THE DISTRICT OF COLUMBIA
WATER QUALITY ASSESSMENT

2010 INTEGRATED REPORT TO THE ENVIRONMENTAL PROTECTION AGENCY
AND U.S. CONGRESS PURSUANT TO
SECTIONS 305(b) AND 303(d) CLEAN WATER ACT (P.L. 97-117)

District Department of the Environment
Office of Natural Resources
Water Quality Division

PREFACE

The Water Quality Division of the District of Columbia's District Department of the Environment, Office of Natural Resources, prepared this report to satisfy the listing requirements of §303(d) and the reporting requirements of §305(b) of the federal Clean Water Act (P.L. 97-117). This report provides water quality information on the District of Columbia's surface and ground waters that were assessed during 2008-2009 and updates the water quality information required by law. Various programs in the Office of Natural Resources contributed to this report including the Fisheries and Wildlife Division and the Watershed Protection Division.

Questions or comments regarding this report or requests for copies should be forwarded to the address below.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

ACRONYMS

ARRA	American Reinvestment and Recovery Act
BMP	Best management practice
CBP	Chesapeake Bay Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CSO	Combined Sewer Overflow(s)
C&O	Chesapeake and Ohio
DCEEC	District of Columbia Environmental Education Consortium
DCPS	District of Columbia Public Schools
DC WASA	District of Columbia Water and Sewer Authority
DDOE	District Department of the Environment
DDOT	District Department of Transportation
DO	Dissolved oxygen
DMR	District Municipal Regulation
DPR	Department of Parks and Recreation
EISF	Environment Impact Screening Form
FUDS	Formally Used Defense Sites
FWD	Fisheries and Wildlife Division
FY	Fiscal year
GIS	Geographic information system
GWPP	Ground water protection program
HBI	Hilsenhoff Biotic Index
IPM	Integrated Pest Management
JD	Jurisdictional Determination
KAG	Kenilworth Aquatic Gardens
LCR	Lead and Copper Rule
LID	Low impact development
LMB	Largemouth Bass
LTCP	Long Term Control Plan
LUST	Leaking underground storage tank
MAB	Monitoring and Assessment Branch
MD	Maryland
MDE	Maryland Department of the Environment
MS4	Municipal Separate Storm Sewer System
MSGP	Multi-Sector General Permit
MWCOG	Metropolitan Washington Council of Governments
NE	Northeast
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NSMP	Nonpoint Source Management Plan
NRCS	Natural Resources Conservation Service

NWP	Nationwide Permits Program
RBP	Rapid bioassessment protocol
RCRA	Resource Conservation and Recovery Act
SAV	Submerged aquatic vegetation
SWAP	Source water assessment program
TMDL	Total maximum daily load
US	United States
US ACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
US EPA	United States Environmental Protection Agency
US FWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground storage tanks
VA	Virginia
VCP	Voluntary cleanup program
WLA	Waste load allocation
WIP	Watershed Implementation Plan
WPD	Watershed Protection Division
WQD	Water Quality Division
WQS	Water quality standards
WWTP	Wastewater treatment plant

PART I: EXECUTIVE SUMMARY

The District of Columbia 2010 Integrated Report provides information on the quality of the District's water. The Integrated Report combines the comprehensive biennial reporting requirements of the Clean Water Act's Section 305(b) and the Section 303(d) listing of waters for which total maximum daily loads are required.

District of Columbia Water Quality

Thirty-six waterbody segments were monitored for the goals of the Clean Water Act that apply to the District of Columbia. Each of the waterbodies have been assigned designated uses in the District's water quality standards. The standards also outline numeric and narrative criteria that must be met if a waterbody is to support its uses. Various types of water quality data collected during the period of 2005 to 2009 were evaluated to assess use support of the waterbodies. The evaluation found that the designated uses which directly relate to human use of the District's waters were generally not supported. The uses related to the quality of habitat for aquatic life were not supported. No waterbody monitored by the Water Quality Division fully supported all of its designated uses. The District's water quality continues to be impaired.

Tables 1.1 to 1.3 show the degree to which the waters of the District of Columbia supported their designated uses. Appendices 1.1 to 1.4 are maps showing the degree to which those waters met their uses.

Groundwater is not monitored on the same basis as surface water. This is partly due to the fact that surface water north of the District's boundary, and not groundwater, is the drinking water source for the District. However, groundwater quality is scrutinized via compliance monitoring and on-going studies.

The most significant groundwater updates are the expansion of the groundwater monitoring network, a joint study with the USGS to investigate pesticide impacts on groundwater quality, and a preliminary revision of the conceptual model of groundwater-surface water interactions in the Lower Anacostia River in the vicinity of the Frederick Douglass Memorial Bridge.

TABLE 1.1
DESIGNATED USE SUPPORT BY RIVERS OR STREAMS

Waterbody Type: River, Streams	Degree of Use Support			
	Supporting (mi)	Not Supporting (mi)	Insufficient Information (mi)	Not Assessed (mi)
Overall Use *	-	38.4	-	-
Swimmable Use	-	-	33.5	4.9
Secondary Contact Recreation Use	-	-	-	38.4
Aquatic Life Use	-	34.1	4.3	-
Fish Consumption Use		38.4		-
Navigation Use	9.50	-	-	28.9*

* = not a designated use

TABLE 1.2
DESIGNATED USE SUPPORT BY LAKES

Waterbody Type: Lake, reservoir	Degree of Use Support			
	Supporting (ac)	Not Supporting (ac)	Insufficient Information (ac)	Not Assessed (ac)
Overall Use *	-	238.4	-	-
Swimmable Use	-	238.4	-	-
Secondary Contact Recreation Use	-	-	-	238.4
Aquatic Life Use	-	238.4	-	-
Fish Consumption Use	-	238.4	-	-
Navigation Use	238.4	-	-	-

* = not a designated use

TABLE 1.3
DESIGNATED USE SUPPORT BY ESTUARIES

Waterbody Type: Estuary	Degree of Use Support			
	Supporting (mi^2)	Not Supporting (mi^2)	Insufficient Information (mi^2)	Not Assessed (mi^2)
Overall Use *	-	5.93	-	-
Swimmable Use	-	-	5.93	-
Secondary Contact Recreation Use	-	0.8	-	5.13
Aquatic Life Use	4.15	1.78	-	-
Fish Consumption Use	-	5.93	-	-
Navigation Use	5.93	-	-	-

* = not a designated use

Causes and Sources of Water Quality Impairment

The major causes of impairment to the District's rivers, lakes are estuaries organic enrichment/low DO.

The sources with major impacts on District waters are combined sewer overflows (CSO), and urban runoff/storm sewers. Municipal point sources on the estuaries also have a major impact. Rivers and streams are also impacted by habitat modification and unknown sources.

Programs to Correct Impairment

Several programs within the District Department of the Environment (DDOE), Office of Natural Resources (ONR) are involved in activities to correct water quality impairment. The water pollution control program implements the water quality standards, monitors and inspects permitted facilities in the District, and comprehensively monitors the District's waters to identify and reduce impairment. The water pollution control program is involved in the search for solutions that will provide maximum water quality benefits.

Given the District's urban landscape, nonpoint source pollution has a large impact on its waters. The sediment and stormwater control program regulates land disturbing activities, stormwater management, and flood plain management by providing technical assistance and inspections throughout the city. The nonpoint source program also provides education and outreach to residents and developers on pollution prevention to ensure that their actions do not further impair the city's water quality.

Several activities are coordinated within the groundwater protection program. Those activities include underground storage tank installation and remediation, and groundwater quality standards implementation.

Water Quality Trends

Both of the main waterbodies, the Potomac and Anacostia Rivers support fish and other wildlife populations. But the small stream's aquatic communities are still under stress. The Potomac River continues to benefit from the CSO improvements and implementation of improvements and biological nutrient removal at the Blue Plains wastewater treatment plant. The Anacostia River remains aesthetically and chemically polluted. Much remains to be done.

While submerged aquatic vegetation in the Anacostia and Potomac Rivers continues to struggle, there was a slight improvement from previous years.

Highlights

Low impact development projects to improve the quality and reduce the quantity of stormwater runoff are being implemented throughout the city. Projects such as rain gardens, green roofs, rain barrels, and school yard conservation sites continue to be installed or planned.

Stream survey activities occurred during 2008-2009. Information gathered will help to track trends for the streams. Real-time monitoring stations are on both the Anacostia and Potomac Rivers. This monitoring activity allows web-based viewing of water quality parameters by the general public on an on-going basis.

2009 observations revealed 7 different species of SAV. This is indicative of SAV recovery, as species diversity, and acreage has improved over the past six observation periods.
In 2009, Mayor Andrian M. Fenty, signed the Anacostia River Clean Up and Protection Act, to ban the use of disposable non-recyclable plastic carryout bags and raise money for river clean-up.

PART II: BACKGROUND

The Government of the District of Columbia's environmental protection responsibilities are delegated to DDOE. DDOE's Office of Natural Resources (ONR) is comprised of the Fisheries and Wildlife Division (FWD), the Storm Water Management Division (SWMD), the Water Quality Division (WQD), and the Watershed Protection Division (WPD).

Atlas and Total Waters

Table 2.1 is a general view of the resources of the District of Columbia. Figure 2.1 is the monthly and yearly total rainfall graph. The District's rainfall totals have been above average for the past two years. (The National Weather Service, Washington National Airport (the official rain gauge site) is the source for the rainfall totals). Figures 2.2 and 2.3 present monthly and yearly mean flow data for the Anacostia and Potomac Rivers, from 2008-2009 (Source: United States Geological Survey (USGS)).

TABLE 2.1
ATLAS

State population: 572,059 (2000 Census)
State surface area: 69 square miles
Number of water basins: one
Total number of river miles: 39 miles
Number of perennial river miles: 39 miles
- Number of intermittent stream miles: none - Number of ditches and canals: none[1] - Number of border miles: none
Number of lakes, reservoirs, ponds: eight
Acres of lakes/reservoirs/ponds: 238 acres
Square miles of estuaries/harbors/bays: 6.1 square miles[1]
Acres of freshwater tidal wetlands: 180 [2]
Names of border waterbodies: Potomac River estuary
Number of border estuary miles: 12.5 miles

[1]Impoundments are classified according to their hydrologic behavior. The District of Columbia classifies the C&O Canal as a lake. The estuary estimate includes the Washington Ship Channel, the Channel Lagoon, and Little River.
[2] This total is compiled from the District of Columbia Watershed Protection Division.

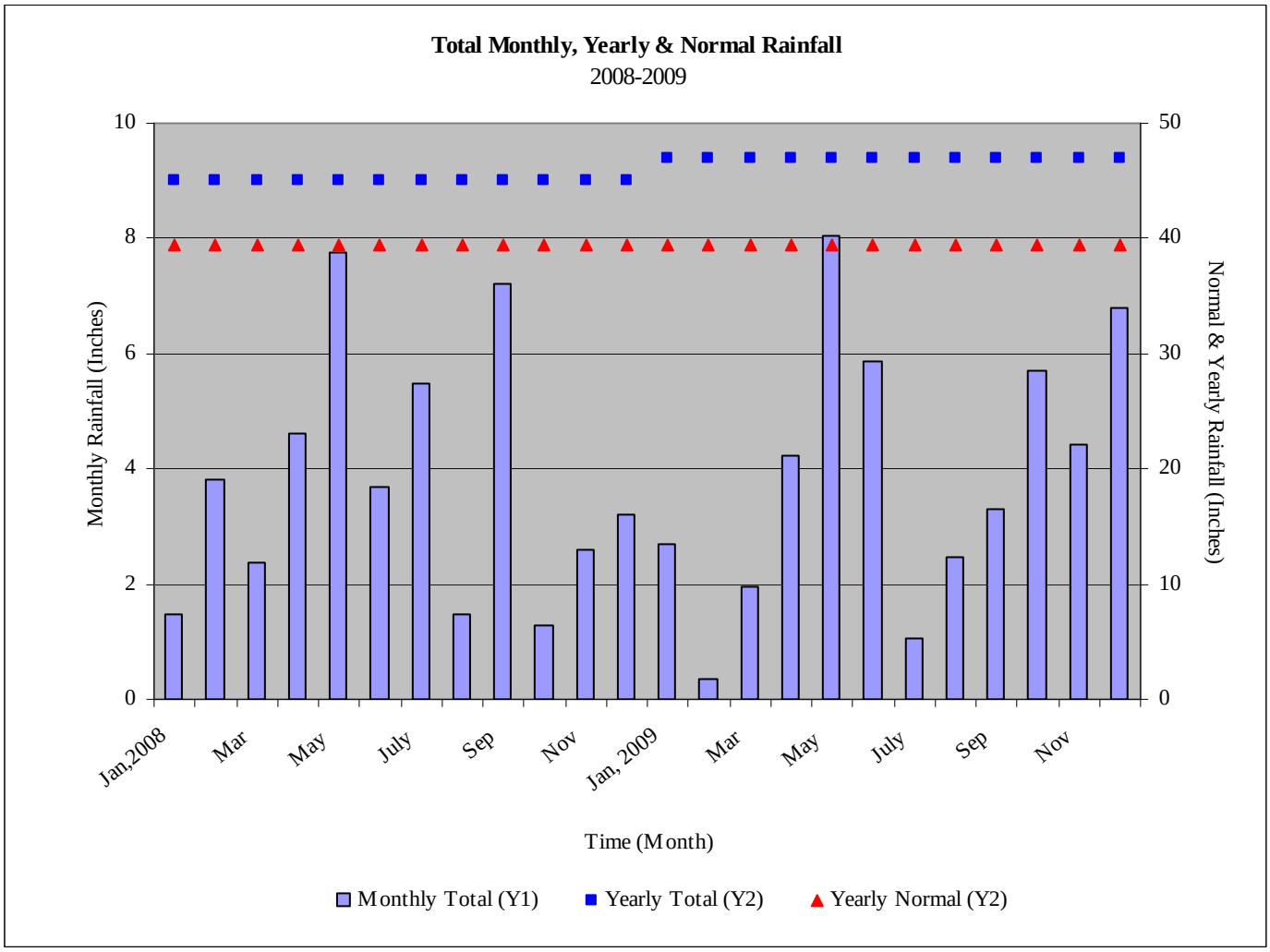

Figure 2.1: Monthly, yearly and normal total rainfall (inches), 2008-2009

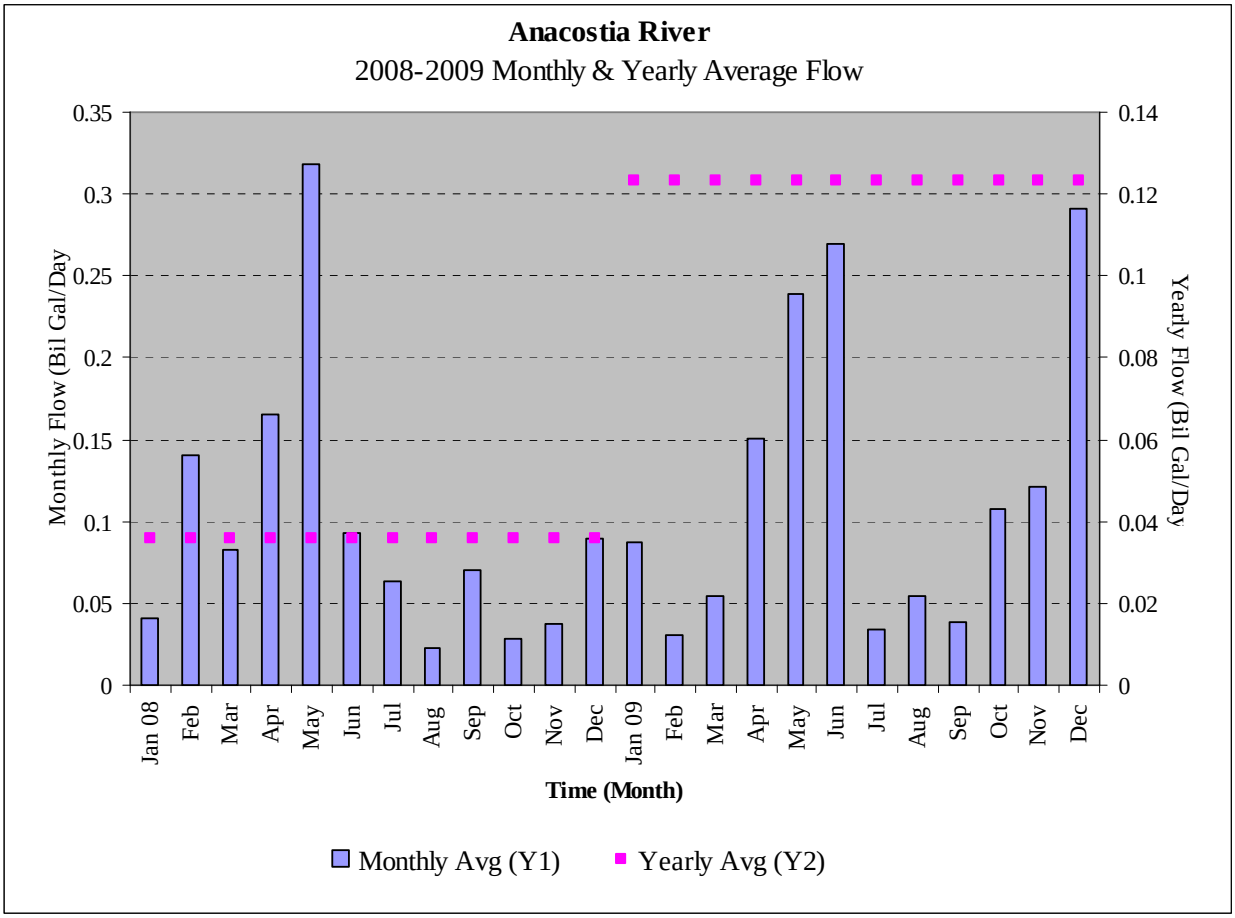
Anacostia River
2008-2009 Monthly & Yearly Average Flow
Monthly Flow (Bil Gal/Day
Yearly Flow (Bil Gal/Day
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
Jan 08
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan 09
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Time (Month)
Monthly Avg (Y1)
Yearly Avg (Y2)

Figure2.2: Monthly and yearly average flow on the Anacostia River, 2008-2009

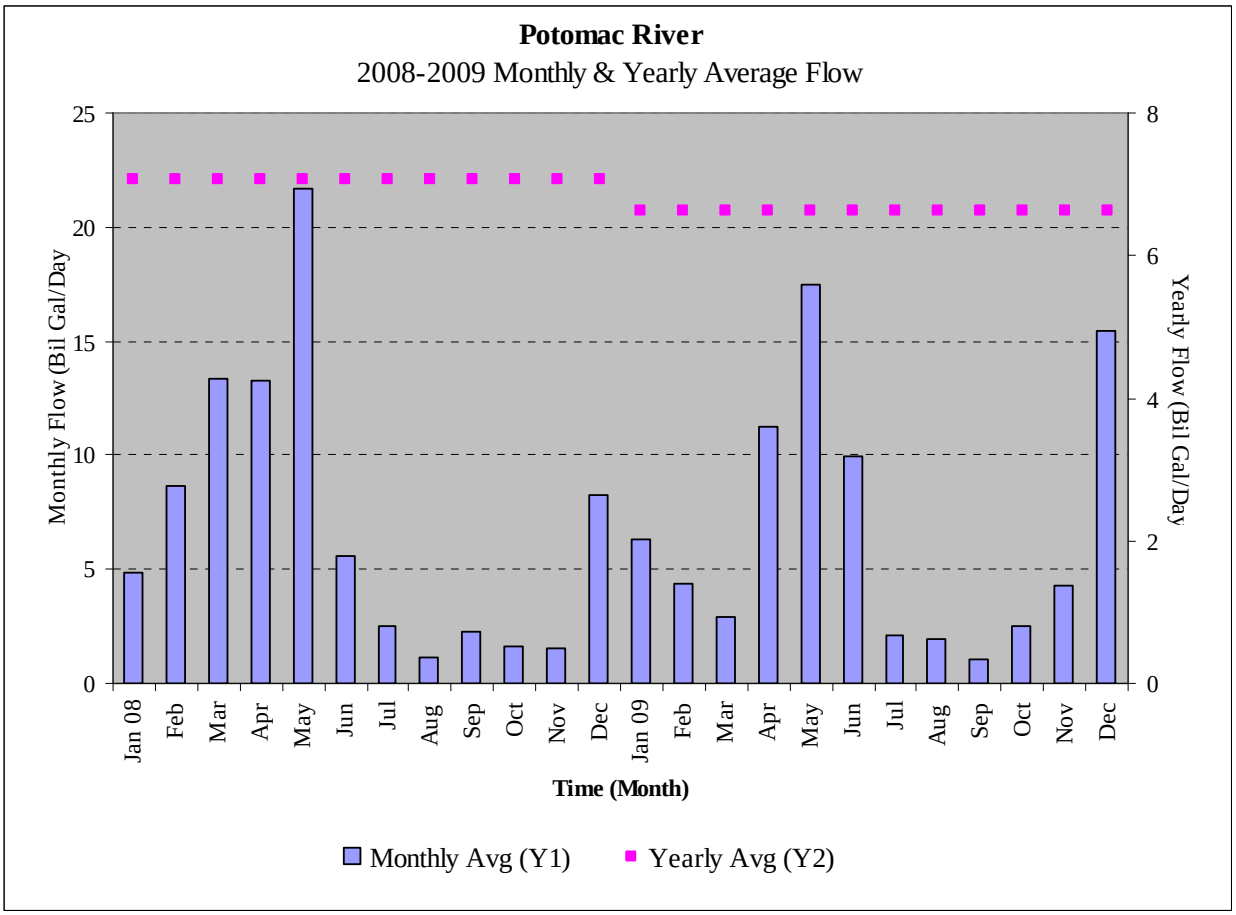

Figure 2.3: Monthly and yearly average flow on the Potomac River, 2008-2009

Maps

Appendix 2.1 is a map outlining the major watersheds within the District of Columbia.

Water Pollution Control Programs

Watershed Approach

This information documents the progress made in 2008 and 2009 by the District of Columbia in implementing its Nonpoint Source Management Plan (NSMP). As in previous biennial years report, the District of Columbia's nonpoint source program has made significant progress towards achieving its short and long-term goals.

The District's major watersheds originate outside its borders. As a result, the District must use a watershed approach that involves cooperation from the surrounding jurisdictions to carry out its water pollution control activities. The District is an ultra-urban setting where land is in short supply and thus, costly. Our metropolitan environment requires the deployment of unique approaches to meet the pollution control regulations within the confines of available land. WPD develops and implements programs to prevent and control nonpoint source pollution. The Stormwater Management Division (SWMD) [manages the District's MS4 Permit. Both SWMD and WPD oversees the regulation of land disturbing activities, stormwater management, and flood plain management. WPD also sponsors projects that demonstrate innovative technologies to control nonpoint source pollution, particularly from urban runoff, that restore degraded streams and local habitat. WPD coordinates its activities with other state, regional, and federal programs involved in nonpoint source pollution prevention and control. Through these programs, WPD conducts extensive community outreach to educate city residents, businesses, and visitors on how they can help prevent environmental pollution in their watershed. WPD carries out these functions using what the US Environmental Protection Agency (US EPA) calls a watershed approach. This approach calls upon all the stakeholders in an identified watershed to participate in identifying pollution problems, in prioritizing those problems, and in solving them. WPD is committed to assisting the construction industry of the District in identifying best management measures that are technically feasible and that meet our pollution control needs.

The District has been using an inter-jurisdictional approach to solve its water quality problems for more than 20 years, before the watershed approach concept became the standard. The restoration of the Potomac River in the 1980's was made possible by working with the States of Virginia and Maryland, both at the state and local government levels. Development of the Potomac Estuary Model and the subsequent waste load allocation was carried out in cooperation with these responsible parties in the river's watershed. Out of necessity, the model included the pollutants entering the District's portion of the river from upstream, and from both point and nonpoint sources. Another reason for using a multi-jurisdictional approach is related to the Blue Plains Wastewater Treatment Plant's (WWTP) operation. Although the plant discharges into the District waters, it is a regional facility that treats waste from the District of Columbia, Maryland and Virginia. Accordingly, a multi-jurisdictional approach is necessary, rather than optional.

The watershed approach is central to the current effort to restore the Anacostia River. Although the tidal portion of the river is within the District, it is fed by two major tributaries in Maryland, the Northeast and Northwest Branches, which are the main sources of fresh water to the river. The branches drain Montgomery and Prince George's Counties in Maryland. The Anacostia River watershed approach began with the signing of the Anacostia Watershed Restoration Agreement in 1987 by the Mayor of the District of Columbia and the Governor of Maryland. Since 1987, both parties have reaffirmed their commitment to the Anacostia River cleanup on several occasions. The latest Anacostia River cleanup agreement was signed in May 2001. In December 2001, the signatories to this agreement signed a document that sets targets to measure progress for a restored Anacostia River. Based on these two agreements, the Metropolitan Washington Council of Governments (MWCOG) established the Anacostia Watershed Restoration Committee to help coordinate regional efforts to restore the river. In June 2006

MWCOG in partnership with the Anacostia jurisdictions established a new Anacostia Restoration Partnership. The structure of the partnership includes a Leadership Council, Steering Committee, and Management Committee (revamped Anacostia Watershed Restoration Committee). The partnership is responsible for the development and tracking of a Comprehensive Anacostia Watershed Restoration Plan.

The District of Columbia uses the watershed approach to address National Park Service (NPS) and non-attainment of designated use categories in District waterbodies. The WPD has developed Watershed Implementation Plans (WIPs) for five (5) Anacostia tributaries that fall entirely or partially within the City's geographic boundaries. These tributaries are Pope Branch, Ft. Dupont, Hickey Run, Watts Branch, and Oxon Run and one (1) WIP in the Rock Creek watershed. The WIPs set out the actions that are required to address impaired water quality in the particular watershed. These actions can range from education and outreach, to stormwater management. These implementation plans serve as planning documents that will direct future efforts in a coordinated and systematic manner. The WIPs are efforts to create a watershed-based nonpoint source pollution control plan that meets the US EPA's requirements, while providing a realistic and adaptable guide for agencies responsible for the restoration of the District's watersheds. Given the fact that two of the tributaries for which WIPs were written (Oxon Run and Watts Branch) partially fall within Maryland's jurisdiction, efforts made by the WPD will only partially address water quality impairments in those creeks. DDOE currently coordinates closely with these Maryland jurisdictions in all its efforts, and will continue to do so into the future. This approach is most successful if surrounding counties continue to allocate and target funding towards restoration activities.

WPD also coordinates with several District of Columbia stakeholders including the National Park Service (NPS), the District Department of Parks and Recreation (DPR), the District Department of Transportation (DDOT), the District Office of Planning (OP), the Anacostia Watershed Society, and the Casey Trees Endowment.

Since the inception of the US EPA's Chesapeake Bay Program (CBP) the District of Columbia has been an active participant. This program is a public-private partnership consisting of governments in Pennsylvania, Maryland, Virginia, the District of Columbia, the Chesapeake Bay Commission, US EPA, citizens, and businesses. Begun in 1983 with the first Chesapeake Bay Agreement, the purpose of the program is to develop and implement coordinated plans to improve and protect the living resources of the Bay.

The District of Columbia Government participates in numerous committees, subcommittees and workgroups of the Bay Program. In December 2001, the District of Columbia, along with the other signatories, signed the Chesapeake 2000 Agreement that guides the program until 2010. The District of Columbia sees its participation in the CBP as a way to help restore the Bay and to secure resources and inter-jurisdictional support to clean up its waters which drain into the Bay. In 2009, the District agreed to establish two year milestones for meeting their water quality goals. This new initiative developed through collaboration with the CBP is designed to

accelerate the pace of implementation for restoring the Bay, as well as provide more accountability for meeting goals.

Water Quality Standards Program

The water quality standards in the District of Columbia are developed under the authority of the Federal Clean Water Act (CWA) and the District of Columbia Water Pollution Control Act of 1984. The water quality standards are used in setting National Pollutant Discharge Elimination System (NPDES) permit limits and for evaluating waters of the District of Columbia. Triennial revisions of the water quality standards (WQS) are conducted to incorporate new information on water quality criteria and policy changes to protect the surface waters in the District.

The federal CWA requires states to review their water quality standards every three years and revise the standards as necessary. DDOE initiated the triennial review of the District's WQS in 2009. As part of the triennial review, the proposed WQS were published on Friday, September 11, 2009 edition of D.C. Register for public comments and a hard copy of the proposed regulations was kept for inspection in Martin Luther King Jr. Library Washington, DC 20001. A public hearing of the proposed standards was conducted on Monday, October 19, 2009.

This triennial review of the water quality standards considered deleting the provisions disapproved by US EPA in the 2005 revision. The proposed rulemaking upgrades the designated use of Hickey Run, and Watts Branch tributaries in the District, to primary contact recreation Class A Use, to achieve the goals of CWA Section 101(a)(2). The proposed rulemaking removes the fecal coliform criterion for bacteria, which has been phased in with E. coli as the standard. It also includes water quality standards for dissolved oxygen for nontidal waters, water quality criteria for Nonylphenol: an organic chemical found to be toxic to aquatic life. The water quality standards for Phenol and Acrolein are being updated. A definition for nontidal waters is also included.

As continued scientific research and management applications revealed new insights and knowledge, the proposed rulemaking also includes updated guidelines documented in the 2003 US EPA publication: Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll *a* for the Chesapeake Bay and its Tidal Tributaries, EPA-903-R-03-002, April 2003, and subsequent addenda published by US EPA Chesapeake Bay Program watershed jurisdictional partners. Finally, the rulemaking corrects typographical errors.

DDOE is currently reviewing the comments received from the WQS Triennial Review. Based on the comments received, if necessary, changes to the water quality standards will be made. The rulemaking will have to be republished as proposed for a 30 day comment period. After obtaining a letter of certification from the Attorney General the final rulemaking will be published and submitted to US EPA for review and approval. These proposed changes in the regulations will enable the District to use standards as a programmatic tool in the water quality management process and as a foundation for water quality based control programs.

Point Source Program

NPDES

Background

Currently, there are twelve (12) facilities (see Table 2.2) in the District of Columbia which have been issued site-specific industrial permits by the US Environmental Protection Agency (US EPA) under the National Pollutant Discharge Elimination System (NPDES) industrial permits. WWTP operated by the District of Columbia Water and Sewer Authority (DC WASA) continues to be the major discharger. WWTP, along with other industrial NPDES permitted facilities, is inspected annually or semi-annually, to insure compliance with permit conditions and District of Columbia WQS.

TABLE 2.2
NPDES PERMITTED FACILITIES IN THE DISTRICT OF COLUMBIA

Permittee/Facility	**Permit No**	**Current Status**	**Inspections Per Year**
Washington Aqueduct – Dalecarlia Plant	DC0000019	Major	two
Potomac Electric Power Company (PEPCO), Benning Road	DC0000094	Major	two
D.C. Water and Sewer Authority (WASA), Blue Plains AWTP	DC0021199	Major	two
Mirant Potomac River, LLC	DC0022004	Major	two
Government of the District of Columbia – MS4	DC0000221	Major	two
General Service Administration (GSA) /NCR Central Heating Plant	DC0000035	Minor	one
CMDT Naval District Washington, DC	DC0000141	Minor	one
Super Concrete Corporation	DC0000175	Minor	one
John F. Kennedy Center for the Performing Arts	DC0000248	Minor	one
Washington Metropolitan Area Transit Authority (WMATA)	DC0000337	Minor	one
World War II Veterans Memorial	DC0000345	Minor	one
Walter Reed Army Medical Center	DC0000361	Minor	one

Certification of NPDES Permits

The District of Columbia is not a delegated state under the NPDES program and therefore cannot issue its permits. Draft NPDES permits prepared by US EPA are reviewed by the WQD for completeness, compliance with both Federal and District laws and water quality standards in accordance with Section 401 of the Clean Water Act. WQD may require changes in a draft permit so as to more stringently comply with applicable laws and standards. Changes in draft permits may also incorporate comments received from various parties during the public comment period, the announcement of which is made in one or more of the District's local newspapers. The announcement for public comments is a joint venture by both US EPA and the District of Columbia. Final certified permits are issued for a five year period, but contain re-opener clauses in case facility conditions and/or water quality standards or regulations change.

WQD staff review individual facility permits and Discharge Monitoring Reports (DMR) for the NPDES permitted facilities for any exceedances or deficiencies.
In 2008-2009, the WQD reviewed and certified three (3) draft NPDES permits. In addition, three (3) facilities had their individual NPDES permits terminated.

Compliance Inspections

WQD conducted compliance evaluation inspections at nine (9) facilities that have been issued NPDES permits. A listing of these is found in Table 2.3.

TABLE 2.3
NPDES PERMITTED FACILITIES INSPECTED

Permittee/Facility	Permit No	Inspections Dates
General Service Administration /NCR West Heating Plant	DC0000035	12/04/08
Washington Aqueduct – Dalecarlia Plant	DC0000019	1/07/09, 8/19/09
General Service Administration (GSA) - Southeast Federal Center	DC0000299	1/13/09, Terminated on 6/2009
Washington Navy Yard	DC0000141	2/04/09
Mirant Potomac River, LLC	DC0022004	4/29/09
Potomac Electric Power Company (PEPCO), Benning Road Generating Station	DC0000094	6/02/09
D.C. Water and Sewer Authority (WASA), Blue Plains AWTP	DC0021199	8/18/09
CTI/DC Materials, Inc.	DC0000191	5/12/09, Terminated on 8/2009
World War II Veterans Memorial	DC0000345	5/12/09

Certification of Dredge and Fill Permits (Section 404 Permits)

WQD also reviews and certifies permits issued by the US Army Corps of Engineers (US ACE), under the Nationwide Permits program (NWP). Under Section 404 of the Clean Water Act, the District of Columbia aims for the goal of no net loss of wetlands, stream areas, and functions within the District of Columbia. To achieve this goal, the WQD reviews all activities and construction projects, which may impact wetlands and streams in the District, and certifies permits issued by the US ACE under Section 404 of the Clean Water Act. When the US ACE delineates a wetland and issues a jurisdictional determination (JD), the WQD reviews the delineation report and JD for completeness and compliance with both Federal and District laws and water quality standards. As with NPDES permits, NWPs are reviewed for compliance with Federal and District water quality laws and standards. The certification of both NPDES and NWP permits by the state water pollution control agency is a requirement of section 401 of the Clean Water Act.

In 2008-2009, WQD reviewed wetland delineation reports and conducted two wetland delineation assessments. The purpose of the review process is to minimize impacts, but some projects that proceed may impact wetlands and streams. These projects include

water dependent projects and projects for which there is no practicable alternative. Mitigation is required for permanent impacts associated with these types of projects. Only one project that needed wetland and stream mitigation was certified during this period.

Mitigation of impacts to wetlands and streams are considered in accordance with the following sequence:

Avoidance: Modification of the scope of the proposed activity, or construction to completely avoid the potential impacts to the wetland or stream.

Reduction/minimization: Reduction of the necessary impacting activity to the greatest extent practicable.

Restoration: Rectifying the impact by repairing, rehabilitating, or restoring the affected wetland or stream following completion of the activity or construction.

Compensation: Compensating for the impact to the wetland or stream by creating or enhancing an alternative wetland/stream.

Certification of Permits Issued Under Section 10 of the Rivers and Harbors Act of 1899

WQD reviewed and/or issued certifications for the following NWPs issued by the USACE under Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act (see Table 2.4):

TABLE 2.4
NWPS REVIEWED AND CERTIFIED

Permittee	**Certification Number**	**Project Description**
District of Columbia Water and Sewer Authority (DC WASA)	DC-08-004	To replace pilings at 1505 M Street, SE in the Anacostia River, Washington, DC.
District of Columbia Department of Transportation (DDOT)	DC-09-001	To conduct 6 geotechnical borings in the Anacostia River, near South Capitol Street Bridge.
National Park Service – National Mall and Memorial Parks	DC-09-002	To rehabilitate Jefferson Memorial Seawall.
DDOT – Fort Lincoln Regional Stormwater Management Facility	DC-09-005	To construct approximately 3.5 acre regional stormwater management facility impacting 393 square feet (0.01 acre) of palustrine forested wetlands and 175 linear feet (1,343 square feet) of an unnamed tributary to the Anacostia River within the Eastern Avenue right of way in the Fort Lincoln area.
DDOT - 14th Street Bridges Rehabilitation	DC-09-007	To rehabilitate the existing Northbound and Southbound 14th Street Bridges over the Potomac River
DC WASA Long Term CSO Control Plan	DC-09-008	To drill 15 geotechnical borings using rotary drilling from a spud barge in the Anacostia and Potomac Rivers.

Reviewing Environmental Impact Screening Form (EISF) Applications

Table 2.5 lists Environmental Impact Screening Form (EISF) applications reviewed for water-related issues in accordance with the DC Environmental Policy Act and regulations, Section 7201.1(c), (d), and (l). Section 7201.1(c), (d), and (1) of the Environmental Policy Act implementing regulations provides that a project should be assessed to determine whether: (c) The action might significantly deplete or degrade groundwater resources; (d) The action might significantly interfere with groundwater recharge; (l) The action might cause significant adverse change in the existing surface water quality or quantity. The following EISF applications were reviewed between 2008-2009.

TABLE 2.5
EISF REVIEWED

EISF #	Project Name and/or Street Address	Status
00-0341	BLB Family Housing, Bolling Air Force Base	Approved
00-0352	Washington Gateway, 101 NY Avenue, NE	Approved
00-387	Marriott Marquis, 901 Mass Ave, NW	Approved
00-392	Safeway Store #2912, 1855 Wisconsin Avenue, NW	Approved
00-393	Sibley Memorial Hospital Medical Office Building and Garage, 5255 Loughboro Road, NW	Approved
00-394	The Hilton Washington, 1919 Connecticut Avenue, NW	Approved
00-397	2110 19th Street, NW	Approved

MS4

The Stormwater Management Division Highlights

The SWMD accomplished the following key achievements during this reporting period:

- Negotiated MOUs to reflect the increased responsibilities for each MS4 Task Force agency (DPW, WASA, DDOT and DRES) to ensure compliance with the commitments specified in the EPA MS4 Letter of Agreement dated November 27, 2007.
- Developed of the District's Stormwater Management Plan (SWMP) dated February 2009. The SWMP was submitted to EPA in application for the renewal of the MS4 Permit.
- Worked with WASA to implement an increase in the District's stormwater fees, effective October 2008. This has increased revenues from approximately $3.1 to $10-$13 million per year to enable compliance with MS4 Permit requirements. A planned shift to an impervious surface-based fee with a discount program will encourage District residents and businesses to implement more environmentally sustainable stormwater practices.

In addition to the achievements above, during this reporting period the following Acts were passed by the District to assist SWMD in meeting MS4 Permit requirements. These pieces of

legislation focused on the protection of human health and the environment; and the adoption of sustainable stormwater management practices. Specific legislation includes:

- The Loretta Carter Hanes Pesticide Consumer Notification Amendment Act of 2008 (D.C. Official Code § 403.01).
- The Comprehensive Stormwater Management Enhancement Act of 2008.
- The Anacostia Waterfront Environmental Standards Act of 2008 (the AWC Standards Act), effective March 26, 2008 (D.C. Official Code § 2-1226.36) requires enhanced environmental stormwater management standards for publically funded construction undertaken within the Anacostia Waterfront Development zone, which will become effective with the revised stormwater regulations.
- Anacostia River Clean Up and Protection Act of 2009, effective September 23, 2009 (D.C. Law 18-55; D.C. Official Code § 2-1226.51 *et seq*.).

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 waters. Sediment and pollutant-laden water can pose a threat to public health. The pollutants may come 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 of Columbia and throughout the United States. US EPA and the United States Department of Agriculture (USDA) have made the control of soil erosion and the treatment of stormwater runoff important pieces in their strategy to restore the quality of the nation's waters. Nonpoint source pollutants of concern in the District of Columbia are nutrients, sediment, toxicants, pathogens, and oil and grease. For the District of Columbia, the origins of nonpoint pollutants are diverse and include:

- Stormwater runoff due to the high degree of imperviousness of urban areas;
- Development and redevelopment activities;
- Urbanization of surrounding jurisdictions; and
- Agricultural activities upstream in the watershed.

The District of Columbia has shown that urban runoff is one of the more important contributors to surface water impairment. A process to rank watersheds for nonpoint source implementation in the District, conducted by the Nonpoint Source Management Program in 1993, determined that the Anacostia River and its tributaries should receive the highest priority. The control of nonpoint source pollution requires the cooperation of many environmental programs. In 1989, the WPD developed the District of Columbia Nonpoint Source Management Plan. The NSMP describes the various environmental programs and projects in place to help control nonpoint source pollution. It was the first step by the District to develop a Nonpoint Source Management Program (NSMP). The Nonpoint Source Management Program revised its Nonpoint Source

Management Plan in FY 2000 to reflect the changes in program activities that had taken place over the previous 10 years and to prioritize future strategies.

The nonpoint source program has set long-term goals and the short-term milestones that mark progress toward these goals in its District Nonpoint Source Management Plan II (2000) aimed at reducing nonpoint source pollution from urban runoff, construction, and hydrologic/habitat modification. They are:

- Support activities that reduce pollutant loads from urban runoff, construction activity, combined sewer overflows and trash disposal for the purpose of attaining present designated uses by 2015 and future designated uses by 2025.
- Support programs and activities that strive to restore and maintain healthy natural habitat, species diversity and necessary base flow to all of the Anacostia River tributaries by 2015 and to all surface waters of the District of Columbia by 2025 by restoring degraded watersheds and preserving healthy ones.
- Coordinate the District Nonpoint Source Program efforts with other District, federal, not-for-profit, environmental advocacy, private sector programs and adjoining jurisdictions to deliver the best possible nonpoint source pollution prevention and control services in the District of Columbia with the resources available.
- Carry out effective information and education campaigns on nonpoint source pollution prevention to targeted audiences who live, work, teach or visit in the District of Columbia and its watersheds.

Nonpoint Source Assessment Update

In 2006, both the District of Columbia and Maryland listed the Anacostia River as impaired for trash under the Clean Water Act. Maryland and the District are both working on reducing trash levels. The District of Columbia has two skimmer boats that remove trash from the tidal river and in 2008 installed a floating trash trap called a “bandalong” in Watts Branch; and an end-of-pipe innovative trash fence with the cooperation of the NPS at Nash Run, both Anacostia River tributaries. The Mayor signed the Anacostia River Clean Up and Protection Act in 2009, the act is expected to significantly curb the use of paper and plastic bags, which officials hope will reduce the amount of trash that makes its way into the Anacostia River.

In 2002, the District of Columbia Water and Sewer Authority approved a Long Term Control Plan (LTCP) to reduce discharges from CSOs throughout the District by about 96 percent.

In 1998, the District of Columbia conducted a unified watershed assessment to characterize the condition of its watershed Potomac River watershed and sub-watersheds. The assessment is called Category I Watersheds, or, watersheds in need of restoration. The assessment actually was a re-characterization of the condition of its watershed and sub-watersheds, done using existing water body assessments, strategies, surveys, and recommendations to compile an overall

watershed assessment and ranking. The tidal Anacostia River, Watts Branch, Rock Creek, Hickey Run, and Kingman Lake were identified as waterbodies having the highest priority for restoration, or as Category I.

One of the main causes of degradation cited in the assessment was urban runoff. Seeking more specific information regarding the problems associated with its most degraded sub-watersheds, in lieu of habitat restoration, the District commissioned a number of individual assessments. To date, MWCOG has completed watershed assessments of Fort DuPont Tributary and Pope Branch Tributary, the US Fish and Wildlife service (US FWS) has completed assessments of Hickey Run, Oxon Run, and Watts Branch. The Watershed Protection Division (WPD) has completed and submitted the WIP assessment of Rock Creek and Oxon Run.

WIPs for the Rock Creek and Oxon Run contain a detailed list of pollution abatement practices that will improve the quality of water in both sub-watersheds and eventually lead to the de-listing of Rock Creek and Oxon Run from US EPA's 303(d) list of impaired waterbodies. Recommended practices for pollution reduction primarily focus on stormwater pollution management through low impact development (LID), reforestation, stream and riparian restoration, and improved pollution prevention practices at public works facilities and gas stations throughout the watershed. Recommendations were based on findings from a watershed assessment conducted by DDOE.

As with any multi-year implementation plan, the WIPs are living documents to be continually evaluated and updated, as needed, based on "lessons learned" during the implementation phase. The implementation of this plan will be monitored and evaluated, and the WIP will be updated every five years to reflect the results of the monitoring program, the efficacy of the pollutant reducing activities, advances in technology, and availability of financial and technical resources.

Nonpoint Source Program Highlights

DDOE assesses the health of all significant waterbodies in the District, and prioritizes water quality improvement efforts based on data gathered from water quality monitoring. DDOE then characterizes waterbody impairments and threats; these characterizations are included in the District of Columbia's Section 305(b) reports as required by the federal Clean Water Act. The reports describe many of the District waterbodies as not supporting their swimmable (primary contact recreation) and fishable (fish consumption) designated uses.

Urban stormwater runoff is a prevalent source of pollutants to District of Columbia waterbodies. Primary nonpoint source pollutants of concern include nutrients, sediment, toxicants, pathogens and hydrocarbons. The few waterbodies that fully support a designated use are also threatened by nonpoint source pollutants. A process to rank watersheds for nonpoint source implementation in the District, determined that the Anacostia River and its tributaries should receive highest priority, followed closely by Rock Creek and its tributaries. For over a decade, the District of Columbia has been using a watershed approach to raise awareness and pool public and private sector resources to tackle the water quality issues of the Anacostia River.

There are two divisions within DDOE ONR that work to mitigate the effects of nonpoint source pollution:

- Watershed Protection Division
- Stormwater Management Program

Through these two divisions the District employs both regulatory and non-regulatory approaches to reach its nonpoint source goals.

WPD consists of three branches:

- Planning and Restoration Branch,
- Technical Services Branch, and
- Inspection and Enforcement Branch.

WPD programs that fall under regulation and enforcement include the:

- Stormwater Management Program
- Soil Erosion and Sediment Control Program
- Floodplain Management Program
- Compliance and Enforcement Program

Non-regulatory programs include:

- Wetland and river habitat creation and restoration programs
- Use of low impact development (LID) innovative best management practices technology
- Education and outreach programs
- Pollution prevention programs
- Use of sustainable practices

Through these non-regulatory programs, the District educates community members about nonpoint source pollution and how their actions contribute to it, with the ultimate goal of changing personal behavior as an effective long-term solution. Additionally, the District tests and develops innovative approaches to urban nonpoint source pollution reduction, increases acceptance and implementation of LID, and provides support and financial incentives for citizens wishing to implement LID and pollution prevention techniques. In February 2010, WPD and WQD were able to allocate funds received via State Clean Water Revolving fund through the 2009 Federal American Recovery and Reinvestment Act. These funds will be put toward several LID projects throughout the District.

The District also develops partnerships and collaborations to address the issue of nonpoint source pollution. In recent years, the District has worked closely with federal agencies to ensure that nonpoint source pollution prevention is addressed on both city and federal lands.

Overall, the nonpoint source management strategy attempts to change the mindset and actions of individuals and communities, elected leaders and agency heads; to concentrate activities on targeted tributaries; and to strictly enforce regulations that protect the District's water quality and natural resources. The District does not shoulder the entire load, but rather enlists assistance from many stakeholders and partners, in an effort to deliver clean water and healthy watersheds to the citizens of the District and its visitors.

Wetland and River Habitat Creation and Restoration Programs

WPD continued stakeholder outreach, planning, designing and monitoring required for habitat restoration projects.

A. Pope Branch

During FY 2008 and 2009 DDOE, DPR, and DC WASA worked through design changes which required changes in the scope of work and changes in the contractors. In November 2009, a new task order was executed. In December 2009 the notice to proceed was given for the stream design work. Preliminary designs are due in March 2010 with final permit ready designs, due in May 2010.

