

**DISTRICT OF COLUMBIA
WATER QUALITY ASSESSMENT
DRAFT 2026 INTEGRATED REPORT**

TO THE US ENVIRONMENTAL PROTECTION AGENCY AND CONGRESS
PURSUANT TO
SECTIONS 305(b) AND 303(d) CLEAN WATER ACT (P.L. 97-117)



Preface

The District of Columbia (District) Department of Energy and Environment (DOEE) prepared this report to satisfy the listing requirements of §303(d) and the reporting requirements of §305(b) of the federal Clean Water Act (CWA) (P.L. 97-117). This report provides water quality information for the District's surface waters and groundwaters that were assessed during 2024 and 2025 and updates the water quality information required by law.

The United States Environmental Protection Agency's (EPA) new Assessment, Total Maximum Daily Load (TMDL) Tracking and Implementation System (ATTAINS) database holds the official submittal of the CWA §303(d) list and §305(b) assessed waters information and contains more detailed information on the District's waterbody segments. The ATTAINS database can be viewed on the EPA website at <https://mywaterway.epa.gov/>.

The following DOEE divisions contributed to this report: Fisheries and Wildlife, Inspection and Enforcement, Regulatory Review, Watershed Protection, and Water Quality.

Contents

Preface.....	iii
List of Figures	vi
List of Tables.....	vii
Acronyms/Abbreviations	viii
Chapter 1 Executive Summary.....	1
1.1 Introduction.....	1
1.2 District of Columbia Water Quality	1
1.3 Causes and Sources of Water Quality Impairment	1
1.4 Conclusions.....	3
Chapter 2 Background	4
2.1 Atlas, Total Waters, and Maps	4
2.2 Water Pollution Control Programs	7
2.3 Point Source Program.....	8
2.4 Compliance Inspections	9
2.5 Watershed Protection Division Enforcement Programs	10
2.6 Municipal Separate Storm Sewer System (MS4) Permit.....	11
2.7 Wetlands Protection	11
2.8 Nonpoint Source Control Program	11
2.9 Best Management Practices (BMP) Implementation.....	12
2.10 Stream and Wetland Restoration Updates	13
2.11 Stormwater Pollution and Runoff Reduction	14
2.12 Environmental Education and Outreach	18
2.13 Job Training Programs	18
2.14 Cost/Benefit Assessment.....	19
2.15 Benefits	21
Chapter 3 Surface Water Assessment.....	23
3.1 Background	23
3.2 Use Support Determination	24
3.3 Waterbody Segments Water Quality Assessment	27
3.4 Relative Assessment of Causes/Stressors	29
3.5 Relative Assessment of Sources	30
3.6 Special Topics	31
Chapter 4 Public Health-Related Assessments	35
Chapter 5 Groundwater Assessment	36

5.1	Groundwater Summary	36
5.2	Groundwater Evaluation.....	37
Definitions.....		38
Appendix 2.1	Major District of Columbia Watersheds	40
Appendix 3.1	2026 Use Support and Cause by Pollutant	41
Appendix 3.2	Surface Water Assessment and Listing Methodology	51
Appendix 3.3	2020-2025 Statistical Summary Reports.....	98
	Total Statistical Summary Report.....	98
	<i>E. coli</i> Geometric Mean (a minimum of 5 samples in 30 days (calendar month))	99
	<i>E. coli</i> Statistical Summary Report (MPN/100mL).....	100
	Dissolved Oxygen Statistical Summary Report (mg/L)	102
	pH Statistical Summary Report	104
	Temperature Statistical Summary Report (°C).....	105
	Turbidity Statistical Summary Report (NTU)	106
Appendix 3.4	District of Columbia 303(d) List.....	108
Bibliography		125

List of Figures

Figure 2.1 Total monthly, yearly, and normal rainfall total (inches), 2023 to 2025 (Source: NWS, Reagan Washington National Airport)	5
Figure 2.2 Monthly and yearly average flow of the Anacostia River, 2023-2025 (Source: USGS)	6
Figure 2.3 Monthly and yearly average flow on the Potomac River, 2023-2025 (Source: USGS)	7

List of Tables

Table 2.1 Atlas	4
Table 2.2 FY 2024 Enterprise Fund Expenditures and FY 2025 Enterprise Fund	21
Table 3.1 District of Columbia Waterbodies/Waterbody Segments	23
Table 3.2 Summary of Fully Supporting and Impaired Waterbody Segments.....	27
Table 3.3 Individual Use Support Summary of Waterbody Segments	28
Table 3.4 Total Number of Waterbody Segments Impaired by Various Causes	29
Table 3.5 Total Number of Waterbody Segments Impaired by Various Sources.....	31

Acronyms/Abbreviations

AREC	Aquatic Education Resource Center
ARK	Anacostia Riverkeeper
ARRA	American Recovery and Reinvestment Act
ATTAINS	Assessment and Total Maximum Daily Load Tracking and Implementation System
BMP	best management practice
BPAWWTP	Blue Plains Advanced Wastewater Treatment Plant
CEI	compliance evaluation inspections
CFC	chlorofluorocarbon
CGP	Construction General Permit
CMB	Construction and Maintenance Branch
C&O	Chesapeake and Ohio
CRIAC	Clean Rivers Impervious Area Charge
CSI	compliance sampling inspection
CSO	combined sewer overflow
CWA	Clean Water Act
CWC	Clean Water Construction
DCOP	District of Columbia Office of Planning
DCMR	District of Columbia Municipal Regulations
DC Water	District of Columbia Water and Sewer Authority
DDOT	District Department of Transportation
DGS	District of Columbia Department of General Services
District	District of Columbia (DC)
DO	dissolved oxygen
DOEE	District of Columbia Department of Energy and Environment
DPW	District of Columbia Department of Public Works
EA	Environmental Assessment
EPA	United States Environmental Protection Agency
ERU	equivalent residential unit
FMB	Fisheries Management Branch
FWD	Department of Energy and Environment Fisheries and Wildlife Division
FY	fiscal year
GFCI	Ground Fault Circuit Interrupter
GI	green infrastructure
GIS	geographic information system
g/rep	grams per repetition
GSI	Green Stormwater Infrastructure
GZEP	Green Zone Environmental Program
HAP	hazardous air pollutant
HVAC	Heating, Ventilation, and Air Conditioning
IDDEP	Illicit Discharge Detection and Elimination System Program
IED	Department of Energy and Environment Inspection and Enforcement Division
ILF	in-lieu fee

IP	implementation plan
IPMT	implementation plan modeling tool
IR	Integrated Report
K	kindergarten
LID	low impact development
LTCP	Long Term Control Plan
MD	Maryland
ml	milliliters
MPN	most probable number
MS4	Municipal Separate Storm Sewer System
MSGP	Multi-Sector General Permit
MWCOG	Metropolitan Washington Council of Governments
NATTS	National Air Toxics Trends Station
NE	northeast
NOI	Notice of Infraction
NPDES	National Pollutant Discharge Elimination System
NPS	National Parks Service
NTU	Nephelometric turbidity unit
NW	northwest
NWS	National Weather Service
PAH	polycyclic aromatic hydrocarbon
PFAS	per- and polyfluoroalkyl substances
RRD	Department of Energy and Environment Regulatory Review Division
RWQC	Recreational Water Quality Criteria
SAV	submerged aquatic vegetation
SE	southeast
SF ₆	sulfur hexafluoride
SGS	Surface Groundwater System
SRC	Stormwater Retention Credit
SW	Southwest
SWPPP	Stormwater Pollution Prevention Plans
TMDL	total maximum daily load
TSD	Department of Energy and Environment Toxic Substances Division
UDC	University of the District of Columbia
US	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VA	Virginia
WLA	Wasteload allocations
WPD	Department of Energy and Environment Watershed Protection Division
WPP	Wetlands Protection Plan
WQD	Department of Energy and Environment Water Quality Division
WQS	water quality standards
WRRRC	Water Resources Research Center
WSP	Wetland and Stream Permit

Chapter 1 Executive Summary

1.1 Introduction

The District of Columbia Water Quality Assessment 2026 Integrated Report provides information about the state of District of Columbia (District) waters and efforts by the Department of Energy and Environment (DOEE) to protect and improve water quality. The Integrated Report (IR) combines the comprehensive biennial reporting requirements of federal Clean Water Act (CWA) Section 305(b) on the status of all waters in the District, including progress made towards meeting the CWA's goals since the last 305(b) Report, and updates Section 303(d) listings of waters of the District that are impaired or likely to become impaired and which do not meet the water quality standards (WQS) for specific uses for total maximum daily loads (TMDLs) that may be required.

This report has been drafted for submission to the United States Environmental Protection Agency (EPA). It includes details from the EPA Assessment and TMDL Tracking and Implementation System (ATTAINS) database and addresses comments received during the public comment period of the draft report.

1.2 District of Columbia Water Quality

To meet the District's CWA goals, DOEE monitored thirty-six (36) waterbody segments during the period of July 1, 2020, through June 30, 2025, evaluated the data, and assessed each waterbody's designated uses based on the numeric and narrative criteria outlined in the District's WQS. The evaluation found that none of the District's monitored waters are supporting all their designated uses. The uses that impact humans and aquatic life are generally not supported.

A waterbody that does not support its designated uses is considered impaired. The results of the evaluation indicate that while the District's waterbodies show signs that water quality is improving, they continue to be impaired.

This report focuses on surface water assessment, but the District also evaluates groundwater through compliance monitoring and ongoing studies. The appendices of this report contain details regarding the conditions of both surface water and groundwater.

1.3 Causes and Sources of Water Quality Impairment

Typical causes of impairment to the District's waterbodies are elevated concentrations of bacteria, PCBs, dieldrin, arsenic, and high turbidity.

Bacteria (*E. coli*)

In 2008, the water quality criterion used to evaluate bacteria was updated from fecal coliform to *E. coli*. DOEE surveyed *E. coli* for the 2026 reporting period and found the Potomac River had fewer percent exceedances than the Anacostia River. The Lower and Middle Potomac River, Tidal Basin, and Washington Ship Channel are the only waterbody segments that support the primary contact recreation use. Chronic *E. coli* percent exceedances continue to be a problem for the majority of the District's waterbodies. Fluctuations in these constituents are due to various factors, such as

weather and subwatershed activities and conditions, including failing sewer pipes and illicit discharges.

Turbidity

The upstream segments of the Anacostia and Potomac Rivers were observed to have a higher number of turbidity exceedances than their downstream segments during the 2026 reporting period. Kingman Lake, an Anacostia River watershed waterbody, consistently had the highest number of exceedances, with 39.6 percent (39.6%) of measurements taken during the 2026 review period not meeting the turbidity standard, a slight increase from 2024. Rock Creek tributaries are not as impacted by turbidity as the Anacostia River tributaries. The average percent exceedance for all tributaries to Rock Creek was 1.3 percent (1.3%), while the average percent exceedance for all tributaries to the Anacostia River was 21.74 percent (21.74%). The average percent exceedance for the entire mainstems of Rock Creek, the Potomac River, and the Anacostia River were 11.6 percent (11.6%), 10.37 percent (10.37%), and 14.7 percent (14.7%), respectively.

The sources that have major impacts on District waters are urban stormwater runoff, municipal separate storm sewer system (MS4) discharges, and residential districts.

Programs to Address Impairment

Several DOEE divisions conduct activities to correct water quality impairments:

- Toxic Substances Division (TSD)
- Watershed Protection Division (WPD)
- Water Quality Division (WQD)
- Inspection and Enforcement Division (IED)
- Regulatory Review Division (RRD)

The WQD and IED water pollution control programs implement WQS, monitor and inspect permitted facilities in the District, and comprehensively monitor the District's waters to identify and reduce impairments. The water pollution control program seeks solutions and implements activities to provide maximum water quality benefits.

Given the District's urban landscape, both point source and nonpoint source pollution have a large impact on its waters. RRD manages the sediment and stormwater control programs that regulate land disturbing activities, stormwater management, and floodplain management by providing technical assistance and inspections throughout the District. WPD conducts stream restoration activities to improve habitat and implements a RiverSmart program that provides financial incentives to help property owners install green stormwater infrastructure (GSI) features to reduce polluted runoff. Further, the District provides education and outreach to residents and developers on pollution prevention to ensure their actions do not further impair the District's water quality.

Several activities are coordinated for the groundwater protection program in the TSD, including underground storage tank installation and remediation, and groundwater quality standards implementation.

DOEE also coordinates with the District of Columbia Water and Sewer Authority (DC Water), on the combined sewer overflow (CSO) Long Term Control Plan (Clean Rivers Project). The plan involves the construction of large underground tunnels that will serve as collection and retention systems for combined sewage during high flow conditions. A Consent Decree (CD) entered on March 23, 2005, in Consolidated Civil Action No. 1:00CV00183TFH by the United States District Court for the District of Columbia required implementation of the Clean Rivers Project. On January 14, 2016, the Court entered the First Amendment to the CD (Amended CD) in Consolidated Civil Action No. 1:00CV00183TFH, which extended the date for completion of the project to 2030.

1.4 Conclusions

Activities to restore water quality are an integral part of meeting CWA goals for fishable, swimmable waterbodies. Fort Dupont, Oxon Run, Park Drive Gully (portions of Texas Avenue Tributary and Fort Davis Tributary), Stickfoot Branch (an open channel up to the bend of the Suitland Parkway right across the Douglas Community Center, from where it is piped all the way and daylighted into Anacostia River, just upstream of ANA19 ambient monitoring station), and Pinehurst Branch all have stream restoration projects underway. In FY 2025, DOEE completed the environmental assessment for work that will restore approximately 18,600 feet of perennial streambed in Oxon Run and Fort Dupont. Additionally, DOEE has put the Stickfoot Branch stream restoration project out for bids.

DOEE's wetland restoration program strives to restore and protect the District's existing wetlands, toward the eventual net gain of wetland acreage and function. Referred to as nature's kidneys, wetlands help filter river water by absorbing and processing pollutants. They also provide valuable habitat for riverine birds, fish, and mammals; help reduce flooding; and act as areas for carbon sequestration. The Anacostia River has lost over two thousand and five hundred (2,500) acres of wetlands to urban development and infill over the past two hundred (200) years. However, efforts are ongoing to enhance existing wetlands and create over one hundred (100) new acres of wetlands by 2032.

Measurements for pH did not exceed the ten percent (10%) threshold for any waterbody segment. For this reason, pH does not appear to be a concern in the Anacostia or the Potomac Rivers. The 2026 report has no tributaries with exceedances above the ten percent (10%) threshold.

Exceedances of the dissolved oxygen (DO) WQS in the Anacostia River increased slightly for the 2026 reporting period compared with the 2024 reporting period. All measurements in the Potomac River met minimum levels of DO set by WQS. For the 2026 reporting period, all monitored tributaries in the District met the DO WQS.

DOEE and its partners continue to invest a variety of resources to improve District and regional water quality.

Chapter 2 Background

The Government of the District of Columbia’s environmental protection responsibilities are carried out by various divisions within DOEE. The following sections provide details on the District waters and initiatives to address point and nonpoint sources of pollution.

2.1 Atlas, Total Waters, and Maps

Table 2.1 provides a general view of the District’s resources. Figure 2.1 provides a graph of the District’s monthly, yearly, and normal total rainfall. The National Weather Service rain gauge site at Ronald Reagan Washington National Airport is the official source for the District’s rainfall totals, which were below normal for 2023 and 2025. Figures 2.2 and 2.3 present monthly and yearly average flow data for the Anacostia and Potomac Rivers from 2023 to 2025 (Source: United States Geological Survey). Appendix 2.1 provides a map outlining the major watersheds within the District.

Table 2.1 Atlas

State population: 689,545 (2020 Census) / 702,250 (July 2024 Census Estimate)

State surface area: 69 square miles

Number of water basins: 1

Total number of river miles: 39

- Number of perennial river miles: 39
- Number of intermittent stream miles: none
- Number of ditches and canals: none
- Number of border miles: none

Number of lakes, reservoirs, and ponds: 8

Acres of lakes, reservoirs, and ponds: 238

Square miles of estuaries: 6.1

Acres of wetlands: 303

Name of border waterbody: Potomac River estuary

Number of border estuary miles: 12.5

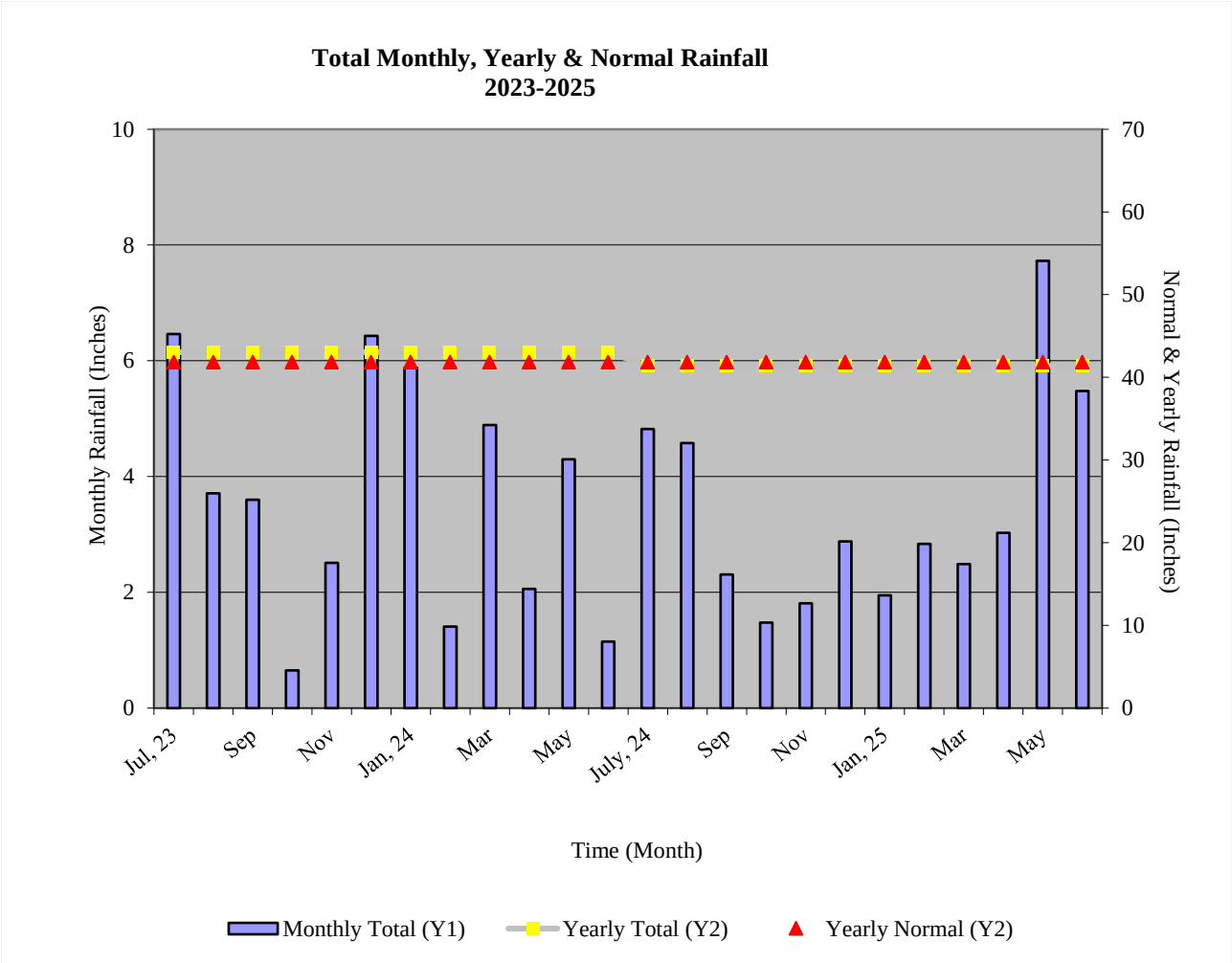


Figure 2.1: Total Monthly, Yearly and Normal Rainfall 2023-2025 (Source: NWS, Reagan Washington National Airport)

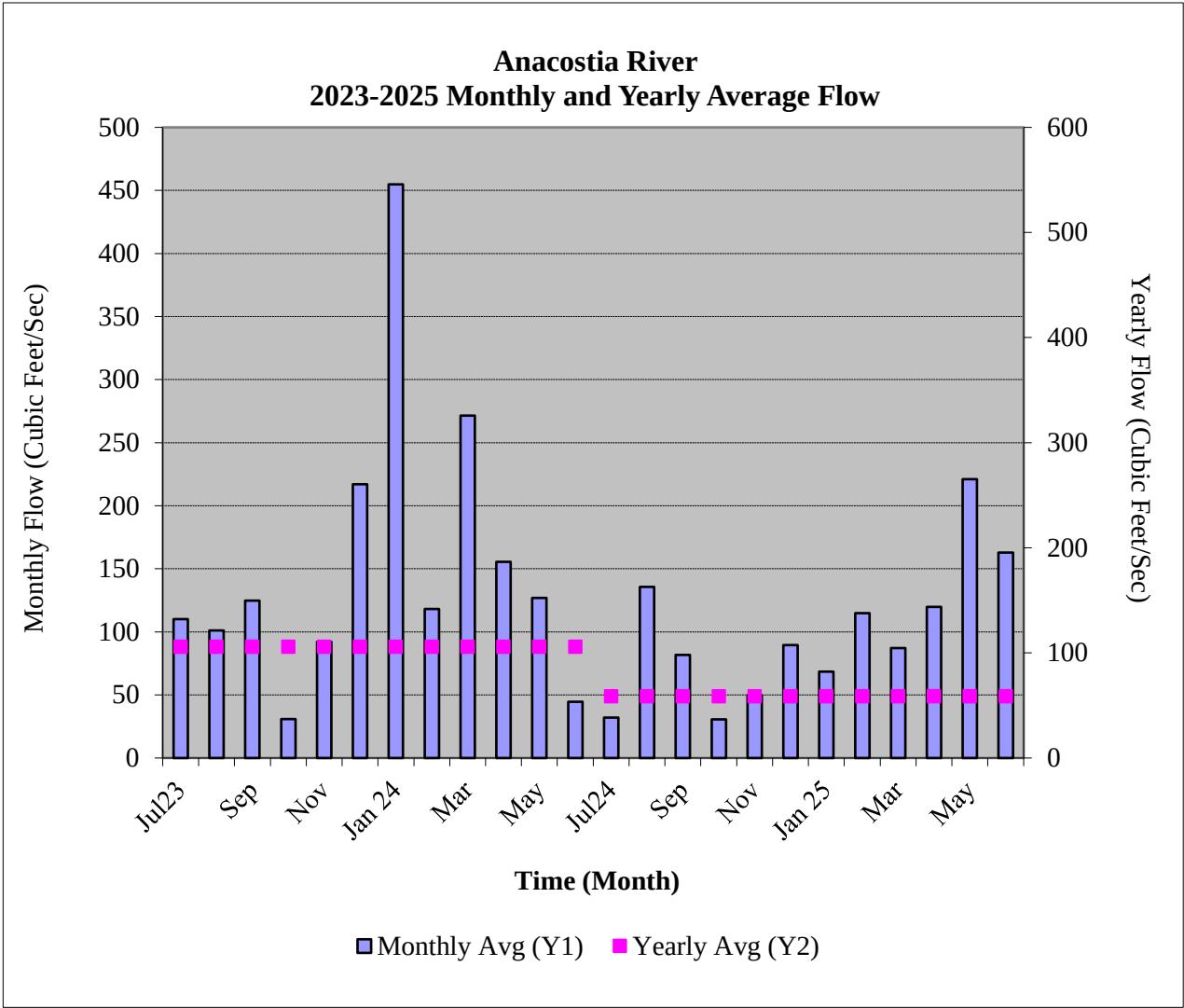


Figure 2. 2: Monthly and yearly average flow of the Anacostia River, 2023-2025 (Source: USGS)

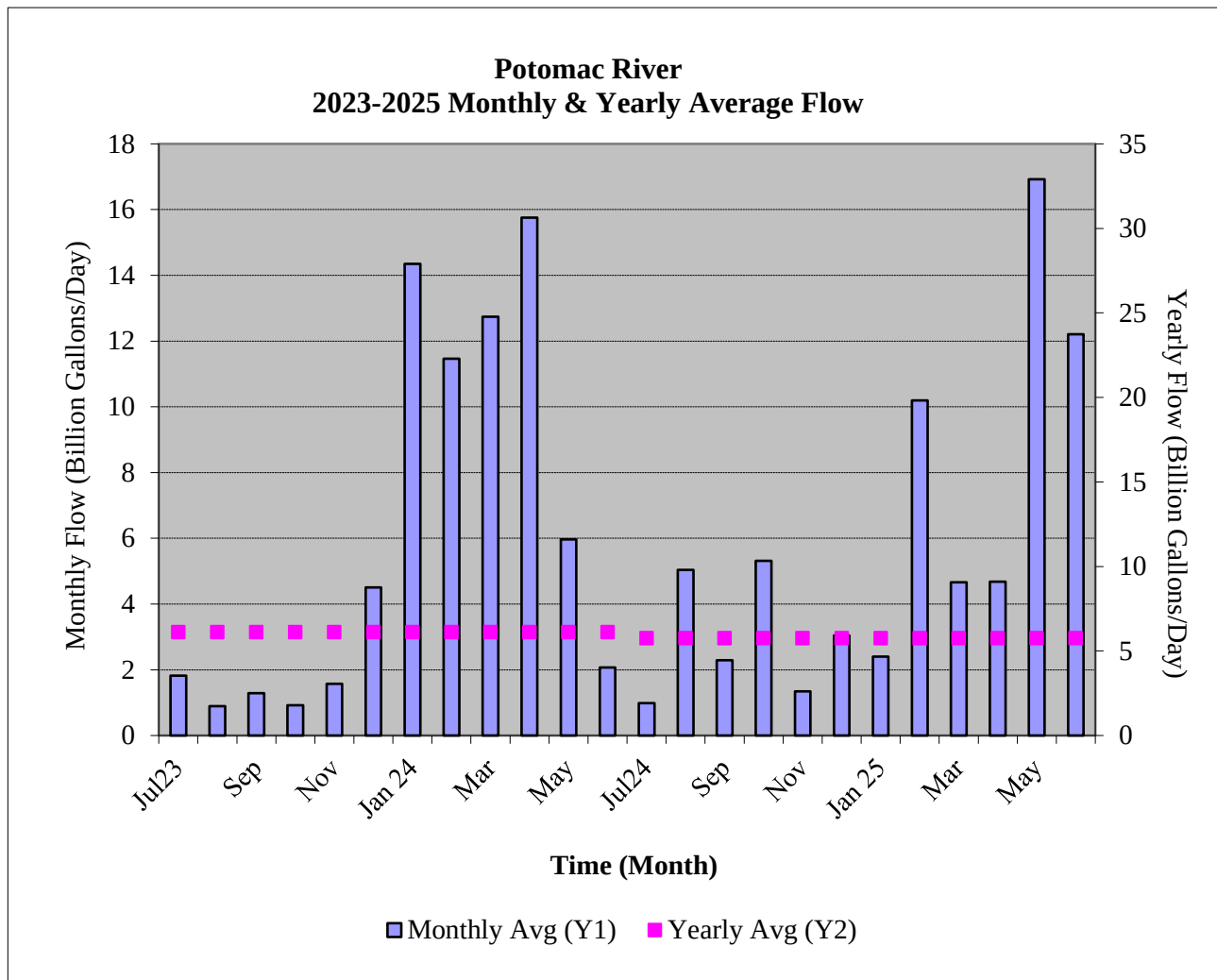


Figure 2.3: Potomac Rier Monthly and Yearly Average Flow, 2023-2025 (Source: USGS)

2.2 Water Pollution Control Programs

Surface Water Quality Standards Program

The District's Surface Water Quality Standards (WQS) regulations are developed and revised under the authority of the federal CWA and the District of Columbia Water Pollution Control Act of 1984, D.C. Official Code § 8-103.01 *et seq.* The WQS play a critical role in implementing various essential purposes and functions under the CWA. WQS are used for: reporting in water quality assessments; TMDL development; National Pollutant Discharge Elimination System (NPDES) permits; and nonpoint source programs. In compliance with the CWA, DOEE reviews the WQS every three years to determine the need for possible changes to District regulations and development of new information on water quality criteria. As part of this process, which is called the Triennial Review, DOEE solicits public participation and holds a public hearing. The review and updates enable the District to use WQS as a programmatic tool in the water quality management process and as a foundation for water quality-based control programs. Water quality standards ensure the protection of the District's waters.

2021 Triennial Review

The proposed 2021 water quality standards (WQS) were posted in the D.C. Register on July 7, 2023. The public hearing was held on August 23, 2023. Responses to the comments received from the public are posted on the DOEE website under the [2021 Triennial Review Response Document](#). The final 2021 WQS were published in the D.C. Register on March 14, 2025. The triennial review was approved by EPA on May 21, 2025, and errata completed in October 2025.

Recreational Water Quality Criteria (RWQC)

The Water Quality Division (WQD) has a Memorandum of Understanding (MOU) in place with the University of the District of Columbia (UDC) and a contract in place with LimnoTech to draft an impact assessment. Impact assessments are required by the Water Pollution Control Act of 1984, when the District intends to update existing or adopt new water quality criteria.

The current impact assessment focuses on the 2012 RWQC options for *E. coli* since the District intends to adopt criteria from the publication into its own WQS. WQD received UDC's final report, Economic Assessment of Adopting Improved Water Quality Standards for Freshwater Recreational Activities in the District of Columbia, on September 30, 2025. LimnoTech has submitted the final draft of the impact assessment for adopting the 2012 RWQS, which includes an analysis of historical water quality and discharge monitoring report data against the 2012 RWQC options.

Additional information may be found on DOEE website at [Surface Water Quality Standards](#).

2.3 Point Source Program

National Pollutant Discharge Elimination System (NPDES) Program

The District of Columbia is not a delegated state under EPA's National Pollutant Discharge Elimination System (NPDES) program and therefore does not issue its own discharge permits. EPA issues all NPDES permits in the District of Columbia. However, DOEE's WQD reviews technical and regulatory aspects of NPDES permit applications and EPA's draft NPDES permits for completeness and compliance with the Water Pollution Control Act and regulations, including WQS, in accordance with Section 401 of the CWA. WQD may require additional information from applicants to demonstrate that the proposed discharge will comply with the District's laws and regulations. WQD may also require revisions to draft permits when District laws and regulations are more stringent than Federal requirements.

Changes in draft permits, the announcement of which are published by EPA, on their website, at [EPA Public Notices in the District of Columbia](#), may also result from comments received from various stakeholders (the public) during the public comment period.

The list of EPA-issued NPDES permits within the District of Columbia are published on EPA's website in the [NPDES Permits Around the Nation](#) section. Permits are issued for a five-year period but contain re-opener clauses in case of changes to facility conditions, WQS, or regulations.

For more information on the District's [Water Quality 401 Certifications](#) please visit the website.

Approval of Groundwater Discharge into DC MS4

DOEE's Regulatory Review Division (RRD), with support from WQD, reviews and authorizes the discharge of uncontaminated groundwater into the District's MS4. Approved discharges predominantly consist of uncontaminated groundwater from a range of sources including construction dewatering and sub-grade sumps in completed buildings.

To learn more about the Groundwater Discharge Authorization Program please contact MS4DischargeAuthorization@dc.gov. Visit EPA's website for information regarding the [DC MS4 Permit](#).

2.4 Compliance Inspections

DOEE conducts compliance inspections of facilities that have been issued a NPDES permit, including Major and Minor Individual Permits and multi-sector general permits (MSGP). Compliance inspections are recognized as a vital part of the District's NPDES program. DOEE recommends appropriate enforcement actions to EPA for violations and/or deficiencies observed during the inspections. Deficiencies that do not require a formal enforcement action are by DOEE handled at the time of the inspection.

The objective of the NPDES Compliance Inspection Program (CIP) is to provide a level of inspection coverage necessary to assess permit compliance and develop enforcement documentation, where warranted. The District's NPDES CIP generally conducts Compliance Evaluation Inspections (CEI), but may perform Compliance Sampling Inspections (CSI), if required. The CEI is an inspection designed to verify a permittee's compliance with applicable permit effluent limits, self-monitoring and reporting requirements, and compliance schedules. A CEI involves review of reports and records; visual observations of the facility; and evaluation of the treatment systems, effluent, receiving waters, and disposal practices. The CSI is a sampling inspection designed with the same objectives as a CEI with the additional task of collecting and analyzing representative samples.

DOEE also conducts inspections of point source discharges of groundwater from temporary construction dewatering operations. These operations are typically covered under the NPDES General Construction Permit. However, DOEE reviews and certifies that the groundwater discharge meets District surface WQS. DOEE conducts inspections of these operations to ensure they comply with District regulations and that any required groundwater discharge treatment systems are operating correctly and efficiently.

More information can be found on [EPA's NPDES](#) web page.

Critical Source Inspection and Enforcement Program

DOEE maintains a database of critical sources of stormwater pollution including industrial, commercial, institutional, municipal, and federal facilities within the MS4 area. In FY 2024 and FY 2025, DOEE identified and inspected a total of two hundred and twenty-one (221) facilities deemed critical sources of stormwater pollution. These inspections were documented with facility-specific inspection forms and recorded in the MS4 Inspection Tracking Database. DOEE takes appropriate actions to ensure these facilities comply with the District's MS4 Permit, and that structural controls and BMPs are in place and effectively protecting water quality.

Illicit Discharge Detection and Elimination Program (IDDEP)

IDDEP is designed to detect and eliminate illicit and unpermitted discharges, spills, and releases of pollutants to the District’s MS4 and waterbodies. The IDDEP responds to reported illicit discharges, spills, or releases, and conducts targeted facility inspections and dry weather outfall inspections. In FY 2024 and FY 2025, DOEE responded to and investigated a total of one hundred and fifty-five (155) incidents of illicit discharges, spills, or releases. In the event of an incident, DOEE applies varying strategies to enforce clean up or compliance, including follow up inspections, site directives, notice of violations, administrative or compliance orders, and notice of infractions.

