DISTRICT OF COLUMBIA

WETLAND CONSERVATION PLAN

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DEPARTMENT OF ENERGY & ENVIRONMENT

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To update the District of Columbia's Wetland Conservation Plan, Wetland Studies and Solutions, Inc. (WSSI) conducted months of field work and data collection, including a comprehensive District-wide inventory of wetlands, methodology development, technical analysis, and review. WSSI also developed the Wetland Registry geodatabase, Wetland Enhancement and Restoration Evaluation Tool, and Creation Suitability Guidance Documents. DOEE wrote several chapters in this document and assisted with data review and editing.

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List of Abbreviations and Acronyms

AGCP Region	Atlantic and Gulf Coastal Plain Region
C&O Canal	Chesapeake and Ohio Canal
CFR	Code of Federal Regulations
CRE	Creation category
CSO	Combined Sewer Overflow
CWA	Clean Water Act
DC/The District	District of Columbia
DCRA	District of Columbia Department of Consumer and Regulatory Affairs
DCMR	District of Columbia Municipal Regulations
DOEE	Department of Energy and Environment
EMP Region	Eastern Mountains and Piedmont Region
EPA	U.S. Environmental Protection Agency
GIS	Geographic Information System
GPS	Global Positioning System
HGM	U.S. Army Corps of Engineers Hydrogeomorphic Approach
ID	Identity/Identification
JD	Jurisdictional Determination
JPG	Joint Picture Experts Group
MWEE	Meaningful Watershed Educational Experiences
MXD	Map Exchange Document
NAD 83	North American Datum of 1983
NC WAM	North Carolina Wetland Assessment Method
NH Method	New Hampshire Functions and Values Assessment Method
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OCTO	Office of the Chief Technology Officer
OTH	Other category
PEM	Palustrine Emergent Wetland
PFO	Palustrine Forested Wetland
PSS	Palustrine Scrub Shrub Wetland
PUB	Palustrine Unconsolidated Bottom Wetland
RBP	Rapid Bioassessment Protocol
RFA	Request for Application
SAV	Submerged Aquatic Vegetation
STW	Stormwater category
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
WPCA	Water Pollution Control Act of 1984
WCP	Wetland Conservation Plan
WERE	Wetland Enhancement and Restoration Evaluation Tool
WET	Wetland category

WET 2.0	U.S. Army Corps of Engineers Wetland Evaluation Technique, Version 2.0
WIP	Watershed Implementation Plan
WQC	Water Quality Certification
WSSI	Wetland Studies and Solutions, Inc.
WWG	Wetland Work Group

Executive Summary

Wetlands are among the most productive ecosystems in the world and vital to the ecology of healthy watersheds. They provide a wealth of benefits to humans, water quality, and wildlife through functions including storage of floodwater; shoreline erosion protection; recharge of groundwater that sustains river and stream baseflow; and, retention, assimilation, or transformation of nutrients and pollutants that can degrade downstream water quality. In addition, wetlands are integral components of food webs, providing nursery habitat for breeding fish, amphibians and birds, habitat for wildlife, and export of organisms to downstream waters. Wetlands also act as buffers to protect downstream waters from pollution.

Within the District, 289 acres of wetlands have been mapped and assessed in the field. Over 92% of the District's potential wetlands (areas determined to have wetland characteristics via a desktop analysis) are located within 500 feet or less of urban development. These urban wetlands face constant challenges such as habitat loss from development, fragmentation, and altered hydrology as well as degraded water quality from stormwater runoff, scour from heavy rain events, and invasive plant colonization. Conservation of these important natural resources is vital to the ecology and health of the District's residents, watersheds, wildlife, and economy.

In 2014, the Department of Energy and Environment (DOEE) issued a Request for Applications (RFA) to update the 1997 Wetland Conservation Plan (WCP). The RFA was awarded to Wetland Studies and Solutions, Inc. in 2015. The scope of the RFA included a District-wide inventory and functional assessment of wetlands, the creation of a publicly available geodatabase known as the District's Wetland Registry, identification of wetlands that may benefit from enhancement or restoration, and identification of areas that may serve as wetland creation candidates for further site suitability studies.

Through this WCP update, DOEE seeks to provide a more complete and publicly available wetland inventory to improve implementation and achieve the 1997 WCP goal of no net loss and eventual net gain of wetland acreage and functions. The Wetland Registry is intended to improve wetland conservation and protection by allowing stakeholders to identify and avoid wetland impacts during the initial phases of future city planning and development. The Registry will also allow users to view baseline data on each wetland's potential need for restoration or enhancement to identify potential mitigation opportunities. Wetland functional loss can be avoided with knowledge of where to take action on degraded wetlands.

This update also provides a methodology to assess the restoration or enhancement potential for existing wetlands and a wetland creation site suitability guidance document to aid in site selection for potential wetland creation areas. All potential wetland creation areas require further suitability studies.The information found in this document and the Wetland Registry geodatabase does not supersede any Federal or District statutes, regulations, or policies.

Wetlands are present throughout the District in many neighborhoods, backyards, and parks, and along rivers and streams. Wetlands affect and are affected by every person who lives in, works in, or visits the District, which makes everyone a stakeholder in this plan.

Chapter 1 Overview of Wetland Conservation Plan Updates

1.1 District of Columbia Wetland Conservation Plan Updates

This document provides new wetland inventory data and tools to improve the implementation of the District of Columbia (District) Wetland Conservation Plan (WCP) developed in 1997. The 1997 WCP established the framework to achieve the goal of no net loss and eventual net gain of wetland acreage and functions, and that goal remains unchanged. This update was developed in response to advances in technology and wetland science, recent stakeholder demand, and District Government goals that were presented in the Sustainable DC Plan 2013[1] (see Section 3.7). This WCP update includes the following:

- Detailed mapping of 92% of potential District wetlands (areas determined to have wetland characteristics via a desktop analysis);
- Baseline data on wetland conditions including soils, hydrology, vegetation, percent cover[2] of invasive species, photographs, and functions and values assessments;
- A publicly available Wetland Registry geodatabase that houses all of the data collected for this update;
- Updated methodology to evaluate wetland functions and values assessments;
- Updated methodology to assess wetland restoration and enhancement opportunities;
- Guidance to select candidate sites to create new wetlands ; and
- Recommendations to improve implementation of the WCP.

With access to sub-meter accuracy Global Positioning Systems (GPS) and an improved geographic information system (GIS), this update inventoried and mapped 92% of potential wetlands in the District. This is an improvement over the 1997 maps, which were large in scale and unable to depict small wetlands areas. In addition, this update

1 http://www.sustainabledc.org/about/2 “Percent cover is a fuelbed input variable and refers to the percent cover by crown projection of trees, shrubs and nonwoody vegetation and by linear estimates of woody and ground fuel coverage.” United States Forest Service, https://www.fs.fed.us/pnw/fera/research/tutorials/materials/fccs_tutorial_html/Fuel_Char_Definitions.htm#Percentcover

2 “Percent cover is a fuelbed input variable and refers to the percent cover by crown projection of trees, shrubs and nonwoody vegetation and by linear estimates of woody and ground fuel coverage.” United States Forest Service, https://www.fs.fed.us/pnw/fera/research/tutorials/materials/fccs_tutorial_html/Fuel_Char_Definitions.htm#Percentcover

includes assessments to provide baseline data on the functions and values of the District's wetlands. As wetlands continue to be impacted by human and natural processes, it is necessary to understand wetland functions and values to support efforts to protect, monitor, or restore them.

The Wetland Registry geodatabase provides access to data gathered during the wetland inventory. It is available online at: https://dcgis.maps.arcgis.com/apps/webappviewer/index.html?id=ade73e8be94d4df9b0a1d0f70db13df8

The Registry contains baseline data for the locations and conditions of 92% of the District's potential wetlands that are critical for wetland protection and future planning to avoid wetland impacts or loss. The Registry enables users such as urban planners or developers to scan a project site for existing wetlands where development should be avoided.

However, since the 2017 update did not map every wetland in the District, this document and the Registry data do not replace the need for site-specific wetland delineations or jurisdictional determinations by the U.S. Army Corps of Engineers (USACE) or DOEE.

Wetlands provide various functions and values to society, such as water quality improvements and aesthetics. A wetland's ability to provide various functions and values is affected by its size, location in the landscape and watershed, proximity to manmade disturbances (e.g., stormwater outfalls or parking lot runoff), vegetative composition, and the percent cover of invasive species. While each wetland may not provide all functions, the cumulative value of all wetlands in a watershed makes each wetland important. This WCP update performed functional assessments along with observations of specific wetland features to document the individual functions provided by each wetland.

Wetland restoration and enhancement opportunities were identified based on the presence of indirect and direct wetland disturbances (i.e., impacts) such as invasive plant species, increased sediment from stormwater outfalls, or loss of hydrology. Then potential wetland creation sites were identified and mapped. Please note that all potential wetland creation, enhancement, and restoration sites identified were evaluated solely on the basis of ecological parameters. These evaluations do not ensure that a project may be undertaken at any particular site, since there may be legal, technical, or other issues that limit the suitability of a site for wetland creation, enhancement, or restoration.

Chapter 2 Inventory and Assessment of Wetlands includes: wetland baseline data; functional assessment results; and a discussion of wetland restoration, enhancement, and creation opportunities. Chapter 3 Wetland Conservation Plan Implementation discusses the programs, tools, and regulations to implement the Wetland Conservation Plan, including wetland restoration, enhancement, and creation opportunities in the District.

1.2 What are Wetlands?

Wetlands have varying definitions. According to Section 404 of the Clean Water Act (CWA), wetlands are areas inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

The frequent and prolonged presence of water at or near the soil surface influences the types of soils that form, the plants that grow, and the wildlife communities that inhabit wetlands.

Wetland-JZ in Rock Creek Park

USACE developed a three-parameter approach to identifying wetlands based on positive indicators of hydrology, hydric soils, and hydrophytic vegetation (Environmental Laboratory 1987). Areas possessing these three parameters are generally considered "waters of the U.S." and are regulated by the federal and District governments.

The many types and sizes of wetlands take on different forms depending on their geographic location, hydrologic influences, and vegetative structure. Wetlands may be tidal or nontidal, freshwater or brackish, dominated by trees or herbaceous vegetation, and may have bare soils or organic matter (decaying leaves and twigs) several feet thick.

Also, wetlands do not need to be wet year-round; however, all wetlands must have water during enough of the year for plants adapted to wet conditions to grow. Some wetlands are located within isolated depressions that either retain water seasonally or where groundwater is close to the ground surface (e.g., vernal pools). Wetlands may be wet during winter and spring and dry during other seasons. Many wetlands are transitional areas between dry land (upland) and aquatic resources such as streams, rivers, lakes, or ponds.

Wetland-UW in Kenilworth Park

The District has several systems of wetlands classified as estuarine, riverine, slope, or depressional. These classifications were assigned based on the U.S. Department of Agriculture Natural Resources Conservation Service Hydrogeomorphic Wetland Classification System. Estuarine wetlands occur along coasts and estuaries and are under the influence of sea level. Riverine wetlands occur in floodplains and riparian corridors in association with stream channels. Slope wetlands are typically found where groundwater discharges to the land surface, normally on sloping land. Depressional wetlands occur in topographic depressions that receive water from precipitation, groundwater discharge, and runoff.

The District's wetlands serve important functions even though most are relatively small (76% are less than 0.5 acres), and they are often located adjacent to urban development. Wetland functions are a process or series of processes that take place in a wetland and provide ecological and societal benefits. Examples include water quality improvement; flood protection and storage; sediment trapping; nutrient retention and removal; wildlife habitat; habitat for endangered, threatened, and rare species; groundwater recharge and discharge; recreation; and shoreline erosion control. Not all wetlands perform all functions, nor do they perform all functions equally well. Wetland size, geographic location, vegetative composition, soil type, and the quantity and quality of water entering are examples of factors that affect the ability of a wetland to perform functions.

Wetlands act as natural flood regulators by storing floodwater and rainwater and slowly releasing them downstream or allowing them to infiltrate into the ground. During heavy rain, wetland topography (i.e., depressions) and vegetation slow down surface runoff. Wetlands reduce the quantity of water in rivers at the peak of flooding and slow and retain water from upstream tributaries, which helps protect downstream areas from flood damage.

Vernal pools, wetlands with a seasonally high water table, provide essential habitat. They fill with water during the wet months in fall through spring. In the spring, frogs and salamanders migrate from drier upland forests to vernal pools to breed and lay eggs. Due to the lack of fish in vernal pools, eggs are able to hatch successfully, and larvae are able to metamorphose into adults. In North America, approximately half of all frog species and one third of all salamander species rely on vernal pools for breeding and development (Turtle, 2000).

Human-influenced factors such as land clearing, development, or the introduction of invasive species, and natural disturbances, such as extended drought, reduce the ability of wetlands to provide functions. Although every wetland may not provide the same amount of functions, the cumulative value of all District wetlands in the watershed makes each individual wetland important.

Oxon Run wetland AT is a palustrine forested wetland. (Defined as non-tidal wetlands dominated by trees.)

Anacostia River Gateway wetland IH is a palustrine unconsolidated bottom wetland. (Defined as non-tidal wetlands characterized by a lack of large stable surfaces for plant and animal attachment.)

Oxon Hill wetland O is a palustrine emergent wetland. (Defined as non-tidal wetlands dominated by emergent plants.)

1.3 Wetlands: History and Impacts

Historically, portions of the District were marshes that supported a rich biodiversity of plants and wildlife. As established in the 1997 WCP, wetlands within the District have been greatly reduced and impaired by the following:

- Colonial agriculture;
- Reclamation through filling, draining, and dredging in the 1800s to mid-1900s and more recently;
- Urban development;
- Point source discharge (e.g., wastewater from pipes); and,
- Nonpoint source discharges (e.g., runoff of fertilizer from lawns).

All land south and west of the Washington Monument was "reclaimed" by filling the Potomac River and neighboring tidal flats with dirt, rock, and other materials dredged farther downstream. Subsequent development, in accordance with the James McMillan Mall Plan of 1901, filled many wetlands in the northeast section of the original city, which is now the District's southeast quadrant. Later, the wetlands along the Anacostia River were filled to construct highways, power plants, military bases, and industrial parks.

Until the 1880's, the Anacostia River was twice its current width and supported hundreds of acres of wild rice and aquatic vegetation. Source: Library of Congress.

It was also common practice to use wetlands along the Anacostia River as dumpsites. An estimated 450 acres of wetlands were filled and used as dumpsites, such as the area currently occupied by St. Elizabeth's Hospital (Guerrero 1993). Extensive wetlands near Kenilworth Park were used as a city dump for 30 years.

As urbanization spread, nearly 90% of the District's tidal and fringe wetlands that existed at the beginning of the 20th century were lost as a result of dredge and fill "reclamation" and seawall construction along the Anacostia River (Bernstein and Shepp 1992).

Current Impacts to District Wetlands

The District's wetlands are susceptible to loss of acreage and function due to direct and indirect impacts simply because they are located in an urban watershed. Direct impacts occur when a wetland is dredged, filled, drained, cleared, compacted, or otherwise permanently altered by activities that occur in, under or over a wetland. Direct impacts result in loss of wetland acreage and function. Indirect impacts are caused by activities that occur outside of wetland boundaries, but within a wetland's contributing drainage area. In an urban watershed, indirect impacts are often the consequences of development such as: increased stormwater runoff as a result of increased impervious surfaces (i.e. rainwater that flows over pavement or heavily compacted soil because it was not absorbed by natural ground cover), decreased groundwater recharge, or flow constrictions (e.g. undersized culverts, dammed culverts). Indirect impacts result in loss of wetland function, and may result in loss of wetland acreage.

Development within a wetland's contributing drainage area can adversely alter wetland hydrology (i.e., the source of wetland water), resulting in indirect impacts. For example, if vegetation within a contributing drainage area is mowed or removed and soils are compacted, paved, or eroded, stormwater runoff volume and velocity increases, which erodes wetlands and streams. In addition, the ability of rainfall to infiltrate into the soil is reducted, which directly reduces groundwater recharge that is necessary to sustain wetland hydrology.

Stormwater erosion increases the amount of sediment (i.e. suspended solids) transported to wetlands, which may decrease biodiversity. Erosive forces of increased stormwater velocity scour wetlands and streams, creating favorable conditions for invasive vegetation to establish. Sediment accumulates in wetlands and streams, and under extreme circumstances, can modify wetland hydrology to such an extent that the wetland is no longer inundated or saturated, resulting in loss of wetland function and acreage. When wetlands are lost or degraded by land development, the natural and free functions provided by wetlands are permanently lost and often attempted to be replaced by costly stormwater treatment, flood control infrastructure, and artificial wetlands that require perpetual maintenance.

There is great value in the flood storage function provided by urban wetlands where increased impervious surfaces drastically increase stormwater runoff during storm events. The degree of a wetland's flood storage capacity depends on the size, shape, soil type, and landscape position. Wetlands that store floodwater minimize flooding of downstream or down-slope properties, and slow erosive flows that degrade streams and rivers. Filling depressional wetlands and encroaching onto floodplain wetlands (i.e. direct impact) permanently and irreversibly reduces the flood storage capacity of the District's wetlands. When wetland flood storage function is permanently lost, the District

must resort to a patchwork of expensive stormwater engineering practices in an attempt to replace natural and free wetland function.

Wetlands located immediately adjacent to streams and shorelines naturally protect streams and shorelines from erosive winds, waves, and currents. Wetland vegetation and roots consolidate sediments, absorb wave energy, and help dissipate surface flows. The capacity of a wetland to perform this function depends upon vegetation density, root structure and soil type. When wetland vegetation is removed, or wetlands are permanently destroyed, increased shoreline erosion can occur, possibly resulting in loss of property, threatening infrastructure and public safety. When the shoreline protection functions of wetlands are lost, the cost to stabilize eroding stream banks and shorelines rises sharply.

District wetlands function as integral components of food webs, providing nursery habitat for breeding fish, amphibians and birds, and habitat for wildlife and species of greatest conservation need. Filling, clearing, dredging or otherwise directly impacting District wetlands fragments or destroys already limited habitat for District fish and wildlife, as well as migratory birds.

District wetlands are highly susceptible to colonization by invasive species. Invasive species compete with native species for limited natural resources including soil, water, light, nutrients, and space. Invasive species thrive in disturbed soils and out-compete native species because they generally lack predators or other natural controls. Invasive plants can also shade out rare species, causing a loss of biodiversity and pushing rare species closer to extinction. Wetlands or other natural plant communities can be altered drastically by invasive plants and transformed into landscapes dominated by a single species, called monocultures. By eliminating the diversity of wetland plant communities, monocultures disrupt food webs and provide little food or shelter for wildlife, which reduces a wetland's function and value. (Swearingen, 2010).

Wetlands provide the important function of water quality maintenance through pollutant removal. Wetlands naturally filter water to remove, retain, or transform a variety of pollutants. Through biological and chemical processes, wetlands remove or assimilate sediment, nutritents, pesticides, metals, and other pollutants and reduce suspended sediment transport (Mitsch and Gosselink, 1993). Stormwater runoff picks up and carries pollutants as it flows over sources of oil, grease, pet waste, trash, pesticides, or fertilizer. Pollutants that are carried by stormwater flow down streets into storm drains and eventually into the District's rivers, streams and wetlands. The capacity of wetlands to remove pollutants can be overwhelmed when they receive significant stormwater volume and pollutants from upland development. Increased stormwater volume and pollutants alter the chemical and biological processes needed to assimilate nutrients and retain organic matter and sediment and can result in loss of wetland functions.

Increased stormwater runoff can also cause wetlands to be overinnundated. Increased ponded water within a wetland may result in a decrease in sensitive amphibian species and an increase in tolerant species such as the bullfrog, *Rana catesbeiana* (Delis *et al.,* 1996; Rubbo and Kiesecker, 2005), resulting in a loss of biodiversity. Severe water level fluctuations, characteristic of an urban watershed and flash floods, can strand

amphibian larvae and expose amphibian eggs, leading to a decline in amphibian species (Richter and Azous, 1995). In addition, Extreme water level fluctuations within wetlands provides more favorable conditions for the spread of invasive plant species (Azous and Horner, 1997; Owen, 1999; Kercher and Zedler, 2004; Mahaney *et al.,* 2004; Miller and Zedler, 2003).

Roads, bridges, or other structures that cross wetlands and streams can cause flow constrictions that alter wetland hydrology. Culverts installed within streams or wetlands are the most common cause of flow constriction. Although culverts may be engineerd to properly carry flow from specific sized storms, they often lose capacity due to sedimentation or debris dams, and increased peak flows from new upstream development. Undersized culverts cannot fully convey stormwater flows and constrict flow, which indirectly impacts upstream and downstream wetland hydrology. Flow constrictions alter aquatic invertebrate communities in urban wetlands (King *et al.,* 2000). Direct impacts are regulated under federal wetland and stream permit programs. Mitigation is required to replace permitted direct impacts, to ensure no net loss and eventual net gain of wetland acreage and function occurs. However, indirect impacts to wetlands are often not regulated as most federal and state wetland permit programs regulate only activities that occur within wetland boundaries. Often, direct and regulated impacts can result in unregulated indirect impacts, causing a loss of wetland function. Indirect impacts hinder the ability of the District to achieve the goal of no net loss and eventual net gain of wetland acreage and function.

Wetland-AF

Climate Change

Indirect impacts to the District's wetlands and other aquatic resources may be occurring now and are expected to occur in the future as a result of global climate change. As referenced in the Sustainable DC Plan (2013) (http://www.sustainabledc.org/about/), changing temperatures, new precipitation patterns, extreme weather events, and sea level rise are likely to alter living conditions for many plant and animal species.

An increase in annual average and summer temperatures is an observed result of climate change. Typically, District temperatures have been 95 degrees Fahrenheit or higher for approximately 11 days throughout the year on average. This number is expected to increase to 18–20 days by 2020 and up to 40–70 days by 2080 (Thompson et al. 2015; Ossi et al. 2015). This expected temperature increase would lead to increased evapotranspiration (movement of water from soil, to plants, to the atmosphere), decreased soil moisture, and warmer water temperatures, which would eventually have the following effects:

- The ranges for plant species would shift, which could lead to increased invasive species in areas where some native vegetation (such as those adapted to cooler climates or those in tidal habitats) could no longer grow;
- Aquatic habitats with increased water temperatures would be affected by increases in parasites and other pests that favor warmer temperatures; and
- Warmer temperatures would change the hydrology of more sensitive wetland types like vernal pools, which are dependent on precipitation and susceptible to increased evaporation levels (Ossi et al. 2015).

Climate change is also expected to lead to increased flooding due to shorter duration, higher frequency, and higher intensity storms (Thompson et al. 2015). In the District, precipitation and coastal storms lead to flooding, either through overbank flooding, storm surges, or both. Flood events can carry polluted surface water into the District through the Potomac and Anacostia Rivers, which can lead to, "…a degradation of water quality and changes in hydrology, habitat structure, and aquatic biodiversity (Ossi et al. 2015)."

Over the next 100 years, sea level is expected to rise 24–48 inches in the Chesapeake Bay, and this change will be seen readily in the tidal portions of the Potomac and Anacostia Rivers and Rock Creek (District of Columbia 2010). Much of the District, approximately 1.74–2.55 square miles, lies below 40 inches in elevation and is expected to be affected significantly by sea level rise (District of Columbia 2010). This predicted increase is based on the projected rate of ice that melts globally, increased intensity of tropical storm events, and increases in greenhouse gas emissions. "Sea level rise and more intense storm events are expected to increase shoreline erosion, facilitate salt water intrusion, destroy habitats and ecological systems, and increase stormwater overflows and sewage contamination" (Ossi et al. 2015). Conversions of wetland cover types and higher salinity amounts will lead to shifts in plant species (Ossi et al. 2015) and quite possibly a decrease in habitat acreage, especially in areas where the landward edge of a wetland is unable to adjust naturally because the presence of development may restrict its movement up slope.

Chapter 2 Inventory and Assessment of Wetlands

2.1 Wetlands Mapping and Registry

The Wetland Conservation Plan (WCP) update involved an immense boots-on-the-ground inventory and assessment of the District's wetlands. All field data collected (e.g., wetland boundaries, plant lists, and data forms) were compiled into a geodatabase called the Wetland Registry. The District's Wetland Registry will enable any stakeholder to do the following:

- Obtain information needed to help protect existing wetlands;
- Assess, for land-planning purposes, where wetlands are present;
- Identify potential restoration, enhancement, and creation projects; and
- Identify possible wetland mitigation sites.

The Registry data do not replace the need for site-specific wetland delineations or jurisdictional determinations by the United States Army Corps of Engineers (USACE) or DOEE.

Many factors need to be investigated before initiating a wetland creation, enhancement, or restoration project, including:

- Property owner permission;
- The presence of endangered, threatened, or rare species; and
- The presence of historic or archaeological sites.

2.1.1 Methodology

Desktop Reconnaissance

Desktop reconnaissance was performed to identify potential wetland locations in the District and create field study areas. Relevant background materials and datasets such as topography, soils information, pervious surfaces, and wetland delineations previously submitted to DOEE were assembled from various sources, digitally layered, and organized into a geodatabase compatible for viewing and analyzing in a Geographic Information System (GIS). A full list of the datasets and background materials is presented in Table 2.1 Desktop Reconnaissance Datasets. Esri ArcMap GIS software version 10.1 was used for the desktop reconnaissance and subsequent mapping.

Table 2.1 Desktop Reconnaissance Datasets

Data	Source	Published Date
District of Columbia Boundary	DC GIS – managed by the Office of the Chief Technology Officer (OCTO) http://opendata.dc.gov/	2016
Pavement	DC GIS – managed by OCTO http://opendata.dc.gov/	2016
Building Footprints	DC GIS – managed by OCTO http://opendata.dc.gov/	2016
District of Columbia Tile Index Grid	DC GIS – managed by OCTO http://opendata.dc.gov/	2016
Standard Aerial Imagery at 6 in. Pixel Resolution	DC GIS – managed by OCTO http://opendata.dc.gov/	2013
Standard and Oblique Aerial Imagery at 3 in. Pixel Resolution	Pictometry, Inc. http://www.eagleview.com	2015
Topography (2-foot interval)	DC GIS – managed by OCTO http://opendata.dc.gov/	2009
Soils (Hydric and Hydric inclusion types)	Natural Resources Conservation Service (NRCS), U.S. Department of Agriculture (USDA) https://sdmdataaccess.nrcs.usda.gov/	2016
Previous wetland delineations and field studies (digitized reports)	WSSI and DOEE	Various dates
District of Columbia Wetland Conservation Plan Wetland Map (raster)	DC GIS – managed by OCTO http://opendata.dc.gov/	1997
National Wetland Inventory (NWI) Wetland Types	DC GIS – managed by OCTO derived from USFWS data http://opendata.dc.gov/	2002
Hydrology (rivers and streams)	DC GIS – managed by OCTO http://opendata.dc.gov/	2016

The desktop wetlands analysis began by excluding impervious land that cannot support a wetland. The pervious land cover was determined by excluding areas of recorded impervious land including pavement, building footprints, and open water such as the Potomac River, Anacostia River, and reservoirs. These feature layers were merged in GIS to determine the total excluded area. The excluded area left ± 22,029 acres of pervious land cover (undeveloped land) within the District on which to focus the search for potential wetlands.

High resolution aerial photography from 2013 and 2015 was one of the main tools WSSI staff used to locate potential wetland areas and assign Cowardin classifications (1979). The photo-interpretation involved looking for the potential wetland indicators in the aerial photography such as observed wetness, variations in vegetation types, and drainage patterns in open areas where tree canopy cover was absent. To identify potential wetlands in areas under tree canopy, the 2-foot interval topography, recorded hydric soil, and hydric inclusion soil layers were overlain on the aerial imagery.

To assist in locating and refining potential[3] areas to create new wetlands, all wetlands that were previously included in DC GIS mapped hydrology layers or submitted to DOEE and the National Wetland Institute were overlain on aerial imagery.

These are the results of the GIS desktop reconnaissance:

- A GIS polygon layer of potential wetland areas including size (in acres) and potential Cowardin classifications for each area, referenced in Maryland State Plane Coordinates North American Datum of 1983 (NAD 83) meters; and
- A large map of the District with polygons representing potential wetland areas.

DOEE reviewed the desktop-delineated polygons to eliminate any areas known not to be wetlands, such as stormwater management ponds or decorative water fountains. This GIS polygon layer was revised and used to create maps for field work.

The Tile Index Grid layer covering the District was downloaded from DC GIS and used as a visual reference system enabling WSSI and DOEE staff to do the following:

- Organize and strategize field work per tile;
- Coordinate effectively with stakeholders to describe where field work would occur; and
- Track progress as potential wetland areas were visited and assessed.

Property Owner Coordination

The Property Boundary layer that contains ownership information (name and mailing address) in the attribute table was downloaded from DC GIS. The attribute information in this layer was reviewed and sorted into three ownership categories: private (person or company), public (federal or District Government), and National Park Service (NPS) for future analysis. NPS ownership was specifically noted because permits would be needed to assess these sites. These categorized parcels were overlain and intersected with the potential wetland layer in GIS to assign a type of ownership and contact information to each potential wetland area. The contact information for each property owner was used to notify of the potential wetlands on their property and explain the field study. Letters were sent to every private and commercial landowner in the District who had potential wetland areas located on their property. The Property Access

3 Potential wetlands are initially identified by aerial photographs and confirmed by on-ground inspection.

Request letter template can be found in Appendix A. Property owners were given the chance to deny access to their property for the field study effort. Any access-denial responses were noted, recorded, and those properties were not visited. A small subset of organizations and private landowners requested a scheduled site visit in order to be present during field work.

Several property owners required permits for site access prior to conducting any field work, including NPS, the National Arboretum, and CSX Transportation. Five Scientific Research and Collecting Permits from NPS and one from the National Arboretum were obtained, as described and included in Appendix B. The CSX area was not accessed because a permit was not obtained. Additionally, permission to access military facilities within the District was not pursued. These inaccessible lands equated to approximately 62 acres. Impervious areas, which represent approximately 17,000 acres within the District, were also not studied. Overall, 92% of the potential wetlands in the District were investigated.

The Wetland Enhancement and Restoration Evaluation Tool

WSSI and DOEE developed the Wetland Enhancement and Restoration Evaluation (WERE) Tool before field work began to determine if a wetland was a potential candidate for an enhancement or restoration project. The tool was also used to evaluate areas that were previously wetlands.

The WERE Tool includes two components:

1. A flowchart to approximately determine if a wetland area would benefit from restoration and enhancement; and
2. A score interpretation table that provides potential actions that may restore or enhance the wetland area, based on the unique score.

The WERE Tool is included in Appendix C.

Wetland Creation Suitability Guidance

WSSI and DOEE staff created guidance documents to aid in choosing a project or area for potential wetland creation. Please note that the use of this guidance does not supersede the District's wetland policies or regulations or any federal statutes, regulations, or policies. All necessary approvals including, wetland permits, stormwater permits, grading permits, and site plan approvals must be obtained (as applicable) prior to commencing work on any wetland creation project. Once wetlands are created, they will fall under the jurisdiction of the District Government and potentially USACE, and a permit would be required for any future impacts to a created wetland.

