program](#)

DOEE will continue to work with volunteer groups to install storm drain markers throughout the District. The purpose is to create awareness of which waterbodies receive stormwater, trash, and debris from neighborhood storm drains so that residents and visitors develop a sense of connection between neighborhood stewardship and watershed impacts.

5.4 Equity

DOEE realizes that to reach all District residents, especially those in underserved communities, our work must be intentional to reach and include all communities in our work. To that end the District uses its

NPS Management Program to further EPA and District government diversity, equity, inclusion, and justice goals through conservation activities that support environmental justice. The District will continue to increase implementation of coordinated outreach and engagement strategies to serve historically underserved and overburdened communities—many of which are in the District’s most impacted watersheds. Progress toward increased equity is being pursued on multiple levels, from interagency administration and policy formulation to the implementation decisions of individual programs. At the agency level, DOEE continues to collaborate with the Executive Office of the Mayor (EOM) and sister agencies to integrate equitable policies. In 2023, DOEE:

- Continued to work with the Office of Racial Equity (ORE) as part of the Racial Equity Pilot Cohort, an interagency group that is working to pilot racial equity tools, complete a departmental assessment of racial equity, and develop a racial equity action plan;
- Continued development of a three-year racial equity action plan as part of the Racial Equity Pilot Cohort;
- Conducted three internal equity listening sessions to hear thoughts and insights from staff;
- Administered a staff survey on equity at the agency and in DOEE’s work;
- Continued to provide both mandatory and enrichment DEIJ training for new and existing staff; and
- Continued to provide guidance in conducting Racial Equity Impact Assessments (REIAs) as a tool for assessing the impact of programmatic decisions on racial and ethnic groups.

WPD supports the DOEE equity committee by providing one volunteer staff member who typically performs a two-year period of service. This is one way that WPD contributes to steering equitable policy formation at the agency level. Likewise, WPD continues to promote equity in its programmatic work to mitigate NPS pollution. Many of the programs described in this report exist expressly to promote environmental justice within the context of watershed protection, restoration, and conservation. For example, the mission of the Partnering and Environmental Conservation Branch, is “to achieve District clean water goals in a manner that is proactive and responsive to community needs by cultivating partnerships through financial, technical, and compliance assistance, education, and engagement.” To this end, the PEC branch administers several programs whose goal is to elevate and address the environmental concerns of EJ communities through community-led initiatives. Some examples from this NPSMPP are:

- The Meaningful Watershed Educational Experience Program (MWEE)
- Green Zone Environmental Program (GZEP)
- RiverCorps
- Community Stormwater Solutions
- Kingman Rangers
- Anacostia Green Boat Program

These programs exist to provide financial, educational, and technical resources toward watershed protection in EJ communities. Recognizing that participant-led efforts by members of the community are most effective toward achieving environmental goals, WPD strives to elevate and empower EJ communities through these specially directed programs. At the same time, WPD continues to adjust implementation of its District-wide programs toward enhancement of EJ goals. To that end, the Watershed Protection Division includes equity analysis into program and project design to ensure equitable delivery of service. This involves prioritizing project site selection in EJ communities,

allocating additional staff resources toward work in EJ communities, and adjusting customer service protocols to better serve residents in EJ communities. The District recognizes Wards 7 and 8, and certain census tracts and watersheds of Ward 5, as EJ communities for increased investment. These areas have been identified for prioritization based on a combination of factors including: 1) High proportion of residents with EJ demographic indicators; 2) High proportion of residents with health disparities; 3) Consistently high pollutant loads reported for area water bodies; 4) Proximity to environmental toxins; 5) Increased community vulnerability to climate change-related risks.

This equity analysis has resulted in several purposeful actions taken by WPD. RiverSmart Homes is an example of one program that has made major changes in this direction over recent years. After completing an internal racial equity impact assessment in 2022, RiverSmart Homes took the following actions:

- Used Bay Program funding to hire additional auditor dedicated to conducting stormwater assessments in EJ areas. This added an additional 300 audits per year for EJ communities.
- Implemented the RiverSmart Homes Ambassadors Program (2022) to engage residents in historically underserved/overburdened communities which are also in DC's most impacted watersheds. In 2023 this program won 1st Place for Best Education & Outreach Project in the Best Urban BMP in the Bay Award (BUBBAs).
- Made program implementation adjustments to better serve residents in EJ communities including:
 - Prioritizing stormwater audits and installations in Wards 7 and 8 thereby decreasing wait times for these communities by approximately 50%.
 - Collaborating with grantee Casey Trees to identify and prioritize large parcel tree plantings for multi-family buildings in Wards 7 and 8.
 - Completed the planning and approval process for increasing rebate amounts for the Permeable Surface Rebate program. The increased rebates will take effect in 2024.

Similarly, the Restoration Branch's RiverSmart Communities and Stream Restoration programs prioritize EJ considerations in allocating staff resources and selecting project sites. RiverSmart Communities uses EJ indicators and geographic location as key criteria for project selection and funding. The Stream Restoration program allocates one staff member of a two-person staff solely to implementing projects in EJ areas.

Also, while all DOEE staff are encouraged to complete training in equity and environmental justice to inform program and project design and implementation, DOEE used Section 319 funding to offer enhanced equity training to all Natural Resources Administration staff who support NPS pollution reduction as a part of their regular duties. DOEE started procuring and designing the equity training in 2023 and will complete the training in 2024.

Furthermore, the District will continue to implement the NPS Management Program in coordination with partners to advance EPA and District government climate change adaptation and mitigation goals. DOEE recognizes that equity and climate change are intertwined. DOEE is working to prioritize resilience efforts in EJ areas which are the most heavily impacted by climate change. This includes but is not limited to NPS and conservation strategies that address rising temperatures, urban heat island, flooding, sea level rise, and storm surge. In these ways, DOEE employs its NPS Management Program to further EPA and District government diversity, equity, inclusion, and justice goals through conservation activities that support environmental justice.

5.5 Community Programs

5.5.1 RiverSmart Homes

The District has recognized the importance of targeting residential property owners for pollution reduction measures because residential property is among the largest single land uses in the city and, because of the relatively small lot sizes, is the least likely to be regulatorily required to install stormwater management practices. In 2008, DOEE developed RiverSmart Homes, an LID retrofit program aimed at District single-family homes. The program started with eight demonstration sites, one in each of the District's wards. It then expanded to a pilot program in the Pope Branch watershed and has been open to all District residents since the summer of 2009.

Through this award-winning program, DOEE performs audits of homeowners' properties and provides feedback to the homeowners on what LID technologies can be safely installed on the property. DOEE also offers homeowners subsidized installations of any LID recommended at the audit, which can include rain barrels, shade trees, rain gardens, native landscaping to replace grass, and permeable pavement. In 2022 the RiverSmart Homes program installed its 20,000th BMP in the District since program inception. Additionally, as described above, the RiverSmart Homes program has implemented multiple equity strategies designed to increase outreach and engagement, maintenance resources, and program participation in disadvantaged communities.

5.5.2 Permeable Surface Rebate Program

Through the Permeable Surface Rebate Program, DOEE provides property owners with rebates to retain stormwater runoff on their properties. In FY 2020, the program narrowed its eligibility area to the Municipal Separate Storm Sewer System (MS4) service area. Additionally, the program instituted a maximum, one-time rebate of \$4,000 per property. Properties within the service area are currently eligible for rebate of \$5 for every square foot of existing impervious surface that is converted into vegetation or for rebates of \$10 for every square foot of existing impervious surface that is converted into permeable pavers. On average, the cost of installing permeable pavers is \$40 per square foot and re-vegetating an area is approximately \$6-\$18 per square foot, respectively. With the start of the new funding cycle in 2024, DOEE anticipates increasing the rebate amounts to \$15 per square foot for permeable pavers and \$8 per square foot for revegetation. Additionally, DOEE intends to increase the rebate cap from \$4K per property to \$6K per property. Recognizing environmental justice as a key priority for the permeable surface rebate program, the rebate increase is intended to provide the following benefits:

1. Increase participation in the Permeable Surface Rebate Program;
2. Increase the total square feet of impervious surface converted to permeable surface in the MS4;
3. Improve accessibility to the program for residents in overburdened communities;
4. Adjust for ongoing increases in the costs of labor and materials due to inflation and supply chain disruptions;
5. Bring the program into favorable comparison with similar programs from neighboring jurisdictions.