DDOE staff also identified key locations in the Pope Branch subwatershed where LID projects can be installed on public space , as well as locations for large scale tree plantings. DDOE is coordinating efforts with other District of Columbia Government agencies to implement some of these projects. As part of the American Reinvestment and Recovery Act (ARRA). DDOE will be coordinating the installation of three regenerative stormwater conveyances down hillside slopes that lead into the valley to help capture and filter stormwater run-off that enters the stream.

B. Watts Branch

During FY 2008 and 2009, DDOE worked closely with US Fish and Wildlife Service (US FWS) and the Natural Resources Conservation Service (NRCS) to implement the Watts Branch stream restoration project. USFWS altered the stream designs so as to not increase the proposed 2007 Floodplain boundaries. The design work was delayed due to accommodate floodplain plans proposed in the 2007 preliminary floodplain map. It is anticipated that the designs will be permit ready for submittal to the Federal Emergency Management Agency (FEMA) for conditional letter of map revision approval so the project construction can commence during the summer of 2010.

In addition to US EPA funded activities, DDOE is also working with a local non-profit partner to ensure that 600 canopy trees are planted in the Watts Branch subwatershed by the end of September 2010. Thus far, close to 400 trees have been planted throughout the Watts Branch subwatershed. DDOE will also be utilizing ARRA funds to install a large bioretention cell to capture and filter street run-off on Jay St. NE.

C. Broad Branch Daylighting

DDOE worked with the National Park Service (NPS), and the District Department of Transportation (DDOT) to select a consultant to develop designs for the daylighting of Broad Branch in the Rock Creek watershed. DDOE also held a public meeting to inform the community about the effort and to get their feedback. DDOE will oversee the design of this project with active input from NPS and DDOT.

D. Installation of Stormwater Sampling Stations on Oxon Run and Watts Branch

As a way of monitoring the effectiveness of the upcoming Watts Branch stream restoration project, DDOE installed two ISCO® stormwater sampling stations in 2008. These stations also have multi-parameter probes to take physical water characteristics. DDOE has already captured over seven storm events and has sent the water samples off to be analyzed. The Oxon Run station will act as a reference site and will also be useful when future projects in the Oxon Run subwatershed take place.

E. Regenerative Outfalls in Rock Creek Park

WPD solicited and received approval and support from US NPS to design and construct a regenerative outfall in a small ephemeral stream, the banks of which are severely eroded due to concentrated runoff from Oregon Avenue, NW. DDOE hopes that this project will become an example of how to address erosion in a manner that treats stormwater runoff, enhances base flow to receiving streams and creeks, and helps to restore predevelopment hydrology in these highly altered urban watersheds.

Low Impact Development

Another stormwater management tool is low impact development (LID). LID is an innovative technical micro-scale approach to stormwater management and protection. These practices prevent runoff by encouraging evapo-transpiration, infiltration and the capture and use of stormwater in the landscape and buildings. They include: site conservation and tree planting; green roofs and green walls; rain gardens; porous pavement; rain barrels and cisterns; and treatment trains of all of the above (see Table 2.6). LID demonstration projects implemented in 2008 and 2009 include:

- Brent Elementary School Bioretention: Brent Parent Teacher Association was the number one ranked applicant out of 32 applicants to a unique LID grant program intended to

develop a District/Federal partnership program between DDOE and US Department of Agriculture-NRCS to advance LID installation in the District. This project removed over 1200 square feet of asphalt around part of the perimeter of the Brent School's playground and installed a raingarden to manage stormwater runoff from the surrounding 20,000 square feet of remaining asphalt. DDOE funded the project; USDA-NRCS acted as the contracting/project manager: The Office of Public Education and Facilities Management and DDOT are the landowners. The ribbon cutting ceremony was held November 2, 2009.

- Lafayette Park Harvest & Reuse for drip irrigation: Department of Parks and Recreation (DPR), in partnership with DDOE, installed a French drain system around a hill top children's sprinkler area at Lafayette Park to collect both sprinkler runoff and stormwater runoff to retain in underground cisterns to utilize for drip irrigation of nearby native plantings. This project captures runoff from approximately one third of an acre and can retain up to 4,000 gallons of water. Phase 1 was completed in the early Summer of 2009. Phase 2 is under way and will expand the system to allow drip irrigation to plantings further away.
- Takoma Park Recreation Center Bioretention: Friends of Takoma Park Recreation Center was awarded a competitive grant to install rain gardens to treat stormwater runoff from six tennis courts at the Takoma Park Recreation Center. The installation was completed early September 2009 and the final planting ceremony was held in October 2009. These gardens were incorporated into the existing hill slope to create a cascading three tiered system that captures stormwater runoff from approximately 50,000 square feet of impervious surface.

TABLE 2.6

ESTIMATIONS OF POLLUTION ABATEMENT RESULTING FROM 2008-2009 LID PROJECTS.

Bioretetention	Installed	Property Type		Treament Area		1" event runoff		BMP Area	Depth	Retention Volume		
	yr	New/Retrofit	Agency	ft^2	acres	ft^3	gal	ft^2	ft	ft^3	gal	% ret
Takoma Tennis Courts	2009	Retrofit	DPR	53,280	1.22	4,440	33,213	2,014	3.5	2,820	21,092	0.64
Brent ES Playground	2009	Retrofit	OPEFM	52,100	1.20	4,342	32,478	10,710	3.5	14,994	112,163	3.45
Harvest/Reuse	Installed	Property Type		Trmt Area		1" event runoff		Storage	Reuse	Retention Volume		
	yr	New/Retrofit	Agency	ft^2	acres	ft^3	gal	gal	gal	ft^3	gal	% ret
Lafayette Spray Park	2009	Retrofit	DPR	14,375	0.33	1,198	8,961	4,000	1.0	1,600	11,969	
Green Roofs	Installed	Property Type		Trmt Area		1" event runoff		BMP Area	Depth	Retention Volume		
	yr	New/Retrofit	Agency	ft^2	acres	ft^3	gal	ft^2	ft	ft^3	gal	% ret
Green Roof Subsidy-small open	2008	New/Retrofit	--									
2025 Fendall ST SE			--	6,740	0.15	562	4,202	6,740	0.5	1,348	10,084	2.40
611 M ST NE			--	1,270	0.03	106	792	1,270	0.5	254	1,900	2.40
1310 K St SE			--	2,060	0.05	172	1,284	2,060	0.5	412	3,082	2.40
1200 19th ST NW			--	16,759	0.38	1,397	10,447	16,759	0.5	3,352	25,073	2.40
1 Scott Circle NW			--	7,500	0.17	625	4,675	7,500	0.5	1,500	11,221	2.40
1234 H ST NE			--	729	0.02	61	454	729	0.5	146	1,091	2.40
145 N St NE			--	31,718	0.73	2,643	19,772	31,718	0.5	6,344	47,453	2.40
1275 First St NE			--	21,684	0.50	1,807	13,517	21,684	0.5	4,337	32,441	2.40
1771 Church St NW			--	600	0.01	50	374	600	0.5	120	898	2.40
929 S Street NW			--	290	0.01	24	181	290	0.5	58	434	2.40
Green Roof Subsidy-small open	2009	New/Retrofit	--									
419 4th St NE			--	174	0.00	14	108	174	0.5	35	260	2.40
1721 Seaton St NW			--	550	0.01	46	343	550	0.5	110	823	2.40
1375 Missouri Ave NW			--	2,682	0.06	224	1,672	2,682	0.5	536	4,013	2.40
801 17th ST NW			--	17,800	0.41	1,483	11,096	17,800	0.5	3,560	26,631	2.40
1353 U Street NW			--	1,265	0.03	105	789	1,265	0.5	253	1,893	2.40
1341 H St NE			--	1,507	0.03	126	939	1,507	0.5	301	2,255	2.40
Bryant St Pumping Station	2008	Retrofit	DPW	5,479	0.13	457	3,415	5,479	0.5	1,096	8,197	2.40

Environmental Education and Outreach

WPD is committed to student and community education. The annual Anacostia Environmental Fair brings more than 400 students in grades 4-8 and their teachers to the banks of the Anacostia River each spring. The 2008 event was canceled due to inclement weather. At the 2009 event a total of 20 organizations participated as exhibitors conducting hands-on environmental activities for the children and environmental education techniques for the teachers. WPD continues to offer outdoor and on-water experiences to as many District school children as possible through the "Meaningful Bay Experience". WPD's Nonpoint Source Management Program coordinates federal funds to universities and nonprofit organizations to conduct projects that will help the program achieve its overall goals and objectives.

WPD funded Meaningful Bay Experiences for four thousand eight hundred and twenty-six (4,826) District students by providing grant funds to the Living Classrooms Foundation, the Anacostia Watershed Society, The Student Conservation Association, and the Alice Ferguson Foundation Hard Bargain Farm. These organizations provided students with a variety of

opportunities including field, shipboard, and overnight experiences that teach lessons in water quality and biology.

WPD's *RiverSmart Schools* program completed another year of systematically developing and piloting schoolyard gardens. The focus was on supporting DCPS mandated science curriculum through schoolyard habitats. The garden projects emphasized youth involvement to increase the educational value of the site. The goal is to make it easy for teachers to use gardens as an "outdoor classroom." Trainings allow teachers and school staff to utilize the site for various garden-based lessons. All sites were centered on increasing native biodiversity by planting native species. The habitat improvement projects include: butterfly gardens; a wetland; a nesting platform and watering station; designing and building feeding stations; tree plantings; and green roofs. A total of six hundred and twenty (620) students were taught lessons on butterflies and caterpillar habitat, native plants, the concept of a watershed and wetland functions, planting techniques, and schoolyard assessments. These lessons were meant to help integrate the schoolyard conservation sites into the curriculum, and to show the teachers activities and lesson plans that meet the DCPS standards of learning while using the outdoors as a learning laboratory. The students, along with a host of parents, teachers and volunteers, contributed several hundred hours of work to these sites during the community action days.

A. Ann Beers Elementary School

The Anne Beers' "Garden of Discovery" installed a 24 foot by 24 foot butterfly-design labyrinth and planted some 100 milkweed and nectar plants funded by the Rotary Club and DDOE. Every spring the plants attract Monarchs butterflies on their journey north. Students get to witness firsthand how Monarchs transform from an egg into an adult butterfly. Teachers and students are currently working towards improving the accessibility of the garden even further and adding benches to make it more suitable as an outdoor learning space.

B. Two-Rivers Elementary School

Two Rivers Public Charter School site was complex and challenging because the school grounds are very small with approximately 98% impervious. Only a very small strip of grass existed between the street and the sidewalk. The initial work focused on coming up with a landscape plan and finding additional funding to complete the project. The outdoor learning space with container planters was installed on the balcony of the second floor. DDOE funded the removal of 1,500 sq. ft. of asphalt and concrete and installed porous pavers, and planted eight (8) shade trees. The new permeable pavers are aesthetically pleasing and it will control stormwater quality to the Anacostia River.

C. John Tyler Elementary School

The school ground consists of 145,847 sq. ft. The site has three (3) existing yard drain inlets serving the site. The proposed site improvement and transformation into an outdoor classroom will involve the replacement of 17,246 sq. ft. of impervious surface with rain gardens,

bioretention, and landscaped areas. These landscapes will help retain, filter and recycle rainwater and snow melt on site, reducing the peak flow rate and total runoff volume into the District's combined sewer system and the Anacostia River. The landscape design is comprised of best management practices for sustainable design and watershed protection. The existing three (3) yard drain inlets will remain in place during construction and will continue to serve for stormwater overflow after the rain gardens and bioretention areas reach their retention capacity. A dense vegetation border will provide permanent erosion control to reduce nonpoint source pollution into the combined sewer system and the Anacostia River.

D. Brent Elementary School

Brent Elementary School has approximately 260 students and is located in an historic district. Like many schools built in the 1960s, the current playground is a flat, lifeless, asphalt covered chain link yard. The southwest end has a large piece of outdated play equipment. The southeast end has plastic play houses and slides for the students, as well as a low curved concrete wall that impedes free running. To improve the site area, Brent has implemented a densely planted bio-retention swale around the perimeter – approximately 6'9" wide, along with strategically located trees throughout the site. Plans include new poured-in-place surfacing over most of the remaining asphalt, new safer and age-appropriate playground equipment, raised beds for student gardening, and a living trellis fence system to replace the existing chain link fence.

E. Mini-grant Schools

To strengthen and sustain the development of *RiverSmart Schools* sites in the District, schools previously in the program are selected to receive $1,000 to maintain and enhance their existing sites. Meetings have occurred with the 2008 and 2009 follow-up schools (Kamit Public Charter, LaSalle-Backus Education Campus and Sharpe-Health, Miner Elementary, Friendship Elementary, Shepherd Elementary, JC Nalle Elementary) to determine how they will spend their funds for maintaining their sites. Kamit Public Charter has spent funds on tools to maintain their garden area. LaSalle-Backus Education Campus has purchased additional wetland plants and mulch for their garden. Other schools used the funds for outdoor classroom materials.

F. District of Columbia Environmental Education Consortium

WPD continues to provide leadership to the DC Environmental Education Consortium (DCEEC). Many tasks and activities were accomplished in 2008 and 2009 to strengthen organizational networking, training and knowledge for District environmental organizations and teachers. Led by the WPD, DCEEC organized the second and third District of Columbia School Garden Week in October 2008 and 2009 and conducted walking garden tours, *RiverSmart Schools* site bus tours, kick-off events, garden-photo contests, two Teachers' Night at the US Botanic Gardens, and numerous training workshops for teachers, school staff, and parents.

Pollution Prevention

The WPD, WQD, and SWMD play a role in promoting and implementing pollution prevention in the District. The sections below describe pollution prevention activities undertaken by these divisions. In addition, DDOE is coordinating the District's effort to restore the Anacostia River, working with other District agencies and taking on its own departmental initiatives.

A. Tree Planting

In 2008 and 2009 citizen volunteers, students and DDOE's partners planted 1200 trees throughout the District. In 2009, DDOE planted 64 trees on NPS lands at Anacostia Park as a part of the celebration of Martin Luther King Day of Service and the Presidential Inauguration. Additionally, DDOE planted trees around its Aquatic Resources Education Center and installed native landscapes, as a service day for all DDOE employees. Thirteen (13) trees were planted with WPD staff at District schools as part of Earth Day celebrations and to mark the announcement of a city-wide urban tree canopy goal.

DDOE is working with Washington Parks and People to plant six hundred (600) trees in upland areas of the Watts Branch watershed. This tree planting is a part of DDOE's stream restoration effort in the Watts Branch watershed. As a part of the work, Washington Parks and People is training local workers in silviculture and employing them for planting. Additionally, DDOE has grants with Casey Trees to aid in planting trees throughout the District – primarily on residential lands. These grants cover several activities:

- Tree rebates – Casey Trees provides rebates of $50 to homeowners that purchase and plant trees on their property. Proof of residency and purchase are required and there is a limit of one tree per property.
- Tree workshops – Casey Trees leads "right tree, right place" workshops that help homeowners determine what type of tree to plant and where it should be planted on their property.
- Direct tree planting – Casey Trees plants trees through community tree planting grants and on properties identified through DDOE's *RiverSmart Homes* program.

B. RiverSmart Homes

One of the greatest needs and challenges for the District is to reduce water pollution by affecting behavioral change at the individual household level. *RiverSmart Homes* is an incentive-based program that encourages homeowners to install low-cost residential BMPs and institute green landscape management practices that help improve local water quality. In May 2008, WPD officially started its pilot program in the Pope Branch watershed. In October 2008, a *RiverSmart Homes* demonstration site was completed in the watershed and in November 2008, an open house was held for residents living in the pilot area. As a result of this program DDOE (using §319 grant funds) installed fourteen (14) rain gardens; sixty-two (62) native landscaping or BayScaping practices; eleven (11) pervious pavers; four hundred and twenty-five (425) rain barrels; and twenty-seven (27) shade trees. *RiverSmart Homes* has the potential to improve the

Districts's entire watershed and foster pollution prevention awareness and environmental stewardship in District of Columbia homeowners. DDOE has performed six hundred and twenty-five (625) stormwater audits for interested homeowners to identify ways that they can reduce stormwater pollution from their property. DDOE has a waiting list of approximately 300 more homes to audit. Once the *RiverSmart Homes* landscape enhancements are installed on the homeowner's property DDOE plans to help participants properly care for their landscaping enhancements and to encourage them to install additional BMPs on their property.

C. Storm Drain Marking

To encourage and promote nonpoint source management principles, WPD created a new marker design for the storm drain marker program. In 2008, with the assistance of volunteer groups, WPD installed approximately 900 storm drain markers focusing on Pope Branch and Watts Branch watersheds. In 2009, volunteer groups were educated about stormwater runoff and nonpoint source pollution and participated in the marking of over 1,300 storm drains.

D. Integrated Pest Management

DDOE and the Department of Parks and Recreation (DPR) partnered in 2008 to host a pilot garden integrated pest management (IPM) workshop aimed at reducing chemical use and improper fertilization on gardens and lawns. IPM garden bags were distributed to the twenty-five (25) participants. Based on the success of that workshop, DDOE piloted a workshop series in 2009. The workshop series covered garden IPM, stormwater management, and sustainability topics.

Stormwater Management and Sediment Control Regulatory Programs

WPD and SWMD are involved in stormwater management and sediment control regulatory activities. There roles and responsibilities are below:

Stormwater Management Division

SWMD administers the NPDES permit for the District's MS4 system. In compliance with the District's 2008 Comprehensive Stormwater Management Enhancement Amendment Act SWMD works with various District agencies to provide MS4 funds for implementation of stormwater management activities.

Watershed Protection Division
In conjunction with its voluntary activities to control nonpoint source pollution through its nonpoint source management and Chesapeake Bay Program Implementation programs, the WPD also supports activities to regulate land disturbing activities, stormwater management, and flood plain management. The major regulatory actions of the WPD in the area of nonpoint source pollution control include enforcing the provisions of the following:

- D.C. Law 2-23, The District of Columbia Erosion and Sedimentation Control Act of 1977,
- D.C. Law 10-166, The Erosion and Sedimentation Control Amendment Act of 1994,
- D.C. Law 5-188 (§509-518, Storm Water Management Regulations- 1988) of The District of Columbia Water Pollution Control Act of 1984,
- D.C. Law 1-64, the District of Columbia Applications Insurance Implementation Act of 1976.

DDOE conducts the following activities:

- Reviewing and approving construction plans for stormwater runoff control measures, flood plain intrusion, unstable soils, topography compatibility, erosion sediment control measures, and landscaping;
- Conducting routine and programmed inspections at construction sites;
- Developing and revising regulations, design standards and specifications;
- Preparing technical manuals;
- Providing technical assistance to developers and D.C. residents; and,
- Conducting investigations of citizen complaints related to drainage and erosion and sediment control.

Consistent with the above statutes, WPD reviews building permit applications for compliance with the soil erosion and sedimentation control regulations. In FY 2008, two thousands two hundred ninety-six (2,296) construction plans for compliance with sediment and stormwater pollution control were reviewed and two thousands one hundred seventeen (2,117) plans were approved. In FY 2009, one thousand nine hundred seventy-five (1,975) plans were reviewed and one thousand seven hundred twenty-three (1,723) plans were approved.

An integral part of this regulatory compliance program is the type of best management practices (BMPs) the District approves for installation (see Table 2.7). For stormwater management in particular, the District of Columbia requires developers to control both the quantity and quality of stormwater runoff. Management of stormwater has evolved in the past decade. As a part of that evolution, the District has begun to encourage, where applicable, the use of "greener" BMPs and low impact development techniques such as wetlands, vegetated biofilters, and bioretention facilities.

TABLE 2.7
STORMWATER MANAGEMENT BMPS APPROVED FOR INSTALLATION

	2008	2009

BMP Structures	No. of Plans	Drainage Served by BMP (sq.ft.)	Drainage Served by BMP (acres)	No. of Plans	Drainage Served by BMP (sq.ft.)	Drainage Served by BMP (acres)
Sand filter	25	1,848,005	42.4	6	3,696,010	84.8
Green Roof	18	1,643,368	37.7	7	3,286,736	75.5
Infiltration/Ex-Filtration and Dry Well	33	1,401,035	32.2	26	2,802,070	64.3
Hydrodynamic Basins	28	1,876,545	43.1	16	1,957,956	44.9
Bioretention	17	3,574,480	82.1	17	7,148,960	164.1
Cartridge Filtration	29	7,406,587	170.0	16	14,813,134	340.1
Hydrodynamic flow base filters	16	426,322	9.8	12	852,644	19.6
Underground Detention Systems	6	367,948	8.4	11	469,870	10.8
Totals	172	18,544,290	425.7	111	35,027,380	804.1

In fiscal year 2008, WPD processed 209 requests for flood zone determinations at various properties in the District. Flood zone information is critical in determining the availability of flood insurance and eligibility for federal assistance in the event of natural disasters caused by floods. Additionally, WPD processed 85 requests for information on soil characteristics and reviewed and approved approximately 85 geotechnical reports to assess the suitability of soils for various construction projects.

In 2008, the LID Guidance DVD entitled *RiverSmart* was debuted in the District of Columbia Environmental Film Festival, followed by a panel discussion. The DVD includes the following modules: 1) RiverSmart; 2) RiverSmart Trailer; 3) RiverSmart Homes; 4) RiverSmart Maintenance; 5) Constructing an Infiltration Device; 6) Constructing Permeable Pavers; 7) Constructing Rain Gardens; and 8) Installing a Rain Collection System.

In 2009, the LID Guidance Manual was completed and distributed to partners and organizations. The guidance manual serves as a stand-alone LID resource and not simply an accompanying manual that must be viewed with the DVD.

Inspection and Enforcement

The District of Columbia recognizes that effective erosion and sediment control and stormwater management and illicit discharge enforcement program are essential to mitigate damage to the aquatic resources by sedimentation and polluted runoff. Both WPD and WQD conduct activities in these areas. In an effort to streamline enforcement of these regulations and ensure compliance, new standard operating procedures were developed and implemented. The standard operating procedures provide a consistent framework for conducting inspections, issuing notices of violations, civil infraction fines, and stop work orders for violations of the regulations. Civil

infraction fines range from one hundred to two thousand dollars ($100 - $2,000), depending on the nature of the infraction or whether the violator is a repeat offender.

During fiscal year 2008, WPD improved compliance with District of Columbia soil erosion and sediment control, and stormwater management regulations by conducting nine thousand and thirty (9,030) inspections and issuing three hundred and sixty-one (361) enforcement actions. WPD minimized pollution in stormwater runoff to the Anacostia and Potomac Rivers and their tributaries by inspecting three hundred seventeen (317) stormwater management facilities and one hundred and thirty-two (132) post-maintenance inspections to ensure proper maintenance of these facilities. Stormwater management facilities were restored on an as-needed basis and appropriate enforcement actions were taken to ensure compliance.

In fiscal year 2009, WPD conducted seven thousand six hundred and forty-eight (7,648) inspections. In addition to the imposition of a civil fine or penalty, anyone convicted of violating the storm water management regulations is guilty of a misdemeanor, and subject to a fine of at least two thousand five hundred dollars ($2,500), but no more than twenty-five thousand dollars ($25,000).

Since the promulgation of stormwater management regulations over two thousand (2000) stormwater BMPs have been installed throughout the District at new development and redevelopment projects, for nonpoint source pollution control. Hundreds more have been approved for ongoing development projects. Due to the high cost of land and lack of space, most of these stormwater management BMPs are installed beneath impervious surfaces such as parking lots and sidewalks, and are generally not visible. Consequently, this exacerbates the challenge of effectively maintaining these facilities in an urban setting. However, the District has also begun emphasizing LID practices (for the management of stormwater) as the first option for land development projects. LID techniques utilize a less invasive method of stormwater management where the treatment and management of the stormwater is distributed and re-introduced into the hydrologic cycle where possible.

DDOE has developed and implemented an aggressive Storm Water Management Facilities Maintenance Inspection Program. The program assures compliance with the regulations by inspecting the maintenance and operation of stormwater BMPs to ensure that permanently installed stormwater management BMPs continue to function properly throughout their design life. Inspectors have the same enforcement tools for BMP maintenance as they do for the construction process. Since the development of the Integrated Environmental Planning (IEP) maintenance enforcement program more than five thousand (5,000) enforcement actions have been completed enforcing the District's stormwater regulations regarding BMP maintenance.

The enforcement program has evolved into a very effective stormwater management maintenance program. An instructional video and guidance manual highlighting all the important elements of maintaining District stormwater sand filters was produced and disseminated to sand filter owners, persons responsible for maintaining them, and stormwater maintenance contractors. The IEP maintenance program has also developed qualification

protocols and a list of contractors working in the District who maintain stormwater facilities. Twenty-two (22) contractors remain qualified to perform these types of services.

The WQD Planning and Enforcement Branch conducts investigations, inspections and enforcement activities for illicit discharges that contribute to stormwater pollution.

Coordination with Other Agencies

Information on coordination with other local, regional, and federal agencies is included throughout this report.

Cost/Benefit Assessment

Cost

The District of Columbia has and continues to commit significant amounts of resources to improve the quality of its waters. Effective wastewater treatment, stormwater management and nonpoint source pollution control programs are the principal elements in water pollution control. The cost of each of these areas and the benefits is presented below. Table 2.8 summarizes the costs.

Wastewater Treatment

DC WASA provides wastewater services to over two million customers in the District of Columbia and the surrounding jurisdictions of Maryland and Virginia. DC WASA operates the Blue Plains Wastewater Treatment Plant (WWTP), one of the largest treatment plants in the nation. The WWTP operates under a stringent National Pollutant Discharge Elimination System (NPDES) permit. The current cost for wastewater treatment, including solids processing, is over $13 million. The WWTP is slated for further nitrogen removal under the Chesapeake Bay pollutant reduction efforts. It is estimated that an additional $600 million to $1 billion will be needed for the implementation of projects to achieve the nitrogen removal requirement.

Sanitary Sewer System

The bulk of the cost of the waste water collection system is associated with the assessment, rehabilitation and replacement of the aging infrastructure in the District. High bacteria counts in various waterways have been attributed to leaking sanitary sewers. Under a multi-year Sewer Assessment Program, DC WASA completed the Sewer System Facilities Plan in 2009. The plan addresses the evaluation of the physical condition and capacity of the sewer system, identification and prioritization of rehabilitation needs, record keeping and data management, as well as ongoing inspection and rehabilitation programs.

Combined Sewer Overflow Long-Term Control Plan

DC WASA completed the CSO Long Term Control Plan (LTCP) report in 2002. The plan involves the construction of large underground tunnels that will serve as collection and retention system for combined sewer during high flow conditions. Under a 2005 agreement with the federal government, the LTCP is to be implemented over a 20 year period. The plan will reduce combined sewer overflows to Distict waters by 96 percent. The lifetime budget for the combined sewer overflow reduction is estimated at over $2.6 billion.

Capital Equipment

The capital equipment cost constitutes a portion of the waste water collection and treatment expenditures in the areas of acquisition and maintenance of information technology and large equipment. It accounts for about 10 percent of the waste water treatment cost.

Stormwater Management

The 2008 cost for stormwater pollution control activities is over $56 million. The cost covers a whole array of stormwater management activities including monitoring and control of various types of pollutants from various sources, enforcement and public education. The cost may not reflect some capital construction costs, and the costs associated with operation and maintenance of structural controls, such as the rehabilitation/replacement of storm sewers and inlets.

Other Best Management Practices

The cost of other Best Management Practice structures and activities incurred by both government and private entities is difficult to estimate. Installation of various BMP devices such as sand filters, infiltration trenches, and oil/water separators have been required for new construction in the District of Columbia since the early eighties. Other BMPs such as green roofs are being actively promoted by DDOE. DDOE has proposed an amendment to its soil erosion, sediment control and storm water management regulations. DDOE sponsored a study of the costs associated with the implementation of District-wide storm water management requirements (Cost Analysis of Proposed District of Columbia Stormwater Regulations - Draft January 11, 2010). The estimated compliance cost for three development scenarios ranges between 0.03% to 0.16% of the total development cost.

TABLE 2.8
COST SUMMARY OF WATER POLLUTION CONTROL ACTIVITIES

Activity Area	**Cost***
Waste Water Treatment**	1,494,668
Sanitary Sewer System**	154,081
Combined Sewer System**	771,796
Capital Equipment**	104,633
Storm Water **	13,403
Other Best Management Practices***	830

*Dollars in thousands,
**Source – DC WASA FY 2008-FY2017 Capital Improvement Program
*** Estimated

Benefits

The benefits to clean rivers and streams are increasingly being realized in the District of Columbia. In particular, the Anacostia River waterfront development which gained prominence in recent years, promotes recreational use of the waters. The Anacostia Waterfront Framework Plan, adopted by the District of Columbia in 2003, has set out to achieve the following goals:
"- Charting a course for the environmental healing and rejuvenation of water-dependent activities on the Anacostia River;
- Rethinking transportation infrastructure to improve access to waterfront lands and better serve waterfront neighborhoods;
- Creating a system of interconnected and continuous waterfront parks, joined together by the Anacostia Riverwalk and Trail;
- Enlivening the waterfront to celebrate and explore the cultural heritage of the District and the nation;
- Promoting sustainable economic development by reconnecting the District across the river and to a vital waterfront that offers opportunities to live, work and play."

The District of Columbia Comprehensive Plan lays the foundation for the policies in support of an ecologically sound waterfront development. 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".

In 2007, the Office of the Deputy Mayor for Planning and Economic Development was charged with the implementation of the Anacostia Waterfront Initiative Framework Plan, the guiding document for the waterfront development. The plan calls for revitalization and development of the area to accommodate new housing units, office space, public park space and a network of riverside trails.

Development and rehabilitation of 42 acres of waterfront property to include 2,800 residential, 300,000 square feet of retail, 1.8 million square feet office space and significant green space area begun in 2007. The first occupancy of this urban mixed use waterfront development is to occur in 2009.

A quantitative assessment of benefits resulting from water pollution control expenditures over the years is difficult to make. Qualitatively, improvements continue to be seen. Recreational fishing is active in the District. Annual surveys by the Fisheries and Wildlife Division (FWD) document the general stability of the resident and migratory fish populations in District of Columbia waters. The sale of fishing licenses in the District support the findings of the annual surveys and is an indicator of recreational use. Since 1988, the District of Columbia has required

the purchase of licenses to fish in District waters. Table 2.9 is a summary of the number of licenses sold from 2004 to 2007. In 2008, the Federal law for certifying fishing and hunting licenses by the US FWS was changed, now states are required to conduct certification on a fiscal year cycle instead of the former calendar year. 2008 fishing license certification sales will be available August 2010 and 2009 sales will be available August 2011.

TABLE 2.9
SALES OF FISHING LICENSES IN THE DISTRICT OF COLUMBIA
(2004 TO 2007)

Year	Non-Resident	Resident	Total
2004	7814	1184	8998
2005	7448	2434	9882
2006	6985	1983	8968
2007	6316	2035	8351

Special State Concerns and Recommendations

Anacostia River Restoration

Restoration efforts to attain Clean Water Act goals in the Anacostia River have been ongoing for more than twenty years, yet there is still a long way to go before the river can be considered fishable and swimmable. The Anacostia River is impaired by several pollutants including pathogens, low dissolved oxygen, total suspended solids, toxic metals, organic chemicals, and trash. Ten years ago the Chesapeake Bay Program listed the Anacostia River as one of three "priority urban waters" in the Chesapeake Bay. In the Chesapeake 2000 Agreement, the District and other signatories agreed to "reduce pollution loads to the Anacostia River in order to eliminate public health concerns and achieve the living resource, water quality and habitat goals" by 2010. This goal was not met.

Based on this and other experiences, the District realized that the Anacostia River's restoration will not be accomplished all at once, but instead will take place gradually. In response to a request from the Mayor, DDOE developed the "Plan for a Fishable and Swimmable Anacostia River by 2032," which lays out a realistic timeline for cleaning the river and sets out over one hundred clear tasks that act as indicators to our overall progress. Since completing the report, the Mayor and DDOE have held periodic meetings, called "Anacostia CapStats," to judge our progress, add and change projects, and make other mid-course corrections.

Although many actions will be required to restore the Anacostia River, there are a handful of major activities that must take place. For the most part, these are not new initiatives and do not require new planning efforts. Instead what is required is a true commitment from each of the city departments responsible for the implementation of these programs to work together to

aggressively pursue the goal of a clean river. A commitment from the Council of the District of Columbia and Congress to find necessary funds is critical.

Recommendations: The primary actions required to restore the Anacostia River ecosystem are:

- Aggressively control combined sewer overflows by expediting the implementation of the LTCP;
- Create upland habitat for wildlife and reduce stormwater flows by planting trees and native vegetation in parks, along roadways, on school grounds and all other public lands;
- Reconnect the Anacostia River and its feeder streams to the lands that drain to them and create habitat for fish and wildlife through stream restoration using natural channel design, planting and protecting riparian forest buffers, and creating tidal and non-tidal wetlands;
- Institutionalize the use of LID techniques to control stormwater on existing, new, and redeveloped property;
- Implement a regional trash TMDL;
- Strengthen, implement, and enforce pollution prevention activities such as erosion and sediment control measures, street sweeping, and inspection of and enforcement against potentially polluting facilities;
- Encourage District homeowners and landowners to play a greater role in the restoration of the Anacostia River by improving and increasing water quality education and outreach campaigns;
- Require the cleanup of toxic sites by polluters, which include Federal and District of Columbia Government agencies. This will include pursuing an "enforcement first" strategy, whereby it will seek cleanup of the legacy toxics in sediments by the parties responsible for the releases of the toxics; and
- Negotiate enforceable pollutant strategies for Anacostia River water coming from Maryland into the District.

Discharge of Treated Groundwater to the District's MS4 System or Directly to a Waterbody

In recent years, the District has seen a surge of building construction activities. Many of these building constructions are taking place in the District's MS4 areas. As expected in an urban established environment, many of these sites are contaminated due to past activities. These sites may go through active and passive remediation and need to discharge contaminated ground water during or after construction. Contaminated ground water discharge from building sumps or for dewatering is prohibited under the District's MS4 permit, except where such discharges are regulated with a General NPDES permit or an individual NPDES permit. In the past, discharges from such sites were allowed into the sanitary system. However, DCWASA recently made a decision of not allowing such discharges into the sanitary system.

In recent months, DDOE discussed this issue with US EPA Region 3 staff. While there is agreement that these discharges would be best addressed by issuing a separate specific general

permit, it is recognized that it will take a long time to have such a permit in place. In the interim, US EPA suggested and DDOE agreed that such discharges can be covered under the US EPA's Multi Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity under Part 8, subpart AD. In the absence of any specific monitoring requirements in the general permit for such discharges, DDOE, under the Authority of Section 9.3.1 of the MSGP, has developed additional permit conditions and recommends that US EPA add those conditions in issuing general permit coverage for such discharges.

Recommendation: Since there could potentially be numerous sites throughout the District in the coming years, it is recommended that US EPA issue a general permit for contaminated groundwater and other similar discharges in the District.

PART III: SURFACE WATER ASSESSMENT

Current Surface Monitoring Program

Changes

WQD began monitoring the Anacostia River continuously in 1997. That is, hourly readings are taken seven days a week. The WQD began with one station, ANA13, located at the Conrail bridge just upriver from the Pennsylvania Avenue bridge. The Pennsylvania Avenue bridge is the dividing line of the upper and lower segments of the Anacostia River. The first continuous monitor device (sonde unit) was deployed to assess the feasibility of using a sonde unit to determine the dissolved oxygen (DO) cycle of the river. In 2004 another Potomac station was added as were two more stations on the Anacostia. In April of 2008 the WQD began a real time monitoring project that is available via the DDOE website. Currently there are two stations on the Anacostia River and one station on the Potomac River (Appendix 3.1). Real time readings of the river show current temperature, DO, pH, specific conductivity, turbidity, and chlorophyll. Appendix 3.2 is the percent violation tables for the continuous monitors.

As of January 2008, E.coli is the bacteriological indicator for District waters.

Plan for Achieving Comprehensive Assessments

The Water Quality Division has a monitoring strategy based on US EPA's 2003 guidance, *Elements of a State Water Monitoring and Assessment Program.* The strategy will continue the practice of comprehensive monitoring of the District of Columbia waters. The strategy describes a monitoring program that will move towards allowing water quality resource managers to know the overall quality of District waters, the extent of water quality change, trouble areas, the level of protection needed and the effectiveness of projects to correct impairments. The approved monitoring strategy includes language to continuously update the document as new areas or issues of concern arise.

Assessment Methodology and Summary Data

Assessment Methodology

WQD uses the WQS as one way of evaluating its surface waters. The percentage of time a selected standard is out of compliance at a monitoring station or group of monitoring stations over a selected span of time determines whether a waterbody supports a particular use. For the 2010 reporting cycle, physical, chemical, and bacterial data collected from January 2004 to December 2009 were used to make many of the use support decisions. Biological data collected

during 2002-2003 was also used.

Fish consumption use determinations (Class D) are based on known fish consumption advisories in effect during the assessment period, and not water quality standards. The District of Columbia developed its fish consumption advisories from fish tissue contamination data collected in recent years. The following points should be noted for the fish consumption use support determinations. Fish tissue contamination data used to issue advisories are collected at stations on the Anacostia and Potomac Rivers. If no barrier for fish movement exists, it is assumed that fish move freely to the smaller streams and other waterbodies. The criteria for the fish consumption use (Class D) support determination is presented in Table 3.1. WQS were not used to make fish consumption support decisions.

TABLE 3.1
CRITERIA FOR FISH CONSUMPTION USE SUPPORT CLASSIFICATION

Support of Designated Use	Criteria for Fish Consumption
Fully Supporting	No fish/shellfish advisories or bans are in effect.
Not Supporting	"No consumption" fish/shellfish advisory or ban in effect for general population, or a subpopulation that could be at potentially greater risk, for one or more fish species; commercial fishing/shellfishing ban in effect.
Not Assessed	"Not assessed" is used when fish consumption is not a designated use for the waterbody.
Insufficient Information	Data to determine if the designated use is fully supporting/not supporting is not available.

To help to compare District water quality and national water quality, the District of Columbia applies national criteria, where possible, in determining use support of its waterbodies. However, a modified version of the criteria established by US EPA had to be used in certain use support decisions because the District did not collect the data as specified in the national criteria. For example, in many cases the District collected monitoring data less frequently than indicated by US EPA criteria. The majority of monitoring stations are only sampled once-a-month. The District of Columbia, therefore, had to modify the criteria for determining primary and secondary contact recreation (Class A and B) as well as aquatic life use determinations using physical/chemical data to accommodate the sampling frequency. E. coli bacteria data were used to make use support decisions about pathogens. The criteria used for these uses may be found in Table 3.2.

TABLE 3.2
CRITERIA FOR USING CONVENTIONAL POLLUTANTS AND PATHOGENS WHEN MAKING USE SUPPORT DECISIONS

Support of Designated Use	Criteria for using Conventional Pollutants and Pathogens
Fully Supporting	For any pollutant, standard exceeded in ≤ 10% of measurements. Pollutants not found at levels of concern.
Not Supporting	For any one pollutant, standard exceeded in > 10% of measurements. Pollutants found at levels of concern.
Not Assessed	Not assessed
Insufficient Information	Data to determine if the designated use is fully supporting/not supporting is not available.

[1] Conventional pollutants are defined here as dissolved oxygen (DO), pH, and temperature.

The District relies on biological/habitat data and chemical/physical standards to make aquatic life use (Class C) decisions. When streams with both conventional pollutant data and biological data are evaluated both data sets are considered. In the event the data displays conflicting results the District applies the policy on independent applicability to determine use support. If any of the data sets indicate the use is not attained the waterbody is found not to meet the designated use. The District of Columbia's biological data were used in this report. Rapid bioassessment data were only used for aquatic life use support decisions (Class C waters) on the District's smaller streams. All but one of the District's small streams were re-evaluated from 2002-2003 for the Aquatic Life Use attainment category using biological assessment methodologies. These tributary assessments were based on the Maryland 2001 Biological Stream Survey (MBSS) for benthic macroinvertebrates which was used as a reference.

Aquatic life use support is based on the relationship between observed stream biological condition as compared to the reference stream condition producing a percent of reference stream biological condition. This scale rates "impaired" at 0-79%, and "non-impaired at 80-100%" of reference condition. US EPA 305(b) guidelines on criteria for aquatic life use support classification recommend designation of "not supporting" if impairment exists, and "fully supporting" if no impairment exists. Piedmont and Coastal Plain tributaries were assessed using reference condition data from Montgomery and Prince George's Counties, Maryland.

Biological Integrity Class scores were determined using scoring criteria adapted from Montgomery County. These scoring ranges were also used for Coastal Plain values. Habitat assessments were compared directly to each ecoregions' corresponding reference condition habitat evaluation.

The following tributaries in Table 3.3 were assessed for the Aquatic Life Use category using data collected during 2002-2003:

TABLE 3.3

COASTAL PLAIN AND PIEDMONT STREAMS ASSESSED

Coastal Plain		Piedmont	
TDU01	Fort Dupont Tributary[1]	TFB02	Foundry Branch[1]
TFC01	Fort Chaplin Run[1]	TLU01	Luzon Branch[1]
TFD01	Fort Davis Tributary[1]	TMH01	Melvin Hazen Valley Branch[1]
THR01	Hickey Run[c]	TPO01	Portal Branch[1]
TOR01	Oxon Run[1]	TPY01	Piney Branch[1]
TWB01	Lower Watts Branch[c]	TSO01	Soapstone Creek[1]
TWB02	Upper Watts Branch[c]	TDA01	Dalecarlia Tributary[2]
TTX27	Texas Avenue Tributary[1]	TFE01	Fenwick Branch[2]
TFS01	Fort Stanton Tributary[2]	TNS01	Normanstone Creek[2]
TNA01	Nash Run[2]	TDO01	Dumbarton Oaks Tributary[2]
TPB01	Popes Branch[2]	TPI01	Pinehurst Branch[2]
		TKV01	Klingle Valley Creek[2]
		TBR01	Broad Branch[2]
		RCRH01	Lower Rock Creek[c]
		RCRH05	Upper Rock Creek[c]
		TBK01	Battery Kemble Creek[1]

1 - First round streams (monitored on the even number year)
2 - Second round streams (monitored on the odd number year)
c - Core streams (monitored every year)

In 2008-2009 habitat assessments were performed on all core and second round streams. The findings from the habitat assessment are included in the individual assessments (Appendix 3.3).

The District also determines overall use support for waterbodies with multiple uses according to US EPA guidance (Table 3.4). A waterbody fully supports its designated uses when **all** its uses are fully supported. When one or more uses are **not** supporting, then the waterbody is not supporting.

TABLE 3.4
CRITERIA FOR OVERALL USE SUPPORT CLASSIFICATION

Overall Designated Use for Multiple-Use Waterbodies	Criteria for Overall Use Support
Fully supporting	All uses are fully supported.
Not supporting	One or more uses are not supported.

Overall Designated Use for Multiple-Use Waterbodies	Criteria for Overall Use Support
Not Assessed	Not assessed
Insufficient Information	Data to determine if the designated use is fully supporting/not supporting is not available.

Appendix 3.4 includes the tables of percent violations and statistical summary reports for the waterbodies assessed for this reporting cycle.

Maps

Appendices 3.5 through 3.9 display use support data in map form for the surface waters of the District of Columbia. The maps were generated by DDOE's GIS using ArcGIS software. These maps should help the reader interpret the water quality information given in this report on a geographic basis. Appendix 3.5 shows the degree of support for primary contact recreation. There was insufficient information to determine primary contact use. Appendix 3.6 depicts the degree of support for secondary contact recreation and aesthetic enjoyment. Secondary contact recreation and aesthetic enjoyment was not assessed; there is no criteria for secondary contact in the 2005 WQS that are currently approved. Appendix 3.7 shows the degree of support for the protection and propagation of fish, shellfish, and wildlife. In addition, Appendix 3.8 presents the degree of support for the consumption of fish, and finally, Appendix 3.9 presents the degree of support for navigation.

Section 303(d) Waters

Background

Section 303(d) of the Federal Clean Water Act and regulations developed by US EPA require states to prepare a list of waterbodies or waterbody segments that do not meet water quality standards even after all the pollution controls required by law are in place. Waterbodies may be divided into segments. Waterbodies or waterbody segments not meeting the appropriate water quality standards are considered to be impaired. The law requires that states place the impaired waterbody segments on a list referred to as the 303(d) list and develop Total Maximum Daily Loads (TMDLs) for the waterbodies on the list. The Potomac and Anacostia Rivers, Rock Creek and Watts Branch are divided into segments for the assessment purposes of this list.

In October 2008, US EPA distributed additional information for the assessment, listing, and reporting requirements for Section 303(d) and 305(b) of the Clean Water Act for the 2010 reporting cycle. The product of the US EPA guidance is called the Integrated Report. The current guidance requires the categorization of all state waters into 5 assessment categories. Category 1 should include waters with the status that all designated uses are being met.

Category 2 should include waters that meet some of their designated uses, but there is insufficient data to determine if remaining designated uses are met. Category 3 should include waters for which insufficient data exists to determine whether any designated uses are met. Category 4 should include waters that are impaired or threatened but a TMDL is not needed. Category 5 should include waters that are impaired or threatened and a TMDL is needed. Categories can be subcategorized.

US EPA regulations require that the 2010 Integrated Report (305(b)/303(d) list) and methodology used to categorize the waters be submitted to US EPA by April 1, 2010. The public must also be given the opportunity to comment on a draft list.

Basis for Consideration of Data

Various data sources were considered for use in the preparation of the draft 2010 303(d) List. As the 303d list is a tool of the regulatory TMDL process, the District wants to ensure that the 303(d) list produced and eventually approved is based on data that utilized unbiased, scientifically sound data collection and analytical methods. The Water Quality Monitoring Regulations (Title 21, Chapter 19 - District of Columbia Municipal Regulations) were developed to provide for accurate, consistent, and reproducible water quality monitoring data for decision making purposes. Data used must have been collected in the actual waterbody that is being assessed. Data that did not satisfy the above mentioned monitoring regulations is not reviewed for the development of the 2010 303d list.

Like the 2008 303(d) list, the draft 2010 list enumerates specific pollutants of concern in various waterbodies or waterbody segments. The draft 2010 303(d) List is based on the following data:

- 2008 303(d) list
- DC Ambient Water Quality Monitoring data for 2004-2009 used to make use support determinations for the 2010 305(b) report
- DC Municipal Separate Storm Sewer System 2007-2009 Monitoring Data
- Draft Tributary Assessment Report, 2004 (Biological Data collected between 2002-2003) being used to make aquatic life use support determinations for the 2010 305(b) report
- DC Fish Tissue Contamination Report, 2009

A request for data was sent to organizations that may have data for the waters of the District of Columbia. Data received will be reviewed and considered during preparation of the final 303(d) list.

Data Interpretation for Listing

If a designated use is not supported, then a waterbody or waterbody segment is listed for the pollutant associated with the applicable criteria. In order for a waterbody to be listed the data evaluated for water quality standard attainment must have been collected from that specific waterbody. Only relevant data should be used to make the attainment determination. This

stipulation is necessary as development of a TMDL is a major time and monetary investment for the parties involved. WQD must ensure that the funds expended for TMDL purposes are used in an efficient manner and will result in maximum water quality benefits. For example, the Anacostia River cannot be listed for copper if there is no copper data available from water samples collected in a segment of the Anacostia River to indicate that impairment. MS4 data from an outfall to a tributary of the Anacostia River cannot be used to list a segment of the Anacostia River.

Use Support Determination

-Ambient Monitoring Data and Draft Tributary Assessment Data
WQD uses the WQS to evaluate its surface waters. The designated uses for the surface waters of the District of Columbia are:

- primary contact recreation (swimmable),
- secondary contact recreation and aesthetic enjoyment (wadeable),
- protection and propagation of fish, shellfish, and wildlife (aquatic life) ,
- protection of human health related to consumption of fish and shellfish (fish consumption), and
- navigation.