Two guidance documents were created—one for wetland creation as part of a permitted project requiring mitigation and another for wetland creation not intended as a mitigation project. Both guidance documents are included in Appendix D.

The Wetland Creation Site Suitability Guidance Documents were used in the field to evaluate areas for wetland creation opportunities. These areas exhibited potential wetland characteristics (e.g., hydrology), but did not meet the definition of a wetland.

Field Study

Study areas, or potential wetland areas, were represented as polygons on the field maps generated from the desktop reconnaissance. Field staff visited each study area and walked the transects to determine whether a wetland was present. Once the determination was made, the investigators labeled each study area with a descriptive ID that included one of the following options: WET (wetland or stream), CRE (potential creation site), STW (stormwater feature), or OTH ("other", a site that doesn't match any of the previously mentioned categories, e.g., upland areas or inaccessible areas). The approximate boundaries of any wetland discovered within or near the study areas were delineated and the wetland was assessed. In general, for an area to be considered a wetland, three parameters must be present: hydrophytic vegetation, hydric soils, and hydrology.

The wetland mapping was performed pursuant to the "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1 (1987 Manual; Environmental Laboratory 1987) and subsequent guidance, and modified by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region*, Version 2.0 dated November 2010 (USACE 2010), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region,* Version 2.0 dated April 2012 (USACE 2012) (i.e., the Regional Supplements). As shown in Figure 2-1 Physiographic region map., the District is located in both the Atlantic and Gulf Coastal Plain Region (AGCP Region) and the Eastern Mountains and Piedmont Region (EMP Region) (Fenneman and Johnson 1946).

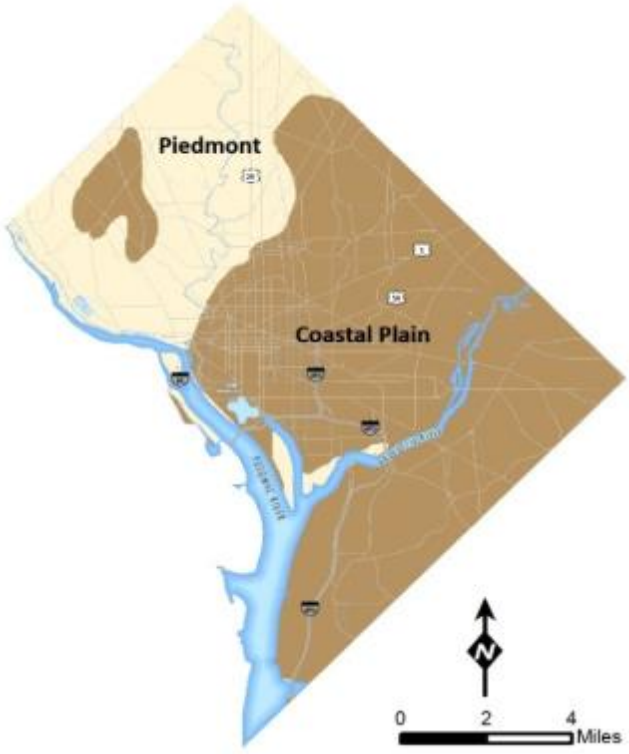


Figure 2-1 Physiographic region map.

As required by USACE methodology, a data point (location) was taken in each study area to document the vegetation, soils, and hydrology. This process involved documenting observations of the vegetative species present in each stratum (tree, sapling/shrub, and herbaceous layers); observations of wetland hydrology indicators, which may be present at any time of year; and the presence of hydric soils indicators.

Soil observations were made using a Dutch auger (a hand auger with an approximately 2-inch by 8-inch bucket) to a depth of 16–24 inches, depending on field conditions.

A wetland determination was made based on the data point and using guidelines laid out in the 1987 Manual and the Regional Supplements. Copies of the Wetland Determination Data Forms are located in Appendix E. An overall list of the plants found in the assessed wetlands is included in Appendix F.

When the wetland determination was positive (meaning a wetland was present) a Trimble Pro series GPS receiver (Pro 6T with sub-meter accuracy) Model 98850 backpack unit was used to map the outer boundary of the wetland. Note that these boundaries are approximate, and GPS accuracy varies greatly depending on available satellites, vegetative cover, buildings, topography, and atmospheric conditions. Each wetland was assigned an individual name such as "Wetland A." Wetlands that were composed of multiple adjacent areas with the same geographic position, vegetation, and hydrology source but separated by upland were assigned the same name. If a wetland connected to a known stream on the District's hydrography GIS layer, the known stream was not remapped; the wetland was connected to the known stream digitally on the Overall Wetland Registry map (see Appendix G) based on field-truthed conditions.

In addition to the data point, the following data were collected and documented in the field at each site where wetlands were identified:

- Cowardin classifications (Cowardin et al. 1979) (see Appendix H);
- Wetland function and value—using the Method for Inventorying and Evaluating Freshwater Wetlands in New Hampshire (i.e., the New Hampshire Method, (see Appendix I) and the District Wetland Function and Value Checklist (see Appendix J);
- The DOEE Additional Information Checklist (see Appendix K);
- The restoration or enhancement potential using the WERE Tool (see Appendix C); and
- Photographic documentation (see representative photographs included in Appendix L).

All wetlands were classified according to the Cowardin Classification System as described in Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979) (see Appendix H). This hierarchical system assigns wetlands to certain categories according to hydrological, geomorphological (i.e., land formation), and biological factors.

A description of the New Hampshire Method,and the District Wetland Function and Value Checklist is provided in the next section.

New Hampshire Method

The New Hampshire Method includes a series of questions divided into 12 sections based on different functions and values of wetlands. Each section receives an average

score that enables comparison among wetlands. A copy of the New Hampshire Methodology is included in Appendix I. Details regarding the New Hampshire Method and its applicability are included in Section 2.1.3

District Wetland Function and Value Checklist

The District Wetland Function and Value Checklist requires the user to determine the presence or absence of nine known wetland functions and to classify each wetland as high, average, or low value by taking diversity, quality, and functional viability into account. This method was taken directly from the 1997 WCP (District of Columbia 1997). Additional details are provided in Section 2.1.4. The District Wetland Function and Value Checklist is included in Appendix J.

The DOEE Additional Information Checklist contained a list of 18 questions to document potential habitat, plants, animals, and environmental stressors in a particular wetland. Similar to the Wetland Characterization Data Form used in the 1997 WCP, the DOEE Additional Information Checklist (included in Appendix K) allows field scientists to gather information that may be useful to multiple DOEE programs and stakeholders. The checklist is a revised version of the 1997 data form.

At each wetland or potential wetland location, field staff used the WERE tool flowchart to determine a score that represents the observation of specific wetland stressors and other observed parameters such as soils and vegetation. Scores range from 0 to 59. A low score indicates less effort would be needed for wetland restoration/enhancement, and a higher score indicaes a more significant level of restoration/enhancement effort. If an area was determined to be ineligible for either restoration or enhancement, a determination of "No Further Work" was given (see Creation Guidelines). See Appendix C for additional details about use of the WERE tool.

A representative photo from each assessed area is included in Appendix L. All photos taken at the assessed areas can be viewed in the Wetland Registry.

Each accessible study area (as determined during the desktop reconnaissance where site access was not refused) was visited and critically evaluated to determine whether or not it was a wetland. Areas that did not meet the definition of a wetland (as defined in the 1987 Manual, as modified by the Regional Supplements) were assigned one of these categories:

- Stormwater (STW);
- Creation (CRE); or
- Other (OTH).

Stormwater features were identified specifically because these areas cannot be "double counted" as both stormwater features and natural wetlands. Areas that were labeled as potential creation areas tended to exhibit wetland hydrology or were near sources of hydrology. Study areas that were not considered to be ideal or reasonable for wetland creation, areas that were not wetlands (i.e., uplands) or stormwater features, or areas that were inaccessible (e.g., prohibited access from property owners,

inaccessible due to fences, railroad rights-of-way, or areas under construction) were labeled as other.

Geodatabase Development

The Wetland Registry geodatabase was created to provide the findings of the Wetland Conservation Plan field work and assessments to stakeholders. A geodatabase is a way to store digital geographical information. It is an organized file folder that contains different types of spatial data layers in one place, including vector information such as points, polygons, and line layers, and raster information such as aerial imagery. Connections to other digital folders containing related but nonspatial data such as assessment forms or field photographs are hyperlinked to the geodatabase.

The Wetland Registry design began with organizing the spatial data collected and used in the registry into two GIS layer groups: a Wetland Registry data theme and a base data theme. The data collected in the field were placed in the Wetland Registry data theme and the additional background spatial data downloaded from other sources were organized in the Base data theme. This separation enables the user to distinguish data created during the wetland registry mapping effort from previously existing data and data obtained from other sources.

Once placed into the Wetland Registry data theme, the features were further organized into layers, and each layer was assigned a layering priority, a representation type, and a cartographic style in the geodatabase. These layer assignments include standardized tabular attribute and metadata information created in accordance with OCTO's File Formats, Layer Naming and Attribution Standards (https://octo.dc.gov/page/file-formats-layer-naming-and-attribution-standards).

The Wetland Registry data theme contains spatial data recorded in the field, the wetland area polygons, and potential mitigation creation points. Field data were captured using GPS in the following format: points, lines, or areas, all with associated attribute information (such as a unique identifier code or name, latitude, longitude, etc.). The points recorded in the field represent features such as potential wetland creation locations; the lines represent previously unmapped stream segments observed in the field (included as Appendix P); the areas represent the wetlands observed during the field study. The Base data were sourced primarily from the DC GIS Open Data website (http://opendata.dc.gov), which also has the spatial format of lines, points, and areas with attribute information. These data include features such as road centerlines, parcel boundaries with ownership information, and two-foot interval contour lines.

The Base data theme contains background and other existing spatial data downloaded for reference and analysis purposes throughout the project such as the District of Columbia boundary polygon, hydrography information (previously mapped District stream lines and waterbody polygons), soils polygons with hydric attribute information, Submerged Aquatic Vegetation (SAV) polygons, and the 2015 aerial imagery raster covering the District. SAV was included to provide a more complete picture of the District's aquatic resources. The distribution, diversity, and density of SAV

in the District are addressed in separate annual reports prepared by DOEE's Fisheries Research Branch.

DOEE Wetland Registry Geodatabase Structure	
DOEEWetlandRegistry	**Description/Notes**
WetlandRegistry	
WetlandRegistryPly	WSSI delineated wetland polygons
WetlandCreationPt	Potential wetland creation points
StreamRegistryLn	WSSI delineated stream polylines
BaseData	
DistrictBoundaryPly	District of Columbia boundary
TileIndexPly	Distric of Columbia tile index used by WSSI for field work
TilesNotStudiedPly	Tiles not studied by WSSI based off the TileIndex feature class
RoadCenterlinesLn	District of Columbia road centerlines
HydrologyLn	District of Columbia Hydrology
ParcelsPly	District of Columbia Parcels
SubmergedAquaticVegPly	Submerged Aquatic Vegetation (SAV) polygons
SubmergedAquaticVegLn	Submerged Aquatic Vegetation (SAV) polylines
HistoricStreamsLn	Distric of Columbia historic streams linework
NationalParksPly	National Park Service lands polygons
ImperviousCoverPly	District of Columbia impervious cover polygons
ContoursLn	District of Columbia 2' contours (NAVD 88)
HydricSoilsPly	District of Columbia hydric soils classification polygons
PreviousDelineationsPly	Wetland delineations conducted prior to WSSI wetland registry
NationalWetlandInventoryPly	National Wetland Inventory wetland types
PhotoInterpretedWetlandsPly	Wetlands delineated through photo interpretation
OverlayRasters	
Imagery2015	District of Columbia 2015 natural color imagery
Legend	
Feature Dataset	
Point Feature Class	
Line Feature Class	
Polygon Feature Class	
Raster Dataset	

Figure 2-2 Organization of GIS information.

The Wetland Registry data theme and many of the layers within the Base data theme are illustrated throughout the report as inset maps, on the Overall Wetland Registry Map (see Appendix G), and on multiple detail maps of the District (see Appendix O). These maps were created in Esri ArcMap v. 10.1 software as Map Exchange Document (MXD) files using the layers stored in the geodatabase. The final maps were exported from ArcMap to standard JPG image format for insertion in the report and printing. The final Wetland Registry geodatabase, maintained by OCTO, contains specific data for each wetland including photographs, Cowardin classifications, acreages, and data forms.

2.1.2 Functional Assessments

Functions represent the measurable values of wetlands that contribute to their geographic, biological, and sociological values. Functions of wetlands in urbanized areas are difficult to assess because basic assumptions pertaining to hydrologic regime, pollutant loadings, and drainage area are difficult to determine. The District is a small, highly urbanized area that has relatively few wetlands. Existing functional assessment methodologies are designed to assess function that are minimally or not at all impacted by human activity, and therefore aren't calibrated to assess the more nuanced realities of wetlands in urban areas.

The 1997 WCP considered three methodologies for the assessment of functional quality:

- USACE Wetland Evaluation Technique, Version 2.0 (WET 2.0);
- New Hampshire (NH) Method; and
- Maryland Method for the Assessment of Wetland Function.

The 1997 WCP determined that the Maryland and WET 2.0 methodologies were too cumbersome or were not sensitive enough for the urban nature of the District's wetlands. The NH Method has been updated several times since 1997 (the December 2015 version was used for this study) and now addresses many of the concerns raised in the 1997 WCP. Thus, the NH Method was selected in this update to maintain consistency with methodologies in the 1997 WCP and because it provides separate scores for each function that allow comparison of wetlands on a category-by-category basis.

DOEE considered two additional methods for this update:

- USACE Hydrogeomorphic Approach (HGM); and
- North Carolina Wetland Assessment Method (NC WAM).

The HGM method requires extensive upfront modeling, selection of reference wetlands, and development of models for different wetland functions. Although the HGM method is highly comprehensive and, once developed, would be a regionally specific method for assessing wetland functions, this method was not chosen for this WCP update due to budget and time constraints. The NC WAM method is tailored toward urban wetlands, but this method is mainly intended to evaluate wetland mitigation banks and alternatives analysis. This method was not applicable for the WCP update.

The District Wetland Function and Value Checklist methodology was created in 1997 to evaluate the relative value of wetlands in the District, and it was also used in the 2017 update as described in Section 2.1.4.

2.1.3 New Hampshire Methodology

The NH Method was selected for the 2017 WCP update to maintain consistency with the function assessment methodologies in the 1997 WCP and because it allows for comparison between wetlands on a function-by-function basis. The New Hampshire Method is designed for use by professional wetland scientists, as well as by public

officials, community volunteers, and professionals who have some familiarity with wetlands, but who are not necessarily wetland specialists. A copy of the New Hampshire Methodology is included in Appendix I.

The NH method evaluates wetlands for 12 function categories and calculates a separate numerical score for each function (see Appendix I for more detail):

1. Ecological Integrity – This function category is evaluated in the context of human-induced stressors to the wetland and human activity in and around the wetland. High scores for this function indicate abundance and diversity of native plant species and that wetland processes are not stressed by human-caused impacts. Wetlands in more developed areas score lower on this function.
2. Wetland Wildlife Habitat – This function category assesses the overall suitability of a wetland as habitat for wildlife species that are dependent on wetlands for all or most of their life cycle.
3. Fish and Aquatic Habitat – This function category evaluates wetlands associated with seasonal or permanent open water, regardless of known fish presence.
4. Scenic Quality – This function category includes wetlands that are accessible with viewing locations or wetlands with scenic beauty that may not be accessed easily, and the score is determined based on best judgement.
5. Educational Potential – This function category evaluates the educational potential of a wetland in terms of access to the widest variety of wetland types and other natural resources that might be studied.
6. Wetland Recreation – This function category receives a low score if the property posts signs restricting or prohibiting recreational activities such as hiking or bird watching.
7. Floodwater Storage – This function category is evaluated based on acreage, location, watershed size, and flood storage volume of the wetland. This function evaluates the ability of a wetland to attenuate (i.e., slow down and store) floodwaters.
8. Groundwater – All wetlands received the same score for this function category because the evaluation questions required unavailable information.
9. Sediment Trapping – This function category evaluates a wetland's size and capacity to store water, density and distribution of vegetation, and the shape and gradient of the wetland basin.
10. Nutrients – This function category considers the wetland's flood storage capacity, sediment trapping ability, vegetation composition, and hydroperiod.
11. Shoreline Anchoring – Vegetated wetlands located on the border of waterbodies score highly for this function category.
12. Noteworthiness – This function category refers to certain features a wetland may possess that gives it a high value regardless of any other attribute.

Each function category was scored from 0 to 10. Scores of 8 to10 indicate that the wetland has higher performance for a particular function, while scores below 5 indicate that the wetland has either been compromised for that function or does not have the characteristics to perform that function well. The final scores for each of the wetland's 12 function categories are not additive; therefore, a single overall score for a wetland is not appropriate. Scoring each function separately enables comparison between wetlands on a function-by-function basis. Wetlands that were considered to be acting as one system were shown together on one data sheet, and wetland identities (IDs) were separated by commas.

The New Hampshire Method raw data for each wetland is included in Appendix M.

2.1.4 District Wetland Function and Value Checklist Methodology

. The District Wetland Function and Value Checklist is included in Appendix J.

The District Wetland Function and Value Checklist (developed in the 1997 WCP to evaluate the relative value of wetlands, and included in Appendix J) was used in the field review of wetland functions. Wetland characteristics were used to predict whether a function is provided by the wetland. The checklist format was used only to establish if a given function is provided by the wetland (i.e., presence or absence) for each category.

1. Passive Recreation, Uniqueness, and Natural Heritage Value – Wetlands in an urban environment can provide aesthetic enjoyment, environmental education, recreational opportunities (e.g., hiking, birding), and preservation of rare species of plants or animals. This function is checked on the list if wetlands are located within parks, used for environmental education, provide passive recreation, or provide habitat for rare species of plants or animals.

Wetland-UW in Kenilworth Aquatic Gardens provides easy walking trails, benches, and picnic tables. The wetland above is used for environmental education, birding, and other forms of passive recreation.

2. Habitat for Wildlife/Fisheries – Wetlands provide habitat such as nesting and rearing sites and food for wildlife and often provide the last remaining habitat for wildlife in urban areas. Wetlands associated with tidal and perennial streams also provide fisheries value.
3. Sediment Trapping/Stabilization (short- and long-term) – Sediment trapping involves the interception and retention of inorganic material (sand, silt, or clay) from runoff before it is carried downstream or offshore. This may occur where there is infiltration present (more porous soils) or where vegetation is dense and able to slow water sufficiently for sediments to drop out of the water column. This function was considered present if a wetland was either present at the edge of a pond, river, or stream, or tidally influenced with dense fibrous plant root complexes.

Wetland LG provides the function of sediment trapping/stabilization. Water levels rise during a storm event and slowly lower after. This stream channel and adjacent wetland trap sediment deposited on the low-lying vegetation.

4. Flood Desynchronization – Flood desynchronization occurs when wetlands store stormwater runoff or decrease runoff flow rates. Forested wetlands that are irregularly shaped within wide floodplains, and wetlands that are broader than they are long, are considered to have a greater capacity to desynchronize flood flows.

5. Food Chain Support – Food chain support refers to the direct or indirect use of nutrients (e.g., dead leaves and other organic materials) by animals that inhabit aquatic environments. Food chain support is sustained by the flushing of organic plant material from the wetland to downstream waters. Export of organic material is maximized when the wetland exhibits a high rate of flushing with a high net rate of organic productivity, such as forested or scrub/shrub wetlands along a stream. The absence of a surface water outlet precludes most organic export. Forested or scrub/shrub wetlands with vegetation that overhang a stream are identified as providing food chain support function.
6. Dissipation of Erosive Forces – Dissipation of erosive forces occurs when shoreline areas are able to attenuate and disperse energy from wind and waves. Densely vegetated wetlands along shorelines (particularly tidal) best achieve this function.
7. Active Recreation – This function includes water-dependent recreational activities such as swimming, boat or kayak launching, and fishing. This function is generally limited to areas along the Potomac and Anacostia Rivers.
8. Groundwater Discharge/Groundwater Recharge – These functions are paired because a wetland can only provide discharge or recharge, not both. Groundwater discharge is often found in seep-type wetlands (e.g., wetlands on a slope where the groundwater table intercepts the surface) that occur on porous soil usually in or along stream valleys. Groundwater will often discharge from wetlands to streams during dry seasons, increasing the base flow of the stream. Groundwater recharge is the downward movement of water into the groundwater flow system. This may occur in basins with no outlet (such as vernal pools) typically perched high in the watershed above the surrounding terrain.

Wetlands such as Wetland-LS, provide a groundwater discharge function and are often present at the start of springs.

9. Nutrient Retention – High nutrient retention areas retain or transform inorganic phosphorus and nitrogen into their organic forms or remove nitrogen by way of

denitrification. Wooded wetlands with low gradients, sheet flow, or sinuous flow patterns retain the most nutrients for the longest period of time (often 50 years or more). Wetlands with these characteristics provide nutrient retention function and are typically harder to replace.

The District Wetland Function and Value Checklist was used in the field to document the presence or absence of wetland functions. Wetlands that were part of the same local system and had similar plant diversity, landscape setting, hydrology, and stratification were assessed together but each wetland was given a site ID. Multiple site IDs were separated by commas in the data forms. After completing the checklist a relative value for each wetland was assigned as High, Average, or Low. These wetland values are relative to the other urban wetlands assessed during this study and were assigned based on best professional judgement. Table 2.2 explains the description for each value classification category.

Table 2.2 Classification of Wetlands as High, Average, or Low Relative Value (District Method)

Relative Value	Description
High	Wetland exhibits a wide variety of vegetative species and strata (i.e., tree, shrub, and herbaceous layers); complex habitat; minimal impacts; performance of most general wetland functions.
Average	Wetland exhibits some variety of vegetative species and strata; some impacts; performance of several wetland functions.
Low	Wetland exhibits limited variety of vegetative species and strata; simple habitat (e.g., uniform vegetation, or only one vegetative stratum); significant impacts such as filling, mowing, or draining; inability to perform most general wetland functions.

Note that under this methodology, wetlands with threatened or endangered species habitats, areas of critical concern, or wetlands of special concern (if designated) were always designated as High valued wetlands regardless of function, size, or location.

The District Function and Value Checklist raw data is included in Appendix N.

2.2 Results

During this study, 248 wetlands (some wetlands are composed of multiple, adjacent areas that share the same vegetation, soils, and hydrology), a cumulative total of 289 acres, were ground truthed and assessed. In addition, potential wetland restoration,

enhancement, and creation sites were identified. Figure 2-3 shows the location of each of these features. Seventy six percent of the District's wetlands were less than 0.5 acres (190 wetlands) and 66% were less than 0.25 acres (163 wetlands). For the purpose of discussion, clusters of wetlands were assigned a wetland group name based on shared location characteristics such as a public park or the name of the nearest stream. All wetlands not included in a wetland group were given a general location descriptor (e.g., nearest intersection, District landmarks).

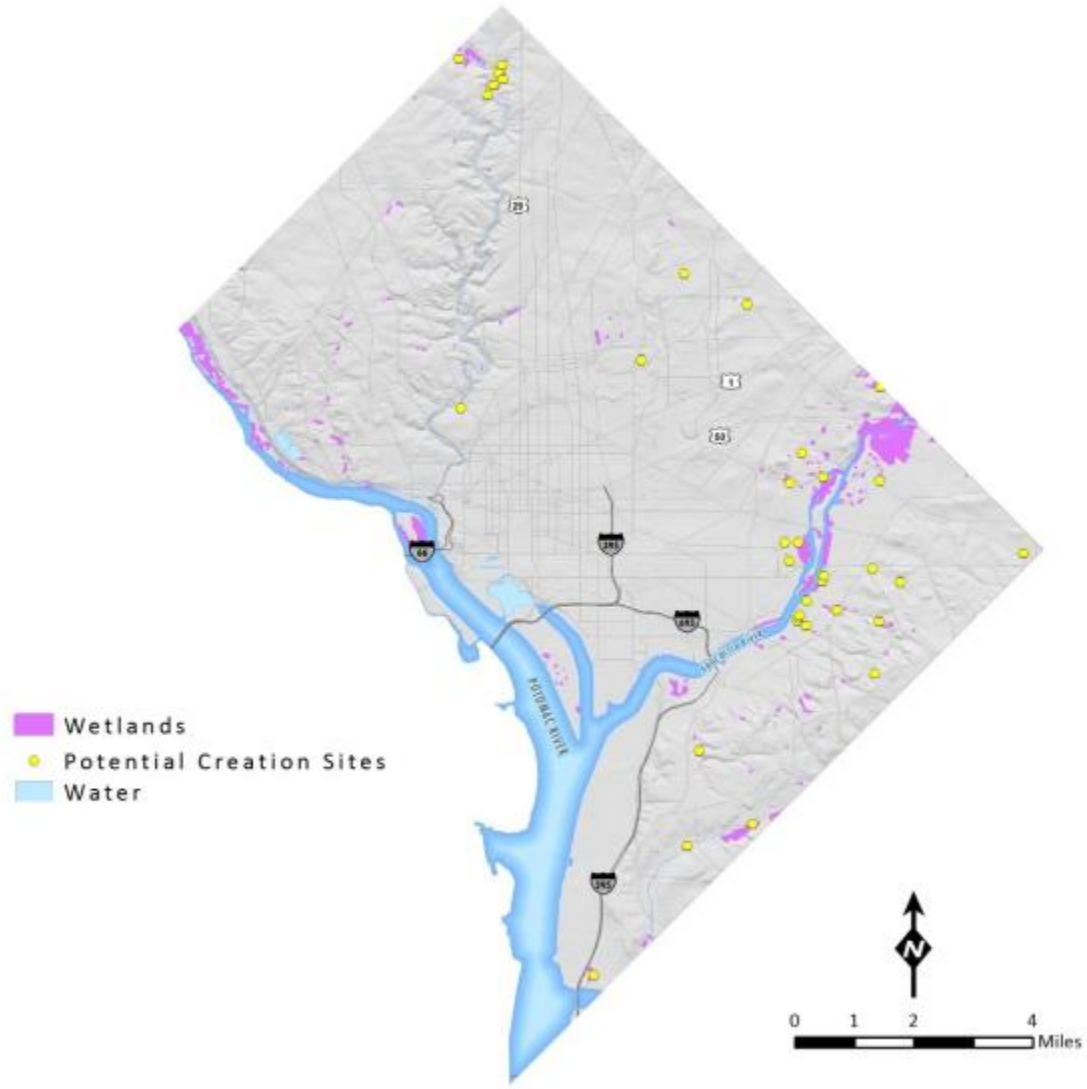


Figure 2-3 2017 mapped wetlands and potential creation sites in the District.

Eight detail maps showing the zoomed-in views of the mapped wetlands and potential creation sites, are included in Appendix O. A legend of the eight detail map areas is included in Figure 2.4.

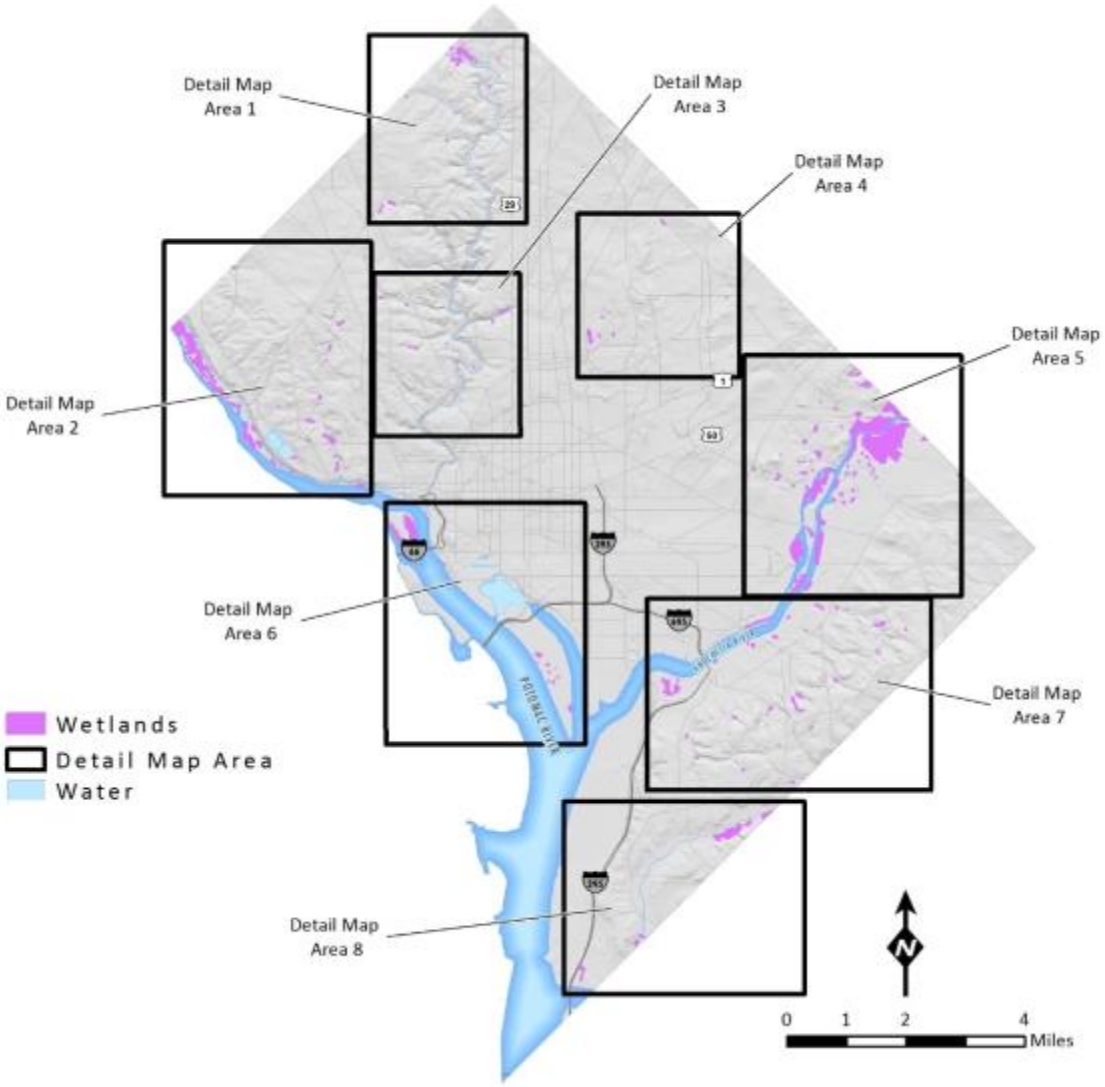


Figure 2-4 Wetland detail map legend.

The total acreage mapped for the 2017 study (289 acres) was 9 acres more than the 280 acres mapped during the 1997 study. Figure 2-5 shows the wetlands mapped in 1997 (green area), the wetlands mapped in 2017 (purple area), and the wetland areas mapped in both 1997 and 2017 (orange area). Appendix O includes eight detail maps that show the 1997 mapped wetlands, the 2017 mapped wetlands, and the areas where both studies overlap. As seen in Figure 2-5, some wetland systems mapped in 1997 are smaller in size than in the 2017 field study (e.g., Bald Eagle Hill, Oxon Run, and

Anacostia Park wetland groups), while many wetlands mapped for the 2017 field study were not included in the 1997 study.