All owners of private property including residential buildings, commercial buildings, community spaces, and houses of worship in the District are eligible for this rebate funding. This also includes those who have already received RiverSmart Homes, RiverSmart Communities, or RiverSmart Schools funding. Rebate funding cannot be used to fulfill a DOEE-required Stormwater Management Plan or other regulated requirements.

The Permeable Surface Rebate Program has an annual budget of \$475,000, approximately two-thirds comes from the Stormwater Enterprise Fund while one-third comes from the Anacostia River Clean Up and Protection Fund matching EPA's Chesapeake Bay Implementation Grant.

5.5.3 District Department of Parks and Recreation Projects

The Department of Parks and Recreation (DPR) provides quality urban recreation and leisure services for residents of and visitors to the District. DPR supervises and maintains area parks, community facilities, swimming pools and spray parks, and neighborhood recreation centers. In coordination with DPR, DOEE plans, designs, and installs large scale LID projects on DPR lands. Practices installed include bioretention, rain gardens, native plantings, permeable surfaces, and shade trees.

5.5.4 Tree Planting

The District has been called "The City of Trees." It has a tree canopy cover of 38 percent, which is high for a dense urban environment, but lower than what the canopy cover has been historically, even when the city had a higher population density. To improve air and water quality, reduce the urban heat island effect, and offset greenhouse gas emissions, the District has adopted a 40-percent tree canopy goal. Mayor Bowser adopted sustainability plans - [Sustainable DC 2.0](#) and [Climate Ready DC](#) that call for achieving the canopy goal by 2032. This canopy goal helps address Climate Ready DC sub-action 13.2 to:

"Reduce the heat-island effect and related increase in outside air temperatures with cool and living roofs, expanded green space, tree planting, and tree protection efforts, prioritizing hotspots and those areas with the greatest number of heat vulnerable residents. Incorporate heat-island mitigation into planning for green infrastructure, tree canopy, and public space initiatives."

To achieve the canopy goal the District will need to plant an average of 10,800 trees annually. Furthermore, DOEE and its tree planting partners invest additional resources to engage residents and identify more tree planting locations in disadvantaged communities where tree canopy tends to be lower than average for the District.

5.5.5 Adopt-Your-District Program

Adopt-Your-District is a program that allows volunteers to adopt parks and/or blocks for litter clean-up throughout the District. This program is a collaboration effort between DOEE, District Department of Parks and Recreation, National Parks Service, and Office of the Clean City.

5.5.6 RiverSmart Communities

The RiverSmart Communities program aims to reduce stormwater pollution via partnerships with selected 501(c)(3) non-profit organizations and houses of worship. The RiverSmart Communities program is unique in its ability to achieve multiple policy outcomes including reducing stormwater runoff, providing non-profit organizations with financial relief, and facilitating community outreach concerning the issues of stormwater runoff.

Over the past 15 years, the Clean Rivers Impervious Area Charge (CRIAC) rates, which are paid via water utility bills, have periodically increased to finance DC Water's Clean Rivers Project to eliminate the vast majority of CSOs. This effort, further described in Chapter 3, is a legal obligation under the federal Clean Water Act. CRIAC fees reflect a land parcel's size and its impervious surface area. Given that non-profits and houses of worship often have large parcels with parking lots, these organizations have experienced sharp increases in their water bills. By facilitating the installation of BMPs to reduce stormwater runoff on non-profit property, RiverSmart Communities enables these non-profits to become eligible for relief on their CRIAC fees.

The program provides the full funding needed to design and build stormwater retrofit practices for each selected candidate. Each candidate is selected annually via a competitive application process. In return, the selected organizations agree to reach out to the communities they serve, including neighbors, members, and interconnected organizations, to educate them about water pollution, methods to reduce it, and District programs that help fund stormwater management. Applicants wishing to install stormwater best management practices (BMP) on property through this program must: 1) provide a plan for reaching their audience through outreach and engagement opportunities, and 2) demonstrate their ability and long-term commitment to maintain the installed BMPs. Their maintenance abilities are weighted heavily during the competitive review and selection processes. DOEE also considers maintenance needs of potential BMPs during the design phase.

Eligible BMPs include, but are not limited to, shade trees, rain gardens/bioretenion cells, impervious surface removal and replacement with pervious/vegetated surfaces, cisterns that drain to other BMPs, stormwater planters, and swales. A key goal is to install BMP projects appropriate to the applicant's expected future maintenance abilities. This consideration increases the likelihood the applicant will be able to maintain the features. Finally, a custom maintenance manual is created for each site and a walk-through of each maintenance task is conducted with the site managers. All applicants sign a detailed maintenance agreement to effectively maintain the feature for its entire life cycle.

Now in its twelfth year, RiverSmart Communities funds three to five projects per year with a total annual project installation budget of \$180,000, averaging \$36,000 per project. Of the total annual budget of \$250,000, about two-thirds comes from the Stormwater Enterprise Fund and must be used in the MS4 while one-third comes from the Anacostia River Clean Up and Protection Fund that is matching EPA's Chesapeake Bay Implementation Grant and can be used to fund projects in the CSS area.

5.5.7 District-wide BMP Opportunity Assessment

In 2021-2022 DOEE partnered with the Center for Watershed Protection, Inc. (CWP) to conduct field work to assess the feasibility of potential stormwater BMP opportunities in the District. The goal of this project was to develop a list of stormwater management opportunities that can be implemented by the DOEE and partners over the next several years for the purposes of meeting water quality goals and federal permit requirements. Sites to be assessed were identified through input from District agencies, watershed stakeholders/partners, and the public. Through this assessment effort, 364 potential stormwater BMP opportunities were identified and assigned preliminary priority rankings based on a combination of factors including feasibility, potential retention volume, available treatment area, and environmental justice concerns. This work will inform planning, development, and design of future stormwater BMPs to mitigate nonpoint source pollution in the District.

5.6 Stream and Wetland Restoration

Stream restoration is the act of modifying the existing channel of a stream to improve water quality and habitat conditions in and around the waterway. All District streams face similar threats from urbanization due to high stormwater flows from impervious surface runoff. Erosion in an urban stream is the stream's way of adjusting to accommodate the new flow regime where stormwater is the dominant channel-altering force. Stream restoration attempts to create a new channel that has a stable stream bed and stream banks and to improve habitat conditions for aquatic and terrestrial life along the stream corridor. DOEE's stream restoration program has restored over 54,000 feet of stream bank and will continue to restore more streams to improve water quality and enhance habitat conditions in streams and rivers throughout the District.

DOEE has completed stream restoration projects for Nash Run, Watts Branch, Pope Branch, Alger Park, Springhouse Run, Broad Branch, Linnean Park, Milkhouse Run, Bingham Ford, Spring Valley Park stream, and Branch Avenue park stream. In the coming years DOEE looks to double the length of streams restored. DOEE has and is planning to use a variety of funding sources to fund these restoration projects, including: EPA's 319 NPS and Chesapeake Bay Implementation grants; EPA's Clean Water State Revolving Fund; Innovative Nutrient and Sediment Reduction and Small Watershed grants administered by the National Fish and Wildlife Foundation under EPA's Chesapeake Stewardship Fund; local revenue sources including the Anacostia River Cleanup and Protection Fund; Stormwater Enterprise Fund generated by MS4 and disposable bag fees; and funds appropriated by the DC Council.