Additionally, DOEE maintains a watershed-based inventory of all MS4 outfalls and conducts dry weather inspections of these outfalls. In FY 2024 and 2025 DOEE conducted over four hundred (400) dry weather outfall inspections. In the event of a suspected illicit discharge from the outfall, DOEE initiates an investigation and implements various techniques to identify and eliminate the discharge or suspected dry weather flow.

2.5 Watershed Protection Division Enforcement Programs

The Anacostia River Clean Up and Protection Fund

The Anacostia River Clean Up and Protection Act (Bag Law) requires all District businesses selling food or alcohol to charge five cents (\$0.05) for each disposable paper and plastic carryout bag. The law allows businesses to keep one cent (\$0.01) (or two cents (\$0.02) if it offers a rebate when customers bring their own bag), and the remaining three cents (\$0.03) or four cents (\$0.04) is deposited into the Anacostia River Clean Up and Protection Fund. This fund generates approximately two million dollars (\$2,000,000) per year, which is used to implement watershed education programs, stream restoration, trash capture projects, and to purchase and distribute reusable bags to District residents. Many of these activities also support the District’s compliance with the MS4 Permit.

DOEE inspects at least five hundred and fifty (550) businesses per year for compliance with the Bag Law. Of the hundreds of businesses inspected, approximately seventy-nine percent (79%) were compliant in FY 2024. More detailed information is available at the [FY 2024 Summary Report Anacostia River Clean Up and Protection Fund](#).

Styrofoam Ban, Recyclable and Compostable Requirements, and Utensils by Request

The Sustainable DC Omnibus Amendment Act of 2014 bans the use of food service products made of expanded polystyrene, commonly known as Styrofoam™. The foam ban began on January 1, 2016, and applies to all District businesses and organizations that serve food. The law also required these regulated food entities to switch to recyclable and compostable food service ware products beginning January 1, 2017. Beginning October 2018, single-use plastic straws and stirrers were banned under the 2017 recyclable and compostable requirements. Effective January 1, 2021, the ban was expanded to include the retail sale of foam food service ware and coolers and packing materials like foam peanuts.

The Zero Waste Omnibus Amendment Act, signed in December 2020, furthers the District of Columbia’s goal of 80% waste diversion from landfills and incinerators by 2032. Effective January 1, 2022, the Act prohibits food-serving entities from providing “accessory” disposable

food service ware items unless first requested by the customer. Additionally, third-party food ordering platforms and delivery apps must update platforms so that customers can affirmatively request disposable items for their order. [Foam Free DC](#) provides more information.

Coal Tar Ban and High PAH Sealant Ban

As required by Section 4.7.5 of the MS4 Permit, the District continues to enforce its prohibition on the sale, use, and permitting of coal tar-based pavement products. The coal tar ban protects human health and the environment by reducing the amount of toxic polycyclic aromatic hydrocarbons (PAHs) in our communities and environment. Rainwater washes PAH-containing sealant particles and dust into storm drains and our local streams and rivers, threatening aquatic life in the Anacostia and Potomac Rivers in Chesapeake Bay. In March 2019, the law was amended to ban products containing Ethylene Cracker Residue, known to contain high concentrations of PAHs, and any other products with PAH concentrations above one-tenth of one percent (0.1%) by weight.

For more information on the purpose of the law and who is regulated, visit DOEE's website section [Coal Tar & High-PAH Pavement Sealant Ban](#).

2.6 Municipal Separate Storm Sewer System (MS4) Permit

The Government of the District of Columbia is responsible for ensuring that discharges through the MS4 into District waterways comply with the EPA issued MS4 NPDES permit. The District's [current MS4 permit](#) was issued on November 20, 2023, became effective on December 20, 2023, and expires on December 19, 2028.

This permit requires the District to conduct a variety of pollution-reduction activities including implementation of stormwater best management practices, conducting public education and outreach, and monitoring District waters for various pollutants. DOEE's [MS4 Annual Report](#) and [StoryMap](#) provide information on the District's accomplishments toward the permit requirements.

2.7 Wetlands Protection

The District has a policy of no net loss of wetlands, stream areas, or functions within its jurisdictional boundaries. To achieve this goal, RRD reviews all activities and construction projects that may have the potential to impact wetlands and streams in the District. USACE issues dredge and fill permits after making a jurisdictional determination regarding what constitutes "waters of the United States," including jurisdictional wetlands. RRD reviews the delineation report, jurisdictional determination, and permit issued by USACE for completeness and compliance with both Federal and the District's laws, including the District's WQS and [Wetland and Stream Regulations](#). Based on the results of the review, RRD may issue its own jurisdictional determination and certify or deny certification of the USACE permit. Wetlands that do not fall under Federal jurisdiction may still fall under the jurisdiction of the District and require a District Wetland and Stream Permit (WSP). To find out more information on [Wetlands and Streams in the District](#) and to view the [Wetlands StoryMap](#) visit the DOEE website.

2.8 Nonpoint Source Control Program

Environmental pollution from nonpoint sources occurs when water moving over land picks up pollutants, such as sediment, bacteria, nutrients, and toxics, and carries them to nearby

waterbodies. Sediment and pollutant-laden water can pose a threat to public health. The pollutants may result from both natural sources and human activity. Stormwater runoff and associated soil erosion are significant causes of lost natural habitat and poor water quality in the District. Nonpoint source pollutants of concern in the District are nutrients, sediment, toxics, pathogens, and oil and grease. The origins of nonpoint pollutants in the District are diverse and include:

- Stormwater runoff due to the large number of impervious surfaces in urban areas;
- Development and redevelopment activities;
- Urbanization of surrounding jurisdictions; and
- Agricultural activities upstream of the watershed.

The District's Nonpoint Source Plan is based on the following goals, which provide the framework for the District government to continue to develop and enhance its program.

- Support activities that reduce pollutant loads from urban runoff, construction activity, combined sewer overflows, and trash disposal for the purpose of attaining designated uses.
- Support and implement activities that restore degraded systems and maintain healthy habitats, species diversity, and water flows in all Anacostia River tributaries.
- Coordinate efforts with outside programs and adjoining jurisdictions to prevent and control nonpoint source pollution in the District to the maximum extent with the resources available.
- Support information and education campaigns that aim to prevent nonpoint source pollution from individual actions. These campaigns should reach at least five thousand (5,000) individuals each year and should target audiences who either visit, live, work, or teach in the District and its watersheds.
- Implement programs that aim to increase nonpoint source pollution runoff prevention practices on private property, reaching at least one thousand (1,000) properties per year.

2.9 Best Management Practices (BMP) Implementation

BMP Implementation by Sister Agencies

DOEE funds the design and installation of stormwater BMPs and GSI on municipal properties under the [Clean Water Construction \(CWC\) grant program](#). For many of these projects, DOEE also provides technical expertise and project management assistance to sister agencies.

DOEE funds four categories of work: Stormwater Green Infrastructure Projects, Stormwater Grey Infrastructure Projects, Sewage Infrastructure Projects, and Emerging Contaminants Infrastructure Projects. Project partners manage these projects from planning to completion of construction. CWC staff support their efforts by ensuring that project activities are performed in compliance with federal regulations and achieve CWC goals.

Retrofits on Parkland Sites in the District

DOEE works to implement [innovative stormwater retrofits](#) throughout the District by overseeing the design and construction of low impact development (LID) stormwater retrofits at various locations including federal parkland, District parkland, and in the public right-of-way. These stormwater retrofit projects are funded through the DOEE Stormwater Enterprise Fund and grant funding that DOEE receives from EPA.

The goal of these projects is 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 people to learn, play, and connect with nature. A further goal of these projects is to reduce the stormwater pollutants that enter the local waters (i.e., rivers, streams, estuaries) of the District, as required under the current applicable [EPA National Pollutant Discharge Elimination System \(NPDES\) permit for the District's municipal separate storm sewer system \(MS4\)](#).

Inspection and Enforcement Updates

DOEE's Inspection and Enforcement Division (IED) [Construction and Maintenance Branch \(CMB\)](#) inspects construction sites in the District and assures compliance with District regulations and approved erosion and sediment control plans. DOEE also inspects existing stormwater management practices for compliance with approved stormwater management plans and to ensure the practices are effective and properly maintained. Inspection and enforcement activities conducted to reduce pollutant loads from urban runoff, prevent litter, and remove trash are detailed in the [District of Columbia 2024 Nonpoint Source Management Program Annual Report](#).

2.10 Stream and Wetland Restoration Updates

Stream and wetland restoration is the act of modifying a waterway or marsh to improve its environmental health and habitat. Due to urbanization, sixty-five percent (65%) of the District's surface is impervious, and this proportion is rising. The increasing density of urban development causes all District streams and wetlands to face threats from high amounts of impervious surface stormwater runoff. Excess runoff carries pollution, erodes natural topography, damages infrastructure, and causes flooding, all of which threaten human and environmental health.

DOEE's [stream and wetland restoration program](#) is one way the District addresses these threats. Stream restoration uses nature-based construction techniques to create and enhance stream channels with stabilized stream beds and stream banks to improve habitat conditions for aquatic and terrestrial life along the stream corridor. By slowing hydrologic flow and reducing erosion, stream restoration also reduces pollution loads, protects infrastructure, and enhances health and safety. DOEE's stream restoration program has restored over fifty-five thousand (55,000) feet of stream bank and will continue to restore more streams to improve water quality and aquatic ecosystems.

Similarly, DOEE's wetland restoration program strives to restore and protect the District's existing wetlands, toward eventual net gain of wetland acreage and function. Referred to as nature's kidneys, wetlands help filter river water by absorbing and processing pollutants. They also provide valuable habitat for riverine birds, fish, and mammals, help reduce flooding, and act as areas for carbon sequestration. The Anacostia River has lost over two thousand and five hundred (2,500) acres of wetlands to urban development and infill over the past two hundred (200) years. However, efforts are ongoing to enhance existing wetlands and create over one

hundred (100) new acres of wetlands by 2032. The benefits of stream and wetland restoration include:

- Reduced pollution loads entering District rivers and tributaries
- Reduced erosion and increased stabilization of natural topography and the built environment
- Decreased stormwater impacts to property, infrastructure, human health, and aquatic ecosystems
- Enhanced biodiversity
- Improved water quality
- Enhanced nature-based education and recreation opportunities for District residents and visitors.

More information on the stream and wetlands restoration program efforts is found in the [annual report](#).

2.11 Stormwater Pollution and Runoff Reduction

Private property, including commercial, residential, and nonprofit lands (religious and academic institutions), is the single largest land use in the District. These lands are one of the primary sources of pollution to District waterways, contributing pollutants through combined sewer overflow events and urban stormwater runoff.

One of the District's greatest needs and challenges is to reduce water pollution by incentivizing retrofits on individual properties. The District recognizes that it will be difficult to achieve its water pollution reduction goals unless it can convince property owners to adopt pollution prevention techniques on their lands. As such, the District has developed a variety of programs to encourage property owners to adopt nonpoint source pollution reduction techniques. These efforts include a Low Impact Development (LID) retrofit grant program and the following RiverSmart programs:

- RiverSmart Rooftops (Green Roof Rebate/Retrofit Program)
- RiverSmart Communities
- RiverSmart Homes
- RiverSmart Rewards for cisterns, impervious surface reduction, rain gardens and trees

RiverSmart Rooftops (Green Roof Rebate/Retrofit Program)

The DOEE program offers rebates for properties willing to install green roofs. Only properties within the Municipal Separate Storm Sewer System (MS4) area are eligible to participate. Residential, commercial, and institutional properties of all sizes are encouraged to apply. Participating property owners receive up to fifteen dollars (\$15) per vegetated square foot. A current inventory of green roofs in the District can be found at <http://doee.dc.gov/publication/inventory-green-roofs>.

RiverSmart Communities Program

RiverSmart Communities is a program aimed solely at installing LID retrofits on nonprofit and religious institutional properties. The program provides full funding for design and construction costs to participants on the condition that the nonprofit partner will perform outreach and

education on watershed protection and relevant DOEE programs. Participants install LID practices such as rain gardens, BayScaping, permeable pavement, and rain cisterns to control stormwater pollution. Interest information can be found at <https://doee.dc.gov/service/riversmart-communities>.

RiverSmart Homes Program

The District has recognized the importance of targeting residents for pollution reduction measures because private property is the largest single land use in the city and, due to relatively small lot sizes, is the least likely to be required by regulation to install stormwater management practices.

Through this program, DOEE performs assessments of residential properties and provides feedback to residents on which GSI features can be safely installed on the property. DOEE also offers residents subsidized installations of any GSI recommended at the assessment, which can include shade trees, native landscaping to reduce erosion, rain gardens, rain barrels, and permeable pavers. District of Columbia residents can apply for RiverSmart Homes at <https://doee.dc.gov/service/riversmart-homes>.

RiverSmart Schools

DOEE partners with District schools interested in transforming bland outdoor spaces into vibrant, green spaces to teach, learn, play, and manage stormwater runoff. Each year, DOEE selects three (3) schools to design and construct a large-scale schoolyard greening project. Through the program, teachers, students, and school administrators participate in design charrettes, trainings, educational boat tours, and other activities that build a deeper understanding of the impacts of stormwater runoff on the District's watersheds. Training occurs during the school year, while construction occurs over the summer months. Interest information and applications can be found at [RiverSmart Schools – Schoolyard Greening and Conservation](#).

RiverSmart Rewards Incentive Program

Through participation in the RiverSmart Rewards program, property owners can apply for and receive discounts on their DC Water bill. District residents, businesses, and other property owners can earn a discount of up to fifty-five percent (55%) off the District Government Stormwater Fee (Stormwater Fee) when they reduce stormwater runoff by installing GSI or BMPs such as green roofs, bioretention, permeable pavement, shade trees and rainwater harvesting systems. GSI helps protect the Anacostia and Potomac Rivers and Rock Creek. GSI installed through the RiverSmart programs are automatically enrolled to receive the discount on a property's DC Water bill. A RiverSmart Rewards application period lasts three (3) years and can be renewed upon its expiration, provided the GSI practices have been maintained.

The District charges the Stormwater Fee to support the implementation of the District's MS4 permit. DOEE uses these funds to keep trash and other pollutants out of the rivers, install GSI throughout the District, ensure that new construction and redevelopment projects incorporate GSI, and provide incentives for voluntary retrofits. This fee is based on the total area of impervious surface—including roofs, driveways, and patios—on a property. Impervious surfaces prevent rainwater from soaking into the ground. The Stormwater Fee is calculated using Equivalent Residential Units (ERUs). One ERU is equal to one thousand (1,000) square feet of impervious surface. Currently, the Stormwater Fee is

two dollars and sixty-seven cents (\$2.67) per month per ERU. More information can be found at [RiverSmart Rewards and Clean Rivers Impervious Area Charge \(CRIAC\) Incentive Programs](#).

Additional information on the RiverSmart programs can be found at [Get River Smart!](#)

Stormwater Retention Credit Trading Program

The [Stormwater Retention Credit \(SRC\) Trading Program](#) is an innovative market-based program to manage stormwater in the District of Columbia. Stormwater management regulations require large development projects to install stormwater BMPs to reduce runoff. Depending on their location in the District's sewersheds, properties can meet up to one hundred percent (100%) of their regulatory requirement through off-site retention by purchasing SRCs from other properties that install runoff-reducing GSI voluntarily.

This flexibility allows regulated properties to pursue more cost-effective compliance methods and incentives properties to voluntarily install and maintain GSI that has the capacity to retain stormwater and thereby reduce the runoff that harms District streams and rivers.

Through the [SRC Price Lock Program](#), participants have the option to sell their SRCs to DOEE as a buyer-of-last-resort at fixed prices, effectively creating a price floor in the SRC market. This purchase guarantee provides investors with the confidence necessary to commit funding to SRC-generating projects.

DOEE continued its program by offering an incentive for projects to achieve retention requirements using High-Impact SRCs. When development projects meet a portion of their regulatory requirements by using High-Impact SRCs, the highest levels of water quality restoration in the District are realized. DOEE subsidizes the sale of High-Impact SRCs when SRC Price Lock Program participants reduce the price they charge SRC buyers. DOEE will offer increased payments to sellers who further decrease the sale price in large or multi-year transactions. DOEE expects the program will make it cheaper for buyers to purchase High-Impact SRCs, thereby increasing the incentive to build more green stormwater infrastructure in the MS4.

Surface and Groundwater System (*formerly known as Stormwater Database*)

In FY 2015, DOEE launched the Stormwater Database to track projects that reduce pollution from stormwater runoff by managing submission, review, and inspection of Stormwater Management, Erosion and Sediment Control, and Green Area Ratio permit applications. In FY 2021, DOEE expanded the Stormwater Database to manage the submission and review of Floodplain Management, Wetlands and Streams, and Wells and Soil Boring permit applications, and changed the name of the database to Surface and Groundwater System (SGS) to reflect this expansion.

The SGS tracks each site's regulatory obligations and compliance, including off-site retention achieved with SRCs or payment of the in-lieu fee (ILF).

The public uses the SGS to:

- Submit compliance calculations and other information to support an application for DOEE approval of a Stormwater Management Plan, Erosion and Sediment Control Plan or Green Area Ratio Plan, Floodplain Management Plan, Wells and Soil Boring Permit Application, and Wetlands and Streams Permit Application;
- Comply with an off-site retention obligation by applying to use SRCs or notifying DOEE of an ILF fee payment;
- Apply to certify, transfer, or retire SRCs;
- View the SRC registry; and
- Participate in voluntary programs that incentivize installation and maintenance of green stormwater infrastructure, including RiverSmart Homes and RiverSmart Rewards, which provide modest discounts on the District’s impervious surface-based fees.

More information about the SGS can be found at: <http://doee.dc.gov/SGS>.

Tree Planting

The District of Columbia has been called “The City of Trees.” It has a tree canopy cover of thirty-seven percent (37%), which is high for a dense, urban environment, but lower than what the canopy cover has been historically, even when the city had a higher population density. To improve air and water quality, reduce the urban heat island effect, and offset greenhouse gas emissions, the District adopted a forty percent (40%) tree canopy goal. Mayor Bowser adopted a Sustainability Plan that calls for achieving the canopy goal by 2032. To achieve that goal, the District must plant an average of ten thousand and eight hundred (10,800) trees annually.

In FY 2024, fourteen thousand nine hundred and sixty-eight (14,968) trees were planted across the District by multiple stakeholders. DDOE’s Urban Forestry Division planted six thousand six hundred and eight (6,608) trees. DOEE funded the planting of four thousand nine hundred and twenty-one (4,921) trees on private, federal, and other District lands. The [District of Columbia 2024 Nonpoint Source Management Program Annual Report](#) has more information related to tree planting activities.

Pollution Prevention Plans

The Pollution Prevention Program, expanded from 2018, provides compliance assistance and education for entities and activities that compose the NPDES critical source list, snow removal, and common household activities that affect nonpoint source pollution.

To make the District government compliant with reducing nonpoint source pollution, DOEE’s stormwater pollution prevention team helps agencies develop and implement Stormwater Pollution Prevention Plans (SWPPP). 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.

Activities and more information related to pollution prevention can be found in the [nonpoint source annual report](#).

2.12 Environmental Education and Outreach

DOEE's mission includes providing [environmental education and outreach](#) to raise environmental stewardship, increase awareness of environmental challenges and initiatives, and inform stakeholders of opportunities to contribute to the restoration of the District's waters and natural habitats. The support programs aim to prevent nonpoint source pollution from individual actions by carrying out effective information and education campaigns. Specific initiatives are described on the [DOEE Outreach and Education](#) website.

2.13 Job Training Programs

River Corps

[River Corps](#) is a five (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 streams.

The Program provides industry-relevant certifications, Occupational Safety and Health Administration ten (10)-hour Construction Training, cardiopulmonary resuscitation training, and life-skills workshops for program participants.

Green Zone Environmental Program

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

Participants learned about water quality monitoring, native and invasive species in District waterways, tree identification techniques, how DOEE conducts inspections and enforcement, community watershed mapping, and environmental careers in the District. Additionally, they received professional development training and career mentorship opportunities.

FloodSmart Homes

DOEE is piloting [FloodSmart Homes](#), which offers technical and financial assistance to reduce flooding in residential homes for eligible District residents. FloodSmart Homes funds resilience upgrades that reduce the risk of flood damage and protect life, safety, and the individual building level. The resilience upgrades will help families stay in their homes after a flood, reduce the cost of flood insurance, reduce or eliminate the cost of repairs post-flood, and improve health outcomes. Some of the available resilience upgrades include mitigation warning kits with weather radios and water intrusion alarms, electrical outlet elevation and/or replacement with ground fault circuit interrupter (GFCI) outlets, installation of anchoring straps on water heaters, sealing of heating, ventilation, and air conditioning (HVAC) ducts to prevent water damage and mold growth, sump pumps, removable flood barriers, sewer backflow prevention valves, or elevation of outdoor mechanical and electrical equipment.

2.14 Cost/Benefit Assessment

The District is investing significant resources to address the sources of impairment to local waters. This includes efforts to manage and upgrade the Blue Plains Advanced Wastewater Treatment Plant (BPAWWTP, or Blue Plains), reduce combined sewer overflows, and manage stormwater runoff in the MS4 areas of the District as described in the following sections.

Cost for Managing Blue Plains Wastewater Treatment Plant and Combined Sewer Overflows

The District of Columbia has and continues to allocate significant resources to improve the quality of its waters. Effective wastewater treatment, sanitary sewer system maintenance, combined sewer overflow control, and stormwater management are the principal elements in water pollution control. Blue Plains, operated by the District of Columbia Water and Sewer Authority (DC Water), provides wastewater services to over two million (2,000,000) customers in the [District and the surrounding jurisdictions of Maryland and Virginia](#).

The wastewater treatment costs are apportioned between the jurisdictions served by Blue Plains. The financial responsibilities of each jurisdiction were updated under the new [Blue Plains Intermunicipal Agreement of 2012, effective April 3, 2013](#). The District's portion of the capital and operations & maintenance costs for wastewater treatment, sanitary sewer maintenance and engineering and technical services constitute forty-five and eight-tenths percent (45.8%) of the total cost incurred by DC Water. As the only jurisdiction with combined sewer systems, the District is also responsible for the costs associated with controlling combined sewer overflows. Descriptions of the various elements associated costs are presented in Capital Disbursements of the [DC Water Executive Budget Summary](#).

Engineering and Technical Services

DC Water Engineering and Technical Services provides support to the planning, design, and construction of new and rehabilitation projects across all functions of the collection and treatment of wastewater within the District. The functions include system planning, technical engineering expertise, and oversight of construction.

Sanitary Sewer System Maintenance

The predominant cost of the wastewater collection system is related to assessing, rehabilitating, and replacing the aging infrastructure in the District. High bacteria counts in various waterways have been linked to leaking sanitary sewers. Under a multi-year Sewer Assessment Program, DC Water completed the ten (10)-year [Sewer System Facilities Plan](#) in 2009. The plan includes evaluating the physical condition and capacity of the sewer system, identifying and prioritizing rehabilitation needs, maintaining records and managing data, as well as ongoing inspection and rehabilitation efforts. Based on the key findings and recommendations of the plan, priority projects to rehabilitate sewer collection systems and pumping facilities are underway. Specifically, rehabilitating sewers in stream valleys is crucial for achieving significant water quality improvements in District Streams.

Subsequent programs under the [DC Clean Rivers Projects](#) are ongoing to further reduce sewer inflows in the District's waterways. Among the programs, there is a massive infrastructure and support program designed to capture and clean wastewater during rainfalls before it ever reaches the waterways.

In 2025, the construction of the [Potomac River Tunnel Project](#) commenced. Upon completion, the tunnel is projected to reduce overflow from seventy-four (74) to four (4) events per year and decrease overflow volume by ninety-three percent (93%). In addition, the [Piney Branch Tunnel](#), which had a start and end year of 2025 and 2029, respectively, is designed to improve water quality in Piney Branch, Rock Creek, and ultimately the Potomac River and Chesapeake Bay by reducing untreated discharges. Once completed, the Piney Branch Tunnel is proposed to limit the frequency of overflows by ninety-six percent (96%) and limit overflow events from twenty-five (25) to one (1) per year of average rainfall.

Wastewater Treatment

Under the Chesapeake Bay Agreement, Blue Plains was the first facility to meet the nutrient reduction goal of forty percent (40%) from the 1985 levels. Blue Plains operates under stringent NPDES permit conditions. Significant plant-wide upgrades and rehabilitation and installation of support systems are ongoing. Among the major projects is the Nutrient Removal Project to meet regulatory requirements and the goals of the Chesapeake Bay Agreement. In 2007, DC Water proposed to interface the overall Blue Plains Nutrient Removal project with the Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP) finalized in 2002. In 2015, DC Water finalized the LTCP Modification for Total Nitrogen Removal/Wet Weather Plan. The details are reported in the “[Long Term Control Plan Modification Green Infrastructure, 2015](#)”.

The major components of the project include construction of the [Blue Plains Tunnel](#) (extending from the [Anacostia Tunnel System](#) to Blue Plains), construction of a tunnel dewatering pumping station, and enhanced clarification facilities at Blue Plains. These projects will remove nitrogen at levels sufficient to meet the Blue Plains federal NPDES discharge permit requirements as well as the Chesapeake Bay Agreement for nutrient reduction. The projects will simultaneously achieve CSO reduction equal to or better than the approved LTCP.

Combined Sewer Overflow Long-Term Control Plan

DC Water developed the LTCP in 2002. The LTCP involves the construction of large underground tunnels that will serve as a collection and retention system for the combined sewer during rainfall conditions. In 2005, DC Water and the District entered into a Consent Decree with the EPA and the United States Department of Justice requiring implementation of the LTCP.

On January 14, 2016, a modification to the 2005 Long Term Control Plan (LTCP) Consent Decree ([Consolidated Civil Action No. 1:00CV00183TFH](#)) was entered into by the parties to include innovative green stormwater infrastructure practices to achieve the reduction of combined sewer overflow volume by ninety-six percent (96%) system-wide (for the Anacostia and Potomac rivers and Rock Creek) and offer additional community benefits. The LTCP is to be implemented over a twenty-five (25)-year period under the amended Consent Decree.

Cost for Stormwater Management in MS4

The District has embarked on an aggressive stormwater management program as part of the implementation and administration of activities required by MS4 Permit issued by EPA. The area covered under the permit is entirely within the jurisdiction of the District and constitutes approximately two-thirds of the city’s area.

The District’s stormwater management efforts cover an array of activities including research and demonstration projects, drainage improvements, monitoring and control of various types of pollutants from various sources, enforcement, and public education. Six (6) different agencies collaborate to manage stormwater in the District - DOEE, DC Water, the Department of Public Works (DPW), District Department of Transportation (DDOT), the Department of General Services (DGS), and the District Office of Planning (DCOP). The [Stormwater Management Plan](#) outlines activities performed by each agency.

The District’s Stormwater Permit Compliance Amendment Act of 2000 established the Stormwater Permit Compliance Enterprise Fund to provide revenue for the mitigation of pollutants in stormwater discharges. The cost for stormwater management is dependent on the MS4 permit requirements. The District is required to certify that it has “sufficient finances, staff, equipment, and support capabilities” to implement the provisions of the Permit in its MS4 Annual Report 1. Table 2.2 shows the expenditures in FY 2024 and budget for FY 2025 for DOEE’s MS4 Permit-related costs.

In addition to DOEE Enterprise Fund spending, other District agencies spend local funding on programs and initiatives that also provide stormwater management benefits, such as street sweeping by DPW, and GSI projects on public buildings by DGS or in public right-of way areas by DDOT. For more information visit the [MS4 Annual Report](#) and [StoryMap](#).

Table 2.2 FY 2024 Enterprise Fund Expenditures and FY 2025 Enterprise Fund

Fiscal Year 2024 Expenditures	Fiscal Year 2025 Budget
\$15,324,625	\$19,323,786

2.15 Benefits

Comprehensive stormwater and wastewater management are making the benefits of clean rivers and streams apparent in the District. The District of Columbia Comprehensive Plan provides a foundation for policies that support ecologically sound waterfront development, which contributes to these benefits. Among the key elements of the plan is to “create and enhance relationships between the rivers and District residents, develop urban waterfronts and water related recreation in appropriate locations, and establish attractive pedestrian connections from neighborhoods to activities along the waterfronts.” The development and rehabilitation of waterfront properties including residential, retail, office space, and green space areas have significantly increased. The Washington D.C. Wharf ([waterfront project](#)) which is referred to as a place “Where D.C Meets” is completely constructed and flourishing. The Wharf is a mile-long stretch beautiful, epic, and vibrant waterfront view in the District’s Southwest region along the Potomac River which has become a tourism destination that attracts people from different parts of the world. The Wharf has reestablished the city as an attractive monumental waterfront city with areas designated for restaurants, retailers, residential, businesses, and many more recreational activities which has subsequently enhanced the recreational use of District waters.

The development of the Anacostia River waterfront promotes recreational use of the waters. A recreational survey was conducted for three (3) District waterways (Rock Creek, Potomac River, and Anacostia River) in the summer of 2019 and 2021 as part of the District’s citizen water quality monitoring program. The recreational activities observed in the three District waterways were rowing/sculling, powerboating, kayaking and canoeing, fishing, sailing,

paddling, boating, water play by children, contact with wet dogs, contact when hiking, and others. The primary recreational activities in Rock Creek and the Anacostia and Potomac Rivers are water play by children, rowing/sculling, and powerboating, respectively. The [District of Columbia Citizen Science Water Quality Monitoring Report, 2024](#) has the most recent information and findings.

Restoring the District's waters is essential for economic development and environmental health. The water quality continues to improve. However, quantifying the short-term benefits of current pollution control investments is challenging, but the long-term gains are evident. A US Fish and Wildlife Service study on the [prevalence of tumors in brown bullhead catfish](#) revealed a significant decline. Annual DOEE FWD surveys also confirm stable populations of resident fish population, while migratory fish populations are declining. Additionally, recent infrastructure projects, such as the Potomac River and Piney Branch tunnels – expected to reduce CSO overflow by ninety-three to ninety-six percent (93-96%) – will further enhance public health, water quality, and overall environmental conditions. Creating a more vibrant recreational environment for residents and visitors alike.

Chapter 3 Surface Water Assessment

3.1 Background

Section 303(d) of the federal CWA and EPA implementing regulations require states to prepare a list of waterbodies that do not meet WQS even after all the pollution controls required by law are in place. In the District, waterbodies not meeting the appropriate District WQS are impaired.

The District assesses thirty-six (36) waterbodies and waterbody segments (Table 3.1). As shown in the table, the Potomac and Anacostia Rivers, Rock Creek, and Watts Branch are divided into two (2) or more segments for assessment purposes. Waterbodies are also classified as tidal or non-tidal.

Table 3.1 District of Columbia Waterbodies/Waterbody Segments

Tidal Waters	Non-Tidal Waters		
	Anacostia Tributaries	Potomac Tributaries	Rock Creek and Tributaries
Lower Anacostia Segment 1	Fort Chaplin Run	Battery Kemble Creek	Broad Branch
Upper Anacostia Segment 2	Fort Davis Tributary	Dalecarlia Tributary	Dumbarton Oaks
Kingman Lake	Fort Dupont Tributary	Foundry Branch	Fenwick Branch
Lower Potomac Segment 1	Fort Stanton Tributary	Oxon Run	Klingley Valley
Middle Potomac Segment 2	Hickey Run	C&O Canal	Luzon Branch
Upper Potomac Segment 3	Nash Run		Melvin Hazen Valley Branch
Tidal Basin	Pope Branch		Normanstone Creek
Washington Shipping Channel	Texas Avenue Tributary		Pinehurst Branch
	Watts Branch Lower Segment 1		Piney Branch
	Watts Branch Upper Segment 2		Portal Branch
			Rock Creek Lower Segment 1
			Rock Creek Upper Segment 2
			Soapstone Creek

The District follows EPA requirements and places each waterbody into one (1) or more of five (5) categories based on its support or non-support of designated uses. A list of categories can be found in the “Categorization” discussion in Subsection 3.2, Use Support Determination, below. Placement of waterbodies into assessment categories and development of the Category 5 list of impaired waterbodies (the 303(d) list) are significant features of the Integrated Report. Most importantly, TMDLs must be developed for waterbody segments in Category 5 of the 303(d) list of impaired waters.

Basis for Consideration of Data

Various data sources are used to assess District waters and develop the 2026 Integrated Report and the 303(d) list of impaired waters. Because the impairment listings and the 303(d) list are tools used in the TMDL process, the District ensures that the assessment process and the approved 303(d) list are based on data that utilizes unbiased, scientifically sound data collection and analytical methods. The Water Quality Monitoring Regulations (Title 21, Chapter 19 of District of Columbia Municipal Regulations) were developed to ensure accurate, consistent, and reproducible water quality monitoring data for decision-making purposes. Data that satisfies these monitoring regulations was used in the assessment that led to development of the District 303(d) list in 2026.

In August 2025, a request for data was sent to organizations that may have water quality data on the District's waters. The 2026 list enumerates specific pollutants of concern in various waterbodies or waterbody segments. A summary of the data sets used to establish the 2026 303(d) list follows:

- 2024 Integrated Report and 303(d) list;
- District Ambient Water Quality Monitoring data for 2020–2025;
- District Municipal Separate Storm Sewer System 2020-2025 Monitoring Data;
- Stream Survey data collected between 2023-2025;
- District phytoplankton, Zooplankton and Benthic Macroinvertebrate Samples Report, 2009; and 2019;
- USGS Nontidal monitoring stations at Hickey Run (USGS station 01651770), Watts Branch (USGS station 01651800), and Rock Creek (USGS station 01648010), 2020-2025;
- USGS National Water Information System (NWIS) data, 2020-2025;
- District Fish Consumption Advisory, 2024;
- USFWS Fish Tissue Contamination Report for the District, 2023;
- TMDL documents for District waterbodies; and
- Background Study for Inorganic Chemicals in Soil, Surface Water, and Groundwater, 2022

No data received was disqualified and all data received was used in making use support determinations.