These are potential reasons for the differences between the 1997 and 2017 studies:

1. Base maps used to map the 1997 wetlands were limited to a mapping resolution of 0.5 acres, therefore, wetlands smaller than 0.5 acres were most likely unrepresented in the study;
2. The 2017 mapping effort utilized sub-meter accuracy GPS, allowing for more accurate mapping of the sites visited;
3. In the 20 years between these two studies, wetland acreage may have been altered in certain areas due to land use change; and
4. Site accessibility may have been different between the two studies. Due to the differences in mapping and methods, a direct comparison between the 1997 and 2017 wetlands cannot be made. Wetland loss or gain cannot be inferred based on the differences in green and purple areas in Figure 2-5.

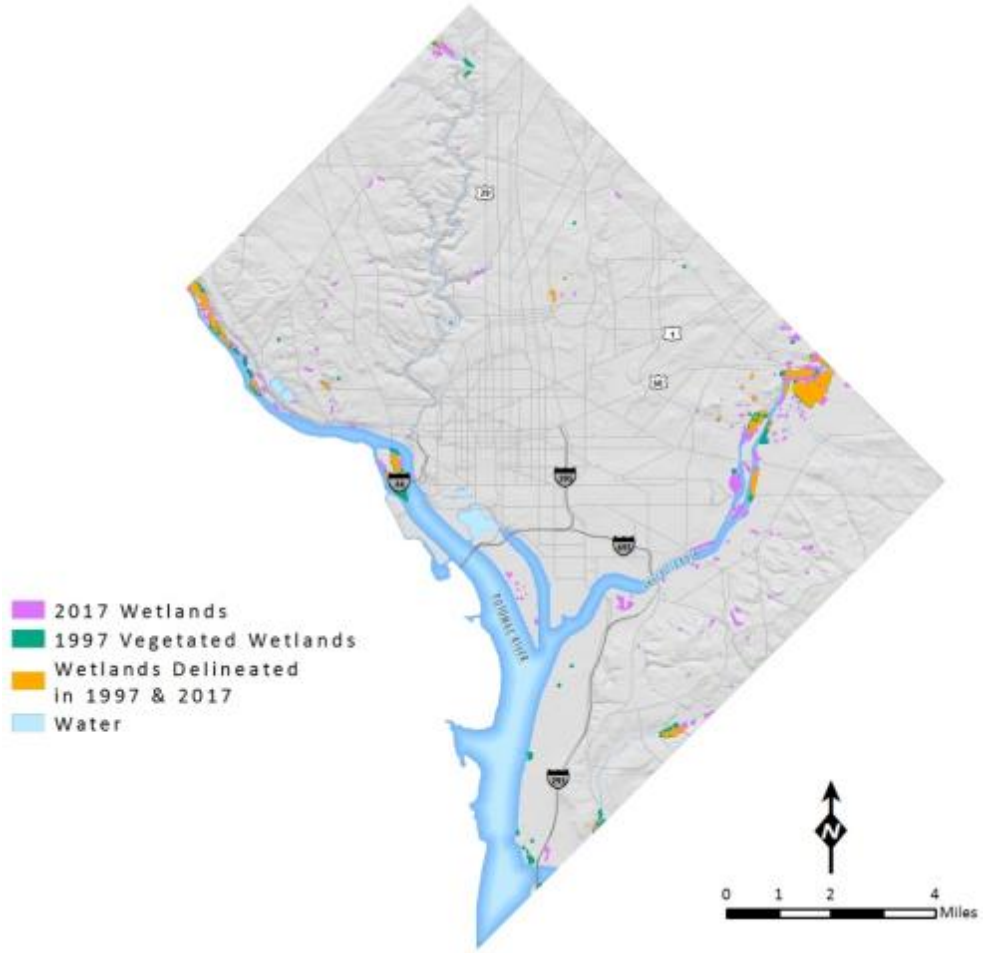


Figure 2-5 1997 and 2017 mapped District wetland comparison.

The wetland acreage calculated for this study (listed in Table 2.3) does not include the open water riverine portions of the Anacostia and Potomac Rivers or Rock Creek, nor does it include stream channels (stream segment data are discussed in Appendix P). Mudflats and created wetlands within the channel of the Anacostia River and vegetated wetlands within the channel of the Potomac River were mapped for inclusion in this study when observed in or near one of the aerial reconnaissance study areas. SAV data were not collected during this study, but the 2015 SAV survey data are included in the Wetland Registry. Each wetland investigated during the 2017 field study is shown on the Overall Wetland Registry Map (see Appendix G).

The 268 acres of District wetlands mapped during the 2017 field study can be categorized into one of four main Cowardin classifications: Palustrine forested wetland (PFO), Palustrine scrub shrub wetland (PSS), Palustrine emergent wetland (PEM), and Palustrine unconsolidated bottom (PUB) wetland. PFO, PSS, and PEM classifications include all nontidal wetlands dominated by trees, shrubs, persistent emergent plants, emergent mosses, or lichens. PUB wetlands are characterized by a lack of large stable surfaces for plant and animal attachment. The Cowardin System is a comprehensive

classification system developed for the U.S. Fish and Wildlife Service. Table 2.3 depicts the total acreage of each Cowardin classification mapped in the District.

Table 2.3 2017 Mapped Wetlands by Cowardin Classification

Cowardin Classification	Total Acreage	Percentage of Total Wetland Acreage
Palustrine Forested Wetland (PFO)	114.6 acres	40%
Palustrine Scrub Shrub Wetland (PSS)	7.6 acres	2%
Palustrine Emergent Wetlands (PEM)	144.6 acres	50%
Palustrine Unconsolidated Bottom Wetlands (PUB) (i.e., ponds)	22.2 acres	8%

Potomac River Floodplain wetlands reduce the quantity of water in the river at the peak of flooding and retain floodwater to protect downstream areas from flooding.

Rock Creek wetland KF is a palustrine emergent wetland.

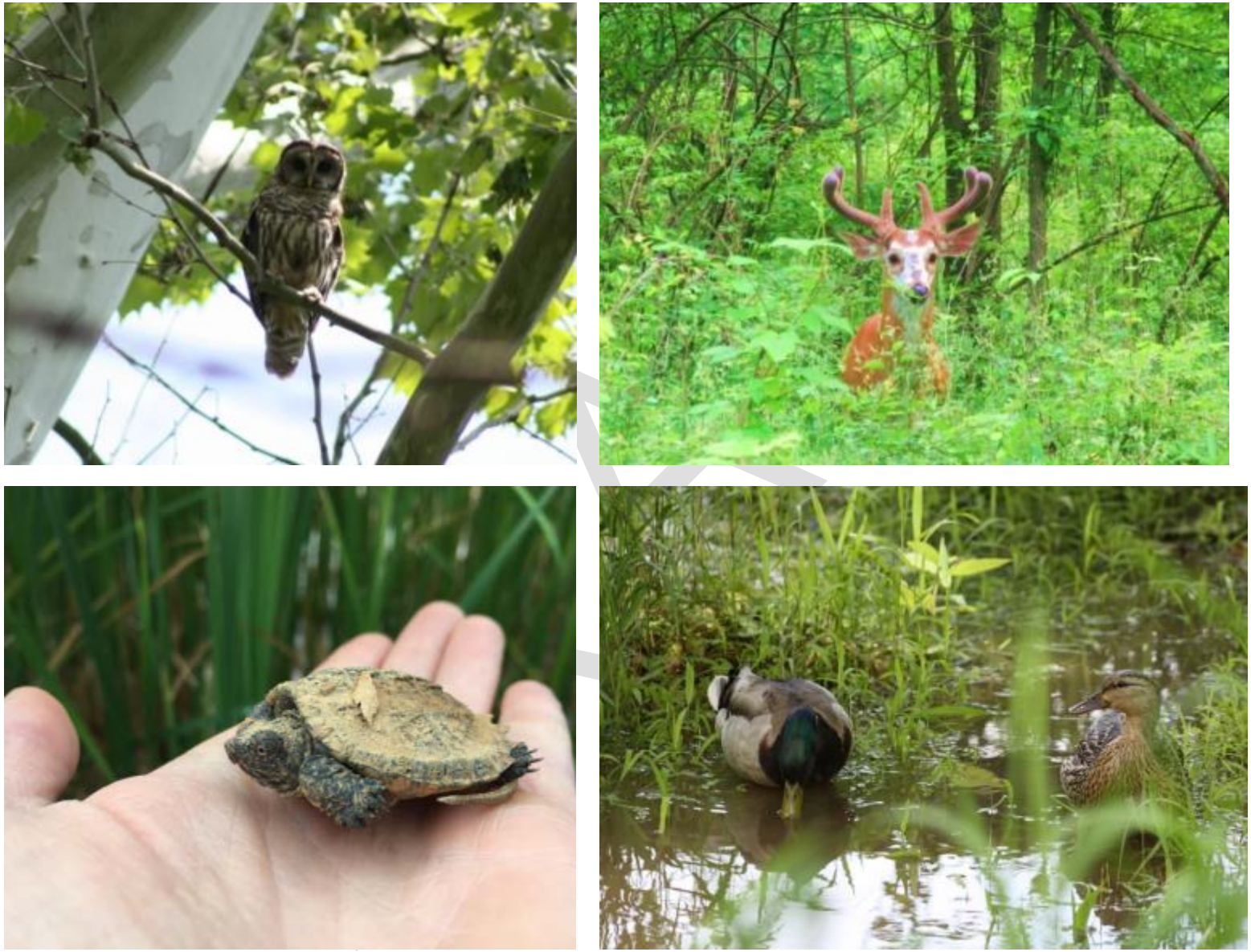
Anacostia River wetland SL is a tidal wetland that provides shorelines erosion protection.

Arboretum Wetland YH, a vernal pool, provides critical habitat for amphibians and other wildlife.

Theodore Roosevelt Island wetland QI is a tidal wetland.

Anacostia River Gateway wetland YG provides critical habitat for Species of Greatest Conservation Need.

Kingman and Heritage Islands wetland RQ improves Anacostia River water quality.



Potomac River Floodplain wetlands provide wildlife habitat.

The majority of wetlands in the District are nontidal (88%). Ten tidal wetlands compose 12% of the total District wetlands area investigated. Even though there are more nontidal wetlands, the tidal wetlands are larger (tidal: 169 acres, 59% of the total wetland acreage; nontidal: 120 acres, 41% of the total wetland acreage). Figure 2.6 shows the location of tidal versus nontidal wetlands in the District.

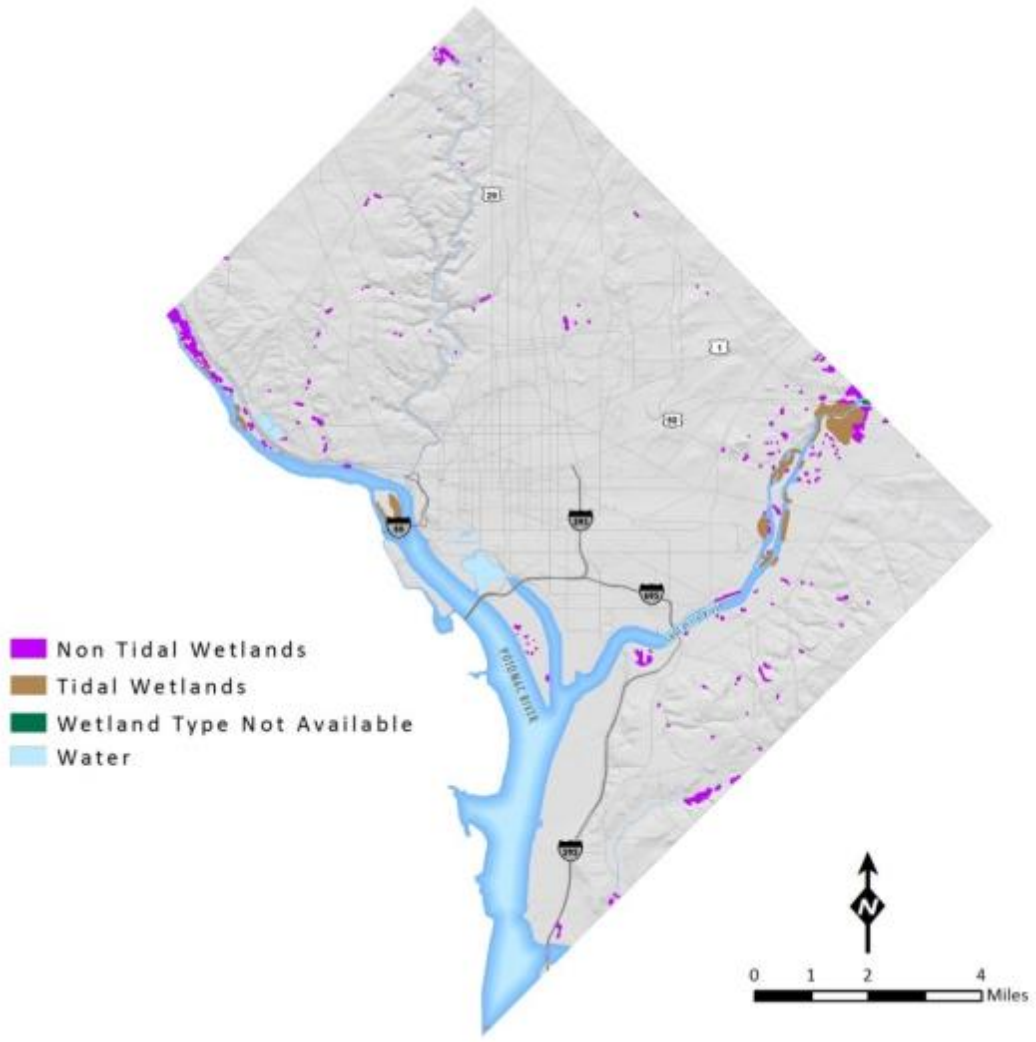


Figure 2-6 Tidal and nontidal 2017 update of mapped wetlands in the District.

Table 2.4 provides the total inventory of the 248 wetlands mapped in the District during the 2017 field study, including Cowardin classification, size, and location (wetland group, watershed, ward, tile number and latitude/longitude). All 248 wetlands are shown on the Overall Wetland Registry map (see Appendix G). Please note that site IDs were assigned in alphabetical order during field work, and not all sites investigated were determined to be wetlands. The Wetland ID column does not contain every site ID investigated during this study. Cowardin classifications and modifiers are assigned based on the Cowardin et. al 1979 publication and the August 2015 update to the modifiers (see Appendix H).

