



Annual Report

2023 Nonpoint Source Management Program

District of Columbia Department of Energy and Environment

Reporting Period:

October 1, 2022 – September 30, 2023

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Executive Summary

In accordance with Section 319 of the Federal Clean Water Act, this report documents the activities and accomplishments by the District of Columbia (District) 319 Nonpoint Source (NPS) Management Program during Fiscal Year (FY) 2023, which runs from October 1, 2022, through September 30, 2023. The District Department of Energy and Environment (DOEE) is the lead agency for administering Section 319, including 319(h) funding. DOEE helps to protect and improve District water quality by promoting, funding, and tracking the implementation of best management practices (BMP), stream restoration efforts, education and outreach, and other measures to reduce NPS pollutant loads.

In FY 2023, the District received \$1,062,000 through the Environmental Protection Agency (EPA) 319(h) grant and matched it with \$708,000 to support the District's NPS pollution reduction efforts. Over the course of FY 2023, some of the District's accomplishments include removing over 1,914,980 pounds of trash from District waterways, the installation of multiple LID retrofit projects on public and private property, and reviewing over 200 SWPPPs for proper pollution prevention strategies. As DOEE implements its NPS management goals, the agency continues to build upon existing frameworks for improving water quality while adapting and strengthening efforts toward environmental justice (EJ) and climate resilience.

Mission and Goals of the District of Columbia's NPS Management Program

The mission of the District's NPS Management Program is to prevent and control NPS pollution in District waterways. Implementing both regulatory and non-regulatory approaches, the NPS Management Program works to safeguard the District's water and soil resources as well as the health and welfare of citizens using those resources.

DOEE's *Nonpoint Source Management Plan for the District of Columbia, 2019* outlines a comprehensive strategy for managing NPS pollution in an urban environment to restore beneficial uses, and sets new goals and objectives, including specific milestones for when the goals and objectives will be achieved. The format and goals in this annual report were organized to reflect the goals outlined in the approved management plan. The plan is aimed at reducing NPS pollution from urban runoff, construction, and hydrologic/habitat modification and includes:

- Supporting activities that reduce pollutant loads from urban runoff, litter prevention, and trash removal;
- Supporting and implementing activities that restore and maintain healthy habitat, species diversity, and water flows to all tributaries to the Anacostia River, Rock Creek, and Potomac River;
- Installing LID practices on public and private properties throughout the District to maximize reduction in stormwater runoff;
- Coordinating NPS Management Program efforts with other District, federal, and private sector programs and adjoining jurisdictions;

- Supporting programs that aim to prevent NPS pollution from individual actions by carrying out effective information and education campaigns; and
- Coordinate a pollution prevention program that reduced 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.

The District's NPS Management Program is administered by DOEE's Watershed Protection Division (WPD), which consists of the Restoration Branch and the Partnering and Environmental Conservation Branch. The mission of WPD is to protect and restore the environmental health of the District's watershed by restoring streams and wetlands, providing incentives to control NPS pollution, and conducting outreach and education. The Restoration Branch manages large-scale LID, stream, and restoration projects, as well as the RiverSmart Homes, RiverSmart Communities, and other incentive programs included in the NPS Management Program that conserve the soil and water resources of the District to protect watersheds from pollution. The Partnering and Environmental Conservation Branch is responsible for RiverSmart Schools, Community Stormwater Solutions grant program, and other initiatives that cultivate partnerships through engagement, education, and financial, technical, and compliance assistance to enforce District laws that achieve clean water goals and support communities.

The District has also created an EPA-approved *Consolidated TMDL Implementation Plan* (2016), which superseded the *Oxon Run WIP* (2010), the *Rock Creek WIP* (2010), and the *Anacostia River WIP* (2011). The plan identified water body impairments, technically appropriate implementation projects, and timelines that guided DOEE in its work. An updated Consolidated TMDL Implementation Plan was finalized in September 2022. When prioritizing water quality improvement efforts, DOEE assesses the health of all significant waterbodies in the District and prioritizes based on data gathered from water quality monitoring. DOEE then characterizes waterbody impairments and threats that are included in the District's Section 305(b) reports as required by the federal Clean Water Act. The reports describe many of the District waterbodies as not supporting their swimmable (primary contact recreation) and fishable (fish consumption) designated uses.

Urban stormwater runoff is a prevalent source of pollutants to District waterbodies. Primary NPS pollutants of concern include nutrients, sediment, toxicants, pathogens, and hydrocarbons. The few waterbodies that partially or fully support a designated use are also threatened by NPS pollutants. Processes to prioritize subwatersheds for NPS implementation in the District can be found in the document referenced above.

This annual report is written in response to *Sections 319 (h)(8) and (11) of the Clean Water Act (33 UC 1329)*, for the purpose of documenting progress made in FY 2023 by the District of Columbia in implementing its *Nonpoint Source Management Plan for the District of Columbia, 2019*.

Goal One: Support Activities that Reduce Pollutant Loads from Urban Runoff, Litter Prevention, and Trash Removal

Inspection and Enforcement

Anacostia Clean Up and Protection Act

The District continues to implement the Anacostia Clean Up and Protection Act of 2009 (Bag Law), which required any business that is selling food or beverages to charge five cents for every disposable bag distributed, with limited exceptions. 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. Additionally, funds from the disposable bag fee are funding important projects aimed at reducing NPS pollution, including the maintenance of trash traps, stream restoration, reusable bag distribution, and environmental education.

During FY 2023, DOEE inspected 553 businesses for Bag Law compliance and found an 81% compliance rate. This increase in compliance may be attributable to the education efforts made over the past two years. During 2022, the program mounted an email outreach campaign that provided compliance information to 10,000 District businesses. In 2023, DOEE conducted both email and on-the-ground outreach to regulated entities. The program also completed onboarding training with two new inspectors and, as a result, more inspections were conducted. These efforts may have resulted in improvement in compliance, up from 68% last year.

Sustainable DC Omnibus Amendment Act

In 2008, the Anacostia Watershed Society (AWS) determined through their monitoring that expanded polystyrene (more commonly referred to as Styrofoam™) was 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 (Food Service Ware Regulations), 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 polystyrene went into effect in January of 2016 while additional compostable/recyclable requirements became effective in January 2017. In October 2018, the list of acceptable recyclable items was updated to ban single-use plastic straws and stirrers. The ban on these products affected all businesses and organizations in the District that serve food. The foam ban was expanded in January 2021 to include the retail sale of foam coolers and shipping materials.

The Zero Waste Omnibus Amendment Act of 2020 limits the distribution of disposable food service ware (such as utensils, condiment packets, and straws) only to customers that request them. This amendment act also created a grant program to support businesses that are transitioning from disposable to reusable food service ware. In FY 2023, DOEE completed 297 food service ware inspections and found a compliance rate of 96%. The grant program, called Ditch the Disposables, received 16 applications requesting a total of \$319,301 in FY 2023, far more than the \$199,843 available for projects. In the end, eight projects were selected to receive awards totaling \$173,843, with individual project amounts ranging from \$11,000 to \$25,000. A

list of the FY 2023 awards along with project descriptions can be viewed on the program webpage: <https://doee.dc.gov/disposables>.

Comprehensive Stormwater Management Enhancement Amendment Act

The Comprehensive Stormwater Management Enhancement Amendment Act of 2008 (Coal Tar and High-PAH Sealant Ban), effective July 1, 2009, prohibits the sale, use, and permitting of coal tar-based pavement products in the District. The law was amended in March 2019 to expand the list of banned products to include other sealants that do not contain coal tar but contain high amounts of polycyclic aromatic hydrocarbons (PAH). When stormwater washes particles and dust from these sealants, down storm drains, and into local streams and rivers, it threatens aquatic life in the Anacostia River, Potomac River, and the Chesapeake Bay. The Coal Tar and High-PAH Sealant Ban helps to protect human health and the environment by reducing toxic PAHs in District communities and ecosystems.

In FY 2023, DOEE performed 60 coal tar inspections and found a compliance rate of 100%. DOEE also reviewed the testing protocol from the Chesapeake Bay Program's Goal Implementation Team Toxic Contaminants Workgroup and began integrating the protocol into enforcement strategy. DOEE is working with a lab that can perform the protocol and will begin testing samples in the summer of FY24. As the new testing protocol is in the early stages of integration, there are no plans to reduce inspections despite high rates of compliance. However, if compliance remains near 100%, this may be re-evaluated.

Trash Removal

In 2010, the District and the State of Maryland established a total maximum daily load (TMDL) for trash for the Anacostia River. These loads were calculated based on stream and shoreline transect sampling performed by AWS through a grant from DOEE. For the District's portion of watershed, an annual load allocation totaling 108,347 pounds of trash was assigned. DOEE has been using a combination of trash traps, volunteer clean-ups, hotspot street sweeping, skimmer boat activities, and regulatory prevention measures to achieve the trash TMDL's waste load allocation (WLA). DOEE has developed and employed specific metrics to calculate the applicable reductions (in pounds) for each of these activities which, in turn, have been reported in each year's MS4 annual report.