Stream restoration projects are designed and constructed to be self-sustaining and stable. To ensure projects meet their functional goals, DOEE developed the River Corps green jobs training program. Twice a year, River Corps members photo-document restored streams to ensure the streams remain stable based on visual indicators. River Corps members also perform maintenance services on 20 LID sites per year to help protect our streams. Additionally, DOEE's newly formed GSI maintenance program plans to begin performing maintenance at stream restoration projects in 2024.

DOEE also conducts monitoring to understand the maintenance needs or lack thereof for each stream project. DOEE funds the Metropolitan Washington Council of Governments to do survey work annually on restored streams to ensure both vertical and lateral stability of stream beds and banks. DOEE has also conducted additional monitoring at some sites to assess the effectiveness of regenerative stream design projects. The data helped show regenerative stream channel design projects effectively raise the water table, which can help transition intermittent streams into perennial streams.

5.6.1 Wetland Restoration and Living Shorelines

DOEE will work to restore wetlands around the District as well as create living shorelines to provide vibrant habitat spaces along our waterways. Wetlands provide excellent ecosystem services by having the ability to filter water that passes through them while also providing unique habitat spaces along District waterways. Planned wetland restoration projects include Kingman Lake, Fort Dupont Park, and Kenilworth Park.

5.6.2 Trash Removal

In 2010, the District and the State of Maryland established a TMDL for trash for the Anacostia River. These loads were calculated based on stream and shoreline transect sampling performed by the Anacostia Watershed Society through a grant from DOEE. NPS loads were attributed to illegal dumping. For the District's portion of watershed, an annual load allocation totaling 20,048 pounds of trash was assigned.

Some of the tools that the District is applying to meet the goals of the trash TMDL include education and outreach, stream and shoreline cleanups, regulations, and enhanced enforcement. DOEE supports multiple cleanups annually, e.g., the Annual Alice Ferguson Foundation (AFF) Potomac Watershed Clean-up and the Anacostia Watershed Society Earth Day Cleanup. [AFF has developed an online GIS database](#) to track cleanups that occur throughout the Potomac River watershed on an annual basis.

DOEE will continue to implement the [DumpBusters](#) program with the DC Metropolitan Police Department (MPD), the DC Department of Public Works (DPW), and the National Park Service (Park Service). DumpBusters is a collaborative effort to address illegal dumping in the District of Columbia. The program initially addressed illegal dumping at ten hotspots in the Anacostia River watershed by removing debris and installing enforcement signage and cameras. Over the years, DumpBusters has engaged in cleanups that have removed thousands of tires from the streets and natural areas in the District

of Columbia, and issued hundreds of thousands of dollars in fines to those who dump trash illegally. DPW issues civil fines and MPD carries out criminal fines and arrests. In FY23, Dump Busters focused on illegal tire dumping with 10-15 persons under investigation in FY24. Additionally, this program targets toxic chemical dumps and spills in the MS4.

5.6.3 Pollution Prevention Stormwater Pollution Prevention Plans

To make all of District government compliant with reducing NPS, DOEE's stormwater pollution prevention team helps other District agencies in developing and implementing Stormwater Pollution Prevention Plans (SWPPPs). SWPPPs are facility-specific plans that aim to reduce or eliminate the creation of pollutants or wastes at the source through aggressive and practical pollution prevention methods. These SWPPPs are meant to address three primary objectives: 1) Assure facility compliance with the DC Municipal Separate Storm Sewer System (MS4) permit; 2) Identify potential sources of pollution associated with the activities at a facility that may affect the quality of stormwater discharges; and 3) Provide detailed commitments for daily practices and good housekeeping at each facility to ensure that pollution prevention goals are reached.

5.6.4 Snow and Ice Removal

DOEE works with the District Snow Team to address vehicle washing, snow disposal operations, and salt storage. These efforts include developing the first District plan to identify and prepare site maps for snow disposal sites and conducting salt dome and vehicle wash facility inspections. In FY 2017 DOEE developed its first DOEE Snow Plan to clearly articulate DOEE's role in snow and ice removal operations and emergency response management during winter weather events. DOEE also helped a District salt dome devise a temporary vehicle wash station to divert wash water away from a sand filter into the sanitary sewer.

DOEE develops and leads [snow trainings](#) for District employees, contractors, and downtown Business Improvement Districts. These trainings teach District light- and heavy-plow operators and manual street and bridge teams about stormwater permitting, how to minimize stormwater pollution from snow and ice removal operations, good housekeeping practices, and how to respond to spills, leaks, and drips.

5.6.5 Pollution Prevention Workshops

DOEE's pollution prevention team also targets the automotive repair industry and commercial buildings by conducting workshops throughout the year to educate business owners and provide compliance assistance and stormwater pollution prevention strategies.

5.6.6 Green Stormwater Infrastructure (GSI) Maintenance Program

Utilizing American Rescue Plan Act (ARPA) funding, in 2022 DOEE began a new effort to take on the maintenance of all District-owned green infrastructure. This effort will standardize maintenance procedures, created an economy of scale in maintenance contracting, and it establishes DOEE as the responsible agency for the maintenance of GSI on District lands. Over 4,000 GSI practices have been installed on public property including public rights-of-way, schools, parks, libraries and other District facilities. The number of public GSI sites continues to increase as the District implements capital projects. Currently, the District installs an average of 250 GSI practices per year. In addition to establishing mechanisms for routine maintenance, this program includes assessments of GSI facilities, GSI maintenance job training, the creation of a new tracking database, and the creation and installation of new GSI identification and interpretive signage. In 2024, 500 BMPs will be assessed and over 2,500 will be maintained by DOEE for the first time.

5.7 Inspection and Enforcement

5.7.1 Anacostia Clean Up and Protection Act (Bag Law)

The District continues to implement the Anacostia Clean Up and Protection Act of 2009 (Bag Law), which requires any business that is selling food or beverages to charge 5 cents for every disposable bag distributed, with limited exemptions. The Bag Law is working to keep trash out of District waterbodies by incentivizing residents to use reusable bags and reduce consumption of disposable bags. Also, monies from the disposable bag fee fund important projects, including maintenance of trash traps, stream restoration, reusable bag distribution, and watershed education.

5.7.2 Sustainable DC Omnibus Amendment Act (Foam Ban)

In 2008, The Anacostia Watershed Society (AWS) determined through their monitoring that expanded polystyrene (more commonly referred to as Styrofoam™) is one of the top-four-most common types of trash found in the Anacostia River. As part of the Sustainable DC Omnibus Act of 2014, the District passed a ban on disposable food service ware made of expanded polystyrene and other products that cannot be recycled or composted. The ban on foam became effective January 1, 2016 while the additional compostable/recyclable requirements became effective January 1, 2017. These bans affect all businesses and organizations in the District that serve food. DOEE WPD manages inspections and compliance for this act.

5.7.3 Comprehensive Stormwater Management Enhancement Amendment Act (Coal Tar Ban)

The Comprehensive Stormwater Management Enhancement Amendment Act of 2008, effective July 1, 2009, prohibits the sale, use, and permitting of coal tar-based pavement products in the District (Coal Tar Ban). The Coal Tar Ban helps to protect human health and the environment by reducing the amount of toxic polycyclic aromatic hydrocarbons (PAHs) in our communities and environment. Rainwater washes PAH-containing sealant particles and dust down storm drains and into local streams and rivers, threatening aquatic life in the Anacostia and Potomac Rivers and the Chesapeake Bay. DOEE WPD manages inspections and compliance for this act.