Table 2.4 Inventory of District Wetlands

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Anacostia Park	Anacostia River	5	WET-QQ	PEM	0.04	2717	38° 54′ 17″ N	76° 58' 06" W
Anacostia Park	Anacostia River	5	WET-QT	PEM	0.04	2817	38° 54′ 16″ N	76° 57' 54" W
Anacostia Park	Anacostia River	5	WET-QX	PEM	0.01	2817	38° 54' 15″ N	76° 57' 53" W
Anacostia Park	Anacostia River	7	WET-DQ	PFO, PSS, PEM	0.15	2713	38° 52′ 35″ N	76° 58' 23" W
Anacostia Park	Anacostia River	7	WET-DS	PFO, PEM	0.03	2714	38° 52′ 47″ N	76° 58' 10" W
Anacostia Park	Anacostia River	7	WET-SH	PFO, PEM, PUB	0.36	2817	38° 54′ 08″ N	76° 57' 31" W
Anacostia Park	Anacostia River	7	WET-SJ	PFO	0.18	2817	38° 54′ 11″ N	76° 57' 23" W
Anacostia Park	Anacostia River	7	WET-SQ	PSS	0.05	2917	38° 54′ 14″ N	76° 57' 15" W
Anacostia Park	Anacostia River	7	WET-UI	PEM	0.01	2917	38° 54′ 14″ N	76° 57' 12" W
Anacostia Park	Anacostia River	7	WET-UJ	PFO, PEM	0.06	2917	38° 54′ 08″ N	76° 57' 12" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Anacostia Park	Anacostia River	7	WET-UL	PSS	0.18	2917	38° 54′ 07″ N	76° 57' 14" W
Anacostia Park	Anacostia River	7	WET-UM	PFO, PEM	0.04	2917	38° 54′ 06″ N	76° 57' 21" W
Anacostia Park	Anacostia River	7	WET-UN	PFO	0.01	2817	38° 54′ 06″ N	76° 57' 22" W
Anacostia Park	Anacostia River	8	WET-DI	PEM	0.23	2512	38° 52′ 17″ N	76° 59' 14" W
Anacostia Park	Anacostia River	8	WET-DM	PEM	0.50	2613	38° 52′ 28″ N	76° 58' 41" W
Anacostia Park	Anacostia River	8	WET-DN	PEM	0.10	2613	38° 52′ 30″ N	76° 58' 45" W
Anacostia River	Anacostia River	7	WET-FK	PFO1Q, PUB3Q	0.92	2814	38° 53′ 09″ N	76° 57' 52" W
Anacostia River	Anacostia River	7	WET-FN	PEM1Q	11.10	2815	38° 53′ 35″ N	76° 57' 43" W
Anacostia River	Anacostia River	7	WET-GY	PEM1Q	4.55	2714	38° 53′ 10″ N	76° 57' 60" W
Anacostia River	Anacostia River	7	WET-SE	PEM1Q	1.01	2816	38° 53′ 55″ N	76° 57' 42" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Anacostia River	Anacostia River	7	WET-SL	PEM2Q	0.86	2817	38° 54′ 18″ N	76° 57' 28" W
Anacostia River	Anacostia River	7	WET-UP	PEM1Q	2.53	2918	38° 54′ 46″ N	76° 57' 12" W
Anacostia River	Anacostia River	7	WET-VD	PEM1Q	0.45	2816	38° 53′ 52″ N	76° 57' 39" W
Anacostia River	Anacostia River	7	WET-VP*	PEM	1.87	3019	38° 55′ 03″ N	76° 56' 28" W
Anacostia River Gateway	Anacostia River	5	WET-HV	PFO, PFO1b, PUB3b	7.40	3019	38° 55′ 08″ N	76° 56' 42" W
Anacostia River Gateway	Anacostia River	5	WET-JE	PFO	1.58	3019	38° 55′ 03″ N	76° 56' 47" W
Anacostia River Gateway	Anacostia River	5	WET-YG	PFO1R, PEM1R, PUB	23.53	2919	38° 54′ 60″ N	76° 56' 57" W
Anacostia River Gateway	Anacostia River	5	WET-ZX	PFO1Q	2.85	2919	38° 54′ 55″ N	76° 56' 58" W
Arboretum	Anacostia River	5	WET-YH	PFO, PUB	0.24	2717	38° 54′ 24″ N	76° 58' 18" W
Arboretum	Anacostia River	5	WET-YI	PFO	0.17	2717	38° 54′ 22″ N	76° 58' 20" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Arboretum	Anacostia River	5	WET-YL	PEM	0.07	2718	38° 54′ 33″ N	76° 57' 60" W
Arboretum	Anacostia River	5	WET-YP*	PEM	0.04	2817	38° 54′ 27″ N	76° 57' 49" W
Arboretum	Anacostia River	5	WET-YQ	PFO, PUB	0.29	2717	38° 54′ 26″ N	76° 57' 57" W
Arboretum	Anacostia River	5	WET-YT	PFO, PUB	0.03	2718	38° 54′ 34″ N	76° 57' 50" W
Arboretum	Anacostia River	5	WET-YU	PUB	1.68	2818	38° 54′ 39″ N	76° 57' 43" W
Arboretum	Anacostia River	5	WET-YX	PUB	0.45	2818	38° 54′ 47″ N	76° 57' 55" W
Arboretum	Anacostia River	5	WET-ZE	PUB	0.71	2819	38° 54′ 56″ N	76° 57' 46" W
Arboretum	Anacostia River	5	WET-ZG	PEM, PUB	0.04	2819	38° 54′ 57″ N	76° 57' 23" W
Arboretum	Anacostia River	5	WET-ZH*	PUB	0.30	2617	38° 54′ 28″ N	76° 58' 40" W
Arboretum	Anacostia River	5	WET-ZI*	PUB	0.01	2718	38° 54′ 38″ N	76° 58' 16" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Bald Eagle Hill	Potomac River	8	WET-BD	PEM	0.05	2305	38° 49′ 10″ N	77° 00' 16" W
Bald Eagle Hill	Potomac River	8	WET-R	PFO	1.05	2305	38° 49′ 06″ N	77° 00' 23" W
Bald Eagle Hill	Potomac River	8	WET-T	PFO	0.14	2305	38° 49′ 11″ N	77° 00' 19" W
Broad Branch	Rock Creek	3	WET-LB	PFO, PUB	0.29	1724	38° 57′ 29″ N	77° 03' 56" W
Broad Branch	Rock Creek	3	WET-LC	PFO	0.17	1724	38° 57′ 25″ N	77° 04' 06" W
Dumbarton Oaks	Rock Creek	2	WET-NH	PFO	0.005	1619	38° 55′ 05″ N	77° 04' 01" W
Fort Dupont Tributary	Anacostia River	7	WET-DA	PFO	0.003	2913	38° 52′ 23″ N	76° 56' 52" W
Fort Dupont Tributary	Anacostia River	7	WET-DB	PFO	0.001	2913	38° 52′ 25″ N	76° 56' 53" W
Fort Dupont Tributary	Anacostia River	7	WET-DC	PFO	0.002	2913	38° 52′ 24″ N	76° 56' 50" W
Fort Dupont Tributary	Anacostia River	7	WET-ER	PFO	0.37	2913	38° 52′ 43″ N	76° 56' 48" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Fort Dupont Tributary	Anacostia River	7	WET-ET	PFO	0.01	2913	38° 52' 42" N	76° 56' 54" W
Fort Dupont Tributary	Anacostia River	7	WET-EU	PFO	0.01	2913	38° 52' 42" N	76° 56' 54" W
Fort Dupont Tributary	Anacostia River	7	WET-EV	PFO	0.01	2913	38° 52' 42" N	76° 56' 53" W
Fort Dupont Tributary	Anacostia River	7	WET-FB	PEM	0.11	2814	38° 52' 54" N	76° 57' 27" W
Fort Dupont Tributary	Anacostia River	7	WET-FH	PFO	0.03	2914	38° 52' 53" N	76° 57' 19" W
Fort Dupont Tributary	Anacostia River	7	WET-FI	PFO	0.01	2814	38° 52' 52" N	76° 57' 40" W
Fort Dupont Tributary	Anacostia River	7	WET-FJ	PFO, PEM	0.38	2814	38° 52' 56" N	76° 57' 45" W
Fort Lincoln	Anacostia River	5	WET-IH	PEM, PUB	2.67	2920	38° 55' 26" N	76° 57' 02" W
Fort Lincoln	Anacostia River	5	WET-IO	PFO	0.03	2920	38° 55' 35" N	76° 57' 13" W
Fort Lincoln	Anacostia River	5	WET-IP	PFO	0.03	2920	38° 55' 33" N	76° 57' 15" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Fort Lincoln	Anacostia River	5	WET-IQ	PFO	0.01	2920	38° 55′ 33″ N	76° 57' 17" W
Fort Lincoln	Anacostia River	5	WET-IT	PFO	0.46	2920	38° 55′ 33″ N	76° 57' 08" W
Fort Lincoln	Anacostia River	5	WET-IU	PFO	0.03	2920	38° 55′ 37″ N	76° 57' 11" W
Fort Stanton Park	Anacostia River	8	WET-BJ	PFO	0.03	2711	38° 51′ 41″ N	76° 58' 28" W
Fort Stanton Park	Anacostia River	8	WET-BK	PFO	0.04	2711	38° 51′ 44″ N	76° 58' 26" W
Fort Stanton Park	Anacostia River	8	WET-BL	PFO	0.11	2711	38° 51′ 45″ N	76° 58' 26" W
Fort Stanton Park	Anacostia River	8	WET-BM	PFO	0.06	2711	38° 51′ 46″ N	76° 58' 25" W
Fort Stanton Park	Anacostia River	8	WET-BX	PSS	0.14	2611	38° 51′ 39″ N	76° 58' 57" W
Foundry Branch	Potomac River	3	WET-LT	PFO	0.16	1521	38° 56′ 08″ N	77° 04' 41" W
Foundry Branch	Potomac River	3	WET-LW	PFO	0.37	1521	38° 55′ 51″ N	77° 04' 51" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Foundry Branch	Potomac River	3	WET-LX	PFO	0.02	1520	38° 55′ 42″ N	77° 04' 55" W
Foundry Branch	Potomac River	3	WET-LZ	PFO	0.32	1519	38° 55′ 17″ N	77° 04' 60" W
Foundry Branch	Potomac River	3	WET-MA	PFO	0.27	1519	38° 54′ 51″ N	77° 04' 55" W
Foundry Branch	Potomac River	3	WET-MC	PFO	0.003	1519	38° 55′ 12″ N	77° 05' 02" W
Foundry Branch	Potomac River	3	WET-ME	PFO	0.15	1518	38° 54′ 32″ N	77° 04' 44" W
Foundry Branch	Potomac River	3	WET-MG	PFO	0.02	1518	38° 54′ 37″ N	77° 04' 47" W
Foundry Branch	Potomac River	3	WET-MH	PFO	1.90	1518	38° 54′ 48″ N	77° 04' 49" W
Foundry Branch	Potomac River	3	WET-MI	PFO	0.04	1517	38° 54′ 28″ N	77° 04' 46" W
Foundry Branch	Potomac River	3	WET-MJ	PFO	0.13	1518	38° 54′ 29″ N	77° 04' 45" W
Foundry Branch	Potomac River	3	WET-MR	PFO, PEM	0.57	1419	38° 55′ 01″ N	77° 05' 10" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Hains Point	Potomac River	2	WET-VV	PEM	0.29	2113	38° 52′ 22″ N	77° 01' 50" W
Hains Point	Potomac River	2	WET-VW	PEM	0.01	2113	38° 52′ 21″ N	77° 01' 47" W
Hains Point	Potomac River	2	WET-WW	PEM	0.002	2112	38° 52′ 12″ N	77° 01' 34" W
Hains Point	Potomac River	2	WET-XE	PFO, PEM	0.17	2111	38° 51′ 45″ N	77° 01' 21" W
Hains Point	Potomac River	2	WET-XI	PEM	0.01	2112	38° 52′ 07″ N	77° 01' 31" W
Hains Point	Potomac River	2	WET-XL	PEM	0.06	2112	38° 52′ 15″ N	77° 01' 40" W
Hains Point	Potomac River	2	WET-XN	PEM	0.03	2112	38° 52′ 10″ N	77° 01' 39" W
Hains Point	Potomac River	2	WET-XQ	PEM	0.02	2112	38° 52′ 04″ N	77° 01' 39" W
Hains Point	Potomac River	2	WET-XY	PEM	0.15	2112	38° 52′ 03″ N	77° 01' 35" W
Hains Point	Potomac River	2	WET-YC	PEM	0.001	2012	38° 52′ 17″ N	77° 01' 49" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Kenilworth	Anacostia River	7	WET-SW	PEM	0.01	2917	38° 54′ 23″ N	76° 56' 53" W
Kenilworth	Anacostia River	7	WET-SZ	PEM	0.01	2917	38° 54′ 28″ N	76° 56' 55" W
Kenilworth	Anacostia River	7	WET-TD	PEM	0.13	2918	38° 54' 31″ N	76° 56' 59" W
Kenilworth	Anacostia River	7	WET-TI	PEM	0.01	2918	38° 54′ 35″ N	76° 56' 59" W
Kenilworth	Anacostia River	7	WET-TK	PFO	0.09	2917	38° 54′ 26″ N	76° 56' 56" W
Kenilworth	Anacostia River	7	WET-TL	PEM	0.04	2918	38° 54′ 36″ N	76° 57' 01" W
Kenilworth	Anacostia River	7	WET-TN	PEM	0.01	2918	38° 54′ 37″ N	76° 57' 02" W
Kenilworth	Anacostia River	7	WET-TP	PEM	0.004	2918	38° 54′ 39″ N	76° 57' 05" W
Kenilworth	Anacostia River	7	WET-TQ	PEM	0.02	2918	38° 54′ 40″ N	76° 57' 05" W
Kenilworth	Anacostia River	7	WET-TR	PEM	0.02	2918	38° 54′ 33″ N	76° 57' 08" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Kenilworth	Anacostia River	7	WET-TU	PEM	0.07	2918	38° 54′ 31″ N	76° 57' 18" W
Kenilworth	Anacostia River	7	WET-UA	PFO	0.13	2917	38° 54′ 25″ N	76° 57' 11" W
Kenilworth	Anacostia River	7	WET-UD	PEM	0.01	2917	38° 54′ 26″ N	76° 57' 16" W
Kenilworth	Anacostia River	7	WET-UE	PEM	0.03	2917	38° 54′ 25″ N	76° 57' 20" W
Kenilworth	Anacostia River	7	WET-UO	PFO, PEM, PEM1Q, PEM2Q	67.72	3018	38° 54′ 37″ N	76° 56' 39" W
Kenilworth	Anacostia River	7	WET-UQ	PFO1S	0.25	2918	38° 54′ 52″ N	76° 56' 60" W
Kenilworth	Anacostia River	7	WET-UR	PFO1S	0.27	2918	38° 54′ 53″ N	76° 56' 52" W
Kenilworth	Anacostia River	7	WET-US	PFO1S	1.52	3018	38° 54′ 56″ N	76° 56' 41" W
Kenilworth	Anacostia River	7	WET-UU	PFO	1.85	3018	38° 54′ 44″ N	76° 56' 38" W
Kenilworth	Anacostia River	7	WET-UV	PFO	0.19	3018	38° 54′ 44″ N	76° 56' 32" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Kenilworth	Anacostia River	7	WET-UW	PEM	6.18	3018	38° 54′ 46″ N	76° 56' 37" W
Kenilworth	Anacostia River	7	WET-VQ	PEM	4.10	3018	38° 54′ 56″ N	76° 56' 29" W
Kingman and Heritage Islands	Anacostia River	5	WET-RC	PEM2Q	1.71	2817	38° 54′ 28″ N	76° 57' 34" W
Kingman and Heritage Islands	Anacostia River	5	WET-RE	PEM2Q	0.22	2817	38° 54′ 24″ N	76° 57' 42" W
Kingman and Heritage Islands	Anacostia River	5	WET-RF	PEM2Q	2.31	2817	38° 54′ 22″ N	76° 57' 37" W
Kingman and Heritage Islands	Anacostia River	5	WET-RK	PFO, PUB	0.36	2817	38° 54′ 14″ N	76° 57' 42" W
Kingman and Heritage Islands	Anacostia River	5	WET-RQ	PEM2Q	8.77	2817	38° 54′ 13″ N	76° 57' 47" W
Kingman and Heritage Islands	Anacostia River	5	WET-RZ	PEM2Q	1.83	2817	38° 54′ 19″ N	76° 57' 46" W
Kingman and Heritage Islands	Anacostia River	7	WET-FR	PFO	0.21	2716	38° 53′ 37″ N	76° 57' 59" W
Kingman and Heritage Islands	Anacostia River	7	WET-FS	PEM2Q	6.55	2715	38° 53′ 33″ N	76° 58' 02" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Kingman and Heritage Islands	Anacostia River	7	WET-FT	PFO, PEM	0.66	2715	38° 53′ 31″ N	76° 57' 59" W
Kingman and Heritage Islands	Anacostia River	7	WET-FX	PEM	0.06	2716	38° 53′ 43″ N	76° 58' 02" W
Kingman and Heritage Islands	Anacostia River	7	WET-FY	PEM2Q	4.57	2716	38° 53′ 35″ N	76° 58' 05" W
Kingman and Heritage Islands	Anacostia River	7	WET-GV	PFO	0.002	2715	38° 53′ 15″ N	76° 57' 59" W
Kingman and Heritage Islands	Anacostia River	7	WET-GW	PFO1S	0.18	2715	38° 53′ 13″ N	76° 58' 03" W
Kingman and Heritage Islands	Anacostia River	7	WET-HA	PFO	0.004	2715	38° 53′ 16″ N	76° 57' 58" W
Kingman and Heritage Islands	Anacostia River	7	WET-JG	PFO	0.38	2816	38° 53′ 44″ N	76° 57' 49" W
Kingman and Heritage Islands	Anacostia River	7	WET-QD	PFO	0.05	2816	38° 53′ 45″ N	76° 57' 50" W
Kingman and Heritage Islands	Anacostia River	7	WET-QE	PFO	0.12	2816	38° 53′ 47″ N	76° 57' 52" W
Kingman and Heritage Islands	Anacostia River	7	WET-QF	PFO	0.004	2816	38° 53′ 49″ N	76° 57' 54" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Kingman and Heritage Islands	Anacostia River	7	WET-QG	PFO	0.01	2816	38° 53′ 46″ N	76° 57' 49" W
Oxon Hill	Potomac River	8	WET-I	PEM	0.25	2204	38° 48′ 49″ N	77° 01' 11" W
Oxon Hill	Potomac River	8	WET-J	PUB	0.04	2204	38° 48′ 48″ N	77° 01' 11" W
Oxon Hill	Potomac River	8	WET-K	PFO	0.06	2204	38° 48′ 49″ N	77° 01' 12" W
Oxon Hill	Potomac River	8	WET-L	PFO	0.02	2204	38° 48′ 48″ N	77° 01' 10" W
Oxon Hill	Potomac River	8	WET-O	PFO, PEM	0.20	2204	38° 48′ 42″ N	77° 01' 11" W
Oxon Hill	Potomac River	8	WET-P	PFO	0.05	2204	38° 48′ 46″ N	77° 01' 10" W
Oxon Hill	Potomac River	8	WET-Q	PFO	0.03	2204	38° 48′ 48″ N	77° 01' 09" W
Oxon Run	Potomac River	8	WET-AT	PFO	9.68	2508	38° 50′ 20″ N	76° 59' 04" W
Oxon Run	Potomac River	8	WET-AU	PFO	0.28	2608	38° 50′ 22″ N	76° 58' 54" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Oxon Run	Potomac River	8	WET-AV	PFO	1.67	2608	38° 50′ 25″ N	76° 58' 53" W
Oxon Run	Potomac River	8	WET-AZ	PFO	0.64	2608	38° 50′ 28″ N	76° 58' 44" W
Oxon Run	Potomac River	8	WET-BA	PFO	0.06	2608	38° 50′ 26″ N	76° 58' 47" W
Oxon Run	Potomac River	8	WET-BB	PFO	0.07	2608	38° 50′ 31″ N	76° 58' 32" W
Oxon Run	Potomac River	8	WET-BC	PFO	0.51	2608	38° 50′ 33″ N	76° 58' 29" W
Pinehurst Branch	Rock Creek	4	WET-LF	PFO	0.08	1727	38° 58′ 41″ N	77° 03' 44" W
Piney Branch	Rock Creek	1	WET-LS	PFO, PSS	0.08	1921	38° 56′ 10″ N	77° 02' 29" W
Piney Branch	Rock Creek	4	WET-LP	PEM	0.03	2022	38° 56′ 18″ N	77° 02' 14" W
Piney Branch	Rock Creek	4	WET-LQ	PFO	0.31	2022	38° 56′ 16″ N	77° 02' 19" W
Poplar Point	Anacostia River	8	WET-DE	PEM	2.11	2412	38° 51′ 59″ N	76° 59' 48" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Poplar Point	Anacostia River	8	WET-DF	PFO	3.43	2412	38° 52′ 01″ N	76° 59' 56" W
Poplar Point	Anacostia River	8	WET-DG	PSS	0.06	2412	38° 52' 05″ N	76° 59' 46" W
Poplar Point	Anacostia River	8	WET-DH	PFO	0.18	2412	38° 51′ 55″ N	76° 59' 52" W
Potomac River Floodplain	Potomac River	2	WET-NS	PFO	0.83	1617	38° 54′17″ N	77° 04' 24" W
Potomac River Floodplain	Potomac River	2	WET-NT	PFO	0.01	1617	38° 54′ 17″ N	77° 04' 29" W
Potomac River Floodplain	Potomac River	3	WET-NU	PFO1S, PEM1Q	1.50	1319	38° 54′ 54″ N	77° 06' 05" W
Potomac River Floodplain	Potomac River	3	WET-NV	PFO1S	2.97	1318	38° 54′ 47″ N	77° 05' 60" W
Potomac River Floodplain	Potomac River	3	WET-NW	PSS1S	1.31	1318	38° 54′ 50″ N	77° 06' 04" W
Potomac River Floodplain	Potomac River	3	WET-NY	PFO	0.41	1319	38° 54′ 56″ N	77° 05' 58" W
Potomac River Floodplain	Potomac River	3	WET-NZ	PFO	1.04	1318	38° 54′ 46″ N	77° 05' 53" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Potomac River Floodplain	Potomac River	3	WET-OB	PFO1S	0.05	1417	38° 54′ 26″ N	77° 05' 25" W
Potomac River Floodplain	Potomac River	3	WET-OC	PFO	0.05	1418	38° 54′ 30″ N	77° 05' 35" W
Potomac River Floodplain	Potomac River	3	WET-OD	PFO	0.28	1418	38° 54′ 32″ N	77° 05' 39" W
Potomac River Floodplain	Potomac River	3	WET-OE	PFO	0.02	1318	38° 54′ 34″ N	77° 05' 41" W
Potomac River Floodplain	Potomac River	3	WET-OF	PFO	0.15	1318	38° 54′ 34″ N	77° 05' 42" W
Potomac River Floodplain	Potomac River	3	WET-OG	PFO	0.10	1318	38° 54′ 43″ N	77° 05' 53" W
Potomac River Floodplain	Potomac River	3	WET-OK	PFO	1.36	1219	38° 55′ 12″ N	77° 06' 14" W
Potomac River Floodplain	Potomac River	3	WET-OL	PFO	0.10	1219	38° 55′ 18″ N	77° 06' 20" W
Potomac River Floodplain	Potomac River	3	WET-OM	PFO	0.02	1219	38° 55′ 17″ N	77° 06' 21" W
Potomac River Floodplain	Potomac River	3	WET-ON	PFO	0.01	1219	38° 55′ 18″ N	77° 06' 21" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Potomac River Floodplain	Potomac River	3	WET-OO	PFO	0.04	1219	38° 55′ 20″ N	77° 06' 22" W
Potomac River Floodplain	Potomac River	3	WET-OP	PFO	1.44	1220	38° 55′ 21″ N	77° 06' 27" W
Potomac River Floodplain	Potomac River	3	WET-OQ	PFO1S	0.61	1220	38° 55′ 25″ N	77° 06' 33" W
Potomac River Floodplain	Potomac River	3	WET-OR	PFO	0.03	1220	38° 55' 25″ N	77° 06' 31" W
Potomac River Floodplain	Potomac River	3	WET-OU	PFO	0.14	1220	38° 55' 28″ N	77° 06' 32" W
Potomac River Floodplain	Potomac River	3	WET-OW	PFO	0.17	1220	38° 55′ 22″ N	77° 06' 26" W
Potomac River Floodplain	Potomac River	3	WET-OX	PFO, PUB	6.17	1220	38° 55′ 43″ N	77° 06' 45" W
Potomac River Floodplain	Potomac River	3	WET-PA	PFO	1.03	1120	38° 55′ 42″ N	77° 06' 48" W
Potomac River Floodplain	Potomac River	3	WET-PC	PFO1S, PUB3S	0.30	1220	38° 55′ 33″ N	77° 06' 42" W
Potomac River Floodplain	Potomac River	3	WET-PD	PFO	0.04	1220	38° 55′ 32″ N	77° 06' 40" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Potomac River Floodplain	Potomac River	3	WET-PE	PFO	0.02	1220	38° 55′ 30″ N	77° 06' 38" W
Potomac River Floodplain	Potomac River	3	WET-PF	PFO	0.05	1120	38° 55′ 38″ N	77° 06' 48" W
Potomac River Floodplain	Potomac River	3	WET-PG	PFO	0.04	1120	38° 55′ 42″ N	77° 06' 50" W
Potomac River Floodplain	Potomac River	3	WET-PH	PFO	0.01	1120	38° 55′ 40″ N	77° 06' 49" W
Potomac River Floodplain	Potomac River	3	WET-PI	PFO	0.01	1120	38° 55′ 42″ N	77° 06' 51" W
Potomac River Floodplain	Potomac River	3	WET-PJ	PFO	0.35	1120	38° 55′ 43″ N	77° 06' 52" W
Potomac River Floodplain	Potomac River	3	WET-PL	PFO	0.36	1121	38° 55′ 53″ N	77° 06' 50" W
Potomac River Floodplain	Potomac River	3	WET-PN	PFO	0.01	1121	38° 56′ 00″ N	77° 06' 53" W
Potomac River Floodplain	Potomac River	3	WET-PO	PFO, PUB	7.48	1121	38° 55′ 55″ N	77° 06' 55" W
Potomac River Floodplain	Potomac River	3	WET-PP	PUB	0.10	1221	38° 55′ 49″ N	77° 06' 47" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Potomac River Floodplain	Potomac River	3	WET-PQ	PSS	0.22	1121	38° 55′ 52″ N	77° 06' 57" W
Potomac River Floodplain	Potomac River	3	WET-PR	PFO, PSS, PUB	12.11	1121	38° 56′ 05″ N	77° 07' 02" W
Rock Creek	Rock Creek	4	WET-JX	PFO	0.05	1928	38° 59′ 07″ N	77° 02' 23" W
Rock Creek	Rock Creek	4	WET-JY	PFO	0.18	1928	38° 59′ 05″ N	77° 02' 44" W
Rock Creek	Rock Creek	4	WET-JZ	PFO	4.08	1928	38° 59′ 11″ N	77° 02' 53" W
Rock Creek	Rock Creek	4	WET-KA	PFO	0.17	1829	38° 59′ 15″ N	77° 03' 05" W
Rock Creek	Rock Creek	4	WET-KB	PFO	0.005	1828	38° 59′ 11″ N	77° 03' 04" W
Rock Creek	Rock Creek	4	WET-KC	PFO	0.10	1828	38° 59′ 11″ N	77° 02' 59" W
Rock Creek	Rock Creek	4	WET-KF	PFO	0.35	1828	38° 59′ 07″ N	77° 03' 03" W
Rock Creek	Rock Creek	4	WET-KG	PFO	0.11	1828	38° 59′ 08″ N	77° 02' 60" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
Rock Creek	Rock Creek	4	WET-KH	PFO	0.11	1828	38° 59′ 05″ N	77° 02' 60" W
Rock Creek	Rock Creek	4	WET-KI	PFO	0.46	1828	38° 59′ 06″ N	77° 02' 57" W
Rock Creek	Rock Creek	4	WET-KJ	PFO, PEM	0.09	1927	38° 58′ 48″ N	77° 02' 32" W
Rock Creek	Rock Creek	4	WET-KP	PFO	0.01	1827	38° 58′ 31″ N	77° 03' 00" W
Rock Creek	Rock Creek	4	WET-KS	PFO	0.02	1826	38° 58′ 12″ N	77° 03' 09" W
Rock Creek	Rock Creek	4	WET-KX	PUB	0.13	1925	38° 57′ 52″ N	77° 02' 39" W
Soapstone Valley	Rock Creek	3	WET-LG	PFO	0.08	1722	38° 56′ 20″ N	77° 03' 44" W
Soapstone Valley	Rock Creek	3	WET-LJ†	PEM	0.04	1622	38° 56′ 25″ N	77° 04' 07" W
Theodore Roosevelt Island	Potomac River	2	WET-QI	PFO1S, PEM2Q	22.55	1716	38° 53′ 47″ N	77° 03' 40" W
Theodore Roosevelt Island	Potomac River	2	WET-QJ	PFO1S	4.68	1715	38° 53′ 40″ N	77° 03' 50" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
None (South Dakota Ave NE & V St NE)	Anacostia River	5	WET-HR	PEM	0.03	2819	38° 55′ 10″ N	76° 57' 28" W
None (33rd St NE & Ames Pl NE)	Anacostia River	5	WET-IB	PEM	0.01	2819	38° 55′ 14″ N	76° 57' 42" W
None (cloverleaf of New York Ave NE to South Dakota Ave NE)	Anacostia River	5	WET-IF	PEM	1.27	2919	38° 55′ 06″ N	76° 57' 09" W
None (near Howard University's School of Divinity)	Anacostia River	5	WET-JF	PFO	0.01	2622	38° 56′ 20″ N	76° 58' 54" W
None (near Howard University's School of Divinity)	Anacostia River	5	WET-JI	PFO	0.02	2522	38° 56′ 25″ N	76° 59' 04" W
None (South Dakota Ave NE & Jefferson St NE)	Anacostia River	5	WET-JP	PFO	0.20	2424	38° 57′ 16″ N	76° 59' 59" W
None (Old Soldiers' Home)	Anacostia River	5	WET-VF	PUB	2.00	2221	38° 55′ 59″ N	77° 01' 04" W
None (Old Soldiers' Home)	Anacostia River	5	WET-VI	PUB	0.13	2221	38° 55′ 59″ N	77° 00' 55" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
None (Old Soldiers' Home)	Anacostia River	5	WET-VK	PFO, PEM	0.07	2221	38° 55′ 60″ N	77° 00' 43" W
None (Old Soldiers' Home)	Anacostia River	5	WET-VN	PEM, PUB	0.11	2221	38° 56′ 12″ N	77° 00' 53" W
None (north of M St SE and south of Southeast Blvd)	Anacostia River	6	WET-GC	PFO	0.66	2613	38° 52′ 46″ N	76° 58' 30" W
None (north of M St SE and south of Southeast Blvd)	Anacostia River	6	WET-GD	PSS	0.52	2613	38° 52′ 43″ N	76° 58' 40" W
None (Fort Baker Dr SE & W St SE)	Anacostia River	7	WET-AM	PFO	1.13	2711	38° 51′ 47″ N	76° 58' 03" W
None (near Eastern Ave NE & Nash St NE)	Anacostia River	7	WET-BS	PSS	0.005	3217	38° 54′ 24″ N	76° 55' 41" W
None (Park Dr SE & Hillcrest Dr SE)	Anacostia River	7	WET-CK	PSS	0.66	2712	38° 51′ 54″ N	76° 58' 00" W
None (Pennsylvania Ave SE & 33rd St SE)	Anacostia River	7	WET-CM	PFO	0.32	2812	38° 52′ 05″ N	76° 57' 28" W
None (near Burns St SE & Hildreth St SE)	Anacostia River	7	WET-CO	PFO	0.03	3013	38° 52′ 39″ N	76° 56' 27" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
None (M Pl SE & 30th St SE)	Anacostia River	7	WET-CR	PEM	0.07	2813	38° 52′ 38″ N	76° 57' 55" W
None (terminus of Anacostia Ave NE)	Anacostia River	7	WET-VR	PFO, PSS, PEM	0.67	3118	38° 54′ 49″ N	76° 56' 10" W
None (near Ainger Pl SE & Langston Pl SE)	Anacostia River	8	WET-AL	PEM	0.02	2710	38° 51′ 20″ N	76° 58' 18" W
None (near Stanton Rd SE & Bruce Pl SE)	Anacostia River	8	WET-BF	PFO, PEM	0.04	2610	38° 51′ 03″ N	76° 58' 50" W
None (near Stanton Rd SE & Bruce Pl SE)	Anacostia River	8	WET-BG	PFO	0.05	2610	38° 51′ 04″ N	76° 58' 48" W
None (near Stanton Rd SE & Dunbar Rd SE)	Anacostia River	8	WET-F	PEM	0.04	2410	38° 51′ 26″ N	76° 59' 39" W
None (southwest of Suitland Pkwy & east of Martin Luther King Jr Ave SE)	Anacostia River	8	WET-H	PFO, PEM	0.06	2510	38° 51′ 11″ N	76° 59' 30" W
None (48th St NW & W St NW)	Potomac River	3	WET-LN	PFO	0.06	1419	38° 55′ 11″ N	77° 05' 36" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
None (Dalecarlia Pkwy NW & Warren Pl NW)	Potomac River	3	WET-MO	PFO	0.01	1223	38° 56′ 45″ N	77° 06' 18" W
None (Dalecarlia Pkwy NW & Warren Pl NW)	Potomac River	3	WET-MP	PFO	0.02	1223	38° 56′ 45″ N	77° 06' 16" W
None (Dalecarlia Pkwy NW & Warren Pl NW)	Potomac River	3	WET-MQ	PFO	0.01	1223	38° 56′ 45″ N	77° 06' 15" W
None (German Embassy)	Potomac River	3	WET-NJ	PUB	0.06	1418	38° 54′ 48″ N	77° 05' 10" W
None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NK	PEM	0.06	1418	38° 54′ 37″ N	77° 05' 21" W
None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NL	PFO	0.01	1418	38° 54′ 36″ N	77° 05' 22" W
None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NM	PSS	0.02	1418	38° 54′ 36″ N	77° 05' 25" W
None (near Alabama Ave SE & 30th St SE)	Potomac River	7	WET-CG	PFO	0.01	2811	38° 51′ 33″ N	76° 57' 49" W

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Latitude (dms)	Longitude (dms)
None (near Alabama Ave SE & 30th St SE)	Potomac River	7	WET-CH	PFO	0.02	2811	38° 51′ 32″ N	76° 57' 50" W
None (Savannah St SE & 25th St SE)	Potomac River	8	WET-AF	PFO	0.14	2709	38° 50′ 55″ N	76° 58' 06" W
None (National Zoo)	Rock Creek	3	WET-NA	PUB	0.01	1821	38° 55′ 54″ N	77° 03' 09" W
None (National Zoo)	Rock Creek	3	WET-NC	PUB	0.05	1920	38° 55′ 38″ N	77° 02' 45" W
None (Klingle Rd NW & Cortland Pl NW)	Rock Creek	3	WET-ST	PFO, PUB	0.20	1721	38° 55′ 51″ N	77° 03' 41" W

* Wetland inaccessible, thus acreage was approximated based on aerial photography (WET-VP, WET-YP, WET-ZH, WET-ZI)
† Wetland boundary was obtained from previous delineation (WET-LJ).
Note: Table is sorted by wetland group, watershed, ward, and then wetland ID. Site IDs were assigned in alphabetical order during field work, but not all sites investigated were determined to be wetlands. Therefore, the Wetland ID column does not contain every site ID investigated during this study. Wetland sites may contain two or more Cowardin classifications depending on site conditions observed at the time of field work.

Wetlands mapped during the 2017 field study were characterized based on their geographic locations within the District using the following categories: 23 wetland groups, three watersheds (the Anacostia River, the Potomac River, and Rock Creek), eight wards, and four quadrants (Northeast (NE), Northwest (NW), Southeast (SE), Southwest (SW)). Appendix O contains detailed maps showing the wetland areas per wetland group. Maps showing the wetland areas per watershed, ward, and quadrant are shown in Figure 2-7, Figure 2-8, and Figure 2-9, respectively.

Each mapped wetland was assigned to one of the three District watersheds, resulting in 67% (194 acres) of District wetlands contributing to the Anacostia River watershed, 30% (88 acres) to the Potomac River watershed, and 3% (7 acres) to the Rock Creek watershed (see Figure 2-7). Please note that Rock Creek and the Anacostia River are part of the Potomac River watershed, but they were separated for the purposes of this study.

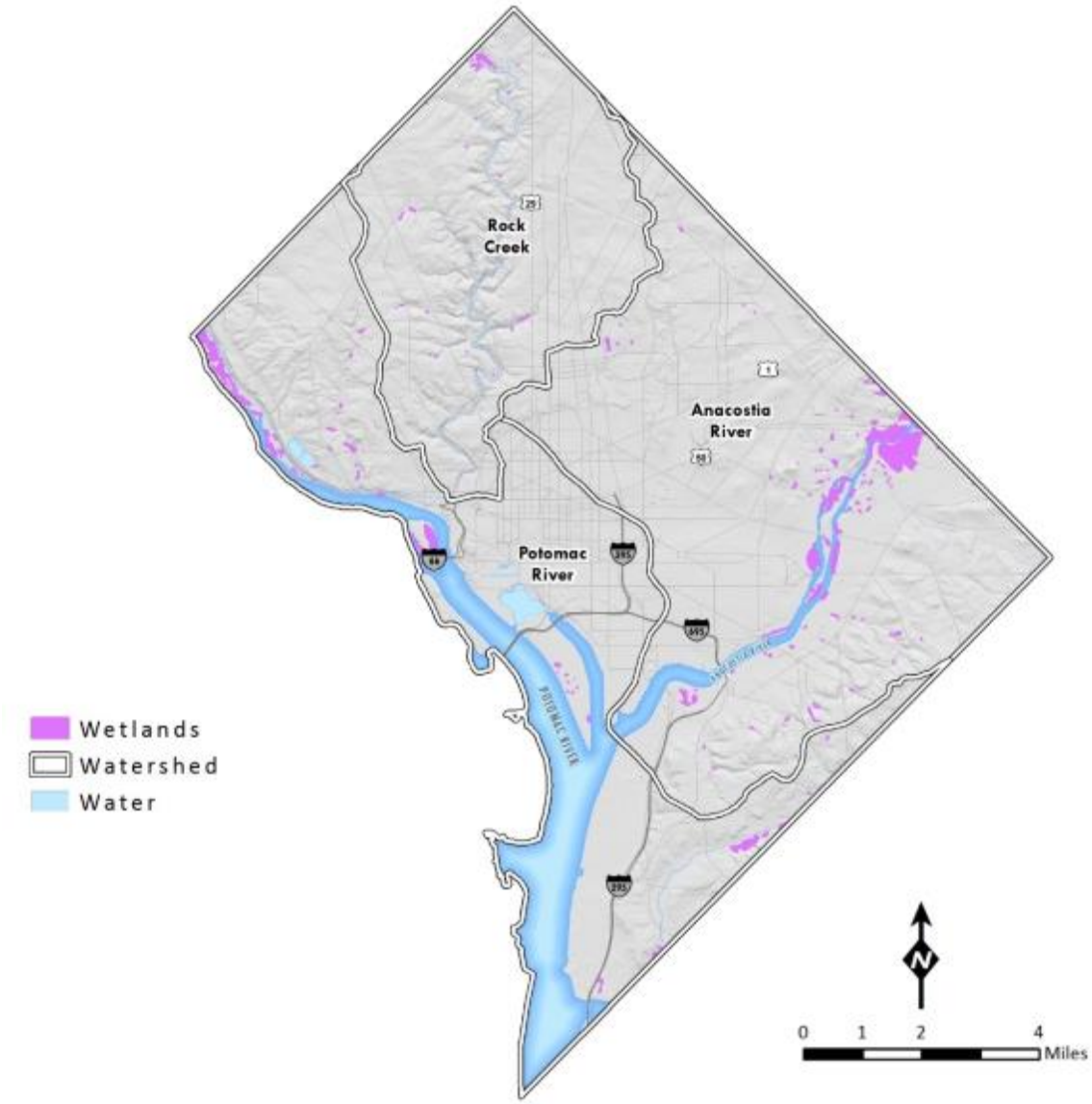


Figure 2-7 2017 mapped District wetlands per watershed.

Ward 1 contains <1% (<0.1 acres) of the wetlands mapped during this study, Ward 2 contains 10% (29 acres), Ward 3 contains 16% (45 acres), Ward 4 contains 2% (6 acres), Ward 5 contains 21% (62 acres), Ward 6 contains <1% (1 acre), Ward 7 contains 43% (124 acres), and Ward 8 contains 8% (22 acres). Ward 7 contains the most wetland acreage mapped during this study, followed by Ward 5 with the second highest wetland acreage, and Ward 3 with the third highest wetland acreage (see Figure 2-8).

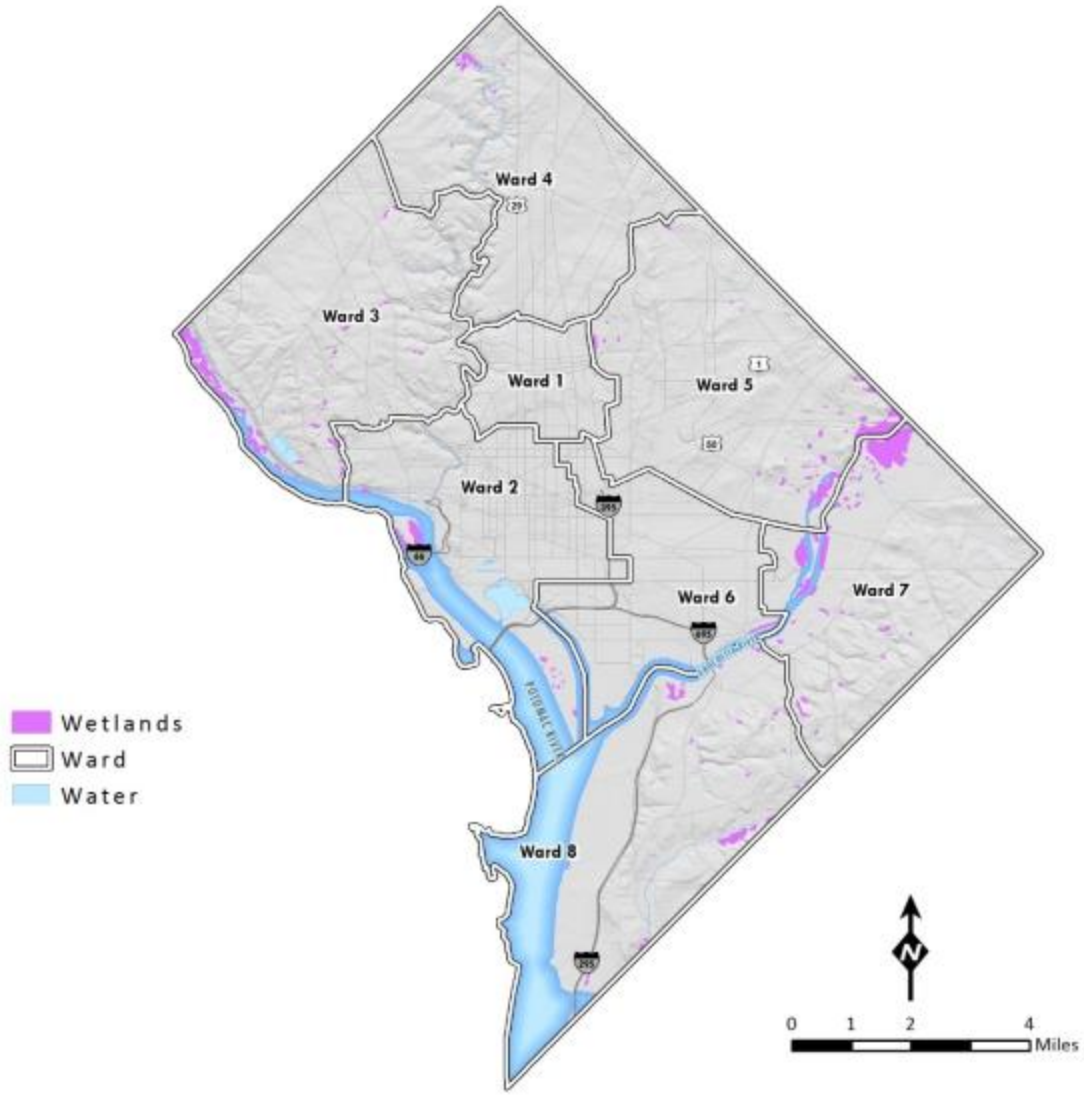


Figure 2-8 2017 mapped District wetlands per ward.

Sixty percent (174 acres) of the District's wetlands delineated for this study are located in NE, 28% (82 acres) of the wetlands are located in NW, 11% (30 acres) of the wetlands are located in SE, and 1% (3 acres) of the wetlands are located in SW, with NW being the largest land area in the District and SW being the smallest land area (Figure 2-9). The Kenilworth Park and Aquatic Gardens National Park, in NE, and the Chesapeake and Ohio (C&O) Canal National Historical Park, in NW, contributed to a large portion of the acreage in their respective quadrants. Twenty-three wetland group names were assigned to clusters of wetlands based on shared location characteristics such as public park name or the name of the nearest stream or river corridor.