For the draft 2010 303(d) list determination, physical, chemical, and bacterial data collected from January 2004 to December 2008 are being used to make the use support decisions for primary contact, secondary contact, and aquatic life support uses for the rivers. A waterbody or waterbody segment is included on the draft 303(d) list if its designated use was not supported, i.e.- greater than 10% exceedance of the measurements taken with the data period of study. It is listed on Category 5 of the list if it is a new instance of non-support of a parameter.

Biological/habitat data collected during 2002-2003, habitat data collected during 2008-2009, in addition to physical/chemical data is used to determine aquatic life use support for the small District streams. Biological/ habitat data for small streams was evaluated using the US EPA stressor identification guidance. If a stream's aquatic life use is not supported based on the biological information found in the DC Tributary Assessment Report (draft internal document) it is listed under Category 4C of the list, if a TMDL has not been completed.

- The District has adopted water quality standards for dissolved oxygen, water clarity and chlorophyll a in accordance with the Chesapeake Bay Water Quality Criteria Guidance Document published in 2003 (US EPA, 2003). DDOE WQD worked with the Chesapeake Bay Program to assess the tidal waters in the District using the 2003 guidance document and all the addendums published through 2009. For the 2010 listing, the tidal waters were assessed for the 30-day DO attainment. For DO determination, as a signatory to the Chesapeake Bay Agreement, DDOE has agreed to interpret DO data in this fashion for 303d list purposes.

In this listing cycle, an assessment of the 2002 listing for Bis(2-ethylhexyl)phthalate, 4,4'-DDE and Dioxin for Nash Run, and for Bis(2-ethylhexyl)phthalate and Chlorine (Total Residual) for Hickey Run were conducted. WQD determined that these 2002 listings were based on MS4 outfall monitoring data that are not representative of in-stream water quality conditions. However, in order to verify in-stream water quality conditions the WQD conducted special monitoring in these two tributaries in the District. One dry-weather and one wet-weather samples were collected from each of these tributaries. The results obtained show the chemicals are either non-detects or below the respective surface water quality standards (Velinsky, 2008). Moreover, a TMDL has already been established for DDE for Nash run. Therefore, the listing for Bis(2-ethylhexyl)phthalate, 4,4'-DDE and Dioxin were removed for Nash Run and for Bis(2-ethylhexyl)phthalate for Hickey Run. WQD will conduct additional monitoring to verify the listing for Chlorine (Total Residual) for Hickey Run in the future.

Fish Tissue Contamination Data

Fish consumption use determinations (Class D) are based on known fish consumption advisories in effect during the assessment period. Water Quality Standards (WQS) were not used to make fish consumption support decisions. Fish tissue contamination data used to issue advisories are collected at stations located on the Anacostia and Potomac Rivers. If no barrier for fish movement exists, it is assumed that fish move freely to the smaller streams and other waterbodies. A fish consumption advisory remains in place in the District of Columbia. In addition, the US EPA guidance on using fish advisories for Integrated Report categorization indicates that fish and shellfish consumption advisories demonstrate non-attainment when the advisory is based on fish and shellfish tissue data.

Municipal Separate Storm Sewer (MS4) Data

The MS4 data used is the result of wet and dry weather samples collected from the stations monitored during the MS4 monitoring cycle. Only parameters for which numeric criteria was listed in the WQS were evaluated. The most strict criteria listed was used for comparison with the data results.

Category Placement Methodology

The pollutant causing an impairment in a waterbody or waterbody segment must be identified. With multiple uses associated with each waterbody it is possible for a single waterbody to need more than one TMDL. The guidance allows for a waterbody segment to be listed in one or more categories. Keep in mind that the main goal of this list is to have TMDLs approved and implemented so that water quality standards can be attained. Following is a general description of the categories.

Category 1- Waterbody or segment of a waterbody attained all its designated uses and no use is threatened.

Category 2- Waterbody or segment of a waterbody attained some but not all of their designated uses.

Category 3- Insufficient data or information to determine designated use attainment in a waterbody or segment of a waterbody.

Category 4- Waterbody or segment of a waterbody with at least one designated use impaired but a TMDL is not needed. This category is subcategorized below.

Subcategory 4A- Waterbody or segment of a waterbody for which TMDLs for pollutants causing impairments have been approved or established by US EPA may be placed in this category.

Subcategory 4B- Waterbody or segment of a waterbody for which other pollution controls are expected to result in water quality standard attainment in a reasonable period of time.

Subcategory 4C- Waterbody or segment of a waterbody for which TMDLs are not required. Impairment is not caused by a pollutant.

Category 5- Waterbody or segment of a waterbody with at least one designated use not attained or threatened and a TMDL is needed. A waterbody or segment of a waterbody may be placed in this category even if TMDLs have been approved for some of the pollutants/pollution identified as causing non-attainment. All necessary TMDLs for a waterbody or segment of a waterbody must be approved or established by US EPA in order to placed in category 4A.

Priority Ranking

Waterbodies that are first placed in 2010 on the draft list for toxics substances such as metals, pesticides, carcinogens or noncarcinogens, etc. are ranked as high priority for TMDL development on the basis of their risk to human health. Experience with the TMDL development process- data gathering, model development, public participation- the District of Columbia does not foresee the development of TMDL for waterbodies ranked as high priority (on the 2010 list) before the next five years or 2016. Keep in mind that impaired waters listed on the 2010 Section 303 (d) list are scheduled for development until March 2016 and there other segments that must be prepared in the interim.

If a waterbody is first listed in 2010 for E. coli due to primary contact use violations with 50% or more exceedances, that waterbody is ranked as Medium priority waterbodies. (The term “50% or more exceedances” refers to the percentage of time within the 5-year period of study that monitoring data for a waterbody exceeded the water quality standard. For example, if the primary contact use was being evaluated and there are 60 E. coli readings for the Anacostia River during the 5- year study period and 33 of those readings were greater than 410 MPN/100mL then 55% of the time during that study period the primary contact use was exceeded and that waterbody would be ranked as a medium priority waterbody.) Bacterial

impairment also poses some human health risk, though the effects seen are usually not as severe as toxic substances' effects. The primary contact use exceedances (a current use) will take higher priority than the secondary contact recreation use exceedances as it is also more a efficient use of resource to address the existing uses before the designated uses (such as secondary contact recreation). Waterbodies listed for trash will be ranked as High priority. Waterbodies listed for pH are also ranked as Medium priority as it is a aquatic life use criterion. The medium priority waterbodies (first listed in 2010) will be scheduled for TMDL preparation in 2016.

If a waterbody is first listed in 2010 for E. coli for primary contact use violations with less than 50% exceedances are ranked as low priority. Waterbodies listed for any other pollutant not previously mentioned will also be ranked low priority. Low priority waterbodies will be scheduled for TMDL preparation in 2016.

The TMDL establishment date for some of the waterbodies listed in category 5 has been adjusted to account for changing priorities related to TMDLs development in the region. Resources are now being partially shifted to address completion of the high priority trash TMDLs and the District of Columbia possible allocations in the Chesapeake Bay TMDL.

Georeferencing

The geographic location codes included in the draft 2010 303(d) List were taken from the National Hydrography Dataset. The District of Columbia has two codes. 02070010 - the Potomac Watershed and 02070008- the Middle Potomac-Catoctin Watershed. Only one District waterbody, Dalecarlia Tributary, is in the Middle Potomac-Catoctin Watershed. All the remaining waterbodies are in the Potomac Watershed. The US EPA Assessment DatabaseVersion 2.3 for Access is being used to compile the data for the Integrated Report.

Public Participation

The draft 2010 Section 303(d) list will be available for a 30-day public comment period. The comment period commenced on April 1, 2010 and ends on April 30, 2010. A copy of the draft 303(d) list was available at the Martin Luther King, Jr. Public Library's Washingtonian Room starting on April 1, 2010. The notice was also be published in the D.C. Register. The formal required responses to the comments received by the submission deadline will be prepared and sent to US EPA Region 3 when completed.

Categorization of District of Columbia waters

See Appendix 3.10 for Categorization List.

Rivers and Streams Water Quality Assessment

Designated Use Support

Twenty-four (24) rivers and streams were assessed for this update. Each of those waterbodies were impaired for one or more uses (Table 3.5). Appendix 3.3 contains individual assessments for each of the waterbodies.

TABLE 3.5
SUMMARY OF FULLY SUPPORTING, THREATENED, AND IMPAIRED RIVERS AND STREAMS

	Assessment	Category	Total
Degree of Use Support	Evaluated	Monitored	Assessed Size (miles)
Size Fully Supporting All *Assessed* Uses	0.00	0.00	0.00
Size Fully Supporting All *Assessed* Uses but Threatened for at Least One Use	0.00	0.00	0.00
Size Impaired for One or More Uses	0.00	38.40	38.40
TOTAL ASSESSED	0.00	38.40	38.40

Based on Table 3.6 no District stream supported its aquatic life use. The fish consumption use was not supported in any of the streams assessed due to the fish advisory in effect for District waterbodies. In 2005 the parameter to determine primary contact use was changed from fecal colifom to E. coli. Due to the change there is insufficient data to determine use support for primary contact (swimming). The secondary contact use for streams in the District of Columbia was not assessed, there is no criteria in the 2005 WQS to determine use support. The navigation use was fully supported in the streams and rivers.

TABLE 3.6

INDIVIDUAL USE SUPPORT SUMMARY FOR RIVERS AND STREAMS

Type of Waterbody: Rivers and Streams (miles)

Goals	Designated Use	Total in State	Total Assessed	Supporting – Attaining WQS	Not Supporting – Not Attaining WQS	Insufficient Data & Information	Size Not Assessed
Protect & Enhance Ecosystems	Aquatic Life	38.4	34.1	0	34.1	4.3	0
Protect & Enhance Public Health	Fish Consumption Shellfishing	38.4	38.4	0	38.4	0	0
	Swimming	38.4	0	0	0	33.5	4.9
	Secondary Contact	38.4	0	0	0	0	38.4
	Drinking Water	-	-	-	-	-	-
Social & Economic	Agricultural	-	-	-	-	-	-
	Cultural or Ceremonial	-	-	-	-	-	-
	Navigation	38.4	9.5	9.5	0	0	28.9

- = not applicable

Relative Assessment of Causes/Stressors

The causes of impairment to streams and rivers are varied. For example, Piney Branch and Ft. Dupont have occasional problems with low DO. Many of the streams have poor biological integrity. Table 3.7 lists the causes of impairment to District streams and rivers.

TABLE 3.7
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS CAUSE CATEGORIES FOR RIVERS AND STREAMS

Type of Waterbody: Rivers and Streams (miles)

Cause Category	Total Size of Water Impaired
BIOLOGIC INTEGRITY (BIOASSESSMENTS)	**32.4**
	4.5
Benthic-Macroinvertebrate Bioassessments (Streams)	32.4
Combination Benthic/Fishes Bioassessments (Streams)	13
Combined Biota/Habitat Bioassessments (Streams)	4.5
Fishes Bioassessments (Streams)	1
Habitat Assessment (Streams)	
FLOW ALTERATIONS	**17.9**
Other Flow regime alterations	17.9
HABITAT ALTERATIONS (INCLUDING WETLANDS)	**10.6**
Alteration in stream-side or littoral vegetative covers	5.1
Alterations in wetland habitats	6.2
Physical substrate habitat alterations	0.7
SEDIMENTATION	**28**
Particle distribution (Embeddedness)	28
Total Suspended Solids (TSS)	3.7
OIL AND GREASE	**1.7**
OTHER	**14.8**
	14.8
Debris/Floatables/Trash	

Relative Assessment of Sources

A source of impairment that is common to District rivers and streams is urban runoff from impervioiusness. Battery Kemble and Portal Branch are highly impacted by runoff. Habitat modification still has an impact on many of the streams as riparian vegetation is removed and stream banks are destabilized due to heavy runoff. Combined sewer overflow continues to affect Klingle Valley Creek, Rock Creek and Piney Branch. Table 3.8 lists the sources of impairment.

TABLE 3.8
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS SOURCE CATEGORIES FOR RIVERS AND STREAMS

Type of Waterbody: Rivers and Streams (miles)

Source Category	Total Size of Water Impaired
Site Clearance (Land Development or Redevelopment)	5.3
Landfills	0.6
Channelization	5.6
Impacts from Hydrostructure Flow Regulations/modification	12.2
Loss of Riparian Habitat	1.2
Hydrostructure Impacts on Fish Passage	15.4
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO, or CSO)	17
Illegal Dumping	9.9
Illegal Dumps or Other Inappropriate Waste Disposal	11.4
Cercla NPL (Superfund) Sites	1.6
Combined Sewer Overflows	9.5
Discharges from Municipal Separate Storm Sewer Systems (MS4)	23.5
Municipal (Urbanized High Density Area)	5.8
Post-development Erosion and Sedimentation	8.5
Residential Districts	30.9
Wet Weather Discharge (Nonpoint Source)	17
Above Ground Storage Tank Leaks	0.9
Source Unknown	15.1

Lakes Water Quality Assessment

Three waterbodies were monitored for designated use support. The waterbodies classified as lakes are Kingman Lake, C&O Canal, and the Tidal Basin. All of these waterbodies were impaired for one or more of their designated uses. Table 3.9 is a summary of the degree of support by lakes in the District of Columbia. Individual water quality assessments may be found in Appendix 3.3.

TABLE 3.9
SUMMARY OF FULLY SUPPORTING, THREATENED, AND IMPAIRED LAKES

	Assessment	Category	Total
Degree of Use Support	Evaluated	Monitored	Assessed Size (miles)
Size Fully Supporting All *Assessed* Uses	0.00	0.00	0.00
Size Fully Supporting All *Assessed* Uses but Threatened for at Least One Use	0.00	0.00	0.00
Size Impaired for One or More Uses	0.00	238.40	238.40
TOTAL ASSESSED	0.00	238.40	238.40

Designated Use Support

Lakes in the District of Columbia supported the goals of the CWA to various degrees. Based on physical/ chemical data, the aquatic life use was fully supported in the C&O Canal and Kingman Lake. It was not supported in the Tidal Basin. Due to the fish consumption advisory currently in effect in the District of Columbia, the fish consumption use was not supported in any of the waterbodies. In 2005 the parameter to determine primary contact use was changed from fecal colifom to E. coli. Due to the change there is insufficient data to determine use support for primary contact (swimming). The secondary contact use for streams in the District of Columbia was not assessed, there is no criteria in the 2005 WQS to determine use support. Table 3.10 is the use support summary for District lakes.

TABLE 3.10
INDIVIDUAL USE SUPPORT SUMMARY FOR LAKES

Type of Waterbody: Lakes (acres)

Goals	Designated Use	Total in State	Total Assessed	Supporting – Attaining WQS	Not Supporting – Not Attaining WQS	Insufficient Data & Information	Size Not Assessed
Protect & Enhance Ecosystems	Aquatic Life	238.4	238.4	0	238.4	0	0

Goals	Designated Use	Total in State	Total Assessed	Supporting – Attaining WQS	Not Supporting – Not Attaining WQS	Insufficient Data & Information	Size Not Assessed
Protect & Enhance Public Health	Fish Consumption Shellfishing	238.4	238.4	0	238.4	0	0
	Swimming	238.4	0	0	0	238.4	0
	Secondary Contact	238.4	0	0	0	0	238.4
	Drinking Water	-	-	-	-	-	-
Social & Economic	Agricultural	-	-	-	-	-	-
	Cultural or Ceremonial	-	-	-	-	-	-
	Navigation	238.4	238.4	238.4	0	0	0

- = not applicable

Relative Assessment of Causes

All the lakes are highly impacted by DO and pH levels. Table 3.11 lists the causes of impairment to District lakes.

TABLE 3.11
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS CAUSE CATEGORIES FOR LAKES
Type of Waterbody: Lakes (acres)

Cause Category	Total Size of Water Impaired
OXYGEN DEPLETION	**102.7**
BOD, Biochemical Oxygen Demand Oxygen, Dissolved	102.7
pH/ACIDITY/CAUSTIC CONDITIONS	**135.7**
pH	135.7

Estuary and Coastal Assessment

The Anacostia River, the Potomac River, and the Washington Ship Channel are classified as estuaries due to their tidal influences. The Potomac River and the Anacostia River are divided into segments for assessment purposes. Individual water quality assessments for the waterbodies can be found in Appendix 3.3.

Designated Use Support

All of the estuary waterbodies were impaired for one or more of their designated uses. The total square miles monitored and assessed are shown in Table 3.12.

TABLE 3.12
SUMMARY OF FULLY SUPPORTING, THREATENED, AND IMPAIRED ESTUARIES

	Assessment	Category	Total
Degree of Use Support	Evaluated	Monitored	Assessed Size (miles)
Size Fully Supporting All *Assessed* Uses	0.00	0.00	0.00
Size Fully Supporting All *Assessed* Uses but Threatened for at Least One Use	0.00	0.00	0.00
Size Impaired for One or More Uses	0.00	5.93	5.93
TOTAL ASSESSED	0.00	5.93	5.93

The aquatic life use was fully supported along 4.15 square miles of estuary, and not supported along 1.78 square miles of estuary. The fish consumption use was not supported due to the fish consumption advisory in effect for District waters. There was insufficient data to determine use support for primary contact (swimming) The secondary contact use for streams in the District of Columbia was not assessed, due to changes in the 2005 WQS. The navigation use was fully supported in estuaries as no hazard to users by submerged or partially submerged artificial objects were known to exist in the waterbodies during this study period.

TABLE 3.13
INDIVIDUAL USE SUPPORT SUMMARY FOR ESTUARIES FOR ESTUARIES

Type of Waterbody: Estuaries (square miles)

Goals	Designated Use	Total in State	Total Assessed	Supporting – Attaining WQS	Not Supporting – Not Attaining WQS	Insufficient Data & Information	Size Not Assessed
Protect & Enhance Ecosystems	Aquatic Life	5.93	5.93	4.15	1.78	0	0
Protect & Enhance Public Health	Fish Consumption Shellfishing	5.93	5.93	0	5.93	0	0
	Swimming	5.93	0	0	0	5.93	0
	Secondary Contact	5.93	0	0	0.8	0	5.13
	Drinking Water	-	-	-	-	-	-
Social	Agricultural	-	-	-	-	-	-

Goals	Designated Use	Total in State	Total Assessed	Supporting – Attaining WQS	Not Supporting – Not Attaining WQS	Insufficient Data & Information	Size Not Assessed
&	Cultural or Ceremonial	-	-	-	-	-	-
Economic	Navigation	5.93	5.93	5.93	0	0	0

- = not applicable

Relative Assessment of Causes

All the estuaries have low DO or pH impairments. It is most pronounced in the Anacostia River. The low DO impairment is moderate in the Potomac River and the Washington Ship Channel. Table 3.14 lists the causes of impairment to estuaries in the District.

TABLE 3.14
TOTAL SIZES OF WATER IMPAIRED BY VARIOUS CAUSE CATEGORIES FOR ESTUARIES
Type of Waterbody: Estuaries (square miles)

Cause Category	Total Size of Water Impaired
OXYGEN DEPLETION	**0.3**
BOD, Biochemical Oxygen Demand	0.3
Oxygen, Dissolved	0.3
OTHER	**0.8**
Debris/Floatables/Trash	0.8
Group 1	**0.8**
Debris/Floatables/Trash	0.8

Special Topics

Total Maximum Daily Load (TMDL) Program

Background

The Federal Clean Water Act (CWA) §303(d)(1)(A) states:

> Each state shall identify those waters within its boundaries for which the effluent limitations required by §301(b)(1)(A) and §301(b)(1)(B) are not stringent enough to implement any water quality standards applicable to such waters. The State shall establish a priority ranking for such waters,

> taking into account the severity of the pollution and the uses to be made of such waters.

Further §303(d)(1)(C) states:

> Each state shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies under §304(a)(2) as suitable for such calculations. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality.

In 1998, the District of Columbia developed a list of waters that did not or were not expected to meet water quality standards as required by §303(d)(1)(A). The §303(d) list is reviewed and revised as needed every two years. As stated in the Clean Water Act (CWA), Total Maximum Daily Loads (TMDLs) shall be developed for those water bodies not attaining water quality standards after application of technology-based and other required controls. A TMDL sets the quantity of a pollutant that may be introduced into a waterbody without exceeding the applicable water quality standard. A TMDL is typically defined as the sum of the wasteload allocations (WLAs) assigned to point sources, the load allocations (LAs) assigned to nonpoint sources, and a margin of safety (MOS). The TMDL is commonly expressed as:

$$TMDL = WLAs + LAs + MOS$$

TMDL Development

Since 1998, the Water Quality Division has developed 357 TMDLs for the District's waters, with all of them approved by the US EPA. WQD has undertaken development of the TMDLs through required monitoring and modeling studies for the Anacostia and Potomac Rivers and their tributaries including Rock Creek. The §303(d) list in this report summarizes the TMDLs that are already completed or planned to be developed in the coming years.

At a basic level, however, the development of TMDLs is an evolving process that also envisions revisions to be made to a TMDL from time to time whenever new information/data becomes available. Many of the existing District's TMDLs were established based on limited data and narrow modeling options available at the time. Most of these TMDLs need to be revised by taking into account new available data and improved understanding of the natural environmental processes. Revising these TMDL would provide an opportunity to develop a more sophisticated water quality model with enhanced prediction capabilities, and consequent upon that, an improved implementation plan for better protection of the environment.

Current TMDL Development Related Activities in the District

Anacostia Trash TMDL

In 2006, both the District and the state of Maryland listed the Anacostia River as impaired for trash in their respective §303(d) lists. As it makes sense to develop TMDLs on a watershed basis, the District and MD decided to work together to develop a joint watershed-wide trash TMDL with assistance from US EPA. Since 2007, the jurisdictions had been working together to develop consistent methodologies for establishing the TMDL. DDOE and Maryland Department of the Environment (MDE) conducted extensive monitoring to determine trash generation rates in the District and Maryland from various sources and land uses. A draft TMDL report has been prepared and is currently going through the pre-approval process. As part of the approval process, DDOE expects to have the draft TMDL ready for public comments by March 2010.

In tandem with this, DDOE has begun working on the development of a trash TMDL implementation plan. When completed, the implementation plan will be consistent with the Anacostia Trash Reduction Strategy developed by the Anacostia Watershed Restoration Partnership (AWRP). It is expected that the draft implementation plan will be ready within six months after the trash TMDL is approved by EPA.

Chesapeake Bay-wide TMDLs

Pursuant to §303(d) of the Clean Water Act (CWA), the US EPA is in the process of establishing Chesapeake Bay-wide TMDLs for nutrients and sediment for all impaired segments in the tidal portion of the Chesapeake Bay watershed and also for pH for the tidal Potomac. DC has worked actively with US EPA and the other Bay partner jurisdictions (MD, VA, PA, WV, NY and DE) towards the development of these Chesapeake Bay-wide TMDLs. The Bay Program has provided preliminary draft TMDL target allocations for nutrients for all jurisdictions to start the development of implementation plans. DDOE WQD is currently working on the development of an implementation plan for the District that will include allocation for various sources such as Blue Plains Wastewater Treatment Plant and the MS4 permit. The draft plan is due to US EPA by the end of May, 2010. The TMDL is scheduled to be completed in December 2010.

DDOE will develop implementation plans once the final load allocations have been completed and approved.

TMDL Implementation

Once the TMDLs are established, existing loads in excess of allocated pollutant loads determined in the TMDL calculations need to be removed. Various ongoing/planned pollution reduction activities mentioned in this report are geared toward removing the excess pollutant loads so as to achieve the TMDL goals for the District's waterbodies. Both regulatory and non-regulatory programmatic measures are needed to do this.

As described elsewhere in this report, a number of other programs/projects (e.g., low impact developments, wetlands and habitat restoration, stormwater BMPs, etc.) are currently in place and being planned to reduce water pollution from nonpoint areas and federally owned lands in the District. Additional control measures will be added to these existing BMPs for purpose of enhancing trash reduction in the Anacostia watershed. However, it is important to note that the District cannot achieve and maintain the required water quality goals without significant reductions in upstream (or boundary) loads in rivers and tributaries shared with other jurisdictions.

Northern snakeheads

Invasive fish species are an ongoing and ever increasing issue that the District is forced to address. Invasive fish can potentially impact native and introduced fish species that currently reside in the District's waters, mainly through predation of the fish themselves or their prey; but also by out competing for prime habitat. The northern snakehead (C*hanna argus*) is a perfect example of an invasive species that is capable of drastically altering the fish populations in District waters.

The northern snakehead was first observed in District waters in 2006 in a pond on the grounds of the Kenilworth Aquatic Gardens (KAG), National Park Service parkland. The KAG is located adjacent to a tidal marsh on the banks of the Anacostia River. It is unclear if the fish were put in the pond by an individual or if they swam into the pond from the Anacostia River during a flood event. Two adult snakeheads were seen guarding a school of fry, so the decision was made to drain the pond. In total, 8 adult snakeheads and 506 fry were removed from the pond and the pond was allowed to sit dry for several days before refilling, in an attempt to prevent any snakeheads possibly remaining in the pond, from surviving.

In 2007, snakeheads again were observed at KAG but instead of only being in one pond they were seen in several different ponds. Draining and chemical treatments were no longer an option because of potential damage to sensitive aquatic plants. Electrofishing was conducted by boat in the Anacostia River adjacent to the KAG and adult snakeheads were collected. In total, 13 snakeheads were caught and removed from the Anacostia River.

Experience gained in 2007, allowed the FWD's Fisheries Research Branch to more effectively locate the snakeheads in 2008. The adult snakeheads were moving close to shore in shallow water (less than 18 inches) near cover (mainly woody cover but also trash or debris in the water) beginning in late May and into June for spawning. During low tide levels there is limited cover remaining in the water, allowing us to more easily pinpoint possible locations where snakeheads may be located.

As expected, the snakeheads did not stay confined to the upper reaches of the Anacostia River. Following a high flow storm event the snakeheads began expanding their range. Snakeheads were caught at the northwestern extent of the District's jurisdiction in the Potomac River and in the Rock Creek, a tributary of the Potomac River. These habitats are vastly different from

anything previously observed. The snakeheads in the Potomac River were positioned next to large rocks in deep water (15-25 feet) that is extremely clear and swift moving. This is drastically different from the slack shallow muddy water of the Anacostia. The snakehead in the Rock Creek was caught in a shallow pool near the base of Pierce Mill Dam. In total, 38 adult snakeheads were removed from District waters in 2008. Of the 38 snakeheads caught 32 came out of the Anacostia River, 5 out of the Potomac River, and 1 from Rock Creek.

In 2009, the District participated in a multi-jurisdictional snakehead tagging study with other local agencies (Maryland Department of Natural Resources, Virginia Department of Game and Inland Fish (VDGIF), Virginia Polytechnic Institute and State University, and the United States Fish and Wildlife Service). The study is designed to give fisheries managers a better understanding of northern snakehead growth, movement patterns, habitat preferences, and hopefully a rough estimate of the size of the northern snakehead population in the Potomac River and its tributaries.

Snakeheads are captured, generally by electrofishing, and fitted with a T-bar style Floy tag with a unique identification number and a phone number for the USFWS. In addition to the tag each fish captured has the length, weight, and capture location recorded. Anglers that catch a tagged fish are asked to immediately kill the snakehead and report the location they caught the fish along with its tag number, length, and weight to USFWS.

Snakehead tagging in the District in 2009 proved to be extremely successful. The District managed to tag 94 northern snakeheads in all; 70 of which were tagged during the month of May. As we have seen in past years the snakehead population is steadily increasing. Nearly all of the snakeheads captured came from two locations: the Upper Anacostia River (East Capital Street Bridge to the Bladensburg Waterfront in Prince Georges County Maryland) and the Chain Bridge area (the District boundary on the Potomac River and down stream about a mile). The Anacostia River yielded 40 snakeheads with an average length of 23.7 inches and weighing 6 pounds. The Chain Bridge area produced 51 snakeheads with an average length of 25.8 inches and weighing 6 pounds. Of the Districts tagged fish, 12 were recaptured by our biologists, other agencies, or anglers.

The tagged snakeheads provided interesting and valuable data. The two snakeheads recaptured in the Anacostia River did not move from where they were released, even though they were at large for 27 and 56 days. The snakeheads recaptured near Chain Bridge on the Potomac River showed a very different trend. One snakehead originally tagged on May 18 was recaptured by an angler on July 7 (50 days later) 18 miles south near Mt. Vernon, Virginia. Two snakeheads tagged on May 21 were recaptured by anglers on June 8 (18 days later) and July 22 (62 days later). The first fish did not move from Chain Bridge in that 18 days, while the other fish was caught by an angler 26 miles south in Chicamuxen Creek. The one VDGIF snakehead that was recaptured in District waters was initially tagged on April 14 in Dogue Creek (Virginia) about 18 miles south of where the angler caught the fish at Chain Bridge on May 16 (32 days at large).

Snakeheads were observed traveling rather far distances during the spring. It appears snakeheads from farther south on the Potomac River are moving upstream in the spring during periods of high flow, sticking around for several weeks to a month or so, and then traveling south again to there preferred home range. More tagged fish and subsequent recaptures will hopefully strengthen this theory. It is still unclear exactly what type of impact the snakeheads will have on the other fish species in the District but they are clearly here to stay. Continuing the tagging study along with other future studies like radio telemetry and stomach analysis will provide valuable information into how these Northern snakeheads will impact the Potomac River Basin fishery in the future.

Fish Passage

The fish passage barrier in Rock Creek was removed in 2007. The barrier removal was implemented to restore upstream fish migration for anadromous species and to allow existing resident fish to benefit from improved access to additional forage and habitat.

Since the removal of sewer lines and fords in Rock Creek, trap and transport has become very difficult. As an alternative to trap and transport, hatchery raised larvae are released in the upper reaches of Rock Creek to improve alosid stocks. Blueback herring have not been seen in the upper reaches of Rock Creek since 2001 and continue to be absent. Bluebacks are collected in boat electrofishing samplings as adults at the mouth of Rock Creek in the spring and seen as juvenile in the late summer and early fall, but for reasons unknown adults do not appear to make the typical migration run upstream.

Alosids (Blueback herring and Hickory Shad) caught on the Potomac River are strip spawned and brought back to the hatchery located in Anacostia Park. From there eggs are incubated and hatched this process takes anywhere from 5 to 7 days. After all eggs have hatched larvae are collected and stocked.

Over the last two years the District of Columbia's Fisheries Management Branch has stocked over 600,000 hickory shad larvae. The number of blueback herring stocked over the same period of time is not quite as impressive with roughly only 50,000 larvae. All releases occurred at Picnic Area 8. With dwindling numbers up and down the east coast, it has been difficult to find brood stock on the Potomac and Anacostia Rivers. The Fisheries Management Branch will to continue aiding alosids in Rock Creek by stocking fry to allow herring to effectively return to their historical spawning grounds.

Currently, there are three sampling methods that are done on a monthly or seasonal period. They include (1) backpack electrofishing which is done on a monthly basis, (2) ichthyoplankton survey which is done in the spring to coincide with spawning and (3) stocking of alosids. The efforts will allow the Fisheries Management Branch to determine improvements to fish dynamics as a result of stream habitat enhancements.

At this time, there are six sites that are sampled for backpack electrofishing. Two of the sites are located below Pierce Mill Dam and four are above the dam. Species diversity is greatest at the two downstream sampling sites with an average of thirty five species represented. Five species of gamefish were found some were anadromous, but most were resident fish. The species include striped bass, largemouth bass, smallmouth bass, channel catfish and alewife. Two non-game anadromous species were also collected, white perch and sea lamprey.

The four sampling sites located above Pierce Mill Dam yielded on average twenty species. No anadromous fish were collected at sites above the dam, but two species of gamefish largemouth bass and smallmouth bass are still being collected at a sampling site located just above the dam. This is a promising sign of things to come with the changes that have occurred in the creek. Collected data shows future promises that more resident and anadromous fish will be seen in the upper reaches of the creek. The majority of fish collected above the dam were non-game species. The greater number of these species are members of the families Cyprinidae, Castostomidae, Ictaluridae and Percidae.

Over the last several springs, the Washington metropolitan area has received heavy amounts of rain which has caused Rock Creek to flood its banks, allowing a non-native species to inhabit the creek. The northern snakehead *Channa argus* has been observed and collected on several occasions in the creek, all instances occurred at Peirce Mill. Over the past two years, the northern snakehead has become more prevalent in the Potomac and Anacostia Rivers. With several deep holes within the creek it is possible that these fish may over-winter. If the snakehead were to survive within the creek, it is not known what impact it could pose to species diversity and abundance. As a result of these findings, the presence of snakeheads will be closely monitored in the upcoming years.

Data collected during ichthyoplankton tows indicated that over the last couple of years alosid spawning has been on a decline. With an overall declining population on the Potomac and Anacostia Rivers this was expected. The few eggs collected were obtained from sites below Peirce Mill Dam. No eggs or larvae were collected above the dam the past two years.

Poplar Point

Poplar Point is a 60 acre parcel of land that has been turned over to the District Government from the National Park Service. Its general location is: latitude 38.866903, longitude -76.998633. Poplar Point contains grassy uplands, forested wetlands, and edge habitat. Currently, Poplar Point contains the largest amount of forested wetlands located on District owned land.

Table 3.15 prepared in collaboration with the Fisheries and Wildlife Division (FWD) shows a list of the animals surveyed or suspected to inhabit the area of Poplar Point. Four animals on the list are on the District's list of Species of Greatest Conservation Need (SGCN).

TABLE 3.15
ANIMALS SURVEYED OR SUSPECTED IN POPLAR POINT

Forested Wetlands	Emergent Wetlands	Scrub-Shrub Wetlands	Grassy Upland Area
• American beaver • Common muskrat • American mink • Wood duck • Mallard • Prothonotary warbler • Yellow warbler • Wading and shorebirds (i.e. great blue heron and green heron) • Red-shouldered hawk • Woodpeckers • Northern Spring Peeper • Red-eared Slider (turtle)	• Raccoon • Opossum • Southern bog lemming • Red fox • Wading and shorebirds like: o great blue heron o green heron o greater yellowlegs o snowy egret o great egret o American woodcock • Gray Treefrog • Southern Leopard Frog	• Raccoon • Opossum • Red fox • Meadow vole • Shrews • Songbirds • Wild turkeys (with roosting trees in close proximity) • American woodcock	• Eastern Garter snake* • Meadow vole • Virginia opossum* • Eastern cottontail* • Northern Brown snake* • Black Rat snake • Wild Turkey * denotes Species of Greatest Conservation Need (SGCN)

Any development in Poplar Point is to adhere to the Anacostia Waterfront Corporation (AWC) standards act which states that wetland buffers must be 100 feet wide and there must be a minimum of a 3:1 acreage ratio used for any wetland impacts.

Developers interested in the site have been working with DDOE on incorporating the AWC standards act development requirements into their projects. This seems to be the best situation for both regulatory agency and developer; critical issues are addressed at the earliest phase possible and DDOE's requirements are met early on in the design phase.

Wetlands Assessment

Development of Wetland Water Quality Standards

The development of wetland water quality standards is on going.

Integrity of Wetland Resources

No change.

Extent of Wetland Resources

No change.

Wetland Protection Activities

A team of DDOE staff members have met to develop plans to incorporate the fields of floodplain management, wetlands, and watershed protection into all projects that DDOE reviews. A watershed protection specialist will make note of any wetlands accessed through field work for a wetlands specialist to track. The wetlands specialist is also working to incorporate floodplain awareness into the Wetland Regulations and floodplain regulation awareness into wetland regulations.

As described in the Special Topics section, the most effective approach used in protecting wetlands is working with the developers at the earliest stage of development. Working with developers (designers and project coordinators) allows DDOE as a regulatory agency to deal with any problematic situations before permits are issued. Changing plans in the earliest phase of development and design is much easier than changing them near the final phase. Working with potential developers of the Poplar Point area in South East, has proven that WQD can voice their concerns regarding wetland impact, wetland mitigation ratios, potential sites for wetland creation, daylighting of Stickfoot Creek, and any species of greatest conservation need.

Environmental Impact/Economic and Social Benefits of Effective Water Programs

Submerged Aquatic Vegetation

The Fisheries and Wildlife Division of the District of Columbia has surveyed SAV populations of the Potomac and Anacostia Rivers since 1993. The goal is to monitor the health of the aquatic vegetation found in the District and to examine the importance it has on the ecosystem. Surveys include all shorelines in the navigable waters of the Potomac and Anacostia Rivers, contained within the District. There have been considerable changes in the SAV attributes from year to year including; species diversity, cover density, and total acreage values for the grass beds that are observed. The one thing that has remained consistent is the direct relationship that exists between the relative abundance of certain fish species, and the presence or absence of viable SAV beds.

2009 observations revealed 7 different species of SAV including: *Hydrilla verticillata* (hydrilla), *Heteranthera dubia* (water stargrass), *Ceratophyllum demersum* (coontail), *Vallisneria americana* (wild celery), *Najas guadalupensis, Myriophyllum spicatum* (milfoil) and *Najas minor*. This is indicative of SAV recovery, as species diversity, and acreage has improved over the past six observation periods. Cover density scores will continue to improve over the next several growing seasons as long as there are no ruinous rain events similar to what devastated the SAV populations in 2003.

Although the status of the SAV over the past several years has been erratic, it has provided the opportunity to examine the effects that it has on fish species that inhabit these areas. Several of the electrofishing sites utilized by the Research Branch of the Fisheries and Wildlife Division are directly adjacent to the grass beds that were monitored for the SAV shoreline survey. For this reason, it is valuable to examine the data gathered from each independent survey, and analyze it to see if any significant relationships exist between the SAV and fish species in these areas. Using only electrofishing data from May through December (months when SAV presence is ecologically significant) for the years of 1994-2009, relationships were examined in an effort to show how the members of the two Kingdoms interact. Several relationships were identified, but none is as significant as the relationship that exists between SAV cover density and the relative abundance of largemouth bass (LMB). This is an important relationship to examine both ecologically and economically, as largemouth bass are a highly sought after game species and the target of regional fishing tournaments. Understanding the importance of SAV in terms of resident fish populations is necessary so that efforts can be made to conserve and enhance this important habitat type. Figures 3.1 and 3.2 below illustrate the most "sensitive" sites in terms of SAV dependence.

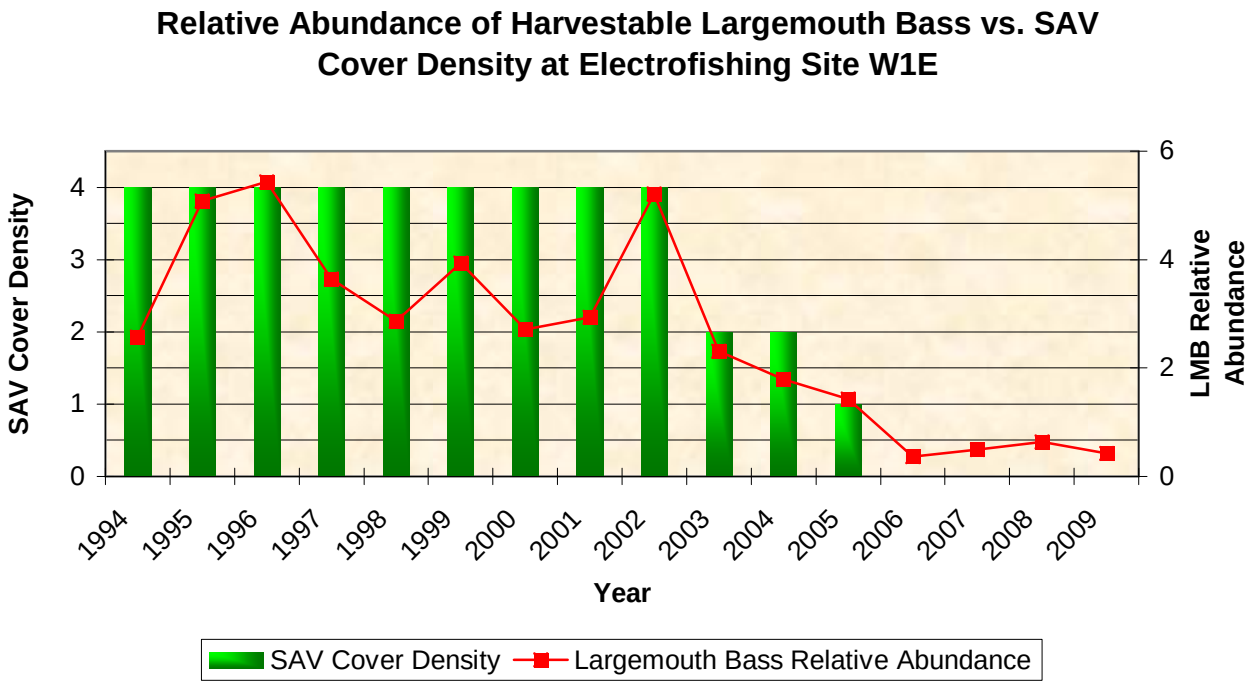

Figure 3.1: Relative Abundance of Harvestable Largemouth Bass vs. SAV W1E

The electrofishing site at the Washington Ship Channel provided consistent data for the first nine years of this study. Relative abundance numbers of harvestable largemouth bass fluctuated slightly but never approached critical levels. With the decline and disappearance of SAV from this particular site over the past six years, the effect on the largemouth bass population is

undeniable. When healthy, robust grass beds are observed at this site, largemouth bass are observed as well. When the SAV is depleted or eradicated, the largemouth bass are no longer captured during electrofishing surveys. Tagging data suggests that these resident largemouth bass move to different locations where SAV or other alternative habitats are present. Regardless of the subsequent relocation of the bass it is clear to see that there is a strong affinity for this site when SAV levels are at full saturation.

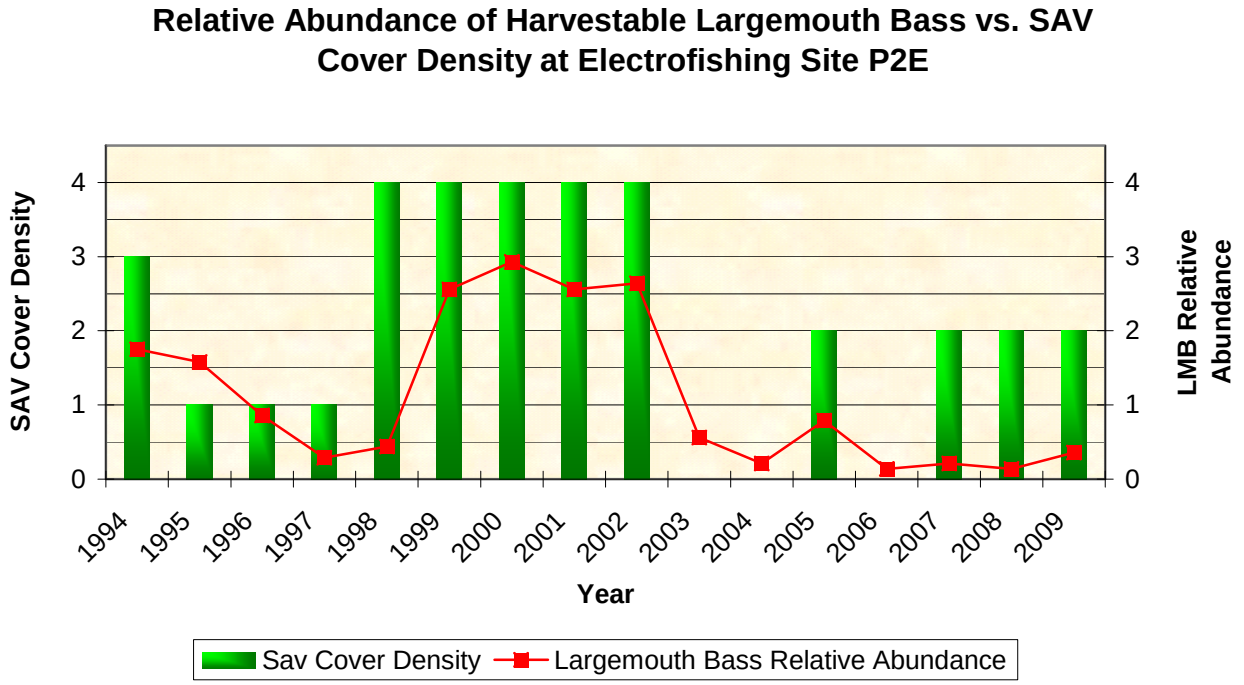

Figure 3.2: Relative Abundance of Harvestable Largemouth Bass vs. SAV P2E

The area of the river adjacent to the Washington National Airport peninsula also shows a dependence upon SAV when it comes presence of harvestable largemouth bass. This site has no alternative habitat opportunities for the bass to utilize. Without the presence of SAV; ambush points, and sheltered areas are limited to sparsely scattered isolated rocks and tide dispersed woody debris. Even with the moderate SAV growth observed here since 2007 the largemouth bass relative abundance numbers remain near all time lows. Fully mature and flourishing beds are required at this site to provide adequate habitat for many species, especially largemouth bass. There are other relationships that exist between SAV cover density and fish populations. They are highlighted in the comprehensive SAV report.

Fish Populations

Table 3.16 shows the yearly relative abundance of select game fish in the District of Columbia.

TABLE 3.16
YEARLY RELATIVE ABUNDANCE OF SELECT GAME FISH
FROM 1994 TO 2009 FOR REGULAR ELECTROFISHING SITES

Yearly Relative Abundance For Select Gamefish Species in the District of Columbia				
Year	**Largemouth Bass**	**Striped Bass**	**Yellow Perch**	**Smallmouth Bass**
1994	4.40	0.73	4.56	0.69
1995	3.12	0.17	6.20	0.32
1996	2.77	0.50	3.76	0.40
1997	1.66	0.96	5.93	0.28
1998	2.40	0.67	8.18	0.56
1999	4.30	0.74	8.29	0.74
2000	5.42	0.41	8.79	0.47
2001	6.54	1.07	6.31	0.85
2002	5.90	0.49	5.78	0.28
2003	4.32	0.66	3.47	0.23
2004	1.81	1.11	3.73	0.35
2005	1.81	0.47	2.59	0.17
2006	1.07	0.30	1.96	0.14
2007	1.25	0.57	0.99	0.23
2008	1.85	0.73	1.92	0.35
2009	1.40	0.43	1.20	0.24
Overall Average	**3.13**	**0.63**	**4.60**	**0.39**

Sampling conducted over the past 16 years has revealed several interesting trends concerning the relative abundance of several game fish species at eight electrofishing sampling stations in the waters of the District of Columbia. After remaining stable for a period of five years (1999-2003) the relative abundance of all of the closely monitored game fish found in the District of Columbia has declined. Much of this is related to the dramatic decline in SAV cover density at or near several of the electrofishing sites. Although the SAV has recovered in some areas, it sometimes takes the fish species a bit longer to re-populate areas where a significant cover source has been eliminated. With the continued recovery and development of SAV in the District of Columbia, the game fish relative abundance should eventually increase as well. If continued SAV re-establishment and maturation is experienced without an increase in game fish species relative abundance, it will be time to review the effects of other factors that may effect fish populations such as; tournaments, creel limits, sampling methods, and competition from newly introduced invasive species.

The introduction and expansion of two invasive species (Blue Catfish and Snakeheads) has prompted specific protocols for collecting data to establish base line information to track and monitor the situation moving forward. Blue catfish have been positively identified throughout the Potomac River system as they have been showing up in electrofishing samples for several years. A blue catfish tagging program was launched in 2005 whereby, information gathered by anglers and biologist would be used to assess the condition of the growing population and

effectively establish creel limits and regulations that will protect this species without negatively impacting the other species that inhabit District waters. The tagging program has been arrested due to lack of tag returns. After experimenting with several different tags and anchoring systems the returns remained nearly non existent, even in scientific collections. Tag retention was suspected to be the biggest obstacle to gaining important data. Currently the Fisheries Research Branch is beginning a stomach content analysis on blue catfish to help gain understanding as to how these invasive species may be negatively impacting regional ecosystems. Snakeheads have also been confirmed in the waters of the District of Columbia and they are addressed independently in this report.