Additionally, DOEE participated in the Anacostia Trash multi-jurisdictional collaboration to align those metrics for tracking and reporting on trash reductions with adjacent jurisdictions. This collaboration focused on standardizing the reduction calculations for the various trash reduction activities that all three jurisdictions employed (e.g. trash traps, volunteer clean-ups, etc.). In 2023, DOEE began consistently applying those agreed upon metrics which has yielded a considerably higher trash load reduction than seen in previous annual reports. Further explanation is provided in a memo to EPA titled "*Trash TMDL Reduction Calculation Changes*," which was submitted to Liz Ottinger on October 30th, 2023. In FY 2023, 1,914,980

pounds of trash were removed from District waterways. The breakdown of how much trash was collected through each method can be seen in Figure 1.

Source of Trash Collection	Amount of Trash Removed (lbs.)
Trash Traps	4,370
Environmental Hotspots	3,018
Cleanup Events	44,243
Skimmer Boats	129,584
Clean Team Program	1,733,523
Bag Law	242
Total:	1,914,980

Figure 1 – Breakdown of trash removed from District waterways in FY 2023

Additionally, DOEE closed out the Taking Control of Litter in the District: Changing Behavior with the Regional Litter Prevention Campaign with Alice Ferguson Foundation in August 2022. During the grant period from 2016 through 2022, the Litter Prevention Campaign reached 137 different community organizations. Clean ups were held throughout all 8 Wards. Over the course of the grant period 46,484 residents were engaged and 277,225 pounds of trash were prevented from ending up in DC waterways and watersheds. After the completion of the grant, the District’s litter prevention campaign was reevaluated during 2023. A new grant RFA will be published in 2024 to solicit new campaigns for the next funding cycle.

In 2023 the Dump Buster’s program continued following a change in program management personnel. Dump Busters is a collaborative effort to address illegal dumping in the District of Columbia. The Metropolitan Police Department (MPD), Department of Public Works (DPW) and DOEE receive tips, locate dumping and remove debris from the environment. In FY23, Dump Busters focused on illegal tire dumping with 10-15 persons under investigation in FY24. Additionally, they targeted toxic chemical dumps and spills in the MS4. During 2023, MPD worked to install signs and cameras, with more than 100 signs installed in known dumping locations to target all types of dumping. In the coming year, Dump Buster’s plans to continue these efforts and improve develop improved practices for tracking work performed.

Trash Free Shorelines

DOEE started the Trash Free Shorelines program in FY 2021, which aims to capture and remove litter from the shorelines of the Anacostia River and Washington Shipping Channel by piloting and testing new trash reduction technology. The first technology to be piloted through this program will be Seabins™, a new type of trash skimmer that is designed to act as a floating garbage bin that can intercept and collect floating debris, macro and micro plastics, and microfibers that are present in the waterway.



Anacostia Riverkeeper (ARK) was selected as the grantee for this project in June 2021. Two of the five Seabins purchased with grant funds were installed at Yards Marina in December 2021. The devices joined two that had been previously installed at the same location by the marina. The remaining three Seabins were installed at James Creek Marina in September-October 2022. ARK continued to monitor the Seabins through the grant period ending in June, 2023. Challenges included ongoing maintenance requirements of the Seabins, limited Seabin capacity, and the necessity to sort collected trash from organic matter. Research into use of the Seabins for microplastics mitigation may be of further interest.

Figure 2 – Seabin installed at Yards Marina

Table 1 – Goal One: Support Activities that Reduce Pollutant Loads from Urban Runoff, Litter Prevention, and Trash Removal

Objectives by 2023	Milestone	2019	2020	2021	2022	2023	Total
To complete at least 2,750 inspections of businesses regulated by the Anacostia Clean Up and Protection Act (Bag Law)	550 inspections per year	554 inspections	217 inspections	157 inspections	460 inspections	553 inspections	1,941 inspections
To complete at least 1,500 inspections of entities regulated by the Sustainable DC Omnibus Amendment Act 2014 (Food Service Ware Regulations)	300 inspections per year	319 inspections	154 inspections	254 inspections	256 inspections	297 inspections	1,280 inspections
To educate 1,000 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	Educate 200 businesses per year	5,000 businesses	17 businesses	7,000 businesses	10,000 businesses	1,000 businesses	23,017 businesses
To complete at least 300 inspections of regulated properties to ensure compliance with the Comprehensive Stormwater Management Enhancement Amendment Act of 2008 (Coal Tar and High-PAH Sealant Ban)	60 inspections per year	63 inspections	45 inspections	53 inspections	60 inspections	60 inspections	281 inspections
To remove 600,000 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	120,000 pounds of trash removed per year	131,000 pounds	534,972 pounds	665,907 pounds	164,037 pounds	1,914,980 pounds	3,410,896 pounds

Goal Two: Support and Implement Activities that Restore and Maintain Healthy Habits, Species Diversity, and Water Flows to all Tributaries to the Anacostia River, Rock Creek, and Potomac River

Stream and Wetland Restoration

Stream and wetland restoration is the act of modifying a waterway or marsh to improve its environmental health and habitat.

Due to urbanization, 65% of the District is impervious surface. This causes all District streams to face similar threats from high amounts of impervious surface runoff. Consequently, stormwater flows increase and the geomorphological flow of streams ultimately changes, eroding their banks and beds. Stream restoration attempts to alleviate the stress of the increased stormwater flow by creating a new channel to better manage stormwater runoff.

In FY 2023, DOEE had 4 major stream restoration projects under design: Fort Dupont (18,600ft), Oxon Run (21,000ft), Park Drive (1,300ft), and Stickfoot Branch (950ft). DOEE also has a wetland restoration and enhancement project under design at Kingman Lake (10 acres). At Stickfoot Branch and Park Drive, construction is expected to commence and complete in 2024.

In addition to design development, DOEE has several projects in the pipeline for solicitation. In 2023 DOEE prepared solicitation packages for gully restoration work at Linnean Ave. NW, multiple Rock Creek outfalls, and neared completion of the 36th Pl. SE Wetland procurement process. Additionally, the Pinehurst Stream Restoration is in solicitation development for the environmental assessment components of the project. DOEE also continues to monitor completed projects for maintenance needs (see below).

Alger Park Stream Restoration

The restoration of 1,540 linear feet of stream in Alger Park was completed in FY 2017. The project used regenerative stream restoration techniques and added more than half an acre of wetland to the stream corridor. The project planted over 3,000 wetland plants, 300 shrubs, and 300 trees. DOEE conducted outreach in the watershed related to our RiverSmart Homes program to maximize installation of private home LID practices in the area draining to Alger Park. Prior to restoration, conservative estimates showed that Alger Park had one of the most eroded stream beds in the District, losing more than 100 tons of sediment per year.

DOEE completed 1,541ft of stream restoration in Alger Park and 28 public space LID practices in the drainage area to Alger Park by 2017. In subsequent years, including FY 2023, DOEE has continued post construction maintenance and monitoring of Alger Park and took over control of the LID maintenance as well. Per project requirements with the Army Corps of Engineers, water quality monitoring is performed for five years following construction at two-year intervals. Water quality monitoring was performed at Alger Park in 2023. The data is publicly accessible via DOEE's [Water Quality Data Dashboard](#).

Branch Avenue Park Stream Restoration

Branch Avenue Park is a triangular wooded parcel in the District’s southeast quadrant that is bound by major roads on each side. A stream flows through this park, entering from an enclosed storm drain system in the northwest region of the park and leaving through an enclosed storm drain system in the southeast region. The downstream storm drain system discharges into Oxon Run, a tributary to the Potomac River. DOEE completed the Branch Avenue Park Stream Restoration project in early FY21. This project restored 580 feet of perennial stream and 150 feet of an eroded ephemeral gully. In addition to the stream restoration at Branch Avenue Park, two degraded outfalls were repaired and stabilized in FY 2021. A recreational trail was also installed through the park for residents to have access to the restored stream. Per Army Corps of Engineers requirements, water quality monitoring was performed at Branch Avenue in 2022 and is scheduled to take place again in 2024. The data is publicly accessible via DOEE’s [Water Quality Data Dashboard](#).

Congress Heights Stream Restoration

The Congress Heights Recreation Center is located in the Oxon Run watershed and is approximately four acres, one of which is impervious surface. In FY 2018, DOEE began the process of contracting to restore a woodland stormwater gully located on the south side of the Congress heights Recreation Center by implementing a Regenerative Stormwater Conveyance (RSC) channel. The construction for this RSC technique was completed in October 2019 and includes the use of boulder step pools that safely convey storm flows while encouraging stormwater treatment and infiltration in the gully along the existing conveyance channel. In total, 400 linear feet of stream were restored. In 2023 the WPD Maintenance Branch assessed the site for maintenance needs and developed a management plan.