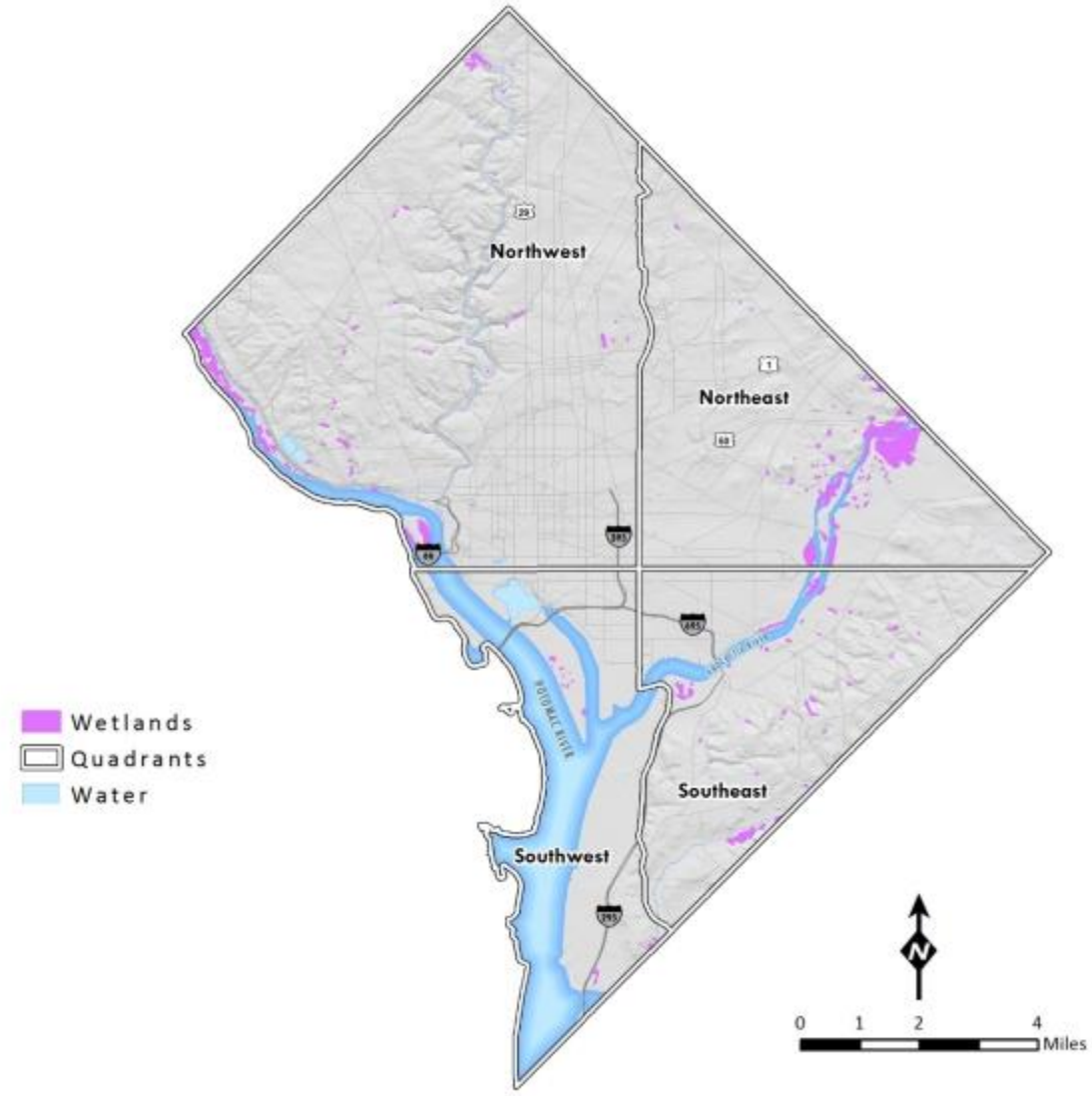


Figure 2-9 2017 mapped District wetlands per quadrant.

Figure 2-10, Figure 2-11, Figure 2-12, and Figure 2-13 diagram the acreage of wetlands within each wetland group, watershed, ward, and quadrant category, and the percentage of total wetlands that falls into each of the categories. The wetland sites not included in a specific wetland group are included in Figure 2-10 under the "None" category.

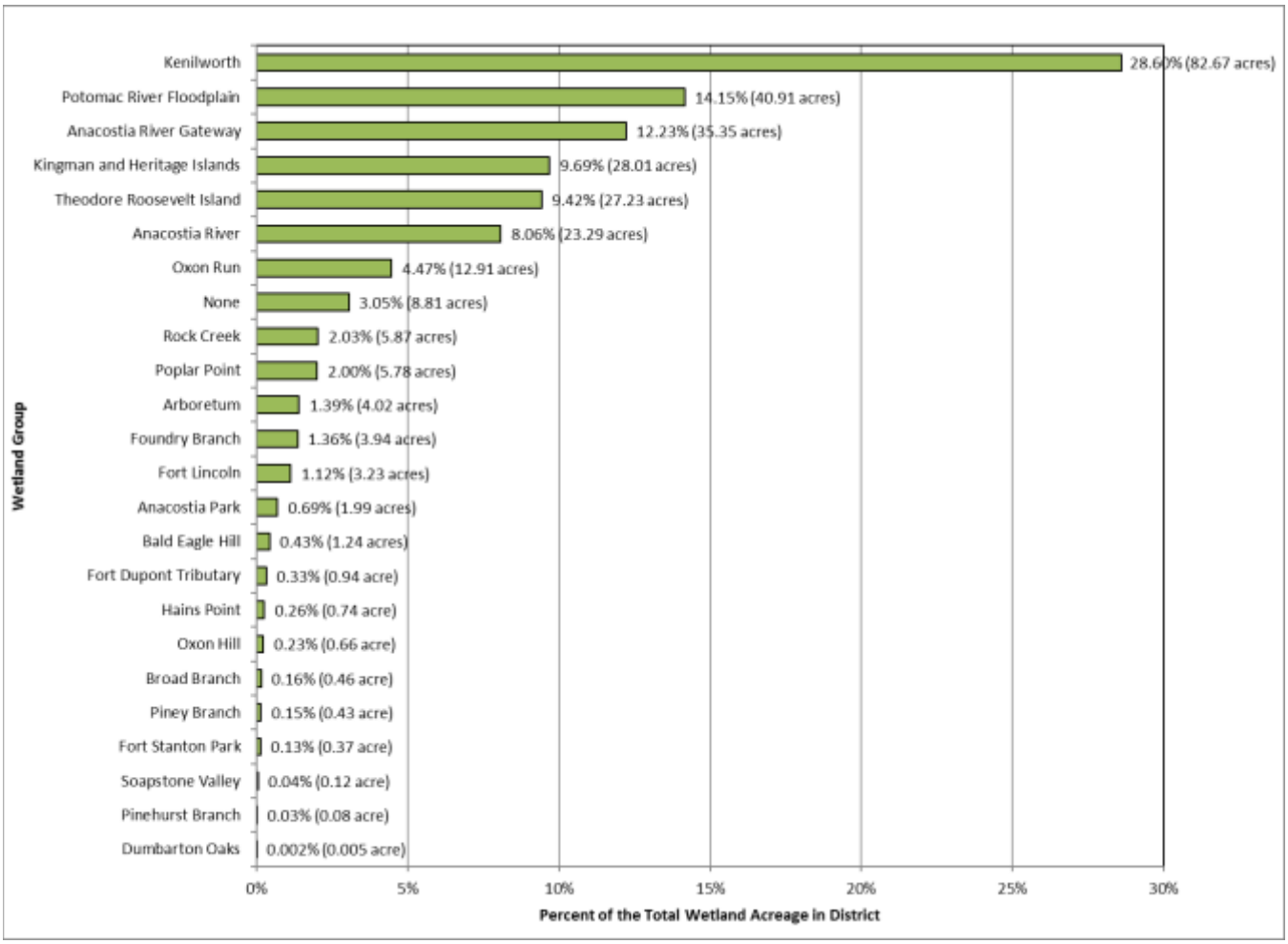


Figure 2-10 2017 mapped District wetland acreage and total percentage by wetland group.

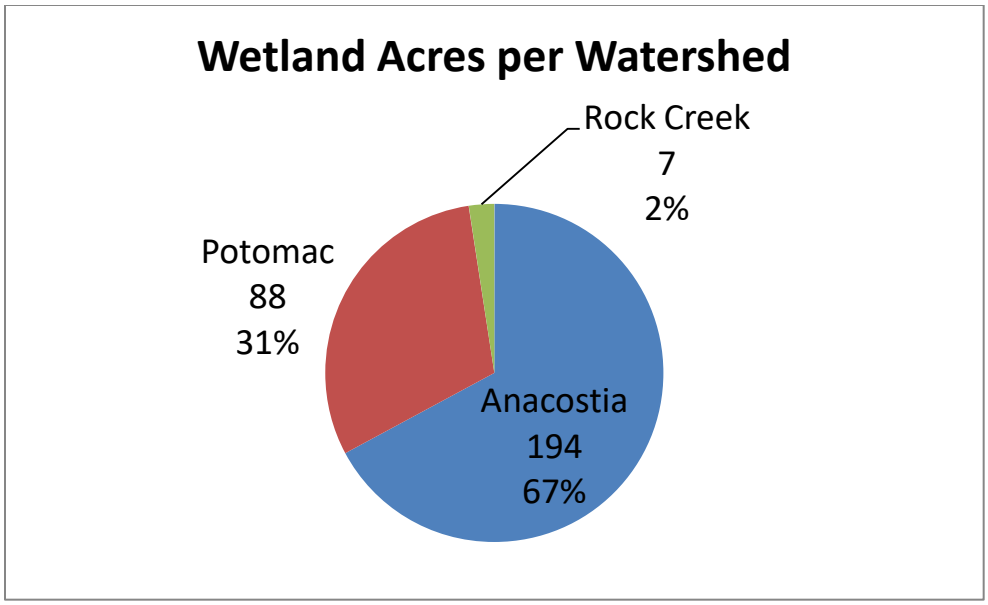


Figure 2-11 2017 mapped District wetland acreage and Total Percentage by watershed.

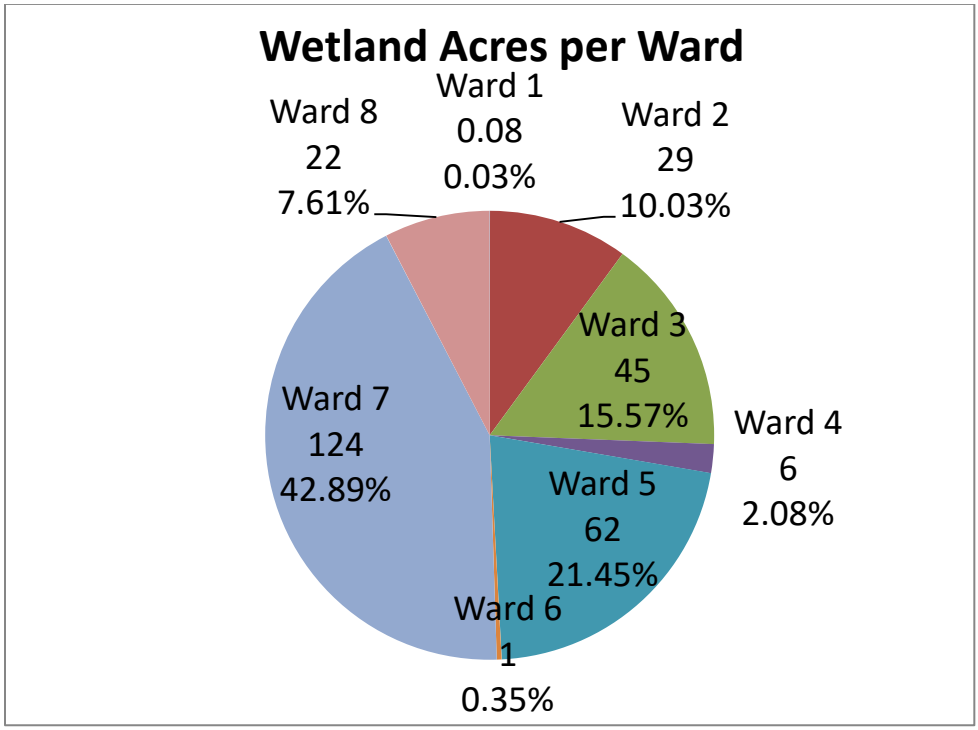


Figure 2-12 2017 mapped District wetland acreage and Total Percentage by ward.

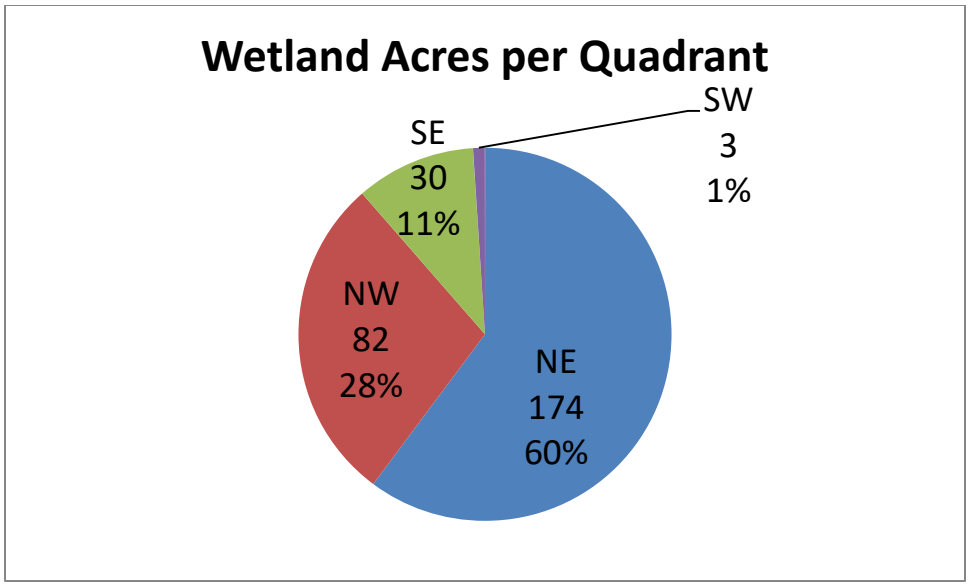


Figure 2-13 2017 mapped District wetland acreage and Total Percentage by quadrant.

The majority of the wetlands mapped in the District are located on NPS land (approximately 74%).

Of the 289 acres of wetlands in the District, 262 acres were located on NPS land, and 27 acres were located on public (federal or District government) or private land. Table 2.5 Acreage of 2017 District Wetlands Mapped Within NPS Land shows the wetland acreage found on each of the five National Parks located in the District, as well as the percentage of the total NPS wetland acreage that is found in each park. For example, the C&O Canal Park contains 40.91 acres of wetlands, which equals 16% of the 262 acres of wetlands found on NPS land in the District. Therefore, of the wetlands mapped on NPS property during this study, the majority are found in the National Capital Parks – East National Park. Figure 2-14 National Park Service land within the District shows NPS land within the District.

Please note that only areas labeled as potential wetlands during desktop reconnaissance were evaluated during the field study, and for this reason, not all property within NPS jurisdiction was investigated.

Table 2.5 Acreage of 2017 District Wetlands Mapped Within NPS Land

National Park	Total Acreage	Percentage of Total NPS Wetland Acreage Per Park
Chesapeake and Ohio Canal (CHOH)	40.91	16%
George Washington Memorial Parkway (GWMP)	27.23	10%
National Capital Parks – East (NACE)	183.10	70%
National Mall and Memorial Parks (NACC)	0.74	<1%
Rock Creek (ROCR)	10.44	4%

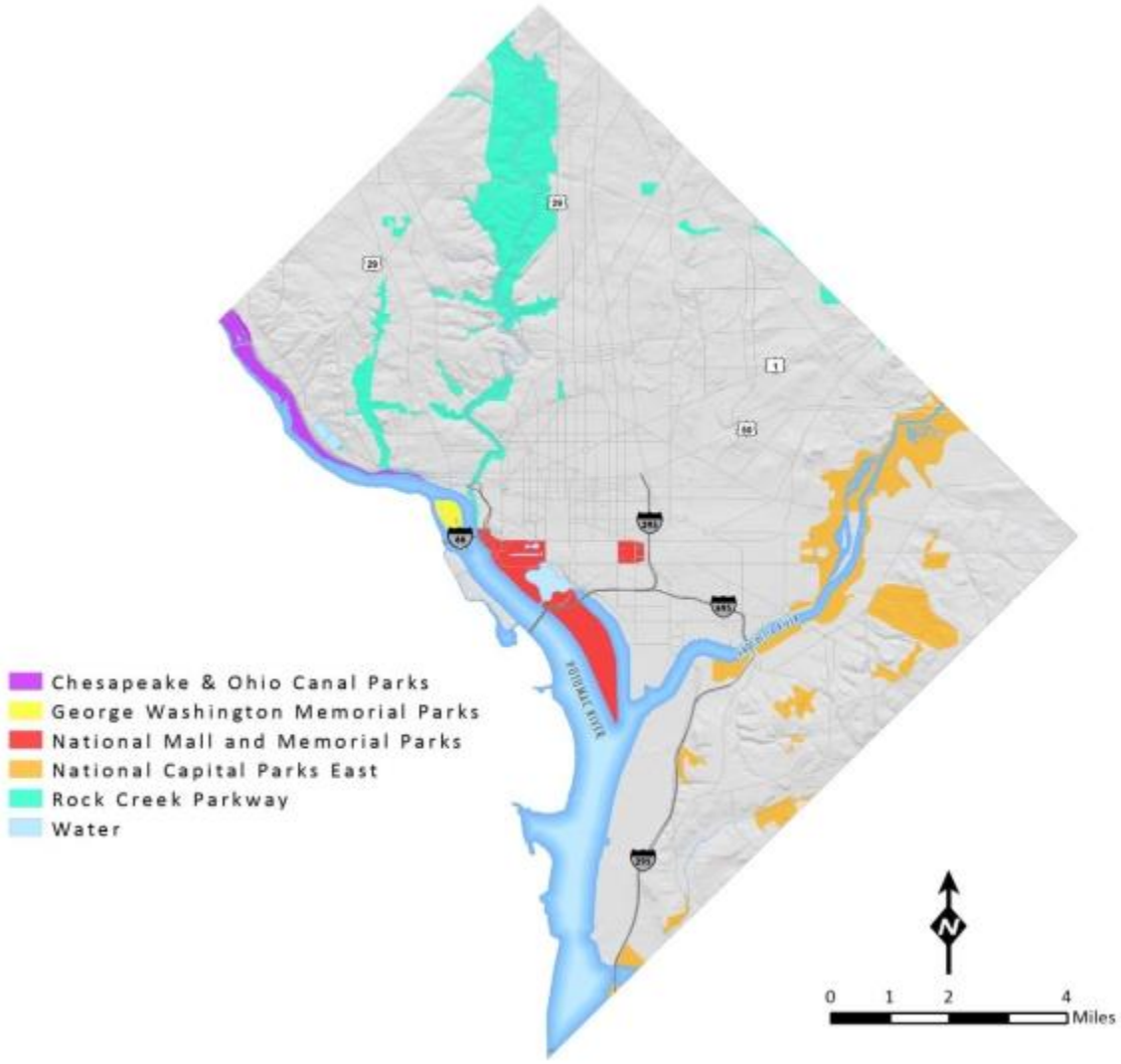


Figure 2-14 National Park Service land within the District

2.2.1 Functions and Values Results

2.2.1.1 New Hampshire Method Results

The NH Method calculates a separate numerical score for each of the 12 evaluated function categories listed in Section 2.1.3. For a more detailed description of each function, see Appendix I.

NH method results are most useful when 1 of the 12 functions is compared across multiple wetlands. For example, a stakeholder may want to know more about the scenic quality (e.g., Does the wetland have public access?), educational potential (e.g., Does the site have suitable access for the disabled?), or fish and aquatic habitat potential (e.g., How deep is the wetland and are there any barriers present that

prevent the passage of aquatic life?) for each wetland. The final scores for each of the 12 wetland functions are not additive; therefore, a single overall score for a wetland is not appropriate. Low scores on one or more wetland function should not be used to justify elimination of certain wetlands over others during future project planning. While small wetlands may be less biologically diverse and may have low scores for several functions, other functions they serve may be significant (*e.g.,* habitat for species of concern, flood storage,etc.). Within each wetland function category on the datasheet, specific questions are listed along with an assigned score. These scores were averaged to get one score per function. Stakeholders can look to the specific questions within each wetland function to discover additional site information.

Table 2.6 shows the NH Method results for each accessible wetland site. Five wetlands were inaccessible at the time of fieldwork and could not be assessed using the NH method (WET-LJ, WET-VP, WET-YP, WET-ZH, and WET-ZI). Wetlands that were considered to be acting as one system were shown together on one data sheet, and wetland IDs were separated by commas. Wetlands in one system, for example, may be located near each other in the floodplain of a large stream. Wetland function #8 (i.e., groundwater) received the same average score for each wetland because the evaluation questions referenced information that was unknown for the District. The notes that follow Table 2.6 list the minimum and maximum scores across all District wetlands for each function category. Raw data forms for the NH Method are included in Appendix M.

Table 2.6 New Hampshire Method Summary

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method												
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Anacostia Park	Anacostia River	5	WET-QQ	0.04	5.8	3.7	2.4	6.0	5.9	4.3	0.0	0.6	3.3	5.7	3.3	10.0
Anacostia Park	Anacostia River	5	WET-QT	0.04	5.8	3.7	2.4	6.0	5.9	4.3	0.0	0.6	4.0	5.8	3.3	10.0
Anacostia Park	Anacostia River	5	WET-QX	0.01	6.3	4.2	0.9	4.0	5.6	2.4	0.0	0.6	5.1	5.0	0.0	10.0
Anacostia Park	Anacostia River	7	WET-DQ	0.15	5.4	3.8	0.8	5.1	4.5	3.3	0.1	0.6	5.9	7.2	0.0	10.0
Anacostia Park	Anacostia River	7	WET-DS	0.03	5.0	3.1	1.3	4.6	5.4	3.1	0.0	0.6	5.9	6.2	0.0	10.0
Anacostia Park	Anacostia River	7	WET-SH	0.4	5.9	5.5	3.3	5.4	4.1	2.2	0.7	0.6	6.5	4.8	0.0	10.0
Anacostia Park	Anacostia River	7	WET-SJ	0.2	5.9	5.5	3.3	5.4	4.1	2.2	0.3	0.6	6.5	4.7	0.0	10.0
Anacostia Park	Anacostia River	7	WET-SQ	0.05	7.2	3.8	1.4	4.7	2.2	1.6	0.1	0.6	6.4	4.3	0.0	10.0
Anacostia Park	Anacostia River	7	WET-UI	0.01	6.8	3.4	1.4	2.3	1.9	1.1	0.0	0.6	7.1	5.4	0.0	10.0
Anacostia Park	Anacostia River	7	WET-UJ	0.06	5.8	4.6	1.7	3.3	2.0	1.5	0.0	0.6	6.4	4.3	0.0	10.0
Anacostia Park	Anacostia River	7	WET-UL	0.2	7.2	3.8	1.4	4.7	2.2	1.6	0.3	0.6	7.2	4.4	0.0	10.0
Anacostia Park	Anacostia River	7	WET-UM	0.04	5.0	3.1	0.9	3.9	1.8	1.5	0.0	0.6	5.1	4.0	0.0	10.0
Anacostia Park	Anacostia River	7	WET-UN	0.005	5.0	3.1	0.9	3.9	1.8	1.5	0.0	0.6	5.1	4.0	0.0	10.0
Anacostia	Anacostia	8	WET-DI	0.2	5.4	3.1	1.3	3.9	4.4	3.0	0.2	0.6	6.5	7.2	0.0	20.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method												
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Park	River															
Anacostia Park	Anacostia River	8	WET-DM	0.5	5.5	2.8	0.8	3.9	4.3	2.9	0.5	0.6	7.2	6.6	0.0	10.0
Anacostia Park	Anacostia River	8	WET-DN	0.1	4.6	2.7	0.8	3.3	4.2	2.8	0.1	0.6	6.4	6.2	0.0	20.0
Anacostia River	Anacostia River	7	WET-FK	1	5.8	3.7	1.8	6.4	5.3	6.7	1.0	0.6	5.3	4.5	5.3	20.0
Anacostia River	Anacostia River	7	WET-FN	11	4.9	3.2	0.5	5.9	5.1	6.5	2.8	0.6	6.3	5.1	4.3	20.0
Anacostia River	Anacostia River	7	WET-GY	4.5	7.7	4.8	1.4	6.7	4.2	3.1	2.0	0.6	6.1	4.8	4.3	20.0
Anacostia River	Anacostia River	7	WET-SE, VD	1.5	5.4	4.5	1.7	5.1	3.8	3.6	1.3	0.6	6.0	5.6	5.3	20.0
Anacostia River	Anacostia River	7	WET-SL	0.9	5.4	4.5	1.7	5.1	3.8	3.6	1.0	0.6	6.0	5.5	5.3	20.0
Anacostia River	Anacostia River	7	WET-UP	2.5	6.7	5.1	2.2	4.6	4.8	3.6	1.8	0.6	6.8	6.7	5.3	20.0
Anacostia River Gateway	Anacostia River	5	WET-HV	7	6.3	5.4	2.6	6.6	3.9	2.2	4.3	0.6	7.0	7.4	6.5	30.0
Anacostia River Gateway	Anacostia River	5	WET-JE	1.5	5.5	3.6	3.2	3.9	3.1	4.1	1.7	0.6	6.7	7.8	4.3	20.0
Anacostia River Gateway	Anacostia River	5	WET-YG	23.53	6.3	5.4	3.6	7.3	5.3	3.3	6.5	0.6	7.5	8.8	5.5	30.0
Anacostia River Gateway	Anacostia River	5	WET-ZX	2.85	6.3	5.1	2.8	7.3	4.3	4.9	2.1	0.6	6.2	7.7	5.5	30.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method											
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Arboretum	Anacostia River	5	WET-YH, YI	0.41	7.7	6.6	2.9	5.1	5.3	3.8	0.3	0.6	7.9	5.8	0.0	30.0
Arboretum	Anacostia River	5	WET-YL	0.07	6.7	4.6	1.7	6.0	5.6	5.9	0.0	0.6	7.1	6.4	0.0	10.0
Arboretum	Anacostia River	5	WET-YQ	0.29	8.6	5.5	4.1	4.7	4.3	3.5	0.3	0.6	4.5	4.9	3.0	10.0
Arboretum	Anacostia River	5	WET-YT	0.03	7.5	5.6	3.5	5.9	6.9	5.2	0.0	0.6	5.3	6.1	2.0	10.0
Arboretum	Anacostia River	5	WET-YU, YX, ZE	2.83	7.2	6.0	2.2	6.0	6.4	6.3	3.5	0.6	6.5	4.4	0.0	10.0
Arboretum	Anacostia River	5	WET-ZG	0.04	6.8	5.1	2.1	6.0	5.6	3.8	0.0	0.6	6.6	3.7	0.0	10.0
Bald Eagle Hill	Potomac River	8	WET-BD	0.05	5.0	2.2	0.5	2.7	1.6	1.0	0.0	0.6	7.9	6.6	0.0	10.0
Bald Eagle Hill	Potomac River	8	WET-R	1	6.2	4.2	2.2	5.4	3.9	4.4	1.2	0.6	7.3	7.8	6.5	20.0
Bald Eagle Hill	Potomac River	8	WET-T	0.14	6.2	4.2	2.2	5.4	3.9	4.4	0.3	0.6	6.6	7.6	6.5	20.0
Broad Branch	Rock Creek	3	WET-LB, LC	0.5	5.5	3.2	3.7	5.1	5.3	4.0	0.4	0.6	4.5	5.9	3.0	10.0
Dumbarton Oaks	Rock Creek	2	WET-NH	0.005	5.0	3.6	2.4	2.7	3.3	2.9	0.0	0.6	5.1	6.1	2.0	10.0
Fort Dupont Tributary	Anacostia River	7	WET-DA, DB, DC	0.007	6.7	4.7	2.7	4.7	3.3	4.1	0.0	0.6	4.6	6.0	3.0	20.0
Fort Dupont Tributary	Anacostia River	7	WET-ER, ET, EU, EV	0.4	8.6	5.4	1.7	4.6	4.0	2.7	0.6	0.6	5.9	6.3	0.0	20.0
Fort Dupont Tributary	Anacostia River	7	WET-FB	0.1	7.2	4.3	1.3	5.3	5.9	5.1	0.1	0.6	7.2	6.4	6.5	10.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method											
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Fort Dupont Tributary	Anacostia River	7	WET-FH	0.03	6.7	3.4	0.9	4.6	5.2	4.8	0.0	0.6	5.1	5.1	0.0	10.0
Fort Dupont Tributary	Anacostia River	7	WET-FI	0.008	6.2	3.3	1.4	3.9	4.5	3.0	0.0	0.6	5.1	5.0	0.0	10.0
Fort Dupont Tributary	Anacostia River	7	WET-FJ	0.4	5.0	3.3	0.5	4.4	4.3	3.1	0.4	0.6	6.5	6.4	5.3	10.0
Fort Lincoln	Anacostia River	5	WET-IH	3	4.5	3.4	2.1	7.1	5.3	4.4	1.7	0.6	7.4	5.8	0.0	10.0
Fort Lincoln	Anacostia River	5	WET-IO	0.03	6.3	4.2	1.4	4.6	2.6	1.8	0.0	0.6	5.9	4.4	0.0	20.0
Fort Lincoln	Anacostia River	5	WET-IP	0.03	6.3	4.2	1.4	4.6	2.6	1.8	0.0	0.6	5.3	6.1	0.0	20.0
Fort Lincoln	Anacostia River	5	WET-IQ	0.007	6.3	4.2	1.4	4.6	2.6	1.8	0.0	0.6	5.3	6.1	0.0	20.0
Fort Lincoln	Anacostia River	5	WET-IT	0.5	7.1	4.7	3.6	6.0	4.3	2.1	0.5	0.6	5.2	6.1	3.0	10.0
Fort Lincoln	Anacostia River	5	WET-IU	0.03	6.3	4.2	1.4	4.6	2.6	1.8	0.0	0.6	5.9	4.4	0.0	20.0
Fort Stanton Park	Anacostia River	8	WET-BJ	0.03	5.0	3.1	1.8	4.0	4.0	3.2	0.0	0.6	3.9	5.9	3.3	10.0
Fort Stanton Park	Anacostia River	8	WET-BK, BL	0.15	4.5	3.2	1.7	4.6	4.0	3.3	0.1	0.6	6.4	6.3	0.0	10.0
Fort Stanton Park	Anacostia River	8	WET-BM	0.06	5.4	3.1	1.8	4.0	4.0	3.2	0.0	0.6	4.4	5.9	3.3	10.0
Fort Stanton Park	Anacostia River	8	WET-BX	0.14	4.6	2.2	0.9	3.9	3.2	2.8	0.1	0.6	5.2	6.2	0.0	10.0
Foundry Branch	Potomac River	3	WET-LT	0.2	6.3	3.7	1.7	5.3	3.7	4.2	0.3	0.6	5.8	6.4	0.0	10.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method												
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Foundry Branch	Potomac River	3	WET-LW	0.4	5.3	3.5	2.0	6.0	5.3	4.9	0.8	0.6	5.3	6.2	3.0	10.0
Foundry Branch	Potomac River	3	WET-LX	0.02	6.3	4.6	1.0	4.7	3.6	4.9	0.0	0.6	6.0	5.5	1.0	10.0
Foundry Branch	Potomac River	3	WET-LZ	0.3	5.9	4.2	1.7	4.0	3.0	2.4	0.5	0.6	6.5	7.4	0.0	20.0
Foundry Branch	Potomac River	3	WET-MA, MH	2	6.3	4.1	2.8	3.9	3.8	1.7	2.4	0.6	5.5	6.6	4.3	10.0
Foundry Branch	Potomac River	3	WET-MC	0.003	5.9	4.2	1.7	4.0	3.0	2.4	0.0	0.6	5.9	7.3	0.0	20.0
Foundry Branch	Potomac River	3	WET-ME	0.2	5.4	2.7	2.8	4.6	4.2	3.9	0.3	0.6	5.2	6.2	3.0	10.0
Foundry Branch	Potomac River	3	WET-MG	0.02	5.4	2.7	2.8	4.6	4.2	3.9	0.0	0.6	5.1	6.2	3.0	10.0
Foundry Branch	Potomac River	3	WET-MI	0.04	5.9	4.2	1.4	3.3	2.4	1.6	0.0	0.6	5.9	6.2	0.0	10.0
Foundry Branch	Potomac River	3	WET-MJ	0.1	5.4	2.7	2.8	4.6	4.2	3.9	0.1	0.6	5.2	6.2	3.0	10.0
Foundry Branch	Potomac River	3	WET-MR	0.6	5.4	4.1	2.5	5.9	4.8	4.3	1.2	0.6	8.0	7.8	6.5	10.0
Hains Point	Potomac River	2	WET-VV	0.3	5.4	3.1	0.9	4.0	4.4	2.2	0.4	0.6	6.5	4.4	0.0	10.0
Hains Point	Potomac River	2	WET-VW	0.01	5.5	4.2	0.9	3.6	5.5	4.0	0.0	0.6	5.1	3.0	0.0	10.0
Hains Point	Potomac River	2	WET-WW	0.002	5.5	4.2	0.9	3.6	5.5	4.0	0.0	0.6	5.1	3.0	0.0	10.0
Hains Point	Potomac River	2	WET-XE	0.2	4.9	4.0	1.3	5.1	4.6	3.5	0.2	0.6	6.5	4.3	0.0	10.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method											
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Hains Point	Potomac River	2	WET-XI	0.01	5.5	4.2	0.9	3.6	5.5	4.0	0.0	0.6	5.1	3.0	0.0	10.0
Hains Point	Potomac River	2	WET-XL	0.06	5.4	3.1	0.9	4.0	4.4	2.2	0.0	0.6	6.4	4.3	0.0	10.0
Hains Point	Potomac River	2	WET-XN	0.02	5.4	3.1	0.9	4.0	4.4	2.2	0.0	0.6	5.9	4.3	0.0	10.0
Hains Point	Potomac River	2	WET-XQ	0.02	5.5	4.2	0.9	3.6	5.5	4.0	0.0	0.6	5.1	3.0	0.0	10.0
Hains Point	Potomac River	2	WET-XY	0.2	5.4	3.1	0.9	4.0	4.4	2.2	0.2	0.6	6.5	4.3	0.0	10.0
Hains Point	Potomac River	2	WET-YC	0.001	5.5	4.2	0.9	3.6	5.5	4.0	0.0	0.6	5.1	3.0	0.0	10.0
Kenilworth	Anacostia River	7	WET-SW	0.01	6.4	4.2	0.9	4.7	5.3	5.0	0.0	0.6	5.3	6.2	0.0	10.0
Kenilworth	Anacostia River	7	WET-SZ	0.01	6.6	4.3	0.9	5.3	5.9	5.1	0.0	0.6	6.6	6.4	0.0	10.0
Kenilworth	Anacostia River	7	WET-TD	0.1	6.6	4.3	0.9	5.3	5.9	5.1	0.1	0.6	7.2	6.5	0.0	10.0
Kenilworth	Anacostia River	7	WET-TI	0.006	5.8	4.2	0.9	5.3	4.7	4.2	0.0	0.6	6.6	6.4	0.0	10.0
Kenilworth	Anacostia River	7	WET-TK	0.09	6.3	4.6	1.4	5.3	5.4	5.8	0.0	0.6	7.3	7.6	0.0	10.0
Kenilworth	Anacostia River	7	WET-TL	0.04	5.8	4.2	0.9	5.3	4.7	4.2	0.0	0.6	7.1	6.4	0.0	10.0
Kenilworth	Anacostia River	7	WET-TN	0.01	5.8	4.2	0.9	5.3	4.7	4.2	0.0	0.6	6.6	6.4	0.0	10.0
Kenilworth	Anacostia River	7	WET-TP	0.004	5.8	4.2	0.9	5.3	4.7	4.2	0.0	0.6	6.6	6.4	0.0	10.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method												
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Kenilworth	Anacostia River	7	WET-TQ	0.02	5.8	4.2	0.9	5.3	4.7	4.2	0.0	0.6	6.6	6.4	0.0	10.0
Kenilworth	Anacostia River	7	WET-TR	0.02	6.6	4.3	0.9	5.3	5.9	5.1	0.0	0.6	6.6	6.4	0.0	10.0
Kenilworth	Anacostia River	7	WET-TU	0.07	6.6	4.3	0.9	5.3	5.9	5.1	0.0	0.6	7.1	6.4	0.0	10.0
Kenilworth	Anacostia River	7	WET-UA	0.1	6.3	4.6	1.4	5.3	5.4	5.8	0.1	0.6	7.9	7.6	0.0	10.0
Kenilworth	Anacostia River	7	WET-UD	0.01	5.8	4.2	0.9	5.3	4.7	4.2	0.0	0.6	6.6	6.4	0.0	10.0
Kenilworth	Anacostia River	7	WET-UE	0.03	6.6	4.3	0.9	5.3	5.9	5.1	0.0	0.6	7.1	6.4	0.0	10.0
Kenilworth	Anacostia River	7	WET-UO	76	7.2	7.8	4.1	8.6	8.1	8.6	4.3	0.6	5.8	7.3	0.0	40.0
Kenilworth	Anacostia River	7	WET-UQ, UR, US	2	6.7	5.1	2.2	4.6	4.8	3.6	1.5	0.6	6.8	6.7	5.3	20.0
Kenilworth	Anacostia River	7	WET-UU	2	7.2	6.5	4.5	6.4	6.1	3.3	3.0	0.6	6.9	6.8	0.0	40.0
Kenilworth	Anacostia River	7	WET-UV	0.2	7.2	6.5	4.5	6.4	6.1	3.3	0.4	0.6	5.8	6.2	0.0	40.0
Kenilworth	Anacostia River	7	WET-UW	6	6.7	4.7	2.9	5.9	6.2	5.4	3.6	0.6	7.7	3.5	0.0	50.0
Kenilworth	Anacostia River	7	WET-VQ	4	7.2	6.5	4.5	6.4	6.1	3.3	4.0	0.6	7.0	7.1	0.0	40.0
Kingman and Heritage Islands	Anacostia River	5	WET-RC, RE, RF, RQ, RZ	15	7.7	5.7	4.8	7.9	6.2	8.1	2.8	0.6	6.3	5.8	6.5	30.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method											
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Kingman and Heritage Islands	Anacostia River	5	WET-RK	0.4	7.2	5.5	1.6	3.9	2.8	1.9	0.6	0.6	6.5	6.4	0.0	10.0
Kingman and Heritage Islands	Anacostia River	7	WET-FR	0.2	7.7	3.9	1.7	7.3	6.3	7.7	0.5	0.6	8.6	6.6	0.0	20.0
Kingman and Heritage Islands	Anacostia River	7	WET-FS	6.5	7.7	5.7	4.8	7.9	7.3	8.1	2.5	0.6	6.2	5.9	6.5	30.0
Kingman and Heritage Islands	Anacostia River	7	WET-FT	0.7	7.7	4.8	3.2	7.9	5.9	7.9	1.5	0.6	6.1	6.4	5.3	30.0
Kingman and Heritage Islands	Anacostia River	7	WET-FX	0.06	5.4	3.2	1.8	4.0	2.8	2.2	0.0	0.6	5.1	5.0	0.0	10.0
Kingman and Heritage Islands	Anacostia River	7	WET-FY	4.6	7.7	5.7	4.8	7.9	7.3	8.1	1.6	0.6	6.1	5.7	6.5	30.0
Kingman and Heritage Islands	Anacostia River	7	WET-GV	0.002	9.1	5.4	1.4	2.9	3.4	1.7	0.0	0.6	5.3	5.4	0.0	10.0
Kingman and Heritage Islands	Anacostia River	7	WET-GW	0.2	7.7	4.4	2.3	5.1	4.1	3.6	0.3	0.6	5.3	5.3	5.5	20.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method											
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Kingman and Heritage Islands	Anacostia River	7	WET-HA	0.004	9.1	5.4	1.4	2.9	3.4	1.7	0.0	0.6	5.3	5.4	0.0	10.0
Kingman and Heritage Islands	Anacostia River	7	WET-JG	0.4	5.9	3.7	2.2	6.0	5.0	4.3	0.8	0.6	7.3	4.7	0.0	20.0
Kingman and Heritage Islands	Anacostia River	7	WET-QD	0.05	7.6	4.3	2.4	4.0	2.8	1.7	0.1	0.6	7.9	6.5	0.0	20.0
Kingman and Heritage Islands	Anacostia River	7	WET-QE	0.1	7.6	4.3	2.4	4.0	2.8	1.7	0.1	0.6	7.9	6.5	0.0	20.0
Kingman and Heritage Islands	Anacostia River	7	WET-QF	0.004	7.6	4.3	2.4	4.0	2.8	1.7	0.0	0.6	7.3	6.5	0.0	20.0
Kingman and Heritage Islands	Anacostia River	7	WET-QG	0.01	7.6	4.3	2.4	4.0	2.8	1.7	0.0	0.6	7.3	6.5	0.0	20.0
Oxon Hill	Potomac River	8	WET-I, K, L	0.3	5.9	3.2	1.7	4.0	3.0	1.5	0.3	0.6	7.9	5.8	0.0	10.0
Oxon Hill	Potomac River	8	WET-J	0.04	6.8	3.8	1.7	3.4	3.2	1.7	0.0	0.6	5.3	3.7	0.0	10.0
Oxon Hill	Potomac River	8	WET-O	0.2	5.9	5.0	2.9	3.3	3.1	1.5	0.2	0.6	6.5	5.5	0.0	10.0
Oxon Hill	Potomac River	8	WET-P, Q	0.07	5.9	4.2	2.5	2.7	3.0	1.3	0.0	0.6	5.3	5.4	0.0	10.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method												
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Oxon Run	Potomac River	8	WET-AT, AU, AV	11.6	5.8	5.9	4.0	6.6	4.8	4.1	4.1	0.6	6.4	8.3	5.5	50.0
Oxon Run	Potomac River	8	WET-AZ, BA	0.7	8.6	5.8	3.0	4.6	3.8	2.9	0.5	0.6	7.9	7.7	0.0	50.0
Oxon Run	Potomac River	8	WET-BB	0.07	8.6	5.8	3.0	4.6	3.8	2.9	0.1	0.6	7.3	7.6	0.0	10.0
Oxon Run	Potomac River	8	WET-BC	0.5	5.9	2.8	1.1	3.3	3.3	1.3	0.3	0.6	5.2	5.1	4.3	20.0
Pinehurst Branch	Rock Creek	4	WET-LF	0.08	4.9	3.6	0.9	5.3	6.2	5.0	0.0	0.6	6.6	6.4	0.0	10.0
Piney Branch	Rock Creek	1	WET-LS	0.1	6.7	4.2	2.2	5.1	4.4	3.6	0.2	0.6	4.6	5.1	0.0	10.0
Piney Branch	Rock Creek	4	WET-LP, LQ	0.3	5.8	4.6	3.6	5.9	7.2	3.6	0.5	0.6	4.5	6.1	5.3	10.0
Poplar Point	Anacostia River	8	WET-DE	2	5.9	4.6	2.1	4.7	3.3	3.6	1.3	0.6	7.3	5.7	0.0	10.0
Poplar Point	Anacostia River	8	WET-DF	3	6.7	4.2	2.2	3.3	2.1	1.4	1.7	0.6	7.4	5.0	0.0	10.0
Poplar Point	Anacostia River	8	WET-DG	0.06	5.9	2.7	1.7	4.0	1.9	1.3	0.0	0.6	5.9	4.3	0.0	10.0
Poplar Point	Anacostia River	8	WET-DH	0.18	6.7	4.2	2.2	3.3	2.1	1.4	0.1	0.6	6.6	4.6	0.0	10.0
Potomac River Floodplain	Potomac River	2	WET-NS, NT	0.8	7.1	4.7	1.4	5.3	5.6	6.8	2.0	0.6	8.1	6.9	5.5	20.0
Potomac River Floodplain	Potomac River	3	WET-NU, NV, NW	6	8.1	4.8	2.2	7.3	4.4	5.7	2.3	0.6	5.5	6.7	5.5	20.0