3.2 Use Support Determination

During the assessment process and while applying the assessment methodology, data are used to determine if a waterbody supports each of its designated uses. In general, data are compared against numeric water quality criteria, narrative criteria, and other benthic macroinvertebrate, fish tissue, and physical habitat metrics to determine if a given use is supported. If a waterbody meets criteria for a given use, that use is supported in that waterbody segment. If some or all criteria are not met, the waterbody does not support that designated use, and it is considered impaired for that designated use. Appendix 3.1 Use Support and Cause by Pollutant lists each waterbody segment along with the data used to make a use support determination for each WQS use class.

Designated Uses

The following are designated uses for the surface waters of the District of Columbia:

Class A -Primary contact recreation (swimmable).

Class B - Secondary contact recreation and aesthetic enjoyment (wadeable).

Class C - Protection and propagation of fish, shellfish, and wildlife (aquatic life).

Class D - Protection of human health related to consumption of fish and shellfish (fish consumption).

Class E - Navigation (ability to travel freely up and down the river using assorted watercraft, and absence of man-made objects that impede free movement).

Assessment Criteria

As described in the *District of Columbia Surface Water Assessment and Listing Methodology, 2026* (Appendix 3.2) the criteria used for assessment include numeric water quality criteria, narrative criteria, and other methods and protocols, including bioassessment, physical habitat assessment, and fish tissue analysis. The DOEE used the assessment protocols detailed in the 2026 Assessment and Listing Methodology, the assessment criteria are summarized as follows:

Class A: District WQS include narrative criteria and numeric criteria for *E. coli*, pH, and turbidity that apply to Class A waters for the protection of primary contact recreation.

Class B: District WQS include narrative criteria and numeric criteria for pH and turbidity that apply to Class B waters for the protection of secondary contact recreation and aesthetic enjoyment.

Class C: District WQS include narrative criteria and numeric for dissolved oxygen, temperature, pH, turbidity, secchi depth, total dissolved gases, hydrogen sulfide, oil and grease, Chlorophyll-a, inorganic compounds (mostly metals but including ammonia), organic constituents, macroinvertebrate assessments and physical habitat assessments that apply to Class C waters for the protection of aquatic life.

Class D: District WQS include narrative criteria and numeric criteria for inorganic compounds (mostly metals) and organic chemicals that apply to Class D waters for the protection of human health. EPA's recommended fish tissue screening levels are also used to assess metals and organic constituents found in fish tissue. If the median contaminant concentration exceeds the EPA screening value, the contaminant is listed as a cause of impairment for Class D fish tissue analysis.

Class E: District WQS include narrative criteria that apply to Class E waters for the protection of navigation.

The 2020-2025 Statistical Summary Reports for data used in determining Classes A, B and C are found in Appendix 3.3.

Categorization

The District applies the five (5)-category approach for classifying WQS attainment using the guidelines for category placement established by EPA (U.S. EPA, 2005). Following assessment,

the District places every waterbody into one or more of the five (5) IR categories shown below based on use support or non-support of individual uses for that waterbody.

Category 1 - All designated uses are supported; no use is threatened.

Category 2 - Available data and/or information indicate that some, but not all, designated uses are supported.

Category 3 - There is insufficient available data and/or information to make a use support determination.

Category 4 - Available data and/or information indicate that at least one (1) designated use is not supported or is threatened. The subcategories in Category 4 indicate how the non-support of, or threat to, the designated use (i.e., the impairment) is being addressed.

Category 4a - A State developed TMDL has been approved by EPA or a TMDL has been established by EPA for any segment-pollutant combination. This subcategory may include waterbodies with TMDLs that may or may not need to be revised for one reason or another, including court orders, consent decrees, and availability of new information.

Category 4b - Other required control measures are expected to result in the attainment of an applicable WQS in a reasonable period of time.

Category 4c - The non-attainment of any applicable WQS for the segment is the result of pollution and is not caused by a pollutant.

Category 5 - Available data and/or information indicate that at least one designated use is not supported or is threatened, and a TMDL is needed.

Priority and Ranking of TMDL Development Based on 303(d) List

Waterbody/pollutant combinations listed in Category 5 (the 303(d) list) require the development of TMDLs. The process summarized below describes how DOEE prioritizes and ranks the TMDLs that need to be developed based on the 303(d) list.

Revisions to TMDLs required by a consent decree or court order will supersede all other TMDLs scheduled for development.

Waterbodies placed on the draft 303(d) list for toxics substances, such as metals and organic constituents, are ranked as high priority for TMDL development based on their risk to human health. Based on previous experience with the TMDL development process, which includes data gathering, model development, and public participation, the District anticipates the development of TMDLs for waterbodies ranked as high priority in the next six (6) years.

Waterbodies placed on the draft 303(d) list for trash are ranked as high priority for TMDL development.

Waterbodies placed on the draft 303(d) list for bacteria (*E. coli*) associated with primary contact recreation use are ranked as a high priority for TMDL development. Bacterial impairment poses human health risk, though the observed effects are usually not as severe as toxic substances' effects. TMDL development for primary contact recreation use is given preference over TMDL development for secondary contact recreation (also a high priority).

Waterbodies placed on the draft 303(d) list for pH are also ranked as medium priority as it is an aquatic life use criterion.

The medium priority waterbodies will be scheduled for TMDL preparation within nine (9) years.

Waterbodies placed on the draft 303(d) list not previously mentioned are ranked low priority. Low priority waterbodies will be scheduled for TMDL preparation within twelve (12) years.

Georeferencing

The geographic location codes included in the 2026 303(d) list were taken from the National Hydrography Dataset. The District uses HUC-10 codes: 0207001003 for the Cameron Run-Potomac River watershed, 0207000810 for the Difficult Run-Potomac River, 0207001002 for Anacostia River watershed, and 0207001001 for the Rock Creek-Potomac River watershed. Only one District waterbody, Dalecarlia Tributary, is in the Difficult Run-Potomac River watershed.

The EPA ATTAINS database is used to compile the data for the Integrated Report.

Public Participation

The draft 2026 Integrated Report will be published for a thirty-day (30-day) public comment period. Consideration will be given to all comments received by the submission deadline. A Notice of Availability of the report, for a thirty (30)-day comment period will be published on the DC Register, provided on the DOEE website, and emailed to stakeholders.

Categorization of District of Columbia Waters

See Appendix 3.4 Draft District of Columbia 303(d).

3.3 Waterbody Segments Water Quality Assessment

Designated Use Support

Designated use support for this 2026 Integrated Report (IR) was determined through application of the 2026 Assessment Methodology and the results produced through the *Reevaluation of Toxics* document. A District-wide summary of fully supporting and impaired waterbody segments is presented in Table 3.2. As shown, all thirty-six (36) District waterbodies were assessed, and all thirty-six (36) waterbodies were found to be impaired for one (1) or more of their designated uses.

Table 3.2 Summary of Fully Supporting and Impaired Waterbody Segments

Degree of Use Support	Number of Waterbody Segments	Number of Waterbody Segments Assessed
Number fully supporting all assessed uses	0	36
Number impaired for one or more uses	36	0

A District-wide summary of use support by waterbodies is presented in Table 3.3.

Table 3.3 Individual Use Support Summary of Waterbody Segments

Use	Total Number	Number Assessed	Number Fully Supporting	Number Not Supporting	Number Not Assessed	Number with Insufficient Info
Class A: Primary Contact Recreation	36	36	3	33	0	0
Class B: Secondary Contact Recreation and Aesthetic Enjoyment	36	36	23	13	0	0
Class C: Protection and Propagation of Fish, Shellfish and Wildlife	36	36	2	34	0	0
Class D: Protection of Human Health Related to Consumption of Fish and Shellfish	36	36	1	35	0	5
Class E: Navigation	22	22	22	0	0	0

Use support by use class as presented in Table 3.3 is summarized as follows:

Class A:

- Three (3) waterbodies supported the primary contact use.
- Thirty-three (33) waterbodies did not support the primary contact use due to pH, turbidity, and/or *E. coli* exceedances.

Class B:

- Twenty-three (23) waterbodies supported the secondary contact recreation use.
- Thirteen (13) waterbodies did not support the secondary contact use because of violations of pH and/or turbidity/water clarity.

Class C:

- Two (2) waterbodies supported the aquatic life designated use.

- Thirty-four (34) waterbodies did not support the aquatic life designated use because of violations of Class C criteria, such as water clarity, dissolved oxygen, toxics, or other criteria.

Class D:

- One (1) waterbody supported the human health use.
- Thirty-five (35) waterbodies did not support human health use based on violations of metals, pesticides, polychlorinated biphenyl (PCBs), or other criteria.

Class E:

- All twenty-two (22) of the waterbodies with a Class E navigation designated use supported that use.

The Category 5 303(d) List of Impaired Waterbodies

The Category 5 303(d) List of Impaired Waterbodies is central to IR reporting. This list changes from one IR reporting cycle to the next as new impairments are found and TMDLs are completed. In addition, new data may show that previous impairments are no longer impaired. The summary of Category 5 causes of impairments is presented in Table 3.4.

3.4 Relative Assessment of Causes/Stressors

Table 3.4 summarizes the stressors/causes of impairment identified in the 2026 IR.

Table 3.4 Total Number of Waterbody Segments Impaired by Various Causes

Impairment Causes	Number of Waterbodies Impacted
Arsenic	15
Benthic Macroinvertebrates Bioassessments	23
Benzo[a]Anthracene	10
Benzo[a]Pyrene	4
Benzo[b]Fluoranthene	9
Benzo[k]Fluoranthene	7
Biochemical Oxygen Demand (BOD)	3
Chlordane	5
Chlordane In Fish Tissue	8
Chlorine, Residual (Chlorine Demand)	1
Chlorophyll-a	5
Chrysene	2
Copper	1

Impairment Causes	Number of Waterbodies Impacted
DDD (Dichlorodiphenyldichloroethane)	6
DDE (Dichlorodiphenyldichloroethylene)	5
DDT (Dichlorodiphenyltrichloroethane)	8
Dibenz[a,h]Anthracene	7
Dieldrin	23
Dieldrin In Fish Tissue	8
Dissolved Oxygen	3
<i>Escherichia coli</i> (<i>E. coli</i>)	33
Habitat Assessment	16
Heptachlor Epoxide	18
Heptachlor Epoxide In Fish Tissue	8
Indeno[1,2,3-cd]Pyrene	7
Mercury	1
Nitrogen, Total	8
Oil And Grease	2
PCBs In Fish Tissue	8
Phosphorus, Total	8
Polychlorinated Biphenyls (PCBs)	28
Total Suspended Solids (TSS)	8
Trash	2
Turbidity	12

3.5 Relative Assessment of Sources

Table 3.5 summarized sources of impairment identified in the 2026 IR.

Table 3.5 Total Number of Waterbody Segments Impaired by Various Sources

Impairment source	Number of waterbodies impacted
Atmospheric deposition - toxics	3
Channelization	4
Combined sewer overflows	9
Contaminated sediments	6
Discharges from municipal separate storm sewer systems (ms4)	26
Highway/road/bridge runoff (non-construction related)	1
Illegal dumps or other inappropriate waste disposal	8
Impacts from hydrostructure flow regulation/modification	10
Municipal (urbanized high density area)	5
Municipal point source discharges	2
Residential districts	15
Runoff from forest/grassland/parkland	1
Source unknown	10
Unspecified urban stormwater	31
Upstream source	6
Urban runoff/storm sewers	2
Wet weather discharges (nonpoint source)	4
Wet weather discharges (point source and combination of stormwater, sso or cso)	5

3.6 Special Topics

Bacteria TMDLs Revision

Between 2003 and 2004, DOEE developed, and EPA approved, bacteria TMDLs for District waters based on fecal coliform. These TMDLs needed to be revised to express the load allocations in “daily” terms due to a court order in *Friends of the Earth v. EPA*, 446 F.3d 140 (D.C. Cir. 2006). In addition, fecal coliform needed to be translated to *E. coli* after the District adopted *E. coli* for purposes of the bacteria water quality criteria in 2008.

In 2014, EPA approved bacteria TMDLs for the Potomac River, the Anacostia River, Kingman

Lake, Oxon Run, Rock Creek, C&O Canal, the Tidal Basin, and Washington Ship Channel.

In 2015, DC Water filed a lawsuit in the United States District Court for the District of Columbia against EPA challenging the TMDLs. In the lawsuit, which has since been withdrawn, DC Water sought to correct what it perceived as technical mistakes, arguing the TMDLs set the waste load allocations for Blue Plains too low. In response, EPA issued a revised decision rationale supporting the approval of DOEE's TMDL that was approved in 2017.

In 2016, the Anacostia RiverKeeper, Kingman Park Civic Association, and Potomac RiverKeeper Network (plaintiffs) jointly filed a lawsuit in the United States District Court for the District of Columbia against EPA, challenging its approval of the TMDLs. In the lawsuit, the plaintiffs argued that the TMDLs failed to appropriately set a maximum daily load as required by the *Friends of the Earth* decision and failed to achieve the narrative criteria designed to protect human health. *Anacostia Riverkeeper, Inc. et al v. McCarthy et al*, Case No. [1:16-cv-01651-CRC](#) (D.D.C.).

In 2019, the Court issued a Memorandum Opinion holding that EPA violated the CWA “when it approved ‘total maximum daily load’ that did not establish daily maximum discharge limits”.

The Court also held that EPA's reasoning that the numeric criteria established for *E. coli* also met the District's narrative WQS criteria was flawed. As a result, the Court vacated EPA's approval of the District's bacteria TMDLs but stayed vacatur for one year to allow the District and EPA to develop new TMDLs. Vacatur has since been stayed until December 15, 2024, by the Court.

Since the Court decision in 2019, the District has worked, with EPA's assistance, to revise the bacteria TMDLs. In FY 2025, the decision was made to have EPA spearhead the revisions of the bacteria TMDLs.

Anacostia River Trash TMDL Revision

On March 30, 2018, in *Natural Resources Defense Council, Inc. v. EPA*, 301 F. Supp. 3d 133 (D.D.C. 2018), the Court vacated the EPA's approval of the TMDL for trash in the Anacostia River but stayed vacatur until such time as EPA approves a replacement TMDL. The Court further directed EPA to submit regular status reports informing the Court of the actions that the agency has taken to comply with the Order. Since July 2019, EPA has provided the Court with regular status updates on EPA, DOEE, and Maryland Department of Environment (MDE) activities to revise the trash TMDLs.

Activities in the development of a methodology for determining trash TMDLs endpoint is ongoing. EPA has already approved the Quality Assurance Project Plan (QAPP). The trash threshold survey has been finalized and the development of a draft revised TMDL is in process. DOEE and Maryland Department of Environment are attempting to finish a draft revised TMDL for a public comment period later in 2026.

Bacteria Source Tracking Studies

All District waters are impaired by bacteria. DOEE is using new tools and techniques to identify bacteria sources that will facilitate source control and mitigating practices to reduce bacteria impairment of District waters. Those tools and techniques include monitoring and predictive modeling of bacteria, enterococci polymerase chain reaction (PCR) testing, and microbial source

tracking. The latest information is located on the [Water Quality & Swimming in the District](#) website.

TMDL IP Modeling

The District's TMDL Implementation Plan Modeling Tool (IPMT) was developed in 2014 to model the stormwater runoff volumes, pollutant loads generated, and load reductions achieved through stormwater management. By generating a pollutant load "gap" between current conditions and the wasteload allocation (WLA), it is possible to determine how much load reduction is required to meet an individual WLA. It can also be used to forecast pollutant reductions associated with implementation of the District's 2013 Stormwater Regulations. The IPMT also includes a comprehensive TMDL inventory that provides users with access to details for each waterbody, pollutant, TMDL document, decision rationale document, and numeric WLA.

Application of the IPMT provides a method to track the achievement of TMDLs in a consistent manner for all pollutants. DOEE updates the IPMT at the end of each annual reporting cycle with the specifications of Best Management Practices (BMPs) that have been implemented in that timeframe. These data are then used to model pollution reductions made toward implementation milestones and, if necessary, guide adaptive management strategies.

DOEE applies the IPMT model to calculate the runoff and pollutant load reductions from BMP implementation for each MS4 Permit reporting year. The IPMT outputs are in the [2025 Nonpoint Source Management Program Annual Report](#).

Snow and Ice Removal

DOEE works with the District's 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 at salt domes and vehicle wash facility walkthroughs.

DOEE plays a role in snow and ice removal operations and emergency responses management during winter weather events by developing snow training for District employees. These presentations teach District 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 2025, the P2 (Pollution Prevention) team held nine (9) trainings on proper snow and ice removal techniques. This resulted in one hundred and forty-nine (149) employees becoming proficient in good housekeeping, spill response, and techniques to reduce salt use.

Pre- and Post-restoration Stream Water Quality Monitoring

DOEE contracts with the Metropolitan Washington Council of Governments (MWWOG) to perform pre- and post-restoration monitoring of sixteen District stream restoration sites on a rotating basis. These streams are either previously restored or are on the District's list of streams to be restored. MWWOG monitors six (6) sites each year and rotates monitoring on an annual basis, providing periodic monitoring of each restoration site. This work focuses on determining the effectiveness of restoration projects toward achieving goals related to water quality, vegetation, habitat, biological community, and geomorphic improvements. More detailed information on the pre- and post-restoration monitoring efforts is in the [2025 Nonpoint Source](#)

[Program Annual Report.](#)**Wetland Mapping and Assessment Activities**

Wetlands are vital to healthy watersheds and offer numerous benefits to humans, water quality, and wildlife. They store floodwaters, protect shorelines, recharge groundwater, mitigate urban heat island effect, and manage nutrients and pollutants. Wetlands are crucial for food webs, serving as nursery habitat for breeding fish, amphibians, and birds, while acting as buffers against pollution.

Wetlands are the primary habitat used by most species selected for vulnerability consideration in the District's 2015 Wildlife Action Plan. Protection and restoration of the District's wetlands is also vital to the health of the Chesapeake Bay ecosystem.

Within the District, 296 acres of wetlands have been mapped and assessed in the field. Over 92% of the District's potential wetlands (areas determined to have wetland characteristics via a desktop analysis) are located within 500 feet or less of urban development. These urban wetlands face constant challenges such as habitat loss from development, fragmentation, and altered hydrology as well as degraded water quality from stormwater runoff, scour from heavy rain events, and invasive plant colonization. Conservation of these important natural resources is vital to the ecology and health of the District's residents, watersheds, wildlife, and economy. Find out more in [the District Wetlands Storymap](#).

2022-2032 303(d) Program Vision and Prioritization Strategy

DOEE continues to engage with EPA Region 3 and EPA Headquarters on all aspects of the 303(d) New Vision. More detail on these program activities can be found in DOEE's [Integrated Reports](https://doee.dc.gov/publication/integrated-report-epa-and-us-congress-regarding-dcs-water-quality) (<https://doee.dc.gov/publication/integrated-report-epa-and-us-congress-regarding-dcs-water-quality>) and/or [MS4 Annual Reports](https://doee.dc.gov/publication/ms4-reporting-library) (<https://doee.dc.gov/publication/ms4-reporting-library>).

Chapter 4 Public Health-Related Assessments

Lead in the District

Lead is a naturally occurring toxic metal used in various products and materials including paint, lead pipes, and construction materials. Human exposure to lead may occur through proximity to these products, dust, or contaminated soil. In the District, lead exposure is a concern for many families and residents. Lead poisoning can cause slowed growth, learning difficulties, behavioral issues, anemia, and brain damage in children. DOEE's [Lead in the District](#) and [Lead Resources Hub](#) have information on who is most at risk, measures to reduce or eliminate lead exposure-like lead pipe replacement, and recent recalls and lead safety warnings. For information on District laws to prevent and eliminate lead hazards visit the [Lead Related Regulatory and Legislative Affairs](#) website.

Fish Consumption Advisory

In June 2023, the United States Fish and Wildlife Service (US FWS) completed a study of fish tissue for contaminants of concern on fish caught in District waters for DOEE. Based on the study's findings, the 2016 fish consumption advisory was updated.

In FY 2025, the District engaged US FWS to conduct a fish tissue study on contaminants of concern. The fish have been captured from District waters. Depending on the findings, the 2023 fish consumption advisory will be updated, if necessary. To view the current fish consumption advisory, visit the DOEE website [Fishing in the District](#).

Chapter 5 Groundwater Assessment

5.1 Groundwater Summary

[Groundwater Studies of The Anacostia River Watershed Part 1 Report, 2025](#), details the field work and groundwater sampling conducted by the DOEE Water Quality Division's Groundwater Protection Program (GWPP) and its contractor, Tetra Tech, Inc. (Tetra Tech), for fiscal year 2025 (FY 2025). It also provides information on other tasks that were identified for the project. These tasks included horizontal hydraulic conductivity testing in the Patuxent Aquifer and collecting and reviewing groundwater data in the District from 2002 to 2025.

The FY 2025 field work and sampling was conducted at a subset of wells in the District which has been monitored by GWPP in previous years in cooperation with the United States Geological Survey (USGS), and with funding from DOEE, USGS and United States Environmental Protection Agency (EPA). Previous data collected under the joint studies were made available to the public through the USGS National Water Information System (NWIS) and several published reports. Since 2022, the GWPP has independently conducted several groundwater investigations and continued to collect monitoring data from the DOEE monitoring well network.

Other DOEE Studies

The GWPP continues to manage a multi-year study to determine background inorganic values for groundwater in the shallow and Cretaceous Age sediments of the Potomac Group. The groundwater data will be used to determine physical and chemical parameters in the primary aquifers. This study is expected to provide much-needed data for projects involving groundwater use and supply; provide information on the impact of natural groundwater in groundwater/surface water interactions; and determine what natural groundwater values are likely to be at contaminated sites. So far, three rounds of data have been collected. However, there are various data gaps in the District's hydrogeologic framework that are affecting this effort. An increasingly important goal is to create hydrogeologic maps and cross-sections to develop the framework necessary to correctly identify the aquifers associated with groundwater monitoring data collected in the study area. Similarly, there is very little data available on the properties of the shallow aquifers and those of the Cretaceous age in the District. Without this information, the background data's usefulness is limited. The GWPP is working to fill the data gaps and identify appropriate sampling locations to collect subsurface cores and conduct hydraulic conductivity testing at various representative well locations. If funding becomes available, the Program will obtain the necessary well and access permits, contract drillers, and have the data collected and analyzed by an appropriately qualified contractor.

To obtain a more comprehensive view of PFAS contamination in the regionally important Patuxent Aquifer, the GWPP conducted a study involving six pre-existing wells and one new deep well in the Patuxent. Two rounds of data were collected for analysis using EPA Methods 533.1 and 537 for PFAS in drinking water. Data from the EPA-funded PFAS investigations of the shallow groundwater will be combined with the data from this study to provide a wider understanding of PFAS impacts on groundwater in the study area. The combined report is expected to be completed in FY 2026.

Groundwater Standards

The GWPP updated the arsenic value from 0.050 mg/L to 0.010 mg/L in the District's [Groundwater Standards](#). The new value will be the same as the EPA's Maximum Contaminant Level for arsenic in public drinking water supplies. The GWPP also amended incorrect footnotes and added clarifying language for some standards.

5.2 Groundwater Evaluation

The progress of the work to determine the quantity and quality of groundwater discharging to the surface water remains focused on quantifying the flow and pollutants transport, distribution, recharge, and discharge of groundwater resources within the District, which results in mapping the groundwater flow and hydrochemistry in the Aquifers. The objective is to provide detailed and quantitative knowledge of the groundwater resources to understand the contribution of groundwater to the baseflow and to address the seepage of nonpoint source pollution. Some examples of the tools used to support these goals include: the use of existing groundwater models, 3-D visualization of the DC Aquifer Units, GIS layers of the hydrogeologic units distribution, analysis of all the existing subsurface information, construction of 3-D geologic visualizations, as well as the characterization and definition of the conceptual model of the multiple aquifer units in the District. Information and results from the quantification of groundwater resources have been made available to other DOEE programs within the Agency.

A second part of the work is the hydrogeologic information for the Tidal Anacostia River area, which is now complete and has been used to support the Tidal Anacostia River Groundwater Model (TARGM) and the remediation of the Anacostia River's sediment. Detailed hydrogeologic cross-sections, conceptual site models, and 3-D visualizations for specific sites along the Anacostia River have been developed.

The groundwater evaluation team continues integrating all the new, more detailed, and site-specific information becoming available. This means new geological and hydrogeological information is available to DOEE and other entities and are being integrated into the digital geodatabase of DC surface and subsurface geology. The digital data is being used in specialized software to construct geologic cross sections and 3-D geological visualizations to define the distribution of aquifers and their interactions.

The existing groundwater model and other analytical tools have been used to assess the possible impacts that depressurization occurring in the District for construction purposes is causing to the quantity and quality of groundwater in the aquifers. This analysis is now focused on analyzing the depressurization effect on the main aquifer in the Anacostia River Watershed through the data generated during the operation of two simultaneous construction dewatering systems. The hydraulic conductivity obtained from the extensive construction dewatering monitoring is also being assessed and used to evaluate the main aquifer.

The DC Groundwater Model was updated to the most recent version of MODFLOW-USG® in FY 2023 and this year (FY 2025) the surface water tributaries are now considered in the model. The elevation of the crystalline fracture bedrock was modified. After doing so, the calibration remained in the same order of magnitude.

An updated GIS layer based on the MODFLOW® groundwater model results was constructed to prepare a GIS layer of the hydrogeology of DC requested by other programs within DOEE.

Definitions

Best management practice (BMP) - Structural or non-structural practice that minimizes the impact of stormwater runoff on receiving waterbodies and other environmental resources, especially by reducing runoff volume and the pollutant loads carried in that runoff.

Common plan of development - Multiple, separate, and distinct land-disturbing, substantial improvement, or other construction activities taking place under, or to further, a single, larger plan, although they may be taking place at different times on different schedules.

Construction - Activity conducted for the:

- (a) Building, renovating, modifying, or razing of a structure; or
- (b) Movement or shaping of earth, sediment, or a natural or built feature
 - a. **Construction general permit (CGP)** - An NPDES general permit that regulates stormwater discharges from construction activities that disturb one or more acres, or smaller sites that are part of larger common plan of development or sale that disturb one or more acres.
 - b. **Cut** - An act by which soil or rock is dug into, quarried, uncovered, removed, displaced, or relocated and the conditions resulting from those actions.

Dewatering - Removing water from an area or the environment using an approved technology or method, such as pumping.

Director - The Director of the Department of Energy and Environment.

Erosion - The process by which the ground surface, including soil and deposited material, is worn away by the action of wind, water, ice, or gravity.

Erosion and sediment control (ESC) - Devices and conservation measures used to reduce or eliminate soil particles from leaving a land area.

National Pollutant Discharge Elimination System (NPDES) - The NPDES permit program addresses water pollution by regulating point sources that discharge pollutants to the waters of the United States.

Public right-of-way (PROW) - The surface, the air space above the surface (including air space immediately adjacent to a private structure located on public space or in a public right-of-way), and the area below the surface of any public street, bridge, tunnel, highway, lane, path, alley, sidewalk, or boulevard.

Runoff - That portion of precipitation (including snow-melt) which travels over the land surface, and from rooftops, either as sheetflow or as channel flow, in small trickles and streams, into the main water courses.

Sediment - Soil, including soil transported or deposited by human activity or the action of wind, water, ice, or gravity.

Sedimentation - The deposition or transportation of soil or other surface materials from one

place to another because of an erosion process.

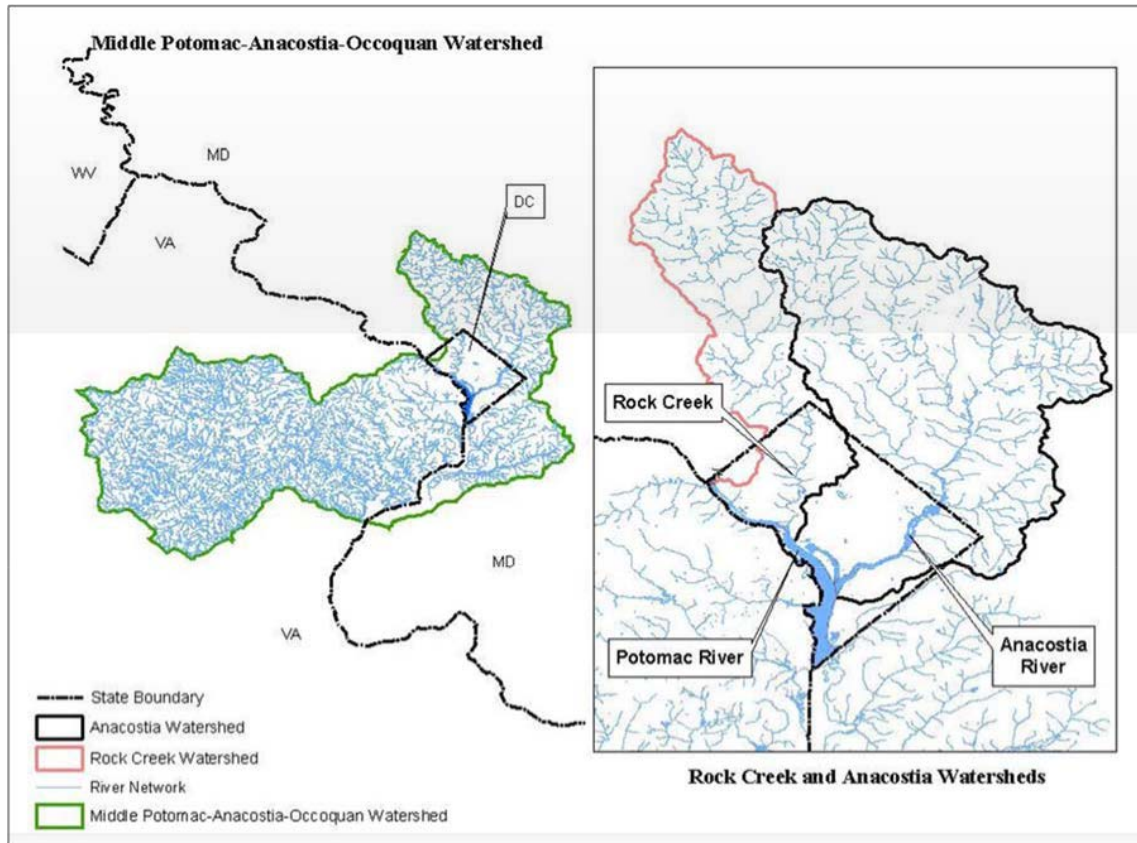
Soil - All earth material of whatever origin that overlies bedrock and may include the decomposed zone of bedrock which can be readily excavated by mechanical equipment.

Soil erosion and sediment control plan - A set of drawings, calculations, specifications, details, and supporting documents related to minimizing or eliminating erosion and off-site sedimentation caused by stormwater on a construction site. It includes information on construction, installation, operation, and maintenance.

Stormwater management plan - A set of drawings, calculations, specifications, details, and supporting documents related to the management of stormwater for a site, which includes information on construction, installation, operation, and maintenance.

Stormwater pollution prevention plan (SWPPP) - A document that identifies potential sources of stormwater pollution at a construction site, describes practices to reduce pollutants in stormwater discharge from the site, and may identify procedures to achieve compliance.