6 Other DOEE Groups Supporting NPS Activities

6.1 Water Quality Division

The Water Quality Division (WQD) evaluates the health of the District's waters and aquatic resources, establishes and enforces water quality standards, sets targets for pollution reduction, develops implementation strategies to meet standards, tracks and reports on restoration progress, and manages local and federal funds to achieve these goals. WQD has three branches:

- The Monitoring and Assessment Branch implements programs to evaluate the condition of the District's waters.
- The Standards and TMDL Branch establishes water quality standards and TMDLs, certifies federal permits and evaluates condition and impacts to groundwater.
- The Planning and Reporting Branch manages the Municipal Separate Storm Sewer System (MS4) program, models pollution reduction progress, manages water quality data, and manages the Federal Clean Water Construction Grant Program.

The Water Quality Division supports NPS activities by establishing water quality standards, performing water quality monitoring, and managing the Federal Clean Water Construction Grant program, which funds many new BMP installations that contribute to NPS reduction goals. Additionally, WQD manages the MS4 program, whose requirements overlap significantly with NPS objectives. Therefore, WPD works closely with WQD to fulfill the water quality reporting obligations of the NPS program.

6.2 Inspection and Enforcement Division

The Inspection and Enforcement Division (IED) protects the District's water resources through enforcement of water pollution control laws and regulations. IED has two branches:

- The Construction and Maintenance Branch inspects construction sites for compliance with District requirements for soil erosion and sediment control, stormwater best management practices (BMPs), and post-construction BMP maintenance. BMP inspections also include compliance for the RiverSmart Rewards and Stormwater Retention Credit (SRC) Trading Programs.
- The Illicit Discharge and NPDES Branch conducts facility inspections, compliance monitoring, and enforcement for illicit discharges under the District's Municipal Separate Storm Sewer System Permit; inspects well construction and abandonment; enforces water quality standards; conducts potable water certification for meat processing plants; and coordinates drinking water complaints and source water protection.

The Inspection and Enforcement Division supports NPS reduction activities by inspecting regulatory BMPs for functional compliance and accreditation with the RiverSmart Rewards and SRC incentive programs. The District's regulatory BMP requirements comprise a significant proportion of new green stormwater infrastructure installed in the city and contributes to annual load reductions for the NPS program.

6.3 Fisheries and Wildlife Division

The Fisheries and Wildlife Division (FWD) develops, supports, and implements programs for urban fish and wildlife conservation, protection, recreation, and sustainability. FWD achieves its objectives by employing innovative and traditional scientific methods to obtain the best natural resource data available and by elevating environmental awareness and stewardship through education, outreach and community involvement. FWD has two branches:

- The Fisheries Research Branch conducts annual surveys and studies of migratory and resident fish in the District waterways.
- The Wildlife Management Branch conserves wildlife resources for the health and enjoyment of District residents.

The Fisheries and Wildlife Division coordinates with the NPS program by making recommendations regarding habitat restoration, procedures for invasive species management, and by serving as a resource where NPS activities intersect with wildlife conservation interests.

6.4 Regulatory Review Division

The Regulatory Review Division (RRD) reviews proposed construction projects in the District to ensure they comply with applicable laws and regulations to protect and restore health to District waterbodies. RRD also manages related programs, including the District's flood risk management initiatives and

mitigation programs such as the Stormwater Retention Credit Trading Program and In Lieu Fee Program. RRD has three branches:

- **Green Infrastructure Incentives and Assessment Branch:** this branch is responsible for implementing the District’s stormwater off-site compliance program, as well as incentive programs for the installation of runoff-reducing GSI and stormwater financial relief programs, including the Stormwater Retention Credit (SRC) Trading Program, the SRC Price Lock Program, the Clean Rivers Impervious Area Charge (CRIAC) Non-profit Financial Relief Program, and the RiverSmart Rewards Stormwater Impervious Fee Discount Program. This branch also manages the development and implementation of DOEE’s Surface and Groundwater System (SGS), which is DOEE’s data management system for tracking the installation and maintenance of GI within the District.
- **Floodplain, Wetlands, and Groundwater Branch:** this branch regulates, reviews, and issues permits for development and construction in the District’s floodplains, wetlands, and streams. FWGB regulates, reviews, and issues permits for the construction of wells, soil borings, and the discharge of groundwater into the Districts Sewer Systems. This branch also develops programs and projects to restore and construct new wetlands and to reduce flood risk in the District.
- **Stormwater and Green Area Branch:** this branch regulates, reviews, and issues permits for development in the District that trigger the District Municipal Stormwater Regulations, Soil Erosion and Sediment Control Regulations, and the Zoning Green Area Ratio requirements. In addition to permit construction document review, this branch provides guidance on regulation compliance for federal and District agencies.

As described above, the Regulatory Review Division provides administration functions supporting multiple incentive programs that promote BMP installations, particularly in the MS4 sewershed. Additionally, RRD houses the ‘Floodplain’ branch which develops programs to reduce flood risks along the District’s floodplains, wetlands, and streams. This work advances NPS objectives toward climate resilience by supporting green infrastructure solutions that reduce NPS pollution while creating human health and infrastructure benefits within EJ communities. Lastly, RRDs administration of permits and guidance on regulatory requirements ensure compliance with DC’s stormwater rule and generates revenue that funds NPS mitigation activities.

6.5 Toxics Substance Division

The Toxic Substance Division (TSD) works with hazardous wastes, pesticides, underground storage of petroleum, and other hazardous contamination. These and other responsibilities are broken down between three branches:

- The Hazardous Materials/Pesticides Branch oversees the use and disposal of toxic chemicals and registers and provides oversight on pesticides in the District.
- The Land Remediation and Development Branch oversees the voluntary redevelopment of contaminated properties, required remediation of sites with known hazardous pollution releases, and the remediation of formerly used defense sites.
- The Underground Storage Tank (UST)/Leaking Underground Storage Tank (LUST) Branch ensures proper installation, operation and removal of USTs, and the cleanup of LUSTs, and surrounding areas.

The Toxic Substances Division supports the NPS Program by providing expertise on proper mitigation of hazardous substances as related to work on District watersheds. As a highly urbanized area with a long history of industrial development, the District houses multiple sites that may require remediation, waste removal, and/or decontamination as part of watershed restoration work.

7 Key Best Management Practices

The District is entirely an urban environment, and thus our use of BMPs is limited to those that work well in urban settings. Below are the key BMPs that DOEE and our partners use to manage NPS pollution in the District:

7.1 Rain Barrels

Rain Barrels capture and store the rainwater running off an impervious surface such as a roof. The harvested rainwater can be stored for later use, released slowly over time, or used immediately for watering lawns and landscaped areas, or washing cars. Rain barrels come in a variety of sizes and shapes to suit a homeowner's water needs.

7.2 Rain Gardens

A rain garden is a landscaped area strategically placed and connected to a downspout to collect and absorb stormwater from your rooftop. Connecting the downspout to the rain garden directs stormwater away your home's foundation and holds it there until it can naturally infiltrate into the ground. The rain garden dips slightly into the ground and has soil engineered to increase infiltration. In addition to improving drainage, rain gardens also help keep polluted runoff out of local streams.

7.3 Shade Trees

Shade trees are large trees with widespread, dense canopies. A shade tree is taller than 25 feet at maturity. Commonly planted shade trees in the District include oaks, maples, ashes and elms. Shade trees are an investment in the environment, your home's future, and future generations.

Trees are an important method for controlling stormwater runoff. The leaves of trees are like cups and can hold up to one-tenth of an inch of stormwater. This captured rain water is critical as a rainfall of only a half an inch can cause sewer overflows. In addition to stormwater control, trees provide many additional benefits.