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Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Potomac River Floodplain	Potomac River	3	WET-NY	0.4	6.8	4.2	1.7	5.3	2.8	1.9	0.6	0.6	7.2	6.7	0.0	10.0
Potomac River Floodplain	Potomac River	3	WET-NZ, OG	1	6.8	4.2	1.7	5.3	2.8	1.9	1.6	0.6	7.4	6.9	0.0	10.0
Potomac River Floodplain	Potomac River	3	WET-OB	0.05	8.1	4.8	2.2	7.3	4.4	5.7	0.1	0.6	5.7	6.2	5.5	20.0
Potomac River Floodplain	Potomac River	3	WET-OC, OD, OE, OF	0.5	6.8	4.2	1.7	5.3	2.8	1.9	1.6	0.6	7.4	6.9	0.0	10.0
Potomac River	Potomac River	3	WET-OK	1.3	7.6	5.3	2.9	7.3	5.9	4.8	2.3	0.6	6.8	5.1	3.0	40.0
Potomac River Floodplain	Potomac River	3	WET-OL, OM, ON, OO	0.2	6.8	4.2	1.7	5.3	2.8	1.9	0.2	0.6	7.2	6.6	0.0	10.0
Potomac River Floodplain	Potomac River	3	WET-OP, OQ	2	7.6	5.3	2.9	7.3	5.9	4.8	3.0	0.6	7.6	5.3	3.0	40.0
Potomac River Floodplain	Potomac River	3	WET-OR, OU	0.2	6.8	4.2	1.7	5.3	2.8	1.9	0.2	0.6	7.2	6.6	0.0	10.0
Potomac River Floodplain	Potomac River	3	WET-OW	0.2	6.8	4.2	1.7	5.3	2.8	1.9	0.2	0.6	7.2	6.6	0.0	10.0
Potomac River Floodplain	Potomac River	3	WET-OX, PA, PC, PD, PE, PF, PG, PH, PI, PJ	8	7.2	6.0	4.0	6.7	5.5	5.0	5.0	0.6	7.9	6.3	4.3	30.0
Potomac River	Potomac	3	WET-PL, PN, PO,	8	7.2	6.0	4.0	6.7	5.5	5.0	5.0	0.6	7.9	6.3	4.3	30.0

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Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Floodplain	River		PP, PQ													
Potomac River Floodplain	Potomac River	3	WET-PR	12	7.6	5.3	2.9	7.3	5.9	4.8	4.5	0.6	7.8	5.7	3.0	40.0
Rock Creek	Rock Creek	4	WET-JX	0.05	5.4	3.6	1.5	5.4	4.8	3.3	0.1	0.6	4.4	3.9	3.3	20.0
Rock Creek	Rock Creek	4	WET-JY, JZ, KC	4	6.7	4.7	1.4	6.0	5.0	5.1	3.6	0.6	7.7	7.1	0.0	20.0
Rock Creek	Rock Creek	4	WET-KA	0.2	6.7	4.7	1.4	6.0	5.0	5.1	0.3	0.6	7.2	6.4	0.0	20.0
Rock Creek	Rock Creek	4	WET-KB	0.005	6.7	4.7	1.4	6.0	5.0	5.1	0.0	0.6	6.6	6.3	0.0	20.0
Rock Creek	Rock Creek	4	WET-KF	0.4	7.7	3.8	1.5	5.3	6.0	5.7	0.6	0.6	7.2	5.6	0.0	30.0
Rock Creek	Rock Creek	4	WET-KG	0.1	5.8	5.1	4.2	4.7	4.5	3.5	0.1	0.6	4.0	5.1	3.3	20.0
Rock Creek	Rock Creek	4	WET-KH, KI	0.6	5.0	3.1	2.5	3.9	3.9	2.2	0.6	0.6	3.4	5.8	4.3	30.0
Rock Creek	Rock Creek	4	WET-KJ	0.1	7.2	5.6	4.5	7.3	5.6	7.3	0.1	0.6	6.0	5.4	6.5	20.0
Rock Creek	Rock Creek	4	WET-KP	0.01	7.2	3.8	2.7	5.3	4.6	4.2	0.0	0.6	6.0	4.4	0.0	10.0
Rock Creek	Rock Creek	4	WET-KS	0.02	6.7	4.2	2.3	4.6	6.5	5.6	0.0	0.6	5.1	3.4	3.3	20.0
Rock Creek	Rock Creek	4	WET-KX	0.1	5.0	4.0	3.0	4.1	4.8	4.0	0.1	0.6	5.3	3.6	6.3	20.0
Soapstone Valley	Rock Creek	3	WET-LG	0.08	6.4	3.7	3.3	6.0	5.6	5.8	0.0	0.6	6.6	7.4	5.5	10.0

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Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Theodore Roosevelt Island	Potomac River	2	WET-QI	23	7.3	6.0	3.4	7.3	6.7	4.9	3.3	0.6	5.6	8.0	7.8	30.0
Theodore Roosevelt Island	Potomac River	2	WET-QJ	5	7.3	6.0	3.4	7.3	6.7	4.9	2.3	0.6	5.5	7.8	7.8	30.0
None (South Dakota Ave NE & V St NE)	Anacostia River	5	WET-HR	0.03	4.6	1.8	0.9	3.4	4.1	2.7	0.0	0.6	6.4	6.3	0.0	10.0
None (33rd St NE & Ames Pl NE)	Anacostia River	5	WET-IB	0.01	5.0	2.7	0.5	3.6	4.8	4.4	0.0	0.6	5.7	6.1	0.0	10.0
None (cloverleaf of New York Ave NE to South Dakota Ave NE)	Anacostia River	5	WET-IF	1	3.2	2.0	0.9	2.7	1.8	1.0	0.7	0.6	8.0	6.7	0.0	10.0
None (near Howard University's School of Divinity)	Anacostia River	5	WET-JF	0.01	6.3	2.8	1.3	4.6	2.9	2.2	0.0	0.6	6.0	5.5	0.0	10.0
None (near Howard University's School of Divinity)	Anacostia River	5	WET-JI	0.02	6.3	3.2	1.4	2.7	4.4	2.8	0.0	0.6	6.6	5.5	0.0	10.0
None (South Dakota Ave NE &	Anacostia River	5	WET-JP	0.2	5.0	1.8	0.9	2.7	4.0	2.6	0.2	0.6	7.2	6.6	0.0	10.0

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Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
Jefferson St NE)																
None (Old Soldiers' Home)	Anacostia River	5	WET-VF	2	5.4	3.1	1.9	5.3	5.7	7.2	1.8	0.6	4.1	1.7	3.3	10.0
None (Old Soldiers' Home)	Anacostia River	5	WET-VI	0.1	7.7	3.9	1.3	4.0	3.1	1.5	0.1	0.6	5.3	1.5	0.0	10.0
None (Old Soldiers' Home)	Anacostia River	5	WET-VK	0.07	5.4	4.0	3.5	3.9	3.2	1.6	0.0	0.6	4.6	6.9	6.5	10.0
None (Old Soldiers' Home)	Anacostia River	5	WET-VN	0.1	7.7	3.9	1.3	4.0	3.1	1.5	0.1	0.6	5.3	1.5	0.0	10.0
None (north of M St SE and south of Southeast Blvd)	Anacostia River	6	WET-GC	0.7	5.5	2.8	1.3	2.1	2.1	1.0	0.6	0.6	5.2	6.2	4.3	20.0
None (north of M St SE and south of Southeast Blvd)	Anacostia River	6	WET-GD	0.5	5.0	3.2	0.9	4.0	3.3	1.5	0.5	0.6	7.9	6.6	0.0	10.0
None (Fort Baker Dr SE & W St SE)	Anacostia River	7	WET-AM	1.1	4.1	3.0	2.7	3.9	3.9	3.0	0.7	0.6	4.5	6.1	5.3	10.0
None (near Eastern Ave NE & Nash St NE)	Anacostia River	7	WET-BS	0.005	5.4	2.2	1.4	2.1	3.0	2.6	0.0	0.6	4.7	5.1	0.0	10.0

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Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
None (Park Dr SE & Hillcrest Dr SE)	Anacostia River	7	WET-CK	0.7	5.5	2.8	3.6	4.0	3.0	3.0	0.5	0.6	4.5	6.0	2.0	10.0
None (Pennsylvania Ave SE & 33rd St SE)	Anacostia River	7	WET-CM	0.3	5.4	2.6	3.3	3.9	2.9	2.7	0.2	0.6	3.3	5.8	3.0	10.0
None (near Burns St SE & Hildreth St SE)	Anacostia River	7	WET-CO	0.03	5.4	2.6	2.4	3.3	3.3	2.8	0.0	0.6	3.3	3.9	3.0	10.0
None (M Pl SE & 30th St SE)	Anacostia River	7	WET-CR	0.07	5.5	2.3	1.3	3.3	3.1	2.8	0.0	0.6	5.9	6.3	4.3	10.0
None (terminus of Anacostia Ave NE)	Anacostia River	7	WET-VR	0.7	6.7	4.2	2.5	5.1	4.3	2.6	0.6	0.6	7.2	6.6	0.0	10.0
None (near Ainger Pl SE & Langston Pl SE)	Anacostia River	8	WET-AL	0.02	5.4	2.3	0.5	2.1	2.5	2.6	0.0	0.6	6.0	2.5	0.0	10.0
None (near Stanton Rd SE & Bruce Pl SE)	Anacostia River	8	WET-BF, BG	0.1	3.7	2.1	1.7	2.7	3.0	2.6	0.1	0.6	5.7	5.2	0.0	10.0
None (near Stanton Rd SE & Dunbar Rd SE)	Anacostia River	8	WET-F	0.04	4.9	2.2	0.5	2.1	2.3	0.9	0.0	0.6	5.9	5.2	0.0	10.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method											
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
None (southwest of Suitland Pkwy & east of Martin Luther King Jr Ave SE)	Anacostia River	8	WET-H	0.06	5.8	3.6	1.4	2.1	2.2	1.1	0.0	0.6	5.3	6.1	3.0	10.0
None (48th St NW & W St NW)	Potomac River	3	WET-LN	0.06	5.4	2.3	2.4	2.7	4.3	2.7	0.1	0.6	5.7	6.2	2.0	10.0
None (Dalecarlia Pkwy NW & Warren Pl NW)	Potomac River	3	WET-MO, MP, MQ	0.04	6.7	5.1	2.1	5.3	3.3	2.1	0.0	0.6	4.6	6.0	6.5	10.0
None (German Embassy)	Potomac River	3	WET-NJ	0.06	5.4	2.2	1.5	3.3	3.8	4.4	0.0	0.6	5.1	3.4	0.0	10.0
None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NK, NL	0.06	4.5	2.7	0.9	4.7	4.9	4.7	0.1	0.6	5.3	5.4	0.0	10.0
None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NM	0.02	4.5	2.7	0.9	4.7	4.9	4.7	0.0	0.6	5.3	5.4	0.0	10.0
None (near Alabama Ave SE & 30th St SE)	Potomac River	7	WET-CG, CH	0.03	5.5	2.3	2.8	3.9	3.4	2.9	0.0	0.6	3.9	5.8	4.0	10.0
None (Savannah St SE & 25th St SE)	Potomac River	8	WET-AF	0.14	4.1	3.0	1.5	3.4	3.1	2.9	0.1	0.6	6.4	5.4	4.3	10.0

				Scores for Each Wetland Function Category Evaluated using the New Hampshire Method											
Wetland Group	**Watershed**	**Ward**	**Wetland ID**	**Size (acres)**	**Ecological Integrity**	**Wetland Wildlife Habitat**	**Fish & Aquatic Habitat**	**Scenic Quality**	**Educa-tional Potential**	**Wetland-based Recreation**	**Flood-water Storage**	**Ground-water**	**Sediment Trapping**	**Nutrient Transfor-mation**	**Shoreline Anchoring**	**Note-worthiness**
None (National Zoo)	Rock Creek	3	WET-NA	0.006	6.4	3.6	0.5	4.6	5.7	4.2	0.0	0.6	5.3	1.6	0.0	10.0
None (National Zoo)	Rock Creek	3	WET-NC	0.05	5.9	3.1	1.3	4.6	5.6	4.1	0.0	0.6	5.9	1.6	0.0	10.0
None (Klingle Rd NW & Cortland Pl NW)	Rock Creek	3	WET-ST	0.2	5.5	4.1	3.6	5.1	4.9	4.2	0.2	0.6	5.2	6.1	4.0	20.0

*References are provided for the lowest (L) and highest (H) scores recorded during the 2017 Wetland Conservation Plan update:
Ecological Integrity (L: 3.2; H: 9.1); Wetland Wildlife Habitat (L: 1.8; H: 7.8), Fish & Aquatic Habitat (L: 0.5; H: 4.8), Scenic Quality (L: 2.1; H: 8.6), Educational Potential (L: 1.6; H: 8.1), Wetland-based Recreation (L: 0.9; H: 8.6), Floodwater Storage (L: 0.0; H: 6.5), Groundwater (L: 0.6; H: 0.6), Sediment Trapping (L: 3.3; H: 8.6), Nutrient Transformation (L: 1.5; H: 8.8), Shoreline Anchoring (L: 0.0; H: 7.8), Noteworthiness (L: 10.0; H: 50.0).

2.2.1.2 District Wetland Function and Value Checklist Results

The District Wetland Function and Value Checklist (see Appendix J) evaluated 10 functions typically found in various wetland types. At each evaluated wetland, the presence or absence of these functions was recorded and assigned a relative value of either high, average, or low. These relative values are subjective determinations based on professional judgment that consider plant diversity, complexity of the habitat, amount of impacts to the resource, and the functions provided by a wetland. The diversity of plant species within a wetland was documented through the vegetation data collection section of each Wetland Determination Data Form. The completed Wetland Determination Data Forms are provided in Appendix E.

Of the 243 wetlands investigated during the field study, 113 were considered high relative value, 113 were considered average relative value, and 17 were considered low relative value (Table 2.7). Five wetlands were inaccessible at the time of fieldwork and could not be assessed using the District Wetland Function and Value Checklist. The high relative value wetlands totaled 254 acres, and the average relative value wetlands totaled 33 acres. Both high and average relative value wetlands were found in all three of the District's watersheds and in all four of the District's quadrants. Sixteen of the 23 wetland groups and six of the eight wards contain high relative value wetlands. Twenty of the 23 wetland groups and all of the eight wards contain average relative value wetlands. The low relative value wetlands totaled 0.24 acres, were only found in the Anacostia and Potomac River watersheds and in three of the four quadrants (NE, SE, and SW). Three of the 23 wetland groups and four of the eight wards contained low relative value wetlands.

Please note that the high, average, and low values assigned to individual wetlands are relative to the rest of the District's wetlands assessed during this study and are not comparable to other wetlands outside of the District. Figure 2-15 shows the relative value rating for each wetland and provides supplemental information including wetland group, corresponding watershed, ward, quadrant, OCTO tile number, Cowardin classification, and size.

Figure 2-15 is a map showing the location of high, average, and low relative value wetlands in the District. Please refer to the methods (Section 2.1.4) for specific definitions of high, average, and low relative value. The raw data for the District Wetland Function and Value Checklist is included in Appendix N.

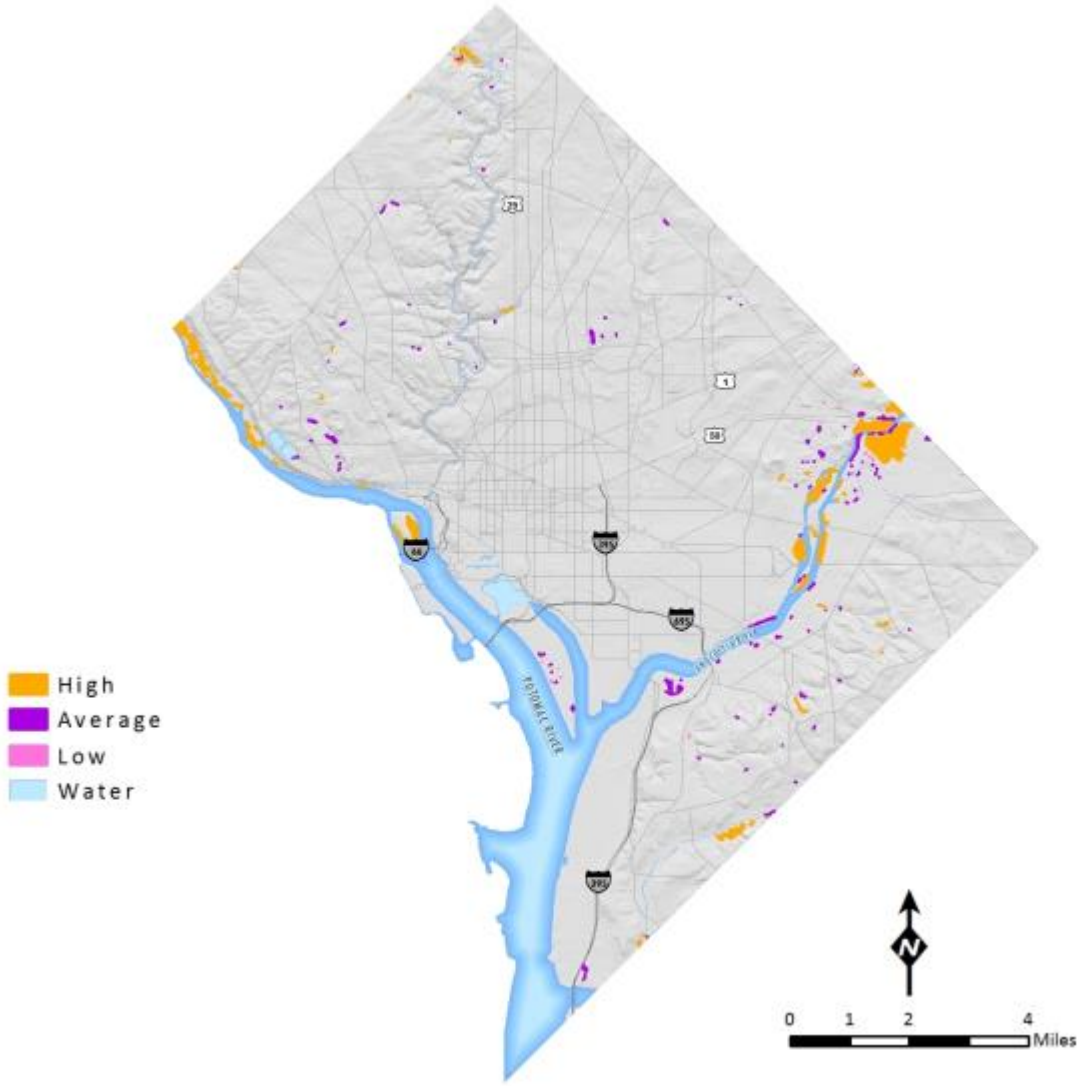

Figure 2-15 2017 relative value of mapped wetlands in the District.