Figure 3 – Congress Heights Stream Restoration

Fort Dupont Stream Restoration

The District has commenced a comprehensive project to restore the Fort Dupont watershed with five main components:

- Community outreach and educational activities focused on watershed restoration;
- Upland LID work on private property (RiverSmart Homes, Communities, and Schools) within the watershed through voluntary implementation efforts;
- Installation of LID on National Park Service or public right of way areas;
- Stream restoration; and
- Wetland restoration

DOEE began efforts to achieve these goals in FY 2017. In FY 2018, DOEE partnered with the National Park Service and the Eastern Federal Lands Division of the Federal Highway Administration to install over 2,500 feet of bioswales along the roadways that transect Fort Dupont. These bioswales catch and filter roadway runoff before it enters the stream network, helping to reduce the velocity and improve the quality of water entering the Fort Dupont stream during a rain event.

In FY 2019, DOEE worked on an Environmental Assessment (EA) identified 10 initial project areas to be included in the Fort Dupont Stream and Wetland Restoration Project. Project areas 1-9 will be stream design projects utilizing Regenerative Stream Design (RSD) as the primary approach to restoration, include approximately 13,000 feet of perennial stream restoration, and be exclusively comprised of stream restoration combined with outfall stabilization. The tenth project area will consist of daylighting 425 feet of piped stream between the nearby bike trail and the Anacostia River, as well as designing the land around it to create a tidal wetland complex behind the seawall (Figure 3). The stream design contract was awarded in FY 2020.



Figure 4 – Severe erosion along Fort Dupont Creek

In FY 2023, DOEE advanced stream and wetland restoration designs at Fort Dupont to the 90% phase. DOEE completed the public scoping phase for the project and the public comment period for the Environmental Assessment as part of the National Environmental Policy Act (NEPA) compliance for 18,600ft of stream restoration. DOEE anticipates 100% designs and completion of the NEPA process in early 2024. DOEE will have a separate NEPA compliance process for wetland restoration work along the seawall which will combine stream daylighting and fringe wetland creation of at least 5 acres of wetlands.

Oxon Run Stream Restoration

Oxon Run stream enters D.C. south of the intersection of Southern Ave. & Mississippi Ave. SE and flows in a south westerly direction paralleling Mississippi & Valley Ave. in SE. Then it crosses under South Capitol St. SE into southwest DC before it enters Prince Georges County, MD and then enters Oxon Cove before flowing into the Potomac River. The District's upper portion of Oxon Run has natural streambanks that suffer from high rates of erosion due to the flashy nature of the stream during storm events. Severe bank erosion has caused massive tree loss, excessive downstream sedimentation, and the exposure of a large sanitary sewer line in multiple locations. The middle portion of this stream is trapezoidal concrete structure installed in the 1960s to reduce flood risk in the nearby neighborhoods. The concrete channel provides little to no habitat areas for aquatic or terrestrial species and created a barrier for larger fish. Additionally, the lower portion of Oxon Run has naturalized stream banks that are highly unstable.

The long-term goal of the Oxon Run Stream & Wetland Restoration Project is to restore to a naturalized state the stream that flows through the Project area, thereby restoring natural hydrology, preventing erosion, reducing flood risk, improving water quality, and enhancing and creating wildlife habitat. The specific objectives of the Project are to:

- Complete all compliance work related to Oxon Run Stream Restoration as it applies to National Environmental Policy Act and the National Historic Preservation Act (i.e., an Environmental Assessment);
- Produce Preliminary Designs (30% Designs) for a stream restoration project for the entire stream corridor from Southern Ave. and Mississippi Ave. SE to Oxon Cove that will create a stable, sustainable, and naturalized stream; that demonstrate that magnolia bogs in Reach 1 are protected from stormwater run-off and enhanced through proposed hydraulic changes; that will ensure long-term protection and stabilization of existing sanitary and stormwater infrastructure; that will improve resiliency to communities that live in the watershed by reducing or removing the flood risk to private properties in the District of Columbia and Prince George's County, MD; that factor in the effects of climate change to resiliency along the stream corridor;
- Produce one Preliminary Design Master Park Plan that maps out recreational, community, green, and other spaces past, present, and future in Oxon Run Park on both National Park Service, Department of Parks and Recreation, and Prince Georges County lands;

- Produce a Master Park Planning Document that explores the current uses of the park and access points and recommends future uses based on community needs and projected demographic changes along the corridor. The Master Park Planning Document shall include estimated costs for implementation of Master Park Plan and explore potential revenue sources; and
- Execute a comprehensive community engagement plan that involves community members, stakeholder groups, and partner agencies in a collaborative planning process to create a vision for the future of Oxon Run, Oxon Run Park, and Oxon Cove in the District of Columbia.

Estimated Project Timeline:

The Oxon Run Stream Restoration Project is large and complex project that must evaluate issues related to equity, infrastructure (roads, bridges, sewer lines, stormwater outfalls, trails, etc.), floodplains and wetlands, biology, and more. The designs will take time to ensure that all project impacts are evaluated and addressed to ensure a successful project for all stakeholders.

30% Design Phase – 2022 through 2024

30% Design Phase will produce 30% designs for the stream and wetland restoration work, a master park plan for the Oxon Run Park, an assessment of and recommendations for sanitary sewer line improvements, National Environmental Policy Act (NEPA) Compliance, and community outreach & engagement work. The NEPA process involved a pre-NEPA phase that takes 1-2 years to gather data and study the project area and then the NEPA process takes 6 months to present the information and proposed project to the public and stakeholders for comment.

60-100% Design Phase – 2025 & 2026

At the conclusion of the 30% Design Phase DOEE can move forward to complete full designs by executing additional option years for the contract. The 60-100% Design Phases will only include designs for stream restoration. DPR & DGS will have the completed Park Master Plan.

Construction Phase – 2027 onward

Because the design process has not even started DOEE at present time does not know the extent or impacts of the construction work for the Oxon Run Stream Restoration Project. The 30% Design Phase and NEPA Compliance (above from 2022-2024) will help the District and community residents better understand impacts of the project to the stream, the park, and to the community & neighbors around it.

In FY 2023, DOEE developed 15% designs for over 21,000 feet of stream restoration along Oxon Run as part of the pre-NEPA planning phase.

Park Drive Gully Restoration



Figure 5 – Outfall to be repaired as part of Park Drive Gully Restoration

The Park Drive Gully Restoration project is in the southeast quadrant of the District and has two different restoration sites: Fort Davis and Texas Avenue. Both sites ultimately drain into the Anacostia River and are in Fort Davis Park (owned by the National Park Service).

In FY 2023, DOEE completed designs and permitting for 1,300 feet stream restoration work. As a part of the Park Drive gully restoration, four outfalls within the project area will be repaired and stabilized. DOEE expects construction activities to commence and be completed in 2024.

Pinehurst Branch Stream Restoration

Pinehurst Branch originates at the District/Maryland border and flows approximately 1.3 miles east-southeast on National Park Service property to its confluence with Rock Creek. The land use of Pinehurst Branch's 619-acre watershed is approximately 70% residential and commercial development and 30% parkland. Approximately 70% of the watershed lies within the District, with the remaining 30% in Montgomery County, Maryland. The large amount of impervious surfaces in the watershed has caused significant erosion in Pinehurst Branch, resulting in sediment transport to Rock Creek and exposed sanitary sewer lines throughout the stream. DC Water had abandoned or removed existing sanitary sewer lines in Pinehurst Branch and DOEE will coordinate with them to restore the stream over the next few years.

The Pinehurst Branch stream restoration project will restore approximately 7,900 feet of degraded stream reaches, create conditions suitable for wildlife habitat, and improve the conditions of existing wetlands.

In FY 2017, DOEE began an EA process to explore options on how to implement the restoration to achieve these objectives. A contract for the EA was awarded in FY 2019 with the actual assessment beginning in FY 2020. As archaeological and Environmental Assessment work continued in FY 2021, project partners came to the consensus that more information is needed before the public can be presented with a viable option for restoration. The existing EA contract was abandoned and a new solicitation for data collection, preliminary design, and completion of the EA was developed. This project is currently in the Archeological Investigation and Environmental Assessment (EA) phase. In FY 2023 DOEE worked to develop a new design solicitation to complete the work described above and anticipates soliciting for new bids in FY 2024.

Spring Valley Stream Restoration

The Spring Valley Park stream is a 1,100-foot stream and tributary to the Potomac River. DOEE began collecting pre-restoration monitoring data in FY 2014 with the intent to replace the existing incised stream channel with a stable stream channel. In FY 2017, DOEE awarded a design-build contract for the restoration of the Spring Valley Park stream. DOEE met with community members during the restoration to inform them about this project and encourage them to adopt practices on their properties to reduce stormwater runoff to the stream.