7.4 Bioretention

Bioretention areas are similar to rain gardens as they are strategically placed landscaped areas to catch, capture, and filter stormwater runoff. Bioretentions are different because they have an underdrain that can help drain the system so that excess water does not pond in the facility too long after a rain event. Bioretentions are for treated larger areas of impervious areas of impervious surface such as roof tops and streets.

7.5 Permeable Pavers

Permeable pavers are a self-draining system that allows rainwater to seep around individual pavers, soaking naturally into the ground underneath. Re-vegetation entails replacing compacted, impervious surfaces with vegetation, increasing the green space on a property and allowing for rainwater to soak into the ground naturally.

7.6 Green Roofs

Green roofs are stormwater management practices that capture and store rainfall in an engineered growing media that is designed to support plant growth. A portion of the captured rainfall evaporates or is taken up by plants, which helps reduce runoff volumes, peak runoff rates, and pollutant loads on development sites. Green roofs typically contain a layered system of roofing that is designed to support plant growth and retain water for plant uptake while preventing ponding on the roof surface. The roofs are designed so that water drains vertically through the media and then horizontally along a waterproofing layer towards the outlet. Extensive green roofs are designed to have minimal maintenance requirements. Plant species are selected so that the roof does not need supplemental irrigation and requires minimal, infrequent fertilization after vegetation is initially established.

7.7 Stream and Wetland Restoration

Stream restoration is the act of modifying the existing channel of a stream to improve water quality and habitat conditions in the waterway. Wetland Restoration is the act of restoring areas with the right soils, hydrology, and plant community to have healthy and sustainable wetlands that act as water filtering areas and habitat spaces along waterways.

7.8 Outfall Restoration

Many stormwater outfalls around the District have been a source of pollution as not only are they conveying stormwater into streams or gullies, but they are causing high rates of erosion downstream during storm events. DOEE works to install systems downstream of outfalls to slow and filter the stormwater coming from the pipes in a controlled and stable manner.

8 Partnerships

8.1 DC Agencies

8.1.1 Department of Transportation (DDOT)

Infrastructure Project Management Administration (IPMD): IPMD manages large DDOT roadway construction projects and plays a key role in planning and permitting LID work in the public space throughout the District. Most significantly, DDOT, along with DC Water, has partnered with DOEE to plan large-scale residential neighborhood LID retrofit projects on both private space and public property. DOEE and DDOT will continue to partner and prioritize large scale LID projects in targeted watersheds in conjunction with other watershed restoration efforts such as stream restoration and RiverSmart programming.

Urban Forestry Division (UFD): UFD is the District's lead agency in protecting and enhancing the District tree canopy with a specific focus on street trees. UFD is housed within DDOT and has a variety

of programs aimed at planting, nurturing, and protecting street trees in all eight Wards with the goal of creating a healthy tree canopy throughout the District. UFD has a variety of programs focused on the District's trees:

- **Street Tree Planting:** Every year the Urban Forestry Division plants at least 7,000 trees in the public right of way. A significant amount of work goes into getting these trees in the ground. This work includes identifying open tree boxes, removing dead trees from tree boxes, creating new tree box locations, determining appropriate species for the tree boxes, and prepping the tree boxes for tree installation. UFD also reviews site plans for new development as part of public space permit reviews to maximize tree planting by the private sector.
- **Street Tree Preservation:** In addition to the work that the UFD does in managing street tree planting, it also works hard to maintain the District's existing tree canopy in the right of way and protection and preservation of trees over specific sizes on private land. UFD's tree maintenance work includes the following activities:
 - Pruning trees to keep them healthy and remove dangerous limbs;
 - Injecting American Elms to keep Dutch Elm Disease at bay;
 - Expanding tree boxes for trees that have outgrown their location;
 - Managing tree/power line interactions to keep trees healthy and power service secure;
 - Watering newly planted trees to ensure their survival;
 - Removing dead, dying, or hazardous street trees; and citywide storm and emergency response.
- **Canopy Keeper Program:** Maintenance is a challenge given the ambitious number of new trees the District is planting in the right-of-way. Newly planted trees are especially vulnerable to drought and summer heat in their first two years. To help these trees survive and to protect the District's investment, UFD has started an adopt-a-tree program called Canopy Keepers. Through this program, UFD provides residents who sign an agreement to mulch and water a street tree with free watering bags and instructions on how to properly maintain their tree.

8.1.2 Department of General Services (DGS)

Established in October 2011, DGS manages all District facilities and land areas with the responsibility of construction, maintenance, and general upkeep. DGS also manages contracting services for work to be performed on most District owned properties and facilities. To properly integrate NPS Management Program Plan goals and programs into the large portfolio that DGS handles, DOEE regularly meets with DGS staff to plan projects, prioritize implementation, and to assess and evaluate completed projects. With the adoption of the Sustainable DC Plan and the adoption of the new Stormwater Regulations, DGS will bear a large responsibility to ensure the goals and regulations come to fruition on District owned and managed properties.

8.1.3 DC Water

DC Water is responsible for the operation and maintenance of the District's drinking water distribution lines and both the combined and separate stormwater sewer systems. There are many sanitary sewer lines in streambeds throughout the District, and the Watershed Protection Division meets with DC Water on a bimonthly basis to discuss on-going and upcoming projects.

DC Water is also implementing a Long-Term Control Plan to hold millions of gallons of polluted runoff in tunnels underneath the District to prevent over 95% of CSO events from happening. In addition to the large tunnels that will store stormwater runoff and sewage during storm events, DC Water is also

retrofitting several subwatersheds with LID practices to catch, capture, and filter stormwater before it gets to the CSS.

8.1.4 Office of Planning (OP)

OP performs planning for neighborhoods, corridors, districts, historic preservation, public facilities, parks and open spaces, and individual sites. In addition, OP engages in urban design, land use, and historic preservation review. OP also conducts historic resources research and community visioning, and manages, analyzes, maps, and disseminates spatial and U.S. Census data.

DOEE and OP work together in numerous ways to help ensure that large scale neighborhood initiatives integrate watershed protection features into large scale plans. Having OP include watershed protection initiatives in large scale master plans helps to ensure that LID work will be integrated into the constructed projects. DOEE has also recently worked with OP to develop the Green Area Ratio that will help govern development in the District to ensure that the required proportion of area is kept green.

8.1.5 Department of Parks and Recreation (DPR)

DOEE and DPR will continue to partner to implement large scale LID projects on their sites and to execute stream restoration projects on their lands. DPR owns large and small park spaces around the District, many of which were built on before stormwater regulations and/or still have a need for better stormwater management.

8.1.6 District of Columbia Public Schools (DCPS)

DCPS provides PK-12 educational programming for 45,000 students. DOEE works with DCPS and the DC Office of the State Superintendent of Education (OSSE) to ensure that environmental education is integrated into classroom programming. Each year DOEE helps to train a select group of District teachers to help them better integrate watershed education lesson plans into their daily curriculum.

8.2 Federal Agencies

With large tracts of land throughout the District of Columbia, in particular waterway corridors, owned by the federal government, the District's relationship with its federal partner agencies is vitally important to ensure that NPS pollution is mitigated to the maximum extent practicable. The federal presence in the District is dominated by large federal buildings in the central core of the District with large tracts of park space throughout the rest of the District.

8.2.1 Department of the Interior

- **National Park Service (NPS):** DOEE actively works and partners with several branches of the National Park Service in the National Capital Region to plan and implement restoration projects, in particular, stream restoration projects as many of the District's stream miles lie on NPS owned and managed land. DOEE expects to design and build stream restoration projects at Pinehurst Branch, Stickfoot Branch, Park Drive, Linnean Avenue, and Fort Dupont Park. DOEE is additionally exploring and planning other projects focused on outfall repairs and large-scale restoration at Oxon Run, as well as wetland restoration at Kingman Lake and 36th Place SE. All of these projects require partnering with NPS.
- **U.S. Fish and Wildlife Service (USFWS):** DOEE periodically works with USFWS through an MOU to monitor and perform maintenance as needed on stream restoration projects, wetland projects, and mussel restoration efforts, and will explore other opportunities to partner.