Table 2.7 District Wetland Function and Value Checklist: Relative Value of Mapped District Wetlands

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Anacostia Park	Anacostia River	5	WET-QQ	PEM	0.04	2717	NE	Average
Anacostia Park	Anacostia River	5	WET-QT	PEM	0.04	2817	NE	Average
Anacostia Park	Anacostia River	5	WET-QX	PEM	0.01	2817	NE	Low
Anacostia Park	Anacostia River	7	WET-DQ	PFO, PSS, PEM	0.15	2713	SE	Average
Anacostia Park	Anacostia River	7	WET-DS	PFO, PEM	0.03	2714	SE	Average
Anacostia Park	Anacostia River	7	WET-SH	PFO, PEM, PUB	0.36	2817	NE	High
Anacostia Park	Anacostia River	7	WET-SJ	PFO	0.18	2817	NE	High
Anacostia Park	Anacostia River	7	WET-SQ	PSS	0.05	2917	NE	Average
Anacostia Park	Anacostia River	7	WET-UI	PEM	0.01	2917	NE	Low
Anacostia Park	Anacostia	7	WET-UJ	PFO, PEM	0.06	2917	NE	Average

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
	River							
Anacostia Park	Anacostia River	7	WET-UL	PSS	0.18	2917	NE	Average
Anacostia Park	Anacostia River	7	WET-UM	PFO, PEM	0.04	2917	NE	Average
Anacostia Park	Anacostia River	7	WET-UN	PFO	0.01	2817	NE	Average
Anacostia Park	Anacostia River	8	WET-DI	PEM	0.23	2512	SE	Average
Anacostia Park	Anacostia River	8	WET-DM	PEM	0.50	2613	SE	Average
Anacostia Park	Anacostia River	8	WET-DN	PEM	0.10	2613	SE	Average
Anacostia River	Anacostia River	7	WET-FK	PFO1Q, PUB3Q	0.92	2814	SE	Average
Anacostia River	Anacostia River	7	WET-FN	PEM1Q	11.10	2815	NE	High
Anacostia River	Anacostia River	7	WET-GY	PEM1Q	4.55	2714	SE	High
Anacostia River	Anacostia	7	WET-SE	PEM1Q	1.01	2816	NE	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
	River							
Anacostia River	Anacostia River	7	WET-SL	PEM2Q	0.86	2817	NE	High
Anacostia River	Anacostia River	7	WET-UP	PEM1Q	2.53	2918	NE	Average
Anacostia River	Anacostia River	7	WET-VD	PEM1Q	0.45	2816	NE	High
Anacostia River	Anacostia River	7	WET-VP*	PEM	1.87	3019	NE	N/A
Anacostia River Gateway	Anacostia River	5	WET-HV	PFO, PFO1b, PUB3b	7.40	3019	NE	High
Anacostia River Gateway	Anacostia River	5	WET-JE	PFO	1.58	3019	NE	Average
Anacostia River Gateway	Anacostia River	5	WET-YG	PFO1R, PEM1R, PUB	23.53	2919	NE	High
Anacostia River Gateway	Anacostia River	5	WET-ZX	PFO1Q	2.85	2919	NE	High
Arboretum	Anacostia River	5	WET-YH	PFO, PUB	0.24	2717	NE	High
Arboretum	Anacostia	5	WET-YI	PFO	0.17	2717	NE	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
	River							
Arboretum	Anacostia River	5	WET-YL	PEM	0.07	2718	NE	Average
Arboretum	Anacostia River	5	WET-YP*	PEM	0.04	2817	NE	N/A
Arboretum	Anacostia River	5	WET-YQ	PFO, PUB	0.29	2717	NE	High
Arboretum	Anacostia River	5	WET-YT	PFO, PUB	0.03	2718	NE	Average
Arboretum	Anacostia River	5	WET-YU	PUB	1.68	2818	NE	Average
Arboretum	Anacostia River	5	WET-YX	PUB	0.45	2818	NE	Average
Arboretum	Anacostia River	5	WET-ZE	PUB	0.71	2819	NE	Average
Arboretum	Anacostia River	5	WET-ZG	PEM, PUB	0.04	2819	NE	Average
Arboretum	Anacostia River	5	WET-ZH*	PUB	0.30	2617	NE	N/A
Arboretum	Anacostia	5	WET-ZI*	PUB	0.01	2718	NE	N/A

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
	River							
Bald Eagle Hill	Potomac River	8	WET-BD	PEM	0.05	2305	SW	Average
Bald Eagle Hill	Potomac River	8	WET-R	PFO	1.05	2305	SW	High
Bald Eagle Hill	Potomac River	8	WET-T	PFO	0.14	2305	SW	High
Broad Branch	Rock Creek	3	WET-LB	PFO, PUB	0.29	1724	NW	Average
Broad Branch	Rock Creek	3	WET-LC	PFO	0.17	1724	NW	Average
Dumbarton Oaks	Rock Creek	2	WET-NH	PFO	0.005	1619	NW	Average
Fort Dupont Tributary	Anacostia River	7	WET-DA	PFO	0.003	2913	SE	High
Fort Dupont Tributary	Anacostia River	7	WET-DB	PFO	0.001	2913	SE	High
Fort Dupont Tributary	Anacostia River	7	WET-DC	PFO	0.002	2913	SE	High
Fort Dupont Tributary	Anacostia River	7	WET-ER	PFO	0.37	2913	SE	High
Fort Dupont Tributary	Anacostia River	7	WET-ET	PFO	0.01	2913	SE	High
Fort Dupont Tributary	Anacostia	7	WET-EU	PFO	0.01	2913	SE	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
	River							
Fort Dupont Tributary	Anacostia River	7	WET-EV	PFO	0.01	2913	SE	High
Fort Dupont Tributary	Anacostia River	7	WET-FB	PEM	0.11	2814	SE	Average
Fort Dupont Tributary	Anacostia River	7	WET-FH	PFO	0.03	2914	SE	High
Fort Dupont Tributary	Anacostia River	7	WET-FI	PFO	0.01	2814	SE	Average
Fort Dupont Tributary	Anacostia River	7	WET-FJ	PFO, PEM	0.38	2814	SE	High
Fort Lincoln	Anacostia River	5	WET-IH	PEM, PUB	2.67	2920	NE	High
Fort Lincoln	Anacostia River	5	WET-IO	PFO	0.03	2920	NE	Average
Fort Lincoln	Anacostia River	5	WET-IP	PFO	0.03	2920	NE	High
Fort Lincoln	Anacostia River	5	WET-IQ	PFO	0.01	2920	NE	High
Fort Lincoln	Anacostia	5	WET-IT	PFO	0.46	2920	NE	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
	River							
Fort Lincoln	Anacostia River	5	WET-IU	PFO	0.03	2920	NE	Average
Fort Stanton Park	Anacostia River	8	WET-BJ	PFO	0.03	2711	SE	Average
Fort Stanton Park	Anacostia River	8	WET-BK	PFO	0.04	2711	SE	Average
Fort Stanton Park	Anacostia River	8	WET-BL	PFO	0.11	2711	SE	Average
Fort Stanton Park	Anacostia River	8	WET-BM	PFO	0.06	2711	SE	Average
Fort Stanton Park	Anacostia River	8	WET-BX	PSS	0.14	2611	SE	Average
Foundry Branch	Potomac River	3	WET-LT	PFO	0.16	1521	NW	Average
Foundry Branch	Potomac River	3	WET-LW	PFO	0.37	1521	NW	High
Foundry Branch	Potomac River	3	WET-LX	PFO	0.02	1520	NW	Average
Foundry Branch	Potomac River	3	WET-LZ	PFO	0.32	1519	NW	High
Foundry Branch	Potomac River	3	WET-MA	PFO	0.27	1519	NW	Average

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Foundry Branch	Potomac River	3	WET-MC	PFO	0.003	1519	NW	High
Foundry Branch	Potomac River	3	WET-ME	PFO	0.15	1518	NW	Average
Foundry Branch	Potomac River	3	WET-MG	PFO	0.02	1518	NW	Average
Foundry Branch	Potomac River	3	WET-MH	PFO	1.90	1518	NW	Average
Foundry Branch	Potomac River	3	WET-MI	PFO	0.04	1517	NW	Average
Foundry Branch	Potomac River	3	WET-MJ	PFO	0.13	1518	NW	Average
Foundry Branch	Potomac River	3	WET-MR	PFO, PEM	0.57	1419	NW	Average
Hains Point	Potomac River	2	WET-VV	PEM	0.29	2113	SW	Average
Hains Point	Potomac River	2	WET-VW	PEM	0.01	2113	SW	Low
Hains Point	Potomac River	2	WET-WW	PEM	0.002	2112	SW	Low
Hains Point	Potomac River	2	WET-XE	PFO, PEM	0.17	2111	SW	Average
Hains Point	Potomac River	2	WET-XI	PEM	0.01	2112	SW	Low
Hains Point	Potomac River	2	WET-XL	PEM	0.06	2112	SW	Average
Hains Point	Potomac River	2	WET-XN	PEM	0.03	2112	SW	Average
Hains Point	Potomac River	2	WET-XQ	PEM	0.02	2112	SW	Low

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Hains Point	Potomac River	2	WET-XY	PEM	0.15	2112	SW	Average
Hains Point	Potomac River	2	WET-YC	PEM	0.001	2012	SW	Low
Kenilworth	Anacostia River	7	WET-SW	PEM	0.01	2917	NE	Average
Kenilworth	Anacostia River	7	WET-SZ	PEM	0.01	2917	NE	Average
Kenilworth	Anacostia River	7	WET-TD	PEM	0.13	2918	NE	Average
Kenilworth	Anacostia River	7	WET-TI	PEM	0.01	2918	NE	Low
Kenilworth	Anacostia River	7	WET-TK	PFO	0.09	2917	NE	Average
Kenilworth	Anacostia River	7	WET-TL	PEM	0.04	2918	NE	Low
Kenilworth	Anacostia River	7	WET-TN	PEM	0.01	2918	NE	Low
Kenilworth	Anacostia River	7	WET-TP	PEM	0.004	2918	NE	Low
Kenilworth	Anacostia River	7	WET-TQ	PEM	0.02	2918	NE	Low

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Kenilworth	Anacostia River	7	WET-TR	PEM	0.02	2918	NE	Average
Kenilworth	Anacostia River	7	WET-TU	PEM	0.07	2918	NE	Average
Kenilworth	Anacostia River	7	WET-UA	PFO	0.13	2917	NE	Average
Kenilworth	Anacostia River	7	WET-UD	PEM	0.01	2917	NE	Low
Kenilworth	Anacostia River	7	WET-UE	PEM	0.03	2917	NE	Average
Kenilworth	Anacostia River	7	WET-UO	PFO, PEM, PEM1Q, PEM2Q	67.72	3018	NE	High
Kenilworth	Anacostia River	7	WET-UQ	PFO1S	0.25	2918	NE	Average
Kenilworth	Anacostia River	7	WET-UR	PFO1S	0.27	2918	NE	Average
Kenilworth	Anacostia River	7	WET-US	PFO1S	1.52	3018	NE	Average
Kenilworth	Anacostia River	7	WET-UU	PFO	1.85	3018	NE	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Kenilworth	Anacostia River	7	WET-UV	PFO	0.19	3018	NE	High
Kenilworth	Anacostia River	7	WET-UW	PEM	6.18	3018	NE	High
Kenilworth	Anacostia River	7	WET-VQ	PEM	4.10	3018	NE	High
Kingman and Heritage Islands	Anacostia River	5	WET-RC	PEM2Q	1.71	2817	NE	High
Kingman and Heritage Islands	Anacostia River	5	WET-RE	PEM2Q	0.22	2817	NE	High
Kingman and Heritage Islands	Anacostia River	5	WET-RF	PEM2Q	2.31	2817	NE	High
Kingman and Heritage Islands	Anacostia River	5	WET-RK	PFO, PUB	0.36	2817	NE	Average
Kingman and Heritage Islands	Anacostia River	5	WET-RQ	PEM2Q	8.77	2817	NE	High
Kingman and Heritage Islands	Anacostia River	5	WET-RZ	PEM2Q	1.83	2817	NE	High
Kingman and Heritage Islands	Anacostia River	7	WET-FR	PFO	0.21	2716	NE	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Kingman and Heritage Islands	Anacostia River	7	WET-FS	PEM2Q	6.55	2715	NE	High
Kingman and Heritage Islands	Anacostia River	7	WET-FT	PFO, PEM	0.66	2715	NE	High
Kingman and Heritage Islands	Anacostia River	7	WET-FX	PEM	0.06	2716	NE	Average
Kingman and Heritage Islands	Anacostia River	7	WET-FY	PEM2Q	4.57	2716	NE	High
Kingman and Heritage Islands	Anacostia River	7	WET-GV	PFO	0.002	2715	SE	Average
Kingman and Heritage Islands	Anacostia River	7	WET-GW	PFO1S	0.18	2715	SE	Average
Kingman and Heritage Islands	Anacostia River	7	WET-HA	PFO	0.004	2715	SE	Average
Kingman and Heritage Islands	Anacostia River	7	WET-JG	PFO	0.38	2816	NE	High
Kingman and Heritage Islands	Anacostia River	7	WET-QD	PFO	0.05	2816	NE	High
Kingman and Heritage Islands	Anacostia River	7	WET-QE	PFO	0.12	2816	NE	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Kingman and Heritage Islands	Anacostia River	7	WET-QF	PFO	0.004	2816	NE	High
Kingman and Heritage Islands	Anacostia River	7	WET-QG	PFO	0.01	2816	NE	High
Oxon Hill	Potomac River	8	WET-I	PEM	0.25	2204	SW	Average
Oxon Hill	Potomac River	8	WET-J	PUB	0.04	2204	SW	Average
Oxon Hill	Potomac River	8	WET-K	PFO	0.06	2204	SW	Average
Oxon Hill	Potomac River	8	WET-L	PFO	0.02	2204	SW	Average
Oxon Hill	Potomac River	8	WET-O	PFO, PEM	0.20	2204	SW	Average
Oxon Hill	Potomac River	8	WET-P	PFO	0.05	2204	SW	Average
Oxon Hill	Potomac River	8	WET-Q	PFO	0.03	2204	SW	Average
Oxon Run	Potomac River	8	WET-AT	PFO	9.68	2508	SE	High
Oxon Run	Potomac River	8	WET-AU	PFO	0.28	2608	SE	High
Oxon Run	Potomac River	8	WET-AV	PFO	1.67	2608	SE	High
Oxon Run	Potomac River	8	WET-AZ	PFO	0.64	2608	SE	High
Oxon Run	Potomac River	8	WET-BA	PFO	0.06	2608	SE	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Oxon Run	Potomac River	8	WET-BB	PFO	0.07	2608	SE	High
Oxon Run	Potomac River	8	WET-BC	PFO	0.51	2608	SE	Average
Pinehurst Branch	Rock Creek	4	WET-LF	PFO	0.08	1727	NW	High
Piney Branch	Rock Creek	1	WET-LS	PFO, PSS	0.08	1921	NW	Average
Piney Branch	Rock Creek	4	WET-LP	PEM	0.03	2022	NW	High
Piney Branch	Rock Creek	4	WET-LQ	PFO	0.31	2022	NW	High
Poplar Point	Anacostia River	8	WET-DE	PEM	2.11	2412	SE	Average
Poplar Point	Anacostia River	8	WET-DF	PFO	3.43	2412	SE	Average
Poplar Point	Anacostia River	8	WET-DG	PSS	0.06	2412	SE	Average
Poplar Point	Anacostia River	8	WET-DH	PFO	0.18	2412	SE	Average
Potomac River Floodplain	Potomac River	2	WET-NS	PFO	0.83	1617	NW	High
Potomac River Floodplain	Potomac River	2	WET-NT	PFO	0.01	1617	NW	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Potomac River Floodplain	Potomac River	3	WET-NU	PFO1S, PEM1Q	1.50	1319	NW	High
Potomac River Floodplain	Potomac River	3	WET-NV	PFO1S	2.97	1318	NW	High
Potomac River Floodplain	Potomac River	3	WET-NW	PSS1S	1.31	1318	NW	High
Potomac River Floodplain	Potomac River	3	WET-NY	PFO	0.41	1319	NW	High
Potomac River Floodplain	Potomac River	3	WET-NZ	PFO	1.04	1318	NW	High
Potomac River Floodplain	Potomac River	3	WET-OB	PFO1S	0.05	1417	NW	High
Potomac River Floodplain	Potomac River	3	WET-OC	PFO	0.05	1418	NW	High
Potomac River Floodplain	Potomac River	3	WET-OD	PFO	0.28	1418	NW	High
Potomac River Floodplain	Potomac River	3	WET-OE	PFO	0.02	1318	NW	High
Potomac River Floodplain	Potomac River	3	WET-OF	PFO	0.15	1318	NW	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Potomac River Floodplain	Potomac River	3	WET-OG	PFO	0.10	1318	NW	High
Potomac River Floodplain	Potomac River	3	WET-OK	PFO	1.36	1219	NW	High
Potomac River Floodplain	Potomac River	3	WET-OL	PFO	0.10	1219	NW	High
Potomac River Floodplain	Potomac River	3	WET-OM	PFO	0.02	1219	NW	High
Potomac River Floodplain	Potomac River	3	WET-ON	PFO	0.01	1219	NW	High
Potomac River Floodplain	Potomac River	3	WET-OO	PFO	0.04	1219	NW	High
Potomac River Floodplain	Potomac River	3	WET-OP	PFO	1.44	1220	NW	High
Potomac River Floodplain	Potomac River	3	WET-OQ	PFO1S	0.61	1220	NW	High
Potomac River Floodplain	Potomac River	3	WET-OR	PFO	0.03	1220	NW	High
Potomac River Floodplain	Potomac River	3	WET-OU	PFO	0.14	1220	NW	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Potomac River Floodplain	Potomac River	3	WET-OW	PFO	0.17	1220	NW	High
Potomac River Floodplain	Potomac River	3	WET-OX	PFO, PUB	6.17	1220	NW	High
Potomac River Floodplain	Potomac River	3	WET-PA	PFO	1.03	1120	NW	High
Potomac River Floodplain	Potomac River	3	WET-PC	PFO1S, PUB3S	0.30	1220	NW	High
Potomac River Floodplain	Potomac River	3	WET-PD	PFO	0.04	1220	NW	High
Potomac River Floodplain	Potomac River	3	WET-PE	PFO	0.02	1220	NW	High
Potomac River Floodplain	Potomac River	3	WET-PF	PFO	0.05	1120	NW	High
Potomac River Floodplain	Potomac River	3	WET-PG	PFO	0.04	1120	NW	High
Potomac River Floodplain	Potomac River	3	WET-PH	PFO	0.01	1120	NW	High
Potomac River Floodplain	Potomac River	3	WET-PI	PFO	0.01	1120	NW	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Potomac River Floodplain	Potomac River	3	WET-PJ	PFO	0.35	1120	NW	High
Potomac River Floodplain	Potomac River	3	WET-PL	PFO	0.36	1121	NW	High
Potomac River Floodplain	Potomac River	3	WET-PN	PFO	0.01	1121	NW	High
Potomac River Floodplain	Potomac River	3	WET-PO	PFO, PUB	7.48	1121	NW	High
Potomac River Floodplain	Potomac River	3	WET-PP	PUB	0.10	1221	NW	High
Potomac River Floodplain	Potomac River	3	WET-PQ	PSS	0.22	1121	NW	High
Potomac River Floodplain	Potomac River	3	WET-PR	PFO, PSS, PUB	12.11	1121	NW	High
Rock Creek	Rock Creek	4	WET-JX	PFO	0.05	1928	NW	Average
Rock Creek	Rock Creek	4	WET-JY	PFO	0.18	1928	NW	High
Rock Creek	Rock Creek	4	WET-JZ	PFO	4.08	1928	NW	High
Rock Creek	Rock Creek	4	WET-KA	PFO	0.17	1829	NW	High
Rock Creek	Rock Creek	4	WET-KB	PFO	0.005	1828	NW	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Rock Creek	Rock Creek	4	WET-KC	PFO	0.10	1828	NW	High
Rock Creek	Rock Creek	4	WET-KF	PFO	0.35	1828	NW	High
Rock Creek	Rock Creek	4	WET-KG	PFO	0.11	1828	NW	Average
Rock Creek	Rock Creek	4	WET-KH	PFO	0.11	1828	NW	High
Rock Creek	Rock Creek	4	WET-KI	PFO	0.46	1828	NW	High
Rock Creek	Rock Creek	4	WET-KJ	PFO, PEM	0.09	1927	NW	Average
Rock Creek	Rock Creek	4	WET-KP	PFO	0.01	1827	NW	Average
Rock Creek	Rock Creek	4	WET-KS	PFO	0.02	1826	NW	High
Rock Creek	Rock Creek	4	WET-KX	PUB	0.13	1925	NW	Average
Soapstone Valley	Rock Creek	3	WET-LG	PFO	0.08	1722	NW	Average
Soapstone Valley	Rock Creek	3	WET-LJ*	PEM	0.04	1622	NW	N/A
Theodore Roosevelt Island	Potomac River	2	WET-QI	PFO1S, PEM2Q	22.55	1716	NW	High
Theodore Roosevelt Island	Potomac River	2	WET-QJ	PFO1S	4.68	1715	NW	High
None (South Dakota Ave NE & V St NE)	Anacostia River	5	WET-HR	PEM	0.03	2819	NE	Low

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
None (33rd St NE & Ames Pl NE)	Anacostia River	5	WET-IB	PEM	0.01	2819	NE	Low
None (cloverleaf of New York Ave NE to South Dakota Ave NE)	Anacostia River	5	WET-IF	PEM	1.27	2919	NE	Average
None (near Howard University's School of Divinity)	Anacostia River	5	WET-JF	PFO	0.01	2622	NE	Average
None (near Howard University's School of Divinity)	Anacostia River	5	WET-JI	PFO	0.02	2522	NE	Average
None (South Dakota Ave NE & Jefferson St NE)	Anacostia River	5	WET-JP	PFO	0.20	2424	NE	Average
None (Old Soldiers' Home)	Anacostia River	5	WET-VF	PUB	2.00	2221	NW	Average
None (Old Soldiers' Home)	Anacostia River	5	WET-VI	PUB	0.13	2221	NW	Average
None (Old Soldiers' Home)	Anacostia River	5	WET-VK	PFO, PEM	0.07	2221	NW	Average

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
None (Old Soldiers' Home)	Anacostia River	5	WET-VN	PEM, PUB	0.11	2221	NW	Average
None (north of M St SE and south of Southeast Blvd)	Anacostia River	6	WET-GC	PFO	0.66	2613	SE	Average
None (north of M St SE and south of Southeast Blvd)	Anacostia River	6	WET-GD	PSS	0.52	2613	SE	Average
None (Fort Baker Dr SE & W St SE)	Anacostia River	7	WET-AM	PFO	1.13	2711	SE	High
None (near Eastern Ave NE & Nash St NE)	Anacostia River	7	WET-BS	PSS	0.005	3217	NE	Low
None (Park Dr SE & Hillcrest Dr SE)	Anacostia River	7	WET-CK	PSS	0.66	2712	SE	Average
None (Pennsylvania Ave SE & 33rd St SE)	Anacostia River	7	WET-CM	PFO	0.32	2812	SE	Average
None (near Burns St SE & Hildreth St SE)	Anacostia River	7	WET-CO	PFO	0.03	3013	SE	Average
None (M Pl SE & 30th St SE)	Anacostia River	7	WET-CR	PEM	0.07	2813	SE	Average

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
None (terminus of Anacostia Ave NE)	Anacostia River	7	WET-VR	PFO, PSS, PEM	0.67	3118	NE	Average
None (near Ainger Pl SE & Langston Pl SE)	Anacostia River	8	WET-AL	PEM	0.02	2710	SE	Average
None (near Stanton Rd SE & Bruce Pl SE)	Anacostia River	8	WET-BF	PFO, PEM	0.04	2610	SE	Average
None (near Stanton Rd SE & Bruce Pl SE)	Anacostia River	8	WET-BG	PFO	0.05	2610	SE	Average
None (near Stanton Rd SE & Dunbar Rd SE)	Anacostia River	8	WET-F	PEM	0.04	2410	SE	Low
None (southwest of Suitland Pkwy & east of Martin Luther King Jr Ave SE)	Anacostia River	8	WET-H	PFO, PEM	0.06	2510	SE	Average
None (48th St NW & W St NW)	Potomac River	3	WET-LN	PFO	0.06	1419	NW	Average
None (Dalecarlia Pkwy NW & Warren Pl NW)	Potomac River	3	WET-MO	PFO	0.01	1223	NW	High
None (Dalecarlia Pkwy NW & Warren	Potomac River	3	WET-MP	PFO	0.02	1223	NW	High

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
Pl NW)								
None (Dalecarlia Pkwy NW & Warren Pl NW)	Potomac River	3	WET-MQ	PFO	0.01	1223	NW	High
None (German Embassy)	Potomac River	3	WET-NJ	PUB	0.06	1418	NW	Average
None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NK	PEM	0.06	1418	NW	Average
None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NL	PFO	0.01	1418	NW	Average
None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NM	PSS	0.02	1418	NW	Average
None (near Alabama Ave SE & 30th St SE)	Potomac River	7	WET-CG	PFO	0.01	2811	SE	Average
None (near Alabama Ave SE & 30th St SE)	Potomac River	7	WET-CH	PFO	0.02	2811	SE	Average

Wetland Group	Watershed	Ward	Wetland ID	Cowardin Classification	Size (acres)	OCTO Tile Number	Quadrant	Rating
None (Savannah St SE & 25th St SE)	Potomac River	8	WET-AF	PFO	0.14	2709	SE	Average
None (National Zoo)	Rock Creek	3	WET-NA	PUB	0.01	1821	NW	Average
None (National Zoo)	Rock Creek	3	WET-NC	PUB	0.05	1920	NW	Average
None (Klingle Rd NW & Cortland Pl NW)	Rock Creek	3	WET-ST	PFO, PUB	0.20	1721	NW	Average

*The District Wetland Function and Value Checklist was not performed at these wetlands because they were inaccessible.
Note: The table is sorted by wetland group, watershed, ward, and then wetland ID. Site IDs were assigned in alphabetical order during field work, but not all sites investigated were determined to be wetlands; therefore, the Wetland ID column does not contain every site ID investigated during this study.

The District Wetland Function and Value Checklist data were also analyzed by wetland group, watershed, ward, and quadrant (see Figure 2-16, Figure 2-17, Figure 2-18, and Figure 2-19, respectively). When analyzing the data totals by wetland group, Potomac River Floodplain had the largest percentage of high relative value wetlands, Anacostia Park had the largest percentage of average relative value wetlands, and Kenilworth had the largest percentage of low relative value wetlands. Please note that these results do not include the "None" group (i.e., wetlands not assigned to a specific group).

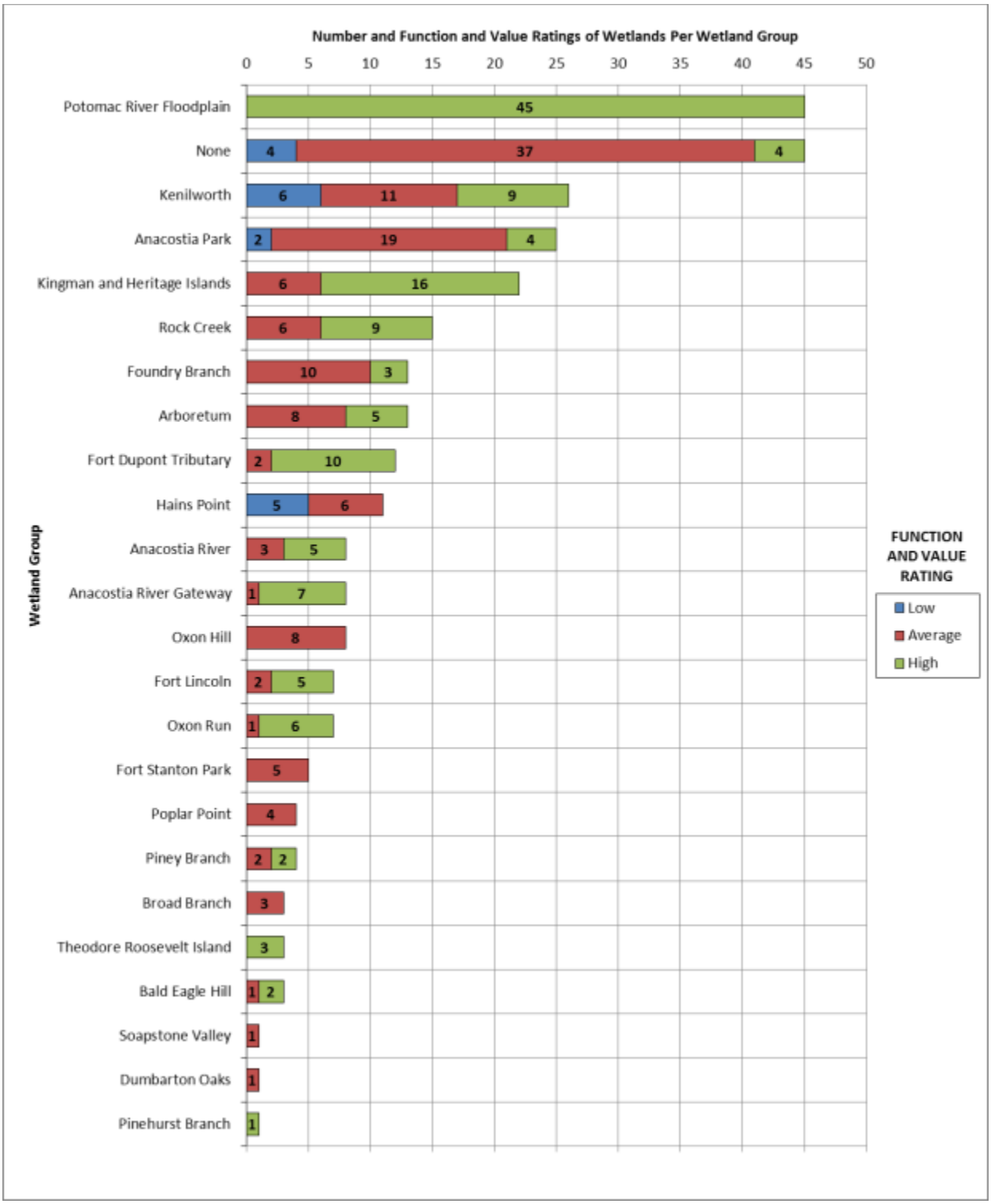

Figure 2-16 District Wetland Function and Value Checklist: 2017 mapped wetland relative value count per wetland group.

When analyzing the data totals by watershed, Potomac River and Anacostia River had the same percentage of high relative value wetlands and Anacostia River had the largest percentages of average and low relative value wetlands. No low relative value wetlands were found in the Rock Creek watershed (see Table 2.7 for the number of wetlands per watershed).