In September 2019, DOEE completed the Spring Valley Stream Restoration. As part of this project, two outfalls within the project area were repaired and the restored channel was sized to convey increased stormwater flows at a shallower flow depth. This reduces shear stress on the channel and minimizes potential bank erosion in the future. A recreational trail was also installed through the park, creating a loop, allowing residents access to the restored stream. Per project requirements with the Army Corps of Engineers, water quality monitoring is performed for five years following construction at two-year intervals. Water quality monitoring was performed at Spring Valley in 2023. The data is publicly accessible via DOEE's [Water Quality Data Dashboard](#).

Stickfoot Branch Stream Restoration

In FY 2017, DOEE entered into an agreement with DC Water to restore a headwater tributary of Stickfoot Branch that drains into the Anacostia River. In FY 2019, DOEE issued a contract to execute an EA and develop stream designs for this restoration project. Designs were advanced to the 30% design phase and all NEPA compliance was completed in FY 2020. In FY 2023, DOEE began the procurement process for a 950ft of stream restoration project while concurrently obtaining permits for the project. This project will involve the restoration of over 950 feet of degraded urban stream and improving the protection of a sanitary sewer line within the restoration area.

In addition to the stream restoration occurring at Stickfoot Branch, DOEE has issued a contract to conduct an EA and develop designs for the repair of four storm sewer outfalls within the

restoration area. Pre-restoration monitoring occurred in FY 2022. Project work should be completed in FY 2024.

Linnean Gully and Outfall Restoration

The Linnean Gully and Outfall Restoration project is planned to restore approximately 250 ft of a gully that starts at an outfall at the end of Linnean Avenue NW and extends down to Soapstone Valley Creek. Stormflow is destabilizing the banks, degrading water quality, and undermining nearby trees. The restoration will establish a stable channel and will be designed to promote ecological uplift in the waterbody and the surrounding area. During FY23 DOEE posted a design build solicitation for the project and entered into negotiations with a vendor.

Kingman Lake Wetland Restoration and Enhancement

The Kingman Lake Wetland Restoration and Enhancement project is an initiative to design and construct a minimum of 10 acres of wetlands in Kingman Lake. DOEE is currently in the design phase, and in FY2023 developed preliminary concept ideas for restoration of aquatic habitat within a 138 acre area, which include a combination of wetland restoration and enhancement treatment types including emergent wetland restoration, invasive species management, submerged aquatic vegetation planting, and removal of legacy sheet piling.

Table 2 - 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

Objective by 2023	Milestone	2019	2020	2021	2022	2023	Total
To restore 4 miles of stream or 12 percent of the District’s total stream/river length	0.8 miles of stream restored per year	.21 miles	.21 miles	0 miles	0 miles	0 miles	.42 miles
To restore and maintain 10 acres of wetlands	2 acres of wetlands restored and maintained per year	0 acres	0 acres	0 acres	0 acres	0 acres	0 acres
To repair 50 outfalls, or substitute a portion of outfall repairs with stream restoration with a demonstration that the in-stream water quality benefits of restoration exceed those derived from outfall repairs	Restore 10 outfalls per year (or substituted a portion of outfall repairs with stream restoration work)	2 outfalls	2 outfalls	0 outfalls	2 outfalls	0 outfalls	6 outfalls

Goal Three: Install LID Practices on Public and Private Properties Throughout the District to Maximize Reductions in Stormwater Runoff

Public Property LID Installations

Parkland LID Retrofits

DOEE collaborates with the Department of Parks and Recreation to retrofit parkland sites around the District. “Parkland LID Retrofits” aim to improve water quality in the Anacostia and Potomac Rivers for the benefit of District residents, visitors, wildlife, and the environment, while providing high quality outdoor recreational space and facilities for children and adults to learn, play, and connect with nature. The partnership between DOEE and DPR continued into FY 2023.

Projects in Progress

During the reporting period DOEE worked with DPR to plan and award two design-build contracts for stormwater retrofits on parkland, called ‘DPR III’ and ‘DPR IV’. DPR III was awarded in June, FY2023. This effort funds LID stormwater retrofits at two District parks - Dakota Park (South Dakota Ave, Adams and 33rd Streets, NE) and Dwight A. Mosley Sports Complex/Taft Recreation Center (20th and Otis Street, NE Washington, DC, 20018). These projects are currently in design with construction expected to begin in Q3 2024.

DOEE and DPR also awarded the contract for the subsequent round of retrofits, DPR IV. This contract was awarded in September, FY 2023 and will fund LID stormwater retrofits at Benning Stoddert Recreation Center and North Michigan Park. These projects are in design with construction expected to commence in Q3 2024.

Completed Projects

DOEE’s developing GSI maintenance branch works to ensure that the District’s green infrastructure is properly maintained. To do this work, DOEE has established grants and contracts that:

1. Work to dispatch crews to handle needed maintenance; and
2. Train local DC residents, including those from historically disadvantaged communities and backgrounds, to learn and understand the requirements to maintain GI in urban areas like the District.

Below is a list of completed projects within the GSI Maintenance Branch portfolio:

- Congress Heights Park: The stream restoration project was completed in FY2020 and included invasive species removal and the restoration of a 300-foot stream channel.
- Palisades Recreation Center: The installation of a bioretention system was completed in FY 2021 and provides a stormwater retention volume of 1,761 cubic feet.

- Douglass Recreation Center: The installation of a bioretention system was completed in FY 2021 January 2021 and provides a stormwater retention volume of 2,031 cubic feet.
- Benning Park/Woody Ward Recreation Center: The conversion of asphalt into a pocket park for community recreational use and the installation of a bioretention system and a water quality swale was completed in FY 2021 and provides a stormwater retention volume of 6,574 cubic feet.
- Fort Greble Park: Two bioretention systems and large parcel tree planting was completed in FY 2021 and provides a stormwater retention volume of 1,797 cubic feet.
- Fort Stevens Recreation Center: Two bioretention systems were installed in FY 2022, as well as erosion control measures on slopes to protect mature tree canopy.

Palisades, Woody Ward, Fort Greble, and Carter Barron are included in DOEE's GSI Maintenance grant. Through this grant local contractors maintained each of the BMPs at these sites quarterly in FY23. Both Palisades and Carter Barron also served as sites for training efforts for this program. Fort Stevens and Douglass are not part of the grantee's maintenance portfolio and are scheduled to be assigned to DOEE's maintenance contractor. DOEE's GSI maintenance branch visited Fort Stevens several times in 2023 and the site is in good condition. Douglass is scheduled to be assessed in 2024.

Carter Barron Stormwater Retrofit Project

The Carter Barron Stormwater Retrofit project area is a 30-acre site located in the northwest quadrant of the District. The project area was identified as a priority restoration area by U.S. Fish and Wildlife Service (FWS), National Park Service, and DOEE due to its impact on the existing habitat along Rock Creek. Nestled within Rock Creek Park, the site is home to the Carter Barron Amphitheatre and the Rock Creek Tennis Center and sits at the headwaters of the Blagden Run watershed. The Blagden Run watershed averages 69% impervious cover and the project area includes 11 acres of impervious surface, or approximately 15% of the imperviousness in the whole watershed.

Before LID installation, the targeted 11-acre impervious area had no stormwater controls because it was developed prior to the promulgation of the District's stormwater regulations. During rain events, stormwater swiftly left the project area from drainage outfalls, concentrating flows into erodible gullies, lowering localized infiltration and the groundwater table, and therefore impacting and reducing native habitat along Rock Creek. Stormwater also left the project area through overland flow and a storm sewer that drains directly to Blagden Run.

The goal of the Carter Barron Stormwater Retrofit project was to fully retrofit the targeted 11-acre impervious area with green stormwater infrastructure (GSI) to restore natural hydrology, prevent erosion, reduce stormwater pollution, and protect and restore existing natural habitat for federally listed endangered species and other species. The project was completed in August 2019 and subsequently won the 2019 Best Retrofit in the Chesapeake Bay award. Retrofitting this 11-acre impervious area will capture more than 5,000,000 gallons of stormwater runoff annually.

During FY2023, Carter Barron received quarterly maintenance under DOEE's GSI maintenance grant and was used as a training site for the GSI maintenance program.

Hamlin Street Stormwater Retrofit Project

The Hamlin Street LID Stormwater Retrofit project is located within the District's Hickey Run watershed at the southeastern side of the 2000 block of Hamlin Street NE (Figure 4). This project site was identified as a priority LID retrofit area by DOEE in its Hickey Run Watershed Implementation Plan due to the fact that it received drainage from

approximately 3.1 acres of land, with approximately

1.3 acres of it from impervious cover, and has a high potential for treating stormwater management practices installed through DOEE's RiverSmart Homes program. However, the street itself has no stormwater controls because it was developed prior to the promulgation of the District's stormwater regulations.

DOEE issued a contract for the design of an LID stormwater retrofit at the Hamlin Street project site in FY 2020. In FY 2021, designs for the project were completed and all permits were approved. Construction began on the project in September 2021.