Appendix 2.1 Major District of Columbia Watersheds



Appendix 3.1 2026 Use Support and Cause by Pollutant

Appendix 3.1: Use Support and Non- Support with Cause

Waterbody Name	Waterbody ID	Class A Swimming Use	Class B Secondary Contact Rec Use	Class C Aquatic life Use	Class D Fish Consumption Use	Class E Navigation Use ⁵
Kingman Lake	DCAKL00L	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity	Not Supporting Causes: <u>Water Quality</u> DO TSS ^{2,3} Turbidity Oil & Grease DDT phosphorus (Total) ² Nitrogen (Total) ² BOD ⁴	Not Supporting Causes: <u>Fish Tissue</u> Chlordane Dieldrin Heptachlor epoxide Total PCBs <u>Water Quality</u> Arsenic DDD DDT Chlordane Dieldrin Benzo_a_anthracene (PAH2) Benzo_a_pyrene (PAH3) Benzo_b_fluoranthene (PAH3) Benzo_k_fluoranthene (PAH3) Dibenzo_a_hanthracene (PAH3) Indeno_1_2_3_cd_pyrene (PAH3) Total PCBs	Fully Supporting
Anacostia DC (Lower) Segment 01	DCANA00E SEG1	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Not Supporting Causes: <u>Water Quality</u> Trash	Not Supporting Causes: <u>Water Quality</u> DDD DDT TSS ^{2,3} phosphorus (Total) ² Nitrogen (Total) ² DO BOD ⁴ Chlorophyll-a	Not Supporting Causes: <u>Fish Tissue</u> Chlordane Dieldrin Heptachlor epoxide Total PCBs <u>Water Quality</u> DDD DDT Chlordane Dieldrin Heptachlor Epoxide	Fully Supporting

Waterbody Name	Waterbody ID	Class A Swimming Use	Class B Secondary Contact Rec Use	Class C Aquatic life Use	Class D Fish Consumption Use	Class E Navigation Use ⁵
					Benzo_a_anthracene (PAH2) Chrysene (PAH2) Benzo_a_pyrene (PAH3) Benzo_b_fluoranthene (PAH3) Benzo_k_fluoranthene (PAH3) Dibenzo_a_h_anthracene (PAH3) Indeno_1_2_3_c_d_pyrene (PAH3) Total PCBs	
Anacostia DC (Upper) Segment 02	DCANA00E SEG2	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Trash Turbidity	Not Supporting Causes: <u>Water Quality</u> DO TSS ^{2,3} Turbidity Oil & Grease phosphorus (Total) ² Nitrogen (Total) ² BOD ⁴ Chlorophyll a DDD DDE DDT Heptachlor epoxide Total PCBs	Not Supporting Causes: <u>Fish Tissue</u> Chlordane Dieldrin Heptachlor epoxide Total PCBs <u>Water Quality</u> Arsenic DDD DDE DDT Dieldrin Heptachlor epoxide Benzo_a_anthracene (PAH2) Benzo_a_pyrene (PAH3) Benzo_b_fluoranthene (PAH3) Benzo_k_fluoranthene (PAH3) Dibenzo_a_h_anthracene (PAH3) Indeno_1_2_3_c_d_pyrene (PAH3) Total PCBs	Fully Supporting
Potomac DC (Lower) Segment 01	DCPMS00E SEG1	Fully Supporting	Fully Supporting	Not Supporting Causes: <u>Water Quality</u> phosphorus (Total) ²	Not Supporting Causes: <u>Fish Tissue</u> Chlordane Dieldrin	Fully Supporting

Waterbody Name	Waterbody ID	Class A Swimming Use	Class B Secondary Contact Rec Use	Class C Aquatic life Use	Class D Fish Consumption Use	Class E Navigation Use ⁵
				Nitrogen (Total) ² TSS ² Chlorophyll-a DDD	Heptachlor epoxide Total PCBs <u>Water Quality</u> Arsenic DDD Total PCBs	
Potomac DC (Middle) Segment 02	DCPMS00E SEG2	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Causes: <u>Water Quality</u> Chlorophyll a TSS ² phosphorus (Total) ² Nitrogen (Total) ²	Not Supporting Causes: <u>Fish Tissue</u> Chlordane Dieldrin Heptachlor epoxide Total PCBs <u>Water Quality</u> Arsenic Dieldrin Total PCBs	Fully Supporting
Potomac DC (Upper) Segment 03	DCPMS00E SEG3	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity	Not Supporting Causes: <u>Water Quality</u> TSS ² Turbidity phosphorus (Total) ² Nitrogen (Total) ² Chlorophyll a	Not Supporting Causes: <u>Fish Tissue</u> Chlordane Dieldrin Heptachlor epoxide Total PCBs <u>Water Quality</u> Arsenic Total PCBs	Fully Supporting
Tidal Basin	DCPTB01L	Fully Supporting	Fully Supporting	Not Supporting Causes: <u>Water Quality</u> phosphorus (Total) ² Nitrogen (Total) ² TSS ²	Not Supporting Causes: <u>Fish Tissue</u> Chlordane Dieldrin Heptachlor epoxide Total PCBs	Fully Supporting
Washington Ship Channel	DCPWC04E	Fully Supporting	Fully Supporting	Not Supporting Causes: <u>Water Quality</u> phosphorus (Total) ² Nitrogen	Not Supporting Causes: <u>Fish Tissue</u> Chlordane Dieldrin Heptachlor	Fully Supporting

Waterbody Name	Waterbody ID	Class A Swimming Use	Class B Secondary Contact Rec Use	Class C Aquatic life Use	Class D Fish Consumption Use	Class E Navigation Use ⁵
				(Total) ² TSS ²	epoxide Total PCBs <u>Water Quality</u> Arsenic Benzo_a_anthracene (PAH2) Benzo_b_fluoranthene (PAH3) Benzo_k_fluoranthene (PAH3) Dibenzo_a_hanthracene (PAH3) Indeno_1_2_3_c_d_pyrene (PAH3) Total PCBs	
Rock Creek (Lower) Segment 01	DCRCR00R SEG1	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	fully Supporting	Not Supporting Causes: <u>Water Quality</u> DDD DDE Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Arsenic DDD DDE Dieldrin Heptachlor Epoxide Benzo_a_anthracene (PAH2) Benzo_b_fluoranthene (PAH3) Benzo_k_fluoranthene (PAH3) Chrysene (PAH2) Dibenzo_a_hanthracene (PAH3) Indeno_1_2_3_c_d_pyrene (PAH3) Total PCBs	Fully Supporting
Rock Creek (Upper) Segment 02	DCRCR00R SEG2	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Insufficient evidence to determine use support	Fully Supporting
Battery Kemble Creek	DCTBK01R	Not Supporting Causes:	Fully Supporting	Not Supporting Cause:	Insufficient evidence to determine use support#	NDU

Waterbody Name	Waterbody ID	Class A Swimming Use	Class B Secondary Contact Rec Use	Class C Aquatic life Use	Class D Fish Consumption Use	Class E Navigation Use ⁵
		<u>Water Quality</u> <i>E. coli</i>		<u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment		
Broad Branch	DCTBR01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Causes: <u>Water Quality</u> DDT Heptachlor epoxide <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Arsenic DDT Dieldrin Heptachlor Epoxide Total PCBs	Fully Supporting
C&O Canal	DCTCO01L	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Fully Supporting	Insufficient evidence to determine use support#	Fully Supporting
Dalecarlia Tributary	DCTDA01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Cause: <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Dieldrin Heptachlor epoxide Total PCBs	NDU
Dumbarton Oaks Tributary	DCTDO01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Causes: <u>Water Quality</u> Chlordane DDT Heptachlor Epoxide Total PCBs Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Arsenic Chlordane DDT Dieldrin Heptachlor Epoxide Mercury Total PCBs	Fully Supporting
Fenwick Branch	DCTFE01R	Not Supporting	Fully Supporting	Not Supporting	Not Supporting Causes:	Fully Supporting

Waterbody Name	Waterbody ID	Class A Swimming Use	Class B Secondary Contact Rec Use	Class C Aquatic life Use	Class D Fish Consumption Use	Class E Navigation Use ⁵
		Causes: <u>Water Quality</u> <i>E. coli</i>		Cause: <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	<u>Water Quality</u> DDT Dieldrin Heptachlor epoxide Total PCBs	
Fort Chaplin Run	DCTFC01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Insufficient evidence to determine use support#	NDU
Fort Davis Tributary	DCTFD01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity	Not Supporting Causes: Water Quality Turbidity Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Insufficient evidence to determine use support#	NDU
Fort Dupont Tributary	DCTDU01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Arsenic Total PCBs	NDU
Fort Stanton Tributary	DCTFS01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Arsenic Benzo_a_anthracene (PAH2) Benzo_b_fluoranthene (PAH3) Total PCBs	NDU
Foundry	DCTFB02R	Not	Fully	Not Supporting	Fully	NDU

Waterbody Name	Waterbody ID	Class A Swimming Use	Class B Secondary Contact Rec Use	Class C Aquatic life Use	Class D Fish Consumption Use	Class E Navigation Use ⁵
Branch		Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Supporting	Cause: <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Supporting	
Hickey Run	DCTHR01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity Copper Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> DDE Benzo_a_anthra cene (PAH2) Total PCBs	NDU
Kling Valley Creek	DCTKV01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Cause: <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Dieldrin Heptachlor epoxide Total PCBs	Fully Supporting
Luzon Branch	DCTLU01	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Cause: <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Dieldrin Heptachlor epoxide Total PCBs	Fully Supporting
Melvin Hazen Valley Branch	DCTMH01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Causes: <u>Water Quality</u> DDT Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Arsenic DDT Dieldrin Heptachlor epoxide Total PCBs	Fully Supporting
Nash Run	DCTNA01R	Not Supporting	Not Supporting	Not Supporting	Not Supporting	NDU

Waterbody Name	Waterbody ID	Class A Swimming Use	Class B Secondary Contact Rec Use	Class C Aquatic life Use	Class D Fish Consumption Use	Class E Navigation Use ⁵
		Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Causes: <u>Water Quality</u> Turbidity	Causes: <u>Water Quality</u> Turbidity Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Causes: <u>Water Quality</u> Dieldrin Heptachlor epoxide Benzo_a_anthracene (PAH2) Benzo_a_pyrene (PAH3) Benzo_b_fluroanthene (PAH3) Benzo_k_fluroanthene (PAH3) Dibenzo_a_h_anthracene (PAH3) Indeno_1_2_3_c_d_pyrene (PAH3) Total PCBs	
Normanstone Creek	DCTNS01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Cause: <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Dieldrin Heptachlor epoxide Total PCBs	Fully Supporting
Oxon Run	DCTOR01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Causes: <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Dieldrin	NDU
Pinehurst Branch	DCTPI01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Cause: <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Dieldrin Heptachlor epoxide Total PCBs	Fully Supporting
Piney Branch	DCTPY01R	Not Supporting	Fully Supporting	Not Supporting	Not Supporting Causes:	Fully Supporting

Waterbody Name	Waterbody ID	Class A Swimming Use	Class B Secondary Contact Rec Use	Class C Aquatic life Use	Class D Fish Consumption Use	Class E Navigation Use ⁵
		Causes: <u>Water Quality</u> <i>E. coli</i>		Cause: <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	<u>Water Quality</u> Dieldrin Heptachlor epoxide Total PCBs	
Pope Branch	DCTPB01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Causes: <u>Water Quality</u> Chlordane Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: Water Quality Chlordane DDE Dieldrin Heptachlor epoxide Benzo_a_anthra cene (PAH2) Benzo_b_fluroa nthane (PAH3) Dibenzo_a_h_an thracene (PAH3) Indeno_1_2_3_c d_pyrene (PAH3) Total PCBs	NDU
Portal Branch	DCTPO01R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Cause: <u>Water Quality</u> Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Dieldrin Heptachlor epoxide Total PCBs	Fully Supporting
Soapstone Creek		Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Not Supporting Cause: Water Quality Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Dieldrin Heptachlor epoxide Total PCBs	Fully Supporting

Waterbody Name	Waterbody ID	Class A Swimming Use	Class B Secondary Contact Rec Use	Class C Aquatic life Use	Class D Fish Consumption Use	Class E Navigation Use ⁵
Texas Avenue Tributary	DCTTX27R	Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity Chlordane DDD DDE DDT Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Chlordane DDD DDE DDT Dieldrin Heptachlor epoxide Benzo_a_anthra cene (PAH2) Benzo_b_fluroa nthane (PAH3) Benzo_k_fluroa nthane (PAH3) Total PCBs	NDU
Watts Branch (Lower) Segment 01		Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i>	Fully Supporting	Fully Supporting	Not Supporting Causes: <u>Water Quality</u> Arsenic Dieldrin Total PCBs	NDU
Watts Branch (Upper) Segment 02		Not Supporting Causes: <u>Water Quality</u> <i>E. coli</i> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity	Not Supporting Causes: <u>Water Quality</u> Turbidity Benthic Macroinvertebrate Assessment Physical Habitat Assessment	Not Supporting Causes: <u>Water Quality</u> Arsenic Dieldrin Total PCBs	NDU
#While there were no pollutants identified as causing impairment for this waterbody, there were other pollutants for which there was insufficient evidence to make a use determination. ¹All findings based on DOEE data collection unless otherwise noted. ²Based on Chesapeake Bay Program analysis. ³Based on Anacostia watershed TSS TMDL. ⁴Based on Anacostia watershed BOD TMDL. ⁵NDU - not a designated use						

Appendix 3.2 Surface Water Assessment and Listing Methodology



District of Columbia Surface Water Assessment and Listing Methodology



Prepared for District
Department of Energy and the
Environment

March 2026

Blank Page



District of Columbia Surface Water Assessment and Listing Methodology

March, 2026

Prepared on behalf of DOEE by



Michael P. Sullivan LLC
Environmental Consulting in Hydrology
and Urban Water Quality

Blank page



Contents

BACKGROUND AND PURPOSE	2
INTRODUCTION	2
DATA	3
ASSESSMENT METHODOLOGY	4
Designated Uses.....	4
Assessment Criteria/Metrics.....	5
Assessment and Reporting Period	5
Assessment Units	5
Water Quality Assessment.....	7
Water Quality Data	7
Treatment of Non-detect (ND) Values.....	10
Benthic Macroinvertebrate Assessment.....	11
Physical Habitat Assessment.....	13
Fish Tissue Analysis and Assessment	14
Narrative Criteria	15
Decision Rules for Attaining Designated Uses	17
CAUSES OF IMPAIRMENT	22
Nutrient and Sediment Impairment	24
Toxics Impairments	24
CATEGORIZATION	25
Categorization for Individual Pollutants within a Waterbody	28
Re-Categorization for Individual Pollutants within a Waterbody.....	29
303(d) LISTING	30
303(d) DELISTING	30
Authority for Delisting.....	30
Reasons for Delisting and WQS Attainment	31
Good Cause Justification for Delisting	31
REMOVAL OF SPECIFIC POLLUTANT CAUSES.....	32
TMDL WITHDRAWAL.....	Error! Bookmark not defined.
GOOD CAUSE JUSTIFICATION.....	32
REPORTING.....	34
REFERENCES	35

Table of Figures

Figure 1. Decision Logic for Use Attainment and Categorization	27
--	----

Table of Tables

Table 1. Waterbody Segments Used as Assessment Units	6
Table 2. Assessment Methods for Numeric Water Quality Criteria ¹	8
Table 3. Narrative Criteria	16
Table 4. Assessment Using Narrative Criteria	17
Table 5. Decision Rules for Attaining Designated Uses	18
Table 6. Methods for Identifying Cause of Impairment	23
Table 7. Categorization of Waterbodies	25
Table 8. Types of Data used in the Weight of Evidence Approach	33

Appendix A

Compendium of Benthic Macroinvertebrate Metrics Used in District Bioassessment

DISTRICT OF COLUMBIA SURFACE WATER ASSESSMENT AND LISTING METHODOLOGY

BACKGROUND AND PURPOSE

The Clean Water Act (CWA) requires states - including the District of Columbia (the District) - to report on the quality of the Nation's waters. CWA Section 305(b) requires states to prepare a comprehensive biennial water quality assessment report and CWA Section 303(d) requires a list of waters for which effluent limitations are not sufficient to meet water quality standards (WQS). As part of WQS, waters are assigned designated uses, which define the types of uses that the waters are expected to support (i.e., primary contact recreation, secondary contact recreation, etc.). Criteria and indicators for determining if these uses are attained are established for each designated use by waterbody or waterbody segment (e.g., bacteria concentrations to determine if a water is safe for swimming; chemical pollutant concentrations to determine if water can support aquatic life, etc.). Waters undergo a regular assessment process every other year to determine if criteria are met and individual designated uses are attained. Waters that meet the criteria for a given use "support" that designated use. Waters that do not meet the criteria for a given use do not support that designated use, and they are placed on the 303(d) list of impaired waters. Results are then reported through the Integrated Report (IR).

This document summarizes the District's methods for assessing attainment of designated uses, categorizing waterbodies based on attainment of uses, listing and delisting waterbodies on the 303(d) list, and reporting results through the IR. The District implements these methods to make impairment determinations and listing/delisting decisions, to determine categorizations, and to prepare the IR.

INTRODUCTION

Beginning in 2004, EPA recommended that states prepare a single water quality monitoring and assessment report (the IR) every even-numbered year that combines the Section 305(b) report and the Section 303(d) list of impaired waters (U.S. EPA, 2002). The District began to produce Section 305(b) reports in 1992 and Integrated Reports in 2004. The assessment of waterbody segments in the District is undertaken with a combination of physical/chemical water quality data, physical habitat data, benthic macroinvertebrate assessment data, fish tissue data, and observations related to narrative criteria, as well as through consideration of total maximum daily load (TMDL) studies with unattained point source wasteload allocations (WLAs) or nonpoint source load allocations (LAs).

EPA provides comprehensive information and guidance on WQS, water quality compliance, and water quality assessment and reporting. According to EPA,

***Water quality assessment** begins with water quality standards. After setting standards, states assess their waters to determine the degree to which these standards are being met. To do so, states may take biological, chemical, and physical measures of their waters; sample fish tissue and sediments; and evaluate land use data, predictive models, and surveys (U.S. EPA, 2021a).*

In general terms,

Assessment of an individual waterbody segment means analyzing physical/chemical water quality data, physical habitat data, benthic macroinvertebrate data, fish tissue data, observations related to narrative criteria, and other information to determine designated use support.

Designated use is the use (or uses) specified for a waterbody - whether that use is attained or not.

Impaired waters are those waterbodies that do not meet WQS.

Categorization is used to organize and report on the assessment of waterbodies in the IR according to use attainment.

A **303(d) list** is a compilation of impaired waterbodies.

Listing is the process of placing an impaired waterbody on the 303(d) list.

Delisting is the process of removing an impaired waterbody from the 303(d) list where the assessment methods and decision rules indicate that the condition causing the impairment is no longer present or not present.

EPA recognizes that states may use different methods to determine whether a waterbody meets WQS as long as they use “all existing and readily available information” in developing their 303(d) lists (40 C.F.R. §130.7(b) (5)). Accordingly, EPA’s regulations require states to submit a summary description of the methodology used to develop the list and to make a copy of the entire methodology available for review. In general, an assessment methodology constitutes the “decision rules” that will be used when assessing water quality to determine the impairment status and categorization for a particular waterbody (U.S. EPA, 2003).

Regarding content, EPA (U.S. EPA, 2005) suggests that:

The assessment methodology should be consistent with the state’s WQSs and include a description of the following as part of their section 303(d) list submissions:

- *What data and information were used to make attainment determinations (e.g., results from site-specific and probabilistic monitoring and other predictive tools).*
- *How the data and information were used to make attainment determinations and place surface water segments in the five reporting categories.*
- *Rationales for any decision to not use any existing and readily available data and information.*
- *Changes in the assessment methodology since the last reporting cycle.*

On balance, EPA guidance provides the District and other states with considerable latitude in designing and implementing methods to assess, categorize, and list and delist waterbodies.

DATA

The District considers all existing and readily available data to assess attainment of designated uses.

In general, the main sources of data used for assessment purposes are:

- District ambient water quality monitoring data
- Ambient monitoring data from other agencies (EPA, USGS, Corps of Engineers, DC Water, etc.)
- Monitoring data from other sources (universities, non-governmental organizations, citizen scientists, etc.)
- District phytoplankton, zooplankton, and benthic macroinvertebrate data
- District fish tissue data
- District physical habitat data
- District special monitoring studies
- Observations from District staff related to narrative criteria
- TMDL documents for District waterbodies, including the Chesapeake Bay Total Daily Maximum Load for Nitrogen, Phosphorus and Sediment (2010).

To maintain data quality, the District ensures that the data utilized for assessment is unbiased and based on scientifically sound data collection and analytical methods. The District's Water Quality Monitoring Regulations (District of Columbia Municipal Regulations [DCMR] Title 21, Chapter 19) were developed to ensure accurate, consistent, and reproducible water quality monitoring data for decision making purposes. These regulations include Quality Assurance Project Plan (QAPP) requirements and specific quality assurance procedures. Any data – including data collected by the District or data collected by others – that do not satisfy quality requirements are not utilized for assessment purposes.

The specific data utilized for assessment might vary from one reporting cycle to the next because of the implementation of special studies, the implementation of projects that include relevant data collection, or other reasons. The data used for assessment is documented in the individual IRs.

ASSESSMENT METHODOLOGY

During the assessment process, data are used to determine if a waterbody supports each of its designated uses. Attainment of each designated use for an individual water is evaluated independently based on the criteria for that use and the data that exist for that waterbody for the criteria. In general, data from a given waterbody are compared against numeric water quality criteria, narrative criteria, and other benthic macroinvertebrate, fish tissue, and physical habitat metrics to determine if a given use is supported. If a waterbody meets criteria and/or metrics for a given use, that use is supported in that waterbody. If some or all criteria or metrics for a given designated use are not met, the waterbody does not support that designated use and it is considered impaired for that designated use.

Designated Uses

As described in the District's WQS (DCMR Title 21, Chapter 11), the categories of designated uses for the surface waters of the District of Columbia are:

- Class A – Primary contact recreation (swimmable)
- Class B – Secondary contact recreation and aesthetic enjoyment (wadeable)
- Class C – Protection and propagation of fish, shellfish, and wildlife (aquatic life)
- Class D – Protection of human health related to consumption of fish and shellfish (fish consumption)

- Class E – Navigation (ability to travel freely up and down the river using assorted watercraft and absent of man-made objects that impede free movement)

Assessment Criteria/Metrics

The assessment criteria for each use class are summarized as follows:

- Class A: District WQS include narrative criteria and numeric criteria for *E. coli*, pH, and turbidity that apply to Class A waters for the protection of primary contact recreation.
- Class B: District WQS include narrative criteria and numeric criteria for pH and turbidity that apply to Class B waters for the protection of secondary contact recreation and aesthetic enjoyment.
- Class C: District WQS include narrative criteria; numeric criteria for dissolved oxygen, temperature, pH, turbidity, Secchi depth, total dissolved gases, hydrogen sulfide, oil & grease, Chlorophyll-*a*, inorganic compounds (mostly metals but including ammonia), and organic constituents; physical habitat assessment metrics; and benthic macroinvertebrate metrics that apply to Class C waters for the protection of aquatic life.
- Class D: District WQS include narrative criteria and numeric criteria for metals and organic constituents that apply to Class D waters for the protection of human health. The District also uses EPA fish tissue screening values (U.S. EPA 2000) to identify contaminants in fish tissue that may pose risks to human health. Operationally, for the specific waterbodies or segments from which fish tissue is collected and found to be contaminated, the presence of a fish consumption advisory is considered in assessment (U.S. EPA, 2005). See “Fish Tissue Analysis and Assessment” subsection below for a discussion of how fish are collected and how fish samples are grouped to be representative of different waterbodies/segments.
- Class E: District WQS include narrative criteria that apply to Class E waters for the protection of navigation.
- All classes: TMDL studies and unattained WLAs or LAs for a given waterbody can also be used to assess waterbodies for any or all use classes. The applicability of a given TMDL or unattained WLA or LA to assessment of a given use class is dependent on the specific pollutant or pollutants or indicators addressed by the TMDL, and which designated use classes utilize those pollutants or indicators as criteria for use attainment.

Assessment and Reporting Period

The District uses data from the most recent five-year period for assessment (the assessment period). Reporting (and 303(d) listing and delisting) is completed every other year in a biennial IR.

Assessment Units

Surface waters in the District are divided into waterbody segments (sometimes referred to as waterbodies or segments) that are used as assessment units (Table 1). As shown in the “Type” column, waterbody segments are distinguished as tidal or non-tidal. Each waterbody segment is assessed independently. A waterbody segment that does not support a designated use is considered impaired for that use.

Table 1. Waterbody Segments Used as Assessment Units			
Waterbody Name	Waterbody ID	Watershed	Type
Anacostia DC Seg 01 (Lower Anacostia)	DCANA00E SEG1	Anacostia	Tidal
Anacostia DC Seg 02 (Upper Anacostia)	DCANA00E SEG2	Anacostia	Tidal
Fort Chaplin Run	DCTFC01R	Anacostia	Non-tidal
Fort Davis Tributary	DCTFD01R	Anacostia	Non-tidal
Fort Dupont	DCTDU01R	Anacostia	Non-tidal
Fort Stanton Tributary	DCTFS01R	Anacostia	Non-tidal
Hickey Run	DCTHR01R	Anacostia	Non-tidal
Nash Run	DCTNA01R	Anacostia	Non-tidal
Pope Branch (Hawes Run)	DCTPB01R	Anacostia	Non-tidal
Texas Avenue Tributary	DCTTX27R	Anacostia	Non-tidal
Watts Branch DC Seg 01 (Lower Watts Branch)	DCTWB00R SEG1	Anacostia	Non-tidal
Watts Branch DC Seg 02 (Upper Watts Branch)	DCTWB00R SEG2	Anacostia	Non-tidal
Kingman Lake	DCAKL00L	Anacostia	Tidal
Washington Ship Channel	DCPWC04E	Anacostia	Tidal
Potomac DC Seg 01 (Lower Potomac)	DCPMS00E SEG1	Potomac	Tidal
Potomac DC Seg 02 (Middle Potomac)	DCPMS00E SEG2	Potomac	Tidal
Potomac DC Seg 03 (Upper Potomac)	DCPMS00E SEG3	Potomac	Tidal
Battery Kemble Creek	DCTBK01R	Potomac	Non-tidal
Dalecarlia Tributary	DCTDA01R	Potomac	Non-tidal
Foundry Branch	DCTFB02R	Potomac	Non-tidal
Oxon Run	DCTOR01R	Potomac	Non-tidal
Chesapeake & Ohio Canal	DCTCO01L	Potomac	Non-tidal
Tidal Basin	DCPTB01L	Potomac	Tidal
Rock Creek DC Seg 01 (Lower Rock Creek)	DCRCR00R SEG1	Rock Creek	Non-tidal
Rock Creek DC Seg 02 (Upper Rock Creek)	DCRCR00R SEG2	Rock Creek	Non-tidal
Broad Branch	DCTBR01R	Rock Creek	Non-tidal
Dumbarton Oaks	DCTDO01R	Rock Creek	Non-tidal
Fenwick Branch	DCTFE01R	Rock Creek	Non-tidal
Kling Valley	DCTKV01R	Rock Creek	Non-tidal
Luzon Branch	DCTLU01R	Rock Creek	Non-tidal
Melvin Hazen Valley Branch	DCTMH01R	Rock Creek	Non-tidal
Normanstone Creek	DCTNS01R	Rock Creek	Non-tidal
Pinehurst Branch	DCTPI01R	Rock Creek	Non-tidal

Table 1. Waterbody Segments Used as Assessment Units			
Waterbody Name	Waterbody ID	Watershed	Type
Piney Branch	DCTPY01R	Rock Creek	Non-tidal
Portal Branch	DCTPO01R	Rock Creek	Non-tidal
Soapstone Creek	DCTSO01R	Rock Creek	Non-tidal

Water Quality Assessment

Water Quality Data

The District models its assessment methods for water quality data and its decision rules for designated use attainment on recommendations made by EPA in its Consolidated Assessment and Listing Methodology (CALM) guidance (U.S. EPA, 2002). Specific assessment methods for individual constituents and the associated numeric criteria for constituents as found in the District's WQS (Title 21, Chapter 11 – District of Columbia Municipal Regulations) are described in Table 2. Waters that do not meet water quality criteria over the assessment period do not attain WQS and are considered to be impaired.

All of the water quality data collected during the assessment period is consolidated and organized by waterbody segment (the assessment unit) for assessment purposes. This can include data from multiple stations within a waterbody segment and, in some instances, multiple data samples and/or duplicate samples (e.g., QA/QC samples) collected on the same day. For all data used in the assessment, field and laboratory notes on data and data collection and laboratory-based data qualifier flags are used to determine the usability of data.

The assessment of conventional constituents generally follows the “ten percent” rule. That is, waters are impaired for 303(d) when:

More than 10% of the samples exceed the criterion (U.S.EPA 2002)

Consideration is given to criteria that are expressed to describe weekly, monthly, and seasonal averaging periods (e.g., weekly dissolved oxygen means, monthly *E. coli* geomeans).

The assessment of toxic constituents (ammonia, metals, and organic constituents) is generally based on the “no more than once every three years” rule (U.S. EPA, 1997). This rule is used for the assessment of toxics data for Class C aquatic life and Class D human health/fish consumption uses. Under this rule, non-attainment occurs where there is more than one exceedance of the water quality criteria within a three-year period based on grab or composite samples. Operationally, a single sample exceedance of Class C aquatic life or Class D human health/fish consumption criteria within a three-year period is assessed as insufficient information to make a use support decision. Two or more exceedances of the same criteria within a three-year period using grab or composite samples indicates an impaired condition where the use is not supported. However, 10 or more samples for a given toxic pollutant are rarely collected over any given 3-year period. In some cases, there may be only one sample collected in a given waterbody within a three-year period, but DOEE must still evaluate whether the waterbody is impaired for that pollutant. Therefore, DOEE uses the “no more than once every three years” rule combined with its best professional judgment to evaluate whether toxic pollutants cause non-attainment in individual waterbodies.

Table 2. Assessment Methods for Numeric Water Quality Criteria¹				
Constituent	DU Class	Water Quality Criterion (WQC)	Assessment Metric	Non-Attainment of Water Quality Criteria
<i>E. coli</i> 30-day Geomean ² (126) (Maximum 30-day geometric mean for 5 samples)	A	126 MPN/100 mL	Calendar month geomeans	Any monthly geomean exceedance of the WQC.
<i>E. coli</i> SSV (410)	A	410 MPN/100mL	All individual samples	>10% of the individual samples exceed the WQC.
Dissolved oxygen (DO) in non-tidal waters: Instantaneous Minimum year-round in non-tidal waters.	C	5 mg/L	All individual samples	>10% of the individual samples exceed the WQC.
DO in tidal waters Feb 1 through May 31: 7-day mean ³ .	C	6 mg/L	7-day means. Use successive weeks beginning Feb 1, Feb 8, etc.	>10% of assessment metric (7-day means) exceed the WQC.
DO in tidal waters Feb 1 through May 31: Instantaneous minimum.	C	5 mg/L	All individual samples	>10% of the individual samples (instantaneous minimums) exceed the WQC.
DO in tidal waters June 1 through Jan 31: 30-day mean ⁴ .	C	5.5 mg/L	Calendar month means	>10% of assessment metric (calendar month means) exceed the WQC.
DO in tidal waters June 1 through Jan 31: 7-day mean.	C	4 mg/L	7-day means. Use successive weeks beginning June 1, June 8, etc.	>10% of assessment metric (7-day means) exceed the WQC.
DO in tidal waters June 1 through Jan 31: Instantaneous minimum.	C	3.2 mg/L Use 4.3 mg/l if water temperature is ≥ 29 degrees C	All individual samples. Adjust criteria where temperature is ≥ 29 degrees C	>10% of the individual samples exceed the WQC.

Table 2. Assessment Methods for Numeric Water Quality Criteria¹				
Constituent	DU Class	Water Quality Criterion (WQC)	Assessment Metric	Non-Attainment of Water Quality Criteria
Temperature: maximum	C	32.2 degrees C	All individual samples	>10% of the individual samples exceed the WQC.
Temperature: Maximum change above ambient.	C	2.8 degrees C	All individual samples	>10% of the individual samples exceed the WQC.
pH	A, B, C	> 6.0 and < 8.5	Individual samples	>10% of the individual samples exceed the WQC
Oil and Grease	C	10 mg/L	Individual samples	>10% of the individual samples exceed the WQC
Turbidity Increase above ambient ⁵	A, B, C	20 NTUs	Individual samples	>10% of the individual samples exceed the WQC
Secchi depth: seasonal segment average in tidal waters April 1 through October 31	C	0.8 m	Seasonal segment averages (April 1 through October 31) over the five-year assessment period.	Mean of seasonal segment averages exceeds the WQC
Chlorophyll-<i>a</i>: Seasonal average in tidal waters from July 1 to September 30	C	25 ug/L	Seasonal segment averages (July 1 through Sept 30) over the five-year assessment period.	Mean of seasonal segment averages exceeds the WQC
Ammonia	C	Specific chronic (CCC) 4-day avg concentration depending upon pH, temperature and season	All calculated CCC Values. For CCC, the highest 4-day avg concentration within a calendar month shall not exceed 2.5 times the CCC.	Two or more exceedances of the CCC aquatic life criterion within a three-year period ⁶
	C	Specific acute (CMC) 1-hour avg concentration depending upon pH and temperature	All calculated CMC values	Two or more exceedances of the CMC aquatic life criterion within a three-year period ⁶
Metals	C	Specific chronic (CCC) 4-day avg	All calculated CCC concentrations (converted to appropriate dissolved or	Two or more exceedances of a CCC aquatic life criterion within a three-year period ⁶

Table 2. Assessment Methods for Numeric Water Quality Criteria¹				
Constituent	DU Class	Water Quality Criterion (WQC)	Assessment Metric	Non-Attainment of Water Quality Criteria
		concentration for each metal	total fraction as needed for comparison to criteria)	
	C	Specific acute (CMC) 1-hour avg concentration for each metal	All calculated CMC concentrations (converted to appropriate dissolved or total fraction as needed for comparison to criteria)	Two or more exceedances of a CMC aquatic life criterion within a three-year period ⁶
	D	Specific 30-day human health concentration for each metal	Calendar month 30-day average concentrations	Two or more exceedances of a human health criterion within a three-year period ⁶
Organic constituents	C	Specific chronic (CCC) 4-day avg concentration for each metal	All calculated CCC concentrations (converted to appropriate dissolved or total fraction as needed for comparison to criteria)	Two or more exceedances of a CCC aquatic life criterion within a three-year period ⁶
	C	Specific acute (CMC) 1-hour avg concentration for each metal	All calculated CMC concentrations (converted to appropriate dissolved or total fraction as needed for comparison to criteria)	Two or more exceedances of a CMC aquatic life criterion within a three-year period ⁶
	D	Specific 30-day human health concentration for each metal	Calendar month 30-day average concentrations	Two or more exceedances of a human health criterion within a three-year period ⁶
¹ Use support decisions for most constituents are based on a five-year statistical evaluation of ambient water quality data. Assessment occurs at the waterbody segment level. Consideration can be given to the recentness of data, extreme weather conditions, and other factors in assessing non-attainment. ² The 30-day geometric mean is a calendar month geomean. ³ The 7-day mean refers to a calendar date mean for successive seven-day periods (e.g., January 1-7, January 8-14, etc.). ⁴ The 30-day mean is a calendar month mean. ⁵ The ambient turbidity equivalent for Piedmont river mainstems and tributaries (Potomac River northwest of the Theodore Roosevelt Bridge and its tributaries, and Rock Creek) is 1 NTU. The ambient equivalent for Coastal Plain river mainstems and tributaries (Potomac River east of the Theodore Roosevelt Bridge and Anacostia River and its tributaries) is 6 NTU. ⁶ Best professional judgment is used for low sample sizes (i.e., when there are not sufficient samples within a 3-year period to evaluate against the “no more than one exceedance within a three year period”).				

Treatment of Non-detect (ND) Values

ND values occur when a water quality sample is analyzed but the pollutant of interest is not found (i.e., not detected) above the method detection limit. Detection limits represent the lowest concentrations of

the constituent that can be measured reliably. In particular, ND results can often occur for toxic pollutants (e.g., metals and organics).

For the purposes of water quality assessment, ND values are treated as follows:

- Pollutants of interest are not assumed to be present when reported as ND.
- NDs are not replaced or substituted with estimates such as the Method Detection Limit [MDL] or one-half the MDL in assessments.
- In cases where a calculated value is required for comparison with a criterion that is a measure of central tendency (e.g., a mean, geomean, or average), NDs are not included in the calculation.
- In cases where the number of samples is considered in the analysis (e.g., for parameters assessed using the “the ten percent rule”- see Table 2), NDs are used as part of the sample count but they are not interpreted as exceedances.
- In the case of metals and organic constituents where the number of exceedances within a three-year time period are evaluated, NDs are not considered exceedances. This remains the case even if the detection limit is above the pollutant criterion; however, DOEE uses its best professional judgment to address how this situation is accommodated in impairment assessments.