Night-time, mark-recapture, black bass population estimates have been performed over the last eleven years at one site at the mouth of the Anacostia River. Results from the population estimates are consistent with the relative abundance numbers observed during electrofishing at the standard electrofishing sites. Populations of several gamefish species have declined over the past six years at various sites – District wide.

Tagging efforts using passive integrated transponder tags, continued in 2009. FWD has been tagging largemouth bass for the past twelve years in an effort to determine site affinity, movement patterns, age and growth analysis, and validation of scale age analysis. In all, we have over 1600 recapture records, and many fish have been recaptured multiple times. Approximately ninety percent of the recapture records are from fish which have been recaptured at the same site where they were originally tagged. Passive integrated transponder tag recaptures also indicated our length measurement error to be on average no more than two millimeters.

Fish population restoration continued in 2009, with just over one million American shad fry being released into the Anacostia River. This process involves collecting adult American shad and “strip spawning” them to obtain fertilized eggs. The eggs are then transported to the Fisheries Research Branch hatching facility, in Anacostia Park. The eggs are hatched and the larval fish are chemically marked, then released into the Anacostia River. Sampling of the shad juvenile population months later, reveals how successful hatchery efforts are by comparing the number of hatchery fish (chemically marked) with the number of wild fish (no mark). Restoration efforts for other species in Rock Creek are addressed in the appropriate section of this report.

PART IV: PUBLIC HEALTH - RELATED ASSESSMENTS

Drinking Water Program Monitoring & Assessments

None of the District of Columbia's waterbodies have been designated for either public water supply or drinking water uses. Though the Potomac River is the source of the District's drinking water, the intakes are located outside the District's city limits. The drinking water intakes are located at Great Falls and Little Falls, Maryland. The District of Columbia has completed its Source Water Assessment Project (SWAP). The primary goals of the SWAP were: (a) source delineation, (b) inventory of potential contaminants within the basin, (c) susceptibility analysis of the inventoried contaminants identified in the source delineation and (d) providing documentation to the general public and the District of Columbia Government describing the source contaminants. Additionally, nonpoint source modeling was incorporated into the SWAP to enable the District to better understand and predict conditions within the basin that might pose a threat to the water supply.

Drinking water is treated by US ACE. Drinking water quality is regulated by US EPA Region 3. The District of Columbia does not have primacy. Persons seeking information on the status of the lead in drinking water issue in the District of Columbia should consult the US EPA website at http://www.epa.gov/dclead.

Lead in Drinking Water

During 2008 and 2009, DDOE convened a Water Quality Taskforce that focused on lead in drinking water. The Taskforce was chaired by the DDOE Director, and its membership consisted of a cross-section of stakeholders, including the Washington Aqueduct, DC WASA, the US EPA, Clean Water Action, Parents for Nontoxic Alternatives, and other health advocates and water quality experts. Discussions focused on how best to determine what the current water quality is in comparison to the lead levels in the District of Columbia. Also discussed were various components of the Lead and Copper Rule (LCR). The pre-flush protocol used by DC WASA was one component that received significant attention and provoked considerable discussion by the group.

In 2009, a District of Columbia Council Committee convened a public hearing on the lead-in-water issue. Representatives from US EPA and from DC WASA testified, as did DDOE. There was general agreement from those testifying that the water quality in the District seemed to meet federal drinking water quality standards with respect to lead. Both DC WASA and US EPA testified that as far as lead was concerned, current LCR data satisfied them that the District's tap water was safe to drink for the general population.

Fish Tissue Study

In March 2009, US FWS conducted a fish tissue study for the District. WQD is in the process of assembling a panel to review the findings. Based on the panels review and recommendations the District will update it's current fish consumption advisory, if necessary.

PART V: GROUNDWATER ASSESSMENT

Introduction

This section updates the District's groundwater assessment and protection efforts for FY 2010. Several changes have occurred since the 2008 Integrated Report. The most significant are the expansion of the groundwater monitoring network, a joint study with the USGS to investigate pesticide impacts on groundwater quality, and a preliminary revision of the conceptual model of groundwater-surface water interactions in the Lower Anacostia River in the vicinity of the Frederick Douglass Memorial Bridge.

Summary of Groundwater Quality

In 2008, the District's groundwater monitoring network was expanded by the addition of six new wells. Three of these wells were placed in the Rock Creek watershed and the remaining ones were constructed in the Lower Anacostia River watershed. Twenty-four wells from the network were selected to be sampled for mainly pesticides (Appendix 5.1). Details of the wells are presented in Appendix 5.2. The purpose of the investigation was to resample wells with previously-detected, isolated pesticide exceedances (USGS, 2007) in the Lower Anacostia River watershed and to assess the types and spatial distribution of pesticides in other parts of the District. Preliminary analytical data, general uses of the pesticides tested for, and comparisons to human health and aquatic criteria are presented in Appendix 5.3. In general, the chemical data do not appear to indicate widespread pesticide impacts on the District's ground water quality. However, as the well coverage in the Rock Creek and Potomac River watersheds is very limited and not located in areas with suspected heavy pesticide use, further investigation appears to be warranted. The complete findings will be presented in a USGS report expected to be released in 2010.

Data from the earlier 2005 sampling event (USGS, 2007) which also covered a wide range of analytes are available at: http://md.water.usgs.gov/publications/ofr-2006-1392/. Other ground water monitoring data for the District including annual water level measurements and tide gauge data continue to be available at the bottom of the following page under General Data and Reports: http://ddoe.dc.gov/ddoe/cwp/view,a,1209,q,495456.asp.

Overview of Groundwater Contamination Sources

Appendix 5.4 lists the major sources of groundwater contamination in the District. No new major sources have been identified within this reporting period.

Overview of Groundwater Protection Programs

DDOE is the primary environmental protection agency in the District of Columbia. The WQD is the body charged with administration of the *District of Columbia Water Pollution Control Act*, which defines the District's waters as both ground water and surface water. There are no significant changes regarding the ground water protection programs since the last 305(b) report.

In 1993, numerical criteria and enforcement standards for forty-seven constituents were established. The regulations also set the guidelines for ground water monitoring supporting preventive as well as remedial activities. Groundwater related programs within the DDOE WQD and their functions are as follows:

- Voluntary Cleanup Program: The Voluntary Cleanup Program (VCP) is a part of the Environmental Protection Administration. Unlike the media-specific programs that require mandatory cleanup of contaminated property, VCP oversees owner or developer initiated voluntary remediation of contaminated lands and buildings that return actual or potentially contaminated properties to productive uses.

- Construction Grants Program: Pursuant to the Clean Water and the Safe Drinking Water Acts and various appropriations acts, the US EPA provides and anticipates providing in the future as authorized, funding through the award of assistance grants to the District of Columbia. These assistance awards enable the District to perform construction and/or improvement of wastewater facilities, drinking water distribution and storage facilities and other water related structures. The overall objective of the grant-funded program is to select and fund projects that will protect the quality of water in the District of Columbia. The projects are identified to meet a variety of needs [i.e., Combined Sewer Overflow Long Term Control Plan (LTCP), Municipal Sanitary Storm Sewer Monitoring Network, and the implementation of pollution control measures, and the protection of the public and safety.]

- Federal Facilities Program: The Federal Facilities Program oversees the cleanup of Formally Used Defense Sites (FUDS) that are contaminated.

- Hazardous Waste Management Program: The program regulates hazardous waste small and large quantity generators.

- Integrated Pest Management Program: The program conducts public education for pesticide use.

- Nonpoint Source Program: The program plans and implements BMPs, provides oversight of nonpoint source studies.

- Pesticide Certification and Enforcement Program: The program processes registration of pesticide products for use in the District of Columbia, certifies applicators and performs application inspection.

- Stormwater Management Program: The program reviews stormwater management plans and performs compliance inspection.

- TMDL: The program develops point and nonpoint source load allocations to meet water quality standards in impaired waterbodies.

- Underground Storage Tank Management Program: The program provides oversight for installation and removal of underground storage tanks as well as remedial activities for leaking tanks.

- Water Quality Management Planning: The program coordinates water quality planning and research including groundwater quality research.

Appendix 5.5 provides additional information regarding the District's groundwater protection programs.

Aquifer Vulnerability Assessment

The District of Columbia's groundwater vulnerability to contamination was assessed in 1992 by the DC Water Resources Research Center (WRRC) in a report entitled *Urban Land Use Activities and The Ground Water: A Background Survey of the District of Columbia* (WRRC, 1992). The probability of groundwater contamination was mapped and ranked accordingly. The District recognizes that this report is over ten years old and when funds are identified, it will be revised.

Aquifer Mapping

The District in conjunction with the USGS is developing a steady-state groundwater flow model of the shallow aquifers in the Anacostia River watershed. The model is being calibrated and should be completed this year.

Comprehensive Data Management System

All data collected during the joint District-USGS projects since 2002 have been maintained and managed by the USGS. This data is readily available on the USGS website (www.usgs.gov) and will continue to grow as more projects are funded. This data includes chemical, locational, and geological information. Monitoring well data are included in the regional groundwater database maintained by the USGS for the District and other states, and will be available in GIS formats in the near future.

State Superfund

Although the District of Columbia does not have a State Superfund or CERCLA program, the WQD provides regulatory oversight under the DC Water Pollution Control Act at CERCLIS, Superfund, RCRA, and any other sites with reported groundwater contamination. The WQD also provides regulatory oversight and attends meetings at CERCLA/NPL sites in the District whenever appropriate.

Summary of Groundwater Contamination Sources

Appendix 5.6 summarizes shallow aquifer quality contamination.

Groundwater/Surface Water Interaction

Deep cores from several sites near the riparian zone have been made available for DDOE's review by various organizations. Lithologic logging of these cores has led to a preliminary revision of the conceptual model of the stratigraphy underlying the Anacostia River. Specifically, several of the cores drilled from Poplar Point on the southern river bank to DC WASA's O Street Pump Station on the northern bank show evidence of a discontinuity in the Arundel Clay underlying the river (Appendix 5.7). These data are supported by an earlier geologic cross-section (MACTEC, 2005) developed from deep borehole data collected to design and build the Frederick Douglass Memorial Bridge (Appendix 5.8 and 5.9) several hundred feet downstream of the DC WASA transect line.

Without these data at these locations, groundwater-surface water interactions in the Lower Anacostia River were thought to be strictly limited to discharges from the adjacent river banks comprised of fill and fine alluvial silts underlain by primarily coarse sands and gravels. It was generally assumed that beneath this shallow aquifer, the thick, over-consolidated, confining Arundel Clay was laterally extensive across the banks of the Anacostia River. The Arundel Clay was considered to begin at approximately 50 feet below ground surface (bgs) and extend down to at least 110 feet bgs where the Patuxent Aquifer began. In this model, it was unlikely that any groundwater in the Patuxent Aquifer would ever reach the Anacostia River.

However, the discontinuity of the Arundel Clay within this section of the river channel provides a pathway for groundwater kept under considerable hydraulic pressure in the Patuxent Aquifer to upwell into the Anacostia River. The geologic cross-section along the Frederick Douglass Bridge (MACTEC, 2005) also shows that the sands and gravels of the shallow aquifer are generally much thicker than previously imagined on the northern river bank. Both sets of data indicate that contaminants entrained in the groundwater in these units should readily discharge to the Anacostia River. Further investigations in this area are warranted to determine the extent of the discontinuity, the upwelling groundwater flux to the river and any associated contaminant loading to this impaired waterbody. The steady-state groundwater flow model under development should assist with these determinations.

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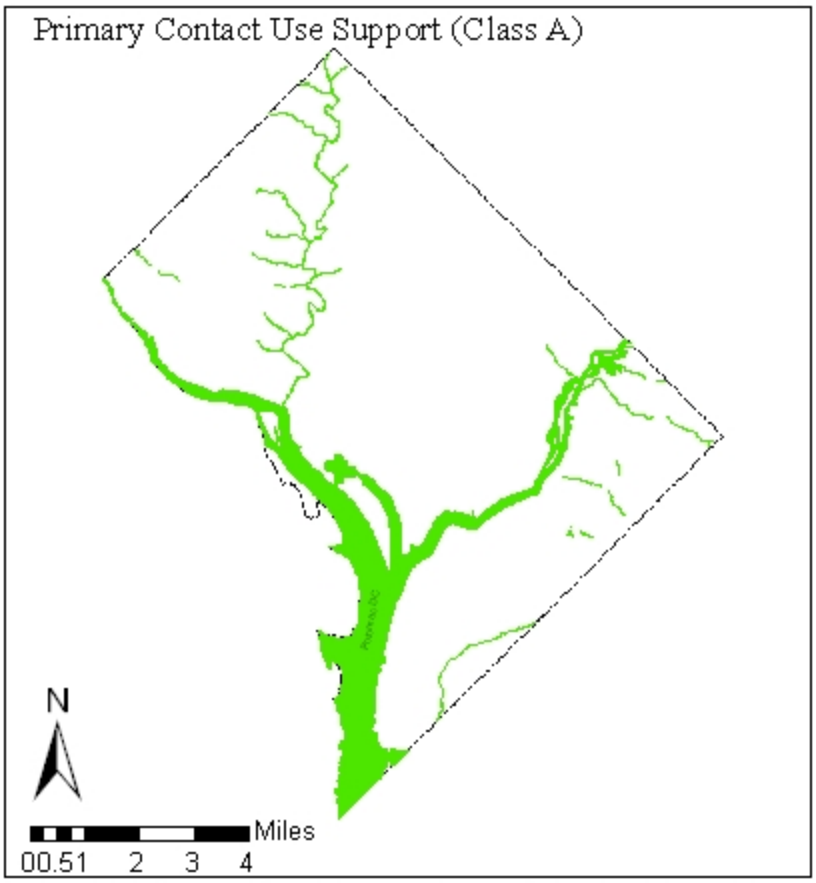
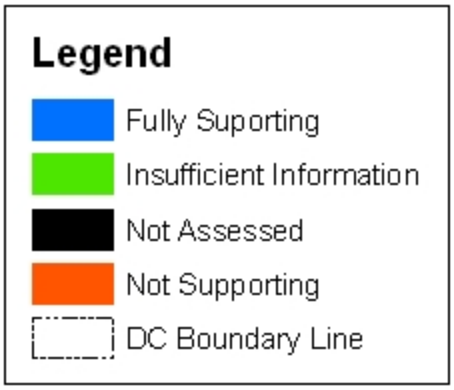
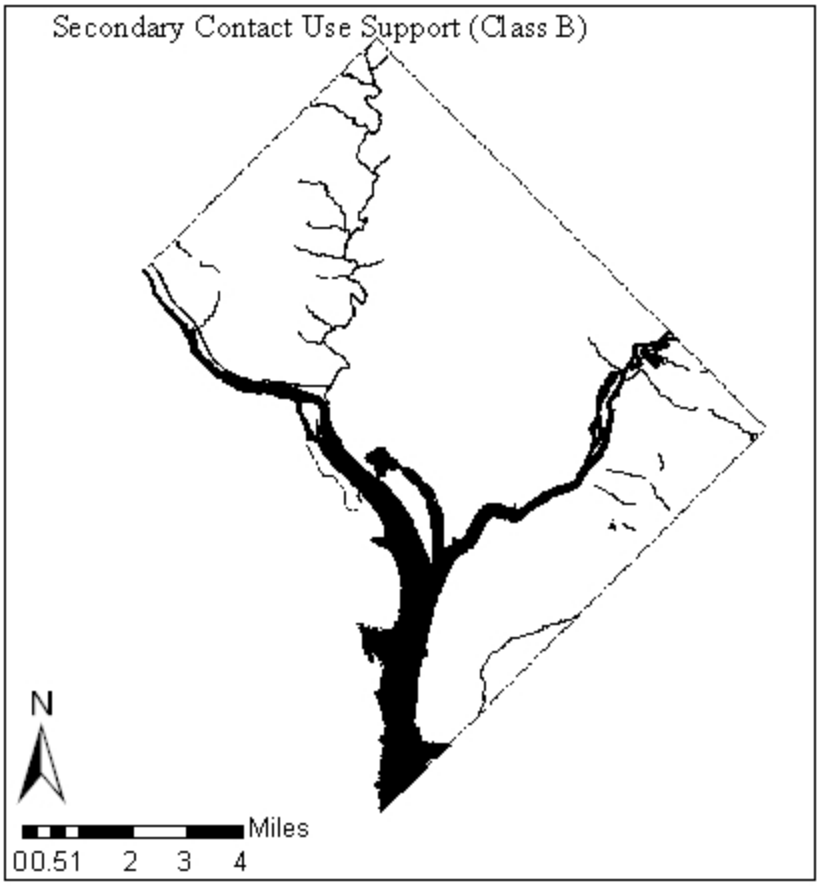
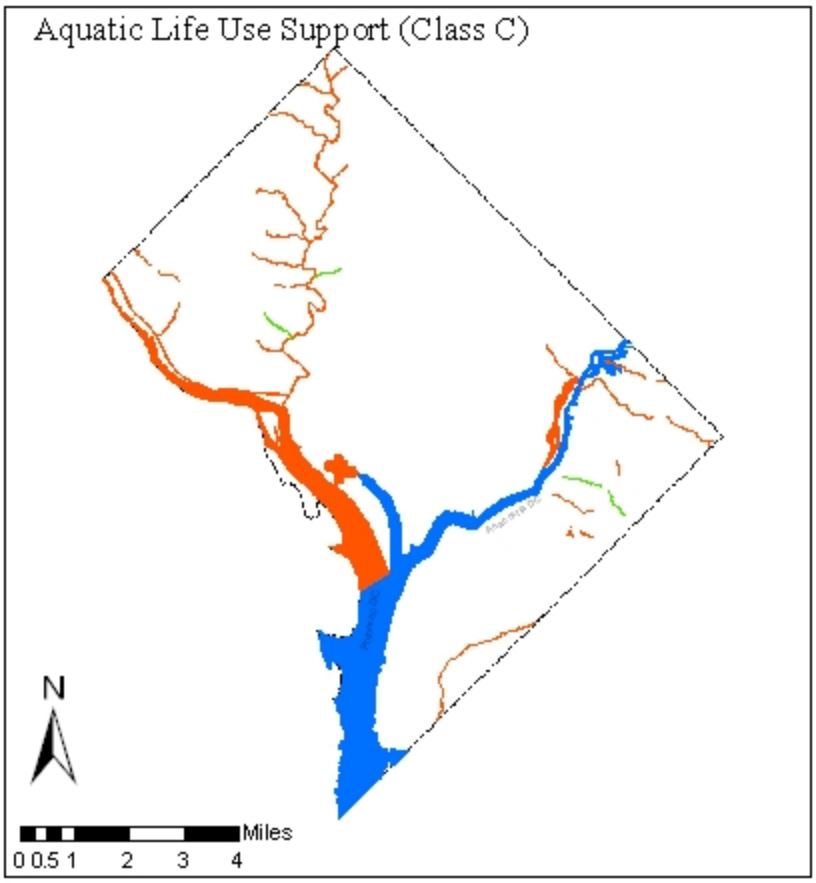


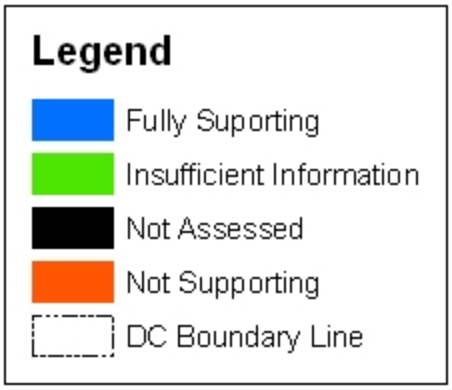
Appendix1.1: Degree of Support for the Protection of Primary Contact Recreation



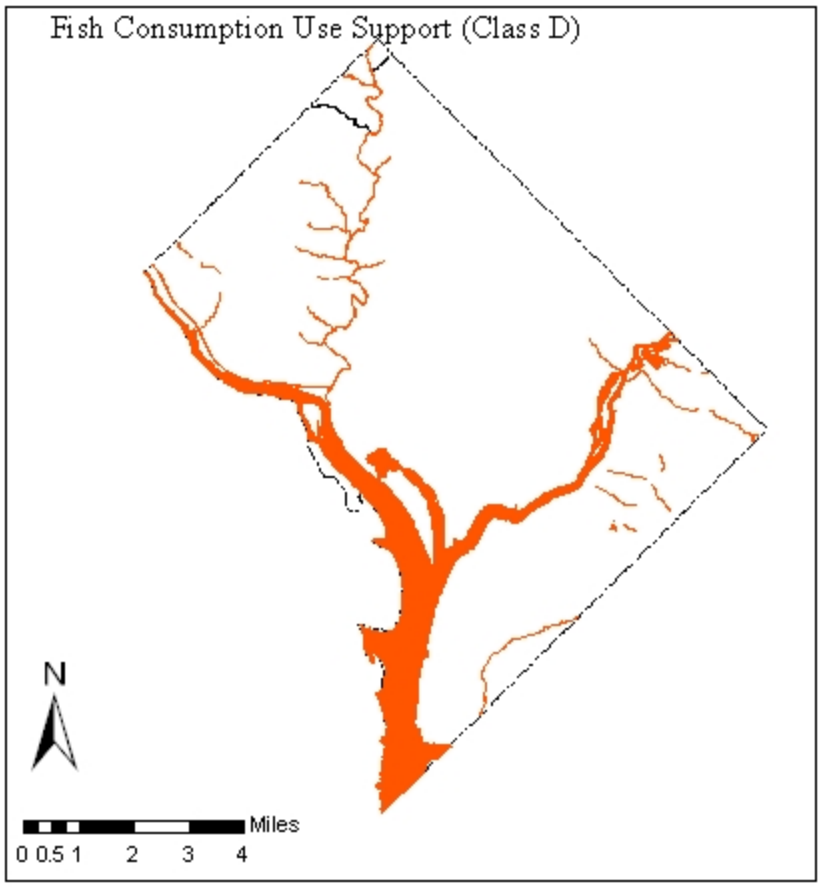


Appendix 1.2: Degree of Support for the Protection of Secondary Contact and Aesthetic Enjoyment.

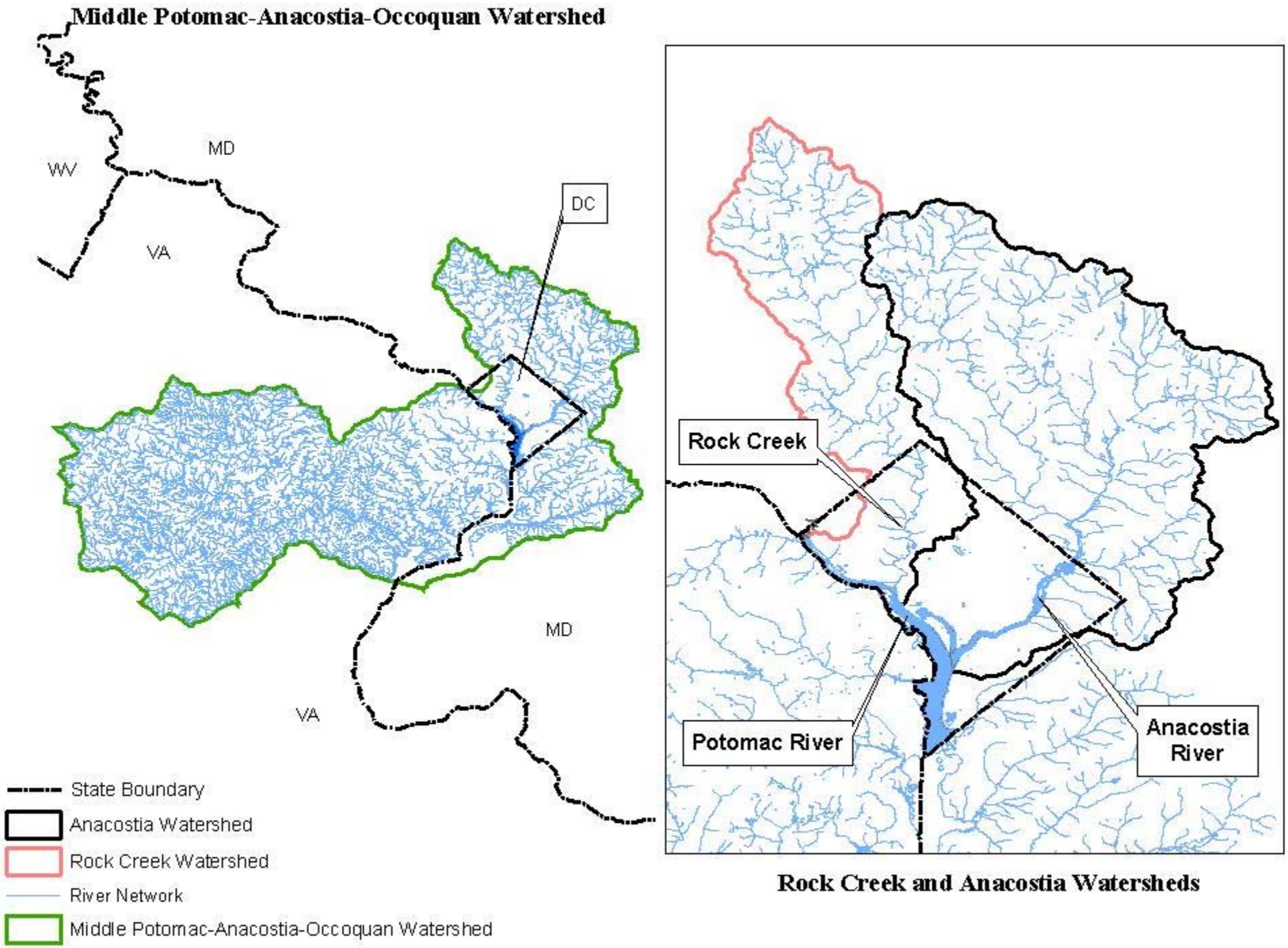




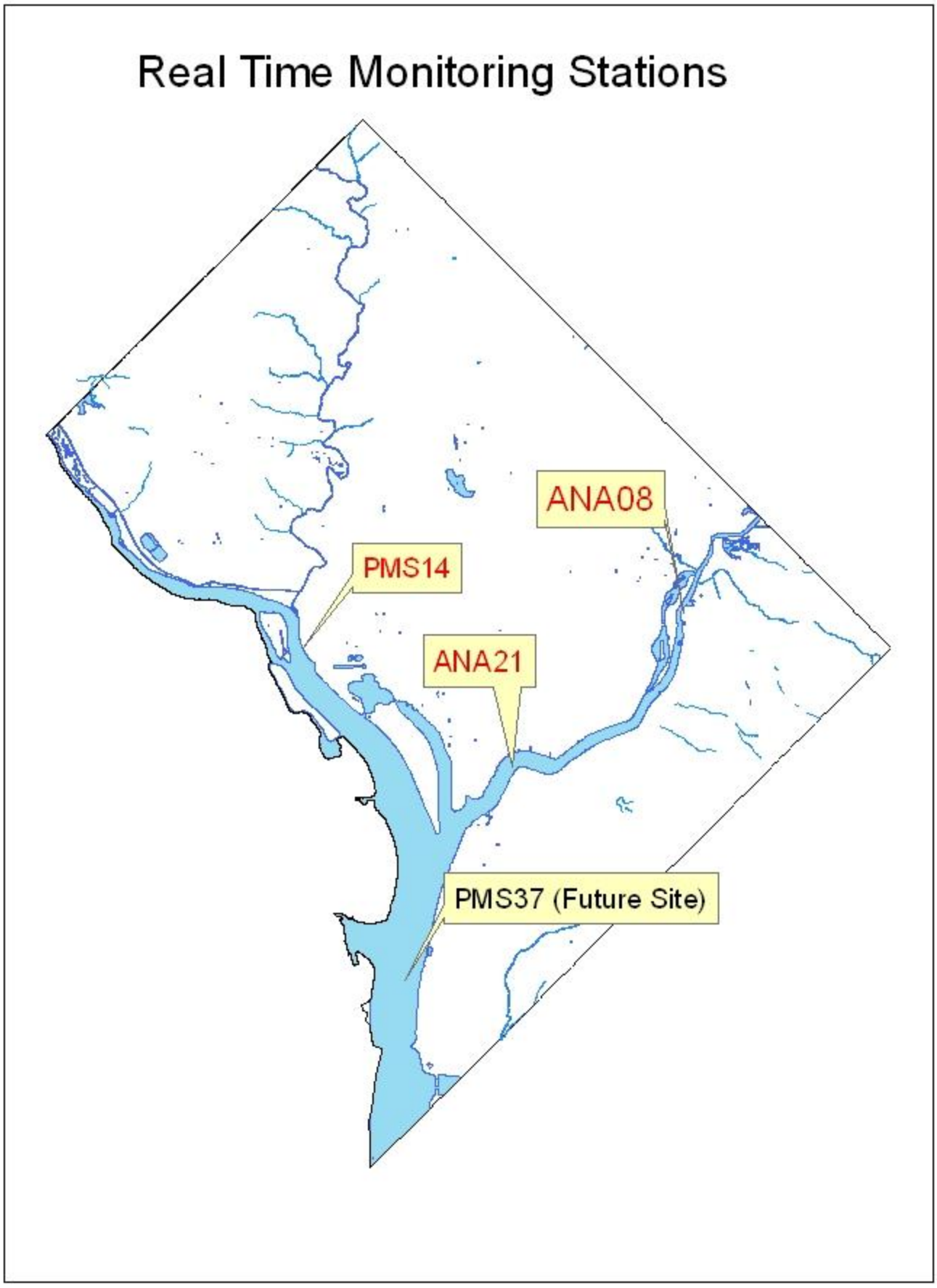
Appendix1.3: Degree of Support for the Protection and propagation of Fish, Shellfish and Wildlife.



Appendix 1.4: Degree of Support for the Protection of Human Health Related to the Consumption of Fish and Shellfish.



Appendix 2.1: Major D.C. Watersheds



Appendix 3.1: Real Time Monitoring Stations

Appendix 3.2
Percentage Violations for Continuous Monitoring

Potomac and Anacostia River Dissolved Oxygen

7 day mean - % violations - criteria standard - 6.0 mg/l Feb-May, 4.0 mg/l Jun – Jan

	Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Year*	
Year	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09
Upper Anacostia	0.0	0.0	40.0	0.0	25.0	n/a	75.0	n/a	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.3	3.6
Lower Anacostia	0.0	n/a	40.0	n/a	100	75.0	75.0	75.0	0.0	25.0	0.0	25.0	25.0	0.0	0.0	0.0	0.0	0.0	27.0	28.6
Upper Potomac	n/a	n/a	n/a	n/a	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0

30 day mean – criteria standard – 5.5 mg/l

	Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		% viol.	
Year	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09
Upper Anacostia	n/a	9.3	7.2	7.0	6.4	n/a	2.6	n/a	4.7	5.3	6.3	5.7	5.4	5.8	6.5	7.9	6.4	6.7	37.5	14.3
Lower Anacostia	n/a	n/a	7.4	n/a	6.0	5.5	2.8	3.9	6.0	5.3	6.0	4.5	5.1	4.9	7.1	7.0	8.4	6.5	25.0	71.4
Upper Potomac	n/a	n/a	n/a	n/a	n/a	9.9	n/a	8.8	n/a	7.6	n/a	7.9	n/a	7.8	n/a	9.5	n/a	11.0	n/a	0.0

Instantaneous minimum - % violations - criteria standard 5.0 mg/l Feb-May, 4.0 mg/l Jun– Jan

	Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Year*	
Year	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09
Upper Anacostia	0.0	0.0	1.1	8.6	2.2	n/a	73.3	n/a	20.8	24.7	6.6	20.5	10.7	9.2	0.3	3.8	0.0	0.0	10.3	12.1
Lower Anacostia	0.0	n/a	9.6	n/a	34.1	35.2	64.0	55.7	6.8	17.6	4.8	45.8	10.4	21.3	0.0	0.3	0.0	0.3	14.7	22.4
Upper Potomac	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0

Potomac and Anacostia River Turbidity

Monthly % above 20 NTU

	Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Year*	
Year	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09
Upper Anacostia	99.4	64.5	96.6	91.0	94.1	46.8	62.8	92.0	98.3	68.0	93.8	77.4	86.9	78.0	65.9	83.0	80.4	92.0	87.8	79.0
Lower Anacostia	0.0	n/a	10.2	50.2	38.9	40.8	12.3	63.7	28.7	34.1	42.7	30.4	20.5	5.8	24.2	11.7	1.1	21.8	18.7	36.9
Upper Potomac	n/a	n/a	n/a	n/a	n/a	60.2	n/a	56.4	n/a	0.0	n/a	0.2	n/a	3.6	n/a	0.6	n/a	0.7	n/a	15.8

- Real time monitoring equipment removed in winter months to prevent ice damage.

Potomac and Anacostia River pH

Monthly % greater than 8.5 or less than 6.0

	Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Year*	
Year	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09
Upper Anacostia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lower Anacostia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upper Potomac	n/a	n/a	n/a	n/a	n/a	8.4	n/a	9.9	n/a	3.3	n/a	0.0	n/a	0.0	n/a	0.0	n/a	0.0	n/a	3.1

Potomac and Anacostia River Chlorophyll *a*

In situ readings % above 25 µg/L July 1 – September 30

	Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Year*	
Year	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09	08	09
Upper Anacostia	-	-	-	-	-	-	-	-	1.3	1.8	4.2	0.2	5.7	11.4	-	-	-	-	3.7	3.8
Lower Anacostia	-	-	-	-	-	-	-	-	23.0	0.3	33.3	9.7	0.5	9.8	-	-	-	-	18.6	6.6
Upper Potomac	-	-	-	-	-	-	-	-	n/a	0.0	n/a	10.0	n/a	0.07	-	-	-	-	n/a	3.4

n/a – not assessed

INDIVIDUAL WATERBODY WATER QUALITY ASSESSMENTS

Detail Report for ANACOSTIA DC

ID: DCANA00E_01 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**ANACOSTIA DC**	
	Location: PENNSYLVANIA AVENUE BRIDGE TO THE MOUTH AT THE POTOMAC (ANA15 TO ANA29), TIDAL FRESHWATER. IT FLOWS THROUGH A HIGHLY URBAN AREA OF MARINAS, COMMERCIAL BUILDINGS AND NATIONAL PARKLAND.	**Water Type:** ESTUARY **Size:** 0.5 SQUARE MILES **Next Scheduled Montitoring Date:** N/A

Use Information		
	Attainment Status	**Uses**
Assessed:	Fully Supporting	Navigation Protection and Propagation of Fish, Shellfish and Wildlife
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Oil and Grease	Primary Contact Recreation	Yes	

Source Information

Sources	Associated Causes	Confirmed?
Highway/Road/Bridge Runoff (Non-construction Related)	Oil and Grease	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATIONS OF THE LOWER ANACOSTIA'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 458 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DISIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT SUPPORTED. THE LOWER ANACOSTIA RIVER IS IMPAIRED FOR TRASH.

THE AQUATIC LIFE USE IS SUPPORTED. TEMPERATURE, PH, AND DISSOLVED OXYGEN VIOLATED THE WATER QUALITY STANDARDS 0%, 0.6%, AND 6% OF THE TIME, RESPECTIVELY.

BECAUSE OF A FISH CONSUMPTION ADVISORY, THE LOWER ANACOSTIA DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15,1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

THE LOWER ANACOSTIA FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

THE LOWER TIDAL ANACOSTIA EXTENDS FROM THE PENNSYLVANIA RAILROAD BRIDGE TO THE MOUTH OF THE RIVER. THIS SEGMENT SUFFERS FROM OCCASIONAL LOW DISSOLVED OXYGEN, HIGH E. COLI LEVELS, AND SEDIMENT TOXICITY. IT ALSO HAS BEEN SUBJECTED TO BOTH SMALL AND LARGE OIL SPILLS.

SOURCES WITH POTENTIAL IMPACT IN THIS ANACOSTIA SEGMENT INCLUDE SEVERAL ACTIVE AND ABANDONED MINES AND INDUSTRIAL FACILITIES LOCATED ON THE WEST BANK OF THE RIVER. THESE FACILITIES

INCLUDE STEUART PETROLEUM, AND OIL TERMINAL AND TANK FARM OPERATION, WASHINGTON GAS AND LIGHT, AND AN ABANDONED COAL GASIFICATION FACILITY. OTHER POTENTIAL SOURCES OF POLLUTANTS INCLUDE A LARGE NUMBER OF BOATS IN SEVERAL MARINAS.

RELATIVELY RECENT EVENTS WITH POTENTIAL IMPACT ON THE UPPER ANACOSTIA WATER QUATITY INCLUDE: DREDGING OF THE CHANNEL UPSTREAM, AND PENNSYLVANIA AVE. BRIDGE CONSTRUCTION. A FLOATABLE DEBRIS REMOVAL PROJECT, MANAGED BY THE D.C. WASA, REMOVES A SIGNIFICANT AMOUNT OF TRASH, THEREBY CONTRIBUTING TO THE ENHANCEMENT OF THE QUALITY OF THE ANACOSTIA.

SURVEYS CONDUCTED OVER THE PAST SEVERAL YEARS REVEAL THE PRESENCE OF TOXINS IN SEDIMENTS. FISH TISSUE OF SAMPLES OF CERTAIN SPECIES SHOW ELEVATED LEVELS OF CONTAMINANTS INCLUDING CHLORDANE AND PCBs. BIOLOGICAL SAMPLES FROM THE SITE SUGGEST A SEVERELY STRESSED BENTHIC COMMUNITY. THE CAUSES OF STRESS COULD BE ATTRIBUTED TO URBAN STORM WATER RUNOFF FROM UPSTREAM AND POLLUTED TRIBUTARY STREAMS, CSO EVENTS AND IMPACT FROM THE ADJACENT INDUSTRIAL FACILITIES.

REPORTS WITH MORE INFORMATION INCLUDE:

* "IMPACT OF DREDGING ON THE WATER QUALITY OF THE ANACOSTIA RIVER" BY ICPRB, 1993.

* "SEDIMENT CONTAMINATION STUDIES OF THE POTOMAC AND ANACOSTIA RIVER AROUND THE DISTRICT OF COLUMBIA, 1992.

* "HICKEY RUN SUBWATERSHED ACTION PLAN" BY THE MWCOG, 1991.

* "HICKEY RUN COMPREHENSIVE POLLUTION ABATEMENT STUDY, PHASE I REPORT" BY THE MWCOG, 1991.

* "EMERGENT WETLAND ESTABLISHMENT UNDER DIFFERING HABITAT CONDITIONS IN THE ANACOSTIA AND POTOMAC RIVER BASIN", HORN POINT ENVIRONMENTAL LABORATORY, CEES AND MWCOG, 1991.

* "STEUART PETROLEUM OIL SPILL", VERSAR, PINKNEY, 1993.

Detail Report for ANACOSTIA DC

ID: DCANA00E_02 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**ANACOSTIA DC**	
	Location: NEW YORK AVE BRIDGE (DC/MARYLAND LINE) TO PENNSYLVANNIA AVENUE BRIDGE (ANA01 TO ANA15), TIDAL FRESHWATER. IT FLOWS THROUGH MOSTLY NATIONAL AND CITY PARK LAND AND PAST A SMALL URBAN AREA OF RESIDENTIAL BUILDINGS, PEPCO, RFK STADIUM AND MARINA.	**Water Type:** ESTUARY **Size:** 0.3 SQUARE MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Fully Supporting	Navigation Protection and Propagation of Fish, Shellfish and Wildlife
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
BOD, Biochemical oxygen demand	Protection of Human Health related to Consumption of Fish and Shellfish	Yes	
Oil and Grease	Primary Contact Recreation	Yes	

Source Information

Sources	Associated Causes	Confirmed?
Highway/Road/Bridge Runoff (Non-construction Related)	Oil and Grease	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATIONS OF THE UPPER ANACOSTIA'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 411 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT SUPPORTED. THE UPPER ANACOSTIA RIVER IS IMPAIRED FOR TRASH.

THE AQUATIC LIFE USE SUPPORT IS SUPPORTED. TEMPERATURE, PH AND DISSOLVED OXYGEN VIOLATED THE WATER QUALITY STANDARDS 0%, 1.1%, AND 5.7% OF THE TIME, RESPECTIVELY.

BECAUSE OF THE FISH CONSUMPTION ADVISORY, THIS SEGMENT DID NOT SUPPORT THE FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

THE UPPER ANACOSTIA FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT OF THE ANACOSTIA DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

THIS SEGMENT OF THE ANACOSTIA INCLUDES THE UPPER TIDAL ANACOSTIA FROM NEW YORK AVE., D.C. BORDER, TO THE PENNSYLVANIA

AVENUE RAILROAD BRIDGE.

D.O. VIOLATIONS (3.9%) COULD HAVE BEEN CAUSED BY EITHER HIGH FLOW CONDITIONS AND ORGANIC DEBRIS ACCOMPANYING STORMS OR LOW FLOW CONDITIONS. SEVERAL POLLUTED STREAMS JOIN THIS SEGMENT OF THE ANACOSTIA RIVER. LOWER BEAVER DAM CREEK DRAINS AN INDUSTRIAL AREA AND COULD BE SOURCE OF POLLUTANTS ORIGINATING FROM AUTOMOTIVE RECYCLING AND JUNK YARDS. HICKEY RUN IS A SOURCE OF CHRONIC OIL AND OTHER INDUSTRIAL POLLUTANTS. WATTS BRANCH IS THE LARGEST ANACOSTIA TRIBUTARY IN THE DISTRCT, AND IS A SOURCE OF URBAN RUNOFFS. SIMILARLY, N.E. BOUNDARY, THE LARGEST COMBINED SEWER OUTFALL IN THE DISTRICT, IS LOCATED ALONG THE LOWER PORTION OF THIS SEGMENT.

RECENT EVENTS WITH POTENTIAL IMPACT ON THE UPPER ANACOSTIA WATER QUALITY INCLUDE: DREDGING OF THE CHANNEL, DEPOSITION OF SPOILS IN KENILWORTH MARSH. A FLOATABLE DEBRIS REMOVAL PROJECT, MANAGED BY THE D.C. WASA, REMOVES A SIGNIFICANT AMOUNT OF TRASH AND CONTRIBUTES TO THE ENHANCEMENT OF THE QUALITY OF THE ANACOSTIA.

SURVEYS CONDUCTED IN THE PAST SEVERAL YEARS REVEALS THE PRESENCE OF TOXICS IN SEDIMENTS. FISH TISSUE OF SAMPLES OF CERTAIN SPECIES SHOW ELEVATED LEVELS OF CONTAMINATION INCLUDING CHLORDANE AND PCBs. BIOLOGICAL SAMPLES FROM SELECTED SITES SUGGEST A SEVERELY STRESSED BENTHIC COMMUNITY. THE CAUSES OF STRESS COULD BE ATTRIBUTED TO URBAN STORM WATER RUNOFF FROM UPSTREAM POLLUTED STREAMS, CSO EVENTS AND IMPACT FROM THE ADJACENT INDUSTRIAL FACILITIES.

REPORTS WITH MORE INFORMATION INCLUDE:

* "IMPACT OF DREDGING ON THE WATER QUALITY OF THE ANACOSTIA RIVER" BY ICPRB, 1993.

* "SEDIMENT CONTAMINATION STUDIES OF THE POTOMAC AND ANACOSTIA RIVER AROUND THE DISTRICT OF COLUMBIA" BY ICPRB, VELINSKY, 1992.

* "HICKEY RUN SUBWATERSHED ACTION PLAN" BY MWCOG, 1991.

* "HICKEY RUN COMPREHENSIVE POLLUTION ABATEMENT STUDY, PHASE I REPORT" BY MWCOG, 1991.

* "EMERGENT WETLAND ESTABLISHMENT UNDER DIFFERING HABITAT

CONDITIONS IN THE ANACOSTIA AND POTOMAC RIVER BASIN"/ HORN POINT ENVIRONMENTAL LABORATORY, CEES AND MWCOG, 1991.

* "STEUART PETROLEUM OIL SPILL" BY VERSAR, PINKNEY, 1993.

* AWRC, 1997, DRAFT ANACOSTIA WATERSHED RESTORATION PROGRESS AND CONDITIONS REPORT 1990-1996, DEPT. OF ENVIRONMENTAL PROGRAM, MWCOG, WASH., DC.

Detail Report for BATTERY KEMBLE CREEK

ID: DCTBK01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**BATTERY KEMBLE CREEK**	
	Location: ORIGINATES AT NEBRASKA AVENUE AND FOXHALL ROAD. THE WATERSHED'S NORTHWESTERN BORDER IS UNIVERSITY TERRACE AND THE WESTERN EDGE OF BATTERY KEMBLE PARK.. THE EASTERN BORDER IS FOXHALL ROAD AND THE SOUTHERN BORDER IS NORTH OF W STREET, NW.	**Water Type:** RIVER **Size:** 1.2 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Benthic-Macroinvertebrate Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Source Information

Sources	Associated Causes	Confirmed?
Hydrostructure Impacts on Fish Passage	Combination Benthic/Fishes Bioassessments	
Post-development Erosion and Sedimentation	Combination Benthic/Fishes Bioassessments	
Yard Maintenance	Combination Benthic/Fishes Bioassessments	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF BATTERY KEMBLE'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 980 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2002.

BECAUSE OF A FISH CONSUMPTION ADVISORY, BATTERY KEMBLE DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHS OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE BATTERY KEMBLE CREEK IS A TRIBUTARY OF THE POTOMAC RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THE TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO BATTERY KEMBLE CREEK.

BATTERY KEMBLE WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGEMENT DID NOT

SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

BATTERY KEMBLE CREEK IS A TRIBUTARY OF THE POTOMAC RIVER THAT DRAINS BATTERY KEMBLE PARK. BANTA (1993) MISIDENTIFIED THIS STREAM AS FLETCHERS RUN. THE STREAM ORIGINATES AT NEBRASKA AVENUE AND FOXHALL ROAD. THE WATERSHED IS 230 ACRES IN AREA, OF WHICH 60% IS PARKLAND AND FOREST WITH THE REMAINING AREA HIGH-PRICED RESIDENTIAL PROPERTY. THE WATERSHED'S NORTHWESTERN BORDER IS UNIVERSITY TERRACE AND THE WESTERN EDGE OF BATTERY KEMBLE PARK; THE EASTERN BORDER IS FOXHALL ROAD AND THE SOUTHERN BORDER IS NORTH OF W STREET, NW. IT IS BUFFERED ON EITHER SIDE BY ABOUT 300 FEET OF FORESTED PARKLAND. THIS TRIBUTARY IS CLASSIFIED AS A "SPECIAL WATERS OF THE DISTRICT OF COLUMBIA" UNDER THE WATER QUALITY STANDARDS OF THE DISTRICT.

AT RESERVOIR ROAD, TWO LARGE SEWER LINES CROSS THE STREAM AS WELL AS SEVERAL SMALLER SEWER LINES WHICH TRAVERSE THE STREAM FURTHER DOWNSTREAM. THE STREAM AREA NEAR RESERVOIR ROAD RECEIVES DISCHARGE FROM THREE SMALL STORM DRAINS.

THE WATERSHED LIES MAINLY IN THE SYKESVILLE FORMATION, GRANITE ROCKS OF UNKNOWN AGE. ABOUT 1/4 OF THE AREA DRAINS SOME PLEISTOCENE TERRACE GRAVELS DEPOSITED BY THE POTOMAC.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," BY W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

HBI SCORE SUGGESTS THERE MAY BE SIGNIFICANT ORGANIC POLLUTION IN THE STREAM. THERE WERE NO SENSITIVE ORGANISMS FOUND (EPT), WHICH MAY SUGGEST A TOXIC STREAM. HABITAT IS MODERATELY IMPAIRED. DO, PH AND TEMP FULLY SUPPORTED THE ALUS STANDARD.

DURING THE 2008 STREAM ASSESSMENT THERE WAS ALGAE ON ROCKS AND THE ODOR OF CHLORINE PRESENT.