Construction of the Hamlin Street, NE, Stormwater Retrofit Project began in May 2022 and proceeded uninterrupted through the end of the fiscal year. The two bioretention systems installed utilized innovative design approaches to increase stormwater capture. Both systems have storm chambers installed underneath the bioretention filter media in a green-grey hybrid approach. It is estimated that when completed, these two systems will manage stormwater from up to 2.75 acres of urban land, approximately ~50% of which is impervious cover, providing retention of ~2,400 cubic feet of stormwater in every storm event. Construction was completed in Q4 of FY2023. DOEE continues to monitor the project and plans to exercise remaining option years in the contract for periodic maintenance.



Figure 6 – Hamlin Street Bioretention

Hickey Lane Stormwater Retrofit Project

The Hickey Lane LID Stormwater Retrofit project is located within the U.S. National Arboretum (USNA) at the intersection of R Street NE and Hickey Lane NE. The project site was identified as a priority LID retrofit area by USNA because it has a contributing drainage area of approximately 8.1 acres of land, with approximately 2.2 acres of it from impervious cover. The purpose of this project is to reduce stormwater runoff and pollution, prevent erosion, restore natural hydrology, and increase natural habitat in the Hickey Run watershed.

DOEE issued a contract for the design of an LID stormwater retrofit at the Hickey Lane project site in FY 2020. In FY 2021, designs for the project were completed and the permitting process began. Permitting for the project was approved in early FY 2022.

Construction on the Hickey Lane, NE Stormwater Retrofit Project started in July 2021 and the project was substantially completed by February 2022. The first of its kind in the District, a submerged gravel wetland was designed and installed along Hickey Lane, NE within the US National Arboretum's property. The BMP has a large contributing drainage area, managing stormwater runoff from land within the Arboretum as well as from the public right of way. Due to a high-water table in this location (likely an old, buried tributary to Hickey Run) the BMP necessitated an internal water storage layer which ultimately acts to detain stormwater and as a result provides enhanced Nitrogen removal. Plantings for the BMP were provided by the USNA and completed by Friends of the Arboretum (FONA) volunteers. During 2023, DOEE exercised the option year to continue quarterly maintenance of the project by the vendor.

RiverSmart Schools

RiverSmart Schools is a program that works with schools within the District to install LID practices to reduce runoff and NPS pollution while providing stormwater-related educational resources. In addition to providing LID retrofits for schools throughout the District, RiverSmart Schools provides training workshops in environmental education to teachers and informal educators with environmental curricula that support the District's teaching and learning standards.

In FY 2023, RiverSmart Schools accomplished the following:

1. Provided 25 teachers with a three-day workshop on RiverSmart schools site usage and programming. RiverSmart Schools' professional learning sessions were held the second Wednesday of the month February - April (Feb. 15, March 8, and April 12, 4pm - 6pm). On April 12, the session was held on a boat vessel with hands-on activities for the participating teachers.
2. Conducted 8 classroom visits with approximately 20 students per class and provided 6 boat trips to support the integration of watershed lessons for the RiverSmart Schools project at each participating school. At Anacostia HS, three classroom visits were conducted with Ms. Angela Benjamin class on March 16, 23, 30. Two boat trip

experiences for the students were conducted on May 12 and May 26. At Two Rivers Young campus, two classroom visits were held on April 06 and April 07. Two boat trip experiences April 26 and June 6. At Lee East End Elementary, two classroom visits to conduct watershed lessons were held April 25 and May 2nd. Two boat trips were planned, but one was canceled due to bus issues. At Mundo Verde Calle Ocho, one classroom visits to conduct learning in the garden lesson were held June 8. One boat trip experience was conducted on June 12.

3. Engaged students, teachers, and volunteers in community workdays to construct and maintain designed schoolyard conservation sites. Workdays took place at the following locations and dates:
 - a. Saturday, April 08, 9am-12:30pm, at Lee East End Elementary
 - b. April 12, 9:30am - 12:30pm, at Anacostia High
 - c. April 26, 1pm - 3:30pm, at Two Rivers Young Elementary



Figure 7 – Bioretention completed at Anacostia High School

In 2023, DOEE also completed the design and construction of the following four RiverSmart Schools projects:

- The Anacostia High School project was a voluntary project to install large bioretention and an outdoor classroom. The BMP treated 15,568 square feet of area and retained 9,306 gallons of stormwater treatment volume.
- Construction completed in May 2023 at Two Rivers – Young Public Charter School. The BMP treated 2,392 square feet of area and retained 836 gallons of stormwater treatment volume.
- The Lee East End Public Charter School improvement project removed compacted soil and installed 200 square feet of stormwater management BMPs, a 400 gallon cistern, and an outdoor classroom area.

- At Shining Stars Public Charter School, the project installed a 200 square foot conservation landscape garden with outdoor classroom elements.

Private Property LID Installations

RiverSmart Communities

RiverSmart Communities is a program aimed solely at installing LID retrofits on non-profit and religious institutional properties. The program provides full funding for design and construction costs to participants on the condition that the non-profit partner will perform outreach and education on watershed protection and relevant DOEE programs. It had a combined stormwater treatment area of 22,504 square feet. In FY 2023, RiverSmart Communities had a total of ten project areas:

- Project Area 1: Mt. Airy Baptist Church; contains one bioretention (CDA 6,266 square feet) and one rainwater harvesting cistern (CDA 5,105 square feet).
- Project Area 2: Stoddard Baptist Nursing Home; contains one bioretention (CDA 9,227)
- Project Area 3: Zion Baptist Church; contains one bioretention (CDA 3,044 square feet), one rainwater harvesting cistern (CDA 984 square feet) and one permeable paver system (CDA 1,649 square feet)
- Project Area 4: First Baptist Church; contains one bioretention (CDA 2,738 square feet) and one rainwater harvesting cistern (CDA 1,861 square feet)
- Project Area 5: Guildfield Baptist Church; project on hold, BMPs TBD
- Project Area 6: Georgetown Lutheran Church; will contain one permeable paver system (projected CDA 1,829 square feet).
- Project Area 7: Jones Memorial Methodist Church; will contain two bioretentions (projected combined CDA 16,250 square feet)
- Project Area 8: Washington Senior Wellness Center; will contain one bioretention (projected CDA 2,524 square feet)
- Project Area 9: Sixth Presbyterian; will contain one bioretention (projected CDA 7,161)
- Project Area 10: Christ Church Episcopal; will contain one bioretention (projected CDA 5,445)



Figure 8 – BMP dedication at Mount Airy Baptist Church

Project areas 1-4 applied for the RiverSmart Communities program and were completed in FY 2022 –FY 2023 and had a combined stormwater treatment area of 22,504 square feet. Project areas 5-7 applied for the RiverSmart Communities program and were selected in FY 2022. During this reporting period, the site selection, design charettes, and specific BMP selections for these project areas were completed. These projects have completed their permitting and will be constructed in 2024 and will have a combined stormwater treatment area of 17,928 square feet. Project areas 8 and 9 were selected in FY 2023 and completed site selection, design charettes, and specific BMP selections for these project areas. We project construction to start on these projects in the fall of 2024.



Figure 9 – Cisterns and rain garden at Mount Airy Baptist Church

RiverSmart Homes

Because residential property is among the largest single land uses in the city and because the relatively small lot sized make it the least likely to be regulatorily required to install stormwater management practices, the District has recognized the importance of targeting and engaging homeowners for pollution reduction measures. In 2008, DOEE developed RiverSmart Homes, a LID retrofit program aimed at single-family homes. The program started with eight

demonstration sites, on 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 2009.

Through RiverSmart Homes, DOEE audits residential properties and provides feedback to the homeowners on what LID technologies can be safely installed to help manage stormwater.

DOEE also offers homeowners subsidized installations of any LID practices recommended by the audit, which can include rain barrels, shade trees, rain gardens, native landscaping to replace grass or invasive species (BayScaping), and permeable pavement.

Accomplishments for the RiverSmart Homes program during FY 2023 include the following:

- 1,231 property audits;
- 325 rain barrel installations;
- 124 rain garden installations;
- 454 BayScape garden installations; and
- 37 Impervious surface removal projects, totaling 17,015 square feet.

DOEE piloted a RiverSmart Homes Ambassadors program in FY 2022 with the goal of increasing program participation through enhanced outreach and engagement in historically underserved and overburdened communities. In FY 2023, Ambassadors worked 78 hours to conduct outreach and engagement activities and reached more than 350 residents. The program will continue to build on this early success and increase watershed protection stewardship throughout the Anacostia and Oxon Run watersheds, targeting outreach near the District's large restoration projects.

Rain Barrel Installation and Rebate Program

The Rain Barrel Installation and Rebate Program is a component of RiverSmart Homes that allows District residents to have up to two rain barrels installed on their property for a small copayment, with DOEE subsidizing the rest of the cost. Alternatively, homeowners can purchase and install their own rain barrel and receive a rebate of \$2 for every gallon of capacity in the rain barrel or cistern. This rebate program has a maximum of \$1,000 in rebates per property.