Benthic Macroinvertebrate Assessment

The District uses guidance provided in EPA’s Rapid Bioassessment Protocols (U.S. EPA, 1989) and the Maryland Biological Stream Survey (MD DNR, 2007) to collect and interpret benthic macroinvertebrate data to assess attainment of the Class C aquatic life use. Benthic macroinvertebrate samples for most tributary waterbodies are collected approximately every other year and are sorted and quantified by a contract laboratory. Because the benthic macroinvertebrate communities differ between the Coastal Plain and the Piedmont physiographic provinces, the waterbodies in each of these physiographic provinces are assessed differently. Table 3 provides a summary of the assessed waterbodies according to watershed and physiographic province.

Table 3. Waterbodies for Benthic Macroinvertebrate Assessment		
Assessed Waterbody Name	Watershed	Physiographic Province
Fort Chaplin Run	Anacostia	Coastal Plain
Fort Davis Tributary	Anacostia	Coastal Plain
Fort Dupont	Anacostia	Coastal Plain
Fort Stanton Tributary	Anacostia	Coastal Plain
Hickey Run	Anacostia	Coastal Plain
Nash Run	Anacostia	Coastal Plain
Pope Branch (Hawes Run)	Anacostia	Coastal Plain
Texas Avenue Tributary	Anacostia	Coastal Plain
Watts Branch DC Seg 01 (Lower Watts Branch)	Anacostia	Coastal Plain
Watts Branch DC Seg 02 (Upper Watts Branch)	Anacostia	Coastal Plain
Battery Kemble Creek	Potomac	Piedmont
Dalecarlia Tributary	Potomac	Piedmont
Foundry Branch	Potomac	Piedmont
Oxon Run	Potomac	Coastal Plain

Rock Creek DC Seg 01 (Lower Rock Creek)	Potomac	Piedmont
Rock Creek DC Seg 02 (Upper Rock Creek)	Potomac	Piedmont
Broad Branch	Rock Creek	Piedmont
Dumbarton Oaks	Rock Creek	Piedmont
Fenwick Branch	Rock Creek	Piedmont
Kling Valley	Rock Creek	Piedmont
Luzon Branch	Rock Creek	Piedmont
Melvin Hazen Valley Branch	Rock Creek	Piedmont
Normanstone Creek	Rock Creek	Piedmont
Pinehurst Branch	Rock Creek	Piedmont
Piney Branch	Rock Creek	Piedmont
Portal Branch	Rock Creek	Piedmont
Soapstone Creek	Rock Creek	Piedmont

Seven benthic macroinvertebrate metrics are calculated for the Coastal Plain waterbodies, while six metrics are calculated for the Piedmont waterbodies. The different metrics for Coastal Plain and Piedmont waterbodies are presented in Table 4.

Table 4. Benthic Macroinvertebrate Assessment Metrics for Coastal Plain and Piedmont Sites	
Coastal Plain Site Macroinvertebrate Metrics	Piedmont Site Macroinvertebrate Metrics
Number of Taxa (Genus)	Number of Taxa (Genus)
# of Ephemeroptera, Plecoptera, and Trichoptera (EPT) Taxa (Genus)	# of EPT Taxa (Genus)
Number of Ephemeroptera Taxa (Genus)	Number of Ephemeroptera Taxa (Genus)
% Intolerant Urban Taxa	% Intolerant Urban Taxa
% Ephemeroptera	% Chironomidae
# of Scraper Taxa (Genus)	% Clingers (Genus)
% Climbers	--

The gradient of benthic index of biotic integrity (BIBI) scores that may be observed in any of the strata were designed to correspond to the spectrum of stream conditions in Maryland (Southerland et al., 2007). Each assessment metric is scored either as a one (1), a three (3) or a five (5), with a score of one representing very poor water quality, three representing fair water quality, and five representing good water quality. The values assigned for each metric are summed and then this value is divided by the number of metrics to produce the overall score for the waterbody. Scoring ranges are the same for Coastal Plain and Piedmont sites. As shown in Table 5, the overall score for a waterbody is assigned a water quality rating of “good”, “fair”, “poor”, or “very poor” based on the assessment. The use support determination is associated with the water quality rating, where a rating of good and fair are interpreted to be fully supporting, and poor and very poor are interpreted as not supporting.

Table 5. Overall Water Quality Rating Based on Benthic Macroinvertebrate Assessment Metrics		
Overall Score	Water Quality Rating	Support Determination¹
4.0 - 5.0	Good	Fully supporting
3.0 - 3.9	Fair	Fully supporting
2.0 - 2.9	Poor	Not supporting

< 1.9	Very Poor	Not supporting
¹ The macroinvertebrate assessment evaluates District data using Maryland Biological Stream Survey monitoring and assessment protocols. Index of Biological Integrity score, water quality rating, and support determination thresholds were established by Maryland Department of Natural Resources, Maryland Biological Stream Survey (MBSS, 2005).		

A compendium of sample benthic macroinvertebrate metrics and IBI scores that the District uses for this assessment is provided in Appendix A to this document.

Physical Habitat Assessment

The District uses guidance provided in EPA's Rapid Bioassessment Protocols (U.S.EPA, 1989) and the Maryland Biological Stream Survey (MD DNR, 2007) to collect and interpret physical habitat data to assess attainment of the Class C aquatic life use. Physical habitat assessments are conducted for every waterbody of interest by District staff, with observations, measurements, and scores recorded on the field data sheet. Because the habitat conditions differ between the Coastal Plain and the Piedmont physiographic provinces, the waterbodies in each of these physiographic provinces are assessed differently. Table 3 provides a summary of the assessed waterbodies according to watershed and physiographic province. As shown in Table 6, six physical habitat assessment metrics are calculated for Coastal Plain sites, and eight metrics are used for Piedmont sites.

Table 6. Physical Habitat Assessment Metrics for Coastal Plain and Piedmont Sites	
Coastal Plain Site Physical Habitat Assessment Metrics	Piedmont Site Physical Habitat Assessment Metrics
Remoteness	Remoteness
Shading	Shading
Epifaunal Substrate (EPI)	EPI
Instream habitat	Instream habitat
Numbers of Woody Debris and Root Wads ("Wood')	Numbers of Woody Debris and Root Wads ("Wood')
Bank Stability	Bank Stability
--	Riffle Quality
--	Embeddedness

Field observations for each metric are converted into scores ranging from 0-100. The scores for each individual metric for a site are averaged to calculate an overall physical habitat index (PHI) score. Scoring ranges are the same for Coastal Plain and Piedmont sites. As shown in Table 7, the overall PHI score for a waterbody is assigned a water quality rating of "good," "fair", "poor", or "very poor" based on the assessment. In addition, use support determination is associated with the water quality rating, with a rating of good and fair interpreted to be fully supporting, and poor and very poor as not supporting.

Table 7. Overall Water Quality Rating Based on Physical Habitat Assessment Metrics		
Overall PHI Score	Water Quality Rating	Support Determination¹

76 - 100	Good	Fully supporting
51 - 75	Fair	Fully supporting
26 - 50	Poor	Not supporting
0 - 25	Very Poor	Not supporting
¹ The (PHI) is a quantitative rating of the physical habitat at each site. Scores range from 0 (very poor) to 100 (good). See Paul et al. (2002). Given the urban nature of the District, it was determined that 1) both the Good and Fair water quality ratings reflect fully supporting conditions in the District, and 2) the gradation between Good/Fair and Poor/Very Poor provides ample information to target restoration.		

A compendium of the individual physical habitat metrics that the District uses for this assessment is provided in Appendix A to this document.

Fish Tissue Analysis and Assessment

The District uses the results of fish tissue analysis to assess Class D use and the safety of eating fish caught in District waters (e.g., U.S. Fish and Wildlife Service. 2018). Assessment is based on a comparison of the concentration of chemical contaminants found in fish tissue with U.S. EPA fish tissue screening values, which are concentrations above which fish tissue contaminants may pose risks to human consumers (U.S. EPA, 2000). The current risk factors and exposure levels used in District fish tissue evaluations are summarized in Table 8 below.

Table 8. Fish Tissue Risk Factors and Exposure	
Input Parameter	Value
Cancer slope factor	(mg/kg-d) ⁻¹ Found in Table 3-1 (volume 2)
Risk Level	10 ⁻⁶ (1 in 1,000,000)
Body Weight	80 kg
Screening values	Found in Table 5-4 (volume 1)
Measures contaminant concentration	Mg/kg (parts per million (ppm))
Time-averaging period	30.44 days/month (monthly limit)
Average meal size	8 oz (0.227 kg)
Lifetime exposure	70 years

Operationally, fish tissue analysis and assessment includes the following steps:

- Fish tissue samples for up to 12 or more different fish species are collected at multiple sampling locations in the mainstem Anacostia and Potomac River (currently two stations in the tidal Anacostia River and two in the tidal Potomac River – see Table 4. Note that several of the sampling locations are also meant to be representative of fish in adjacent waterbody segments. For example, fish in Kingman Lake are expected to be represented in the sampling at the Upper Anacostia location. This information is also shown in Table 9).
- One composite sample for individual fish species (e.g., American eel, American shad, etc.) is produced for each sampling location based on at least two individual fish from that species.
- The concentration of metals and organic constituents in the fish tissue is determined for each of these composite samples for each species (e.g., American eel) at each location (e.g., Upper Anacostia).

- The composite samples from each location for each species are combined into one sample set and summary statistics for the fish tissue concentrations within that sample set are developed (i.e., minimum, maximum, and median concentrations of total PCBs from American eel).
- For assessment purposes, an individual sample exceedance occurs when the median value of the samples for any of the fish species sampled exceeds the screening value for a metal or organic constituent.
- An overall violation of the Class D fish consumption use occurs when at least one fish species exceeds a screening value, as described in the previous bullet.

Given limited monitoring resources, fish tissue collection and analysis is focused on the mainstem tidal waters of the Anacostia and Potomac rivers. These waters are deemed to be the most likely to have chemically contaminated water and sediment quality, and the most likely to support subsistence and sport fishing activities. The assessment results based on mainstem Anacostia and Potomac river fish tissue sampling stations are applied to all tidal waterbody segments (see Table 1).

The District uses results from the fish tissue analysis to develop a fish consumption advisory. For example, the 2016 DC Fish Consumption Advisory (DOEE, 2016) recommends:

Do not eat eel, carp, or striped bass (rockfish, striper) caught in District waters because they are the most contaminated by chemicals like polychlorinated biphenyls (PCBs).

While the fish consumption advisory is based on fish tissue results, its primary purpose is as a public health recommendation.

Table 9. Anacostia and Potomac Rivers Mainstem Fish Sampling Locations		
Mainstem	Location	Waterbody Segment included
Upper Anacostia River	Above the CSX Railroad Bridge	Kingman Lake
Lower Anacostia River	Below the CSX Railroad Bridge	
Upper Potomac River	Above the 14 th Street Bridge (Arland D. Williams Jr. Memoria Bridge)	Tidal Basin
Lower Potomac River	Below the 14 th Street Bridge (Arland D. Williams Jr. Memorial Bridge)	Washington Ship Channel

Narrative Criteria

In addition to numeric WQS, physical habitat, benthic macroinvertebrate, and fish tissue analysis and assessment, the District has narrative criteria that are assessed to determine attainment of designated uses. The narrative criteria are statements that describe the desired water quality goal, such as waters being “free from” pollutants like oil and scum, color and odor, and other substances that can harm people and fish. The principal narrative criteria in the District found in the District’s WQS Standards (DCMR Title 21, Chapter 11) that inform assessment are summarized in Table 10.

Table 10. Narrative Criteria	
1104.1	The surface waters of the District shall be free from substances in amounts or combinations that do any one of the following: (a) Settle to form objectionable deposits; (b) Float as debris, scum, oil, or other matter to create a nuisance; (c) Produce objectionable odor, color, taste, or turbidity; (d) Cause injury to, are toxic to, or produce adverse physiological or behavioral changes in humans, plants, or animals; (e) Produce undesirable or nuisance aquatic life or result in the dominance of nuisance species; or (f) Impair the biological community that naturally occurs in the waters or depends upon the waters for its survival and propagation.
1104.3	Class A waters shall be free of discharges of untreated sewage, litter and unmarked submerged or partially submerged man-made structures that would constitute a hazard to the users of Class A waters.
1104.4	The aesthetic qualities of Class B waters shall be maintained. Construction, placement or mooring of facilities not primarily and directly water oriented is prohibited in, on, or over Class B waters unless: (a) The facility is for the general public benefit and service, and (b) Land based alternatives are not available.
1104.5	Class C streams shall be maintained to support aquatic life and shall not be placed in pipes.
1104.6	Within tidally influenced Class C waters, concentrations of chlorophyll a in free floating microscopic aquatic plants (algae) shall not exceed levels that result in ecologically undesirable consequences such as reduced water clarity, low dissolved oxygen, food supply imbalances, proliferation of species deemed potentially harmful to aquatic life or humans or aesthetically objectionable conditions or otherwise render tidal waters unsuitable for designated uses.
1104.7	Class E waters shall be free of unmarked submerged or partially submerged man-made objects that pose a hazard to users of these waters.

Narrative criteria provide blanket protection for all waters. They can also protect waterbodies from pollutants for which numeric criteria are difficult to specify. The attainment of narrative criteria is typically evaluated through field observation and best professional judgment of monitoring and assessment staff. Reported conditions that might affect support of a designated use related to narrative criteria (the “free from”) are documented over the assessment and reporting period and evaluated as a component of the Assessment Methodology. Use support based on the narrative criteria is assessed with the questions provided in Table 11.

Table 11. Assessment Using Narrative Criteria			
Name of affected waterbody/segment:			
What is the reported condition?			
What uses are potentially impacted by the reported condition?			
	Yes	No	Comment
Is the reported condition substantial? (e.g., Is it significant and sizeable?)			
Is the reported condition widespread? (e.g., Does it widely impact the waterbody/segment?)			
Are any visual impacts seen? (e.g., Nuisance conditions, biological impairment, etc.)			
Is the rereported condition persistent? (e.g., Has it occurred over a long period of time or continuously?)			
Has the reported condition been remediated?			
Does the available water quality data meet the numeric criteria and support the designated use?			
Does the reported condition preclude the waterbody from supporting a designated use?			
Use support Determination: Fully Supporting _____ Not Supporting _____			

Completion of Table 4 with a use support determination based on narrative criteria is conducted by the assessment staff based on experience, knowledge of the local waterbodies, and best professional judgment.

Decision Rules for Attaining Designated Uses

The District's Assessment Methodology is governed by a set of decision rules that are intended for use support determination, categorizing waterbodies, and listing and delisting impaired waterbodies on the 303(d) list. These rules incorporate EPA's Independent Application Policy on the use of multiple types of data to assess attainment (U.S. EPA, 2005).

For Purposes of WQS Attainment/Nonattainment Determinations

Policy of independent applicability says:

- When evaluating multiple types of data (e.g., biological, chemical) and any one type of data indicates an element of a WQS is not attained, the segment should most likely be identified as impaired.

- If there is reason to doubt the nonattainment finding, re-evaluate all of the data sets to resolve discrepancies. In some cases, this may lead to modification of applicable WQS to account for site-specific information.

Policy of independent applicability does not say:

- Always assume that a single sample result showing impairment outweighs all other data showing attainment.
- Accept all differences in data findings at face value.

The decision rules for attaining designated uses in a waterbody are presented in Table 12.

Table 12. Decision Rules for Attaining Designated Uses			
Use Class	Decision	Criterion	Decision Rule
A	Fully Supporting	<i>E. coli</i>	No exceedance of monthly geomean during assessment period.
			AND
			≤10% of samples exceed SSV
			AND
	Not supporting	Conventional pollutants (pH, turbidity)	≤10% of the individual samples exceed the WQC
			AND
		Narrative criteria	Water meets all relevant narrative criteria, including DC WQS §1104.3
	Fully Supporting	<i>E. coli</i>	Any exceedances of monthly geomean during assessment period
			OR
			>10% of samples exceed SSV
			OR
	Not supporting	Conventional pollutants (pH, turbidity)	>10% of the individual samples exceed the WQC
			OR
		Narrative criteria	Water does not meet all relevant narrative criteria, including DC WQS §1104.3
B	Fully Supporting	Conventional pollutants (pH, turbidity)	≤10% of the individual samples exceed the WQC
			AND

Table 12. Decision Rules for Attaining Designated Uses			
Use Class	Decision	Criterion	Decision Rule
	Not supporting	Narrative criteria	Water meets all relevant narrative criteria, including DC WQS §1104.4
		Conventional pollutants (pH, turbidity)	>10% of the individual samples exceed the WQC OR
		Narrative criteria	Water does not meet all relevant narrative criteria, including DC WQS §1104.3
C	Fully Supporting	Conventional pollutants (other than Secchi depth and chlorophyll a)	≤10% of the individual samples exceed the WQC AND
		Secchi depth	Mean of seasonal segment averages does not exceed the WQC AND
		Chlorophyll a	Mean of seasonal segment averages does not exceed the WQC AND
		Ammonia	No more than one exceedance of the CCC WQC every three years. AND
			No more than one exceedance of the CMC WQC within three years AND
		Toxic pollutants (e.g., metals, organic constituents)	No more than one exceedance of the CCC within three years. AND
			No more than one exceedance of the CMC within three years. AND
		Bioassessment Protocols	Macroinvertebrate results indicate “Fair” to “Good” water quality AND
		Physical habitat assessment Protocols	Physical habitat assessment results indicate “Fair” to “Good” water quality

Table 12. Decision Rules for Attaining Designated Uses			
Use Class	Decision	Criterion	Decision Rule
C	Not Supporting		AND
		Narrative criteria	Water meets all relevant narrative criteria, including DC WQS §1104.6
		Conventional pollutants (e.g., pH, turbidity, DO, temperature, etc.)	>10% of the individual samples exceed the WQC OR
		Secchi depth	Mean of seasonal segment averages (n≤5) exceeds the WQC OR
		Chlorophyll a	Mean of seasonal segment averages (n≤5) exceeds the WQC OR
		Ammonia	More than one exceedance of the CCC WQC every three years. OR
			More than one exceedance of the CMC WQC every three years. OR
		Toxic pollutants (e.g., metals, organic constituents)	More than one exceedance of the CCC WQC within three years. OR
			More than one exceedance of the CMC WQC within three years ¹ OR
		Bioassessment Protocols	Macroinvertebrate results indicate “Poor” water quality OR
		Physical habitat assessment Protocols	Physical habitat assessment results indicate “Poor” water quality OR
		Narrative criteria	Water does not meet all relevant narrative criteria, including DC WQS §1104.6

Table 12. Decision Rules for Attaining Designated Uses			
Use Class	Decision	Criterion	Decision Rule
D	Fully Supporting	Toxic pollutants (e.g., metals, organic constituents)	No more than one exceedance of the human health WQC within three years AND
		Fish tissue (e.g., metals, organic constituents)	No exceedance of EPA fish tissue screening values AND
		Narrative	Water meets all relevant narrative criteria
	Not Supporting	Toxic pollutants (e.g., metals, organic constituents)	More than one exceedance of the human health WQC within three years ¹ OR
		Fish tissue (e.g., metals, organic constituents)	One or more exceedances of an EPA fish tissue screening value for a metal or organic constituent OR
		Narrative	Water does not meet all relevant narrative criteria
E	Fully Supporting	Narrative	Water meets all relevant narrative criteria, including DC WQS §1104.7
	Not Supporting	Narrative	Water does not meet all relevant narrative criteria, including DC WQS §1104.7
¹ Best professional judgment is used when the sample size is low (e.g., when the sample size is less than 10).			

In some cases, DOEE may also use the existence of a TMDL with unattained WLAs and/or LAs to identify impairments. Typically, if a TMDL exists and there are unattained WLAs or LAs, this indicates that the waterbody does not attain its designated use for the use class for which the TMDL pollutant is a criterion. This can be particularly important in the case of existing toxics TMDLs, specifically in cases where there is little or no updated data being collected. In these types of situations, DOEE can use the existence of the TMDL with unattained WLAs and/or LAs to identify specific toxics as causing impairment. However, there are other situations where the existence of TMDLs or unattained WLAs or LAs may not necessarily indicate impairment of a local waterbody – for example, with the Chesapeake Bay TMDL, where local waterbodies may not be impaired for nutrients, but load reductions are still

needed to achieve the larger TMDL goals. Based on these examples, DOEE retains the option to use the existence of TMDLs or unattained WLAs or LAs to identify waterbodies as impaired. In cases where this type of information is used to identify impaired waterbodies, DOEE will provide a written explanation in its Integrated Report.

Note that sometimes evaluations of individual criteria can fail to definitively determine use support (e.g., the evaluation may be indeterminate if there is insufficient available data/information to make a use support determination). An example is toxics analysis, where low sample sizes or high detection limits may not yield a definitive result as to whether toxics impair a use or whether that use is not supported.

In cases where there are other data and criteria that definitively establish that a use is not supported, those other data and criteria are used and the criteria that do not provide a definitive result are not needed for the use support determination. However, the metric or metrics that do not provide a definitive result are important in cases where other criteria indicate that the use is supported. In these cases, the decision is that there is insufficient available data/information to make a use support determination. This case is covered under Category 3 in the section below on “Categorization”.

CAUSES OF IMPAIRMENT

Using the decision rules for attaining designated uses in Table 12, the District identifies and records the cause for each designated use impairment in Categories 4 and 5 of the IR (See next section on Categorization). The identification of cause is based on the type of data and metrics used to make the assessment.

The District typically addresses the cause of impairment in one of four ways, as summarized below:

1. In the most typical case, where non-attainment is a result of the violation of a numeric water quality criterion, the cause is the specific pollutant violating the criterion (e.g., *E. coli* or arsenic in the water column or PCBs in fish tissue).
2. In the second case, DOEE can use the results of the physical habitat or benthic macroinvertebrate metric to indicate non-attainment. However, the specific pollutant causing the failure of the physical habitat or benthic macroinvertebrate metric may not be known. Consistent with guidance provided for EPA’s Assessment and Total Maximum Daily Load Tracking and Implementation System (ATTAINS) (U.S. EPA, 2015), the District can report physical habitat assessment or benthic macroinvertebrate assessment as a cause of non-attainment.
3. In the third case, where impacts to stream flows or habitats are observed through empirical observations, DOEE may attribute impairment to a non-pollutant cause. For reporting purposes in the IR and ATTAINS, the District can use impairment parameters such as flow alteration and habitat alteration to denote non-pollutant causes where documentation that narrative criteria are not supported is available.
4. In the fourth case, DOEE can identify a cause of impairment as the pollutant for which a TMDL has been completed in that waterbody.

In cases where impairment is not attributed to a specific pollutant, it is sufficient for the purposes of 305(b) reporting to list the non-pollutant observed impairment deficiency as the cause. In these cases, further investigation to assess whether a specific pollutant is the cause of impairment – such as through

a stressor analysis - may be warranted. The District plans to develop full stressor analysis procedures to identify specific causes of aquatic life use impairments identified through macroinvertebrate or physical habitat assessment protocols and for other situations where specific causes are not identified through the assessment process.

As shown in Table 13, the methods for identifying the causes of impairment are specific to the criteria type that is exceeded or transgressed.

Table 13. Methods for Identifying Cause of Impairment		
Designated use class	Criterion Type	Method for Identifying Cause of Impairment
Class A Primary contact recreation	Numeric criteria for individual pollutants (e.g., <i>E. coli</i> , pH, turbidity)	Cause is the specific pollutant or pollutants that exceed numeric criteria.
	Narrative criteria	Cause is identified by best professional judgment of assessment staff.
Class B Secondary contact recreation and aesthetic uses	Numeric criteria for individual pollutants (e.g., pH, turbidity)	Cause is the specific pollutant or pollutants that exceed numeric criteria
	Narrative criteria	Cause is identified by best professional judgment of assessment staff.
Class C Aquatic Life	Numeric criteria (e.g., pH, turbidity, DO, trace metals, organic constituents, etc.)	Cause is the specific pollutant or pollutants that exceed numeric criteria.
	Benthic macroinvertebrate and physical habitat assessment protocols	Cause is identified through assessment protocols or a stressor analysis. The cause may be a pollutant or a non-pollutant.
	Narrative criteria	Cause is identified by best professional judgment of assessment staff (e.g., flow alteration).
Class D Fish Consumption	Numeric criteria for individual pollutants (e.g., trace metals and organic constituents)	Cause is the specific pollutant or pollutants that exceed numeric criteria.
	Fish tissue screening values	Cause is the specific pollutant or pollutants that exceed fish tissue screening values.
	Narrative criteria	Cause is identified by best professional judgment of assessment staff.
Class E Navigation	Narrative criteria	Cause of impairment is due to unmarked submerged or partially submerged man-made objects that pose a hazard to users of these waterbodies as determined by best professional judgment of assessment staff

All classes	Existence of a TMDL and unmet WLAs or LAs	Pollutants for which there are TMDLs and unmet WLAs or LAs
-------------	---	--

Nutrient and Sediment Impairment

The District protects Class C designated uses for aquatic life use. Both nutrients and sediment can affect aquatic life through their impacts on eutrophication, DO, and water clarity. While the District does not have specific criteria for nitrogen, phosphorus, or total suspended sediment, it does track DO and water clarity indicators including turbidity, chlorophyll a, and Secchi depth.

With respect to assessing impairments of Class C due to nutrients and/or sediment, DOEE utilizes numeric criteria for turbidity and DO (among other indicators) as indicators of attainment of the Class C use. Low DO and/or high turbidity can signal nutrient and sediment impairments of the Class C use. In addition, benthic and habitat assessments and other observations of the waterbody can be used to identify excess sediment, algal growth, odors, or other indicators of eutrophication or water clarity problems. Best professional judgment can be used to identify nutrients and sediment as the causes of these impairments. This can be documented in assessment reporting.

In addition, the District's waters have historically been impacted by nutrients and sediment. The District's tidal waterbodies have been identified in 305(b) reports as being impaired by nutrients and sediment since the 1990s. TMDLs for biochemical oxygen demand (BOD) and TSS were established in the mainstem Anacostia River in 2001 and 2002, respectively, to address sediment and nutrients. These TMDLs were updated in 2008 and 2007, respectively, to address impairments in the wider Anacostia watershed, including its Maryland components. The Chesapeake Bay TMDL also assigns nutrient load reductions to DOEE for its "Chesapeake Bay TMDL segments," including the tidal Anacostia and the tidal Potomac.

DOEE bases its current assessments for Class C nutrient and sediment impairments for its tidal segments (Upper and Lower Anacostia; Kingman Lake; Washington Ship Channel; Tidal Basin; and Upper, Middle, and Lower Potomac), on the existence of local and Chesapeake Bay TMDLs.

Toxics Impairments

DOEE has been undergoing a re-evaluation of its toxics impairments for multiple years, primarily because the original identification of toxics as causes of impairment was not based on good water quality evidence. Details of this re-evaluation and the methodology used to conduct it are available in the 2022 Integrated Report (2022 IR Appendix 3.2). In short, based on analysis of historic water quality data, the re-evaluation concluded that many toxics previously identified as causing impairments do not exceed numeric criteria, and therefore should not be identified as causing impairments. However, many of these toxics continue to have active TMDLs with WLAs and LAs for these pollutants. DOEE continues to reduce loads for these pollutants through the implementation of best management practices required by its MS4 permit and the Consolidated TMDL Implementation Plan (<https://dcstormwaterplan.org/documents-and-deliverables/>). However, DOEE plans to continue to try to remove pollutants that are not shown to be causing impairment from TMDLs through the TMDL update process. In the interim, DOEE is using actual water quality data to identify the proper categorization for individual toxics (Category 4a for pollutants which water quality data identifies as

causing impairments; Category 3 for pollutants where water quality data is not definitive as to whether pollutants are causing impairment; and no categorization if pollutants are determined to not cause impairment. See next section for a discussion of categorization). Therefore, there may be some temporary discrepancies between the categorization reported in the Integrated Reports and in ATTAINS and TMDL documentation. These discrepancies will occur until such time as the TMDLs can be updated.

CATEGORIZATION

The District follows the five-category approach for classifying WQS attainment using the guidelines for category placement established by EPA (U.S. EPA, 2005). Following assessment, the District places every waterbody into one or more of the five IR categories based on the attainment of each designated use for that waterbody as shown in Table 14. The decision logic that the District applies to document use attainment and categorization is presented in Figure 1. The emphasis within this logic is on concurrent evaluation of all available and applicable metrics/criteria for a given use. As the results from all available/applicable metrics are considered together, the results of the most “conservative” decision (i.e., impairment is the most conservative decision; attainment is the least conservative decision) drive the attainment status of any given use in any given waterbody.

Table 14. Categorization of Waterbodies

Category	Definition
1	All designated uses are supported, and no use is threatened.
2	Available data and/or information indicate that some but not all of the designated uses are supported.
3	There is insufficient available data and/or information to make a use support determination.
4	Available data and/or information indicate that at least one designated use is not being supported or is threatened, but a TMDL is not needed for specified, acceptable reasons. Category 4 and its subcategories may include TMDLs that may or may not need to be revised for one reason or another, including court orders, consent decrees, and availability of new information. The subcategories are:
4a	A State developed TMDL has been approved by EPA or a TMDL has been established by EPA for any segment-pollutant combination.
4b	Other required control measures are expected to result in the attainment of an applicable WQS in a reasonable period of time.
4c	The non-attainment of any applicable WQS for the segment is the result of pollution and is not caused by a pollutant ¹ .
5	Available data and/or information indicate that at least one designated use is not being supported or is threatened, and a TMDL is needed.
¹ Section 502(19) of the Clean Water Act defines pollution as “the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water.” Section 1199 of the District’s WQS defines “pollution” the same way and defines “pollutant” as any “substance that may alter or interfere with the restoration or maintenance of the chemical, physical, radiological, or biological integrity of the waters of the District.”	

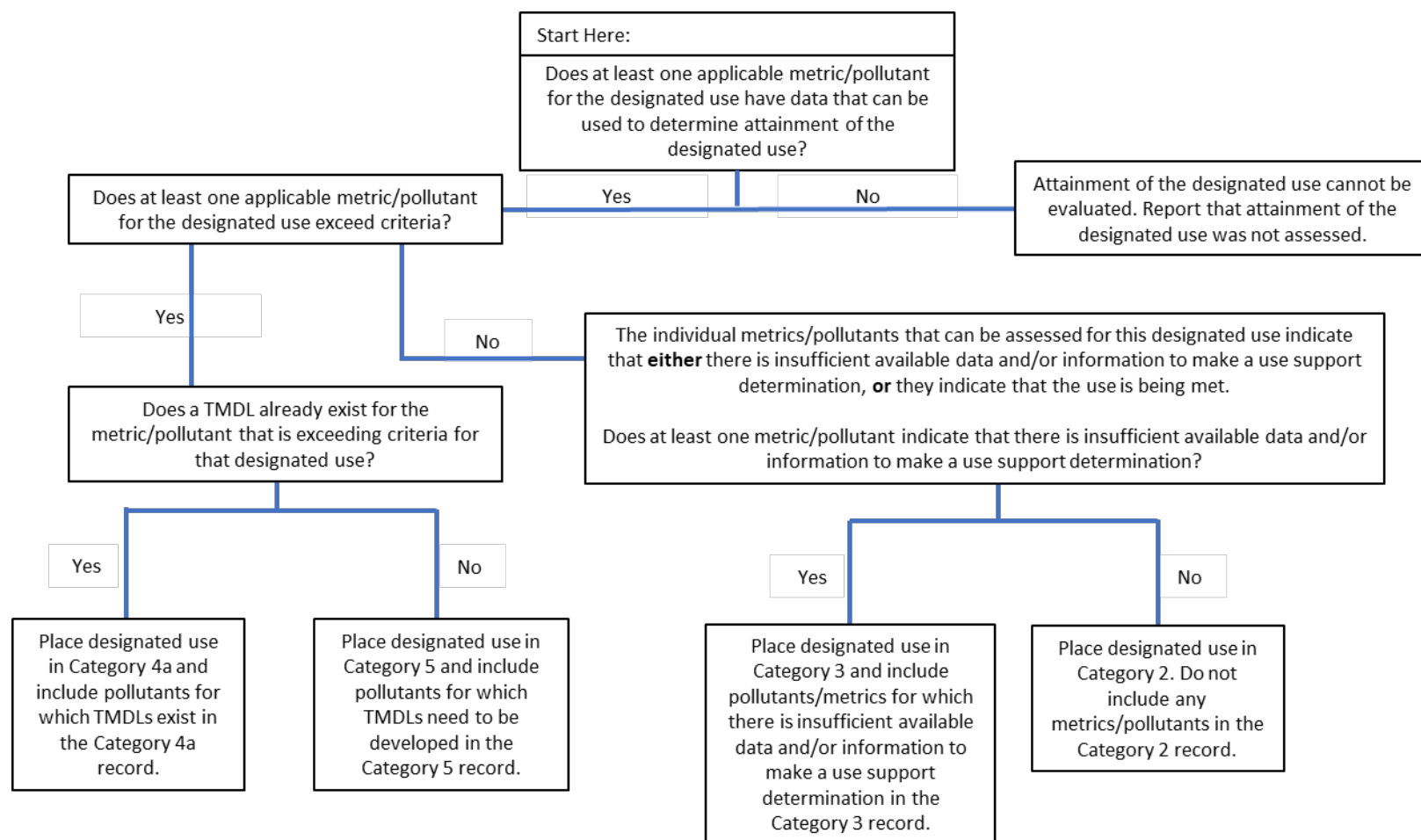


Figure 1. Decision Logic for Use Attainment and Categorization

Categorization allows the District to track progress as waterbodies incrementally or entirely attain WQS; demonstrate advancement in the development and implementation of TMDLs and other required control measures; and target monitoring for those waterbodies where additional data and information is needed to assess WQS attainment. In general,

- Waterbodies are placed in Category 1 when the assessment process indicates that all WQS are attained, and all designated uses are supported.
- Waterbodies/use classes within waterbodies are placed in Category 2 when the assessment process indicates that one or more designated use is supported but the data and information available is insufficient to determine that other designated uses are supported.
- Waterbodies/use classes within waterbodies are placed in Category 3 where insufficient data and information are available to make a use support determination. This insufficiency can be due to not having enough data or to not having the right quality of data to rigorously evaluate a waterbody's attainment status. Individual pollutants may be identified for this category to track what has been evaluated and to encourage the collection of more data so that a definitive evaluation can be made for that pollutant/metric/criterion.
- Waterbodies/use classes within waterbodies are placed in Category 4 when the impairment is recognized and either a TMDL or another control program aimed at attainment of WQS is in place, or where non-attainment is not causally linked to a pollutant.
- Waterbodies/use classes within waterbodies are placed in Category 5 when the impairment is recognized and a TMDL is needed. The waterbody/pollutant combinations in Category 5 constitute the 303(d) list. Category 5 is governed by 40 CFR 130.7(b)(1) where it is stated that:

Segments must be placed in Category 5 when, based on existing and readily available data and/or information, technology-based effluent limitations required by the Act, more stringent effluent limitations, and other pollution control requirements are not sufficient to implement an applicable water quality standard and a TMDL is needed.