Detail Report for BROAD BRANCH

ID: DCTBR01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**BROAD BRANCH**	
	Location: BROAD BRANCH IS A WESTERN TRIBUTARY OF ROCK CREEK WHICH IS JOINED BY SOAPSTONE CREEK ABOUT 800 FEET BEFORE IT DISCHARGES INTO ROCK CREEK. THE SURFACE PORTION OF THE STREAM BEGINS NEAR NEBRASKA AND CONNECTICUT AVENUES.	**Water Type:** RIVER **Size:** 1.7 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment Navigation

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Benthic-Macroinvertebrate Bioassessments	Protection of Human Health related to Consumption of Fish and Shellfish	Yes	
Combination Benthic/Fishes Bioassessments	Protection of Human Health related to Consumption of Fish and Shellfish	Yes	
Debris/Floatables/Trash	Protection of Human Health related to Consumption of Fish and Shellfish	Yes	

Fishes Bioassessments	Protection of Human Health related to Consumption of Fish and Shellfish	Yes
Particle distribution (Embeddedness)	Protection of Human Health related to Consumption of Fish and Shellfish	Yes

Source Information

Sources	Associated Causes	Confirmed?
Impacts from Hydrostructure Flow Regulation/modification	Fishes Bioassessments	
Residential Districts	Fishes Bioassessments	
Wet Weather Discharges (Non-Point Source)	Fishes Bioassessments	
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Fishes Bioassessments	
Yard Maintenance	Fishes Bioassessments	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF BROAD BRANCH'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 1954 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, BROAD BRANCH DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES

BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHS OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE BROAD BRANCH IS A TRIBUTARY OF THE POTOMAC RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THE TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO BROAD BRANCH.

BROAD BRANCH WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

BROAD BRANCH FLOWS THROUGH A RESIDENTIAL PARK PARALLELING BROAD BRANCH RD. FIFTEEN OUTFALLS FEED INTO THIS STREAM. BROAD BRANCH IS A WESTERN TRIBUTARY OF ROCK CREEK WHICH IS JOINED BY SOAPSTONE CREEK ABOUT 800 FEET BEFORE IT DISCHARGES INTO ROCK CREEK. THE SURFACE PORTION OF THE STREAM BEGINS NEAR NEBRASKA AND CONNECTICUT AVENUES AND IS BORDERED BY PARKLAND AND RESIDENTIAL PROPERTY FOR HALF OF ITS REACH AND A 200 FOOT BUFFER OF TREES AND SHRUBS FOR THE REST OF ITS REACH. THE WATERSHED ENCOMPASSES ABOUT 1120 ACRES.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

IN THE 2003 DC STREAM SURVEY NO MACROINVERTEBRATES WERE FOUND IN THE SAMPLE COLLECTED. TOXINS ARE MOST LIKELY THE SOURCE OF DEGRADATION. HABITAT WAS MODERATELY IMPAIRED.

THE 2007 HABITAT ASSESSMENT REVEALED THE OVERALL HABITAT QUALITY HAS BEEN DIMINISHED FROM THE 2003 ASSESSEMENT. LARGE QUANTITY OF ALGAE WAS PRESENT IN THE STREAM DURING THE 2007 ASSESSMENT AND STREAM REACH IS PARTIALLY CHANNELIZED.

THE 2009 ASSESSMENT REVEALED HIGH ALGAL BLOOMS, HIGH CONDUCTIVITY, AND NO FISH.

Detail Report for CHESAPEAKE AND OHIO CANAL

ID: DCTCO01L_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**CHESAPEAKE AND OHIO CANAL**	
	Location: IMPOUNDMENT RUNNING PARALLEL TO UPPER POTOMAC (TCO01:GEORGETOWN AND TCO06: FLETCHER'S BOATHOUSE).	**Water Type:** FRESHWATER LAKE **Size:** 27.3 ACRES **Next Scheduled Montitoring Date:** N/A **Trophic Status:** N/A **Public Lake:** No

Use Information

	Attainment Status	Uses
Assessed:	Fully Supporting	Navigation
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
pH	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF THE C&O CANAL'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 200 MPN/100ML, FOR 2008-2009.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. TEMPERATURE, PH, AND DISSOLVED OXYGEN VIOLATED THE WATER QUALITY STANDARDS 0%, 14.9%, AND 0% OF THE TIME, RESPECTIVELY.

BECAUSE OF A FISH CONSUMPTION ADVISORY, THE C&O CANAL DID NOT SUPPORT THE FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994 BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

THE C&O CANAL FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

THIS WATERBODY IS AN IMPOUNDMENT RUNNING PARALLEL TO UPPER POTOMAC (TCO01: GEORGETOWN AND TCO06: FLETCHER'S BOATHOUSE).

Detail Report for DALECARLIA TRIBUTARY

ID: DCTDA01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**DALECARLIA TRIBUTARY**	
	Location: DALECARLIA TRIBUTARY (ALSO REFERRED TO AS DALECARLIA CREEK) IS A STREAM WHICH ORIGINATES IN DC THEN CROSSES INTO MARYLAND CONTRIBUTING TO THE MARYLAND STREAM, LITTLE FALLS RUN. DALECARLIA FORMS AT THE CONFLUENCE OF MILL CREEK AND EAST CREEK, UNNAMED STRE	**Water Type:** RIVER **Size:** 1.7 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS

FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF DALECARLIA'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 1019 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISIONS IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, DALECARLIA DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

DALECARLIA WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

THE STREAM'S WATERSHED IS ALMOST ENTIRELY IN THE DISTRICT OF COLUMBIA. THE WATERSHED MEASURES ABOUT 270 ACRES AND DRAINS SOUTHERN SPRING VALLEY AND NORTHERN KENT. ABOUT 1/4 OF THE WATERSHED IS PARKLAND, WHILE THE REMAINDER IS COMPRISED OF UPSCALE SUBURBAN RESIDENTIAL HOUSING AND POCKETS OF LIGHT COMMERCIAL USE.

THE STORM DRAIN SYSTEM THAT EMPTIES INTO DALECARLIA TRIBUTARY IS PARALLELED BY SEWER PIPE. THE POTENTIAL FOR SEWER LEAKAGE IS HIGH.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE HBI SCORE SUGGESTS SEVERE ORGANIC POLLUTION IN THE STREAM. NO SENSITIVE ORGANISMS WERE FOUND (EPT). HABITAT IS MODERATELY IMPAIRED. 73 CHIRONOMIDAE (TOLERANT GENERALIST) WERE FOUND.

WITH 73 CHIRONOMIDAE BEING PRESENT, THIS MAY POSSIBLY SUGGEST A STREAM THAT IS IMPACTED WITH TOXICS AND ORGANICS. MORE THAN 100 ORGANISMS FOUND IN THE SAMPLE.

DURING THE 2007 HABITAT ASSESSMENT THE LEFT BANK RIPARIAN BUFFER WAS IMPROVED FROM 2003. EVIDENCE OF AN ABUNDANCE OF PERIPHYTON ON ROCKS, SUSPECTED OVERLOW FROM FT. RENO RESERVOIR. A PROMINENT ORDER OF CHLORINE WAS ALSO PRESENT.

TYPICAL OF STREAMS IN THE DISTRICT OF COLUMBIA, DALECARLIA IS NEGATIVELY IMPACTED BY URBAN NPS STORMWATER RUNOFF. RUNOFF FROM SURROUNDING RESIDENTAL YARDS AND STREETS MAY BE A SOURCE OF PATHOGENS, ORGANICS, AND METALS.

THE 2009 ASSESSMENT REVEALED SEVERE EROSION AND UNDERCUTTING OF THE RIGHT BANK.

Detail Report for DUMBARTON OAKS

ID: DCTDO01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**DUMBARTON OAKS**	
	Location: THE SURFACE PORTION OF THE STREAM ORIGINATES AT A PAIR OF STORMDRAINS AND FLOWS A LITTLE MORE THAN HALF A MILE SOUTHEAST TO ROCK CREEK.	**Water Type:** RIVER **Size:** 0.6 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Benthic-Macroinvertebrate Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Debris/Floatables/Trash	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Source Information

Sources	Associated Causes	Confirmed?
CERCLA NPL (Superfund) Sites	Benthic-Macroinvertebrate Bioassessments Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash	
Hydrostructure Impacts on Fish Passage	Benthic-Macroinvertebrate Bioassessments Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF DUMBARTON OAK'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 408 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, DUMBARTON OAKS DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994 BY THE D.C. COMMISSIONER OF PUBLIC HEALTH ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

DUMBARTON OAKS WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

DUMBARTON FLOWS THROUGH A RESIDENTIAL PARK ENTERING ROCK CREEK FROM THE WEST BELOW THE ZOO ABOUT 1000 FEET NORTHEAST OF THE MASSACHUSETTS AVENUE BRIDGE. THE SURFACE PORTION OF THE STREAM ORIGINATES AT A PAIR OF STORMDRAINS AND FLOWS A LITTLE MORE THAN HALF A MILE SOUTHEAST TO ROCK CREEK. THE WATERSHED OF 51 ACRES DRAINS MOSTLY PARKLAND AND INCLUDES ABOUT A QUARTER OF THE GROUNDS OF THE US NAVAL OBSERVATORY AND DUMBARTON OAKS GARDENS. DUMBARTON IS BUFFERED FOR ITS ENTIRE LENGTH BY FORESTED PARKLAND. THE STREAM IS PARALLELED BY A COMBINED SEWER/STORM DRAIN. TWO STORMWATER CONDUITS EXIST NEAR THE HEAD OF THE STREAM.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

2003 HBI SCORE SUGGESTS EXPOSURE TO SOME ORGANIC POLLUTANTS. THE DOMINANT TAXA WAS OLIGOCHAETA (SEWAGE LOVING ORGANISMS).

THE 2007 ASSESSMENT SHOWED AN IMPROVEMENT IN THE RIGHT BANK RIPARIAN ZONE FROM THE 2003 ASSESSMENT; THUS LEADING TO AN INCREASE IN BANK STABILITY. ALTHOUGHT THIS IMPROVEMENT WAS NOTICED THE RIPARIAN ZONE IS IN MARGINAL CONDITION.

DURING THE 2009 ASSESSMENT THE STUDENT CONSERVATION ASSOCIATION WAS CONDUCTING FIELD WORK UPSTREAM OF THE MONITORING SITE, AND MAY HAVE AFFECTED THE ASSESSMENT.

Detail Report for FENWICK BRANCH

ID: DCTFE01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**FENWICK BRANCH**	
	Location: THE STREAM ORIGINATES AS A DISCHARGE FROM A STORM DRAIN A FEW FEET OUTSIDE THE DC BORDER IN MARYLAND SOUTH OF EAST-WEST HIGHWAY.	**Water Type:** RIVER **Size:** 1 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Alteration in stream-side or littoral vegetative covers	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Benthic-Macroinvertebrate Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Combined Biota/Habitat Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes
Debris/Floatables/Trash	Protection and Propagation of Fish, Shellfish and Wildlife	Yes
Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes
Habitat Assessment (Streams)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Impacts from Hydrostructure Flow Regulation/modification	Alteration in stream-side or littoral vegetative covers Benthic-Macroinvertebrate Bioassessments Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Fishes Bioassessments Habitat Assessment (Streams) Particle distribution (Embeddedness)	
Residential Districts	Alteration in stream-side or littoral vegetative covers Benthic-Macroinvertebrate Bioassessments Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Fishes Bioassessments Habitat Assessment (Streams) Particle distribution (Embeddedness)	
Wet Weather Discharges (Non-Point Source)	Alteration in stream-side or littoral vegetative covers Benthic-Macroinvertebrate Bioassessments Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Fishes Bioassessments Habitat Assessment (Streams) Particle distribution (Embeddedness)	
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Alteration in stream-side or littoral vegetative covers Benthic-Macroinvertebrate Bioassessments Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Fishes Bioassessments Habitat Assessment (Streams) Particle distribution (Embeddedness)	

Yard Maintenance	Alteration in stream-side or littoral vegetative covers Benthic-Macroinvertebrate Bioassessments Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Fishes Bioassessments Habitat Assessment (Streams) Particle distribution (Embeddedness)

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF FENWICK BRANCH'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 532 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS BIT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, FENWICK BRANCH DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHES OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE FENWICK BRANCH IS A TRIBUTARY OF THE POTOMAC RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THIS TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO FENWICK BRFANCH.

FENWICK BRANCH WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

FENWICK BRANCH FLOWS FROM A COMMERCIAL AREA IN MARYLAND TO A RESIDENTIAL PARK IN THE DISTRICT AND THEN INTO ROCK CREEK. FENWICK BRANCH IS A TRIBUTARY OF ROCK CREEK WHICH INCLUDES THE NORTHERN CORNER OF THE DISTRICT OF COLUMBIA. THE WATERSHED IS ABOUT 500 ACRES BUT ONLY ABOUT 90 ACRES OF IT ARE IN THE DISTRICT. PORTAL BRANCH JOINS FENWICK BRANCH ABOUT 120 FEET NORTH OF ITS MOUTH. THE SURFACE PORTION OF THE STREAM RUNS ALMOST COMPLETELY WITHIN THE DISTRICT. THE STREAM ORIGINATES AS A DISCHARGE FROM A STORM DRAIN A FEW FEET OUTSIDE THE DC BORDER IN MARYLAND SOUTH OF EAST-WEST HIGHWAY. WITHIN THE DISTRICT, SEVEN STORM DRAINS DISCHARGE INTO FENWICK BRANCH. THROUGHOUT ITS LENGTH THE STREAM IS BORDERED ON EITHER SIDE BY 100 FEET OF PARKLAND. BEYOND THAT THE STREAM IS ENTIRELY URBAN WITH RESIDENTIAL DEVELOPMENT INSIDE THE DISTRICT AND LIGHT INDUSTRIAL DEVELOPMENT IN MARYLAND.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE 2003 HBI SCORE SUGGESTS SOME ORGANIC POLLUTION. NO SENSITIVE ORGANISMS WERE FOUND (EPT). THE STREAM'S HABITAT IS SEVERELY IMPAIRED WITH A DOMINANT TAXA OF CHIRONOMIDAE (TOLERANT GENERALIST). 55 ORGANISMS WERE FOUND IN THE SAMPLE. ONE OTHER FACTOR THAT MAY CAUSE FENWICK BRANCH HABITAT AND MACROINVERTEBRATES TO SUFFER ARE THE 11 OUTFALLS DOCUMENTED IN THE STREAM. TOXICS ARE POSSIBLY RESPONSIBLE AS WELL.

DURING THE 2007 ASSESSMENT IT WAS NOTICE THAT THE RIGHT BANK RIPARIAN ZONE HAD IMPROVED FROM THE 2003 ASSESSMENT.

THE 2009 ASSESSMENT REVEALED BOTH BANKS OF THE STEAM WERE MODERATELY TO SEVERELY ERODED. SILT, SAND AND CLAY WERE ABUNDANT.

Detail Report for FORT CHAPLIN RUN

ID: DCTFC01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**FORT CHAPLIN RUN**	
	Location: FORT CHAPLIN ORIGINATES AS A 6.5 FOOT DIAMETER STORM PIPE NEAR BURNS STREET AND TEXAS AVENUE, SE.	**Water Type:** RIVER **Size:** 0.6 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combined Biota/Habitat Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Debris/Floatables/Trash	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Oil and Grease	Protection and Propagation of Fish, Shellfish and Wildlife	Yes
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes
Physical substrate habitat alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Hydrostructure Impacts on Fish Passage	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness) Physical substrate habitat alterations	
Illegal Dumps or Other Inappropriate Waste Disposal	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness) Physical substrate habitat alterations	
Impacts from Hydrostructure Flow Regulation/modification	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness) Physical substrate habitat alterations	
Landfills	Oil and Grease	
Residential Districts	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness) Physical substrate habitat alterations	
Source Unknown	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Oil and Grease Particle distribution (Embeddedness) Physical substrate habitat alterations	

Comments On:

Overall Assessment

EVALUATION OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF FORT CHAPLIN'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 505 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2002.

BECAUSE OF A FISH CONSUMPTION ADVISORY, FORT CHAPLIN RUN DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHES OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE FORT CHAPLIN RUN IS A TRIBUTARY OF THE ANACOSTIA RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THIS TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO FORT CHAPLIN RUN.

FORT CHAPLIN WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

FORT CHAPLIN RUN IS A MINOR EPHEMERAL TRIBUTARY OF PINEY RUN, A NOW ALMOST COMPLETELY CANALIZED AND SUBTERRANEAN STORM DRAIN WHICH WAS ONCE A SURFACE TRIBUTARY OF THE ANACOSTIA RIVER. FORT CHAPLIN ORIGINATES AS A 6.5 FOOT DIAMETER STORM PIPE NEAR BURNS STREET AND TEXAS AVENUE, SE. THE SURFACE PORTION OF THE STREAM IS A LITTLE OVER A HALF MILE LONG AND HAS A WATERSHED THAT ENCOMPASES ABOUT 270 ACRES WHICH IS ABOUT 90% RESIDENTIAL AND COMMERCIAL PROPERTY AND ABOUT 10% PARKLAND. MOST OF THE SURFACE STREAM IS BUFFERED BY ABOUT 200 FEET OF FORESTED AREA ON EACH SIDE ALTHOUGH THE STREAM RECEIVES SEVERAL STORM DRAINS AND IS PARALLELED AND CROSSED BY NUMEROUS SEWER LINES.

THE INVERTEBRATE SAMPLE COLLECTED IN FORT CHAPLIN WAS DOMINATED BY OLIGOCHAETE WORMS AND CHIRONOMIDS. THE STREAM IS BUFFERED BY A SUPSTANTIAL RIPARIAN ZONE, ALTHOUGH IT RECIEVES

NUMEROUS STORM DRAINS WHICH HAS CAUSED SEVERE EROSION IN SOME PLACES AND IS CROSSED BY SEVERAL SEWER LINES. THE STREAM IS CURRENTLY IN THE PROCESS OF DOWNCUTTING TO SEWER LINES AND SEVERAL STORMWATER OUTFALLS HAVE COLLAPSED INTO THE STREAM.

2002 HBI SCORE SUGGESTS FAIRLY SIGNIFICANT ORGANIC POLLUTION. A HIGH PERCENTAGE OF GATHERER-COLLECTOR ORGANISMS SUGGESTS POLLUTANTS, BECAUSE THEY ARE GENERALIST AND CAN THRIVE IN POLLUTED WATERS. THE DOMINANT TAXA WAS OLIGOCHAETA (SEWAGE LOVING ORGANISMS). 47 ORGANISMS WERE FOUND IN THE SAMPLE. THE STREAM'S HABITAT IS SEVERELY IMPAIRED. THE EROSION IS RAPIDLY DESTROYING THIS STREAM. THERE IS A NEED FOR IMMEDIATE ACTION TO SLOW THE EROSION OF THE STEAMS BANKS.

DURING THE 2008 STREAM ASSESSMENT THERE WAS A BROKEN FIRE HYDRANT OBSERVED DRAINING DIRECTLY INTO THE STREAM. THERE WAS EXTENSIVE SILT AND CLAY PRESENT IN BOTH THE STREAM BED AND ALONG THE BANKS OF THE STREAM PRECEDING THE RIPARIAN BUFFER ZONE. THERE WAS AN ABUNDANCE OF TRASH PRESENT IN AND AROUND THE STREAM ALONG WITH DOWNED (MATURE, OLD) TREES.

Detail Report for FORT DAVIS TRIBUTARY

ID: DCTFD01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**FORT DAVIS TRIBUTARY**	
	Location: FORT DAVIS IS A TRIBUTARY OF THE ANACOSTIA RIVER OF WHICH THE SURFACE PORTION PARALLELS PENNSYLVANIA AVENUE BEGINNING AT ALABAMA AVENUE AND SUBMERGES FOR THE REMAINDER OF ITS COURSE AT PENNSYLVANIA AVENUE ABOVE BRANCH AVENUE.	**Water Type:** RIVER **Size:** 1.4 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS

FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF FORT DAVIS' PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E.COLI COUNT OF 935 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED 2002.

BECAUSE OF A FISH CONSUMPTION ADVISORY, FORT DAVIS TRIBUTARY DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHES OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE FORT DAVIS TRIBUTARY IS A TRIBUTARY OF THE ANACOSTIA RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THIS TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO FORT DAVIS TRIBUTARY.

FORT DAVIS WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

FORT DAVIS IS A TRIBUTARY OF THE ANACOSTIA RIVER OF WHICH THE SURFACE PORTION PARALLELS PENNSYLVANIA AVENUE BEGINNING AT ALABAMA AVENUE AND SUBMERGES FOR THE REMAINDER OF ITS COURSE AT PENNSYLVANIA AVENUE ABOVE BRANCH AVENUE. THE WATERSHED IS ONLY 70 ACRES AND IS ROUGHLY HALF FORESTED AND HALF RESIDENTIAL PROPERTY. THE SOUTHEASTERN SIDE IS BUFFERED BY ABOUT 600 FEET OF FOREST WHILE THE NORTHWESTERN SIDE OF THE STREAM IS PENNSYLVANIA AVENUE. THE STREAM RECEIVES THREE SMALL STORM DRAINS AND IS SURROUNDED BUT NOT CROSSED BY SMALL SEWER LINES.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE 2002 HBI SCORE SUGGESTS SOME ORGANIC POLLUTION.

THE 2008 HABITAT ASSESSMENT REVEALED STREAM BED IS HEAVILY SILTED WITH A STRONG SULFUROUS ODOR EMANATING FROM STREAM. ONLY 50 METERS OF THE 75 METER REACH WAS SAMPLEABLE. PIPED PORTION OF THE STREAM IS CLOGGED WITH WOODY DEBRIS AND TRASH, SLOWING STREAM FLOW. THE STREAM RUNS PARALLEL TO A MAJOR ROAD. THERE WAS NO DISTINCT STREAM BED FOR PORTIONS OF THE 75 METER REACH.

THE DOMINANT TAXA AND ONLY TAXA FOUND WAS A SINGLE OLIGOCHAETA (SEWAGE LOVING ORGANISM). EROSION ON THE RIGHT AND LEFT BANKS WERE SEVERE. BANK EROSION MAY HAVE BEEN THE WORST OUT OF ALL THE STREAMS IN THE COASTAL REGION. THE ENTIRE STREAM WAS FILLED WITH A REDDISH COLOR THAT IS THE SAME COLOR AS THE SILT OR CLAY IN THE STREAMBED.

Detail Report for FORT DUPONT CREEK

ID: DCTDU01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**FORT DUPONT CREEK**	
	Location: THE STREAM AT FORT DUPONT PARK IS A MINOR TRIBUTARY OF THE ANACOSTIA RIVER WHICH ORIGINATES AT FORT DUPONT NEAR ALABAMA AND MASSACHUSETTS AVENUES, SE.	**Water Type:** RIVER **Size:** 1.7 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation Protection and Propagation of Fish, Shellfish and Wildlife
	Not Supporting	Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF FORT DUPONT'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 543 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE WAS NOT ASSESSED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2002.

BECAUSE OF A FISH CONSUMPTION ADVISORY, FORT DUPONT CREEK DID NOT SUPPORT TIS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED UN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHES OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE FORT DUPONT CREEK IS A TRIBUTARY OF THE ANACOSTIA RIVER, FISH MAY MIGRATE FOR THE RIVER INTO THIS TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO FORT DUPONT CREEK.

FORT DUPONT WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

THE STREAM AT FORT DUPONT PARK IS A MINOR TRIBUTARY OF THE ANACOSTIA RIVER WHICH ORIGINATES AT FORT DUPONT NEAR ALABAMA AND MASSACHUSETTS AVENUES, SE. THE STREAM FLOWS ENTIRELY WITHIN THE CONFINES OF FORT DUPONT PARK AND THE WATERSHED OF ABOUT 410 ACRES IS DELIMITED BY THE BOUNDARIES OF THE PARK OF WHICH OVER 90% IS PARKLAND. THERE ARE FEW DEVELOPMENTAL PRESSURES THAT CAN IMPACT THE STREAM WITH ONLY TWO SMALL STORM DRAINS FROM U.S. NATIONAL PARK SERVICE FACILITIES. FORT DUPONT FLOWS INTO A LARGE STORM DRAIN AFTER IT PASSES UNDER THE B&O RAILROAD WHERE IT IS SUBVERTED FOR APPROXIMATELY 900 FEET BEFORE DISCHARGING INTO THE ANACOSTIA RIVER.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE WATERSHED OF FORT DUPONT IS ALMOST ENTIRELY ENCOMPASSED BY PARK SERVICE LAND. ONLY TWO STORM DRAINS ENTER THE PARK AND THERE ARE NO SEWER LINE CROSSING UNTIL JUST ABOVE THE STREAM REACH ENTERS THE PIPE FLOWING TO THE RIVER. THE NATIONAL PARK SERVICE BOARDS SEVERAL POLICE HORSES AND HOUSES A FACILITY MATINTAINENCE YARD ON THE SITE.

THE MONITORING SITE WAS VISITED IN SEPTEMBER 2002 AND COULD NOT BE ASSESSED AS IT WAS DRY.

DURING THE 2008 STREAM ASSESSMENT THERE WAS A HEAVY SEDIMENT LOAD (SILT, CLAY, SAND) PRESENT, WITH AN IRON FLOCCULANTS COATING. THERE ARE TWO WETLAND GROUND WATER SEEPS THAT DRAIN INTO THE STREAM THAT WERE OBSERVED.

Detail Report for FORT STANTON TRIBUTARY

ID: DCTFS01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**FORT STANTON TRIBUTARY**	
	Location: FORT STANTON TRIBUTARY IS A TRIBUTARY OF THE ANACOSTIA RIVER WHICH ORIGINATES NEAR ERIE STREET AND PEARSON PLACE, SE JUST NORTH OF THE SMITHSONIAN'S ANACOSTIA MUSEUM.	**Water Type:** RIVER **Size:** 1.3 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection of Human Health related to Consumption of Fish and Shellfish	Yes	
Combined Biota/Habitat Bioassessments	Protection of Human Health related to Consumption of Fish and Shellfish	Yes	
Particle distribution (Embeddedness)	Protection of Human Health related to Consumption of Fish and Shellfish	Yes	

Source Information

Sources	Associated Causes	Confirmed?
Hydrostructure Impacts on Fish Passage	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Particle distribution (Embeddedness)	
Impacts from Hydrostructure Flow Regulation/modification	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Particle distribution (Embeddedness)	
Residential Districts	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Particle distribution (Embeddedness)	
Site Clearance (Land Development or Redevelopment)	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Particle distribution (Embeddedness)	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF FORT STANTON'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 411 MPN/100ML, FOR 2008-2009.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, FORT STANTON DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994 BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

FORT STANTON WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

FORT STANTON TRIBUTARY IS A TRIBUTARY OF THE ANACOSTIA RIVER WHICH ORIGINATES NEAR ERIE STREET AND PEARSON PLACE, SE JUST NORTH OF THE SMITHSONIAN'S ANACOSTIA MUSEUM. LESS THAN A MILE DOWNSTREAM IT FLOWS INTO A STORMDRAIN WEST OF NAYLOR ROAD ON GOOD HOPE ROAD, SE. WHERE IT IS SUBVERTED FOR THE REST OF ITS JOURNEY TO THE ANACOSTIA. ABOUT HALF OF THE 180 ACRE WATERSHED IS FORT STANTON PARKLAND WITH THE OTHER HALF RESIDENTIAL AND COMMERCIAL PROPERTY. THE STREAM EDGE IS FORESTED AND IT DOES RECEIVE SEVERAL STORM DRAINS.

THE ABOVE DESCRIPTION WAS TAKEN FROM 'BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA,' W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE BIOASSESSMENT REVEALED A HBI THAT INDICATED NO APPARENT ORGANIC POLLUTION.

NO SENSITIVE ORGANISMS WERE FOUND (EPT). ONLY 6 TOLERANT ORGANISMS WERE FOUND IN THE ENTIRE SAMPLE

HIGH % OF GATHERER-COLLECTOR ORGANISMS SUGGEST POLLUTANTS BECAUSE THEY ARE GENERALIST AND CAN THRIVE IN POLLUTED WATER. HABITAT IS SEVERELY IMPAIRED. DOMINANT TAXA OLIGOCHAETA (SEWAGE LOVING ORGANISMS). HABITAT AND TOXICS ARE THE POSSIBLE CAUSES FOR DEGRADATION.

DURING THE 2007 HABITAT ASSESSMENT A NEW HOUSING DEVELOPMENT WAS ON THE LEFT SIDE OF THE BANK FACING UPSTREAM, THERE IS EVIDENCE OF SEVERE EMBEDDEDNESS AND STREAMBANK EROSION. THERE IS A NEW ROAD COVERT. FALLEN TREES ARE PREVALENT.

THE 2009 ASSESSMENT REVEALED EXTENSIVE SILT, SAND, CLAY, OIL, AND IRON FLOCCULANT PRESENT. THERE WAS AN ABUNDANCE OF TRASH PRESENT. A MAJORITY OF BOTH BANKS WERE SEVERELY ERODED. IT WAS NOTED THE APPEARANCE IS MORE LIKE CONSTRUCTION DRAINAGE THAN AN ACTUAL STREAM. DC WASA CUT PATH TO STREAM ON RIGHT BANK TO GET TRASH REMOVAL EQUIPMENT INTO STREAM AREA.

Detail Report for FOUNDRY BRANCH

ID: DCTFB02R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**FOUNDRY BRANCH**	
	Location: FOUNDRY BRANCH ORIGINATES FROM A 60" STORM DRAIN JUST SOUTH OF VAN NESS STREET, NW, BETWEEN NEBRASKA AND WISCONSIN AVENUES. THE SURFACE PORTION OF THE STREAM FLOWS THROUGH GLOVER ARCHIBALD PARK. A LARGE PORTION OF THE STREAM IS SUBTERRANEAN AND EMPTIES	**Water Type:** RIVER **Size:** 0.8 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	**Uses**
Assessed:	Insufficient Information	Primary Contact Recreation Protection and Propagation of Fish, Shellfish and Wildlife
	Not Supporting	Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Other flow regime alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Source Information

Sources	Associated Causes	Confirmed?

Impacts from Hydrostructure Flow Regulation/modification	Other flow regime alterations

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF CONVENTIONAL WATER QUALITY DATA COLLECTED BY THE MAB. IN 2007 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF FOUDRY BRANCH'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 440 MPN/100 ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE WAS NOT ASSESSED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2002.

BECAUSE OF A FISH CONSUMPTION ADVISORY, FOUNDRY BRANCH DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED UN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHES OF THE POTOMAC AND ANACOSTIA RIVERS.

FOUDRY BRANCH WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

TFB02 IS A MONITORING STATION WHERE PHYSICAL, CHEMICAL, AND BIOLOGICAL ASSESSMENT DATA ARE COLLECTED.

ACCORDING TO NATIONAL PARK SERVICE STAFF, THE PORTION OF FOUNDRY BRANCH IN GLOVER ARCHIBALD PARK ABOVE MASSACHUSETTS AVENUE, NW IS HYDROLOGICALLY SEPERATED FROM THE REACH OF FOUNDRY BRANCH BELOW MASSACHUSETTS AVENUE. ALL WATER ABOVE MASSACHUSETTS AVE. ENTERING THE PIPE FLOWS DIRECTLY TO THE POTOMAC RIVER THROUGH THE STORMWATER NETWORK. ALL WATER

FLOWING BELOW MASSACHUSETTS AVE. IN FOUNDRY BRANCH IS HYDROLOGICALLY DISTINCT UNTIL IT ENTERS INTO A PIPE AT RESEVOIR ROAD, NW AND FINALLY DISCHARGES INTO THE POTOMAC RIVER.

FOUNDRY BRANCH FLOWS THROUGH THE ARCHILBALD GLOVER PARK, MAINTAINED BY THE U.S. NATIONAL PARK SERVICE. SEVERAL STREETS CROSS IT AND STORM WATER INPUTS FROM THE IMPERVIOUS SURFACES OUTSIDE OF THE PARK WHICH COMPOSE THE LARGEST PERCENTAGE OF THE WATERSHED AREA. CHIRONOMIDAE AND OLIGOCHAETEA DOMINATED THE INVERTEBRATE COMMUNITY ALTHOUGH RESPECTABLE NUMBERS OF LESS TOLERANT ORGANISMS WERE ALSO IN EVIDENCE. HISTORIC U.S. NAVY OPERATIONS HIGHER IN THE WATERSHED RESULTED IN THE DISPOSAL OF LARGE CONCENTRATIONS OF PCBS WHICH HAVE RECENTLY BEEN REMOVED FROM THEIR DISPOSAL SITES.

FOUNDRY BRANCH WAS VISITED FOR AN ASSESSMENT IN AUGUST 2002. THE MONITORING SITE WAS DRY AND NO BIOLOGICAL ASSESSMENT COULD OCCUR.

DURING THE 2008 STREAM ASSESSMENT THE FOLLOWING OBSERVATIONS WERE MADE: OIL PRESENT, MAIN STREAM IS PIPED. THERE ARE LARGE AMOUNTS OF ALGAE PRESENT ON ROCKS IN STREAM BED. RIPARIAN BUFFER ZONE COMPRISED OF EMERGENT VEGETATION, YOUNG AND OLD DECIDUOUS TREES, AND SHRUBS AND GRASSES.

THE SEGMENT OF FOUNDRY BRANCH ABOVE MASSACHUSETTS ANVENUE, NW HAS BEEN THE SITE OF US NAVY HAZARDEROUS WASTE REMEDIATION AND REMOVAL. HIGH LEVELS OF PCBS WERE REMOVED FROM THE STREAM AND ADJACENT SITED ALONG A SEVERAL HUNDRED METER REACH OF FOUNDRY BRANCH ABOVE MASSACHUSETTS AVENUE. THE HAZARDOUS MATERIAL WAS REMOVED AND THE STREAM AND SITE ARE CURRENTLY BEING RESTORED.

THIS TRIBUTARY WAS ASSESSED AS HAVING A POTENTIAL ORGANIC ENRICHMENT/LOW DISSOLVED OXYGEN WATER QUALITY IMPAIRMENT. THIS DETERMINATION WAS BASED ON A BENTHIC MACROINVERTEBRATE BIOLOGICAL ASSESSMENT WHICH FOUND A DOMINANCE OF THE OLIGOCHAETA ORDER OF AQUATIC WORM IN THE SAMPLED STREAM REACH. A DOMINANCE OF OLIGOCHAETE WORMS IS A STRONG INDICATOR OF ORGANIC ENRICHMENT WHICH CAN BE A MAJOR CAUSE OF LOW DISSOLVED OXYGEN CONCENTRATION (BANTA, 1993).

FOUNDRY BRANCH HAD 26% OF ITS MOST RECENT (1997) BENTHIC INVERTEBRATE SAMPLE IDENTIFIED AS OLIGOCHAETE WORMS.

Detail Report for HICKEY RUN

ID: DCTHR01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**HICKEY RUN**	
	Location: HICKEY RUN IS A WESTERN TRIBUTARY OF THE ANACOSTIA RIVER WHICH RUNS THROUGH THE NAT'L ARBORETUM (THR01).	**Water Type:** RIVER **Size:** 0.9 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Primary Contact Recreation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Alteration in stream-side or littoral vegetative covers	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combined Biota/Habitat Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Debris/Floatables/Trash	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Other flow regime alterations	Protection and Propagation of Fish,	Yes	

	Shellfish and Wildlife	
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Channelization	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	
Illegal Dumps or Other Inappropriate Waste Disposal	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	
Impacts from Hydrostructure Flow Regulation/modification	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Municipal (Urbanized High Density Area)	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

HICKEY RUN WAS NOT ASSESSED FOR PRIMARY CONTACT USE (SWIMMABLE). IN THE 2007 WATER QUALITY STANDARDS PRIMARY CONTACT IS NOT A DESIGNATED USE.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO

CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, HICKEY RUN DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED UN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHES OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE HICKEY RUN IS A TRIBUTARY OF THE ANACOSTIA RIVER, FISH MAY MIGRATE FOR THE RIVER INTO THIS TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO HICKEY RUN.

HICKEY RUN WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

HICKEY RUN IS A WESTERN TRIBUTARY OF THE ANACOSTIA RIVER WHICH RUNS THROUGH THE NAT'L ARBORETUM (THR01). THE STREAM ORIGINATES FROM A LARGE STORM WATER DISCHARGE NORTH OF NY AVE AND RECEIVES DISCHARGE FROM AT LEAST THREE OTHER LARGE STORM DRAINS BEFORE ENTERING THE NATIONAL ARBORETUM. THE WATERSHED IS ABOUT 1080 ACRES OF MOSTLY URBAN LAND (36% IMPERVIOUS). ABOUT 20% OF WATERSHED IS FOREST OR PARKLAND. THE REMAINDER IS RESIDENTIAL (ABOUT 40%), COMMERCIAL AND INDUSTRIAL (ABOUT 40%). THE HICKEY RUN WATERSHED CAN BE DIVIDED INTO TWO PARTS; THE UPPER CATCHMENT DRAINING THE RESIDENTIAL, COMMERCIAL AND INDUSTRIAL AREAS; AND THE LOWER CATCHMENT IN THE IDYLLIC SETTING OF THE NATIONAL ARBORETUM BRFORE DISCHARGING INTO THE ANACOSTIA RIVER JUST ABOVE KINGMAN LAKE.

THE ABOVE DESCRIPTION IS PARTIALLY TAKEN FROM " BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA", W.C. BANTA, THE AMERICAN UNIVERSITY, 1993 AND "THE HICKEY RUN SUBWATERSHED ACTION PLAN, D.L. SHEPP, METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS, DECEMBER 1991.

AT LEAST ONE SEWER LINE DOES CROSS THE STREAM AND THE WATERSHED EXCOMPASES A RAILYARD AND A METRO MAINTAINANCE FACILITY. INPUTS OF OIL AND GREASE FROM THESE AREAS HAVE BEEN KNOWN TO BE CHRONIC PROBLEM WHICH IS CURRENTLY BEING DEALT

WITH.

THE STREAM'S HABITAT WAS SEVERELY DEGRADED. OIL AND GREASE SHEEN WAS OBSERVED.

IN THE 2002 SAMPLE NO INSECTS WERE FOUND, HOWEVER THE HEAVY RAINS SINCE MAY HAVE CAUSED MORE TOXICS TO POLLUTE THE STREAM AND THE MACROINVERTEBRATES WERE NOT ABLE TO RECOVER. THERE WERE NO INSECTS IN THE SAMPLE. TOXICS AND HABITAT DEGRADATION ARE POSSIBLY RESPONSIBLE.

DURING THE 2007 HABITAT ASSESSMENT THE LEFT BANK STABILITY AND RIPARIAN VEGETATION INCREASED FROM THE 2003 ASSESSMENT. EVIDENCE OF CHANNELIZATION THROUGHTOUT THE ENTIRE STRETCH.

IN 2009 NO FISH ASSESSMENT WAS CONDUCTED DUE TO A SEWAGE LEAK FROM DC WASA SERVICE LINES, A MEMO IS ON FILE IN WQD.

Detail Report for KINGMAN LAKE

ID: DCAKL00L_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**KINGMAN LAKE**	
	Location: LOCATED BETWEEN CHILDRENS ISLAND AND RFK STADIUM PARKING LOT ON THE UPPER ANACOSTIA. THE NORTHEAST BOUNDARY SWIRL CONCENTRATOR IS LOCATED JUST DOWN RIVER FROM THE LAKE.	**Water Type:** FRESHWATER LAKE **Size:** 102.7 ACRES **Next Scheduled Montitoring Date:** N/A **Trophic Status:** N/A **Public Lake:** No

Use Information

	Attainment Status	Uses
Assessed:	Fully Supporting	Navigation
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Dissolved oxygen saturation	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Oil and Grease	Primary Contact Recreation	Yes	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2007 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT USE.

EVALUATION OF KINGMAN LAKE'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 528 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT DATA TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS SUPPORTED. TEMPERATURE, PH, AND DISSOLVED OXYGEN VIOLATED THE WATER QUALITY STANDARDS 0%, 7.4%, AND 13.7% OF THE TIME, RESPECTIVELY.

BECAUSE OF A FISH CONSUMPTION ADVISORY IN PLACE, KINGMAN LAKE DID NOT SUPPORT THE FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE DC COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

KINGMAN LAKE FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE USE SUPPORT DECISIONS, KINGMAN LAKE DID NOT SUPPORT THE OVERALL SUPPORT CLASSIFICATION.

KINGMAN LAKE IS TIDALLY INFLUENCED AND, THEREFORE, IS AFFECTED BY THE DISTRICT'S LARGEST CSO (COMBINED SEWER OVERFLOW) WHICH LIES DOWNSTREAM OF THE LAKE'S LOWER INLET.

APPROXIMATELY 42 ACRES OF FRESHWATER TIDAL WETLANDS WERE RESTORED IN THE KINGMAN LAKE AREA IN 2000. A POTENTIALLY SIGNIFICANT PROJECT SLATED FOR THE KINGMAN LAKE AREA IS A NATURAL RECREATION AREA ON KINGMAN ISLAND.

Detail Report for KLINGLE VALLEY

ID: DCTKV01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**KLINGLE VALLEY**	
	Location: KLINGLE VALLEY TRIBUTARY FLOWS THROUGH A RESIDENTIAL AREA AND DISCHARGES INTO ROCK CREEK FROM THE WEST NEAR THE PORTER STREET BRIDGE. THE STREAM'S REACH PARALLELS THE SOUTH SIDE OF KLINGLE ROAD.	**Water Type:** RIVER **Size:** 0.8 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Alteration in stream-side or littoral vegetative covers	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Debris/Floatables/Trash	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Other flow regime alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Residential Districts	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Other flow regime alterations	
Wet Weather Discharges (Non-Point Source)	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Other flow regime alterations	
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Other flow regime alterations	
Yard Maintenance	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Other flow regime alterations	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF KLINGLE VALLEY'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 466 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE DC 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON

THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, KLINGLE VALLEY DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994 BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

KLINGLE VALLEY WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

KLINGLE VALLEY TRIBUTARY FLOWS THROUGH A RESIDENTIAL AREA AND DISCHARGES INTO ROCK CREEK FROM THE WEST NEAR THE PORTER STREET BRIDGE. THE STREAM'S REACH PARALLELS THE SOUTH SIDE OF KLINGLE ROAD. A WOODED BUFFER OF A FEW HUNDRED FEET COVERS ONE SIDE OF THE STREAM WITH THE REST OF THE 320 ACRE WATERSHED RESIDENTIAL URBAN AREA. NINE (9) OUTFALLS INCLUDING ONE CSO LINE THE STREAM.

THE ABOVE DESCRIPTION WAS TAKEN FROM 'BIOLOGICAL WATER QUALITY OF THE SURFACE STREAMS OF THE DISTRICT OF COLUMBIA,' W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE STREAM'S HBI SCORE SUGGESTA FAIRLY SIGNIFICANT ORGANIC POLLUTION. THERE WERE MORE THAN 100 ORGANISMS IN THE SAMPLE. THE SAMPLE WAS DOMINATED BY ORGANISMS THAT CAN SURVIVE IN TOXICS AND ONLY 1 EPT WAS FOUND IN THE SAMPLE. 72 CHIRONOMIDAE (TOLERANT GENERALIST) WERE THE DOMINANT TAXA. THE HABITAT WAS MODERATELY IMPAIRED.

THE EROSION ON THE RIGHT AND LEFT BANKS WAS MODERATELY EFFECTED THROUGH THE RAPID INCREASE OF THE URBANIZATION OF THE DISTRICT OF COLUMBIA. WITH THIS LARGE NUMBER OF TOLERANT TAXA, IT IS POSSIBLE THAT THIS STREAM IS UNHEALTHY BECAUSE OF TOXICS.

THE 2007 HABITAT ASSESSMENT REVEALED MODERATE BANK EROSION ON THE LEFT SIDE FACING UPSTREAM.

THE 2009 ASSESSMENT SITE'S RIGHT BANK IS A CONCRETE RETENTION BARRIER, COVERING 75% OF THE ASSESSMENT SITE.

Detail Report for LUZON BRANCH

ID: DCTLU01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**LUZON BRANCH**	
	Location: THE STREAM FLOWS THROUGH A SMALL PARK AND ENTERS ROCK CREEK AT JOYCE ROAD.	**Water Type:** RIVER **Size:** 1 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Alteration in stream-side or littoral vegetative covers	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combined Biota/Habitat Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Other flow regime alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
CERCLA NPL (Superfund) Sites	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Other flow regime alterations	
Discharges from Municipal Separate Storm Sewer Systems (MS4)	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Other flow regime alterations	
Impacts from Hydrostructure Flow Regulation/modification	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Other flow regime alterations	
Loss of Riparian Habitat	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Other flow regime alterations	
Residential Districts	Alteration in stream-side or littoral vegetative covers Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Other flow regime alterations	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF CONVENTIONAL WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF THIS SECTION OF LUZON BRANCH'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 939 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO

CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2002.

BECAUSE OF A FISH CONSUMPTION ADVISORY, LUZON BRANCH DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

LUZON BRANCH WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

THE STREAM FLOWS THROUGH A SMALL PARK AND ENTERS ROCK CREEK AT JOYCE ROAD. THERE ARE 14 OUTFALLS FROM THE RESIDENTIAL AREA TO THE STREAM INCLUDING ONE CSO. LUZON CREEK EMPTIES INTO ROCK CREEK AT JOYCE ROAD, ABOUT 600 FEET DOWNSTREAM OF THE MILITARY ROAD BRIDGE OVER ROCK CREEK. THE SURFACE PORTION ORIGINATES AS A STORM DRAIN NEAR FORT STEVENS DRIVE AND TRAVELS ALMOST STRAIGHT SOUTHWEST TO ROCK CREEK. MOST OF THE WATERSHED IS RESIDENTIAL AND LIGHT COMMERCIAL. THE SURFACE STREAM IS BUFFERED BY A 100-1,000 FOOT BORDER OF PARKLAND ACCOUNTING FOR 10% OF THE WATERSHED. THERE ARE 14 OUTFALLS FROM THE RESIDENTIAL AREA TO THE STREAM INCLUDING ONE CSO.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE STREAM'S 2002 HBI SCORE SUGGESTED A FAIRLY SIGNIFICANT AMOUNT OF ORGANIC POLLUTION IN THE STREAM. THE DOMINANT TAXA FOUND WAS TURBELLARIA. HABITAT WAS ALSO MODERATELY IMPAIRED ON THE RIGHT BANK AND SEVERELY IMPAIRED ON THE LEFT BANK.

DURING THE 2008 STREAM ASSESSMENT ALGAE WAS PRESENT ON ROCKS AND AN ABUNDANCE OF PIEDMONT ROCKS IN THE STEAM. THERE IS A GOLF COURSE NEAR THE STREAM.

29 ORGANISMS WERE FOUND IN THE SAMPLE COLLECTED. THE DIVERSITY

OF THE STREAM WAS POOR AS EVIDENCED BY ONLY 2 TAXA IDENTIFIED. ORGANICS AND TOXICS ARE POSSIBLY THE CAUSE OF DEGRADATION.

Detail Report for MELVIN HAZEN VALLEY BRANCH

ID: DCTMH01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**MELVIN HAZEN VALLEY BRANCH**	
	Location: THE STREAM FLOWS THROUGH A SMALL PARK AND ENTERS ROCK CREEK AT JOYCE ROAD.	**Water Type:** RIVER **Size:** 1 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combined Biota/Habitat Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Source Information

Sources	Associated Causes	Confirmed?

Residential Districts	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments
Yard Maintenance	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF MELVIN HAZEN'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 982 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STEAM SURVEY CONDUCTED IN 2002.