In FY 2023, RiverSmart Homes installed 325 rain barrels on residential properties throughout the District and issued \$7,537 in rebates to District residents. These rain barrels have a retention volume of approximately 57,099 gallons of water for every 1.25 inch rainstorm/annually.

Due to issues related to destroyed inventory (from a fire) and subsequent contracting delays, the Rain Barrel Installation and Rebate Program had difficulty with rain barrel procurement when trying to source rain barrels in FY 2023. Due to low inventory and the inability to access barrels, a lower number of rain barrels were installed than expected.

Landscaping Installation and Rebate Program

The Landscaping Installation and Rebate Program is a component of RiverSmart Homes that allows District residents to have up to two conservation landscaping projects (e.g., rain gardens

and BayScapes) installed on their property for a small copayment, with DOEE subsidizing the rest of the cost. Rain gardens are areas landscaped with native plants that are connected to a downspout in order to collect and absorb stormwater from a rooftop. BayScaping is native plant gardening with the goal of replacing slopes areas (or areas causing high stormwater runoff) with plants native to the Chesapeake Bay. Alternatively, homeowners are welcome to install their own rain gardens and apply for a rebate of \$3 for every square foot of treatment area, with a maximum rebate of \$2,200 per property.

In FY 2023, RiverSmart Homes installed 124 rain gardens and 454 BayScape gardens, resulting in over 60,680 square feet of native plant landscapes installed in the District.

Permeable Surface Rebate Program

The RiverSmart Permeable Surface Rebate Program is a component of RiverSmart Homes that allows District residents to receive a rebate to replace impervious surfaces with vegetation or permeable pavers.

In FY 2020, the program modified its eligibility area to the Municipal Separate Storm Sewer System (MS4) service area. This eligibility modification brought the rebate program in line with the eligibility area of RiverSmart Rooftop rebates. Additionally, the program instituted a maximum, one-time rebate of \$4,000 per property.



Figure 10 – Residential permeable paver installation

Properties within the service areas were eligible for rebate of \$5 for every square foot of existing impervious surface that is converted into vegetation and for rebates of \$10 for every square foot of existing impervious surface that were converted into permeable pavers.

In FY2023, the Permeable Surface Rebate Program rebated 37 projects totaling 17,015 square feet of permeable area and issued \$119,045.00 in rebates to District residents. This level of participation was consistent with a slight downward trend in installations from 2021 through 2023.

The permeable surface rebate program plans to increase its rebate amounts in FY2024, with the goals of increasing accessibility to the program and adjusting for increased market costs. The FY2024 rebate amounts will be increased from \$10/sqft to \$15/sqft for permeable paver installations, and from \$5/sqft to \$8/sqft for revegetation. The total rebate maximum will also increase from the current maximum of \$4,000 per property to \$6,000 per property.

RiverSmart Rooftops

The RiverSmart Rooftops green roof rebate program has been in effect since FY 2012. In the fall of 2020, the program changed its eligibility criteria to include only properties within the MS4. This programmatic change was implemented with the goal to focus on installing projects where stormwater has a high impact on our streams. In 2023, the program offered a \$15 rebate for every square foot of green roof voluntarily installed within the MS4.

In FY 2023, DOEE had 35 customers complete applications for a green roof rebate. Of the initial 35 applications, nine projects were fully installed. 3,450 square feet of green roofs were installed through the RiverSmart Rooftops program.

This program sunsetted on September 30, 2023. This decision was made due to the sharp decline in rebate participation. The vast majority of green roof installations in the District are implemented to comply with regulatory requirements; therefore, there is a diminished need for incentives.

Tree Planting

The District has been called “The City of Trees,” in recognition of its significant tree canopy in a dense urban environment. The tree canopy in the District is currently at 37 percent. While this is considered high tree coverage for an urban area, it is lower than the District’s canopy cover has been in the past, even at times of higher population density. To improve air and water quality, reduce the urban heat island effect, and offset greenhouse gas emissions, the District adopted a 40 percent tree canopy goal. Mayor Bowser adopted a Sustainability Plan that calls for achieving the tree canopy goal by 2032. To achieve that goal, the District will need to plant an average of 10,800 trees annually.

In FY 2023, 12,444 trees were planted across the District by multiple stakeholders. DDOT’s Urban Forestry Division planted 6,815 trees.

DOEE funded the planting of 3,905 trees on private, federal, and other District lands, including the following:

- 1,694 trees on private property through the RiverSmart Homes, Communities, and Schools programs;
- 431 trees on private property through the RiverSmart Homes rebate program;
- 1,780 trees across District, federal, and private lands by the Large Parcel Tree Planting Program.

Each tree planted will harvest an average of 56 gallons of water per 1.25-inch rainstorm.

Table 3 - Goal Three: Install LID Practices on Public and Private Properties Throughout the District to Maximize Reductions in Stormwater Runoff

Objective by 2023	Milestone	2019	2020	2021	2022	2023	Total
To retrofit 30 District facilities with LID projects	Install 6 LID retrofit projects on District facilities per year	8 projects	5 projects	9 projects	5 projects	4 projects	31 projects
To retrofit 15 facilities with LID projects through our RiverSmart Communities Program	Install 3 LID retrofit projects on private facilities per year	5 projects	4 projects	4 projects	4 projects	1 project	18 Projects
To install 1,250,000 square feet or green roof	Install 250,000 square feet of green roof per year	675,809 square feet	909 square feet	8,415 square feet	5,019 square feet	3,450 square feet	693,602 square feet
To audit 5,000 residential homes through the RiverSmart Homes program	Audit 1,000 residential homes per year	1,226 audits	891 audits	1,413 audits	1079 audits	1231 audits	5,840 audits
To plant 50,000 trees	Plant 10,000 trees in the District per year	15,692 trees	12,974 trees	13,470 trees	9,433 trees	12,444 trees	64,013 trees
To install 3,000 rain barrels	Install 600 rain barrels per year	226 rain barrels	447 rain barrels	308 rain barrels	383 rain barrels	325 rain barrels	1,689 rain barrels
To install 500 rain gardens	Install 100 rain gardens per year	82 rain gardens	85 rain gardens	96 rain gardens	84 rain gardens	124 rain gardens	471 rain gardens

Goal Four: Coordinate NPS Management Program Efforts with Other District, Federal, and Private Sector Programs and Adjoining Jurisdictions

Partnerships and Coordination

The District comprises only a small portion of the watersheds that it resides in – 17 percent of the Anacostia River watershed, 0.5 percent of the Potomac River watershed, and 0.1 percent of the Chesapeake Bay watershed. Furthermore, DOEE is not a landowning or landholding agency.

Because of this, strategic regional partnerships and collaboration with both governmental and private entities have become vital to the successful implementation of the agency’s watershed protection and restoration work.

Local and Regional Partners

Almost 30 percent of the District is federal land, so coordinating with federal agencies is a critical component of efforts to reduce urban runoff. Starting in FY 2018, DOEE began convening with major federal landholding agencies within the District to develop nitrogen and phosphorus reduction strategies as part of the process for developing the District’s Phase III WIP for the Chesapeake Bay. These federal agencies are:

- United States Department of Agriculture
- United States Department of Defense
- General Services Administration
- National Park Service
- Smithsonian Institute

Additionally, DOEE continued coordination with local and regional partners throughout FY 2023 by participating in:

- 35 meetings with Park Service to discuss stream restoration efforts;
- 1 meeting with Park Service and USDOD to discuss annual BMP submissions;
- 6 meetings with DC Water to coordinate restoration efforts;
- Three Urban Forestry Advisory Committee meetings;
- Three Natural Resource Damage Assessment meetings;
- 14 Kingman Island and Kingman Lake Coordination meetings;
- One Watershed Partners Meeting;
- Four Anacostia Watershed Steering Committee meetings;
- Four Quarterly Environmental Stakeholder meetings;
- 24 Green Infrastructure Maintenance Coordination meetings; and
- 8 Anacostia Waterfront Working Group meetings.

Chesapeake Bay Program

The Chesapeake Bay Program (CBP) is a unique regional partnership that has led and directed the restoration of the Chesapeake Bay. The District has been a partner in this program since its inception in 1983. By working with other legislative bodies and participating advisory groups, the partners have committed to work together through a series of Chesapeake Agreements. The 2014 Chesapeake Watershed Agreement includes 10 goals to advance a vision of clean water, abundant life, conserved lands, public access to water, a vibrant cultural heritage, and a diversity of engaged citizens and stakeholders. DOEE is the agency responsible for carrying out the District's program activities related to the Chesapeake Bay.

In FY 2023 DOEE participated in:

- The annual executive council meeting;
- 12 CBP management board meetings; and
- 63 meetings on over 15 Region 3 CBP implementation teams, working groups, advisory committees or similar.