Category 5 listings also contain a priority ranking for TMDLs (low, medium, high) and a targeted date for TMDL development.

It should be noted that waterbodies can be placed in more than one category based on the evaluation of individual designated uses. For example, a waterbody might be in Category 4a because it has a TMDL for *E. coli* and also in Category 5 because of impairment due to pH that requires a TMDL.

It should also be noted that there may be multiple pollutants and/or non-pollutants included in Categories 4a or 5 for an individual waterbody. This can occur if multiple pollutants/non-pollutants are identified as causing impairment in a waterbody (Category 5) or if TMDLs for multiple pollutants have been done for that waterbody (Category 4a). The inclusion of multiple pollutants/non-pollutants in Categories 4a and 5 is important for tracking the specific causes of the impairment (see "Causes of Impairment" section above).

Categorization for Individual Pollutants within a Waterbody

Categorization is also used to track individual pollutants within a waterbody. This is particularly useful for tracking toxics in a waterbody. In the case of toxics, water quality data for individual toxic pollutants is evaluated, and individual toxics may be identified as exceeding criteria (i.e., these pollutants have

been identified/confirmed as causing impairment) or not exceeding criteria (i.e., these pollutants have been identified as **not** causing impairment). In still other cases, the data may be ambiguous, and it may not be clear if an individual toxic is causing impairment or not. This latter case may occur if there are non-detect values that are not easily interpreted as being above or below the criterion, or if the sample size is small. In all of these cases, it is advantageous to track the status of these individual toxic pollutants and how they contribute to impairment (or non-impairment) in a given waterbody. DOEE therefore tracks the category of individual toxic pollutants in its 303(d) list (e.g., Appendix 3.3, District of Columbia 303(d) list in 2024 IR). Note that the overall use classification is still reported as either attained or not attained based on whether waterbodies meet all attainment criteria or not (e.g., Appendix 3.1, 2024 Use Support and Cause by Pollutant in 2024 IR).

Re-Categorization for Individual Pollutants within a Waterbody

Similar to the categorization of individual pollutants within a waterbody discussed in the previous subsection, DOEE can also re-categorize pollutants within a waterbody as assessment information is obtained and evaluated over time. This is an important component of tracking both the cause of non-attainment, but also the status of what is known about a given pollutant in a given waterbody. Since every assessment is done at a point in time with a limited dataset of water quality data, the amount of data recorded above or below the criteria during a given assessment period can fluctuate. In addition, any data that is non-detect for a given pollutant further impacts the ability to make decisions for a given pollutant and whether that pollutant is confirmed to be causing non-attainment. Based on these situations, during every assessment period, DOEE moves pollutants in individual waterbodies into different categories depending on the water quality data and the results of impairment assessment. Note that moving individual pollutants in individual waterbodies between categories typically does not change the overall assessment of whether a given waterbody attains a given designated use. For example, during a given assessment cycle, even if an individual pollutant is identified as having insufficient information to determine if it causes impairment in a given waterbody, it is likely that there are other pollutants that do have sufficient information to provide definitive assessment of attainment of a given use class for that waterbody. So overall, the attainment of the designated use is definitively determined despite the fact that the impact of every or any individual pollutant on that designated use may not be determined.

Note that information on categorization – particularly categorization in Category 3 – Insufficient Information to Determine Use Attainment – can be a good indicator to DOEE that it needs to collect additional information on that pollutant in that waterbody to help determine whether that pollutant is causing impairment in that waterbody.

The re-categorization process can be used in tandem with the removal of specific pollutant causes from the 303(d) list (as described in the “Removal of Specific Pollutant Causes from the 303(d) List” subsection on this process below) to manage and report on pollutants as data and decisions on whether those pollutants are causing cause impairment change over time – such as because of continued pollutant reduction or improved data.

303(d) LISTING

The 303(d) list is developed following assessment for water quality criteria, physical habitat and benthic macroinvertebrate metrics, fish tissue analysis, and narrative criteria. The term "303(d) list" is short for the list of impaired and threatened waters (e.g., stream/river waterbody segments) that are identified and reported to EPA (U.S. EPA, 2021b) under Category 5. "Listing" is the process of placing an impaired waterbody on the 303(d) list. Waters on the 303(d) list require development of a TMDL. This distinguishes them from Category 4a impaired waterbodies where TMDLs have already been developed. Listing is undertaken every other year using data from the most recent five-year assessment period so that information on the status of District waterbodies and use support is current.

The listing process addresses key questions on waterbody status, including:

- Are the existing listings from the previous reporting cycle still valid?
- Are there any new impairments based on assessment of available data in the current reporting cycle and/or changes in WQS that affect current listings since the last reporting cycle?
- Are the pollutant and non-pollutant causes of impairment known and clearly documented?
- Are the waterbodies categorized correctly based on known and/or documented impairments and causes?

When the District adds waterbodies to the 303(d) list, it also begins developing a plan and a schedule for developing the required TMDL. This information is included in the IR.

As described in the "Categorization for Individual Pollutants within a Waterbody" subsection above, DOEE also uses the 303(d) list to track categorization of individual pollutants – particularly toxics – by including tables for each Category (i.e., Category 3, Category 4a, and Category 5) that include all waterbody/pollutant combinations that fall into that category (e.g., in the 2024 IR, dieldrin is included in the Category 3 table for the Dalecarlia Tributary because there is insufficient information to determine if dieldrin is causing impairment in this waterbody).

303(d) DELISTING

Delisting is the process of removing a waterbody/pollutant combination from the 303(d) list. This process is used when evidence, in the form of available data and information, indicates that the waterbody is not impaired or is no longer impaired for a given designated use. Note that this process is specifically used to remove a pollutant or a waterbody/pollutant combination from Category 5 before a TMDL is completed. If data indicates that a waterbody in another category is no longer impaired but a TMDL has already been completed for that pollutant (i.e., a pollutant in Category 4a where a TMDL already exists), a process of recategorization is used. This process is discussed in sections above on "Recategorization for Individual Pollutants within a Waterbody" and below on the "Removal of Specific Pollutant Causes" and "TMDL Withdrawal" below.

Authority for Delisting

States (including the District) are legally allowed to delist waterbodies or pollutants from their 303(d) list if the original listings are no longer supported. Specifically, 40 CFR §130.7 (b)(6)(iv)) states that:

Upon request by the Regional Administrator, each State must demonstrate good cause for not including a water or waters on the list. Good cause includes, but is not limited to, more recent or accurate data; more sophisticated water quality modeling; flaws in the original analysis that led to the water being listed in the categories in § 130.7(b)(5); or changes in conditions, e.g., new control equipment, or elimination of discharges.

EPA's *Assessment Guidance on the 2002 Integrated Report* (U.S. EPA 2001) further clarifies this and states that:

The existing regulation requires states, territories, and authorized tribes, at the request of the Regional Administrator, to demonstrate good cause for not including waterbodies on the 303(d) list that were included on previous 303(d) lists (pursuant to 40 CFR 130.7(b)(6)(iv))...Where a waterbody was previously listed based on certain data or information, and the state removes the waterbody without developing or obtaining any new information, EPA will carefully evaluate the state's or territory's re-evaluation of the available information, and will not approve such approvals unless the state's or territory's submission describes why it is appropriate under the current regulations to remove each affected waterbody.

This statement emphasizes the fact that waterbodies and specific pollutants can be removed from the 303(d) list through analysis of "more recent and accurate data" or if there are "flaws in the original analysis that led to the waterbody being listed."

The District recognizes that it has authority to delist waterbody/pollutant combinations where justified and documented.

Reasons for Delisting and WQS Attainment

Guidance on the ATTAINS system for accessing information about the conditions in the Nation's surface waters (U.S. EPA, 2013) explains acceptable reasons for delisting in the context of waterbody changes from the prior reporting cycle.

Reasons for delisting waters include: TMDL approved or established by EPA (Category 4a), other pollution control requirements (Category 4b), and not caused by a pollutant (Category 4c).

Reasons for WQS attainment include:

- *Applicable WQS attained, original basis for listing was incorrect*
- *Applicable WQS attained due to restoration activities*
- *Applicable WQS attained due to change in WQS*
- *Applicable WQS attained according to new assessment method*
- *Applicable WQS attained threatened water no longer threatened*
- *Applicable WQS attained, reason for recovery unspecified*

Good Cause Justification for Delisting

When waterbodies of waterbody/pollutant combinations are delisted from the 303(d) list, the District will provide a good cause justification for the delisting in the IR. See the "Good Cause Justification" section below.

REMOVAL OF SPECIFIC POLLUTANT CAUSES

The District has a process to remove a specific pollutant identified as a cause of impairment for a waterbody when new evidence indicates that the pollutant is not causing impairment. In cases where this occurs, individual pollutants (but not necessarily all pollutants) previously reported as a cause of impairment in various tables in the IR (including in the Use Support and Cause by Pollutant table and in the District of Columbia 303(d) list table in the “Pollutant(s) or Pollutant Categories Causing Impairment” column) can be removed when good cause justification for removal is demonstrated. This process allows the District to update and better characterize the causes of impairment in waterbodies as new and/or better information is obtained.

In terms of implementing the removal of specific pollutant causes from Category 4a waters, this is documented in the IR by no longer including those pollutants in tables summarizing causes of impairment in a given waterbody (e.g., “2022 Use Support and Cause by Pollutant”) or in the 303(d) list. These removals are supported by a Good Cause Justification write-up, which is also included in the IR (see “Good Cause Justification” section below).

GOOD CAUSE JUSTIFICATION

As noted earlier under 303(d) delisting, EPA requires states to provide good cause justification for delisting. The recommendation to delist a waterbody/pollutant combination is based on one or more of the good cause justifications outlined in 40 CFR §130.7 (b)(6)(iv)) to support the regulatory requirements of the delisting recommendation. Under this requirement, good cause includes, but is not limited to:

- More recent or accurate data
- More sophisticated water quality modeling
- Flaws in the original analysis that led to the waterbody being listed/pollutant being identified as a cause of impairment in the categories in § 130.7(b)(5)
- Changes in conditions (e.g., new control equipment, or elimination of discharges)

Internally, the District also uses good cause to justify other actions, including removal of a specific pollutant as a cause of impairment in a waterbody segment, recategorization of waterbodies, and development of recommendations for TMDL withdrawal. As an example, the good cause justification can include identification of cases where the TMDL for a given pollutant is no longer needed because the pollutant is no longer identified as cause of impairment.

The District uses a “weight of evidence” approach to support good cause justification. A weight of evidence approach does not rely on just one piece of evidence. Instead, it relies on evaluating multiple pieces of evidence simultaneously to make decisions and recommendations. The weight of evidence approach provides the assessment staff with the flexibility to evaluate the evidence and assign more or less weight to individual pieces of evidence, as appropriate, to come to conclusions about the causes of impairment, delisting, recategorization, and TMDL withdrawal.

The weight of evidence approach is conducted according to the following steps:

- Identify all available relevant evidence.
- Review/analyze evidence against WQS or other decision-making criteria.

- Consider the age of the available data – is it recent or older? Recent data may merit more weight than older data, particularly if more recent data points to different conclusions than older data.
- Make recommendations based on the evidence.
- Develop a written good cause justification rationale that includes a summary of the evidence and the recommendation.

The types of evidence considered during the weight of evidence approach are summarized in Table 15.

Table 15. Types of Data Used in the Weight of Evidence Approach	
Data Type	Discussion
Water Quality Data	Water quality analysis is used to determine whether recent data continue to support the earlier decisions about impairment and categorization. This type of analysis aligns with a 40 CFR §130.7 (b)(6)(iv)) statement that evaluation of “more recent or accurate data” is one way to delist a waterbody from the 303(d) list. A similar understanding is used to remove individual pollutants as causes of impairment, for recategorization, and for recommended TMDL withdrawal.
Non-Water Quality Data	Non-water quality data is used to determine whether recent findings support previous listings and categorization. For example, recent macroinvertebrate or physical habitat assessments or fish tissue analysis and assessment can be used to determine if existing listings and categorization remain applicable and/or if TMDL withdrawal is recommended.
Historical Data	Examination of the original water quality data or non-water quality data that identified impairment and led specific pollutants to be listed as causing designated use impairment is used to identify data gaps, unsubstantiated assumptions, inconsistencies, or other errors in the original listings. This type of analysis provides evidence to support findings of “flaws in the original analysis that led to the water being listed,” one of the “good cause justifications” endorsed in 40 CFR to support delisting a 303(d) listing or removal of individual pollutants as causes of impairment and TMDL withdrawal.
IRs	Examination of IRs is used to review what was understood about designated use support and pollutant causes across the decades. The IRs summarize data, describe water quality assessment, and document use support decisions.
TMDL Data	Examination of the water quality and non-water quality data referenced in TMDL documents is used to review the causes of impairment, the historical data used to assess impairment, and the historical data used to develop TMDL models and model inputs. In addition, review of the applicable WQS at the time of TMDL development can link impairment to specific violations of those WQS. In some cases, TMDL write-ups provide more information on the impairment than what is provided in the IR.

A weight of evidence analysis is developed for each recommendation for delisting, removal of a pollutant as a cause of impairment, recategorization, and TMDL withdrawal. This analysis supports good cause justification as it uses the evidence available in the data categories described above in the aggregate to draw conclusions. The overall accumulation of evidence backed up by best professional judgment provides good cause justification and sufficient reason to act and make recommendations.

REPORTING

The assessment results and any good cause justification for each recommendation for delisting, removal of a pollutant as a cause of impairment, recategorization, or TMDL withdrawal for all waterbodies are reported in the IR. Tabular summaries are utilized to document waterbodies placed in Categories 1, 2 and 3 with basic information on waterbody name, waterbody ID, the designated uses supported, and, in the case of Category 3, the designated use where the data and information available is insufficient to determine use support. Tabular summaries are also utilized for Category 4 and 5 listings that include the 303(d) listing year, waterbody name, waterbody ID, and pollutants or non-pollutants causing impairment. Other information - such as the TMDL establishment date, priority rankings, and targeted TMDL development date - are included where applicable on a category-by-category basis. A good cause justification rationale is provided for each delisting, removal of a pollutant as a cause of impairment, recategorization, or recommendation to withdraw a TMDL.

The District follows EPA guidance on reporting outlined in *Information Concerning 2022 Clean Water Act Section 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions* (EPA, 2021c). The information reported on the District's assessment methodology and assessment results are prepared in a format that allows uploading to ATTAINS. The specific information uploaded to ATTAINS is:

Assessment Methodology (ATTAINS)

- Description of data and information used to make attainment determinations (40 CFR 130.7(b)(6)(ii))
- Description of how data and information was used to make attainment determinations (40 CFR 130.7(b)(6)(i))
- A rationale for any decision to not use any existing and readily available data and information (40 CFR 130.7(b)(6)(iii))
- Description of changes in assessment methodology since the last reporting cycle

Assessment Results (ATTAINS)

- Five-part categorization of waters
- Description of water quality of all waters of the US and the extent to which the quality of waters provides for protection and propagation of a balanced population of shellfish, fish, and wildlife and allows recreational activities in and on the water (e.g., results of probability-based/statistical surveys) (40 CFR 130.8 (b)(1))
- Changes from previous CWA 303(d) list (e.g., the waterbodies/pollutants that have been added and the waterbodies/pollutants that have been delisted and the reason for their delisting)
- A list of water quality-limited waters (impaired and threatened) still requiring a TMDL, pollutants causing the impairment, priority ranking for TMDL development (including waters targeted for TMDL development within the next two years) (40 CFR 130.7(b))

- Status of TMDL development
- Summaries of designated use support
- Any other reasonable information requested by the EPA Regional Administrator (40 CFR 130.7(b)(6)(iv))

REFERENCES

DOEE, 2016. *2016 District of Columbia Fish Consumption Advisory*. Available at: https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/Fish%20Consumption%20Advisory%202016.pdf. Accessed November 4, 2022.

DOEE, 2022. *District of Columbia Water Quality Assessment 2022 Integrated Report*. Available at <https://doee.dc.gov/publication/integrated-report-epa-and-us-congress-regarding-dcs-water-quality>.

DOEE, 2024. *District of Columbia Water Quality Assessment 2024 Integrated Report*. Available at <https://doee.dc.gov/publication/integrated-report-epa-and-us-congress-regarding-dcs-water-quality>

Maryland Department of Natural Resources. 2005. *New Biological Indicators to Better Assess the Condition of Maryland Streams* (Publication #CBWP-MANTA-EA-05-13). Annapolis, MD: Maryland DNR. December 2005.

Maryland Department of Natural Resources (MD DNR). 2007. *Maryland Biological Stream Survey, Sampling Manual: Field Protocols*. Annapolis, MD. February 2007.

Paul, M.J., et al. 2002. *Physical Habitat Index (PHI) Development for Urban Streams*.

Southerland, M.T., et al. 2007. *Development of a Benthic Index of Biotic Integrity for Maryland Streams*.

U.S. EPA. 1989. *Rapid Bioassessment Protocols for Use in Streams and Rivers - Benthic Macroinvertebrates and Fish*. May 1989.

U.S. EPA. 1997. *Guidelines for Preparation of the Comprehensive State Water Quality Assessments (305(b) Reports) and Electronic Updates: Supplement*. EPA-841-B-97-002B. Office of Wetlands, Oceans, and Watersheds, Washington, DC. September 1997.

U.S. EPA. 2000. *Guidance for Assessing Chemical Contaminant Data for Use in Fish Advisories, Volume 1, Fish Sampling and Analysis Third Edition*. EPA 823-B-00-007. November 2000.

U.S. EPA. 2001. *2002 Integrated Water Quality Monitoring and Assessment Report Guidance*. Office of Wetlands, Oceans, and Watersheds, Washington, DC. November 2001.

U.S. EPA. 2002. *Consolidated Assessment and Listing Methodology: Toward a Compendium of Best Practices, First Edition*. Office of Wetlands, Oceans, and Watersheds, Washington, DC. July 2002.

U.S. EPA. 2003. *Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act; TMDL-01-03*. Office of Wetlands, Oceans, and Watersheds, Washington, DC. July 2003.

U.S. EPA. 2005. *Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act*. Office of Wetland, Oceans and Watersheds, Washington, DC. July 2005.

U.S. EPA, 2013. *Periodic Retrospective Review of Existing Regulations: Reducing Reporting Burden under Clean Water Act Sections 303(d) and 305(b) Final Report*. Office of Wetlands, Oceans, and Watersheds, Washington, DC. February 2013.

U.S.EPA. 2015. *Information Concerning 2016 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions*. Memorandum. Office of Wetlands, Oceans, and Watersheds, Washington, DC. August 2015.

U.S. EPA, 2017. Draft Considerations for Revising and Withdrawing TMDLs. Available at: <https://19january2017snapshot.epa.gov/tmdl/draft-considerations-revising-and-withdrawing-tmdls.html> Accessed December 13, 2022

U.S. EPA. 2021a. *Assessing and Reporting Water Quality*. Available at: <https://www.epa.gov/waterdata/assessing-and-reporting-water-quality-questions-and-answers#1> Accessed February 15, 2021.

U.S. EPA, 2021b. *Impaired Waters Restoration Process: Listing*. Available at: <https://www.epa.gov/tmdl/overview-listing-impaired-waters-under-cwa-section-303d> Accessed April 12, 2021.

U.S. Fish and Wildlife Service. 2018. *Contaminant Concentrations in Fish Tissue Collected from the Waters of the District of Columbia: 2017-2018* Publication No. CBFO-C18-02. Annapolis, MD.

Appendix A: Compendium of Benthic Macroinvertebrate Metrics Used in District Bioassessment

This document summarizes the individual benthic macroinvertebrate metrics used by the District of Columbia Department of Energy and Environment (DOEE) for bioassessment purposes, as outlined in the 2026 Integrated Report (IR) methodology. The metrics were taken directly from protocols established by the Maryland Biological Stream Survey (MBSS) and EPA's Rapid Bioassessment Protocols. Distinct metric sets are used for Coastal Plain and Piedmont physiographic provinces.

Coastal Plain Site Macroinvertebrate Metrics

The following metrics are used to assess waterbodies in the Coastal Plain:

- Number of Taxa (Genus)
- Number of Ephemeroptera, Plecoptera, and Trichoptera (EPT) Taxa (Genus)
- Number of Ephemeroptera Taxa (Genus)
- % Intolerant Urban
- % Ephemeroptera
- # of Scraper Taxa (Genus)
- % Climbers

Piedmont Site Macroinvertebrate Metrics

- Number of Taxa (Genus)
- Number of EPT Taxa (Genus)
- Number of Ephemeroptera Taxa (Genus)
- % Intolerant Urban
- % Chironomidae
- % Clingers (Genus)

Scoring System

Each metric is scored on a scale of 1 (very poor), 3 (fair), or 5 (good). The scores are summed up to produce an overall Index of Biotic Integrity (IBI) score. The overall score determines the water quality rating and support determination as follows:

Overall Score	Water Quality Rating	Support Determination
4.0 - 5.0	Good	Fully supporting

3.0 - 3.9	Fair	Fully supporting
2.0 - 2.9	Poor	Not supporting
< 1.9	Very Poor	Not supporting

References

1. *Maryland Department of Natural Resources (2007). Maryland Biological Stream Survey (MBSS) Protocols.*
2. *U.S. Environmental Protection Agency (1989). Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers.*
3. *Southerland, M.T., et al. (2007). Development of a Benthic Index of Biotic Integrity for Maryland Streams.*
4. *MBSS Guide to Benthic Macroinvertebrate and Fish Indices of Biotic Integrity (2024). MD DNR.*
5. *District Department of Energy and Environment (DOEE). (2026). Compendium of MBSS_DCSS Benthic Macroinvertebrate and PHI Metrics Used in District Bioassessment.*

Compendium of Physical Habitat Metrics Used in District Bioassessment

This section summarizes the physical habitat metrics used by the District of Columbia Department of Energy and Environment (DOEE) to assess attainment of Class C aquatic life use. These metrics are based on protocols from EPA's Rapid Bioassessment Protocols (1989) and the Maryland Biological Stream Survey (2007). Distinct metric sets are used for Coastal Plain and Piedmont physiographic provinces.

Coastal Plain Site Physical Habitat Metrics

The following physical habitat metrics are used to assess waterbodies in the Coastal Plain:

- Remoteness
- Shading
- Epifaunal Substrate (EPI)
- Instream Habitat
- Numbers of Woody Debris and Root Wads ("Wood")
- Bank Stability

Piedmont Site Physical Habitat Metrics

The following physical habitat metrics are used to assess waterbodies in the Piedmont:

- Remoteness
- Shading
- Epifaunal Substrate (EPI)
- Instream Habitat
- Numbers of Woody Debris and Root Wads ("Wood")
- Bank Stability
- Riffle Quality
- Embeddedness

Physical Habitat Scoring System

Each metric is scored from 0 to 100 based on field observations. The scores are averaged to produce an overall Physical Habitat Index (PHI) score. The overall score determines the water quality rating and support determination as follows:

Overall PHI Score	Water Quality Rating	Support Determination
76 - 100	Good	Fully supporting
51 - 75	Fair	Fully supporting
26 - 50	Poor	Not supporting
0 - 25	Very Poor	Not supporting

Additional References for Physical Habitat Metrics

6. Paul, M.J., et al. (2002). *Physical Habitat Index (PHI) Development for Urban Streams*.
7. Maryland Department of Natural Resources (2007). *Maryland Biological Stream Survey (MBSS) Protocols*.
8. U.S. Environmental Protection Agency (1989). *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers*.
9. District Department of Energy and Environment (DOEE). (2026). *Compendium of MBSS_DCSS Benthic Macroinvertebrate and PHI Metrics Used in District Bioassessment*.

Appendix 3.3 2020-2025 Statistical Summary Reports

Total Statistical Summary Report

Waterbody Name	Waterbody ID	Station Data Used	Temp % Violation	pH % Violation	DO % Violation	Turb % Violation	Class A E. coli % Violation	E. coli monthly geomean % Violation
Kingman Lake	DCAKL00L	KNG01, KNG02	0.0%	0.0%	36.0%	39.6%	35.3%	N/A
Lower Anacostia	DCANA00E SEG1	ANA19, ANA21, ANA24	0.0%	0.7%	14.2%	9.0%	18.3%	31.8%
Upper Anacostia	DCANA00E SEG2	ANA01, ANA05, ANA08, ANA11, ANA14	0.0%	0.0%	41.3%	20.4%	34.2%	86.4%
Lower Potomac	DCPMS00E SEG1	PMS37, PMS44	0.0%	1.0%	1.0%	5.5%	7.0%	4.5%
Middle Potomac	DCPMS00E SEG2	PMS10, PMS21	0.3%	4.5%	0.3%	8.9%	10.5%	4.5%
Upper Potomac	DCPMS00E SEG3	PMS01	0.0%	1.8%	1.8%	16.7%	12.5%	N/A
Tidal Basin	DCPTB01L	PTB01	0.0%	8.9%	3.6%	0.0%	3.6%	N/A
Washington Ship Channel	DCPWC04E	PWC04	0.0%	1.6%	4.9%	1.6%	3.1%	0.15%
Lower Rock Creek	DCRCR00R SEG1	RCR09	0.0%	0.0%	0.0%	6.6%	53.9%	100.0%
Upper Rock Creek	DCRCR00R SEG2	RCR01	0.0%	0.0%	0.0%	16.6%	61.0%	100.0%
Battery Kemble Creek	DCTBK01R	TBK01	0.0%	0.0%	0.0%	1.8%	35.7%	N/A
Broad Branch	DCTBR01R	TBR01	0.0%	3.8%	1.9%	0.0%	42.6%	N/A
C&O Canal	DCTCO01L	TCO01, TCO06	0.0%	2.5%	0.0%	1.3%	7.5%	25.0%
Dalecarlia Tributary	DCTDA01R	TDA01	0.0%	0.0%	0.0%	0.0%	55.7%	N/A
Dumbarton Oaks	DCTDO01R	TDO01	0.0%	0.0%	0.0%	0.0%	16.4%	N/A
Fort Dupont	DCTDU01R	TDU01	0.0%	0.0%	0.0%	12.5%	43.5%	N/A
Foundry Branch	DCTFB02R	TFB02	0.0%	0.0%	0.0%	0.0%	20.0%	N/A
Fort Chaplin	DCTFC01R	TFC01	0.0%	0.0%	0.0%	10.7%	54.0%	N/A
Fort Davis	DCTFD01R	TFD01	0.0%	0.0%	3.6%	32.7%	34.4%	N/A
Fenwick Branch	DCTFE01R	TFE01	0.0%	0.0%	0.0%	3.6%	22.2%	N/A
Fort Stanton	DCTFS01R	TFS01	0.0%	0.0%	0.0%	10.9%	30.8%	N/A

Waterbody Name	Waterbody ID	Station Data Used	Temp % Violation	pH % Violation	DO % Violation	Turb % Violation	Class A E. coli % Violation	E. coli monthly geomean % Violation
Hickey Run	DCTHR01R	THR01	0.0%	4.8%	5.4%	30.8%	90.6%	N/A
Klinge Valley	DCTKV01R	TKV01	0.0%	0.0%	0.0%	0.0%	21.0%	N/A
Luzon Branch	DCTLU01	TLU01	0.0%	0.0%	0.0%	7.3%	60.7%	N/A
Melvin Hazen Valley Branch (Reservation 360)	DCTMH01R	TMH01	0.0%	3.1%	0.0%	1.8%	25.8%	N/A
Nash Run	DCTNA01R	TNA01	0.0%	1.8%	5.4%	14.3%	63.6%	N/A
Normanstone Creek	DCTNS01R	TNS01	0.0%	4.7%	0.0%	0.0%	46.4%	N/A
Oxon Run	DCTOR01R	TOR01	0.0%	0.0%	0.0%	5.5%	48.6%	N/A
Pope Branch	DCTPB01R	TPB01	0.0%	0.0%	1.8%	5.4%	42.2%	N/A
Pinehurst Branch	DCTPI01R	TPI01	0.0%	6.5%	0.0%	1.9%	20.3%	N/A
Portal Branch	DCTPO01R	TPO01	0.0%	0.0%	0.0%	1.8%	40.0%	N/A
Piney Branch	DCTPY01R	TPY01	0.0%	0.0%	1.9%	0.0%	31.5%	N/A
Soapstone Creek	DCTSO01R	TSO01	0.0%	3.2%	0.0%	0.0%	21.4%	N/A
Texas Avenue Tributary	DCTTX27R	TTX27	0.0%	0.0%	0.0%	12.5%	52.7%	N/A
Lower Watts Branch	DCTWB00R SEG1	TWB01	0.0%	3.2%	0.0%	5.5%	77.8%	N/A
Upper Watts Branch	DCTWB00R SEG2	TWB05, TWB06	0.0%	4.7%	1.8%	20.8%	78.9%	N/A

***E. coli* Geometric Mean (a minimum of 5 samples in 30 days (calendar month))**

Waterbody Name	Waterbody ID	Station Data Used	# of samples	E. coli monthly geomean % violation
Kingman Lake	DCAKL00L	KNG01, KNG02	170	N/A
Lower Anacostia	DCANA00E_SEG1	ANA19, ANA21, ANA24	219	31.8
Upper Anacostia	DCANA00E_SEG2	ANA01, ANA05, ANA08, ANA11, ANA14	476	86.4
Lower Potomac	DCPMS00E_SEG1	PMS37, PMS44	415	4.5
Middle Potomac	DCPMS00E_SEG2	PMS10, PMS21	306	4.5
Upper Potomac	DCPMS00E_SEG3	PMS01	56	N/A
Tidal Basin	DCPTB01L	PTB01	110	N/A
Washington Ship Channel	DCPWC04E	PWC04	128	0.15
Lower Rock Creek	DCRCR00R_SEG1	RCR09	152	100.00
Upper Rock Creek	DCRCR00R_SEG2	RCR01	392	100.00
Battery Kemble Creek	DCTBK01R	TBK01	56	N/A

Broad Branch	DCTBR01R	TBR01	54	N/A
C&O Canal	DCTCO01L	TCO01, TCO06	80	25.00
Dalecarlia Tributary	DCTDA01R	TDA01	61	N/A
Dumbarton Oaks	DCTDO01R	TDO01	61	N/A
Fort Dupont	DCTDU01R	TDU01	69	N/A
Foundry Branch	DCTFB02R	TFB02	55	N/A
Fort Chaplin	DCTFC01R	TFC01	63	N/A
Fort Davis	DCTFD01R	TFD01	61	N/A
Fenwick Branch	DCTFE01R	TFE01	54	N/A
Fort Stanton	DCTFS01R	TFS01	78	N/A
Hickey Run	DCTHR01R	THR01	171	N/A
Kling Valley	DCTKV01R	TKV01	62	N/A
Luzon Branch	DCTLU01	TLU01	61	N/A
Melvin Hazen Valley Branch	DCTMH01R	TMH01	62	N/A
Nash Run	DCTNA01R	TNA01	55	N/A
Normanstone Creek	DCTNS01R	TNS01	56	N/A
Oxon Run	DCTOR01R	TOR01	72	N/A
Pope Branch	DCTPB01R	TPB01	64	N/A
Pinehurst Branch	DCTPI01R	TPI01	59	N/A
Portal Branch	DCTPO01R	TPO01	55	N/A
Piney Branch	DCTPY01R	TPY01	54	N/A
Soapstone Creek	DCTSO01R	TSO01	56	N/A
Texas Avenue Tributary	DCTTX27R	TTX27	55	N/A
Lower Watts Branch	DCTWB00R_SEG1	TWB01	54	N/A
Upper Watts Branch	DCTWB00R_SEG2	TWB05, TWB06	228	N/A

N/A-not assessed, minimum number of samples requirement not met.