BECAUSE OF A FISH CONSUMPTION ADVISORY, MELVIN HAZEN DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

MELVIN HAZEN WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

THE STREAM FLOWS THROUGH A SMALL PARK AND ENTERS ROCK CREEK AT JOYCE ROAD. THERE ARE 14 OUTFALLS FROM THE RESIDENTIAL AREA TO THE STREAM INCLUDING ONE CSO. LUZON CREEK EMPTIES INTO ROCK CREEK AT JOYCE ROAD, ABOUT 600 FEET DOWNSTREAM OF THE MILITARY ROAD BRIDGE OVER ROCK CREEK. THE SURFACE PORTION ORIGINATES AS

A STORM DRAIN NEAR FORT STEVENS DRIVE AND TRAVELS ALMOST STRAIGHT SOUTHWEST TO ROCK CREEK. MOST OF THE WATERSHED IS RESIDENTIAL AND LIGHT COMMERCIAL. THE SURFACE STREAM IS BUFFERED BY A 100-1,000 FOOT BORDER OF PARKLAND ACCOUNTING FOR 10% OF THE WATERSHED. THERE ARE 14 OUTFALLS FROM THE RESIDENTIAL AREA TO THE STREAM INCLUDING ONE CSO.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE STREAM'S 2002 HBI SCORE SUGGESTS A SIGNIFICANT ORGANIC POLLUTION. HYDROPSYCHIDAE IS THE DOMINANT TAXA AND THE HABITAT IS SEVERELY IMPAIRED. 47 ORGANISMS WERE FOUND IN THE ENTIRE SAMPLE. HABITAT AND ORGANICS ARE POSSIBLY THE CAUSES OF DEGRADATION TO THE STREAM.

DURING THE 2008 STREAM ASSESSMENT MELVIN HAZEN WAS OBSERVED TO HAVE EXCELLENT HABITAT PRESENT IN THE 75 METER STRETCH. GOOD ABUNDANCE OF PIEDMONT ROCKS PRESENT IN STREAM. THERE WAS A HIKERS TRAIL OBSERVED RUNNING PARALLEL TO THE STREAM.

Detail Report for NASH RUN

ID: DCTNA01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**NASH RUN**	
	Location: NASH RUN IS A TRIBUTARY OF THE ANACOSTIA RIVER WHOSE MOUTH IS A BRAIDED WETLAND THAT EMPTIES INTO THE KENILWORTH MARSH. NASH RUN ORIGINATES FROM A STORMDRAIN AT NASH ROAD AND SHERIFF AVENUES IN DEANWOOD PARK IN MARYLAND	**Water Type:** RIVER **Size:** 0.1 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Other flow regime alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Physical substrate habitat alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Channelization	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness) Physical substrate habitat alterations	
Hydrostructure Impacts on Fish Passage	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness) Physical substrate habitat alterations	
Illegal Dumping	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness) Physical substrate habitat alterations	
Illegal Dumps or Other Inappropriate Waste Disposal	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness) Physical substrate habitat alterations	
Impacts from Hydrostructure Flow Regulation/modification	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness) Physical substrate habitat alterations	
Residential Districts	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness) Physical substrate habitat alterations	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF NASH RUN'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 763 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, NASH RUN DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994 BY THE D.C COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICAION.

NASH RUN IS A TRIBUTARY OF THE ANACOSTIA RIVER WHOSE MOUTH IS A BRAIDED WETLAND THAT EMPTIES INTO THE KENILWORTH MARSH. NASH RUN ORIGINATES FROM A STORMDRAIN AT NASH ROAD AND SHERIFF AVENUES IN DEANWOOD PARK IN MARYLAND. THE STREAMS REACH IS PUNCTUATED BY SEVERAL SEGMENTS THAT HAVE BEEN SUBVERTED INTO PIPES ONLY TO EMERGE AGAIN. ALL BUT 5% OF THE 460 ACRE WATERSHED IS URBAN RESIDENTIAL AND COMMERCIAL. THE STREAM RECEIVES NUMEROUS STORMDRAINS AND IS PARALLELED AND CROSSED BY SEVERAL SEWER LINES.

THE ABOVE DESCRIPTION WAS TAKEN FROM 'BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARIES OF THE DISTRICT OF COLUMBIA,' BY W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE HBI SCORE SUGGESTED SOME ORGANIC POLLUTION. MORE THAN 100 ORGANISMS WERE FOUND IN THE SAMPLE. 2 TAXA THAT ARE CATEGORIZED AS SENSITIVE TO TOXICS (EPT) WERE IDENTIFIED.

ONE MAYFLY AND ONE CADDIS FLY WERE IN THE SAMPLE. D.O. AND TEMPERATURE SUPPORTED WITH A 0.0% VIOLATION OF THE STANDARD. PH VIOLATED 5% OF THE TIME.

THE 2007 HABITAT ASSESSMENT IN NASH RUN REVEALED THE HABITAT HAD BEEN SEVERELY IMPACTED. EXPOSURE TO TOXICS POSSIBLY DEGRADED THE STREAM. IMPROVING THE HABITAT COULD IMPROVE THE OVERALL QUALITY OF THE STREAM. THE HABITAT QUALITY HAS NOT IMPROVED FROM THE 2003 ASSESSMENT.

THE 2009 ASSESSMENT REVEAL HIGH TRASH VOLUMES AND DOWNED TREES AT THE 75 METER PORTION OF THE STREAM ACTING AS A TRASH TRAP.

Detail Report for NORMANSTONE CREEK

ID: DCTNS01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**NORMANSTONE CREEK**	
	Location: NORMANSTONE CREEK FLOWS THROUGH A SMALL RESIDENTIAL PARK AND ENTERS ROCK CREEK FROM THE WEST ABOUT 1000 FEET ABOVE THE MASSACHUSETTS AVENUE BRIDGE BELOW THE ZOO. THE STREAM ORIGINATES AS A STORMDRAIN NEAR GARFIELD AVENUE AND 3RD STREET, NW	**Water Type:** RIVER **Size:** 0.8 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation Protection and Propagation of Fish, Shellfish and Wildlife
	Not Supporting	Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Debris/Floatables/Trash	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Other flow regime alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Source Information

Sources	Associated Causes	Confirmed?
CERCLA NPL (Superfund) Sites	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Other flow regime alterations	
Hydrostructure Impacts on Fish Passage	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Other flow regime alterations	
Impacts from Hydrostructure Flow Regulation/modification	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Other flow regime alterations	
Yard Maintenance	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Other flow regime alterations	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2007 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF NORMANSTONE'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E.COLI COUNT OF 644 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2007 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, NORMANSTONE DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994 BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF

COLUMBIA WATERS.

NORMANSTONE WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

NORMANSTONE CREEK FLOWS THROUGH A SMALL RESIDENTIAL PARK AND ENTERS ROCK CREEK FROM THE WEST ABOUT 1000 FEET ABOVE THE MASSACHUSETTS AVENUE BRIDGE BELOW THE ZOO. THE STREAM ORIGINATES AS A STORMDRAIN NEAR GARFIELD AVENUE AND 3RD STREET, NW. THE 231 ACRE WATERSHED INCLUDES MOST OF THE GROUNDS OF THE WASHINGTON CATHEDRAL AND PART OF THE U.S. NAVAL OBSERVATORY AS WELL AS PARTS OF CLEVELAND AND WOODLEY PARKS. MOST OF THE ACREAGE IS RESIDENTIAL AND LIGHT COMMERCIAL PROPERTY WITH ABOUT 10% PARKLAND. THE STREAM PARALLELS NORMANSTONE PARKWAY AND IS CROSSED SEVERAL TIMES BY SMALL SEWER LINES AND LARGE STORM DRAINS.

THE ABOVE DESCRIPTION WAS TAKEN FROM 'BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA,' W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE BIOASSESSMENT REVEALED A HBI THAT INDICATED NO APPARENT ORGANIC POLLUTION.

NO SENSITIVE ORGANISMS WERE FOUND (EPT). 6 ORGANISMS WERE FOUND IN THE ENTIRE SAMPLE

HIGH % OF GATHERER-COLLECTOR ORGANISMS SUGGEST POLLUTANTS BECAUSE THEY ARE GENERALIST AND CAN THRIVE IN POLLUTED WATER. HABITAT IS SEVERELY IMPAIRED. DOMINANT TAXA OLIGOCHAETA (SEWAGE LOVING ORGANISMS). HABITAT AND TOXICS ARE THE POSSIBLE CAUSES FOR DEGRADATION.

DURING THE 2007 HABITAT ASSESSMENT A NEW HOUSING DEVELOPMENT WAS ON THE LEFT SIDE OF THE BANK FACING UPSTREAM, THERE IS EVIDENCE OF SEVERE EMBEDDEDNESS AND STREAMBANK EROSION. THERE IS A NEW ROAD CULVERT. FALLEN TREES ARE PREVALENT.

THE 2009 ASSESSMENT REVEALED LARGE CHUNKS OF CONCRETE (BROKE STORM/SEWER PIPES) IN THE STREAM BED. STREAM WAS MALODOROUS, WITH A STRONG SMELL OF SULFUR. THE LEFT BANK IS SEVERELY ERODED.

Detail Report for OXON RUN

ID: DCTOR01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**OXON RUN**	
	Location: THIS STREAM ORIGINATES IN PRINCE GEORGES COUNTY, MARYLAND AND FLOWS INTO THE DISTRICT BEFORE IT DIPS BACK INTO MARYLAND JUST BEFORE IT ENTERS OXON COVE	**Water Type:** RIVER **Size:** 3.2 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Debris/Floatables/Trash	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Source Information

Sources	Associated Causes	Confirmed?
Channelization	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	
Hydrostructure Impacts on Fish Passage	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	
Illegal Dumping	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	
Illegal Dumps or Other Inappropriate Waste Disposal	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	
Impacts from Hydrostructure Flow Regulation/modification	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	
Post-development Erosion and Sedimentation	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	
Residential Districts	Combination Benthic/Fishes Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF OXON RUN'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 520 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2002.

BECAUSE OF A FISH CONSUMPTION ADVISORY, OXON RUN DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED UN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHES OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE OXON RUN IS A TRIBUTARY OF THE POTOMAC RIVER, FISH MAY MIGRATE FOR THE RIVER INTO THIS TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO OXON RUN.

OXON RUN WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

OXON RUN IS A TRIBUTARY OF THE POTOMAC RIVER WHICH DISCHARGES INTO THE RIVER WHERE THE SOUTHEASTERN DISTRICT LINE MEETS OXON COVE. THIS STREAM ORIGINATES IN PRINCE GEORGES COUNTY, MARYLAND AND FLOWS INTO THE DISTRICT BEFORE IT DIPS BACK INTO MARYLAND JUST BEFORE IT ENTERS OXON COVE. THE WATERSHED IS ABOUT 2,650 ACRES OF WHICH 37% IS IN THE DISTRICT. ABOUT 15% OF THE WATERSHED IS FORESTED WITH THE REST RESIDENTIAL AND COMMERCIAL PROPERTY. MOST OF ITS REACH WITHIN THE DISTRICT HAS BEEN CANALIZED AND MOST OF ITS TRIBUTARIES ARE PIPED. IT IS PARALLELED AND CROSSED BY NUMEROUS SEWER LINES OF ALL SIZES.

ALTHOUGH OXON RUN IS PREDOMINANTLY A CONCRETE CHANNEL THROUGHOUT ITS REACH IN THE DISTRICT, THERE ARE TWO RELATIVELY LARGE SEGMENTS WHICH ARE STILL IN THEIR 'NATURAL 'STATE. ONE OF THE SEGMENTS IS NEAR THE END OF THE TRIBUTARY AT THE DISTRICT LINE BEFORE IT REACHES THE POTOMAC RIVER. BECAUSE BIOLOGICAL SAMLPING WAS CONDUCTED AS LOW AS POSSIBLE IN EACH WATERSHED TO INCORPORATE THE CUMULATIVE EFFECTS OF EACH STREAM IMPACTS, OXON RUN WAS SAMPLED IN ONE OF THESE 'NATURAL' AREA. THIS SEGEMENT PRODUCED A MUCH HIGHER HABITAT ASSESSMENT THAN WOULD HAVE BEEN SCORED IN A CHANNELIZED SEGMENT AND RECORDED A BIOLOGICAL ASSESSMENT THAT INDICATED WATER QUALITY INPAIRMENT FROM TOXIC AND ORGANIC SOURCES. OXON RUN IS A LARGE TRIBUTARY BY DISTRICT STANDARDS AND SHARES A MAJORITY OF ITS WATERSHED WITH MARYLAND. IT IS HIGHLY CHANNELIZED AND MOST OF ITS FIRST AND SECOND ORDER TRIBUTARIES ARE PIPED INTO THE MAIN REACH. STORMWATER PIPES DISCHARGE AT NUMEROUS LOCATION ALONG

ITS COURSE AND SEVERAL SEWER LINES CROSS AND PARALLEL IT. THERMAL WATER QUALITY POLLUTION IS ALSO MOST LIKELY A SIGNIFICANT IMPACT DURING THE SUMMER SEASON.

THE ABOVE DESCRIPTION WAS TAKEN FROM 'BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA,' W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE 2002 HBI SCORE SUGGESTS FAIRLY SIGNIFICANT ORGANIC POLLUTION. A HIGH PERCENTAG OF EPT, SUGGEST THE STREAMS HAS SOME SENSITIVE ORGANISMS. THE DOMINANT TAXA WAS COENAGRINIDAE. 42 ORGANISMS WERE FOUND IN THE SAMPLE.

OBSERVATIONS FROM THE 2008 STREAM ASSESSMENT INCLUDE OIL SHEEN PRESENT ON SURFACE OF 75 METER STRETCH. STREAM IS BRAIDED AT THE MACRO INVERTEBRATE AND FIN-FISH SAMPLING LOCATIONS. STREAM SAMPLING SITE RUNS PARALLEL TO A COVERED LAND FILL. STREAM WAS SAMPLED IN WESTERN BRAID UP STREAM OF CONFLUENCE. THE 75 METER PORTION OF THE REACH WAS EXTREMELY STRAIGHT.

Detail Report for PINEHURST BRANCH

ID: DCTPI01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**PINEHURST BRANCH**	
	Location: PINEHURST BRANCH IS A TRIBUTARY OF ROCK CREEK WHOSE MOUTH IS ABOUT 1,200 FEET NORTH OF THE INTERSECTION OF BINGHAM DRIVE AND BEACH DRIVE NW	**Water Type:** RIVER **Size:** 1.5 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Source Information

Sources	Associated Causes	Confirmed?
Residential Districts	Combination Benthic/Fishes Bioassessments	

Yard Maintenance Combination Benthic/Fishes Bioassessments

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF PINEHURST BRANCH'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 457 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, PINEHURST BRANCH DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

PINEHURST BRANCH WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

PINEHURST BRANCH STREAM FLOWS FROM A RESIDENTIAL SECTION OF MARYLAND TO ROCK CREEK IN THE DISTRICT. TEN OUTFALLS DISCHARGE TO THIS STREAM. PINEHURST BRANCH IS A TRIBUTARY OF ROCK CREEK WHOSE MOUTH IS ABOUT 1,200 FEET NORTH OF THE INTERSECTION OF BINGHAM DRIVE AND BEACH DRIVE NW. THE STREAM ORIGINATES AT THE DC/MARYLAND LINE IN CHEVY CHASE MANOR, MARYLAND. THE WATERSHED IS ABOUT 70% URBANIZED RESIDENTIAL AND COMMERCIAL.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE DOMINANT TAXA FOUND WAS CHIRONOMIDAE (TOLERANT GENERALIST). HABITAT WAS ALSO MINIMALLY IMPAIRED. ONLY 17 (A LOW NUMBER) ORGANISMS WERE FOUND IN THE ENTIRE SAMPLE. TOXICS AND ORGANICS ARE POSSIBLY DEGRADING THE STREAM.

Detail Report for PINEY BRANCH

ID: DCTPY01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**PINEY BRANCH**	
	Location: THIS MINOR STREAM WHICH ENTERS ROCK CREEK FROM THE EAST ABOVE THE NATIONAL ZOO	**Water Type:** RIVER **Size:** 1 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation Protection and Propagation of Fish, Shellfish and Wildlife
	Not Supporting	Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF PINEY BRANCH'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2008. WITH AN AVERAGE E. COLI COUNT OF 1375 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE SUPPORT WAS NOT ASSESSED; DUE TO AN OVERSIGHT IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, PINEY BRANCH DID NOT SUPPORT ITS FISH CONSUMPTION USE DESIGNATION. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHS OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE PINEY BRANCH IS A TRIBUTARY OF THE POTOMAC RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THE TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO PINEY BRANCH.

PINEY BRANCH WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

PINEY BRANCH HAS THE LARGEST WATERSHED OF ANY TRIBUTARY OF ROCK CREEK ENTIRELY IN THE DISTRICT OF COLUMBIA. THIS MINOR STREAM WHICH ENTERS ROCK CREEK FROM THE EAST ABOVE THE NATIONAL ZOO IS INDICATED ON THE USGS 7.5 MINUTE QUADRANGLE AS A TEMPORARY STREAM RUNNING NEAR THE CENTER OF A STRIP OF FORESTED PARKLAND ABOUT 1,000 YARDS WIDE. THE STREAM HAS A VERY LARGE WATERSHED (2,500 ACRES) COMPARED TO THE ACTUAL STREAM SIZE WHICH IS ATTRIBUTABLE TO THE EXTENSIVE SYSTEM OF COMBINED SEWER/STORM DRAINS THAT COLLECT RUNOFF. DURING PERIODS OF HIGH FLOWS THE EXCESS WATER FROM THESE LINES COMBINE WITH RAW SEWAGE AND ARE DISCHARGED INTO THE STREAM.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

PINEY BRANCH IS A RECIPIENT OF COMBINED SEWER OVERFLOW DURING HEAVY STORM PEAK FLOWS. THIS EFFECT COUPLED WITH THE STORMWATER DRAIN INPUTS CAUSE EPISODIC WATER QUALITY STRESSORS EVIDENCED BY THE DOMINANCE OF CHIRONOMID MIDGE LARVAE. THE WATERSHED ENCOMPASES A RELATIVELY LARGE PRIMARILY RESIDENTIAL AREA WHICH IS MOST LIKELY THE SOURCE OF TOXICS FROM VARIOUS UNIDENTIFIED SOURCES.

DURING THE 2008 HABITAT ASSESSMENT IT WAS OBSERVED THAT THE STREAM EMERGES FROM A NETWORK OF PIPED STREAMS S.W. OF OUTFALLS. LARGE AMOUNTS OF ALGAE PRESENT. GOOD ABUNDANCE OF PIEDMONT ROCKS PRESENT IN STREAM. HIGH NUMBER OF LEECHES OBSERVED IN STREAM. STREAM RUNS PARALLEL TO MAJOR ROAD WAY.

Detail Report for POPES BRANCH (HAWES RUN)

ID: DCTPB01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**POPES BRANCH (HAWES RUN)**	
	Location: POPE'S BRANCH, THE LOWER REACHES OF WHICH WERE ONCE CALLED HAWES RUN, DISCHARGES INTO THE ANACOSTIA RIVER BY WAY OF A STORMWATER PIPE ABOVE THE EASTERN FOOTING OF THE PENNSYLVANIA AVENUE SOUSA BRIDGE	**Water Type:** RIVER **Size:** 1.1 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combined Biota/Habitat Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Source Information

Sources	Associated Causes	Confirmed?
Channelization	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Particle distribution (Embeddedness)	
Hydrostructure Impacts on Fish Passage	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Particle distribution (Embeddedness)	
Illegal Dumping	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Particle distribution (Embeddedness)	
Illegal Dumps or Other Inappropriate Waste Disposal	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Particle distribution (Embeddedness)	
Residential Districts	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Particle distribution (Embeddedness)	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF POPE BRANCH'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 1954 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NOT CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, POPE BRANCH DID NOT SUPPORT ITS FISH CONSUMTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED

ON NOVEMBER 15, 1994 BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

POPE BRANCH WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

POPE BRANCH, THE LOWER REACHES OF WHICH WERE ONCE CALLED HAWES RUN, DISCHARGES INTO THE ANACOSTIA RIVER BY WAY OF A STORMWATER PIPE ABOVE THE EASTERN FOOTING OF THE PENNSYLVANIA AVENUE SOUSA BRIDGE. THE SURFACE PORTION OF THE STREAM ORIGINATES NEAR TEXAS AVENUE AND NASH STREET, SE. THE WATERSHED OF ABOUT 210 ACRES INCLUDES A FORESTED SECTION OF UP TO 400 FEET WIDE CALLED POPE'S BRANCH PARK AND ALL OF FORT DAVIS. THE FORESTED WATERSHED ACCOUNTS FOR ABOUT 15% WITH THE REMAINDER RESIDENTIAL AND LIGHT COMMERCIAL PROPERTY. THE STREAM RECEIVES NUMEROUS STORMWATER DISCHARGES ALONG ITS REACH AND IS PARALLELED AND CROSSED BY MANY SMALL SEWER LINES.

THE ABOVE DESCRIPTION WAS TAKEN FROM 'BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA,' W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE 2003 HBI SCORE SUGGESTS SOME ORGANIC POLLUTION. NO SENSITIVE ORGANISMS WERE FOUND (EPT). A HIGH PERCENTAGE OF GATHERER-COLLECTOR ORGANISMS SUGGEST POLLUTANTS, BECAUSE THEY ARE GENERALIST AND CAN THRIVE IN POLLUTED WATER. ALL 75 METERS OF THE HABITAT WERE MODERATELY IMPAIRED. THE DOMINANT TAXA WAS OLIGOCHAETA (WHICH SUGGEST SEWAGE LOVING ORGANISIMS). 39 ORGANISMS FOUND IN THE ENTIRE SAMPLE. HABITAT AND TOXICS ARE THE POSSIBLE CAUSES FOR DEGRADATION.

A LARGE AMOUNT SEDIMENT WAS PRESENT DURING THE 2007 HABITAT ASSESSMENT. LEFT BANK STABILITY, FACING UPSTREAM, WAS INCONSISTENT THROUGHOUT.

THE 2009 ASSESSMENT REVEALED AN ABUNDANCE OF SILT, SAND, CLAY AND TRASH PRESENT. LOTS OF DOWNED TREES AT THE ZERO METER PORTION OF THE STREAM. THE STREAM IS SEVERELY EMBEDDED.

Detail Report for PORTAL BRANCH

ID: DCTPO01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**PORTAL BRANCH**	
	Location: PORTAL BRANCH FLOWS FROM MARYLAND INTO THE NORTHERN CORNER OF THE DISTRICT TO FENWICK BRANCH IN THE DISTRICT BEFORE JOINING ROCK CREEK	**Water Type:** RIVER **Size:** 0.5 MILES **Next Scheduled Montitoring Date:** N/A

Use Information		
	Attainment Status	**Uses**
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combined Biota/Habitat Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Debris/Floatables/Trash	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Illegal Dumping	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	
Illegal Dumps or Other Inappropriate Waste Disposal	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	
Municipal (Urbanized High Density Area)	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	
Post-development Erosion and Sedimentation	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Particle distribution (Embeddedness)	

Comments On:

Overall Assessment

EVALUATION OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF PORTAL BRANCH'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 505 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED 2002.

BECAUSE OF A FISH CONSUMPTION ADVISORY, PORTAL BRANCH DID NOT

SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

PORTAL BRACH WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

PORTAL BRANCH FLOWS FROM MARYLAND INTO THE NORTHERN CORNER OF THE DISTRICT TO FENWICK BRANCH IN THE DISTRICT BEFORE JOINING ROCK CREEK. PORTAL BRANCH JOINS FENWICK BRANCH ABOUT 120 FEET NORTH OF FENWICK'S MOUTH AT ROCK CREEK. THE SURFACE STREAM IS ENTIRELY WITHIN THE DISTRICT BUT ONLY 36% OF IT'S WATERSHED IS WITHIN DC'S BORDERS. A TOTAL OF 10 OUTFALLS DISCHARGE INTO THIS STREAM SIX WITHIN THE DISTRICT. THE SURFACE PORTION OF THE STREAM IS BUFFERED BY 100 FEET OF PARKLAND AND IS PARALLELED BY SEWAGE LINES. THE 198 ACRE WATERSHED IS A MIX OF COMMERCIAL AND RESIDENTIAL PROPERTY.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA," W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

PORTAL BRANCH IS LIKELY TO BE SIGNIFICANTLY IMPACTED BY ORGANIC AND TOXIC EFFECTS. THE WATERSHED WITHIN THE DISTRICT OF COLUMBIA IS RESIDENTIAL AND PARKLAND PROPERTY. WHILE THE MARYLAND PORTION HAS INDUSTRIAL AND COMMERCIAL USES.

THE 2002 HBI SCORE SUGGESTS SIGNIFICANT ORGANIC POLLUTION. THE DOMINANT TAXA IDENTIFIED WAS GASTROPODA, WHICH IS VERY TOLERANT TO TOXIC WATER QUALITY. HABITAT IN THE STREAM WAS SEVERELY IMPAIRED. ONLY 21 ORGANISMS WERE FOUND IN THE ENTIRE SAMPLE. SIX STORM DRAINS THAT DISCHARGE IN DC AFFECT PORTAL BRANCH. ORGANICS AND HABITAT ARE POSSIBLY THE CAUSE OF DEGRADATION TO THE STREAM.

DURING THE 2008 STEAM ASSESSMENT IT WAS OBSERVED THAT THE STREAM WAS NOTICEABLY BRAIDED WITH HIGH AMOUNTS OF FINE SEDIMENT LOADS PRESENT. THERE WAS ALSO A LARGE AMOUNT OF ALGAE PRESENT ON THE ROCKS THAT LINED THE STREAM BED.

Detail Report for POTOMAC DC

ID: DCPMS00E_01 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**POTOMAC DC**	
	Location: HAINES POINT TO WOODROW WILSON BRIDGE (PRINCE GEORGE'S COUNTY MARYLAND LINE) (PMS29 TO PMS44), TIDAL FRESHWATER. RIVER PASSES THROUGH AN URBAN AREA OF COMMERCIAL BUILDINGS, MILITARY BASES AND MUNICIPAL FACILITIES.	**Water Type:** ESTUARY **Size:** 3.05 SQUARE MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Fully Supporting	Navigation Protection and Propagation of Fish, Shellfish and Wildlife
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF THE LOWER POTOMAC'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 319 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT DATA TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS SUPPORTED. TEMPERATURE, PH AND DISSOLVED OXYGEN VIOLATED THE WATER QUALITY STANDARDS 0%, 8.3%, AND 0% OF THE TIME, RESPECTIVELY.

BECAUSE OF A FISH CONSUMPTION ADVISORY IN PLACE THIS SECTION OF THE POTOMAC DID NOT SUPPORT THE FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

THIS SECTION OF THE POTOMAC FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE USE SUPPORT DECISIONS, THIS SEGMENT OF THE POTOMAC DID NOT SUPPORT ITS OVERALL USE.

THE POTOMAC ESTUARY SEGMENT UNDER REVIEW EXTENDS FROM HAINS POINT TO WOODROW WILSON BRIDGE.

REPORTS WITH MORE INFORMATION INCLUDE:

* IMPACT OF DREDGING, ICPRB, FISH TISSUE SURVEY, ICPRB, SEDIMNET TOXICITY SURVEY, ICPRB; WETLAND ASSESSMENT, MWCOG, PETROLEUM OIL SPILL, VERSAR* A DISSOLVED OXYGEN STUDY OF THE UPPER POTOMAC ESTUARY-FINAL REPORT, MWCOG; POTOMAC RIVER WATER QUALITY 1982-1986 - TRENDS AND ISSUES IN THE METROPOLITAN WASHINGTON AREA, MWCOG.

* AWRC. 1997. DRAFT ANACOSTIA WATERSHED RESTORATION PROGRESS AND CONDITIONS REPORT 1990-1996. DEPT. OF ENVIRONMENTAL PROGRAM,

MWCOG. WASH., DC.

* SEDIMENT CONTAMINATION STUDIES OF THE POTOMAC AND ANACOSTIA RIVER AROUND THE DISTRICT OF COLUMBIA, ICPRB, 1992.

* FISH TISSUE SURVEY, ICPRB, VELINSKY, 1993.

* EMERGENT WETLAND ESTABLISHMENT UNDER DIFFERING HABITAT CONDITIONS IN THE ANACOSTIA AND POTOMAC RIVER BASIN, HORN POINT ENVIRONMENTAL LABORATORY, CEES AND MWCOG, 1991.

Detail Report for POTOMAC DC

ID: DCPMS00E_02 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**POTOMAC DC**	
	Location: KEY BRIDGE, GEORGETOWN, TO HAINS POINT (PMS10 TO PMS 29), TIDAL FRESHWATER. RIVER PASSES THROUGH AN URBAN AREA OF COMMERCIAL AND RESIDENTIAL BUILDINGS AND NATIONAL PARK SERVICE LAND.	**Water Type:** ESTUARY **Size:** 1.38 SQUARE MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Fully Supporting	Navigation
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATIONS OF THE MIDDLE POTOMAC'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 898 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT ITS SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. TEMPERATURE, PH AND DISSOLVED OXYGEN VIOLATED THE WATER QUALITY STANDARDS 0%, 18%, AND 0% OF THE TIME, RESPECTIVELY.

BECAUSE OF A FISH CONSUMPTION ADVISORY, THE MIDDLE POTOMAC DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

THE MIDDLE POTOMAC FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE USE SUPPORT DECISIONS, THE MIDDLE POTOMAC DID NOT SUPPORT ITS OVERALL SUPPORT USE CLASSIFICATION.

THE MID-TIDAL POTOMAC WATERBODY SEGMENT EXTENDS FROM KEY BRIDGE TO HAINS POINT.

REPORTS CONTAINING MORE INFORMATION INCLUDE:

POTOMAC RIVER WATER QUALITY 1982-1986 - TRENDS AND ISSUES IN THE METROPOLITAN WASHINGTON, D.C.; IMPACT OF DREDGING, ICPRB; FISH TISSUE SURVEY, ICPRB; SEDIMENT TOXICITY SURVEY, ICPRB; WETLAND ASSESSMENT, MWCOG; PETROLEUM OIL SPILL, VERSAR.

* SEDIMENT CONTAMINATION STUDIES OF THE POTOMAC AND ANACOSTIA RIVER AROUND THE DISTRICT OF COLUMBIA, ICPRB, 1992.

* FISH TISSUE SURVEY, ICPRB, VELINSKY, 1993.

* EMERGENT WETLAND ESTABLISHMENT UNDER DIFFERING HABITAT CONDITIONS IN THE ANACOSTIA AND POTOMAC RIVER BASIN, HORN POINT ENVIRONMENTAL LABORATORY, CEES AND MWCOG, 1991.

Detail Report for POTOMAC DC

ID: DCPMS00E_03 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**POTOMAC DC**	
	Location: CHAIN BRIDGE (MONTGOMERY COUNTY MARYLAND LINE), JUST BELOW FALL LINE, TO KEY BRIDGE (PMS01 TO PMS10), TIDAL FRESHWATER. BORDERED BY NATIONAL PARK SERVICE LAND.	**Water Type:** ESTUARY **Size:** 0.4 SQUARE MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Fully Supporting	Navigation
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATIONS OF THE UPPER POTOMAC'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 88 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE SUPPORT IS NOT SUPPORTED. TEMPERATURE, PH AND DISSOLVED OXYGEN VIOLATED THE WATER QUALITY STANDARDS 0%, 23.5 %, AND 0% OF THE TIME, RESPECTIVELY.

BECAUSE OF A FISH CONSUMPTION ADVISORY, THE UPPER POTOMAC DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

THE UPPER POTOMAC FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

THIS WATERBODY SEGMENT INCLUDES THE UPPER TIDAL POTOMAC FROM CHAIN BRIDGE, D.C. BORDER, TO KEY BRIDGE (GEORGETOWN). THIS SEGMENT IS AFFECTED BY HIGH TOXINS IN SEDIMENTS, AND FISH CONTAMINATED WITH TOXINS.

REPORTS WITH MORE INFORMATION INCLUDE:

* SEDIMENT CONTAMINATION STUDIES OF THE POTOMAC AND ANACOSTIA RIVER AROUND THE DISTRICT OF COLUMBIA, ICPRB, 1992.

* FISH TISSUE SURVEY, ICPRB, VELINSKY, 1993.

* EMERGENT WETLAND ESTABLISHMENT UNDER DIFFERING HABITAT CONDITIONS IN THE ANACOSTIA AND POTOMAC RIVER BASIN, HORN POINT ENVIRONMENTAL LABORATORY, CEES AND MWCOG, 1991.

Detail Report for ROCK CREEK DC

ID: DCRCR00R_01 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**ROCK CREEK DC**	
	Location: THE SOUTHERN OR LOWER SEGMENT OF ROCK CREEK WHICH EXTENDS FROM IT'S MOUTH AT THE POTOMAC RIVER IN GEORGETOWN UP TO JUST ABOVE THE NATIONAL ZOO BELOW THE PIERCE MILL DAM	**Water Type:** RIVER **Size:** 3.6 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Fully Supporting	Navigation
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Other flow regime alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Post-development Erosion and Sedimentation	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	
Residential Districts	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	
Wet Weather Discharges (Non-Point Source)	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF LOWER ROCK CREEK'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E. COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 716 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE SUPPORT IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, LOWER ROCK CREEK DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES

BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHS OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE ROCK CREEK IS A TRIBUTARY OF THE POTOMAC RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THE TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO ROCK CREEK.

LOWER ROCK CREEK FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

THE SOUTHERN OR LOWER SEGMENT OF ROCK CREEK EXTENDS FROM IT'S MOUTH AT THE POTOMAC RIVER IN GEORGETOWN TO JUST ABOVE THE NATIONAL ZOO, BELOW THE PIERCE MILL DAM. THE ENTIRE REACH OF THIS SEGMENT OF THE TRIBUTARY IS ENCLOSED BY ROCK CREEK PARK. THIS TRIBUTARY IS DESIGNATED AS A "SPECIAL WATERS OF THE DISTRICT OF COLUMBIA" UNDER THE DISTRICT'S WATER QUALITY STANDARDS.

LOWER ROCK CREEK SUFFERS FROM A COMBINATION OF STRESSORS FROM ITS TRIBUTARY STREAMS. THESE TRIBUTARY STREAMS ARE PREDOMINANTLY BUFFERED BY PARKLAND BUT STILL RECIEVE STORMWATER DISCHARGES FROM URBAN IMPERVIOUS SURFACES AS WELL AS PROBABLE LEEKAGE FROM UNIDENTIFIED SEWER LINES CROSSING THE STREAMS. NUTRIENT ENRICHMENT, PHYSICAL HABITAT PROBLEMS AND TOXIC EFFECTS ALL MAY BE ATTRIBUTED TO THESE CAUSES.

HBI SUGGEST THERE MAY BE FAIRLY SIGNIFICANT ORGANIC POLLUTION. NO SENSITIVE ORGANISMS WERE FOUND (EPT). CHIRONOMIDAE (GENERALIST THAT CAN THRIVE IN POLLUTED WATERS) WERE THE DOMINANT TAXA. THE HABITAT IS MINIMALLY TO MODERATELY IMPAIRED. DO, PH AND TEMPERATURE STANDARDS WERE FULLY SUPPORTED. ONLY 10 ORGANISMS FOUND IN THE ENTIRE SAMPLE. THE DOMINANT TAXA FOR 2002 (HYDROPSYCHIDAE) HAS BEEN REPLACED BY CHIRONOMIDAE. ONLY 2 TAXA WERE FOUND IN THIS STREAM. THE WET WEATHER OF 2004 HAS POSSIBLY CAUSED AN INFLUX OF TOXINS TO DEGRADE THE STREAM.

DURING THE 2007 HABITAT ASSESSMENT IT HAS BEEN NOTED IN THIS PORTION OF LOWER ROCK CREEK THE CANOPY HAS BEEN SOMEWHAT REDUCED FROM PREVIOUS YEARS.

ON MAY 7, 2008 LARGE AMOUNTS OF TREATED WATER ENTERED STREAM FROM A 16 INCH WATERMAIN BREAK IN MONTGOMERY COUNTY. THIS EVENT COULD POSSIBLY AFFECT THE 2009 MACROINVERTEBRATE AND FIN

FISH ASSESSMENTS.

THE 2009 ASSESSMENT REVEALED LEFT BANK EROSION AND LITTLE TO NO CANOPY COVER.

Detail Report for ROCK CREEK DC

ID: DCRCR00R_02 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**ROCK CREEK DC**	
	Location: THE NORTHERN SEGMENT OF ROCK CREEK EXTENDING FROM THE PIERCE MILL DAM ABOVE THE NATIONAL ZOO AND KLINGLE ROAD TO THE DISTRICT/MARYLAND LINE. THIS SEGMENT OF ROCK CREEK FLOWS ABOVE THE FALL LINE AND IS SURROUNDED BY ROCK CREEK PARK.	**Water Type:** RIVER **Size:** 5.9 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Fully Supporting	Navigation
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Other flow regime alterations	Protection and Propagation of Fish,	Yes	

	Shellfish and Wildlife	
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Hydrostructure Impacts on Fish Passage	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	
Residential Districts	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	
Wet Weather Discharges (Non-Point Source)	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	
Yard Maintenance	Combination Benthic/Fishes Bioassessments Other flow regime alterations Particle distribution (Embeddedness)	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF UPPER ROCK CREEK'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E. COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 384 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE SUPPORT IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, UPPER ROCK CREEK DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHS OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE ROCK CREEK IS A TRIBUTARY OF THE POTOMAC RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THE TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO ROCK CREEK.

UPPER ROCK CREEK FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

UPPER ROCK CREEK SUFFERS FROM A COMBINATION OF STRESSORS CONTRIBUTED BY ITS TRIBUTARY STREAMS. THESE TRIBUTARY STREAMS ARE PREDOMINANTLY BUFFERED BY PARKLAND BUT STILL RECEIVE STORMWATER DISCHARGES FROM URBAN IMPERVIOUS SURFACES AS WELL AS PRPBABLE LEEKAGE FROM UNIDENTIFIED SEWER LINES CROSSING THE STREAMS. NUTRIENT ENRICHMENT, PHYSICAL HABITAT PROBLEMS AND TOXIC EFFECTS ALL MAY BE ATTRIBUTED TO THESE CAUSES.

HBI SUGGESTS FAIRLY SIGNIFICANT ORGANIC POLLUTION. EPT PRESENT, BUT IN A VERY LOW PERCENTAGE. CHIRONOMIDAE (GENERALIST THAT CAN THRIVE IN POLLUTED WATERS) WERE THE DOMINANT TAXA. HABITAT IS MODERATELY IMPAIRED. ONLY 11 ORGANISMS WERE FOUND IN THE ENTIRE SAMPLE. THE DOMINANT TAXA FOR 2002 (HYDROPSYCHIDAE) HAS BEEN REPLACED BY CHIRONOMIDAE. ONLY 3 TAXA WERE FOUND IN THE STREAM. WET WEATHER OF 2003 HAS POSSIBLY CAUSED AS INFLUX OF TOXICS TO DEGRADE THE STREAM.

DURING THE 2008 STREAM ASSESSMENT THERE WAS AN ABUNDANCE OF PIEDMONT ROCKS IN STREAM. A SULFUROUS ODOR WAS PRESENT. DURING THE 2008 FIN FISH ASSESSMENT SMALL MOUTH BASS WERE OBSERVED.

THE 2009 ASSESSMENT REVEALED NO CHANGES FROM THE 2008 ASSESSMENT.

Detail Report for SOAPSTONE CREEK

ID: DCTSO01R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**SOAPSTONE CREEK**	
	Location: SOAPSTONE CREEK IS A TRIBUTARY OF BROAD BRANCH WHICH JOINS BROAD BRANCH JUST ABOVE ITS CONFLUENCE WITH ROCK CREEK NEAR DUMBARTON OAKS, NW	**Water Type:** RIVER **Size:** 0.8 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Alterations in wetland habitats	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Source Information

Sources	Associated Causes	Confirmed?
Illegal Dumping	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Particle distribution (Embeddedness)	
Illegal Dumps or Other Inappropriate Waste Disposal	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Particle distribution (Embeddedness)	
Impacts from Hydrostructure Flow Regulation/modification	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Particle distribution (Embeddedness)	
Residential Districts	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Particle distribution (Embeddedness)	
Yard Maintenance	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Particle distribution (Embeddedness)	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF SOAPSTONE CREEK'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 177 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISIONS IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, SOAPSTONE CREEK DID NOT SUPPORT ITS FISH CONSUMPTION USE DESIGNATION. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY

ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHS OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE SOAPSTONE CREEK IS A TRIBUTARY OF THE POTOMAC RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THE TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO SOAPSTONE CREEK.

SOAPSTONE CREEK WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

SOAPSTONE CREEK IS A TRIBUTARY OF BROAD BRANCH WHICH JOINS BROAD BRANCH JUST ABOVE ITS CONFLUENCE WITH ROCK CREEK NEAR DUMBARTON OAKS, NW. SIX OUTFALLS DISCHARGE INTO THE STREAM. THE 550 ACRE WATERSHED IS MOSTLY URBAN WITH 15% PARKLAND AND FOREST AT ITS LOWER REACHES. ONLY ABOUT 20% OF THE WATERSHED, ALL IN ITS LOWER REACHES, IS NATURALLY DRAINED. BETWEEN THE MAIN STORM DRAIN DISCHARGE AND ITS MOUTH, SOAPSTONE CREEK RUNS THROUGH A STEEP-SIDED, HEAVILY-WOODED VALLEY ABOUT 500 YARDS WIDE.

THE ABOVE DESCRIPTION WAS TAKEN FROM "BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY OF THE DISTRICT OF COLUMBIA, "W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE 2003 HABITAT SCORE SUGGEST A FAIRLY SIGNIFICANT ORGANIC POLLUTION PROBLEM IN THE STREAM. THE DOMINANT TAXA FOUND WAS CHIRONOMIDAE (TOLERANT GENERALIST). THE STREAM'S HABITAT WAS MODERATELY IMPAIRED. 27 ORGANISMS WERE FOUND IN ENTIRE SAMPLE. THE STREAM POSSIBLY SUFFERS FROM ORGANIC AND TOXIC POLLUTION.

DURING THE 2008 STREAM ASSESSMENT THER WAS HIGH AMOUNTS OF FINE SEDIMENT PRESENT. ALGAE PRESENT ON ROCKS IN THE STREAM BED.

Detail Report for TEXAS AVENUE TRIBUTARY

ID: DCTTX27R_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**TEXAS AVENUE TRIBUTARY**	
	Location: TEXAS AVENUE IS AN ANACOSTIA RIVER TRIBUTARY OF A NOW ALMOST COMPLETELY SUBTERRANEAN STREAM. THE SURFACE PORTION OF THE STREAM ORIGINATES FROM A STORM DRAIN SOUTH OF THE INTERSECTION OF PENNSYLVANIA AVENUE AND BRANCH AVENUE, SE	**Water Type:** RIVER **Size:** 0.2 MILES **Next Scheduled Montitoring Date:** N/A

Use Information		
	Attainment Status	**Uses**
Assessed:	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combined Biota/Habitat Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Debris/Floatables/Trash	Protection and Propagation of Fish,	Yes	

	Shellfish and Wildlife	
Oil and Grease	Primary Contact Recreation	Yes
Other flow regime alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Illegal Dumping	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Illegal Dumps or Other Inappropriate Waste Disposal	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Impacts from Hydrostructure Flow Regulation/modification	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Loss of Riparian Habitat	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Residential Districts	Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF TEXAS AVENUE'S PRIMARY CONTACT (SWIMMABLE) IS

BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 163 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2002.

BECAUSE OF A FISH CONSUMPTION ADVISORY, TEXAS AVENUE TRIBUTARY DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCHS OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE TEXAS AVENUE TRIBUTARY IS A TRIBUTARY OF THE ANACOSTIA RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THE TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO TEXAS AVENUE TRIBUTARY.

TEXAS AVENUE TRIBUTARY WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

TEXAS AVENUE IS AN ANACOSTIA RIVER TRIBUTARY OF A NOW ALMOST COMPLETELY SUBTERRANEAN STREAM. THE SURFACE PORTION OF THE STREAM ORIGINATES FROM A STORM DRAIN SOUTH OF THE INTERSECTION OF PENNSYLVANIA AVENUE AND BRANCH AVENUE, SE. THE WATERSHED OF 110 ACRES IS ABOUT 40% FORESTED PARKLAND AND 60% RESIDENTIAL AND LIGHT COMMERCIAL PROPERTY. ONE LARGE STORMWATER OUTFALL DISCHARGES INTO THE STREAM WHILE SEVERAL SEWER LINES PARALLEL AND CROSS IT AS WELL.

THE ABOVE DESCRIPTION WAS TAKEN FROM 'BIOLOGICAL WATER QUALITY OF THE SURFACE TRIBUTARY STREAMS OF THE DISTRICT OF COLUMBIA,' W.C. BANTA, THE AMERICAN UNIVERSITY, 1993.

THE 2002 STREAM'S HBI SCORE SUGGESTS SOME ORGANIC POLLUTION. A HIGH PERCENTAGLE OF GATHERER-COLLECTOR ORGANISMS SUGGESTS TOXIC AND ORGANIC POLLUTANTS, BECAUSE THEY ARE GENERALIST AND CAN THRIVE IN POLLUTED WATERS. NO SENSITIVE ORGANISMS WERE FOUND (EPT). THE DOMINANT TAXA SEEN WAS OLIGOCHAETA, (SEWAGE

LOVING ORGANISMS). THE STREAM'S HABITAT WAS SEVERELY IMPAIRED. 11 ORGANISMS WERE FOUND IN THE SAMPLE COLLECTED. THIS STREAM WILL HAVE TO BE EVALUATED FOR WAYS TO PREVENT FURTHER BANK EROSION.

DURING THE 2008 STREAM ASSESSMENT OBSERVATIONS INCLUDE IRON FLOCCULANTS COATING STREAM BED WITH OXIDIZED SEDIMENT PRESENT. EXTREME EMBEDDEDNESS PRESENT IN 75 METER STRETCH. ALSO, SULFUROUS ODOR PRESENT WHEN SEDIMENT WAS DISTURBED. LARGE AMOUNTS OF TRASH PRESENT IN AND AROUND THE STREAM.

THIS TRIBUTARY WAS ASSESSED AS HAVING A POTENTIAL ORGANIC ENRICHMENT/LOW DISSOLVED OXYGEN WATER QUALITY IMPAIRMENT. THIS DETERMINATION WAS BASED ON A BENTHIC MACROINVERTEBRATE BIOLOGICAL ASSESSMENT WHICH FOUND A DOMINANCE OF THE OLIGOCHAETA ORDER OF AQUATIC WORM IN THE SAMPLED STREAM REACH. A DOMINANCE OF OLIGOCHAETE WORMS IS A STRONG INDICATOR OF ORGANIC ENRICHMENT WHICH CAN BE A MAJOR CAUSE OF LOW DISSOLVED OXYGEN CONCENTRATION (BANTA, 1993). WQMB HAS DETERMINED THAT ANY STREAM BENTHIC SAMPLE CONTAINING MORE THAN 20% OF OLIGOCHAETE DOMINANCE WILL BE CLASSIFIED AS HAVING AN ORGANIC ENRICHMENT/LOW DISSOLVED OXYGEN CAUSE.

Detail Report for TIDAL BASIN

ID: DCPTB01L_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**TIDAL BASIN**	
	Location: ADJACENT TO THE JEFFERSON MEMORIAL AND THE WELL-KNOWN CHERRY TREES OF THE NATION'S CAPITOL	**Water Type:** FRESHWATER LAKE **Size:** 108.4 ACRES **Next Scheduled Montitoring Date:** N/A **Trophic Status:** N/A **Public Lake:** No

Use Information

	Attainment Status	Uses
Assessed:	Fully Supporting	Navigation
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
pH	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATIONS OF THE TIDAL BASIN'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 91 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NOT CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. TEMPERATURE, PH, AND DISSOLVED OXYGEN VIOLATED THE WATER QUALITY STANDARDS 0%, 23.5%, AND 0% OF THE TIME, RESPECTIVELY.