Partnership and Planning Meetings

In June 2006, the Metropolitan Washington Council of Governments (MWCOG) adopted a resolution that established the Anacostia Watershed Restoration Partnership (AWRP). The AWRP is comprised of a steering committee, management committee, and the citizen's advisory committee that provide a cooperative framework to support the restoration of the Anacostia River and its tributaries. In FY 2023, DOEE participated in ten MWCOG coordination meetings among the cooperative committees.

Community Stormwater Solutions Grants

DOEE's Community Stormwater Solutions Grant Program provides start-up funding for community-oriented projects that raise awareness about urban watershed issues, particularly those associated with stormwater runoff. To qualify for the Community Stormwater Solutions Grant Program funding, projects must contain one or more of the following criteria:

- Installation of GSI;
- Maintenance of existing GSI;
- Provide pathways to green jobs that are focused on stormwater solutions;
- Restore natural habitat;
- Clean up areas affected by high volumes of litter and address littering sources;
- Reduce sources of pollution to District waterbodies;
- Engage communities, raise awareness, and bring about behavioral changes on issues impacting water quality;
- Support the existing DOEE restoration and engagement efforts at Kingman and Heritage Islands; and

- Supports the education priorities at Anacostia High School.

In FY 2023, DOEE awarded 9 Community Stormwater Solutions grants totaling \$320,736. The project descriptions for funded proposals are available at <https://doee.dc.gov/service/community-stormwater-solutions-grants>. Environmental Justice, placemaking, and youth engagement were cross-cutting project areas in FY 2023.

One example project is [Ward 8 Water Watchers \(W8WW\)](#) which was funded for a second year in 2023. This project will offer an expanded series of family-oriented watershed events, further engaging and empowering the community, as well as strengthening the W8WW Ambassadors program and preparing residents to actively participate in planning for the restoration of Oxon Run and Oxon Run Park. The events include nature walks, water quality monitoring, a boat ride, litter pick-up, harvesting produce, and a final celebration.



Figure 11 – Watershed education event provided by Ward 8 Water Watchers

Table 4 - Goal Four: Coordinate NPS Management Program Efforts with Other District, Federal, and Private Sector Programs and Adjoining Jurisdictions

Objective by 2023	Milestone	2019	2020	2021	2022	2023	Total
To meet with DC Water, Park Service, or other local and regional partners at least 30 times on NPS management issues	At least 6 coordination meetings on NPS management issues per year	6 meetings	6 meetings	98 meetings	24 meetings	42 meetings	176 meetings
To participate in 5 CBP Executive Council meetings	Participate in 1 CBP Executive Council meeting per year	1 meeting	1 meeting	0 meetings	1 meeting	1 meeting	4 meetings
To participate in 60 CBP Management Board meetings	Participate in 12 CBP Management Board meetings per year	11 meetings	12 meetings	12 meetings	14 meetings	27 meetings	76 meetings
To participate in at least 40 Region 3 and CBP Goal Implementation Team, Working Group, and Advisory Committee or similar meetings	Participate in at least 8 region 3 CBP Goal Implementation Team, Working Group, and Advisory Committee or similar meetings per year	8 meetings	28 meetings	43 meetings	44 meetings	63 meetings	186 meetings
To participate in at least 30 MWCOG meetings (including Anacostia Watershed Restoration Partnership, Chesapeake Bay Policy Committee, and Water Resources Technical Committee meetings)	Participate in at least 6 MWCOG meetings per year	13 meetings	11 meetings	13 meetings	12 meetings	10 meetings	59 meetings
To issue 50 grants to entities to further NPS work in the District	Issue at least 10 grants per year to entities to further NPS work in the District	11 grants	16 grants	16 grants	16 grants	9 grants	68 grants

Goal Five: Support Programs that Aim to Prevent NPS Pollution from Individual Actions by Carrying Out Effective Information and Education Campaigns

Education and Outreach

The District has a population of over 650,000 people, as well as millions of visitors each year. Without properly educated and engaged residents and visitors, the District would not be able to achieve its pollution reduction goals. Effective education and engagement on NPS issues within the District is important to modify public behavior, encourage the adoption of environmentally sensitive practices, and advocate for stronger laws and regulations that help reduce NPS pollution. Because education plays such a critical role in the District's efforts to reduce NPS pollution issues, DOEE sponsors and conducts environmental education and outreach activities that are targeted at teachers, environmental educators, and students throughout the District.

RiverSmart Schools

In addition to schoolyard LID projects, RiverSmart Schools provides training workshops in environmental education to teachers and informal educators with environmental curricula that support the District's teaching and learning standards, as well as training teachers on how to properly maintain LID sites. In FY 2023, RiverSmart Schools provided 22 teachers with training workshops on RiverSmart School site usage and programming. These trainings were conducted virtually and in-person. One session was conducted on the Anacostia River to learn about restoration efforts.

The Anacostia Environmental Youth Summit

The Anacostia Environmental Youth Summit (AEYS) is a District-wide showcase that spotlights youth voices, demonstrates environmental literacy, and encourages stewardship for the Anacostia and Potomac Rivers and the Chesapeake Bay. The Youth Summit emphasizes youth leadership and innovation by exemplifying an ethic of stewardship and responsible action. In FY 2023, the event hosted ten (10) schools, 375 students and 30 teachers, 25 exhibitors, 13 parents, and 12 staff from the Office of the Deputy Mayor for Education. The day-long event was a success, with teachers giving positive feedback on the experience of youth gathering and presenting knowledge with the various environmental exhibitors (photo next page).



Figure 12 – Youth provide input on educational GSI signage at AEYS



Figure 13 – Experiential watershed education at AEYS

Meaningful Watershed Educational Experiences

Historically, DOEE has worked with nonprofit partners to create meaningful watershed educational experiences (MWEEs) for District students and youth. These experiences are usually multi-day programs that teach students about their local watershed and the Chesapeake Bay through classroom lessons, field experiences, action projects, and reflection activities.

DOEE's Nature Near Schools program continued working with its grantees to offer District students the opportunity to learn about their local watersheds and the Chesapeake Bay while immersed in their local, school-based environment. During the reporting period, the grantees provided MWEE programming at schoolyards and local field trips to approximately 1,600 youth, 31 schools, and 67 teachers. The program reached 26% of DCPS and DCPCS fifth-grade schools. The students experienced multiple touches on topics including watershed health, air quality, and food webs. As part of the Meaningful Watershed Educational Experience, the students worked on taking individual action by creating their own action projects.



Figure 14 – Students explore nature during Nature Near Schools

Here are a few Action Projects created by students through the Nature Near Schools program:

- Students identified the single use plastic straw issue in their school's cafeteria. Students spoke with administration and got the plastic straws removed from the cafeteria.
- In completing a school community inventory, students noticed there was litter and dog

debris on the ground. Students created a PSA poster campaign to alert people to pick up their trash.

- Students wanted to advocate for more outdoor learning and recreation time, so they completed a letter-writing activity to send letters of inquiry to Mayor Bowser and DC State Board of Education representative Eboni Rose Thompson.
- Overall, students felt more comfortable in nature and learning outdoors over the course of the program.

Anacostia River Explorers

Anacostia River Explorers are boat tours that educate the public about the Anacostia River through 1- and 2-hour motorized boat and canoe tours. Participants learn about the Anacostia River’s human and natural history, the threats it faces, and what solutions are being undertaken to help the river realize its full potential as an invaluable asset for the District and its residents.

The two grantees undertaking this work for the District in FY 2023 held 186 in-person boat tours on the Anacostia River and engaged a total of 3,493 residents.



Figure 15 – Anacostia River Explorers learn about watershed issues on the river

Adopt-Your-District

Adopt-Your-District is a program implemented in FY 2018 that allows volunteers to adopt parks, blocks, or segments of streams throughout the District. This program is a collaboration effort between DOEE, DPR, Park Service, and the Office of the Clean City. Specifically, DOEE oversees the Adopt-A-Stream portion of the program. In FY 2022, DOEE assisted in identifying parks of interest and establishing correct government contacts for 23 District residents and organizations that were interested in adopting a park through the Adopt-A-Park program.

Under the Trash Free Communities grant, DOEE extends funds to a grantee to manage the Adopt-A-Stream program. The Trash Free Communities grant was paused for FY23 to allow DOEE to evaluate the program. The new Trash Free Communities grant will focus on litter behavior change and will be awarded in the spring of FY24.

Storm Drain Marking Program

In FY 2023, DOEE's [Storm Drain Marking Program](#) installed a total of 377 storm drain markers throughout the District. DOEE has maintained its [publicly available geolocated database of marked storm drains](#).