8.2.2 U.S. Department of Agriculture (USDA)

- **U.S. National Arboretum (the Arboretum):** DOEE previously partnered with the Arboretum to implement and LID and stream restoration project on the Arboretum's grounds. The LID project captures and filters stormwater from the parking areas near the Visitor's Center and the stream restoration project restored Springhouse Run, a tributary of the Hickey Run. DOEE and the Arboretum will continue to monitor and maintain Springhouse Run and will collaborate on future activities on Arboretum grounds, e.g., restoration of Hickey Run.

8.2.3 U.S. Army Corps of Engineers

DOEE has partnered with and will continue to partner with the US Army Corps of Engineers (USACE) on projects related to floodplain management in the District. In particular, USACE executed a detailed flood study for Oxon Run, which explored the floodplain impacts of a large-scale watershed restoration project. Subsequently, USACE collaborated with the District of Columbia Silver Jackets to complete a multi-year [flood risk management study for neighborhoods along Watts Branch](#), which is a tributary of the Anacostia River. These neighborhoods are in a special flood-hazard area (within the 100-year floodplain) and consist of high-density residential and non-residential structures and critical infrastructure with vulnerable populations, including a public housing development. These high-risk flood zone areas will likely expand even further considering the effects of climate change. The study assessed existing flood risks and future flood risks due to climate change, updated floodplain maps which will allow the community and local organizations to better understand their flood risk, and identified individual and watershed-wide flood risk management strategies and neighborhood climate-resilience policies and strategies.

8.2.4 U.S. Environmental Protection Agency (EPA)

DOEE and the EPA have partnered for many years to ensure that the District of Columbia meets federal law and guidelines related to NPS management. DOEE and several branches of the EPA partner to ensure that the District is meeting its local and federal obligations as well as working in concert with regional and national efforts.

- **EPA Region 3 - [319 Program](#):** DOEE receives annual funds to implement NPS management projects and DOEE participates in annual conferences and meetings to stay up-to-date with the latest in NPS work around the Region.
- **EPA Region 3 - [MS4 Program](#):** In 2023, DOEE received a new Municipal Separate Storm Sewer System (MS4) Permit from EPA that allows the District to operate its Separate Storm Sewer System provided it meets specific targets to mitigate the amount of stormwater and associated pollutants that flow into the District's piped network.
- **EPA Region 3 - [Chesapeake Bay Program \(the Bay Program\) Watershed Implementation Plans \(CB WIP\) and broader CBP Goal Implementation](#):** DOEE receives funds from the Bay Program and participates in numerous technical committees established by the Bay Program. The District is fully committed to implementing and meeting milestones of Phase I and II WIPs as well as for its WIP III. Technical committees are venues for regional partners to make collaborative decisions and create a unified direction for how to proceed in areas such as properly attributing load reductions to stream projects, evaluating the latest in scientific data on LID load reductions, and deciding best practices to improve and expand urban tree canopy cover. DOEE has an active and engaged presence on all Bay Program committees which adds particular value since the District is the only all-urban jurisdiction within the Bay Program's boundaries.

8.2.5 U.S. Geological Survey (USGS)

USGS presently operates water monitoring stations around the District, with financial support from DOEE, that measure water height, flow, and various water quality parameters including but not limited to temperature, dissolved oxygen, and turbidity.

8.2.6 Federal Emergency Management Administration (FEMA)

FEMA is the lead agency tasked with the responsibility for coordinating government-wide relief efforts to disasters. DOEE and FEMA coordinate efforts related to the Floodplain Rules and Regulations in the District and coordinate activities related to emergency responses, both natural and man-made.

- D.C. Silver Jackets: The D.C. Silver Jackets is an interagency team made up of members from federal, District of Columbia, and regional agencies, as well as academia. This team leverages resources to identify and implement comprehensive, resilient, and sustainable solutions to reduce flood risk around the District and to assist local communities.

9 Watershed Prioritization

Prior to 2020 the District city/state-wide had three watersheds with approved Section 319 WIPs (Anacostia, Oxon Run, and Rock Creek) and one drainage area (direct Potomac drainage) without an approved WIP. In FY2020 DOEE formally requested that the 319 Program review and accept the District's Consolidated TMDL Implementation Plan which covers the entire District of Columbia as its WIP for all District waterways. This plan supersedes DOEE's previous watershed plans and creates consistent goals, timelines, and tracking for the District MS4 program, Chesapeake Bay Program, and non-point source pollution program. EPA Region III completed its review of the Consolidated TMDL Implementation Plan and accepted DOEE's request to utilize this document for its 319 WIP. Given that all District water bodies suffer from some form of impairment, the District is not at a point where it can protect 'healthy' watersheds; however, the District does allocate considerable focus and resources in our NPS program is to prevent further degradation.

The specific factors that influence our watershed prioritization are listed below.

9.1 Planned or Completed Stream Restoration Projects

The first step DOEE undertakes in prioritizing which watershed to work on is to focus on watersheds where the District has planned or recently completed stream restoration projects. This allows the District to focus resources so that water quality improvements can be realized. Subwatersheds where stream restoration projects are planned or have recently been completed tend to be tributaries with high levels of impairment and/or high restoration potential. Additionally targeted subwatersheds are typically areas where factors align that allow DOEE to implement several restoration projects and stormwater retrofits. In prioritizing project areas, DOEE considers:

- Level of water body impairment and existing pollutant loads
- Drainage areas and potential for stormwater treatment, retention, and improvements in water quality
- Existing ecosystems and potential for habitat restoration
- Vulnerability to climate change-related risks
- Proximity and relationship to EJ communities and historically marginalized communities

- Feasibility and cost-effectiveness of constructing the restoration project(s)
- Community feedback and stakeholder group input regarding the proposed projects and areas

By concentrating its resources, DOEE hopes to see the delisting of streams for impairments. Additionally, environmental justice is a key consideration in determining stream restoration locations. DOEE uses the EPA's EJ screen tool in combination with internal data sets and stakeholder input to identify intersections of environmental and demographic vulnerabilities so that resources may be allocated to impaired subwatersheds in overburdened communities. Recognizing a history of dis-investment and industrialization of particular areas of the city, notably in Wards 5, 7, and 8, DOEE allocates resources where they are most needed. To this end, one of two staff stream restoration specialists is dedicated to working east of the Anacostia in over-burdened communities and one is dedicated to the remainder of the city.

[The District's Consolidated TMDL Implementation Plan](#) also informs sister agencies and nonprofit partners about DOEE watershed priorities, specifically why DOEE focuses in certain areas and what type of work it believes needs to be implemented. This planning document provides a framework for considering specific projects within geographic areas to guide intra-agency decisions toward implementation practices that meet TMDL goals.

9.2 Key Impairments

Addressing the key impairments in local watersheds is a driving factor in watershed prioritization and implementation practice selection. DOEE works with the Section 319 program to target specific impairments in watersheds according to the Consolidated TMDL Implementation Plan. Using the recommended practices laid out in the Consolidated TMDL Implementation Plan, DOEE seeks to implement practices in a manner which will lead to the delisting of the water body. Since all District water bodies are listed for one or multiple impairments, consideration of factors below also inform prioritization of project work in District watersheds. DOEE's combined in-stream and upland work targeting impairments helps concentrate efforts and resources in the targeted watersheds.