***E. coli* Statistical Summary Report (MPN/100mL)**

Waterbody Name	Waterbody ID	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	<i>E. coli</i> SSV (410) % violation
Kingman Lake	DCAKL00L	KNG01, KNG02	15	2,420	420	563	173	27.89
Lower Anacostia	DCANA00E_SEG1	ANA21	2	2,420	491	712	162	30.51
Upper Anacostia	DCANA00E_SEG2	ANA01, ANA08, ANA14	1	2,420	605	809	210	34.67
Lower Potomac	DCPMS00E_SEG1	PMS37, PMS44	1	2,420	176	461	24	8.75
Middle Potomac	DCPMS00E_SEG2	PMS10, PMS21	1	2,420	266	538	54	16.25

Waterbody Name	Waterbody ID	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	<i>E. coli</i> SSV (410) % violation
Upper Potomac	DCPMS00E_SEG3	PMS01	2	4,840	360	584	141	25.19
Tidal Basin	DCPTB01L	PTB01	1	2,420	132	312	46	6.60
Washington Ship Channel	DCPWC04E	PWC04	1	2,420	129	306	41	4.59
Lower Rock Creek	DCRCR00R_SEG1	RCR09	41	4,840	939	929	435	54.52
Upper Rock Creek	DCRCR00R_SEG2	RCR01	30	160,000	4,738	9,653	520	60.80
Battery Kemble Creek	DCTBK01R	TBK01	20	2,420	594	630	365	47.92
Broad Branch	DCTBR01R	TBR01	6	2,420	756	842	345	46.94
C&O Canal	DCTCO01, DCTCO01L	TCO01, TCO06	1	2,420	138	277	62	4.35
Dalecarlia Tributary	DCTDA01R	TDA01	38	2,420	963	848	770	66.67
Dumbarton Oaks	DCTDO01R	TDO01	7	1,986	326	460	138	25.00
Fort Dupont	DCTDU01R	TDU01	52	4,839	709	945	345	46.94
Foundry Branch	DCTFB02R	TFB02	3	2,420	527	708	192	35.86
Fort Chaplin	DCTFC01R	TFC01	1	2,420	854	921	450	54.00
Fort Davis	DCTFD01R	TFD01	4	4,839	726	975	255	39.13
Fenwick Branch	DCTFE01R	TFE01	24	2,420	341	484	161	24.44
Fort Stanton	DCTFS01R	TFS01	2	24,196	1,014	3,251	186	37.50
Hickey Run	DCTHR01R	THR01	99	240,000	9,559	23,857	2,420	91.18
Klingie Valley	DCTKV01R	TKV01	1	1,733	219	383	58	13.33
Luzon Branch	DCTLU01	TLU01	96	2,420	1,308	930	1,120	73.33
Melvin Hazen Valley Branch (Reservation 360)	DCTMH01R	TMH01	9	2,420	661	810	319	40.97
Nash Run	DCTNA01R	TNA01	24	2,420	1,077	921	579	68.89
Normanstone Creek	DCTNS01R	TNS01	40	2,420	1,311	935	1,046	75.52

Waterbody Name	Waterbody ID	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	<i>E. coli</i> SSV (410) % violation
Oxon Run	DCTOR01R	TOR01	88	2,420	853	858	488	52.73
Pope Branch	DCTPB01R	TPB01	4	2,420	604	822	164	38.00
Pinehurst Branch	DCTPI01R	TPI01	2	2,420	666	739	355	48.61
Portal Branch	DCTPO01R	TPO01	23	2,420	679	831	365	44.44
Piney Branch	DCTPY01R	TPY01	21	2,420	474	639	214	35.56
Soapstone Creek	DCTSO01R	TSO01	3	2,420	633	667	345	44.83
Texas Avenue Tributary	DCTTX27R	TTX27	8	24,200	1,452	3,581	613	62.22
Lower Watts Branch	DCTWB00R_SEG1	TWB01	42	24,196	1,764	2,644	1,559	85.37
Upper Watts Branch	DCTWB00R_SEG2	TWB05, TWB06	1	240,000	6,956	22,028	1,300	78.99

Dissolved Oxygen Statistical Summary Report (mg/L)

Waterbody Name	Waterbody ID	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	DO % WQS Violation
Kingman Lake	DCAKL00L	KNG01, KNG02	2.0	13.6	6.8	3.1	6.3	36.0%
Lower Anacostia	DCANA00E_SEG1	ANA19, ANA21, ANA24	2.2	14.7	7.7	2.8	7.6	14.2%
Upper Anacostia	DCANA00E_SEG2	ANA01, ANA05, ANA08, ANA11, ANA14	0.5	16.2	6.4	3.1	6.0	41.3%
Lower Potomac	DCPMS00E_SEG1	PMS37, PMS44	4.5	16.2	9.1	2.6	9.0	1.0%
Middle Potomac	DCPMS00E_SEG2	PMS10, PMS21	4.4	15.7	9.3	2.3	8.9	0.3%
Upper Potomac	DCPMS00E_SEG3	PMS01	4.8	15.3	10.3	2.5	10.7	1.8%
Tidal Basin	DCPTB01L	PTB01	2.4	16.1	10.1	2.6	10.6	3.6%
Washington Ship Channel	DCPWC04E	PWC04	4.0	15.1	8.5	2.2	9.0	4.9%
Lower Rock Creek	DCRCR00R_SEG1	RCR09	6.9	15.8	9.3	2.0	9.0	0.0%

Waterbody Name	Waterbody ID	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	DO % WQS Violation
Upper Rock Creek	DCRCR00R_SEG2	RCR01	5.2	15.3	8.7	2.2	7.9	0.0%
Battery Kemble Creek	DCTBK01R	TBK01	0.0	15.0	10.7	2.0	10.4	0.0%
Broad Branch	DCTBR01R	TBR01	4.3	18.8	11.2	3.2	10.9	1.9%
C&O Canal	DCTCO01L	TCO01, TCO06	4.8	11.0	7.5	1.6	7.4	0.0%
Dalecarlia Tributary	DCTDA01R	TDA01	6.6	13.3	9.8	2.1	9.9	0.0%
Dumbarton Oaks	DCTDO01R	TDO01	7.3	13.9	10.1	1.9	10.3	0.0%
Fort Dupont	DCTDU01R	TDU01	7.0	15.1	10.2	1.9	10.4	0.0%
Foundry Branch	DCTFB02R	TFB02	7.0	15.6	10.8	2.7	11.2	0.0%
Fort Chaplin	DCTFC01R	TFC01	5.6	13.4	9.0	2.4	8.9	0.0%
Fort Davis	DCTFD01R	TFD01	1.9	13.9	8.9	2.7	8.5	3.6%
Fenwick Branch	DCTFE01R	TFE01	6.5	15.4	10.1	2.4	9.9	0.0%
Fort Stanton	DCTFS01R	TFS01	6.9	15.1	10.1	2.1	10.3	0.0%
Hickey Run	DCTHR01R	THR01	1.0	12.8	7.3	3.0	7.1	5.4%
Klinge Valley	DCTKV01R	TKV01	7.0	15.9	10.3	2.2	10.7	0.0%
Luzon Branch	DCTLU01	TLU01	7.0	14.6	9.9	2.0	9.6	0.0%
Melvin Hazen Valley Branch (Reservation 360)	DCTMH01R	TMH01	7.3	16.0	10.5	2.1	10.6	0.0%
Nash Run	DCTNA01R	TNA01	2.7	12.4	7.7	2.8	8.1	5.4%
Normanstone Creek	DCTNS01R	TNS01	4.5	14.3	9.9	2.3	10.3	0.0%
Oxon Run	DCTOR01R	TOR01	7.0	14.6	10.2	2.1	10.2	0.0%
Pope Branch	DCTPB01R	TPB01	2.6	13.2	8.1	2.6	8.3	1.8%
Pinehurst Branch	DCTPI01R	TPI01	6.4	17.6	10.7	2.8	10.6	0.0%
Portal Branch	DCTPO01R	TPO01	4.5	15.0	9.6	2.5	9.1	0.0%

Waterbody Name	Waterbody ID	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	DO % WQS Violation
Piney Branch	DCTPY01R	TPY01	4.3	15.8	9.6	2.5	9.6	1.9%
Soapstone Creek	DCTSO01R	TSO01	6.7	17.2	10.7	2.4	11.1	0.0%
Texas Avenue Tributary	DCTTX27R	TTX27	3.7	13.9	9.5	1.9	9.9	0.0%
Lower Watts Branch	DCTWB00R_SEG1	TWB01	3.7	13.9	9.5	1.9	9.9	0.0%
Upper Watts Branch	DCTWB00R_SEG2	TWB05, TWB06	1.5	14.8	9.6	2.4	10.7	1.8%

pH Statistical Summary Report

Waterbody Segment	Watershed Code	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	pH % WQS Violation
Kingman Lake	DCAKL00L	KNG01, KNG02	6.7	7.8	7.3	0.3	7.3	0.0%
Lower Anacostia	DCANA00E_SEG1	ANA19, ANA21, ANA24	6.1	8.4	7.4	0.4	7.4	0.7%
Upper Anacostia	DCANA00E_SEG2	ANA01, ANA05, ANA08, ANA11,	6.5	8.1	7.2	0.3	7.2	0.0%
Lower Potomac	DCPMS00E_SEG1	PMS37, PMS44	6.4	8.6	7.7	0.3	7.7	1.0%
Middle Potomac	DCPMS00E_SEG2	PMS10, PMS21	6.7	8.9	8.0	0.3	8.0	4.5%
Upper Potomac	DCPMS00E_SEG3	PMS01	7.5	8.8	8.0	0.3	8.0	1.8%
Tidal Basin	DCPTB01L	PTB01	7.4	8.6	8.1	0.3	8.1	8.9%
Washington Ship Channel	DCPWC04E	PWC04	7.1	8.9	7.9	0.3	7.8	1.6%
Lower Rock Creek	DCRCR00R_SEG1	RCR09	7.0	8.3	7.7	0.2	7.7	0.0%
Upper Rock Creek	DCRCR00R_SEG2	RCR01	6.6	7.9	7.4	0.2	7.5	0.0%
Battery Kemble Creek	DCTBK01R	TBK01	7.1	8.0	7.8	0.2	7.8	0.0%
Broad Branch	DCTBR01R	TBR01	7.4	8.5	7.9	0.3	7.9	3.8%
C&O Canal	DCTCO01L	TCO01, TCO06	7.3	8.8	7.9	0.2	7.9	2.5%
Dalecarlia Tributary	DCTDA01R	TDA01	6.9	8.0	7.6	0.2	7.6	0.0%
Dumbarton Oaks	DCTDO01R	TDO01	7.0	8.0	7.6	0.2	7.6	0.0%
Fort Dupont	DCTDU01R	TDU01	6.7	7.8	7.5	0.2	7.5	0.0%
Foundry Branch	DCTFB02R	TFB02	6.7	7.7	7.5	0.2	7.5	0.0%
Fort Chaplin	DCTFC01R	TFC01	6.7	7.8	7.5	0.2	7.5	0.0%
Fort Davis	DCTFD01R	TFD01	6.7	7.4	7.2	0.3	7.2	0.0%
Fenwick Branch	DCTFE01R	TFE01	7.1	7.9	7.5	0.2	7.4	0.0%

Waterbody Segment	Watershed Code	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	pH % WQS Violation
Fort Stanton	DCTFS01R	TFS01	6.9	7.7	7.5	0.2	7.5	0.0%
Hickey Run	DCTHR01R	THR01	6.7	7.7	7.5	0.2	7.5	0.0%
Klinge Valley	DCTKV01R	TKV01	6.9	7.8	7.5	0.2	7.5	0.0%
Luzon Branch	DCTLU01	TLU01	7.2	8.1	7.6	0.2	7.6	0.0%
Melvin Hazen	DCTMH01R	TMH01	7.2	10.6	7.8	0.6	7.8	3.7%
Nash Run	DCTNA01R	TNA01	7.0	7.9	7.5	0.6	7.4	1.8%
Normanstone	DCTNS01R	TNS01	7.0	8.2	7.6	0.2	7.5	0.0%
Oxon Run	DCTOR01R	TOR01	7.0	7.9	7.7	0.2	7.7	0.0%
Pope Branch	DCTPB01R	TPB01	6.6	7.4	7.2	0.2	7.1	0.0%
Pinehurst	DCTPI01R	TPI01	7.4	8.6	7.8	0.3	7.7	7.8%
Portal Branch	DCTPO01R	TPO01	6.9	7.7	7.5	0.2	7.5	0.0%
Piney Branch	DCTPY01R	TPY01	6.8	7.6	7.4	0.2	7.4	0.0%
Soapstone	DCTSO01R	TSO01	7.4	8.4	7.8	0.2	7.8	0.0%
Texas Avenue	DCTTX27R	TTX27	6.7	7.9	7.3	0.2	7.3	0.0%
Lower Watts	DCTWB00R_SEG1	TWB01	7.1	8.5	7.7	0.5	7.6	3.6%
Upper Watts	DCTWB00R_SEG2	TWB05, TWB06	7.0	9.3	7.8	0.5	7.7	4.5%

Temperature Statistical Summary Report (°C)

Waterbody Name	Waterbody ID	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	Temp % WQS Violation
Kingman Lake	DCAKL00L	KNG01, KNG02	0.4	30.6	15.2	8.7	13.8	0.0%
Lower Anacostia	DCANA00E_SEG1	ANA19, ANA21, ANA24	0.5	31.1	18.3	8.7	19.4	0.0%
Upper Anacostia	DCANA00E_SEG2	ANA01, ANA05, ANA08, ANA11, ANA14	0.4	31.8	18.8	8.2	20.5	0.0%
Lower Potomac	DCPMS00E_SEG1	PMS37, PMS44	0.4	30.5	17.8	8.6	18.7	0.0%
Middle Potomac	DCPMS00E_SEG2	PMS10, PMS21	0.6	35.7	19.5	8.8	22.2	0.3%
Upper Potomac	DCPMS00E_SEG3	PMS01	0.5	30.7	15.3	8.9	15.0	0.0%
Tidal Basin	DCPTB01L	PTB01	1.1	30.0	15.2	9.2	14.5	0.0%
Washington Ship Channel	DCPWC04E	PWC04	1.2	31.1	21.3	8.1	24.2	0.0%
Lower Rock Creek	DCRCR00R_SEG1	RCR09	0.5	27.7	17.9	7.2	20.5	0.0%
Upper Rock Creek	DCRCR00R_SEG2	RCR01	0.4	27.0	17.6	7.4	20.2	0.0%
Battery Kemble Creek	DCTBK01R	TBK01	0.6	24.6	12.5	6.9	12.1	0.0%
Broad Branch	DCTBR01R	TBR01	0.5	24.2	12.6	6.7	12.2	0.0%
C&O Canal	DCTCO01L	TCO01, TCO06	11.0	30.5	24.3	5.1	26.1	0.0%
Dalecarlia Tributary	DCTDA01R	TDA01	3.7	23.8	13.6	6.0	13.1	0.0%

Waterbody Name	Waterbody ID	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	Temp % WQS Violation
Dumbarton Oaks	DCTDO01R	TDO01	3.1	23.2	13.3	6.0	12.8	0.0%
Fort Dupont	DCTDU01R	TDU01	2.0	26.7	13.2	7.4	12.6	0.0%
Foundry Branch	DCTFB02R	TFB02	0.9	23.9	12.6	6.7	12.2	0.0%
Fort Chaplin	DCTFC01R	TFC01	4.8	25.0	13.9	6.1	13.1	0.0%
Fort Davis	DCTFD01R	TFD01	1.2	24.5	12.7	6.9	12.0	0.0%
Fenwick Branch	DCTFE01R	TFE01	2.4	24.9	13.8	6.7	12.8	0.0%
Fort Stanton	DCTFS01R	TFS01	2.2	25.6	13.0	6.9	12.0	0.0%
Hickey Run	DCTHR01R	THR01	2.5	27.1	15.5	6.2	15.7	0.0%
Klinglet Valley	DCTKV01R	TKV01	0.2	23.2	12.1	6.8	11.9	0.0%
Luzon Branch	DCTLU01	TLU01	5.4	23.1	14.0	5.4	13.9	0.0%
Melvin Hazen Valley Branch (Reservation 360)	DCTMH01R	TMH01	0.6	23.7	12.4	6.8	11.9	0.0%
Nash Run	DCTNA01R	TNA01	4.0	29.1	15.1	7.3	14.6	0.0%
Normanstone Creek	DCTNS01R	TNS01	1.4	23.7	12.8	6.5	12.3	0.0%
Oxon Run	DCTOR01R	TOR01	1.5	27.2	13.6	7.8	13.6	0.0%
Pope Branch	DCTPB01R	TPB01	0.8	27.2	13.4	7.6	12.9	0.0%
Pinehurst Branch	DCTPI01R	TPI01	2.1	23.8	16.6	5.9	18.7	0.0%
Portal Branch	DCTPO01R	TPO01	2.3	24.6	13.3	6.9	12.7	0.0%
Piney Branch	DCTPY01R	TPY01	1.2	26.3	13.1	7.5	12.3	0.0%
Soapstone Creek	DCTSO01R	TSO01	0.3	24.7	12.8	7.2	12.3	0.0%
Texas Avenue Tributary	DCTTX27R	TTX27	3.7	22.9	13.3	6.0	12.5	0.0%
Lower Watts Branch	DCTWB00R_SEG1	TWB01	1.7	29.7	13.9	7.6	12.8	0.0%
Upper Watts Branch	DCTWB00R_SEG2	TWB05, TWB06	1.9	27.7	14.4	7.0	14.1	0.0%

Turbidity Statistical Summary Report (NTU)

Waterbody Name	Waterbody ID	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	Turbidity % WQS Violation
Kingman Lake	DCAKL00L	KNG01, KNG02	2.4	87.1	21.1	13.6	17.7	39.6%
Lower Anacostia	DCANA00E_SEG1	ANA19, ANA21, ANA24	0.7	60.1	9.1	8.1	6.9	9.0%
Upper Anacostia	DCANA00E_SEG2	ANA01, ANA05, ANA08, ANA11, ANA14	1.7	207.0	17.1	20.0	12.1	20.4%
Lower Potomac	DCPMS00E_SEG1	PMS37, PMS44	0.0	96.0	8.7	9.5	6.9	5.5%
Middle Potomac	DCPMS00E_SEG2	PMS10, PMS21	0.0	164.0	8.0	15.4	3.8	8.9%

Waterbody Name	Waterbody ID	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	Turbidity % WQS Violation
Upper Potomac	DCPMS00E_SEG3	PMS01	0.0	214.0	19.0	40.8	4.3	16.7%
Tidal Basin	DCPTB01L	PTB01	0.4	12.0	5.7	3.1	5.2	0.0%
Washington Ship Channel	DCPWC04E	PWC04	0.2	21.2	4.0	3.5	3.0	1.6%
Lower Rock Creek	DCRCR00R_SEG1	RCR09	0.0	331.2	11.2	35.8	3.1	6.6%
Upper Rock Creek	DCRCR00R_SEG2	RCR01	0.0	300.0	20.0	44.9	4.2	16.6%
Battery Kemble Creek	DCTBK01R	TBK01	0.0	130.2	4.3	17.9	0.4	1.8%
Broad Branch	DCTBR01R	TBR01	0.0	15.4	2.4	3.8	0.7	0.0%
C&O Canal	DCTCO01L	TCO01, TCO06	0.5	28.8	6.1	4.3	4.9	1.3%
Dalecarlia Tributary	DCTDA01R	TDA01	0.0	19.1	1.8	3.8	0.4	0.0%
Dumbarton Oaks	DCTDO01R	TDO01	0.0	11.7	1.7	2.5	0.9	0.0%
Fort Dupont	DCTDU01R	TDU01	0.5	59.0	9.6	11.2	6.1	12.5%
Foundry Branch	DCTFB02R	TFB02	0.0	12.5	1.2	2.6	0.3	0.0%
Fort Chaplin	DCTFC01R	TFC01	0.6	527.0	18.2	69.7	6.4	10.7%
Fort Davis	DCTFD01R	TFD01	1.1	85.0	20.2	18.6	15.7	32.7%
Fenwick Branch	DCTFE01R	TFE01	0.0	49.3	3.1	7.7	0.5	3.6%
Fort Stanton	DCTFS01R	TFS01	0.3	73.1	8.2	12.6	4.2	10.9%
Hickey Run	DCTHR01R	THR01	0.0	220.0	22.6	35.6	8.7	30.8%
Klinge Valley	DCTKV01R	TKV01	0.0	13.6	1.6	2.9	0.3	0.0%
Luzon Branch	DCTLU01	TLU01	0.0	116.9	6.7	20.8	0.8	7.3%
Melvin Hazen Valley Branch (Reservation 360)	DCTMH01R	TMH01	0.0	32.6	2.8	5.2	1.0	1.8%
Nash Run	DCTNA01R	TNA01	0.0	37.4	9.1	8.5	6.4	14.3%
Normanstone Creek	DCTNS01R	TNS01	0.0	11.9	1.2	2.7	0.2	0.0%
Oxon Run	DCTOR01R	TOR01	0.0	37.6	4.4	7.2	1.9	5.5%
Pope Branch	DCTPB01R	TPB01	0.6	31.4	10.3	5.6	9.1	5.4%
Pinehurst Branch	DCTPI01R	TPI01	0.0	36.5	1.9	5.5	0.2	1.9%
Portal Branch	DCTPO01R	TPO01	0.0	84.3	3.5	11.6	0.5	1.8%
Piney Branch	DCTPY01R	TPY01	0.0	13.9	1.6	3.3	0.4	0.0%
Soapstone Creek	DCTSO01R	TSO01	0.0	14.1	1.5	2.9	0.3	0.0%
Texas Avenue Tributary	DCTTX27R	TTX27	1.3	50.0	11.9	9.0	9.5	12.5%
Lower Watts Branch	DCTWB00R_SEG1	TWB01	0.0	26.3	6.4	6.5	3.8	5.5%
Upper Watts Branch	DCTWB00R_SEG2	TWB05, TWB06	0.0	250.0	17.2	33.4	5.0	20.8%

Appendix 3.4 District of Columbia 303(d) List

Categorization of District of Columbia Waters

Category 1- All designated uses are supported, no use is threatened.

No DC waters fit this category.

Category 2- Available data and/or information indicate that some, but not all, designated uses are supported.

Category 3- There is insufficient available data and/or information to make a use support determination.

Category 4- Available data and/or information indicate that at least one designated use is not being supported or is threatened, but a TMDL is not needed.

See subcategories below:

Category 4A- TMDLs needed to result in a designated use attainment have been approved or established by EPA.

Category 4B- TMDL not required. Other pollution control requirements (such as permits, strategies) are expected to address waterbody/pollutant combinations and result in attainment of the water quality standards in a reasonable period of time.

Category 4C- Impaired or threatened waters for one or more designated uses. TMDL is not required as impairment is not caused by a pollutant.

Category 5- Available data and/or information indicate that a designated use is not being supported or is threatened, and a TMDL is needed.

Geographic Location: 0207001003 - Cameron Run-Potomac River 0207000810 - Difficult Run-Potomac River 0207001002 - Anacostia River 0207001001 - Rock Creek-Potomac River.

**DISTRICT OF COLUMBIA LIST
OF IMPAIRED WATERBODIES**

Category 2 - Available data and/or information indicate that some, but not all, designated uses are supported.					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutants that support the designated use
2026	0207001003	DCPMS00E_01	Lower Potomac	B	Turbidity
2026	0207001003	DCPMS00E_01	Lower Potomac	A	Turbidity
2026	0207001003	DCPMS00E_01	Lower Potomac	C	Turbidity
2026	0207001001	DCPMS00E_02	Middle Potomac	C	pH
2026	0207001001	DCPMS00E_02	Middle Potomac	B	Turbidity
2026	0207001001	DCPMS00E_02	Middle Potomac	B	pH
2026	0207001001	DCPMS00E_02	Middle Potomac	A	pH
2026	0207001001	DCPMS00E_02	Middle Potomac	C	Turbidity
2026	0207001001	DCPMS00E_02	Middle Potomac	A	Turbidity
2026	0207001001	DCPMS00E_03	Upper Potomac	C	pH
2026	0207001001	DCPMS00E_03	Upper Potomac	B	pH
2026	0207001001	DCPMS00E_03	Upper Potomac	A	pH
2026	0207001001	DCPTB01L_00	Tidal Basin	A	pH
2026	0207001001	DCPTB01L_00	Tidal Basin	C	pH
2026	0207001001	DCPTB01L_00	Tidal Basin	B	pH
2026	0207001001	DCPWC04E_00	Washington Ship Channel	A	pH
2026	0207001001	DCPWC04E_00	Washington Ship Channel	C	pH
2026	0207001001	DCPWC04E_00	Washington Ship Channel	B	pH
2026	0207001001	DCTCO01L_00	Chesapeake And Ohio Canal	C	pH
2026	0207001001	DCTCO01L_00	Chesapeake And Ohio Canal	B	pH
2026	0207001001	DCTCO01L_00	Chesapeake And Ohio Canal	A	pH
2026	0207001001	DCPTB01L_00	Tidal Basin	A	Escherichia Coli (<i>E. coli</i>)
2026	0207001001	DCPWC04E_00	Washington Ship Channel	A	Escherichia Coli (<i>E. coli</i>)
2026	0207001003	DCPMS00E_01	Lower Potomac	A	Escherichia Coli (<i>E. coli</i>)
2026	0207001002	DCANA00E_01	Lower Anacostia	C	Oil And Grease
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	C	Turbidity
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	B	Turbidity
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	A	Turbidity
2026	0207001002	DCTWB00R_01	Lower Watts Branch	C	Turbidity
2026	0207001002	DCTWB00R_01	Lower Watts Branch	B	Turbidity
2026	0207001002	DCTWB00R_01	Lower Watts Branch	A	Turbidity

Category 2 - Available data and/or information indicate that some, but not all, designated uses are supported.

Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutants that support the designated use
2026	0207001001	DCRCR00R_01	Lower Rock Creek	B	Turbidity
2026	0207001001	DCRCR00R_01	Lower Rock Creek	C	Turbidity
2026	0207001001	DCRCR00R_01	Lower Rock Creek	A	Turbidity
2026	0207001001	DCRCR00R_02	Upper Rock Creek	C	Habitat Assessment
2026	0207001001	DCRCR00R_02	Upper Rock Creek	C	Benthic Macroinvertebrates Bioassessments
2026	0207001001	DCTBK01R_00	Battery Kemble Creek	C	Habitat Assessment
2026	0207001001	DCTBR01R_00	Broad Branch	A	Turbidity
2026	0207001001	DCTBR01R_00	Broad Branch	C	Turbidity
2026	0207001001	DCTBR01R_00	Broad Branch	B	Turbidity
2026	0207001001	DCTCO01L_00	Chesapeake And Ohio Canal	C	Temperature
2026	0207001001	DCTCO01L_00	Chesapeake And Ohio Canal	A	Turbidity
2026	0207001001	DCTCO01L_00	Chesapeake And Ohio Canal	C	Dissolved Oxygen
2026	0207001001	DCTCO01L_00	Chesapeake And Ohio Canal	C	Turbidity
2026	0207001001	DCTCO01L_00	Chesapeake And Ohio Canal	B	Turbidity
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	C	Turbidity
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	B	Turbidity
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	A	Turbidity
2026	0207001001	DCTDO01R_00	Dumbarton Oaks	C	Benthic Macroinvertebrates Bioassessments
2026	0207001001	DCTFB02R_00	Foundry Branch	C	Turbidity
2026	0207001001	DCTFB02R_00	Foundry Branch	B	Turbidity
2026	0207001001	DCTFB02R_00	Foundry Branch	A	Turbidity
2026	0207001001	DCTFB02R_00	Foundry Branch	C	Habitat Assessment
2026	0207001002	DCTFC01R_00	Fort Chaplin Run	C	Dissolved Oxygen
2026	0207001002	DCTFD01R_00	Fort Davis Tributary	C	Habitat Assessment
2026	0207001002	DCTFD01R_00	Fort Davis Tributary	C	Dissolved Oxygen
2026	0207001002	DCTFS01R_00	Fort Stanton Tributary	C	Habitat Assessment
2026	0207001002	DCTHR01R_00	Hickey Run	C	Habitat Assessment
2026	0207001002	DCTHR01R_00	Hickey Run	C	Dissolved Oxygen
2026	02070010	DCTKV01R_00	Klinge Valley	C	Habitat Assessment
2026	0207001001	DCTLU01R_00	Luzon Branch	C	Turbidity
2026	0207001001	DCTLU01R_00	Luzon Branch	B	Turbidity
2026	0207001001	DCTLU01R_00	Luzon Branch	A	Turbidity
2026	0207001001	DCTLU01R_00	Luzon Branch	C	Habitat Assessment
2026	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	A	Turbidity
2026	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	C	Habitat Assessment

Category 2 - Available data and/or information indicate that some, but not all, designated uses are supported.					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutants that support the designated use
2026	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	B	Turbidity
2026	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	C	Turbidity
2026	02070010	DCTNS01R_00	Normanstone Creek	C	pH
2026	02070010	DCTNS01R_00	Normanstone Creek	C	Habitat Assessment
2026	02070010	DCTNS01R_00	Normanstone Creek	B	pH
2026	02070010	DCTNS01R_00	Normanstone Creek	A	pH
2026	0207001003	DCTOR01R_00	Oxon Run	B	Turbidity
2026	0207001003	DCTOR01R_00	Oxon Run	C	Turbidity
2026	0207001003	DCTOR01R_00	Oxon Run	A	Turbidity
2026	02070010	DCTPI01R_00	Pinehurst Branch	A	pH
2026	02070010	DCTPI01R_00	Pinehurst Branch	B	pH
2026	02070010	DCTPI01R_00	Pinehurst Branch	C	pH
2026	02070010	DCTPI01R_00	Pinehurst Branch	C	Habitat Assessment
2026	02070010	DCTPO01R_00	Portal Branch	A	pH
2026	02070010	DCTPO01R_00	Portal Branch	C	pH
2026	02070010	DCTPO01R_00	Portal Branch	B	pH
2026	02070010	DCTSO01R_00	Soapstone Creek	C	pH
2026	02070010	DCTSO01R_00	Soapstone Creek	B	pH
2026	02070010	DCTSO01R_00	Soapstone Creek	A	pH
2026	0207001002	DCTWB00R_01	Lower Watts Branch	C	Habitat Assessment
2026	0207001002	DCTWB00R_01	Lower Watts Branch	C	Benthic Macroinvertebrates Bioassessments
2026	0207001002	DCTWB00R_02	Upper Watts Branch	C	pH
2026	0207001002	DCTWB00R_02	Upper Watts Branch	B	pH
2026	0207001002	DCTWB00R_02	Upper Watts Branch	A	pH
2026	0207001002	DCTWB00R_02	Upper Watts Branch	C	Benthic Macroinvertebrates Bioassessments

Category 3 - There is insufficient available data and/or information to make a use support determination					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutants for which there is insufficient information to make use determination
2026	0207001002	DCTFC01R_00	Fort Chaplin Run	D	Arsenic
2026	0207001002	DCTFD01R_00	Fort Davis Tributary	D	Arsenic
2026	0207001002	DCTNA01R_00	Nash Run	D	Arsenic
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	Arsenic
2026	02070010	DCTSO01R_00	Soapstone Creek	C	Chlordane
2026	0207001001	DCRCR00R_02	Upper Rock Creek	D	Chlordane
2026	0207001001	DCRCR00R_02	Upper Rock Creek	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCRCR00R_02	Upper Rock Creek	D	Dieldrin
2026	0207001001	DCRCR00R_02	Upper Rock Creek	D	Heptachlor Epoxide
2026	0207001001	DCTCO01L_00	Chesapeake and Ohio Canal	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTCO01L_00	Chesapeake and Ohio Canal	C	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTPY01R_00	Piney Branch	C	Chlordane

Category 4a - TMDL has been approved to address identified impairment causes					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutant(s) or Indicator(s) Causing Impairment
2026	0207001002	DCAKL00L_00	Kingman Lake	B	Turbidity
2026	0207001002	DCAKL00L_00	Kingman Lake	C	Dissolved Oxygen
2026	0207001002	DCAKL00L_00	Kingman Lake	A	Turbidity
2026	0207001002	DCAKL00L_00	Kingman Lake	C	Total Suspended Solids (TSS)
2026	0207001002	DCAKL00L_00	Kingman Lake	C	Turbidity
2026	0207001002	DCAKL00L_00	Kingman Lake	A	Escherichia Coli (E. coli)
2026	0207001002	DCAKL00L_00	Kingman Lake	C	DDT (Dichlorodiphenyltrichloroethane)
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Heptachlor Epoxide In Fish Tissue
2026	0207001002	DCAKL00L_00	Kingman Lake	D	DDD (Dichlorodiphenyldichloroethane)
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Dieldrin
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Benzo[A]Anthracene
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Indeno[1,2,3-Cd]Pyrene
2026	0207001002	DCAKL00L_00	Kingman Lake	D	DDT (Dichlorodiphenyltrichloroethane)
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Dibenz[A,H]Anthracene
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Benzo[A]Pyrene
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Dieldrin In Fish Tissue
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Benzo[B]Fluoranthene
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Arsenic
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Chlordane
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Chlordane In Fish Tissue
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Benzo[K]Fluoranthene
2026	0207001002	DCAKL00L_00	Kingman Lake	C	Oil And Grease
2026	0207001002	DCAKL00L_00	Kingman Lake	C	Nitrogen, Total
2026	0207001002	DCAKL00L_00	Kingman Lake	C	Biochemical Oxygen Demand (Bod)
2026	0207001002	DCAKL00L_00	Kingman Lake	C	Phosphorus, Total
2026	0207001002	DCAKL00L_00	Kingman Lake	D	PCBs In Fish Tissue
2026	0207001002	DCAKL00L_00	Kingman Lake	D	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCANA00E_01	Lower Anacostia	C	Nitrogen, Total
2026	0207001002	DCANA00E_01	Lower Anacostia	C	Total Suspended Solids (TSS)
2026	0207001002	DCANA00E_01	Lower Anacostia	C	Dissolved Oxygen
2026	0207001002	DCANA00E_01	Lower Anacostia	C	Phosphorus, Total
2026	0207001002	DCANA00E_01	Lower Anacostia	A	Escherichia Coli (E. coli)
2026	0207001002	DCANA00E_01	Lower Anacostia	D	DDD