Watershed Stewards Academy

The Watershed Stewards Academy (WSA) is an eight-week course taught by DOEE and AWS staff for District residents who want to address pollution problems in their local watersheds. The program is funded by a DOEE grant to AWS 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 have completed the course, these residents are considered Master Watershed Stewards. These alumni then serve as resource people and community leaders in the effort to clean up local waterways and coordinate efforts to infiltrate and reduce stormwater runoff. In FY 2023, WSA trained 26 District residents to become Master Watershed Stewards. Classes continue to use a hybrid class model by having a portion of the training online and a portion of the training in-person. The program is offered twice a year in the spring and fall.

Job Training Programs

Green Zone Environmental Program (GZEP)

Every summer, Green Zone Environmental Program (GZEP) partners with the Marion Barry Summer Youth Employment Program provide youth and young adults, ages 14-24, with an opportunity to learn about energy and environmental issues, complete community-based environmental projects, and prepare for careers.

In the summer of 2023, DOEE administered GZEP through a combination of virtual education, classroom instruction, and in-field training sessions. WPD collaborated with internal and external partners to host 175 youth and young adults. Participants learned about water quality monitoring, native and invasive species in District waterways, tree identification techniques, how DOEE conducts inspection and enforcement, community watershed mapping, and environmental careers in the district. Additionally, they received professional development training and career mentorship opportunities.



Figure 16 – GZEP participants explore the Anacostia and test water samples for pollutants

River Corps

River Corps is a 5-month long green infrastructure and job training program that DOEE initiated in 2017 and is administered by the Latin American Youth Center. In this program, young people learn how to maintain LID sites, inspect RiverSmart Homes installations, perform trash cleanups, remove invasive plant species, and photo monitor upcoming existing stream restoration projects.

In 2023, the Latin American Youth Center implemented DOEE's River Corps program. During the reporting period, fifteen (15) District youth completed the training. River Corps members removed over 500 pounds of trash from District waterways, controlled invasive plant species in sections of 5 District parks, inspected and maintained 40 green infrastructure practices per

quarter and completed two native plantings. Corps members also completed certification trainings for OSHA-10, CPR, and Flagger Safety and completed the Chesapeake Bay Landscape Professionals Crews course to learn how to inspect and maintain green infrastructure BMPs.

From these cohorts, 4 members received full-time employment immediately after completing their training and the rest are connected with caseworkers and have created Individual Development Plans to target future employment or education.

Table 5 - Goal Five: Support Programs that Aim to Prevent NPS Pollution from Individual Actions by Carrying Out Effective Information and Education Campaigns

Objective by 2023	Milestone	2019	2020	2021	2022	2023	Total
To provide 12,500 school students with an overnight MWEE	Provide 2,500 schools students with an overnight MWEE per year	2,520 students	925 students	1,393 students	1,000 students	1600 students	8,438 students
To train 100 teachers through training that integrates hands-on watershed education system-wide standards of learning	Train 20 teachers per year	17 teachers	32 teachers	40 teachers	15 teachers	22 teachers	104 teachers
To implement the Anacostia River Explorers program to provide free boat tours to at least 5,000 residents on the importance of restoring the Anacostia River	Provide free boat tours on the importance of restoring the Anacostia River to at least 1,000 District residents per year	4,873 residents	1,399 residents	3,803 residents	3,005 residents	3,493 residents	16,573 residents
To engage and train at least 75 volunteers in the Adopt-A-Stream Program	Engage and train at least 15 volunteers per year in the Adopt-A-Stream Program	17 volunteers	45 volunteers	26 volunteers	15 volunteers	0 volunteers	103 volunteers
To install 2,000 storm drain markers in the District	Install 400 storm drain markers in the District per year	135 markers	101 markers	286 markers	260 markers	377 markers	782 markers
To train a minimum of 75 District residents on issues addressing watershed restoration and water quality through the Watershed Stewards Academy	Train 15 District residents per year in issues addressing watershed restoration and water quality	31 residents	78 residents	56 residents	44 residents	26 residents	235 residents
To educate 750 youth enrolled in job training programs on the importance of watershed protection	Educate 150 youth per year	270 youth	64 youth	96 youth	84 youth	175 youth	689 youth

Goal Six: 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

Pollution Prevention Team

DOEE developed a Pollution Prevention (P2) program to work with sister agencies to ensure that municipal facilities that have become critical sources of pollution are in compliance with federal and local stormwater regulations. In 2018, the program expanded from one to three personnel to be able to include other pollution prevention initiatives throughout the District. Today, the P2 program provides compliance assistance and education for entities and activities that pose the National Pollutant Discharge Elimination System critical source list, snow and ice removal, and common household activities that affect NPS pollution.

Stormwater Pollution Prevention Plans

To make all of the District government compliant with reducing NPS, DOEE's stormwater P2 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:

- Assure facility compliance with the District's MS4 permit;
- Identify potential sources of pollution associated with the activities at a facility that may affect the quality of stormwater discharges; and
- Provide detailed commitments for daily practices and good housekeeping at each facility to ensure that pollution prevention goals are reached.

In FY 2023, the P2 team reviewed and provided feedback on 205 SWPPPs, Annual SWPPP reviews, and SWPPP updates for varying District facilities.

Snow and Ice Removal

DOEE works with the District snow team to address vehicle washing, snow disposal operations, and salt storage throughout the city. These efforts include developing the District's first snow plan in FY 2017, which included site maps for proper snow disposal sites throughout the city and salt dome and vehicle wash facility walkthroughs.

DOEE plays a role in snow and ice removal operations and emergency response management during winter weather events by developing and leading snow trainings for District employees,

contractors, and downtown Business Improvement Districts. These presentations 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.

In FY 2023, the P2 team held 7 trainings on proper snow and ice removal techniques. This resulted in 156 employees being proficient on good housekeeping, spill response, and techniques to reduce salt use.

Pollution Prevention Workshops

DOEE's P2 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.

In FY 2023, DOEE trained a total of 260 automotive repair employees of District businesses on proper pollution prevention strategies by conducting the following workshops:

- 5 Compliance with Stormwater Regulations workshops;
- 2 Good Housekeeping and Best Management Practices workshops; and
- 49 Site Walkthrough and Mock Inspection workshops.

Table 6 - Goal Six: 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

Objective by 2023	Milestone	2019	2020	2021	2022	2023	Total
To provide feedback on 100 SWPPPs for District facilities to ensure they are accurate and complete	Provide feedback on 20 SWPPPs for District facilities per year	28 SWPPPs	17 SWPPPs	29 SWPPPs	34 SWPPPs	205 SWPPPs	313 SWPPPs
To provide trainings for 1,000 municipal snow and ice removal staff on good housekeeping, spill response, and techniques that reduce salt use	Provide annual trainings to 200 municipal snow and ice removal staff per year	860 staff	11 staff	381 staff	331 staff	156 staff	1,739 staff
To conduct 10 workshops for the automotive repair industry and commercial buildings, to provide compliance assistance and stormwater pollution prevention strategies	Conduct 2 workshops per year; 1 for the automotive repair industry and 1 for commercial buildings, to provide compliance assistance and stormwater pollution prevention strategies	3 workshops	2 workshops	60 workshops	0 workshops	56 workshops	153 workshops

Summary

The District's NPS Management Program meets the challenges of the highly urbanized setting within the District by seeking and employing innovative solutions for reducing NPS pollution. With the help of creative partnerships and new technologies, the District will continue to make significant progress towards achieving its goals.

The District also 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 DEIJ 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 express goal is to

elevate and address the environmental concerns of EJ communities through community-led initiatives. Some examples from this report 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 targeted programs.

At the same time, WPD continues to adjust implementation of its District-wide programs toward enhancement of EJ goals. 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. 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 building 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. Stream Restoration allocates one staff member of a two-person staff solely to implementing projects in EJ areas. 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.

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. Looking ahead, the District's next NPS Management Plan will incorporate environmental justice and climate change goals, strategies, and considerations.

The planned re-organization of WPD and addition of the GSI Maintenance Branch and RiverSmart Programs and Incentive Branch is one example of DOEE's efforts to adapt and expand services for greater climate change resilience. Recognizing that climate change will put additional stress on our existing stormwater infrastructure, DOEE will take a phased approach for assuming responsibility for the District's GSI, deploying the technical knowledge required to assess and maintain it. As part of this work DOEE will train local DC residents, including those from historically disadvantaged communities and backgrounds, to learn and understand the requirements to maintain GSI in urban areas like the District. These efforts are already underway as WPD prepares for the re-organization and addition of the two new branches.

In FY 2023, the District worked to strengthen its existing programs, develop new programs, and employ innovative strategies for mitigating NPS pollution. Building on successful foundations while adapting to current conditions, the District accomplished the majority of its goals in regulation and enforcement, LID installation, education and outreach, and pollution prevention. At the same time, new EJ-focused implementation strategies were applied across multiple programs yielding promising preliminary results. As the District prepares its NPS Management Plan for the next five years, advancements toward equity and climate change resilience are at the forefront. With these guiding values, the NPS Management program will continue to provide technical assistance and resources that will improve the quality of the District's waterways.