9.3 Human Health

Human health is a significant consideration for project prioritization. Many of the District's most impaired waters flow through overburdened communities with disparate health risks. DOEE works to improve watershed conditions through water quality efforts that support healthier neighborhoods and promote environmental justice. For example, DOEE and DC Water have worked together for many years to identify streams that have active sewer lines within them to make sure that the lines are safe and that stream conditions don't present a threat to the sewer infrastructure. In addition to E. coli, other pollutants listed on the District's TMDL list can come from sewer lines and sewer line leaks. Due to the immediate threat that a sewer line leaks pose to human health, DOEE and DC water prioritize work in areas where degraded sewer lines exist within or adjacent to streams. DOEE and DC Water will continue to partner in prioritizing this work to ensure a meaningful and lasting improvement to human health conditions along streams, especially in areas that have been historically overburdened with environmental impairments.

9.4 Ecosystem Integrity

Ecosystem integrity and post-restoration ecosystem potential are additional considerations for project prioritization. Many District streams, while suffering from impairments, provide vital habitat corridors to aquatic and terrestrial species. Concentrated restoration efforts can both reduce impairments to the

waterway and enhance the habitat benefits for both in-stream aquatic communities and adjacent riparian corridors. Similarly, bioretention cells and tree plantings in upland areas can serve the dual purpose of preventing pollutants from reaching water bodies while providing upland habitat areas for native animal species. Additionally, trees, rain gardens, and other LID practices used to reduce upland runoff also serve functions such as groundwater recharge, increased shade to cool water temperatures, and reduction in the volume and velocity of stormwater entering the streams. By focusing on ecosystem restoration in-stream and upland the District makes headway toward delisting streams and creates ancillary benefits to the entire watershed.

9.5 Human Connectivity

DOEE weighs making a connection to the communities that live near and affect the given waterway. Human connection to waterways can take place in many ways such as recreation, fishing, aesthetics, trails, opportunities for outdoor education, or other factors. DOEE looks to prioritize projects within watersheds where links can be made between the people who live in a watershed and the specific projects needed to restore the watershed. Crucially, DOEE recognizes the existing disparities in access to greenspace and environmental amenities and pursues environmental justice by prioritizing projects and services for historically underserved and overburdened communities.

To this end, DOEE's suite of RiverSmart programs forges links between homeowners, renters, teachers, students, and nonprofits toward the protection and restoration of nearby water bodies. These programs, through education, outreach, and small-scale implementation projects, empower District citizens to care for their watershed through GSI implementation in their own yard or school ground. This process of connecting people to their watershed also helps build a network of stewards for the protection of water bodies over the long-term.

By implementing LID projects on school grounds DOEE is able to train teachers in hands-on watershed education activities, work with students to connect classroom learning with school GSI installations, and provide year-round examples of good watershed stewardship. DOEE seeks to not just implement NPS pollution reduction projects, but also to forge connections between citizens and their environment thus helping to promote beneficial attitudes and behaviors.

9.6 Opportunism

Feasibility and opportunity are important considerations for site selection and project implementation. Because DOEE does not own land, its partnerships with landowning agencies determine the opportunities to complete work in a particular watershed, especially for large scale restoration projects. Often access to property and/or priority projects of other agencies require that DOEE also concentrate efforts in a particular watershed. DOEE must work collaboratively with other agencies on all restoration projects thus, should DDOT or DCWATER or NPS want to embark on a project in or near a stream, DOEE must consider whether to focus resources toward that project to enhance any projected environmental benefit.

9.7 Threats

DOEE explores threats to watersheds and waterways as part of project prioritization. In the District's urban environment there are many threats to watersheds and in some cases, there are areas where stream conditions create threats to adjacent areas. Risks such as sewer leaks, stream bank erosion, flooding, property damage, infrastructure damage, contamination, and other threats, are factors that DOEE considers when prioritizing work. As anthropogenic climate change intensifies, the risks posed by

watersheds to the urban environment and vice versa will continue to increase. Recognizing this, DOEE strives to identify and mitigate threats to preserve both water quality and infrastructure.

DOEE seeks to restore the District's watersheds in a systematic and strategic manner but doesn't follow the same path for each watershed project undertaken. DOEE weighs the above factors to prioritize not only watersheds but projects within watersheds. The prioritization process DOEE follows involves consideration of threats, opportunities, ecosystem integrity, impairments, human connectivity, health considerations, and environmental justice across watersheds. Once DOEE explores all relevant factors, programs and projects are implemented with a focus on making all the District's waterways swimmable and fishable.

10 Funding Sources

Funding for NPS pollution management comes from the following programmatic areas: DOEE regulatory programs, federal programs, District of Columbia capital funds, and District of Columbia agencies outside of the authority of the DOEE such as DDOT or DC Water. DOEE bears most legal and financial responsibilities for the management and implementation of the District's NPS Program and shall continue to do so for the foreseeable future.

10.1 General Revenue

DOEE uses general revenue funds for both project implementation and to provide local match for federal grants to implement projects and/or as match to cover salaries.

10.2 Regulatory Programs within DOEE

1. **Fees for Plan Review of Stormwater Management and Sediment Control Plans:** Regulatory programs are those required collectively by the District of Columbia and federal laws and regulations. Soil erosion control regulations address the control of pollution resulting from construction. Stormwater management regulations deal with contaminants during and after completion of construction. The District reviews construction plans for compliance with these regulations and applicants are assessed a fee for plan review. This fee structure was outdated and did not reflect the actual cost of the review. In 2013, with the adoption of the District's new stormwater regulations, the Watershed Protection Division updated its fee structure to reflect actual costs and to reflect comparable fee structures of neighboring jurisdictions. The collected fees are kept in a separate account and are dedicated to stormwater management and soil erosion control programs (Section 319 funds do not go to support the fee generated portion of DOEE's NPS work).
2. **Municipal Separate Storm Sewer System:** The management of the Municipal Separate Storm Sewer System (MS4) permit under NPDES is a major regulatory program. Requirements of the permit are broad and demand considerable funding to implement. Different components of the permit are implemented by different agencies necessitating negotiation and careful planning. DOEE works with DDOT, DGS, DC Housing Authority, DC Public Libraries, and DC Water on permit responsibilities. Many of the responsibilities lie with both DDOT and DGS, who are major landholding District agencies. The funding that comes from the impervious surface fee on District water bills is allocated proportionately to the responsible agencies to implement permit requirements.