BECAUSE OF A FISH CONSUMPTION ADVISORY, THE TIDAL BASIN DID NOT SUPPORT THE FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994 BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

THE TIDAL BASIN FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE USE SUPPORT DECISIONS, THE TIDAL BASIN DID NOT SUPPORT THE OVERALL USE CLASSIFICATION.

THE TIDAL BASIN IS AN IMPOUNDMENT BORDERING THE MIDDLE POTOMAC AND THE WASHINGTON SHIP CHANNEL (PTB01). IT IS LOCATED ADJACENT TO THE JEFFERSON MEMORIAL AND THE WELL-KNOWN CHERRY TREES OF THE NATION'S CAPITOL. THE LAND SURROUNDING THE BASIN IS OWNED AND MANAGED BY THE U.S. NATIONAL PARK SERVICE.

A STUDY TITLED "SEDIMENT CONTAMINATION STUDIES OF THE POTOMAC AND ANACOSTIA RIVERS AROUND THE DISTRICT OF COLUMBIA" WAS COMPLETED BY THE INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN IN 1992. THE STUDY INCLUDED THE TIDAL BASIN. RESULTS FROM

THIS STUDY FOUND ELEVATED LEVELS OF TOTAL (THC) AND POLYCYCLIC HYDROCARBONS (PAHS) AT SAMPLED OUTFALLS AND STORM SEWERS TO THE TIDAL BASIN IN COMPARISON TO BASIN SEDIMENTS. RESULTS DID NOT INDICATE A SPECIFIC OUTFALL AS THE SOURCE. THE STUDY SUGGESTED THAT THE PRIMARY SOURCE FOR THESE HYDROCARBONS WAS MUCH MORE DIFFUSED AND PROBABLY RELATED TO VEHICULAR TRAFFIC.

Detail Report for WASHINGTON SHIP CHANNEL

ID: DCPWC04E_00 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**WASHINGTON SHIP CHANNEL**	
	Location: DEEP EMBAYMENT OF THE POTOMAC BETWEEN HAINS POINT AND FORT MCNAIR. IT IS CONTIGUOUS TO THE POTOMAC AND ANACOSTIA RIVERS. THE NORTH END IS CONNECTED TO THE TIDAL BASIN (PWC04).	**Water Type:** ESTUARY **Size:** 0.3 SQUARE MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Fully Supporting	Navigation Protection and Propagation of Fish, Shellfish and Wildlife
	Insufficient Information	Primary Contact Recreation
	Not Supporting	Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
HABITAT	Navigation	GOOD
	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
PHYSICAL/CHEMICAL	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD
PATHOGEN INDICATORS	Primary Contact Recreation	GOOD

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATIONS OF THE SHIP CHANNEL'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 36 MPN/100ML, FOR 2008-2009.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMENE USE SUPPORT.

THE AQUATIC LIFE USE IS SUPPORTED. TEMPERATURE, PH AND DISSOLVED OXYGEN VIOLATED THE WATER QUALITY STANDARDS 0%, 7.4%, AND 1.8% OF THE TIME, RESPECTIVELY.

BECAUSE OF A FISH CONSUMPTION ADVISORY, THE WASHINGTON SHIP CHANNEL DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF THE FISH CONSUMPTION USE WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP, OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS. THEREFORE, THE WASHINGTON SHIP CHANNEL DID NOT SUPPORT EPA FISH CONSUMPTION CRITERIA.

THE WASHINGTON SHIP CHANNEL FULLY SUPPORTED ITS NAVIGATION USE.

BECAUSE OF THE ABOVE USE SUPPORT DECISIONS, THE WASHINGTON SHIP CHANNEL DID NOT SUPPORT THE OVERALL USE CLASSIFICATION.

SURVEYS CONDUCTED IN THE PAST SEVERAL YEARS REVEAL THE PRESENCE OF TOXINS IN SEDIMENTS. FISH TISSUE OF SAMPLES OF CERTAIN SPECIES SHOW ELEVATED LEVELS OF CONTAMINANTS INCLUDING CHLORDANE AND PCBs. BIOLOGICAL SAMPLES COLLECTED SUGGEST A SEVERELY STRESSED BENTHIC COMMUNITY. THE CAUSES OF STRESS MAY BE ATTRIBUTED TO URBAN STORM WATER RUNOFF FROM POLLUTED STREAMS ENTERING THE TIDAL POTOMAC ESTUARY, TO CSO EVENTS, AND TO THE IMPACT FROM ADJACENT INDUSTRIAL FACILITIES.

REPORTS WITH MORE INFORMATION INCLUDE:

- "IMPACT OF DREDGING ON THE WATER QUALITY OF THE ANACOSTIA RIVER" BY THE INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN (ICPRB), 1993,

- "SEDIMENT CONTAMINATION STUDIES OF THE POTOMAC AND ANACOSTIA RIVER AROUND THE DISTRICT OF COLUMBIA," ICPRB, 1992,

- A FISH TISSUE SURVEY REPORT BY ICPRB, VELINSKY, 1993.

-"EMERGENT WETLAND ESTABLISHMENT UNDER DIFFERING HABITAT CONDITION IN THE ANACOSTIA AND POTOMAC RIVER BASIN," HORN POINT ENVIRONMENTAL LABORATORY, CEES AND MWCOG, 1991.

-STEUART PETROLEUM OIL SPILL, VERSAR, PINKNEY, 1993.

Detail Report for WATTS BRANCH DC

ID: DCTWB00R_01 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**WATTS BRANCH DC**	
	Location: ANACOSTIA RIVER TRIBUTARY, RUNS THROUGH KENILWORTH PARK WHICH IS A COVERED LANDFILL. SEGMENT 01 (TWB01) IS TOTALLY AFFECTED FROM ITS MOUTH TO 25 YARDS ABOVE THE FIRST LOWER BRIDGE IN THE PARK	**Water Type:** RIVER **Size:** 0.3 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Secondary Contact Recreation and Aesthetic Enjoyment Navigation Primary Contact Recreation

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Alterations in wetland habitats	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combined Biota/Habitat Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Debris/Floatables/Trash	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Other flow regime alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Channelization	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Illegal Dumping	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Illegal Dumps or Other Inappropriate Waste Disposal	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Residential Districts	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Site Clearance (Land Development or Redevelopment)	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Wet Weather Discharges (Non-Point Source)	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness)	
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations	

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF LOWER WATTS BRANCH'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 465 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT OF THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, LOWER WATTS BRANCH DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY ISSUED IN 1994 BY THE DC COMMISSIONER OF HEALTH. THE ADVISORY URGES BANNING CONSUMPTION OF CHANNEL CATFISH, CARP, OR EELS CAUGHT IN THE DISTRICT'S STRETCH OF THE POTOMAC AND ANACOSTIA RIVERS. BECAUSE LOWER WATTS BRANCH IS A TRIBUTARY OF THE ANACOSTIA RIVER, FISH MAY MIGRATE FROM THE RIVER INTO THE TRIBUTARY, THEREFORE THIS ADVISORY EXTENDS TO LOWER WATTS BRANCH.

LOWER WATTS BRANCH WAS NOT ASSESSED FOR NAVIGATION.

BECAUSE OF THE ABOVE USE DECISIONS, THIS SEGMENT DID NOT SUPPORT THE OVERALL USE SUPPORT CLASSIFICATION.

LOWER WATTS BRANCH RUNS THROUGH KENILWORTH PARK WHICH IS A COVERED LANDFILL. SEGMENT 01 (TWB01) IS TOTALLY AFFECTED FROM ITS MOUTH TO 25 YARDS ABOVE THE FIRST LOWER BRIDGE IN THE PARK. THIS PORTION OF THE STREAM IS 23 FEET WIDE AND SHALLOW. ABOUT 80% OF THE STREAM'S WATERSHED IS URBAN RESIDENTIAL AND COMMERCIAL PROPERTY; LESS THAN 15% IS FORESTED.

THE LOWER PORTION OF WATTS BRANCH IS SIGNIFICANTLY AFFECTED BY ORGANIC AND TOXIC EFFECTS STEMMING FROM STORMWATER DISCHARGES AND SEWER LINE LEAKS.

THE 2003 HBI SCORE SUGGESTS NO APPARENT ORGANIC POLLUTION. CHIRONOMIDAE (GENERALIST THAT CAN THRIVE IN POLLUTED WATERS AND OLIGOCHAETA (SEWAGE LOVING ORGANISMS) ARE THE ONLY TWO TAXA FOUND. ONLY 5 ORGANISMS WERE FOUND IN THE SAMPLE COLLECTED AND THEY INCLUDED NO SENSITIVE ORGANISMS (EPT).

DURING THE 2008 FIN FISH ASSESSMENT A QUEEN SNAKE WAS OBSERVED IN THE STREAM BED. THE STREAM CHANNEL IS EXTEMELY STRAIGHT.

THE 2009 ASSESSMENT REVEALED MAJORITY OF LEFT BANK IS CONCRETE AND BOTH BANKS ARE ERODED. A TRASH TRAP HAS BEEN INSTALLED.

Detail Report for WATTS BRANCH DC

ID: DCTWB00R_02 **State:** DC - 2010 **Single Cat.(User Cat.):** 5(N/A)

Water Information:	**WATTS BRANCH DC**	
	Location: PRINCE GEORGE'S COUNTY MARYLAND LINE TO KENILWORTH PARK (TWB05 AND TWB06). IT FLOWS THROUGH A DENSELY-POPULATED RESIDENTIAL AREA WITH A SMALL NUMBER OF COMMERCIAL BUILDINGS. WATTS BRANCH (MD & DC) DRAINS 2583 ACRES	**Water Type:** RIVER **Size:** 3.7 MILES **Next Scheduled Montitoring Date:** N/A

Use Information

	Attainment Status	Uses
Assessed:	Not Supporting	Protection and Propagation of Fish, Shellfish and Wildlife Protection of Human Health related to Consumption of Fish and Shellfish
Not Assessed:	Not Assessed	Navigation Primary Contact Recreation Secondary Contact Recreation and Aesthetic Enjoyment

Types of Assessment

Assessment Type	Uses	Assessment Confidence
PHYSICAL/CHEMICAL	Protection and Propagation of Fish, Shellfish and Wildlife	GOOD
	Protection of Human Health related to Consumption of Fish and Shellfish	GOOD

Cause Information

Causes	Associated Uses	Pollutant?	Confidence
Alterations in wetland habitats	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combination Benthic/Fishes Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Combined Biota/Habitat Bioassessments	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	
Debris/Floatables/Trash	Protection and Propagation of Fish, Shellfish and Wildlife	Yes	

Other flow regime alterations	Protection and Propagation of Fish, Shellfish and Wildlife	Yes
Particle distribution (Embeddedness)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes
Total Suspended Solids (TSS)	Protection and Propagation of Fish, Shellfish and Wildlife	Yes

Source Information

Sources	Associated Causes	Confirmed?
Illegal Dumping	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness) Total Suspended Solids (TSS)	
Illegal Dumps or Other Inappropriate Waste Disposal	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness) Total Suspended Solids (TSS)	
Residential Districts	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness) Total Suspended Solids (TSS)	
Site Clearance (Land Development or Redevelopment)	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness) Total Suspended Solids (TSS)	
Wet Weather Discharges (Non-Point Source)	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash Other flow regime alterations Particle distribution (Embeddedness) Total Suspended Solids (TSS)	
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	Alterations in wetland habitats Combination Benthic/Fishes Bioassessments Combined Biota/Habitat Bioassessments Debris/Floatables/Trash	

Other flow regime alterations
Particle distribution (Embeddedness)
Total Suspended Solids (TSS)

Comments On:

Overall Assessment

EVALUATIONS OF USE SUPPORT DECISIONS ARE BASED ON A FIVE YEAR STATISTICAL EVALUATION (2005-2009) OF AMBIENT WATER QUALITY DATA COLLECTED BY THE MAB.

IN 2005 THE WATER QUALITY STANDARDS CHANGED THE PARAMETERS FOR EVALUATING PRIMARY AND SECONDARY CONTACT.

EVALUATION OF UPPER WATTS BRANCH'S PRIMARY CONTACT (SWIMMABLE) IS BASED ON E.COLI DATA COLLECTED AND ANALYZED OVER A TWO YEAR PERIOD, 2008-2009. WITH AN AVERAGE E. COLI COUNT OF 502 MPN/100ML, FOR 2008-2009. THERE IS INSUFFICIENT INFORMATION TO DETERMINE SUPPORT FOR THE SWIMMABLE USE DESIGNATION.

SECONDARY CONTACT RECREATION USE WAS NOT ASSESSED; THERE IS NO CRITERIA IN THE 2005 WATER QUALITY STANDARDS TO DETERMINE USE SUPPORT.

THE AQUATIC LIFE USE IS NOT SUPPORTED. THE DECISION IS BASED ON THE DC STREAM SURVEY CONDUCTED IN 2003.

BECAUSE OF A FISH CONSUMPTION ADVISORY, UPPER WATTS BRANCH DID NOT SUPPORT ITS FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION USE IS BASED ON A PUBLIC HEALTH ADVISORY THIS SEGMENT DID NOT SUPPORT THE FISH CONSUMPTION USE. DETERMINATION OF FISH CONSUMPTION WAS BASED ON A PUBLIC HEALTH ADVISORY ISSUED ON NOVEMBER 15, 1994, BY THE D.C. COMMISSIONER OF PUBLIC HEALTH. THE ADVISORY URGES NON-CONSUMPTION OF CATFISH, CARP OR EEL AND LIMITED CONSUMPTION OF OTHER FISH CAUGHT IN ALL DISTRICT OF COLUMBIA WATERS.

PRINCE GEORGE'S COUNTY MARYLAND LINE TO KENILWORTH PARK (TWB05 AND TWB06). IT FLOWS THROUGH A DENSELY-POPULATED RESIDENTIAL AREA WITH A SMALL NUMBER OF COMMERCIAL BUILDINGS. WATTS BRANCH (MD & DC) DRAINS 2583 ACRES. THE STREAM IS SUBTERRANEAN FOR ABOUT 1000 FEET IN DEANWOOD, NE; IT TRAVELS BENEATH PARTS OF DEANE STREET AS TWIN 16-FOOT BY 7-FOOT CONDUITS. THE ENTIRE WATERSHED IS TRAVERSED AND PARALLELED BY NUMEROUS SEWER LINES. ITS ONCE NUMEROUS TRIBUTARIES HAVE BEEN REPLACED BY STORMWATER DISCHARGE WHICH ENTER THE STREAM

THROUGH OUT ITS LENGTH.

THE UPPER PORTION OF WATTS BRANCH IS SIGNIGICANTLY AFFECTED BY ORGANIC AND TOXIC EFFECTS FROM STORMWATER DISCHARGES AND PERSISTENT SEWAGE LINE LEAKS. THE UPPER PORTION OF WATTS IS TRAVERSED AND PARALLELED BY SEWAGE LINES AND ALMOST ALL OF ITS FIRST AND SECOND ORDER TRIBUTARIES HAVE BEEN PIPED. HYDROLOGIC MODIFICATION HAS TAKEN ITS TOLL ON THE HABITAT STRUCTURE OF WATTS. MUCH WORK HAS BEEN UNDERTAKEN TO STABILIZE THE STREAMBANKS BUT THE FORCE OF PEAK STORMFLOW OFTEN SCOURS THE STREAM.

IN 2003 OLIGOCHAETA (SEWAGE LOVING ORGANISMS) WERE THE DOMINANT TAXA IDENTIFIED. THE STREAM SEGMENT'S HBI SCORE SUGGESTS SOME ORGANIC POLLUTION. HABITAT IS SEVERELY IMPAIRED. NO SENSITIVE ORGANISMS WERE FOUND (EPT). THE PERCENTAGE OF GATHERER-COLLECTOR ORGANISMS FOUND SUGGEST POLLUTANTS ARE PRESENT BECAUSE THEY ARE GENERALIST AND CAN THRIVE IN POLLUTED WATERS. ONLY 13 INSECTS WERE FOUND THE SAMPLE COLLECTED. TAKING ALL THE ABOVE FACTORS INTO CONSIDERATION WOULD POSSIBLY SUGGEST THAT HABITAT AND ORGANICS CONTRIBUTE TO THE POOR QUALITY OF THE STREAM.

DURING THE 2008 HABITAT ASSESSMENT IT WAS NOTED THAT THERE IS NEW CONSTRUCTION BEING DONE IN THE IMMEDIATE VICINITY OF THE STREAM. SOME OF THE CONSTRUCTION CAN BE ATTRIBUTED TO STREAM RESTORATION PROJECTS. THERE ARE LARGE PIECES OF CONCRETE IN THE STREAM BED.

THE 2009 ASSESSMENT REVEALED LARGE CHUNKS OF CONCRETE IN THE STREAM BED. THE STEAM IS CHANNELIZED. THE LEFT BANK IS STABLE, BUT THE RIGHT BANK IS VERY UNSTABLE.

2005-2009

Statistical Summary Report

For

Dissolved Oxygen (mg/L)

Waterbody	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	% Violation of WQ Std.
DCAKL00L	KNG01, KNG02	1.69	18.64	8.4485	3.628	8.14	13.7
DCANA00E SEG1	ANA19, ANA21, ANA24	0.095	16.79	9.0417	3.506	8.61	6
DCANA00E SEG2	ANA01, ANA05, ANA08, ANA11, ANA14	0.092	16.41	8.498896	3.655121	8.4	5.7
DCPMS00E SEG1	PMS37, PMS44	5.1	19.45	10.48	3.58	9.72	0
DCPMS00E SEG2	PMS10, PMS21	5.93	21.56	10.96	3.52	10.26	0
DCPMS00E SEG3	PMS01	6.3	21.14	10.754	3.284	9.87	0
DCPTB01L	PTB01	6.31	17.4	11.03	2.65	11.05	0
DCPWC04E	PWC04	0.124	12.65	11.10	3.30	10.71	1.8
DCRCR00R SEG1	RCR09	6.64	21.57	11.15	3.15	10.82	0
DCRCR00R SEG2	RCR01	5.28	22.33	10.86	3.55	10.08	1.8
DCTBK01R	TBK01	7.95	18.3	12.06	2.86	12.1	0
DCTCO01L	TCO01, TCO06	5.83	21.01	10.66	3.13	10.2	0
DCTDA01R	TDA01	7.9	13.86	11.26	1.95	11.65	0
DCTDU01R	TDU01	7.08	17.2	10.49	2.77	11.05	0
DCTFB02R	TFB02	5.89	16.01	10.80	3.26	9.62	0
DCTFC01R	TFC01	4.95	12.24	9.38	2.53	8.56	0
DCTFD01R	TFD01	1.7	14.49	7.62	3.65	7.38	22

DCTHR01R	THR01	6.49	15.06	10.64	3.32	9.56	0
DCTNA01R	TNA01	6.03	19.02	9.89	3.43	8.61	0
DCTOR01R	TOR01	7.70	15.82	10.68	2.25	10.60	0
DCTPB01R	TPB01	7.3	14.15	10.06	2.00	9.81	0
DCTTX27R	TTX27	7.24	14.29	10.64	2.12	10.21	0
DCTWB00R SEG1	TWB01	6.7	12.56	10.62	3.14	9.75	0
DCTWB00R SEG2	TWB05, TWB06	6.47	20.23	11.04	2.89	10.53	0
DCTFS01R	TFS01	7.93	18.64	10.97	2.92	10.08	0
DCTKV01R	TKV01	7.61	15.79	11.03	2.65	10.64	0
DCTSO01R	TSO01	7.17	22.74	12.05	4.22	11.99	0
DCTDO01R	TDO01	6.7	17.2	11.42	2.73	11.2	0
DCTMH01R	TMH01	7.48	16.9	11.19	2.77	10.91	0
DCTPY01R	TPY01	3.94	22.82	10.91	4.44	9.52	6.6
DCTPO01R	TPO01	5.51	22.4	10.74	4.57	10.59	0
DCTLU01	TLU01	6.96	14.18	10.07	2.40	9.30	0
DCTBR01R	TBR01	6.38	16.28	11.37	3.21	11.86	0
DCTFE01R	TFE01	6.44	16.5	10.89	3.13	10.87	0
DCTNS01R	TNS01	7.28	15.57	10.48	2.21	9.77	0
DCTPI01R	TPI01	6.46	21.55	11.48	4.04	10.67	0

2008-2009

Statistical Summary Report

For

E. Coli (MPN/ml)

Waterbody	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	% Violation of WQ Std.*
DCAKL00L	KNG01, KNG02	26	4106	528.44	915.5	211	28
DCANA00E SEG1	ANA19, ANA21, ANA24	13	3972	458.07	1056.	71	14.2
DCANA00E SEG2	ANA01, ANA05, ANA08, ANA11, ANA14	22	2827	411.42	652.1	133.5	30
DCPMS00E SEG1	PMS37, PMS44	2	2734	318.65	650.7	48.5	15.3
DCPMS00E SEG2	PMS10, PMS21	1	9804	897.88	2206.	52	22.2
DCPMS00E SEG3	PMS01	1	816	87.692	219.8	30	7.6
DCPTB01L	PTB01	4	334	91	110.6	44.5	0
DCPWC04E	PWC04	30	41	35.5	7.778	35.5	15.3
DCRCR00R SEG1	RCR09	26	5479	716.46	1449.	365	38.4
DCRCR00R SEG2	RCR01	28	1298	384.38	391.9	214	30.7
DCTBK01R	TBK01	64	2599	979.66	1406.	276	33.3
DCTCO01L	TCO01, TCO06	2	2420	199.73	465.2	80.5	3.8
DCTDA01R	TDA01	77	1961	1019	1332.	1019	50
DCTDU01R	TDU01	1	1986	543.25	962.8	93	25
DCTFB02R	TFB02	51	1454	439.5	679.9	126.5	25
DCTFC01R	TFC01	28	1454	505.33	821.5	34	33.3
DCTFD01R	TFD01	172	2420	935.33	1285.	214	33.3

DCTNA01R	TNA01	271	2092	763.6	763.3	548	60
DCTPB01R	TPB01	1203	2420	1954.3	656.8	2240	50
DCTTX27R	TTX27	113	248	163	73.99	128	0
DCTWB00R SEG1	TWB01	116	1733	464.92	412.1	370	46.1
DCTWB00R SEG2	TWB05, TWB06	13	2420	501.71	681.9	188.5	32.1
DCTFS01R	TFS01	8	1414	411.2	570.5	164	20
DCTKV01R	TKV01	29	1842	466.4	772.2	122	20
DCTSO01R	TSO01	62	308	177.2	111.3	158	0
DCTDO01R	TDO01	45	1046	408.33	554.0	134	33.3
DCTMH01R	TMH01	111	1842	982	815.3	1300	60
DCTPY01R	TPY01	19	6130	1375	2664.	150	40
DCTPO01R	TPO01	41	1553	505.4	614.9	225	40
DCTLU01	TLU01	261	2407	938.6	887.8	579	60
DCTBR01R	TBR01	1203	2420	1954.3	656.8	2240	100
DCTFE01R	TFE01	51	1454	532	798.7	91	33.3
DCTNS01R	TNS01	38	1842	643.75	812.6	347.5	25
DCTPI01R	TPI01	12	1733	457.2	719.6	214	20

* Data for E. coli is only for a few samples collected in 2008-2009. Statistics may not reflect actual data trends.

2005-2009

Statistical Summary Report

For

pH

Waterbody	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	% Violation of WQ Std.
DCAKL00L	KNG01, KNG02	6.51	8.74	7.77	0.42	7.7	7.4
DCANA00E SEG1	ANA19, ANA21, ANA24	6.74	9.22	7.59	0.37	7.61	0.6
DCANA00E SEG2	ANA01, ANA05, ANA08, ANA11, ANA14	6.58	9.08	7.48	0.35	7.46	1.1
DCPMS00E SEG1	PMS37, PMS44	7.07	9.12	7.99	0.39	7.96	8.3
DCPMS00E SEG2	PMS10, PMS21	6.93	9.33	8.13	0.41	8.13	18
DCPMS00E SEG3	PMS01	0.29	9.02	7.97	1.23	8.23	23.5
DCPTB01L	PTB01	7.02	8.9	8.19	0.41	8.2	20.3
DCPWC04E	PWC04	6.69	9.4	7.96	0.45	7.96	7.4
DCRCR00R SEG1	RCR09	6.07	8.92	7.84	0.43	7.86	5.6
DCRCR00R SEG2	RCR01	6.61	8.86	7.74	0.41	7.72	3.7
DCTBK01R	TBK01	7.23	8.64	7.92	0.32	7.90	5
DCTCO01L	TCO01, TCO06	7.16	11.13	8.09	0.57	8.01	14.9
DCTDA01R	TDA01	7.11	8.74	7.89	0.47	7.88	14.2
DCTDU01R	TDU01	7.15	8.71	7.94	0.44	7.79	16.6
DCTFB02R	TFB02	7.06	9.22	7.93	0.66	7.81	16.6
DCTFC01R	TFC01	6.61	8.52	7.76	0.46	7.72	5.8
DCTFD01R	TFD01	6.89	8.86	7.71	0.61	7.62	11

DCTHR01R	THR01	6.83	8.82	7.89	0.36	7.84	3.6
DCTNA01R	TNA01	7	8.6	7.80	0.42	7.72	5
DCTOR01R	TOR01	7.44	8.86	8.06	0.34	8.04	12.5
DCTPB01R	TPB01	7.42	8.66	7.85	0.35	7.81	5.8
DCTTX27R	TTX27	7.25	8.78	7.87	0.41	7.87	7.6
DCTWB00R SEG1	TWB01	7.44	9.14	7.96	0.34	7.85	8
DCTWB00R SEG2	TWB05, TWB06	7.14	9.36	7.91	0.37	7.85	7.3
DCTFS01R	TFS01	7.23	8.27	7.83	0.28	7.89	0
DCTKV01R	TKV01	7.07	8.18	7.55	0.32	7.62	0
DCTSO01R	TSO01	7.34	8.19	7.83	0.26	7.84	0
DCTDO01R	TDO01	7.16	8.71	7.92	0.31	7.87	5
DCTMH01R	TMH01	6.85	8.29	7.60	0.41	7.69	0
DCTPY01R	TPY01	7.11	8.17	7.69	0.26	7.69	0
DCTPO01R	TPO01	7.17	8.44	7.63	0.28	7.60	0
DCTLU01	TLU01	7.04	8.21	7.51	0.32	7.54	0
DCTBR01R	TBR01	7.43	8.82	8.08	0.41	7.96	17.6
DCTFE01R	TFE01	7.04	8.95	7.90	0.54	7.9	12.5
DCTNS01R	TNS01	6.73	8.22	7.79	0.37	7.88	0
DCTPI01R	TPI01	7.26	8.3	7.84	0.31	7.85	0

2005-2009

Statistical Summary Report

For

Temperature

Waterbody	Station Data Used	Min. Value	Max Value	Avg. Value	Std. Dev.	Median Value	% Violation of WQ Std.
DCAKL00L	KNG01, KNG02	0.95	29.49	15.53	8.15	14.53	0
DCANA00E SEG1	ANA19, ANA21, ANA24	2.67	29.41	16.00	9.03	16.07	0
DCANA00E SEG2	ANA01, ANA05, ANA08, ANA11, ANA14	0.66	29.18	15.48	8.77	14.26	0
DCPMS00E SEG1	PMS37, PMS44	1.34	31.94	15.81	9.043	16.12	0
DCPMS00E SEG2	PMS10, PMS21	0.4	31.03	16.03	9.413	16.42	0
DCPMS00E SEG3	PMS01	2.41	30.84	16.355	9.250	16.74	0
DCPTB01L	PTB01	-0.06	30.07	15.69	9.54	14.76	0
DCPWC04E	PWC04	1.14	29.49	15.65	9.63	14.88	0
DCRCR00R SEG1	RCR09	-0.08	25.42	12.97	8.01	13.03	0
DCRCR00R SEG2	RCR01	1.68	25.04	13.68	7.33	13.48	0
DCTBK01R	TBK01	0.57	28.48	12.56	7.16	11.15	0
DCTCO01L	TCO01, TCO06	0.17	30.27	17.27	8.77	18.82	0
DCTDA01R	TDA01	6.79	21.31	12.45	4.57	12.47	0
DCTDU01R	TDU01	3.23	24.4	13.87	6.86	12.77	0
DCTFB02R	TFB02	0.53	21.48	11.56	6.47	12.69	0
DCTFC01R	TFC01	4.95	22.84	13.12	5.45	11.49	0
DCTFD01R	TFD01	0.52	22.67	11.88	6.17	10.61	0

DCTHR01R	THR01	1.15	25.97	13.93	6.49	13.23	0
DCTNA01R	TNA01	1.59	24.34	13.79	6.19	14.23	0
DCTOR01R	TOR01	0.95	21.8	12.497	7.88	12.83	0
DCTPB01R	TPB01	2.21	19.93	12.12	6.47	12.62	0
DCTTX27R	TTX27	4.65	20.65	11.22	6.02	9.19	0
DCTWB00R SEG1	TWB01	3.95	27.03	14.67	6.23	14.28	0
DCTWB00R SEG2	TWB05, TWB06	0.15	25.24	13.31	6.24	13.09	0
DCTFS01R	TFS01	0.59	22.3	11.54	6.36	12.51	0
DCTKV01R	TKV01	3.06	22.03	13.43	5.79	13.08	0
DCTSO01R	TSO01	1.88	22.57	11.28	7.32	7.97	0
DCTDO01R	TDO01	3.9	28.9	13.62	6.20	12.35	0
DCTMH01R	TMH01	3.59	22.46	13.08	6.19	13.18	0
DCTPY01R	TPY01	1.65	23.31	13.85	7.94	15.84	0
DCTPO01R	TPO01	2.74	22.86	13.30	7.45	15.05	0
DCTLU01	TLU01	2.46	22.91	14.812 22	5.335 541	15.055	0
DCTBR01R	TBR01	4.95	22.9	12.96	6.38	11.62	0
DCTFE01R	TFE01	1.09	23.89	13.80	7.12	12.5	0
DCTNS01R	TNS01	2.53	21.72	12.269 33	6.754 993	13.4	0

DCTPI01R	TPI01	2.24	22.15	12.52813	7.557068	14.525	0

2005-2009

Statistical Summary Report

For

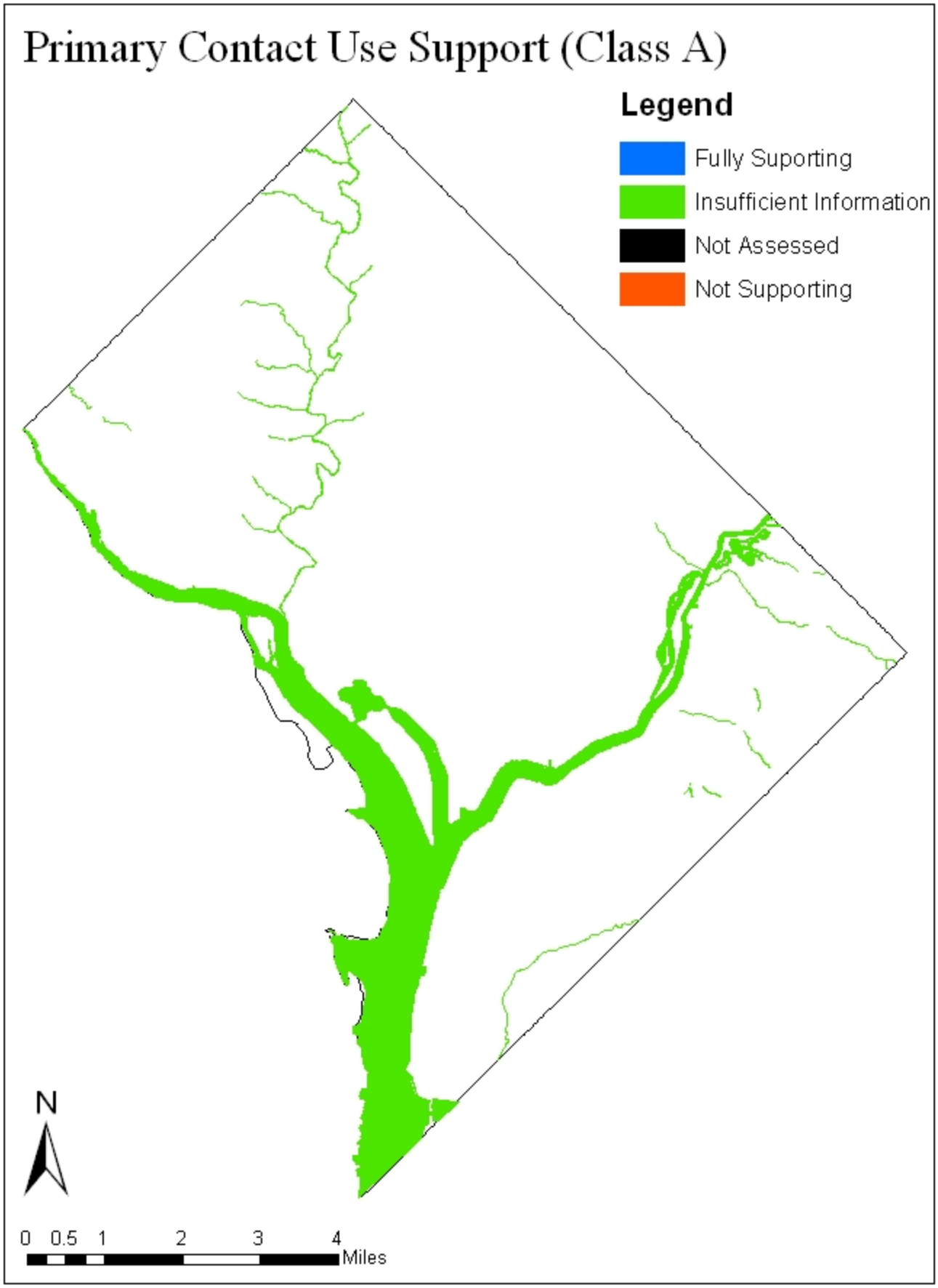
Total Summary Report

Waterbody	Station Data Used	Temp % Violation	pH % Violation	DO % Violation	Class A E. coli % Violation*
DCAKL00L	KNG01, KNG02	0	7.4	13.7	28
DCANA00E SEG1	ANA19, ANA21, ANA24	0	0.6	6	14.2
DCANA00E SEG2	ANA01, ANA05, ANA08, ANA11, ANA14	0	1.03	3.9	30
DCPMS00E SEG1	PMS37, PMS44	0	8.3	0	15.3
DCPMS00E SEG2	PMS10, PMS21	0	18	0	22.2
DCPMS00E SEG3	PMS01	0	23.5	0	7.6
DCPTB01L	PTB01	0	20.3	0	0
DCPWC04E	PWC04	0	7.4	1.8	15.3
DCRCR00R SEG1	RCR09	0	5.6	0	38.4
DCRCR00R SEG2	RCR01	0	3.7	1.8	30.7
DCTBK01R	TBK01	0	5	0	33.3
DCTCO01L	TCO01, TCO06	0	14.9	0	3.8

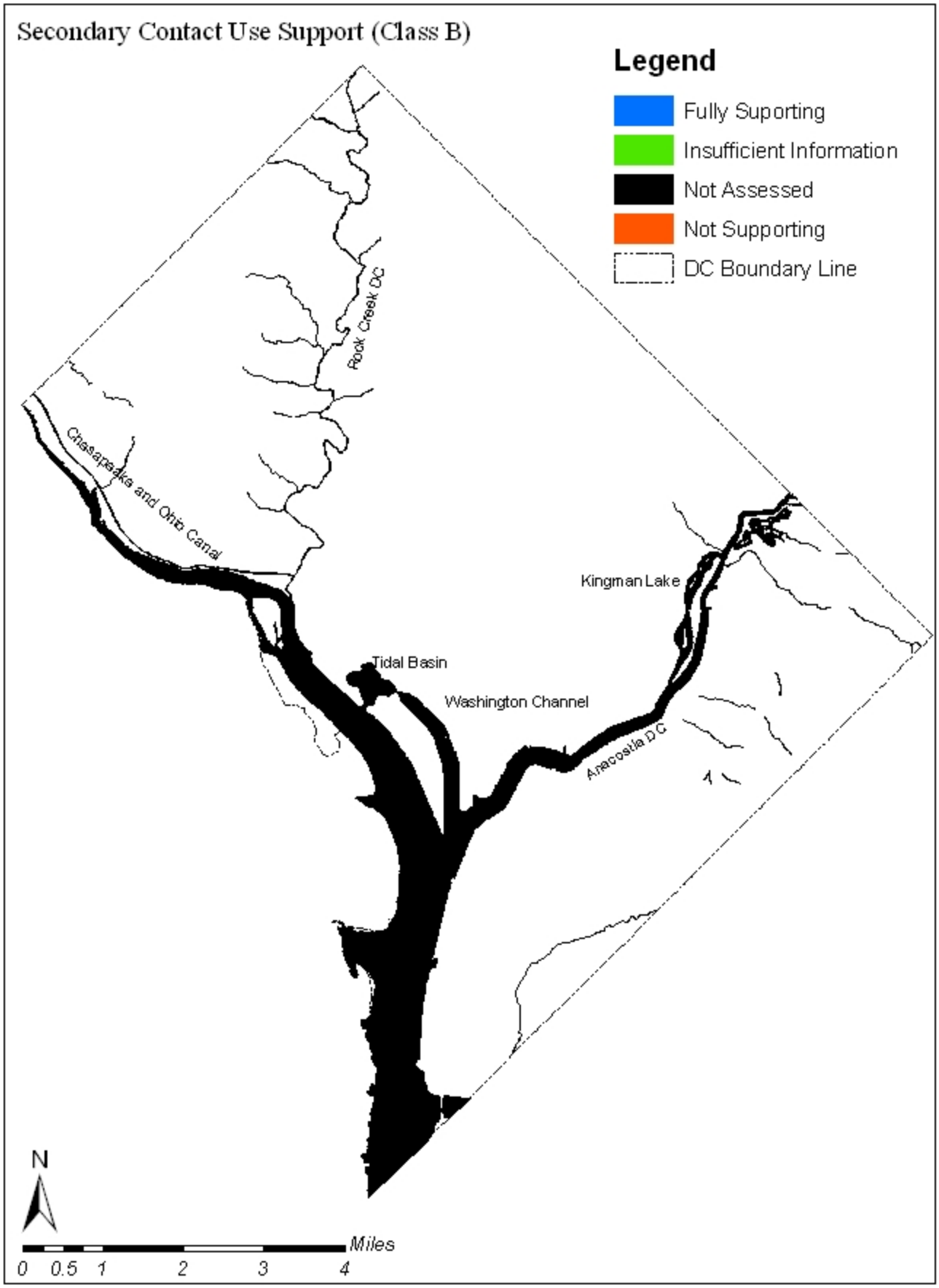
DCTDA01R	TDA01	0	14.2	0	50
DCTDU01R	TDU01	0	16.6	0	25
DCTFB02R	TFB02	0	16.6	0	25
DCTFC01R	TFC01	0	5.8	0	33.3
DCTFD01R	TFD01	0	11	22	33.3
DCTHR01R	THR01	0	3.6	0	40.9
DCTNA01R	TNA01	0	5	0	60
DCTOR01R	TOR01	0	12.5	0	33.3
DCTPB01R	TPB01	0	5.8	0	50
DCTTX27R	TTX27	0	7.6	0	0
DCTWB00R SEG1	TWB01	0	8	0	46.1
DCTWB00R SEG2	TWB05, TWB06	0	7.3	0	32.1
DCTFS01R	TFS01	0	0	0	20
DCTKV01R	TKV01	0	0	0	20
DCTSO01R	TSO01	0	0	0	0
DCTDO01R	TDO01	0	5	0	33.3
DCTMH01R	TMH01	0	0	0	60
DCTPY01R	TPY01	0	0	6.6	40

DCTPO01R	TPO01	0	0	0	40
DCTLU01	TLU01	0	0	0	60
DCTBR01R	TBR01	0	17.6	0	100
DCTFE01R	TFE01	0	12.5	0	33.3
DCTNS01R	TNS01	0	0	0	25
DCTPI01R	TPI01	0	0	0	20

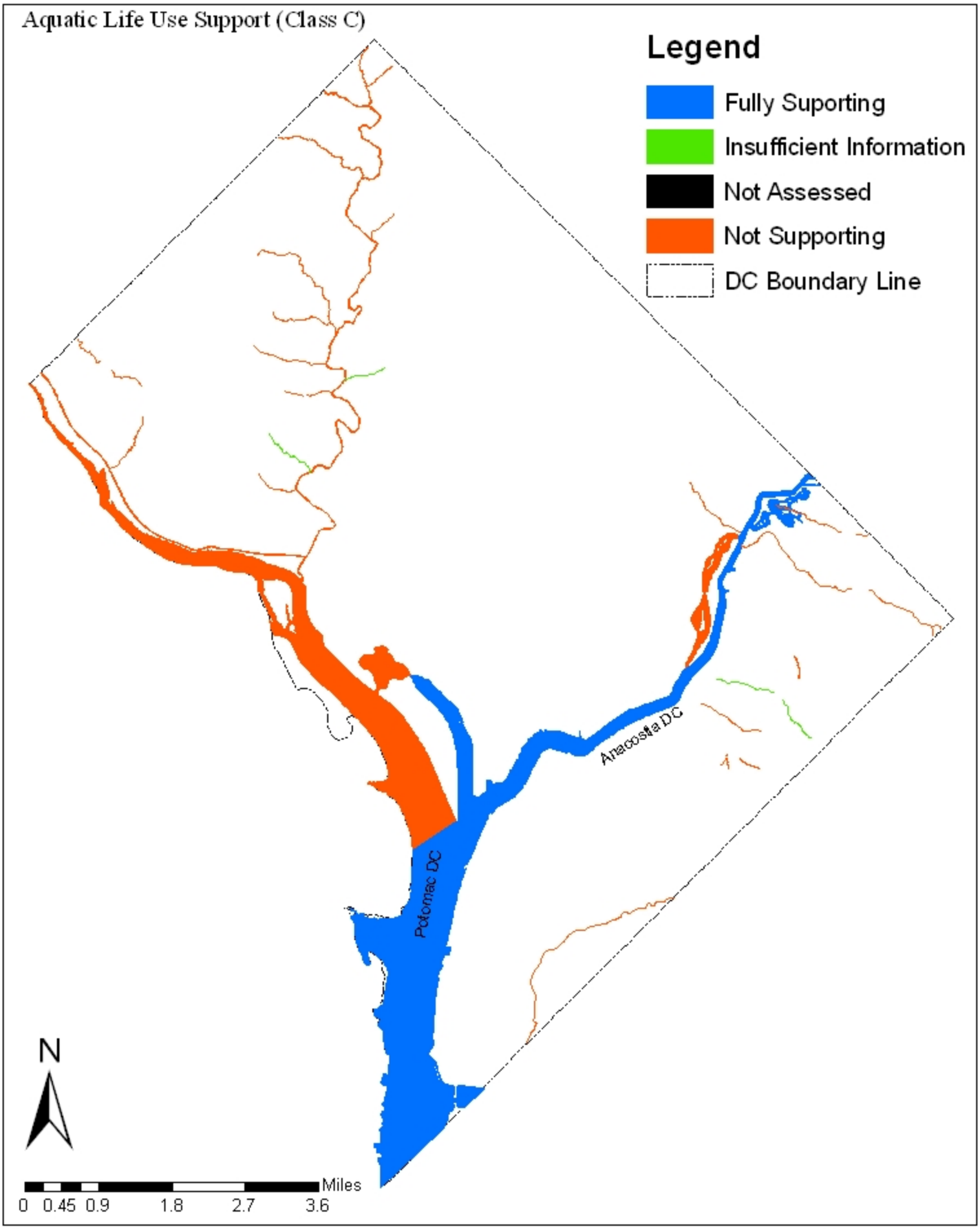
* Data for E. coli is only for a few samples collected in 2008-2009. Statistics may not reflect actual data trends.



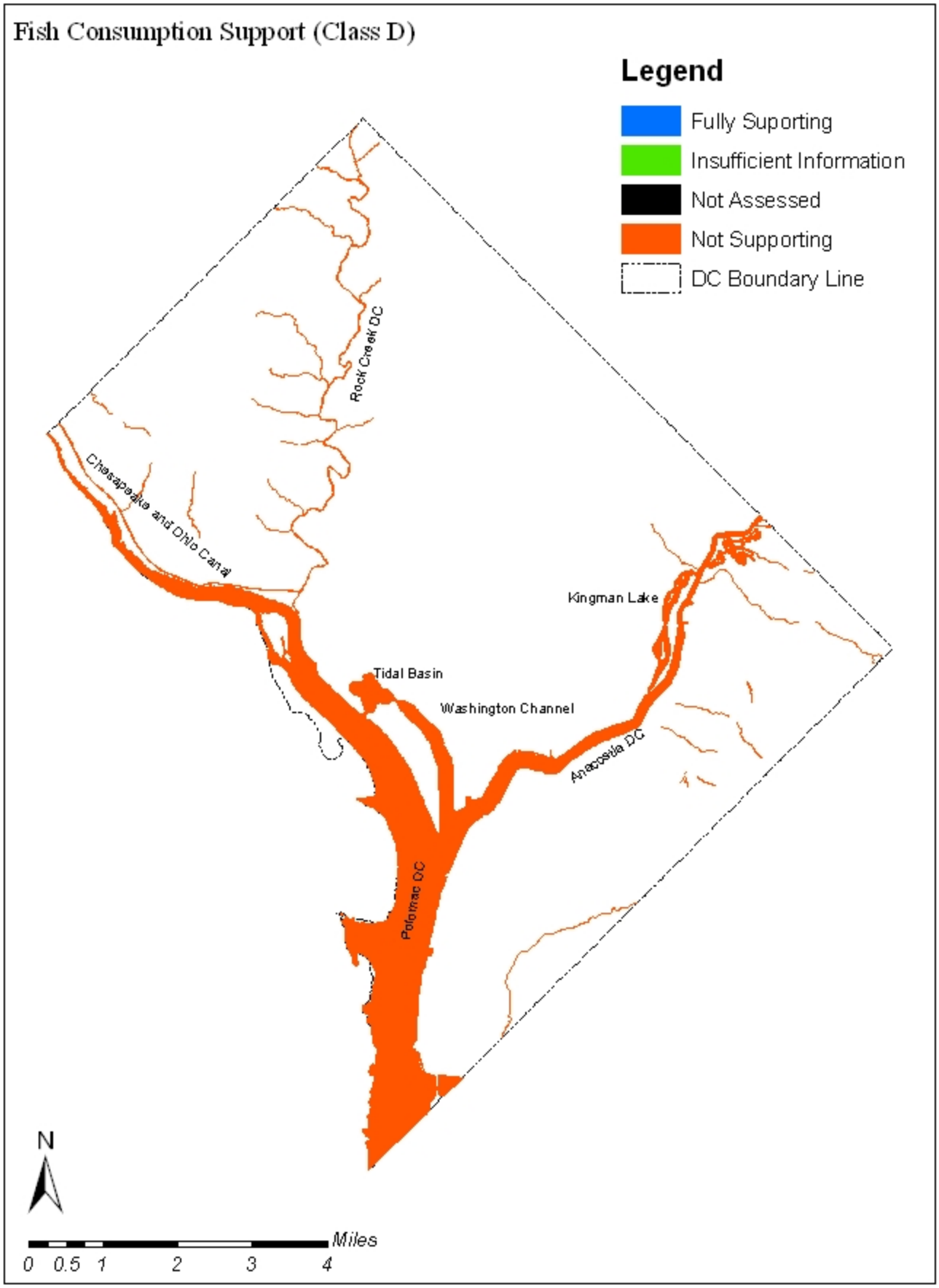
Appendix 3.5: Degree of Support for the Protection of Primary Contact Recreation



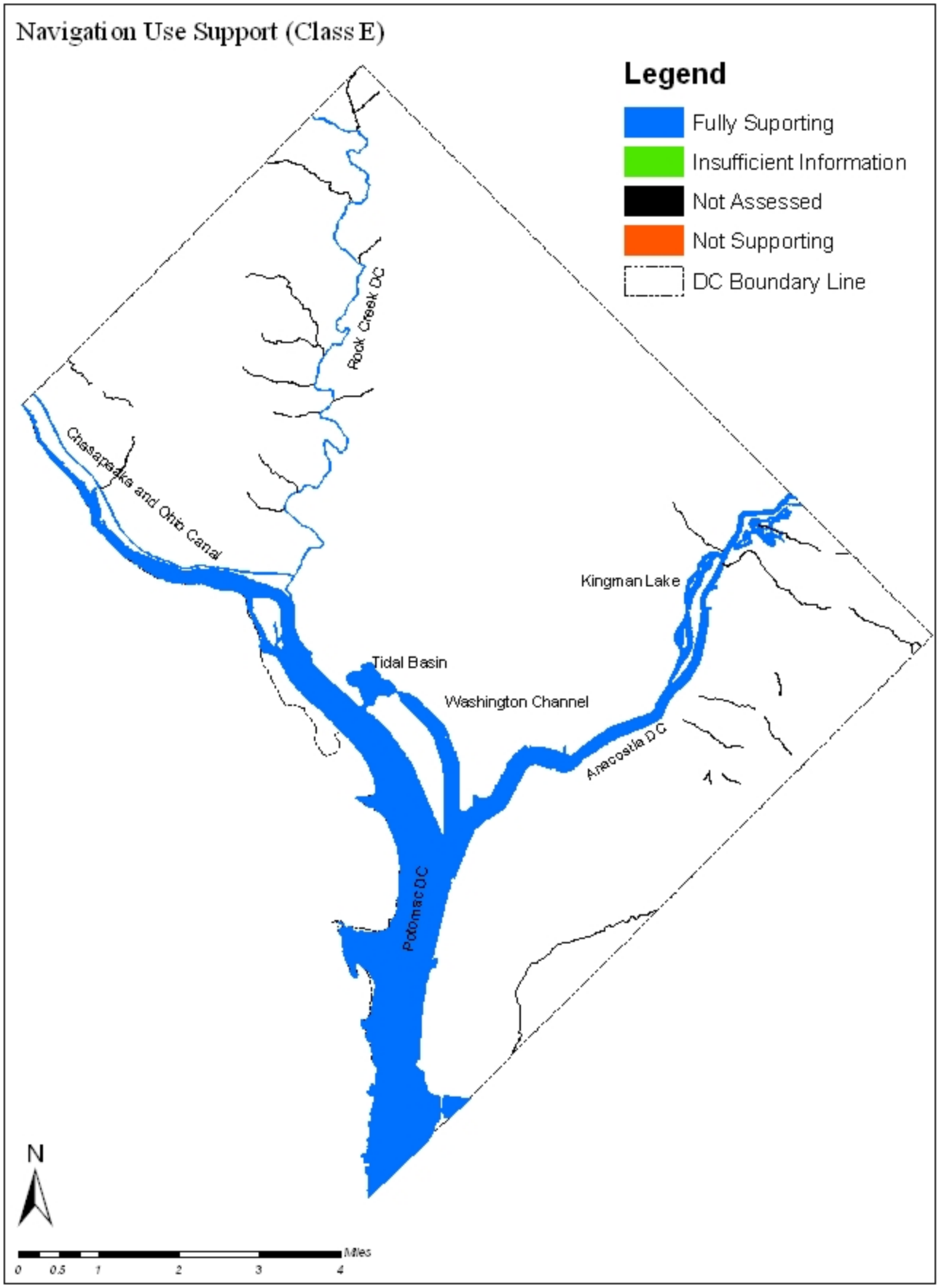
Appendix 3.6: Degree of Support for the Protection of Secondary Contact and Aesthetic Enjoyment.