Category 4a - TMDL has been approved to address identified impairment causes					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutant(s) or Indicator(s) Causing Impairment
					(Dichlorodiphenyldichloroethane)
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Benzo[K]Fluoranthene
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Benzo[A]Anthracene
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Indeno[1,2,3-Cd]Pyrene
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Chlordane
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Heptachlor Epoxide
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Benzo[B]Fluoranthene
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Dieldrin
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Chrysene
2026	0207001002	DCANA00E_01	Lower Anacostia	D	DDT (Dichlorodiphenyltrichloroethane)
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Chlordane In Fish Tissue
2026	0207001002	DCANA00E_01	Lower Anacostia	C	DDT (Dichlorodiphenyltrichloroethane)
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Arsenic
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Dieldrin In Fish Tissue
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Heptachlor Epoxide In Fish Tissue
2026	0207001002	DCANA00E_01	Lower Anacostia	C	DDD (Dichlorodiphenyldichloroethane)
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Benzo[A]Pyrene
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Dibenz[A,H]Anthracene
2026	0207001002	DCANA00E_01	Lower Anacostia	C	Chlorophyll-a
2026	0207001002	DCANA00E_01	Lower Anacostia	C	Biochemical Oxygen Demand (Bod)
2026	0207001002	DCANA00E_01	Lower Anacostia	D	PCBs In Fish Tissue
2026	0207001002	DCANA00E_01	Lower Anacostia	D	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCANA00E_01	Lower Anacostia	B	Trash
2026	0207001002	DCANA00E_02	Upper Anacostia	C	Dissolved Oxygen
2026	0207001002	DCANA00E_02	Upper Anacostia	C	Total Suspended Solids (TSS)
2026	0207001002	DCANA00E_02	Upper Anacostia	C	Nitrogen, Total
2026	0207001002	DCANA00E_02	Upper Anacostia	C	Chlorophyll-a
2026	0207001002	DCANA00E_02	Upper Anacostia	A	Escherichia Coli (E. coli)
2026	0207001002	DCANA00E_02	Upper Anacostia	C	Oil And Grease
2026	0207001002	DCANA00E_02	Upper Anacostia	C	Heptachlor Epoxide
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Benzo[B]Fluoranthene
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Benzo[K]Fluoranthene
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Heptachlor Epoxide In Fish Tissue
2026	0207001002	DCANA00E_02	Upper Anacostia	C	DDD

Category 4a - TMDL has been approved to address identified impairment causes					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutant(s) or Indicator(s) Causing Impairment
					(Dichlorodiphenyldichloroethane)
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Benzo[A]Anthracene
2026	0207001002	DCANA00E_02	Upper Anacostia	C	DDT (Dichlorodiphenyltrichloroethane)
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Benzo[A]Pyrene
2026	0207001002	DCANA00E_02	Upper Anacostia	D	DDT (Dichlorodiphenyltrichloroethane)
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Dieldrin
2026	0207001002	DCANA00E_02	Upper Anacostia	D	DDE (Dichlorodiphenyldichloroethylene)
2026	0207001002	DCANA00E_02	Upper Anacostia	D	DDD (Dichlorodiphenyldichloroethane)
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Heptachlor Epoxide
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Dibenz[A,H]Anthracene
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Arsenic
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Indeno[1,2,3-Cd]Pyrene
2026	0207001002	DCANA00E_02	Upper Anacostia	C	DDE (Dichlorodiphenyldichloroethylene)
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Chlordane In Fish Tissue
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Dieldrin In Fish Tissue
2026	0207001002	DCANA00E_02	Upper Anacostia	C	Phosphorus, Total
2026	0207001002	DCANA00E_02	Upper Anacostia	C	Biochemical Oxygen Demand (Bod)
2026	0207001002	DCANA00E_02	Upper Anacostia	D	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCANA00E_02	Upper Anacostia	C	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCANA00E_02	Upper Anacostia	D	PCBs In Fish Tissue
2026	0207001002	DCANA00E_02	Upper Anacostia	A	Turbidity
2026	0207001002	DCANA00E_02	Upper Anacostia	B	Turbidity
2026	0207001002	DCANA00E_02	Upper Anacostia	C	Turbidity
2026	0207001002	DCANA00E_02	Upper Anacostia	B	Trash
2026	0207001003	DCPMS00E_01	Lower Potomac	C	Chlorophyll-a
2026	0207001003	DCPMS00E_01	Lower Potomac	C	Total Suspended Solids (TSS)
2026	0207001003	DCPMS00E_01	Lower Potomac	C	Nitrogen, Total
2026	0207001003	DCPMS00E_01	Lower Potomac	C	Phosphorus, Total
2026	0207001003	DCPMS00E_01	Lower Potomac	D	PCBs In Fish Tissue
2026	0207001003	DCPMS00E_01	Lower Potomac	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCPMS00E_02	Middle Potomac	C	Phosphorus, Total
2026	0207001001	DCPMS00E_02	Middle Potomac	C	Nitrogen, Total

Category 4a - TMDL has been approved to address identified impairment causes					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutant(s) or Indicator(s) Causing Impairment
2026	0207001001	DCPMS00E_02	Middle Potomac	C	Chlorophyll-a
2026	0207001001	DCPMS00E_02	Middle Potomac	C	Total Suspended Solids (TSS)
2026	0207001001	DCPMS00E_02	Middle Potomac	A	Escherichia Coli (E. coli)
2026	0207001001	DCPMS00E_02	Middle Potomac	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCPMS00E_02	Middle Potomac	D	PCBs In Fish Tissue
2026	0207001001	DCPMS00E_03	Upper Potomac	B	Turbidity
2026	0207001001	DCPMS00E_03	Upper Potomac	C	Nitrogen, Total
2026	0207001001	DCPMS00E_03	Upper Potomac	C	Chlorophyll-a
2026	0207001001	DCPMS00E_03	Upper Potomac	C	Turbidity
2026	0207001001	DCPMS00E_03	Upper Potomac	C	Total Suspended Solids (TSS)
2026	0207001001	DCPMS00E_03	Upper Potomac	C	Phosphorus, Total
2026	0207001001	DCPMS00E_03	Upper Potomac	A	Turbidity
2026	0207001001	DCPMS00E_03	Upper Potomac	A	Escherichia Coli (E. coli)
2026	0207001001	DCPMS00E_03	Upper Potomac	D	PCBs In Fish Tissue
2026	0207001001	DCPMS00E_03	Upper Potomac	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCPTB01L_00	Tidal Basin	C	Total Suspended Solids (TSS)
2026	0207001001	DCPTB01L_00	Tidal Basin	C	Nitrogen, Total
2026	0207001001	DCPTB01L_00	Tidal Basin	C	Phosphorus, Total
2026	0207001001	DCPTB01L_00	Tidal Basin	D	PCBs In Fish Tissue
2026	0207001001	DCPWC04E_00	Washington Ship Channel	C	Nitrogen, Total
2026	0207001001	DCPWC04E_00	Washington Ship Channel	C	Phosphorus, Total
2026	0207001001	DCPWC04E_00	Washington Ship Channel	C	Total Suspended Solids (TSS)
2026	0207001001	DCPWC04E_00	Washington Ship Channel	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCPWC04E_00	Washington Ship Channel	D	PCBs In Fish Tissue
2026	0207001001	DCRCR00R_01	Lower Rock Creek	A	Escherichia Coli (E. coli)
2026	0207001001	DCRCR00R_02	Upper Rock Creek	A	Escherichia Coli (E. coli)
2026	0207001001	DCTBK01R_00	Battery Kemble Creek	A	Escherichia Coli (E. coli)
2026	0207001001	DCTBR01R_00	Broad Branch	C	Heptachlor Epoxide
2026	0207001001	DCTBR01R_00	Broad Branch	D	Dieldrin
2026	0207001001	DCTBR01R_00	Broad Branch	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTBR01R_00	Broad Branch	D	Heptachlor Epoxide
2026	0207001001	DCTCO01L_00	Chesapeake And Ohio Canal	A	Escherichia Coli (E. coli)
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	A	Escherichia Coli (E. coli)
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	D	Polychlorinated Biphenyls (PCBs)
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	C	Heptachlor Epoxide
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	D	Dieldrin
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	D	Heptachlor Epoxide

Category 4a - TMDL has been approved to address identified impairment causes					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutant(s) or Indicator(s) Causing Impairment
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	C	Polychlorinated Biphenyls (PCBs)
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	C	Dieldrin
2026	0207001001	DCTDO01R_00	Dumbarton Oaks	D	Dieldrin
2026	0207001001	DCTDO01R_00	Dumbarton Oaks	D	Chlordane
2026	0207001001	DCTDO01R_00	Dumbarton Oaks	D	Heptachlor Epoxide
2026	0207001001	DCTDO01R_00	Dumbarton Oaks	C	Chlordane
2026	0207001001	DCTDO01R_00	Dumbarton Oaks	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTDO01R_00	Dumbarton Oaks	C	Heptachlor Epoxide
2026	0207001002	DCTDU01R_00	Fort Dupont Creek	A	Escherichia Coli (E. coli)
2026	0207001002	DCTDU01R_00	Fort Dupont Creek	D	Arsenic
2026	0207001002	DCTDU01R_00	Fort Dupont Creek	D	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCTDU01R_00	Fort Dupont Creek	B	Turbidity
2026	0207001002	DCTDU01R_00	Fort Dupont Creek	C	Turbidity
2026	0207001002	DCTDU01R_00	Fort Dupont Creek	A	Turbidity
2026	0207001001	DCTFB02R_00	Foundry Branch	A	Escherichia Coli (E. coli)
2026	0207001002	DCTFC01R_00	Fort Chaplin Run	A	Escherichia Coli (E. coli)
2026	0207001002	DCTFC01R_00	Fort Chaplin Run	B	Turbidity
2026	0207001002	DCTFC01R_00	Fort Chaplin Run	C	Turbidity
2026	0207001002	DCTFC01R_00	Fort Chaplin Run	A	Turbidity
2026	0207001002	DCTFD01R_00	Fort Davis Tributary	A	Escherichia Coli (E. coli)
2026	0207001002	DCTFD01R_00	Fort Davis Tributary	B	Turbidity
2026	0207001002	DCTFD01R_00	Fort Davis Tributary	A	Turbidity
2026	0207001002	DCTFD01R_00	Fort Davis Tributary	C	Turbidity
2026	0207001001	DCTFE01R_00	Fenwick Branch	C	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTFE01R_00	Fenwick Branch	C	Dieldrin
2026	0207001001	DCTFE01R_00	Fenwick Branch	C	Heptachlor Epoxide
2026	0207001001	DCTFE01R_00	Fenwick Branch	C	DDT (Dichlorodiphenyltrichloroethane)
2026	0207001001	DCTFE01R_00	Fenwick Branch	D	Heptachlor Epoxide
2026	0207001001	DCTFE01R_00	Fenwick Branch	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTFE01R_00	Fenwick Branch	D	DDT (Dichlorodiphenyltrichloroethane)
2026	0207001001	DCTFE01R_00	Fenwick Branch	D	Dieldrin
2026	0207001002	DCTFS01R_00	Fort Stanton Tributary	A	Escherichia Coli (E. coli)
2026	0207001002	DCTFS01R_00	Fort Stanton Tributary	D	Benzo[A]Anthracene
2026	0207001002	DCTFS01R_00	Fort Stanton Tributary	D	Benzo[B]Fluoranthene
2026	0207001002	DCTFS01R_00	Fort Stanton Tributary	D	Arsenic

Category 4a - TMDL has been approved to address identified impairment causes					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutant(s) or Indicator(s) Causing Impairment
2026	0207001002	DCTFS01R_00	Fort Stanton Tributary	D	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCTFS01R_00	Fort Stanton Tributary	A	Turbidity
2026	0207001002	DCTFS01R_00	Fort Stanton Tributary	B	Turbidity
2026	0207001002	DCTFS01R_00	Fort Stanton Tributary	C	Turbidity
2026	0207001002	DCTHR01R_00	Hickey Run	A	Escherichia Coli (E. coli)
2026	0207001002	DCTHR01R_00	Hickey Run	D	Benzo[A]Anthracene
2026	0207001002	DCTHR01R_00	Hickey Run	D	DDE (Dichlorodiphenyldichloroethylene)
2026	0207001002	DCTHR01R_00	Hickey Run	D	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCTHR01R_00	Hickey Run	A	Turbidity
2026	0207001002	DCTHR01R_00	Hickey Run	B	Turbidity
2026	0207001002	DCTHR01R_00	Hickey Run	C	Turbidity
2026	02070010	DCTKV01R_00	Kling Valley	D	Heptachlor Epoxide
2026	02070010	DCTKV01R_00	Kling Valley	D	Polychlorinated Biphenyls (PCBs)
2026	02070010	DCTKV01R_00	Kling Valley	C	Heptachlor Epoxide
2026	02070010	DCTKV01R_00	Kling Valley	C	Dieldrin
2026	02070010	DCTKV01R_00	Kling Valley	D	Dieldrin
2026	02070010	DCTKV01R_00	Kling Valley	C	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTLU01R_00	Luzon Branch	D	Dieldrin
2026	0207001001	DCTLU01R_00	Luzon Branch	D	Heptachlor Epoxide
2026	0207001001	DCTLU01R_00	Luzon Branch	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	D	Dieldrin
2026	0207001002	DCTNA01R_00	Nash Run	A	Escherichia Coli (E. coli)
2026	0207001002	DCTNA01R_00	Nash Run	D	Benzo[A]Pyrene
2026	0207001002	DCTNA01R_00	Nash Run	D	Dieldrin
2026	0207001002	DCTNA01R_00	Nash Run	D	Benzo[K]Fluoranthene
2026	0207001002	DCTNA01R_00	Nash Run	D	Heptachlor Epoxide
2026	0207001002	DCTNA01R_00	Nash Run	D	Dibenz[A,H]Anthracene
2026	0207001002	DCTNA01R_00	Nash Run	D	Indeno[1,2,3-Cd]Pyrene
2026	0207001002	DCTNA01R_00	Nash Run	D	Benzo[A]Anthracene
2026	0207001002	DCTNA01R_00	Nash Run	D	Benzo[B]Fluoranthene
2026	0207001002	DCTNA01R_00	Nash Run	D	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCTNA01R_00	Nash Run	C	Turbidity
2026	0207001002	DCTNA01R_00	Nash Run	A	Turbidity

Category 4a - TMDL has been approved to address identified impairment causes					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutant(s) or Indicator(s) Causing Impairment
2026	0207001002	DCTNA01R_00	Nash Run	B	Turbidity
2026	02070010	DCTNS01R_00	Normanstone Creek	D	Polychlorinated Biphenyls (PCBs)
2026	02070010	DCTNS01R_00	Normanstone Creek	C	Heptachlor Epoxide
2026	02070010	DCTNS01R_00	Normanstone Creek	C	Polychlorinated Biphenyls (PCBs)
2026	02070010	DCTNS01R_00	Normanstone Creek	D	Heptachlor Epoxide
2026	02070010	DCTNS01R_00	Normanstone Creek	C	Dieldrin
2026	02070010	DCTNS01R_00	Normanstone Creek	D	Dieldrin
2026	0207001003	DCTOR01R_00	Oxon Run	A	Escherichia Coli (E. coli)
2026	0207001003	DCTOR01R_00	Oxon Run	D	Dieldrin
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	A	Escherichia Coli (E. coli)
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	D	Benzo[B]Fluoranthene
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	D	DDE (Dichlorodiphenyldichloroethylene)
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	C	Chlordane
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	D	Dieldrin
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	D	Heptachlor Epoxide
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	D	Indeno[1,2,3-Cd]Pyrene
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	D	Chlordane
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	D	Benzo[A]Anthracene
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	D	Dibenz[A,H]Anthracene
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	D	Polychlorinated Biphenyls (PCBs)
2026	02070010	DCTPI01R_00	Pinehurst Branch	C	Dieldrin
2026	02070010	DCTPI01R_00	Pinehurst Branch	D	Dieldrin
2026	02070010	DCTPI01R_00	Pinehurst Branch	C	Heptachlor Epoxide
2026	02070010	DCTPI01R_00	Pinehurst Branch	D	Polychlorinated Biphenyls (PCBs)
2026	02070010	DCTPI01R_00	Pinehurst Branch	D	Heptachlor Epoxide
2026	02070010	DCTPI01R_00	Pinehurst Branch	C	Polychlorinated Biphenyls (PCBs)
2026	02070010	DCTPO01R_00	Portal Branch	C	Polychlorinated Biphenyls (PCBs)
2026	02070010	DCTPO01R_00	Portal Branch	D	Heptachlor Epoxide
2026	02070010	DCTPO01R_00	Portal Branch	C	Heptachlor Epoxide
2026	02070010	DCTPO01R_00	Portal Branch	D	Dieldrin
2026	02070010	DCTPO01R_00	Portal Branch	C	Dieldrin
2026	02070010	DCTPO01R_00	Portal Branch	D	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTPY01R_00	Piney Branch	C	Polychlorinated Biphenyls (PCBs)
2026	0207001001	DCTPY01R_00	Piney Branch	C	Heptachlor Epoxide
2026	0207001001	DCTPY01R_00	Piney Branch	D	Dieldrin
2026	0207001001	DCTPY01R_00	Piney Branch	D	Polychlorinated Biphenyls (PCBs)

Category 4a - TMDL has been approved to address identified impairment causes					
Assessment Year	Geo location	WB ID	WB Name	Use Class	Pollutant(s) or Indicator(s) Causing Impairment
2026	0207001001	DCTPY01R_00	Piney Branch	C	Dieldrin
2026	0207001001	DCTPY01R_00	Piney Branch	D	Heptachlor Epoxide
2026	02070010	DCTSO01R_00	Soapstone Creek	D	Heptachlor Epoxide
2026	02070010	DCTSO01R_00	Soapstone Creek	D	Dieldrin
2026	02070010	DCTSO01R_00	Soapstone Creek	D	Polychlorinated Biphenyls (PCBs)
2026	02070010	DCTSO01R_00	Soapstone Creek	C	Heptachlor Epoxide
2026	02070010	DCTSO01R_00	Soapstone Creek	C	Dieldrin
2026	02070010	DCTSO01R_00	Soapstone Creek	C	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	A	Escherichia Coli (E. coli)
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	Heptachlor Epoxide
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	C	Chlordane
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	Dieldrin
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	Chlordane
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	DDD (Dichlorodiphenyldichloroethane)
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	C	DDD (Dichlorodiphenyldichloroethane)
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	DDE (Dichlorodiphenyldichloroethylene)
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	Benzo[A]Anthracene
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	DDT (Dichlorodiphenyltrichloroethane)
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	Benzo[B]Fluoranthene
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	Benzo[K]Fluoranthene
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	D	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	A	Turbidity
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	C	Turbidity
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	B	Turbidity
2026	0207001002	DCTWB00R_01	Lower Watts Branch	A	Escherichia Coli (E. coli)
2026	0207001002	DCTWB00R_01	Lower Watts Branch	D	Dieldrin
2026	0207001002	DCTWB00R_01	Lower Watts Branch	D	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCTWB00R_02	Upper Watts Branch	A	Escherichia Coli (E. coli)
2026	0207001002	DCTWB00R_02	Upper Watts Branch	D	Dieldrin
2026	0207001002	DCTWB00R_02	Upper Watts Branch	D	Polychlorinated Biphenyls (PCBs)
2026	0207001002	DCTWB00R_02	Upper Watts Branch	B	Turbidity
2026	0207001002	DCTWB00R_02	Upper Watts Branch	C	Turbidity
2026	0207001002	DCTWB00R_02	Upper Watts Branch	A	Turbidity

Category 5- Available data and/or information indicate that a designated use is not being supported or is threatened, and a TMDL is needed.

303d Listing Year	Geo location	WBID	WB Name	Pollutant(s) or Indicator(s) Causing Impairment	Use Class	Priority Ranking for TMDL Development
2024	0207001003	DCPMS00E_01	Lower Potomac	Heptachlor Epoxide In Fish Tissue	D	High
2024	0207001003	DCPMS00E_01	Lower Potomac	Chlordane In Fish Tissue	D	High
2022	0207001003	DCPMS00E_01	Lower Potomac	Arsenic	D	High
2022	0207001003	DCPMS00E_01	Lower Potomac	Dieldrin In Fish Tissue	D	High
2024	0207001003	DCPMS00E_01	Lower Potomac	DDD (Dichlorodiphenyldichloroethane)	C	High
2024	0207001003	DCPMS00E_01	Lower Potomac	DDD (Dichlorodiphenyldichloroethane)	D	High
2022	0207001001	DCPMS00E_02	Middle Potomac	Dieldrin In Fish Tissue	D	High
2024	0207001001	DCPMS00E_02	Middle Potomac	Chlordane In Fish Tissue	D	High
2022	0207001001	DCPMS00E_02	Middle Potomac	Arsenic	D	High
2022	0207001001	DCPMS00E_02	Middle Potomac	Dieldrin	D	High
2024	0207001001	DCPMS00E_02	Middle Potomac	Heptachlor Epoxide In Fish Tissue	D	High
2024	0207001001	DCPMS00E_03	Upper Potomac	Heptachlor Epoxide In Fish Tissue	D	High
2024	0207001001	DCPMS00E_03	Upper Potomac	Chlordane In Fish Tissue	D	High
2022	0207001001	DCPMS00E_03	Upper Potomac	Arsenic	D	High
2022	0207001001	DCPMS00E_03	Upper Potomac	Dieldrin In Fish Tissue	D	High
2022	0207001001	DCPTB01L_00	Tidal Basin	Dieldrin In Fish Tissue	D	High
2024	0207001001	DCPTB01L_00	Tidal Basin	Chlordane In Fish Tissue	D	High
2024	0207001001	DCPTB01L_00	Tidal Basin	Heptachlor Epoxide In Fish Tissue	D	High
2022	0207001001	DCPWC04E_00	Washington Ship Channel	Dieldrin In Fish Tissue	D	High
2022	0207001001	DCPWC04E_00	Washington Ship Channel	Indeno[1,2,3-Cd]Pyrene	D	High
2022	0207001001	DCPWC04E_00	Washington Ship Channel	Benzo[K]Fluoranthene	D	High
2022	0207001001	DCPWC04E_00	Washington Ship Channel	Dibenz[A,H]Anthracene	D	High
2022	0207001001	DCPWC04E_00	Washington Ship Channel	Arsenic	D	High
2022	0207001001	DCPWC04E_00	Washington Ship Channel	Benzo[B]Fluoranthene	D	High
2024	0207001001	DCPWC04E_00	Washington Ship Channel	Heptachlor Epoxide In Fish Tissue	D	High
2024	0207001001	DCPWC04E_00	Washington Ship Channel	Chlordane In Fish Tissue	D	High
2022	0207001001	DCPWC04E_00	Washington Ship Channel	Benzo[A]Anthracene	D	High
2022	0207001001	DCRCR00R_01	Lower Rock Creek	Dieldrin	D	High
2024	0207001001	DCRCR00R_01	Lower Rock Creek	Dibenz[A,H]Anthracene	D	High
2026	0207001001	DCRCR00R_01	Lower Rock Creek	Benthic Macroinvertebrates Bioassessments	C	Low
2024	0207001001	DCRCR00R_01	Lower Rock Creek	Benzo[A]Anthracene	D	High
2024	0207001001	DCRCR00R_01	Lower Rock Creek	Benzo[K]Fluoranthene	D	High
2024	0207001001	DCRCR00R_01	Lower Rock Creek	Chrysene	D	High

Category 5- Available data and/or information indicate that a designated use is not being supported or is threatened, and a TMDL is needed.

303d Listing Year	Geo location	WBID	WB Name	Pollutant(s) or Indicator(s) Causing Impairment	Use Class	Priority Ranking for TMDL Development
2024	0207001001	DCRCR00R_01	Lower Rock Creek	Benzo[B]Fluoranthene	D	High
2026	0207001001	DCRCR00R_01	Lower Rock Creek	Habitat Assessment	C	Low
2022	0207001001	DCRCR00R_01	Lower Rock Creek	Polychlorinated Biphenyls (PCBs)	D	High
2022	0207001001	DCRCR00R_01	Lower Rock Creek	DDE (Dichlorodiphenyldichloroethylene)	D	High
2022	0207001001	DCRCR00R_01	Lower Rock Creek	Heptachlor Epoxide	D	High
2022	0207001001	DCRCR00R_01	Lower Rock Creek	Arsenic	D	High
2024	0207001001	DCRCR00R_01	Lower Rock Creek	Indeno[1,2,3-Cd]Pyrene	D	High
2022	0207001001	DCRCR00R_01	Lower Rock Creek	DDE (Dichlorodiphenyldichloroethylene)	C	High
2024	0207001001	DCRCR00R_01	Lower Rock Creek	DDD (Dichlorodiphenyldichloroethane)	C	High
2024	0207001001	DCRCR00R_01	Lower Rock Creek	DDD (Dichlorodiphenyldichloroethane)	D	High
2018	0207001001	DCRCR00R_02	Upper Rock Creek	Turbidity	C	Low
2018	0207001001	DCRCR00R_02	Upper Rock Creek	Turbidity	A	Low
2018	0207001001	DCRCR00R_02	Upper Rock Creek	Turbidity	B	Low
2026	0207001001	DCTBK01R_00	Battery Kemble Creek	Benthic Macroinvertebrates Bioassessments	C	Low
2022	0207001001	DCTBR01R_00	Broad Branch	DDT (Dichlorodiphenyltrichloroethane)	C	High
2014	0207001001	DCTBR01R_00	Broad Branch	Escherichia Coli (E. coli)	A	High
2022	0207001001	DCTBR01R_00	Broad Branch	DDT (Dichlorodiphenyltrichloroethane)	D	High
2022	0207001001	DCTBR01R_00	Broad Branch	Arsenic	D	High
2026	0207001001	DCTBR01R_00	Broad Branch	Benthic Macroinvertebrates Bioassessments	C	Low
2026	0207001001	DCTBR01R_00	Broad Branch	Habitat Assessment	C	Low
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	Habitat Assessment	C	Low
2026	0207000810	DCTDA01R_00	Dalecarlia Tributary	Benthic Macroinvertebrates Bioassessments	C	Low
2014	0207001001	DCTDO01R_00	Dumbarton Oaks	Escherichia Coli (E. coli)	A	High
2026	0207001001	DCTDO01R_00	Dumbarton Oaks	Habitat Assessment	C	Low
2022	0207001001	DCTDO01R_00	Dumbarton Oaks	Arsenic	D	High
2022	0207001001	DCTDO01R_00	Dumbarton Oaks	DDT (Dichlorodiphenyltrichloroethane)	D	High
2024	0207001001	DCTDO01R_00	Dumbarton Oaks	Mercury	D	High
2022	0207001001	DCTDO01R_00	Dumbarton Oaks	DDT (Dichlorodiphenyltrichloroethane)	C	High
2026	0207001002	DCTDU01R_00	Fort Dupont Creek	Benthic Macroinvertebrates Bioassessments	C	Low
2026	0207001002	DCTDU01R_00	Fort Dupont Creek	Habitat Assessment	C	Low
2026	0207001001	DCTFB02R_00	Foundry Branch	Benthic Macroinvertebrates Bioassessments	C	Low

Category 5- Available data and/or information indicate that a designated use is not being supported or is threatened, and a TMDL is needed.

303d Listing Year	Geo location	WBID	WB Name	Pollutant(s) or Indicator(s) Causing Impairment	Use Class	Priority Ranking for TMDL Development
2026	0207001002	DCTFC01R_00	Fort Chaplin Run	Benthic Macroinvertebrates Bioassessments	C	Low
2026	0207001002	DCTFC01R_00	Fort Chaplin Run	Habitat Assessment	C	Low
2026	0207001002	DCTFD01R_00	Fort Davis Tributary	Benthic Macroinvertebrates Bioassessments	C	Low
2014	0207001001	DCTFE01R_00	Fenwick Branch	Escherichia Coli (E. coli)	A	High
2026	0207001001	DCTFE01R_00	Fenwick Branch	Benthic Macroinvertebrates Bioassessments	C	Low
2026	0207001001	DCTFE01R_00	Fenwick Branch	Habitat Assessment	C	Low
2026	0207001002	DCTFS01R_00	Fort Stanton Tributary	Benthic Macroinvertebrates Bioassessments	C	Low
2024	0207001002	DCTHR01R_00	Hickey Run	Copper	C	High
2026	0207001002	DCTHR01R_00	Hickey Run	Benthic Macroinvertebrates Bioassessments	C	Low
2002	0207001002	DCTHR01R_00	Hickey Run	Chlorine, Residual (Chlorine Demand)	C	Low
2026	02070010	DCTKV01R_00	Klingie Valley	Benthic Macroinvertebrates Bioassessments	C	Low
2014	02070010	DCTKV01R_00	Klingie Valley	Escherichia Coli (E. coli)	A	High
2026	0207001001	DCTLU01R_00	Luzon Branch	Benthic Macroinvertebrates Bioassessments	C	Low
2014	0207001001	DCTLU01R_00	Luzon Branch	Escherichia Coli (E. coli)	A	High
2022	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	DDT (Dichlorodiphenyltrichloroethane)	C	High
2022	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	DDT (Dichlorodiphenyltrichloroethane)	D	High
2022	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	Heptachlor Epoxide	D	High
2026	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	Benthic Macroinvertebrates Bioassessments	C	Low
2014	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	Escherichia Coli (E. coli)	A	High
2022	0207001001	DCTMH01R_00	Melvin Hazen Valley Branch (Reservation 630)	Arsenic	D	High
2026	0207001002	DCTNA01R_00	Nash Run	Benthic Macroinvertebrates Bioassessments	C	Low
2026	0207001002	DCTNA01R_00	Nash Run	Habitat Assessment	C	Low

Category 5- Available data and/or information indicate that a designated use is not being supported or is threatened, and a TMDL is needed.

303d Listing Year	Geo location	WBID	WB Name	Pollutant(s) or Indicator(s) Causing Impairment	Use Class	Priority Ranking for TMDL Development
2014	02070010	DCTNS01R_00	Normanstone Creek	Escherichia Coli (E. coli)	A	High
2026	02070010	DCTNS01R_00	Normanstone Creek	Benthic Macroinvertebrates Bioassessments	C	Low
2026	0207001003	DCTOR01R_00	Oxon Run	Benthic Macroinvertebrates Bioassessments	C	Low
2026	0207001003	DCTOR01R_00	Oxon Run	Habitat Assessment	C	Low
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	Habitat Assessment	C	Low
2026	0207001002	DCTPB01R_00	Popes Branch (Hawes Run)	Benthic Macroinvertebrates Bioassessments	C	Low
2026	02070010	DCTPI01R_00	Pinehurst Branch	Benthic Macroinvertebrates Bioassessments	C	Low
2014	02070010	DCTPI01R_00	Pinehurst Branch	Escherichia Coli (E. coli)	A	High
2026	02070010	DCTPO01R_00	Portal Branch	Benthic Macroinvertebrates Bioassessments	C	Low
2014	02070010	DCTPO01R_00	Portal Branch	Escherichia Coli (E. coli)	A	High
2026	02070010	DCTPO01R_00	Portal Branch	Habitat Assessment	C	Low
2026	0207001001	DCTPY01R_00	Piney Branch	Habitat Assessment	C	Low
2026	0207001001	DCTPY01R_00	Piney Branch	Benthic Macroinvertebrates Bioassessments	C	Low
2014	0207001001	DCTPY01R_00	Piney Branch	Escherichia Coli (E. coli)	A	High
2026	02070010	DCTSO01R_00	Soapstone Creek	Benthic Macroinvertebrates Bioassessments	C	Low
2026	02070010	DCTSO01R_00	Soapstone Creek	Habitat Assessment	C	Low
2014	02070010	DCTSO01R_00	Soapstone Creek	Escherichia Coli (E. coli)	A	High
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	Benthic Macroinvertebrates Bioassessments	C	Low
2026	0207001002	DCTTX27R_00	Texas Avenue Tributary	Habitat Assessment	C	Low
2022	0207001002	DCTWB00R_01	Lower Watts Branch	Arsenic	D	High
2026	0207001002	DCTWB00R_02	Upper Watts Branch	Habitat Assessment	C	Low
2022	0207001002	DCTWB00R_02	Upper Watts Branch	Arsenic	D	High

Bibliography

- Chadwick, D. Bart, et al, 2001. Anacostia River Seepage & Porewater Survey Report - Draft. February 27, 2001.
- CH2MHILL, 2002. FFA Draft, Interim Groundwater Summary, Washington Navy Yard, Washington, D.C. Prepared for the Department of the Navy, Atlantic Division, Naval Facilities Engineering Command, Norfolk, VA. July 2002.
- Cooke, C.W., 1952. Sedimentary Deposits of Prince Georges County and the District of Columbia, in Cooke, C.W., Martin, R.O.R., and Meyer, Gerald, Geology and Water Resources of Prince Georges County: Baltimore, Maryland, Maryland Department of Geology, Mines, and Water Resources Bulletin 10.
- Davis, A.M., Southworth, C.S., Schindler, J.S., and Reddy, J.E., 2001. Geologic Map database of Washington, D.C. area featuring Data from Three 30 X 60 Minute Quadrangles - Fredrick, Washington West, and Fredericksburg: US Geological Survey Open - File Report 01-277.
- DC Municipal Separate Storm Sewer System, NPDES Permit DC 0000221 Annual Report, 2024.
- DC Municipal Separate Storm Sewer System, NPDES Permit DC 0000221 Implementation Plan, 2022.
- DC Water and Sewer Authority (DC Water) CSO Long Term Control Plan Status Report, 2025.
- Powars, D.S., Edwards, L.E., Johnson, G.H., and Berquist, C.R., 2016, Geology of the Virginia Coastal Plain: New insights from continuous cores and geophysical surveys, in Bailey, C.M., Sherwood, W.C., Eaton, L.S., and Powars, D.S., eds., The Geology of Virginia: Virginia Museum of Natural History Special Publication 18, p. 193–240.
- Rhithron Associates, Inc., 2010. Analysis of Biological Samples: District of Columbia phytoplankton, Zooplankton and Benthic Macroinvertebrate Samples: 2005–2009. Prepared for the DOEE Water Quality Division, October 2010.
- EPA, Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act, 2005.
- EPA, Information Concerning 2010 Clean Water Act Sections 303(d), 305(b), and 314 Integrated Reporting and Listing Decisions, 2009.
- EPA, "Rapid Bioassessment Protocols for Use in Streams and Rivers - Benthic Macroinvertebrates and Fish." May 1989.
- US FWS, Analysis of Contaminant Concentrations in Fish Tissue Collected from the Waters of the District of Columbia, 2014, and 2023.