3. **The District Stormwater Permit Compliance Enterprise Fund (also called “Stormwater Enterprise Fund”)** was established in 2006 pursuant to § 8-151.03(b)(2) to carry out the MS4 Permit activities that have the greatest impact on reducing stormwater pollution. The revenues, collected from the District’s [Stormwater User Fee](#) are credited to the Stormwater Enterprise Fund for the costs of complying with the MS4 Permit. The stormwater fee is based on the concept of an Equivalent Residential Unit (ERU), which is based on the average amount (1,000 square feet) of impervious surface on residential properties. Single family residences are assessed ERUs based on the amount of impervious surface. Each ERU is charged \$2.67 per month. For all other properties, such as businesses and large multi-family properties, the stormwater fee is charged at a rate of \$2.67 per month for each 1,000 square feet of impervious area on their lot, reduced to the nearest 100 square feet.
4. **Floodplain Management:** In 2010, with the adoption of new floodplain maps DOEE began collecting fees associated with the review of projects that are in a FEMA designated floodplain area. This fee helps cover review costs but is not a source of revenue for floodplain management programs or implementation.
5. **Anacostia River Clean Up and Protection Fund (“Bag Law”):** The District was the first municipality in the country to institute a fee for single-use disposable bags when the Anacostia River Clean Up and Protection Act of 2009 (“the Act”) went into effect. The Act established the Anacostia River Clean Up and Protection Fund (“Bag Fund”), a special-purpose revenue fund administered by the Department of Energy and Environment (DOEE) to protect and clean the Anacostia River and other impaired waterways. The Bag Fund receives revenue from four sources: (1) Disposable Bag Fees - the Act requires District businesses selling food or alcohol to charge a five-cent fee for each paper or plastic disposable bag distributed with any purchase, with a few exemptions. Of each five-cent fee, businesses are required to remit four cents to the Office of Tax and Revenue unless they offer a rebate to customers who bring their own bag; in this case, they are only required to remit three cents. Remitted fees are deposited into the Bag Fund. (2) Voluntary Tax Contributions - District residents can make voluntary contributions to Anacostia River restoration efforts on their individual income tax returns. (3) Anacostia River License Plates - Since 2010, the Department of Motor Vehicles has sold commemorative Anacostia River license plates to District residents. Residents pay a \$25 application fee and a \$10 specialty tag display fee, paid annually upon renewal. A portion of proceeds from the license plates are deposited into the Fund. (4) Enforcement - To verify compliance with the Act, DOEE typically inspects over 550 businesses per year. Businesses receive a warning letter and compliance assistance upon its first observed violation. For subsequent violations, businesses are fined between \$100 and \$800, depending on the number of previous violations. Fines are deposited into the Fund. DOEE publishes an [annual summary report for the Anacostia River Cleanup and Protection Fund](#) which is available to the public.

10.3 Federal Grant Programs

1. **Section 319 – NPS Pollution Grants (319):** The non-regulatory programs dealing with NPS pollution management are diverse. Most of these programs are cost share efforts with federal grant programs. The two grants that are the primary source of funding for NPS control in the District are §319(h), NPS implementation, and Chesapeake Bay Implementation Grant (CBIG) under §117(b) of the federal *Clean Water Act*. CBIG funding has been instrumental in supporting the District’s voluntary BMP implementation efforts through the RiverSmart Homes program.
2. **Clean Water State Revolving Fund (CWSRF):** DOEE receives and issues CWSRF grants to agencies and groups in the District, including NPS programs, to fund water quality protection

projects for wastewater treatment, NPS pollution control, and watershed and estuary management. DOEE has utilized this fund to invest in NPS projects over the years and it is a valuable resource to assist with funding larger scale restoration projects including stream restorations, outfall restoration, parkland LID retrofits, and RiverSmart Schools stormwater retrofits. DOEE anticipates using CWSRF to fund these types of projects in FY2024 and beyond.

3. **Chesapeake Bay Program (CBP):** CBP gives multi-year grants to DOEE to assist with programs that will focus on the restoration of the Chesapeake Bay and strive toward meeting Chesapeake Bay TMDL goals.

10.4 Capital Funds

District Capital Funds: DOEE often requests capital funds for specific projects as a part of the District's annual budgeting process. When approved, these funds become an important source of restoration monies and matching funds for Section 319 grants.

10.5 National Fish and Wildlife Foundation Grants

The National Fish and Wildlife Foundation is the United States' largest private non-profit conservation grant maker. They combine federal and private funds and issue requests for applications in numerous conservation areas. DOEE has actively applied for and been the recipient of several NFWF grants and will continue to pursue future NFWF funding opportunities. The two most common funds DOEE seeks funding from are:

1. **NFWF's Chesapeake Bay Stewardship Fund:** NFWF annually, through federal and private funds, offers grants throughout the Chesapeake Bay watershed to fund large scale projects focused on overall Chesapeake Bay restoration efforts. This fund is largely funded by the Environmental Protection Agency along with some private dollars.
2. **NFWF's Coastal Resiliency Fund:** NFWF's issues requests for applications for funding focused on climate change and resiliency efforts. Since the District encompasses two tidal rivers and the associated climate change challenges (e.g. sea level rise, tidal flooding, storm surge, threats to existing infrastructure, etc.), DOEE applies for funding for large scale stream and wetland restoration projects through the Coastal Resiliency Fund. This fund is largely supported by the National Oceanic and Atmospheric Administration (NOAA) with some private funding.

10.6 FEMA

FEMA has a Flood Mitigation Assistance Grant Program for assistance with planning and implementation of projects to help reduce risk or remove private properties from flood prone areas. DOEE currently receives FEMA funding that assists with NPS work such as FloodSmart Homes and the Permeable Surface Replacement Rebate Program.

10.7 NOAA

NOAA has several grant programs related to habitat restoration and fish passage that the District could apply for to fund our larger scale stream or wetland restoration projects.

10.8 U.S. Army Corps of Engineers Section 510 Grant

DOEE is eligible to apply for funding through the Army Corps of Engineers Chesapeake Bay Environmental Restoration and Protections Program (Section 510). This source funds an array of

ecosystem protection and restoration activities in the Chesapeake Bay Watershed, with the federal contribution of 75% and the local contribution of 25%.

11 Funding Strategy

Resources managed by the Watershed Protection Division are limited, given the immense task of protecting and restoring the District's waterways. However, DOEE continues to strategically and successfully manage pollution control programs and implement small and large-scale restoration projects. Because the District of Columbia is a densely developed, highly urbanized environment, the NPS program focuses on restoration activities, seeking to repair river, stream, and wetland habitats in the District and the Chesapeake Bay to increase the watershed's ecological diversity and protect the health, welfare, and safety of its inhabitants. DOEE funds construction projects that are primarily demonstration in nature, such as schoolyard rain gardens, and large-scale stream and wetland restoration projects and parkland retrofits. When a large-scale project comes up for funding, Watershed Protection Division funds are used to leverage other available resources.

Limitations on local and federal funding create challenges for the NPS Management Program. Because the DOEE has limited local funds for NPS management, its ability to secure federal funds that require a non-federal match is curtailed as well. As a solution, the NPS Management Program pursues a two-fold approach: 1) secures funds from nonfederal stakeholders, and 2) collects fees for services provided. In recent years, the District's Bag Law has been a valuable source of local match to federal grants that the District obtains to fund restoration activities.

As shown in this plan, there are programs and projects that are outside of the NPS Management Program's jurisdiction but contribute indirectly to the control and prevention of NPS pollution. Examples include the sewer line repair work and the tree maintenance program. The budgets for these activities are not within the scope of this plan. However, it should be noted that if a comprehensive cost benefit analysis were to be undertaken, the actual amount of funds going into NPS pollution prevention and control would be much greater.

12 Conclusion

The District has made significant progress toward restoring and protecting our waterways. Over the next five years DOEE has laid out an ambitious set of goals and objectives that when met will further improve the conditions of both the Anacostia and Potomac rivers. Recognizing the anticipated challenges from climate change and the principles of environmental justice, this nonpoint source management plan prioritizes the most vulnerable waterways and communities for NPS pollution reduction. To this end, DOEE uses an array of education and outreach activities combined with BMP installation to ensure that the public is engaged and receives tangible results of NPS efforts in the neighborhoods where they live and work. Utilizing robust rules and regulations in tandem with incentives, inspections, and enforcement, DOEE will continue its NPS work from source waters and tributaries downstream into receiving waterbodies, installing BMPs throughout the watershed.

DOEE has set ambitious NPS goals to respond to significant environmental challenges. As the District sets forth its NPSMP for the next five years, advancements toward equity and climate change resilience are at the forefront. With these guiding values, the NPS program will continue to creatively and

aggressively confront NPS pollution through the multi-faceted strategies described in this plan. By leveraging partnerships with aligned agencies/organizations, continuing strong collaboration with the community, strategically prioritizing vulnerable areas, pursuing aligned funding opportunities, and preparing for the impacts of climate change, the District will continue to improve and protect the quality of its waterways, making them cleaner, healthier, and more resilient.