Appendix 3.7: Degree of Support for the Protection and propagation of Fish, Shelfish and Wildlife.



Appendix 3.8: Degree of Support for the Protection of Human Health Related to the Consumption of Fish and Shellfish.



Appendix 3.9: Degree of Support for Navigation.

Categorization of District of Columbia Waters

Category 1- All designated uses are attained and no use is threatened.

No DC waters fit this category.

Category 2- Some, but not all, of the designated uses are attained and no use is threatened. The attainment status of the remaining designated uses is unknown as insufficient data exists to make an attainment determination.

No DC waters fit this category.

Category 3- Insufficient data exists to determine whether any designated uses are attained.

Category 4- Water is impaired or threatened for one or more designated uses, but a TMDL is not needed.
See subcategories below.

Category 5- Water is impaired or threatened for one or more designated uses and a TMDL is needed.

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 3

Category 3- Insufficient data exists to determine whether any designated uses are attained.

303d Assessment Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
2008	02070010	DCPTF	Potomac Tidal Fresh	DO, Chla		
2008	02070010	DCATF	Anacostia Tidal Fresh	DO, Chla		

[1] The waterbody segments as delineated by the Chesapeake Bay Program.

The District has adopted water quality standards for dissolved oxygen, water clarity and chlorophyll a (Chla) in accordance with the Chesapeake Bay Water Quality Criteria Guidance Document published in 2003 (EPA, 2003). DDOE WQD worked with the Chesapeake Bay Program to assess the tidal waters in the District using the 2003 guidance document and all the addendums published through 2009. For the 2008 listing, the tidal waters were assessed for the 30-day DO attainment and Chla.

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 4A

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

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
1998	02070010	DCTWB00R	Upper Watts Branch-segment 2	Bacteria Organics Total Suspended Solids	High High High	Oct 2003 Oct 2003
1998	02070010	DCTWB00R	Lower Watts Branch-segment 1	Bacteria Organics Total Suspended Solids	High High High	Oct 2003 Oct 2003 Oct 2003
1998	02070010	DCAKL00L	Kingman Lake	Bacteria Organics Metals Oil and Grease	High High High High	Oct 2003 Oct 2003 Oct 2003 Oct 2003
1998	02070010	DCTDU01R	Fort DuPont Creek	Bacteria Metals	High High	Oct 2003 Oct 2003

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 4A

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
1998	02070010	DCTFD01R	Fort Davis Tributary	Bacteria Metals	Medium Medium	Oct 2003 Oct 2003
1998	02070010	DCTFS01R	Fort Stanton Tributary	Bacteria Organics Metals	Medium Medium Medium	Oct 2003 Oct 2003 Oct 2003
1998	02070010	DCTFC01R	Fort Chaplin Tributary	Bacteria Metals	High High	Oct 2003 Oct 2003
1998	02070010	DCTPB01R	Popes Branch	Bacteria Organics Metals	Medium Medium Medium	Oct 2003 Oct 2003 Oct 2003
1998	02070010	DCTTX27R	Texas Avenue Tributary	Bacteria Organics Metals	Medium Medium Medium	Oct 2003 Oct 2003 Oct 2003
1998	02070010	DCRCR00R	Upper Rock Creek-segment 2	Bacteria Organics Metals	Medium Medium Medium	Feb 2004 Feb 2004 Feb 2004

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 4A

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
1998	02070010	DCRCR00R	Lower Rock Creek-segment 1	Organics Bacteria Metals	Medium Medium Medium	Feb 2004 Feb 2004 Feb 2004
1998	02070010	DCTOR01R	Oxon Run	Bacteria Organics Metals	Medium Medium Medium	Dec 2004 Dec 2004 Dec 2004
1998	02070010	DCPWC04E	Washington Ship Channel	Bacteria Organics pH	Low Low Low	Dec 2004 Dec 2004 Dec 2004
1998	02070010	DCTBK01R	Battery Kemble Creek	Bacteria Metals	Low Low	Dec 2004 May 2005
1998	02070008	DCTDA01R	Dalecarlia Tributary	Bacteria Organics	Low Low	Dec 2004 May 2005
1998	02070010	DCTCO01L	Chesapeake and Ohio	Bacteria	Low	Dec 2004

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 4A

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
			Canal			
1998	02070010	DCTNA01R	Nash Run	Bacteria Organics Metals	Medium Medium Medium	Oct 2003 Oct 2003 Oct 2003
1998	02070010	DCPMS00E	Upper Potomac River-segment 3	Bacteria Organics	High High	Dec 2004 Oct 2007
1998	02070010	DCPMS00E	Middle Potomac River-segment 2	Bacteria Organics	High High	Dec 2004 Oct 2007
1998	02070010	DCPMS00E	Lower Potomac River-segment 1	Bacteria Organics	High High	Dec 2004 Oct 2007

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 4A

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
1998	02070010	DCTFB01R	Foundry Branch	Bacteria Metals	Low Low	Dec 2004 May 2005
1998	02070010	DCTBR01R	Broad Branch	Organics	Low	Feb 2004
1998	02070010	DCTDO01R	Dumbarton Oaks	Organics	Low	Feb 2004
1998	02070010	DCTFE01R	Fenwick Branch	Organics	Low	Feb 2004
1998	02070010	DCTKV01R	Klingle Valley Creek	Organics	Low	Feb 2004
1998	02070010	DCTLU01R	Luzon Branch	Organics	Low	Feb 2004
1998	02070010	DCTMH01R	Melvin Hazen Valley Branch	Organics	Low	Feb 2004

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 4A

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
1998	02070010	DCTNS01R	Normanstone Creek	Organics	Low	Feb 2004
1998	02070010	DCTPI01R	Pinehurst Branch	Organics	Low	Feb 2004
1998	02070010	DCTPO01R	Portal Branch	Organics	Low	Feb 2004
1998	02070010	DCTPY01R	Piney Branch	Organics Metals	Low Low	Feb 2004 Feb 2004
1998	02070010	DCTSO01R	Soapstone Creek	Organics	Low	Feb 2004
1998	02070010	DCPTN01L	Tidal Basin	Bacteria Organics	Low Low	Dec 2004 Dec 2004
1998	02070010	DCTHR01R	Hickey Run	Bacteria Organics	High High	Oct 2003 Oct 2003
1998	02070010	DCANA00E	Lower	BOD	High	June 2008

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 4A

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	TMDL Establishment Date
			Anacostia River-segment 1	Bacteria	High	Oct 2003
				Organics	High	Oct 2003
				Metals	High	Oct 2003
				Total Suspended Solids	High	July 2007
				Oil and Grease	High	Oct 2003
				Total PCBs	High	Oct 2007
1998	02070010	DCANA00E	Upper Anacostia River-segment 2	BOD	High	June 2008
				Bacteria	High	Oct 2003
				Organics	High	Oct 2003
				Metals	High	Oct 2003
				Total Suspended Solids	High	July 2007
				Oil and Grease	High	Oct 2003
				Total PCBs	High	Oct 2007

*BOD means biochemical oxygen demand

*The chemicals for which the Organics TMDL for Upper and Lower Watts Branch, Kingman Lake, Fort Stanton Tributary, Nash Run, Pope's Branch, Texas Avenue Tributary, Hickey Run, Upper and Lower Anacostia River have been approved are chlordane, DDD, DDE, DDT, Dieldrin, Heptachlor Epoxide, PAH1, PAH2, PAH3 and Total PCBs.

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 4A

*The chemicals for which the Metals TMDL for Kingman Lake, Fort Dupont Creek, Fort Chaplin Tributary, Fort Stanton Tributary, Nash Run, Pope's Branch, Texas Avenue Tributary, Hickey Run, Upper and Lower Anacostia River have been approved are Arsenic, Cooper, Lead, and Zinc.
*The chemicals for which the Organics TMDL for Upper Potomac River, Middle Potomac River and Lower Potomac River have been approved is Total PCBs.
*Bacteria TMDLs have been approved for fecal coliform bacteria.
[1]- last position of alphanumeric code represents the waterbody type. E- estuary, R-river, stream, L- impoundment, lake

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 4B

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

No DC waters fit this category.

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES
Category 4C

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

No DC waters fit this category

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES

Category 5

Category 5- Water is impaired or threatened for one or more designated uses and a TMDL is needed**.**

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	Targeted for TMDL within 2 years	TMDL Establishment Date
1998	02070010	DCPMS00E	Middle Potomac River-segment 2	pH	High	N	May 2011
2002	02070010	DCTFB02R	Foundry Branch	DO	Medium	N	Aug 2013
2002	02070010	DCTBR01R	Broad Branch	Fecal coliform	Medium	N	Aug 2013
2002	02070010	DCTDO01R	Dumbarton Oaks	Fecal coliform	Low	N	Apr 2014
2002	02070010	DCTFE01R	Fenwick Branch	Fecal coliform	Low	N	Apr 2014
2002	02070010	DCTKV01R	Klingle Valley Creek	Fecal coliform	Low	N	Apr 2014
2002	02070010	DCTLU01R	Luzon	Fecal Coliform	Medium	N	Aug 2013

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES

Category 5

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	Targeted for TMDL within 2 years	TMDL Establishment Date
			Branch				
2002	02070010	DCTMH01R	Melvin Hazen Valley Branch	Fecal Coliform	Low	N	Apr 2014
2002	02070010	DCTNS01R	Normanstone Creek	Fecal coliform	Low	N	Apr 2014
2002	02070010	DCTPI01R	Pinehurst Branch	Fecal coliform	Medium	N	Aug 2013
2002	02070010	DCTPO01R	Portal Branch	Fecal coliform	Medium	N	Aug 2013
2002	02070010	DCTPY01R	Piney Branch	Fecal coliform	Low	N	Apr 2014
2002	02070010	DCTSO01R	Soapstone Creek	Fecal Coliform	Medium	N	Aug 2013
2002	02070010	DCPTB01L	Tidal Basin	pH	Medium	N	Aug 2014
2002	02070010	DCTHR01R	Hickey Run	Chlorine(total Residual)	High	N	Dec 2012

DRAFT DISTRICT OF COLUMBIA
LIST OF IMPAIRED WATERBODIES

Category 5

303d Listing Year	Geographic Location	WBID[1]	WB Name	Pollutant(s) or Pollutant Categories Causing Impairment	Priority Ranking for TMDL Development	Targeted for TMDL within 2 years	TMDL Establishment Date
2006	02070010	DCANA00E	Lower Anacostia River-segment 1	Trash	High	N	March 2012
2006	02070010	DCANA00E	Upper Anacostia River-segment 2	Trash	High	N	March 2012

*BOD means biochemical oxygen demand
*The chemicals for which the Organics TMDL for Soapstone Creek, Broad Branch, Dumbarton Oaks, Fenwick Branch, Klingle Valley Creek, Luzon Branch, Melvin Hazen Valley Branch, Normanstone Creek, Pinehurst Branch, Portal Branch, and Piney Brach have been developed are Chlordane, DDD, DDE,DDT, Dieldrin, Heptachlor Epoxide, PAH1, PAH2, PAH3 and TPCBs.
*The chemicals for which the Metals TMDL for Piney Branch has been developed are Arsenic, Copper, Lead, and Zinc.
* Bacteria TMDLs are develop for fecal coliform bacteria.
[1]- last position of alphanumeric code represents the waterbody type. E- estuary, R-river, stream, L- impoundment, lake

Appendix 5.1 Groundwater Monitoring Well locations

Appendix 5.2 Identification, location, and construction information for ground-water monitoring wells in Washington, D.C. used to obtain pesticide samples from September through December 2005, and (or) August through September, 2008 (modified from Klohe and Debrewer, 2007).

[USGS, U.S. Geological Survey; DDOE, District Department of the Environment; NAD83, North American Datum, 1983; NAVD 88, North American Vertical Datum of 1988; ft., feet; a.l.s, altitude of land surface; b.l.s., below land surface; unk, unknown; (° ' "), degrees, minutes, seconds; '05, 2005; '08, 2008; Alluv., Alluvium; Pot. Fm, S; Potomac Formation, sand lithofacies; Pot. Fm, C; Potomac Formation, clay lithofacies; Ter., Terrace; dep., deposits; Sap., saprolite; Fm, Formation; Shaded couplets indicate paired shallow and deep wells located at the same site]

USGS well number	USGS site identifier	DDOE well number	Latitude (° ' ", NAD83)	Longitude (° ' ", NAD83)	Altitude (ft a.l.s. NAVD 88)	Date[1] well constructed	Well depth (ft b.l.s.)	Cased interval (ft b.l.s.)	Casing diameter (outer, inches)[2]
Anacostia River Watershed									
AC Aa 1	385225076590101	DCMW001-03	38° 52' 25"	76° 59' 01"	5.7	2/5/1998	30	0 - 25	2
AC Aa 6	385138076585901	DCMW001-08	38° 51' 38.4"	76° 58' 59.3"	140.0	5/8/2008	18.5	0.24 - 12.5	2 1
AC Aa 7	385138076585902	DCMW002-08	38° 51' 38.4"	76° 58' 59.3"	140.0	5/8/2008	60	0.62 - 49.5	2 4
WE Ba 9	385606076584101	DCMW012-05	38° 56' 06.5"	76° 58' 41.4"	81.3	8/15/2005	18	0.35 - 8	1
WE Ba 10	385534076582101	DCMW007-05	38° 55' 34.4"	76° 58' 21.4"	74.4	8/18/2005	17	0.35 - 7	1
WE Ba 11	385649076584201	DCMW003-08	38° 56' 48.8"	76° 58' 21.4"	88.0	7/30/2008	28.5	0.47 - 18.5	2 1
WE Bb 3	385504076563801	DCMW001-02	38° 55' 03.6"	76° 56' 37.7"	12.3	7/24/2002	25	-3.6 - 15	2
WE Bb 4	385504076563802	DCMW004-02	38° 55' 03.6"	76° 56' 37.7"	12.4	7/26/2002	32	-3 - 22	2
WE Ca 29	385238076581501	DCMW005-02	38° 52' 38.4"	76° 58' 15.3"	13.4	7/29/2002	48.5	0.15 - 38.5	2 3
WE Ca 32	385332076594701	DCMW001-04	38° 53' 31.8"	76° 59' 47.1"	80.0	10/1/1992	29	0 - 19	4
WE Ca 33	385349076592801	DCMW006-05	38° 53' 49.8"	76° 59' 28.3"	67.8	8/5/2005	38	0.47 - 28	2
WE Ca 34	385245076583501	DCMW005-05	38° 52' 45.6"	76° 58' 35.1"	19.6	8/10/2005	33	0.55 - 13, 33 - 43	2
WE Cb 5	385443076562801	DCMW002-02	38° 54' 43.5"	76° 56' 28.4"	18.5	7/24/2002	22.6	0.2 - 12.6	2 1
WE Cb 6	385443076562802	DCMW003-02	38° 54' 43.5"	76° 56' 28.4"	18.8	7/25/2002	46.3	0.2 - 36.3	2 3
WE Cb 8	385252076572801	DCMW002-04	38° 52' 52.3"	76° 57' 28"	61.0	4/1/1992	265	0 - 255	4

USGS well number	USGS site identifier	DDOE well number	Latitude (° ' ", NAD83)	Longitude (° ' ", NAD83)	Altitude (ft a.l.s. NAVD 88)	Date[1] well constructed	Well depth (ft b.l.s.)	Casing interval (ft b.l.s.)	Casing diameter (outer, in inches)[2]
Anacostia River Watershed, continued									
WE Cb 11	385332076564101	DCMW003-05	38° 53' 32.1"	76° 56' 41.2"	60.0	7/28/2005	21	0.32 - 16	1
WE Cb 12	385332076564102	DCMW004-05	38° 53' 32.1"	76° 56' 41.2"	60.6	8/3/2005	39	0.32 - 29	2
WE Cc 3	385327076544801	DCMW008-05	38° 53' 27"	76° 54' 48.5"	88.7	8/16/2005	23	0.31 - 13	1
WW Bc 8	385519077012601	DCMW009-05	38° 55' 19.3"	77° 01' 26.9"	123.4	8/18/2005	32	0.33 - 22	1
WW Bc 9	385527077000701	DCMW011-05	38° 55' 27.8"	77° 00' 07.7"	133.6	8/17/2005	36	0.27 - 26	1
Rock Creek Watershed									
WW Bc 10	385619077020701	DCMW005-08	38° 56' 19.3"	77° 02' 07.3"	120	7/29/2008	32	0.86 - 22	2
WW Bc 11	385707077021801	DCMW006-08	38° 57' 06.6"	77° 02' 17.9"	250	7/28/2008	38.4	0.45- 28.4	2
WW Ac 8	385929077020901	DCMW007-08	38° 59' 29.3"	77° 02' 08.6"	265	7/31/2008	34	0.58 - 23.6	2
WW Ba 28	385644077061101	DCMW004-09	38° 56' 44"	77° 06' 11"	220	7/1/1992	100	0 - 50	4

[1] Except for well AC Aa 1, all wells are constructed of polyvinyl chloride casings and screens. Well AC Aa 1 is constructed of stainless steel materials.

[2] Except for well AC Aa 1 and well WE Cb 6, the diameter of the well screen is similar to the diameter of its casing. Diameters of the screens in well

AC Aa 1 and well WE CB 6 are 1.25 inches and 0.75 inches, respectively.

[3] On basis of well drilling-logs and geologic units described and mapped by Southworth and Denenny, 2006.

[4] Previously sampled in July - August 2002 (Miller and Klohe, 2003).

[5] Previously sampled quarterly in 1992-93 (Schneider and others, 1993a).

Appendix 5.3: Detected pesticide compounds: By type and use, detection frequency using either only or shallowest well at each site, maximum concentration, and related human-and aquatic-health concentration criteria, for groundwater in the Washington, D.C.:2005 and 2008.

[---, not analyzed; E, estimated concentration between laboratory reporting and detection levels, with higher than normal uncertainty; M, present, but at very low and uncertain concentration; µg/L, microgram per liter; CIAT, 2-chloro-4-isopropylamino-6-amino-s-triazine; OIET, 2-hydroxy-4-isopropylamino-6-ethylamino-s-triazine; CEAT, 2-chloro-6-ethylamino-4-amino-s-triazine; AMPA, aminomethylphosphonic acid; DDD, Dichlorodiphenyldichloroethane; DDE, Dichloro-diphenyldichloroethylene; Human-health criteria: A, U.S. Environmental Protection Agency (USEPA) maximum-contaminant and health-advisory levels for drinking water (USEPA, 2004); B, U.S. Geological Survey, Health Based Assessment Level (Toccalino, 2007), low/high values or single value for both; C, USEPA recommended human-health criteria for consumption of water and organism (USEPA, 1999); and P, USEPA pending candidate on drinking-water contaminant list (USEPA, 2005); Aquatic-health criteria: D, USEPA national recommended long-term aquatic chronic-exposure criteria for continuous concentration for freshwater/saltwater (USEPA,1999); E, Great Lakes aquatic-health criteria concentration (IJC, 1989); F, Canadian aquatic-health criteria concentrations (CCME, 2007); For either type of criteria: ---, no recommended or established standard or criterion concentration]

Detected pesticide	General use	Number of shallowest wells at different locations with at least one detection		Maximum concentration (µg/L)		H h c
		2008 (13 wells)	2005 (14 wells)	2008	2005	
Any herbicide or insecticide:		8	6	0.11	0.301	
Any herbicide:	**Used for nonspecific broadleaf or grass control**	8	4	0.11	0.193	
Any s-Triazine:[1]		8	3	0.106	0.02	
Atrazine	**Crop and noncrop**	5	1	0.106	0.02	
Simazine	**Crop or noncrop**	5	---	0.022	---	
Prometon	**Crop or noncrop**	3	---	E 0.01	---	
CIAT[2]	**Degradate of s-triazine**	7	2	E 0.025	E 0.02	
OIET[2]	**Degradate of s-triazine**	2	1	E 0.034	E 0.007	
CEAT[2]	**Degradate of s-triazine**	0	1	< 0.08	E 0.01	
Any chloroacetanilide or amide:		4	---	0.053	---	
Acetochlor	**Crop**	1	---	0.019	---	
Metolachlor	**Crop**	4	---	0.053	---	
Any ureic:		4	3	0.11	0.193	
Diuron	**Crop**	1	0	M(0.0016)	< 0.01	P,
3,4 dichloroaniline	**Degradate of diuron**[3]	1	---	E 0.006	---	
Fluometuron	**Crop, chiefly cotton**	1	0	E 0.01	< 0.02	
Metsulfuron methyl	**Crop and noncrop**	0	1	< 0.14	E 0.04	

Sulfometuron methyl	**Noncrop**	1	0	E 0.007	< 0.038	
Bromacil	**Noncrop**	2	1	0.04	E 0.01	
Tebuthiuron	**Noncrop**	1	1	0.11	0.193	
Any organochlorine:		2	0	0.02	< 0.31	
Glyphosate	**Crop and noncrop**	1	0	0.02	< 0.150	
AMPA[2]	**Degradate of glyphosate**	1	0	0.02	< 0.31	
Any insecticide:	**Nonspecific use unless other specified**	5	4	0.028	0.301	
A chlorinated phosphothiate: Chlorpyrifos	**Crop**	1	---	E 0.005	---	
Any acyclic chlorophenyl : noncrop	**Crop-**	3	1	0.002	0.004	
p,p'-DDD[2]	**Degradate of DDT (Discontinued 1972)**	3	0	0.002	< 0.002	0.
p,p'-DDE[2]	**Degradate of DDT (Discontinued 1972)**	0	1	< 0.002	0.004	0.
A chlorinated naphthalene: Dieldrin	**Crop-noncrop**	3	2	0.028	0.065	0. 0.
A chlorinated nicotynil: Imidacloprid	**Crop, sucking insects**	0	1	< 0.060	0.301	
Any chlorinated cyclodiene: noncrop (termites)	**Crop-**	3	2	0.021	E 0.1	
Chlordane	**Discontinued all uses 1988**	0	1	< 0.1	E 0.1	0.
Heptachlor expoxide	**Degradate of Heptachlor (Highly restricted, 1988)**	3	2	0.021	0.007	0.
Any phenopyrazole: termites and pet pests	**Noncrop,**	2	---	E 0.009	---	
Fipronil		2	---	E 0.009	---	
Fipronil sulfide	**Degradate of fipronil**	2	---	E 0.007	---	
Fipronil sulfone	**Degradate of fipronil**	1	---	E 0.005	---	

1 USEPA finalized an interim registration decision effective in 2004 to reduce atrazine application rates to control weeds in resid
industrial areas as well as along railroad right-of-ways (USEPA, 2006).

[2] [3] 3,4 Dichloroaniline is a possible degradate of diuron, linuron, neburon, swep (methyl-N(3,4-diphenyl) carbamate), chlorpyrifo
Barbash, Research Chemist, U.S. Geological Survey, Tacoma, WA, written commun., 2009); only diuron was detected in the sam
Dichloroaniline.

Appendix 5.4
MAJOR SOURCES OF GROUND WATER CONTAMINATION

Sources	Ten Highest-Priority Sources (✓)	Relative Priority	Factors[a]
Animal Feedlots	NA	--	--
Containers		L	A, B, D, E
CERCLIS Sites	✓	H	A, B, D, E, F, G, H
De-icing Applications	✓	M	A, D, F, G, H
Federal Superfund (NPL)	✓	H	A, B, D, E, F, G, H
Fill		H	A, D, E, F, G, H
Graveyards	✓	M	--
Landfills (permitted)	✓	H	A, B, D, E, F, G, H
Landfills (unpermitted)	✓	U[b]	A, B, D, E, F, G, H
Material Transfer Operations		M	A, B, D, E, F, H
Material Stockpiles		L	A, B
Mining and Mine Drainage	NA	--	--
Pesticide Applications	✓	M	A, B, C, F, G, H
Pipeline and Sewer Lines	✓	M	F, H
Radioactive Disposal Sites	NA	--	--
RCRA Sites	✓	M	A, B, D, E, F, G, H
Septic Tanks	NA	--	--
Shallow Injection Wells		L	F, G
Storage Tanks (above ground)		M	A, B, D, F, G, H
Storage Tanks (underground)	✓	H	A, B, D, E, F, G, H
Storm Water Drainage Wells		M	I
Surface Impoundments		L	A, B
Transportation of Materials	✓	M	A, B, C, D, G, H
Urban Runoff		M	F, H
Waste Tailings	NA	--	--

Sources	Ten Highest-Priority Sources (✓)	Relative Priority	Factors[a]
Waste Piles	NA	--	--

A. Human health and/or environmental risk (toxicity)
A. Size of the population at risk
B. Location of the sources relative to drinking water sources
C. Number and/or size of contaminant sources
D. Hydrogeologic sensitivity
E. State findings, other findings
F. Documented from mandatory reporting
G. Geographic distribution/occurrence
I. Assigned for pipelines and sewer lines and is a combination of the age and construction material of the lines (in D.C., there still are brick lines at least 100 years old).

[a] Unknown. The locations and nature of the materials disposed in unpermitted landfills are not yet known.
NA - Not Applicable
L - Low
M - Medium
H - High
(–) - Not a Priority

Appendix 5.5
SUMMARY OF DC GROUND WATER PROTECTION PROGRAMS

Programs or Activities	Check	Implementation Status	Responsible State Agency
Active SARA Title III Program	✓	Fully established	OEP
Ambient ground water monitoring system	✓	Partly established	DDOE
Aquifer vulnerability assessment[1]	✓	Fully established	DDOE
Aquifer mapping[2]	✓	Under development	DDOE
Aquifer characterization	✓	Under development	DDOE
Comprehensive data management system[3]	✓	Under development	DDOE
EPA-endorsed Core Comprehensive State Ground Water protection Program (CSGWPP)	✓	Under development	DDOE
Ground water discharge permits			
Ground water Best Management Practices			
Ground water legislation	✓	Fully established	DDOE
Ground water classification	✓	Fully established	DDOE

Programs or Activities	Check	Implementation Status	Responsible State Agency
Active SARA Title III Program	✓	Fully established	OEP
Ground water quality standards	✓	Fully established	DDOE
Interagency coordination for ground water protection initiatives	✓	Under development	DDOE
Nonpoint Source Controls			
Pesticide State Management Plan	✓	Fully established	DDOE
Pollution Prevention Program	✓	Under Development	DDOE
Resource Conservation and Recovery Act (RCRA) Primacy	✓	Fully established	DDOE
State Superfund [4]			
State RCRA Program incorporating more stringent requirements than RCRA Primacy	✓	Fully established	DDOE
State septic system regulations			
Underground storage tank installation requirements	✓	Fully established	DDOE
Underground Storage Tank Remediation Fund	✓	Fully established	DDOE
Underground Storage Tank Permit Program	✓	Fully established	DDOE

Programs or Activities	Check	Implementation Status	Responsible State Agency
Active SARA Title III Program	✓	Fully established	OEP
Underground Injection Control Program			
Vulnerability assessment for drinking water/wellhead protection	✓	Fully established	DDOE
Well abandonment regulations	✓	Pending	DDOE
Wellhead Protection Program (U.S. EPA-approved)			
Well installation regulations	✓	Pending	DDOE

OEP - Office of Emergency Preparedness
DDOE – District Department of the Environment

Appendix 5.6
GROUND WATER CONTAMINATION SUMMARY

Aquifer: Shallow Aquifer				
Source Type	Present in reporting area	Number of sites in area	Number of sites that are listed and/or have confirmed releases	Number with confirmed ground water contamination
NPL	Yes	1	1	1
CERCLIS (non-NPL)	Yes	32	12	11
DOD/DOE	Yes (a)	47	9	8
UST- Total opened and closed	Yes	2780 (b) (g)	1658 (g)	415 (g)
UST Active/Opened	Yes	705 (b)	315 (c)	317 (c)
RCRA Corrective Action	Yes	2	2	1
Underground Injection	Yes (d)	23	—	---
State Sites (Voluntary Clean Lands Program)	Yes (e)	19	19	---
Nonpoint Sources	(f)	—	—	---
Other	Yes	26	26	26
Totals		3635	2042	599

NPL - National Priority List
CERCLIS (non-NPL) - Comprehensive Environmental Response, Compensation, and Liability Information System
DOE - Department of Energy
DOD - Department of Defense
UST - Underground Storage Tanks
RCRA - Resource Conservation and Recovery Act

(a) Only DOD facilities. The number represents the number of facilities. Within a facility, there are several areas of concern resulting from distinct sources (e.g., LUST, landfill, maintenance shops, etc). Ground water contamination assessment is on going for the majority of the sites. Numbers were provided by the Hazardous Waste Division.

(b) Data represent the number of UST sites or facilities known to DC from previous and current annual registration. This value includes sites with heating oil and hazardous materials tanks. Numbers were provided by the Underground Storage Tank Branch, DDOE.

(c) There is on-going groundwater contamination assessment/remediation and monitoring by responsible parties for more than 60 percent of the opened LUST cases pending closure. These cases include heating oil contaminated sites.

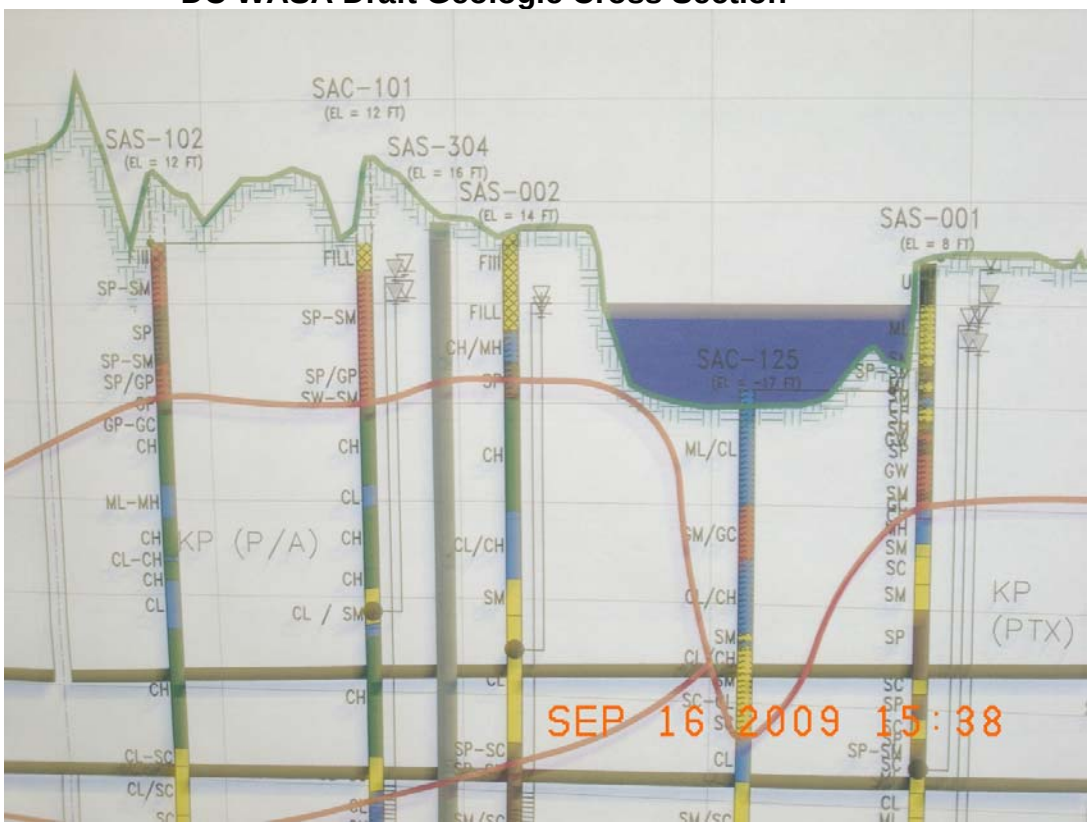
(d) One UIC site has stormwater injection wells. The remaining 22 UIC sites are operated for ground water remediation wells. The District does not regulate injection wells. Injection well numbers were not updated from 2006 by the USEPA.

(e) Source type data make no distinction between State and non-State sites.

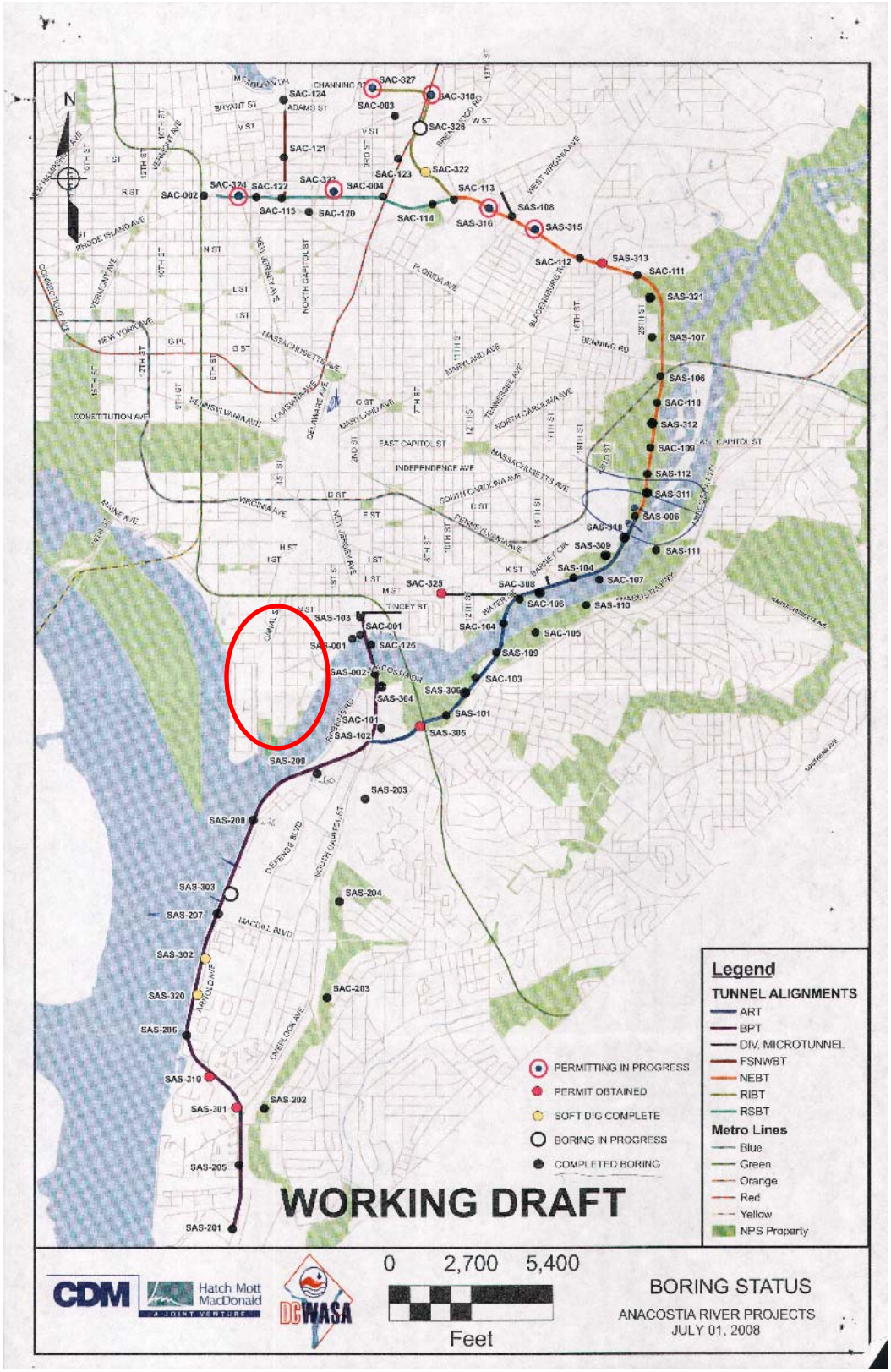
(f) See Nonpoint Source Section

(g) Most of these sites are not closed, either the USTs were removed or abandoned in-place or the soil and/or groundwater contamination was remediated and the LUST case closed.

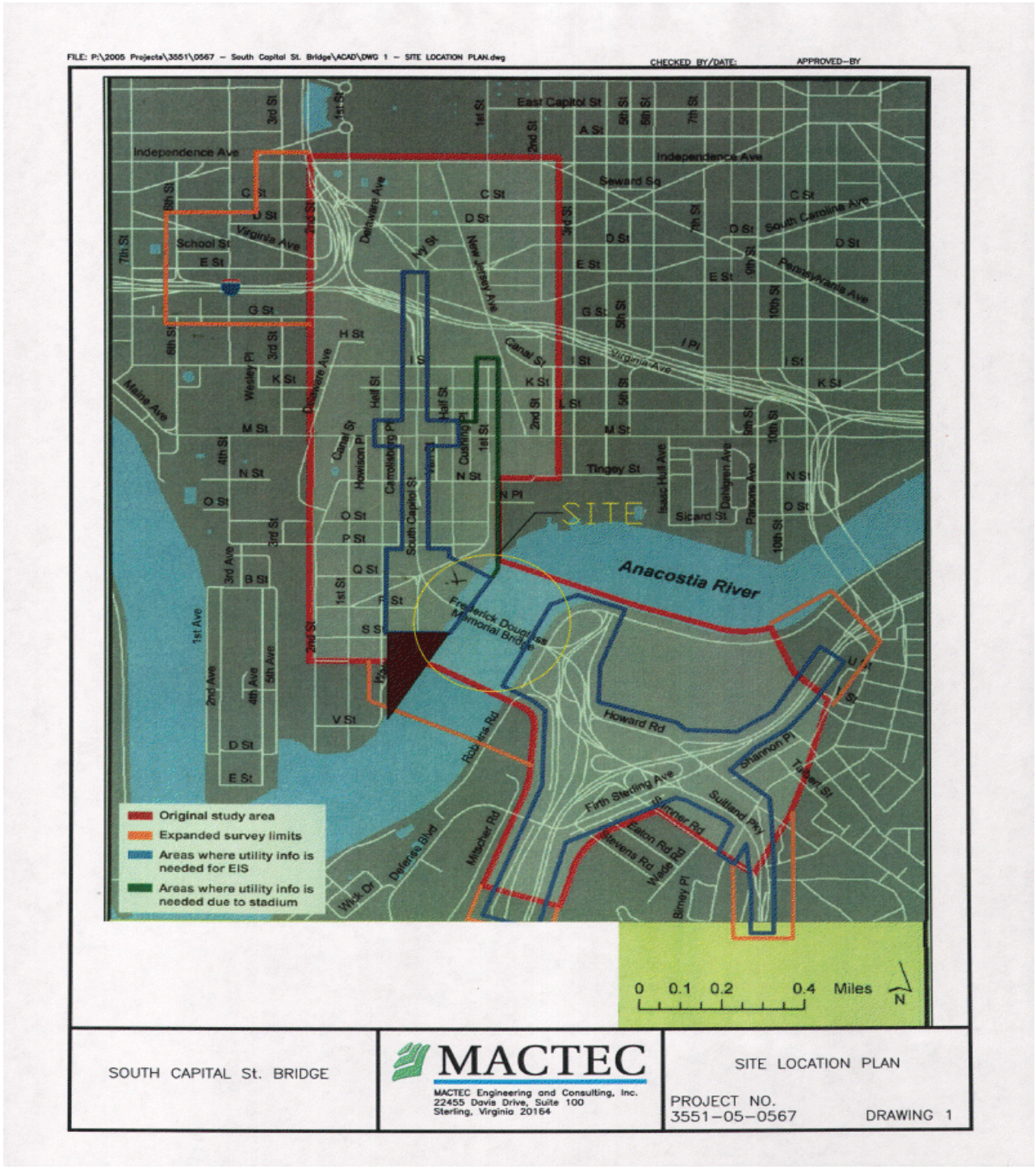
DC WASA Draft Geologic Cross Section



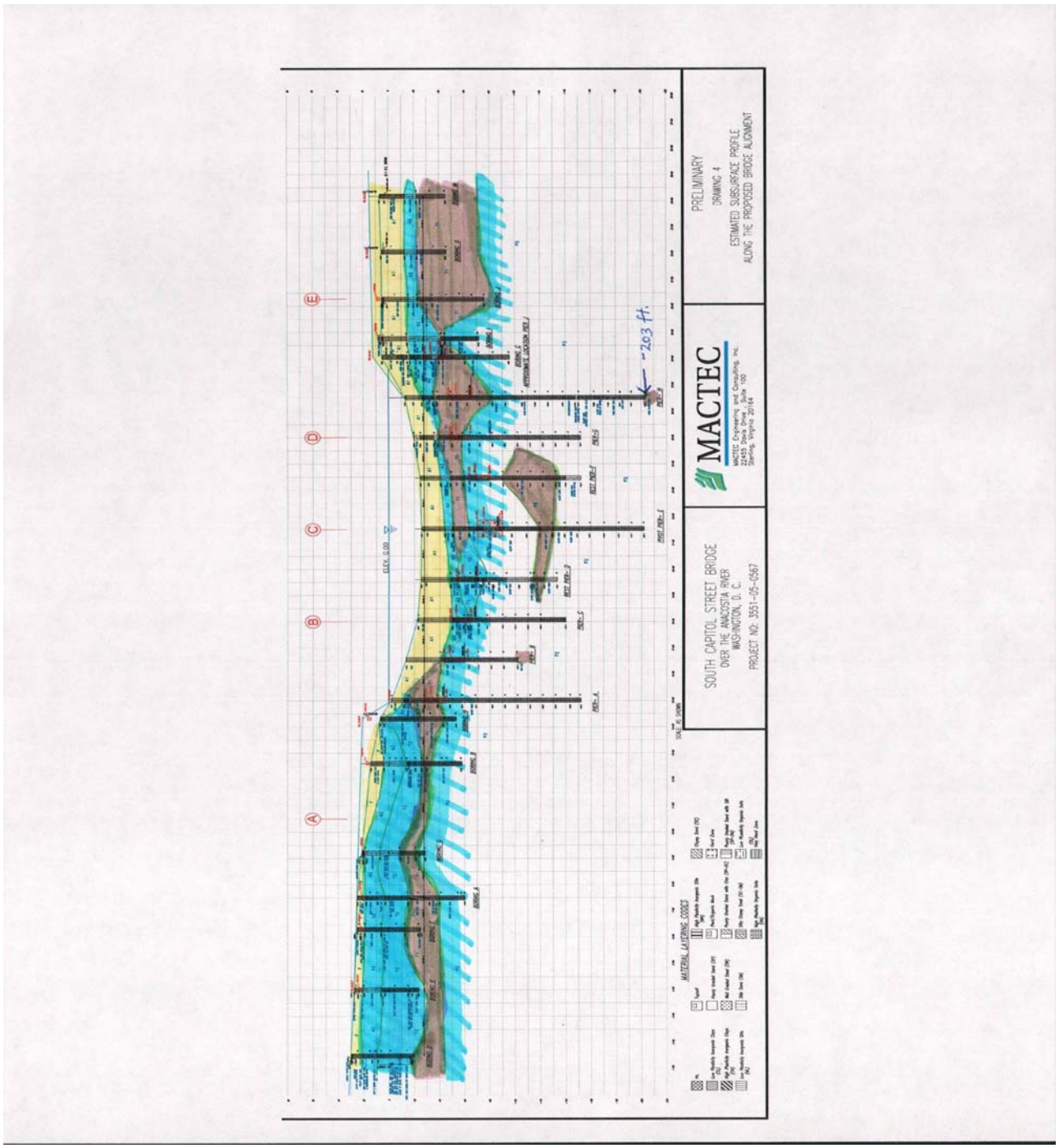
Appendix 5.7 DC WASA Draft Geologic Cross-Section from Poplar Point to the WASA O Street Pump Station with apparent discontinuity of the confining Arundel Clay [KP (P/A)] under the Anacostia River. This cross-section shows the Patuxent Formation [KP (PTX)] now directly underlies the alluvium and fill materials under the river and on the northern bank.



Appendix 5.8 WASA tunnel boring locations with geologic cross-sectional transect circled in red



Appendix 5.9 Location of the Frederick Douglass Bridge (also known as the South Capitol Street Bridge) crossing the Anacostia River in Washington, D.C. Transect line for geologic cross-section circled in yellow.



Geologic Cross-Section along existing Frederick Douglass Bridge. Note the discontinuity of the Arundel Clay (brown) and the direct connection between the Patuxent Formation (blue) and the overlying alluvium (yellow) under the Anacostia River. (Colors added to highlight stratigraphic changes) The deepest core extends 203 feet below sealevel.