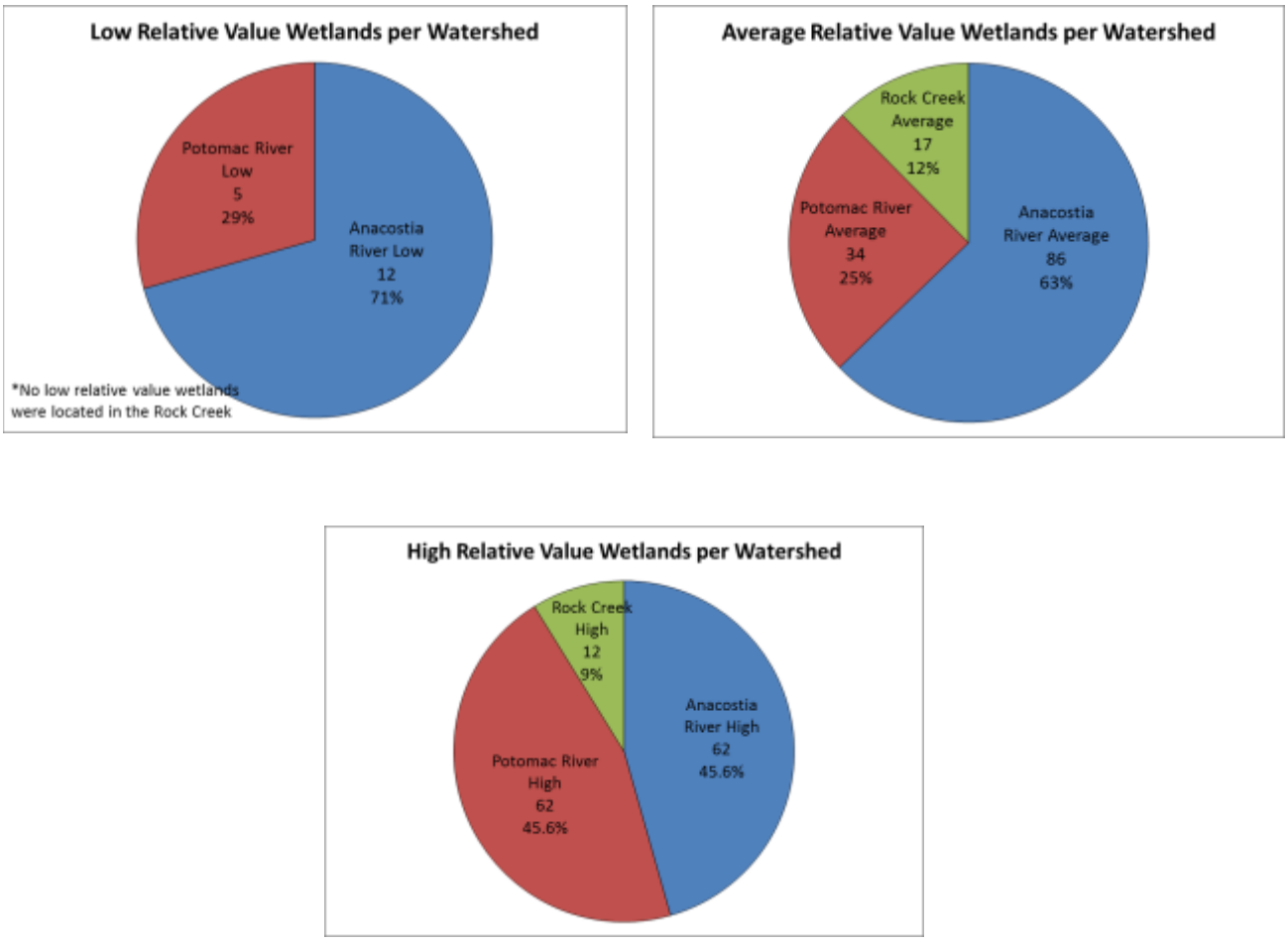

Figure 2-17 District Wetland Function and Value Checklist; 2017 mapped wetland relative value percentage by watershed.

When analyzing the data totals by ward, Ward 3 had the largest percentage of high relative value wetlands (with no high relative value wetlands in Wards 1 or 6) and Ward 7 had the largest percentages of average and low relative value wetlands (with

no low relative value wetlands found in Wards 1, 3, 4, or 6). See Table 2.8 for the number of wetlands per wetland group.

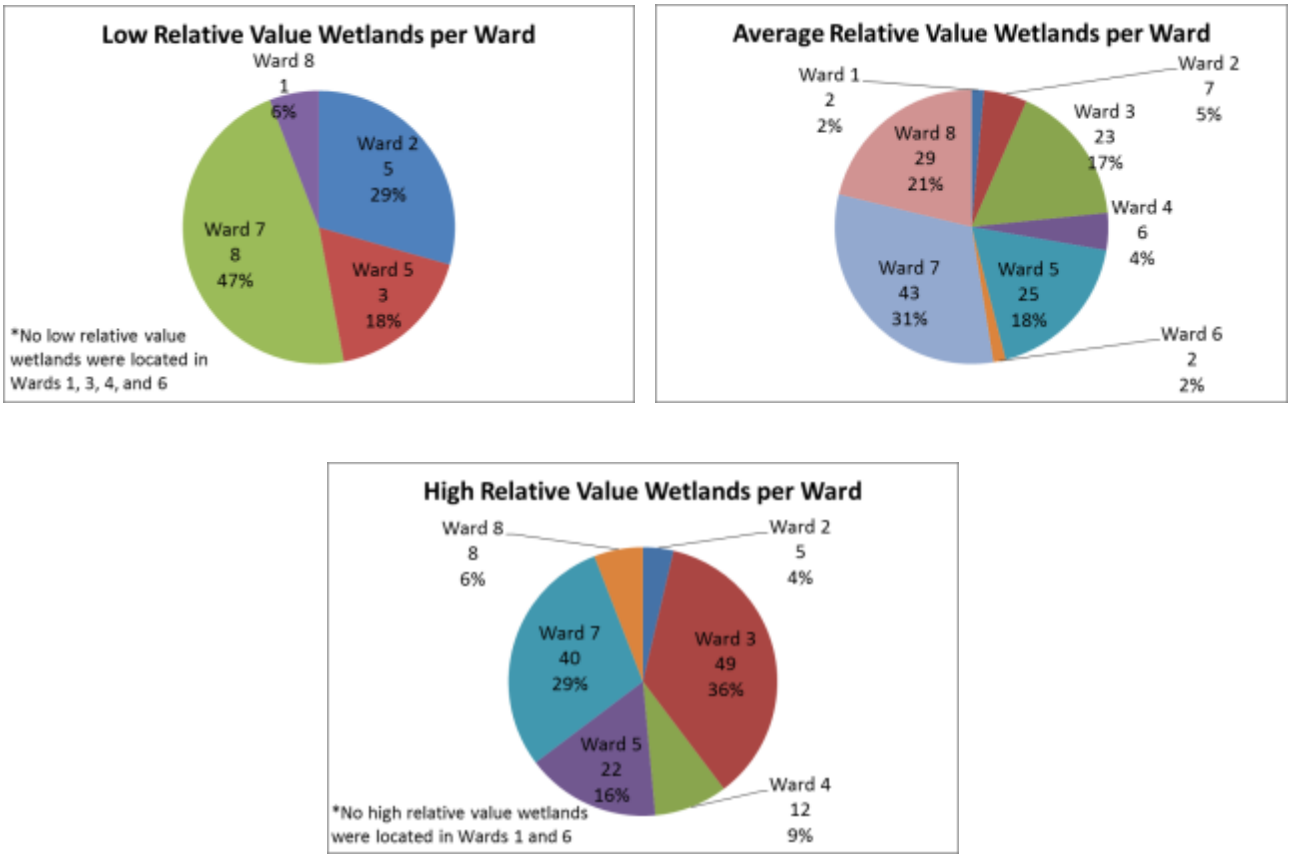

Figure 2-18 District Wetland Function and Value Checklist; 2017 mapped wetland relative value percentage by ward.

When analyzing the data totals by quadrant, NW had the largest percentage of high relative value wetlands, SE had the largest percentage of average relative value wetlands (NE was second), and NE had the largest percentage of low relative value wetlands. There were no low relative value wetlands found in NW (see Table 2.8 for the number of wetlands per relative wetland value per quadrant).

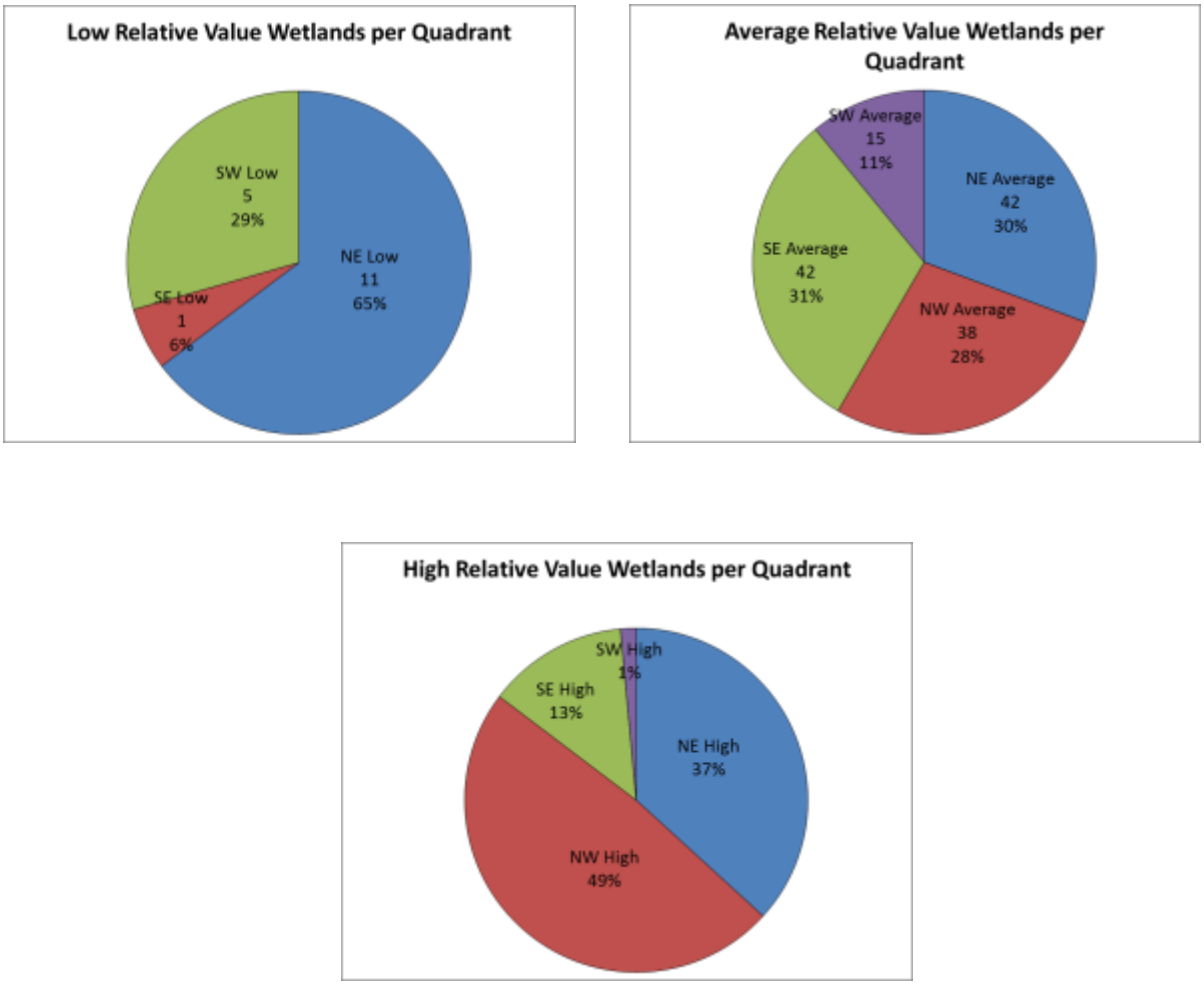

Figure 2-19 District Wetland Function and Value Checklist: 2017 mapped wetland relative value percentage by quadrant.

Table 2.8 Wetland Relative Value by Wetland Group

Wetland Group	Number of Wetlands		
	High Relative Value	Average Relative Value	Low Relative Value
Anacostia Park	2	12	2
Anacostia River	5	2	0
Anacostia River Gateway	3	1	0
Arboretum	3	6	0
Bald Eagle Hill	2	3	0
Dumbarton Oaks	0	1	0
Fort Dupont Tributary	9	2	0

Wetland Group	Number of Wetlands		
	High Relative Value	Average Relative Value	Low Relative Value
Fort Lincoln	4	2	0
Fort Stanton Park	0	5	0
Foundry Branch	3	9	0
Hains Point	0	5	5
Kenilworth	5	11	6
Kingman and Heritage Islands	14	5	0
No Group	4	30	4
Oxon Hill	6	8	0
Pinehurst Branch	1	0	0
Piney Branch	2	1	0
Poplar Point	0	4	0
Potomac River Floodplain	39	0	0
Rock Creek	9	5	0
Soapstone Valley	0	1	0
Theodore Roosevelt Island	2	0	0

2.2.2 DOEE Additional Information Checklist

A significant benefit of the 2017 field study is that the greater ability to collect a variety of data through advanced technology is useful to all types of stakeholders, including District residents, agencies, and volunteers. One of the many data categories collected during this study included wildlife evidence observed at each wetland (e.g., visual of the animal, tracks, scat). Figure 2-20 displays the study results in a map, which helps to show that all types of wetlands found in the District provide habitat for wildlife (forested versus mowed and high relative value versus low relative value). The focus of the field study was to assess wetlands, not wildlife, therefore official wildlife surveys were not conducted. However, incidental observations of wildlife were noted, such as animal tracks in wetlands or wildlife sightings. For more information regarding the District's wildlife, please see the District's Wildlife Action Plan (Ossi et al. 2015).

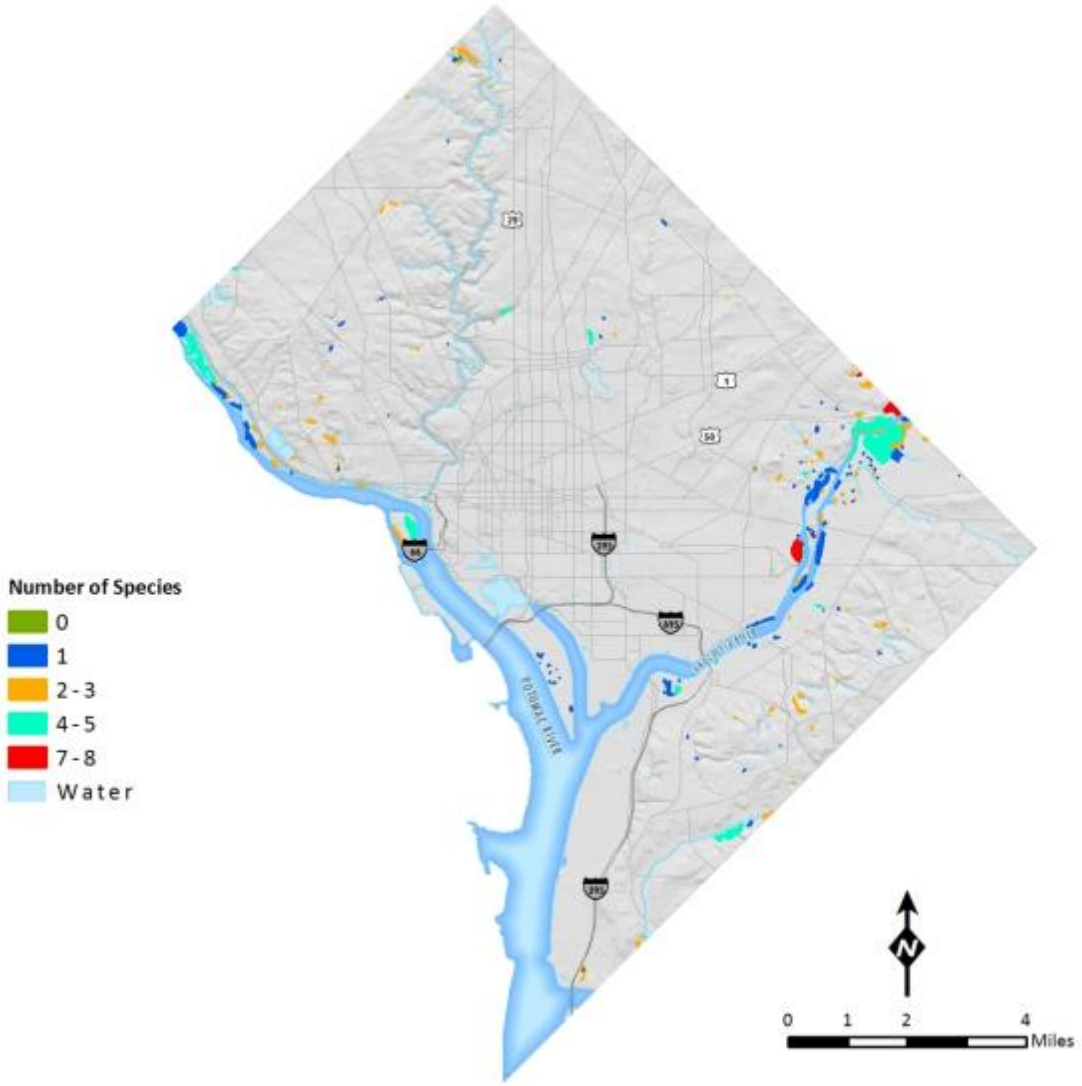

Figure 2-20 2017 incidental wildlife observations per mapped wetland.

The amount of trash present in each wetland relative to all wetlands assessed during this study was recorded as either none, slight, moderate, or severe. The relative amount of invasive species found in each wetland, was recorded on the DOEE Additional Information Checklist (see Appendix K). This information can help to efficiently direct level of effort during future volunteer trash cleanup and invasive species management events. Figure 2-21and the eight detail maps in Appendix O display the wetlands that contain trash as well as the relative amount of trash. Figure 2-22 and the eight detail maps in Appendix O show the location of the wetlands that contained invasive species as well as the number of different species present.

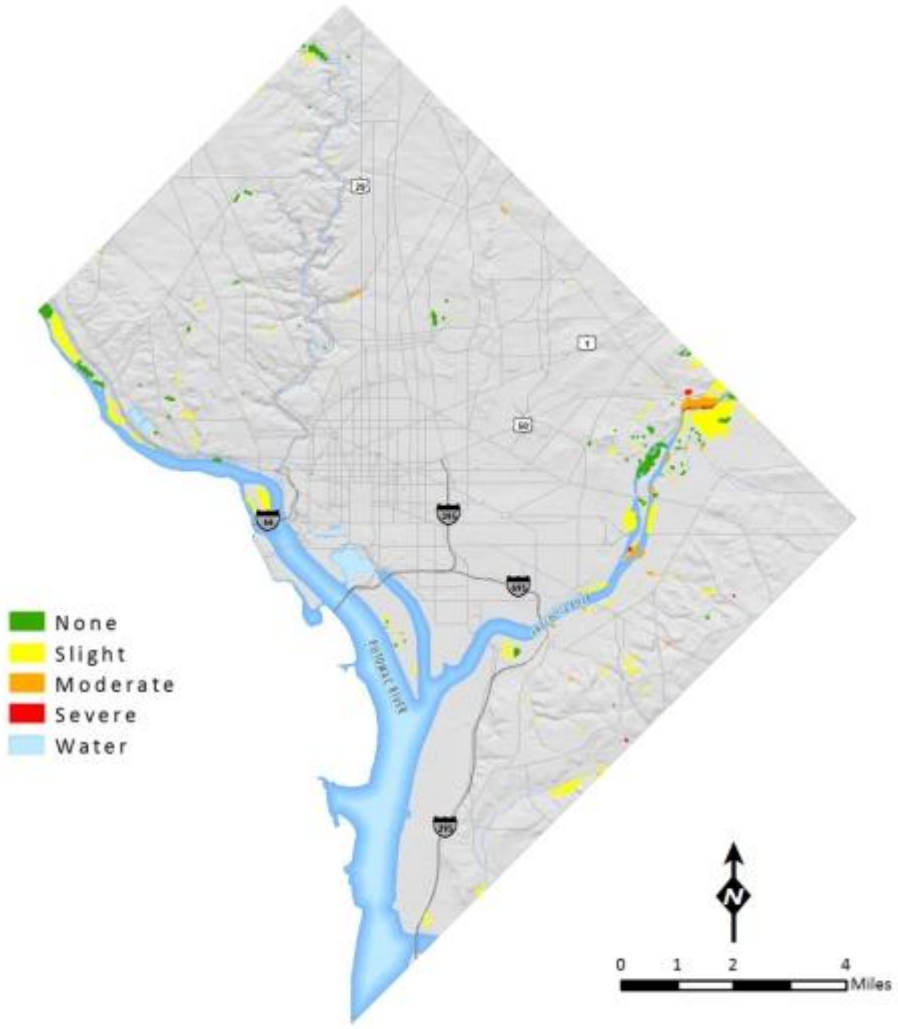

Figure 2-21 2017 relative amount of trash observed per mapped wetland.

Trash is a large source of pollutants in the District's streams and wetlands. Opportunities for clean-up projects are abundant.

Oxon Run near Bald Eagle Hill Wetland Group

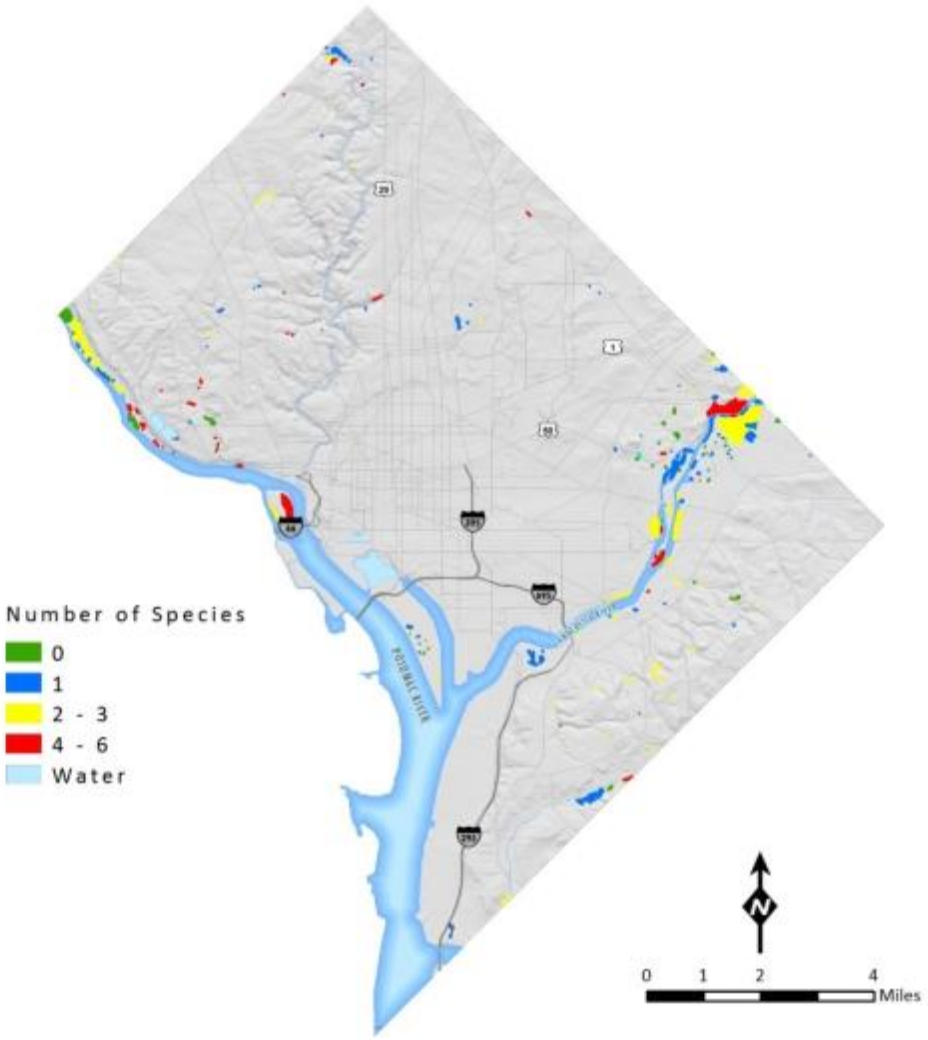

Figure 2-22 2017 number of invasive plant species observed per mapped wetland.

Invasive species like *Phragmites australis* threaten habitat diversity and native species.

2.2.3 Potential Restoration and Enhancement of the District's Wetlands

The Wetland Enhancement and Restoration Evaluation (WERE) Tool was used to evaluate the enhancement or restoration potential for all accessible wetlands. Five wetlands were inaccessible and were not evaluated using the WERE tool. Three areas exhibited evidence of historic wetland characteristics and were considered potential creation sites. One wetland (WET-LB) was assigned two tool scores because one portion of the wetland could benefit from a higher level of enhancement than the rest the wetland.

In Table 2.9, the Site ID rows are sorted from highest to lowest WERE tool score. Sites that have scores in Category 1 represent wetland areas that could benefit from varying levels of enhancement. As scores increase, the level of enhancement that is needed increases into levels of restoration. Of the 243 wetland areas that fit into Category 1, 46 sites received a score of zero; therefore no work is necessary or recommended in these areas. Categories 2–4 correspond to wetland areas that could benefit from restoration. One site was given a Category 2 score, which generally involves restoring the hydrology source. The two sites that ranked in Category 3 contained excess fill that could be removed during a restoration effort. One wetland was ranked as Category 4 because a new hydrology source would be necessary for restoration.

Figure 2-23 shows the District's mapped wetlands by land-ownership type: private; NPS; or public, which includes federal government, District government, or both. Appendix O

includes eight detail maps showing the District wetlands by owner type. These maps show that the majority of the potential restoration and enhancement sites are located on NPS property. Table 2.9 provides site-specific comments and details that correspond with each WERE tool score, including site ID, wetland group, Cowardin classification (where applicable), location/watershed information, and land ownership information.

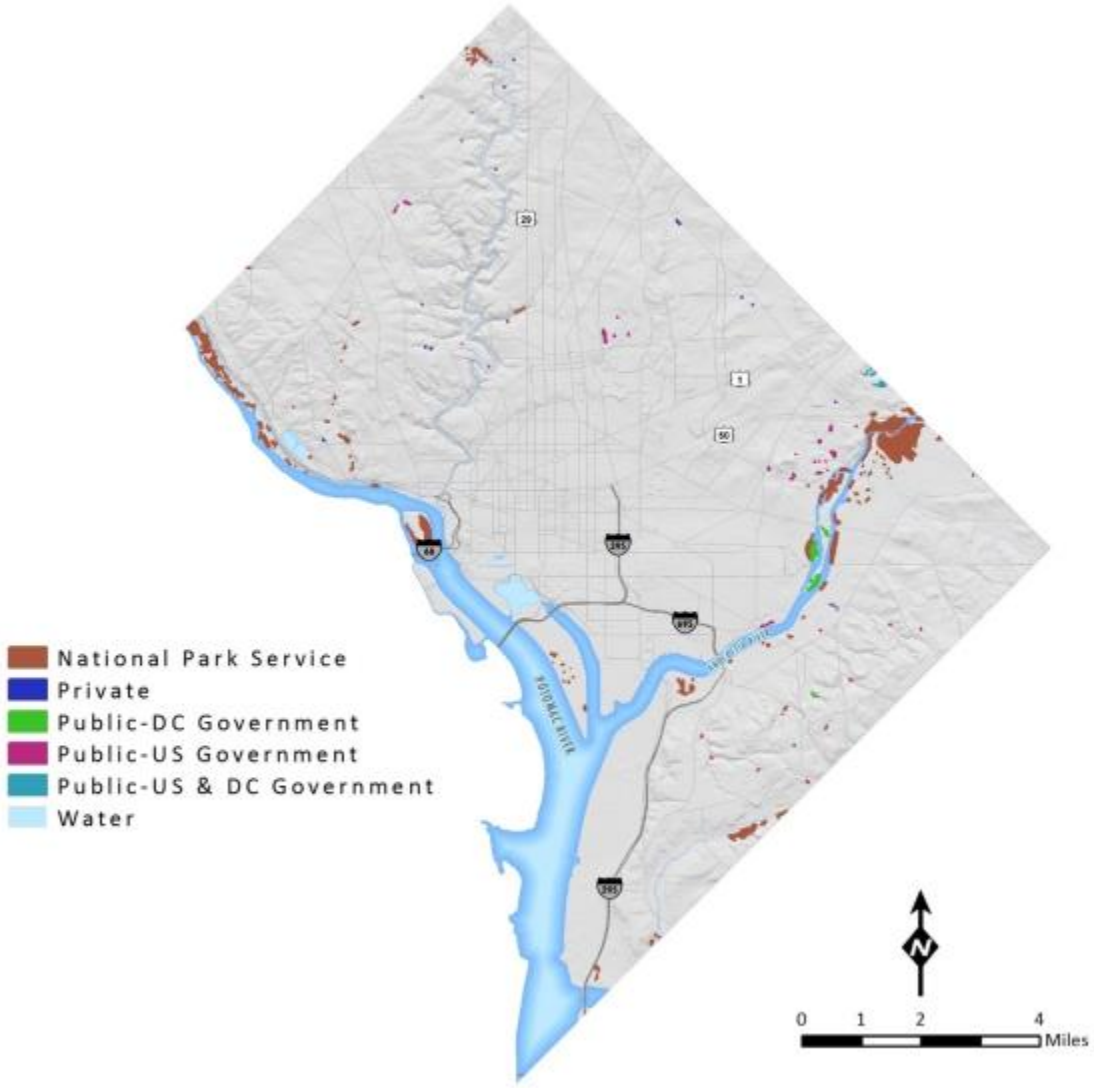

Figure 2-23 2017 mapped District wetlands by ownership type .

Table 2.9 WERE Tool Score Summary

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
4	N/A	Anacostia River	7	CRE-FV	N/A	37	Previous delineation called this area an isolated non-jurisdictional wetland. It does not currently meet the wetland definition. Hydrology and soils have been impacted by adjacent parking lot.	NE	NPS
3	N/A	Anacostia River	5	CRE-SD	N/A	31	Evidence of wetland hydrology and hydrophytic vegetation present, but no hydric soils. Wetland hydrology appears to originate from neighboring wetland on National Arboretum land.	NE	NPS
3	None (Fort Baker Dr SE & W St SE)	Anacostia River	7	WET-AM	PFO	25	Portion of wetland is receiving excess sediment from adjacent construction project.	SE	Private

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
2	N/A	Anacostia River	7	CRE-FC	N/A	13	Located in floodplain of two perennial streams. There is potential for wetland hydrology to be restored if streams reconnected with floodplain.	SE	Public (US govt.)
1	None (Old Soldiers' Home)	Anacostia River	5	WET-VK	PFO, PEM	9	Potential for wetland restoration: Culvert appears to be undersized causing water to dam up and form wetland.	NW	Public (US govt.)
1	Broad Branch	Rock Creek	3	WET-LB	PUB	7	Wetland appears to be dammed.	NW	Public (US govt.)
1	Foundry Branch	Potomac River	3	WET-MH	PFO	7	Potential for wetland restoration/stream daylighting: Ends at partially blocked culvert that is raising water levels. The stream appears to go underground there.	NW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Poplar Point	Anacostia River	8	WET-DG	PSS	7	Potential past alteration: Exhibits evidence of seasonal/temporary flooding.	SE	NPS
1	Soapstone Valley	Rock Creek	3	WET-LG	PFO	7	Potential for wetland restoration: Blocked culvert acting as a dam and raising the water level.	NW	NPS
1	Anacostia Park	Anacostia River	7	WET-SH	PFO, PEM, PUB	3		NE	NPS
1	Anacostia Park	Anacostia River	7	WET-UI	PEM	3	Soils were not checked due to recorded contamination.	NE	NPS
1	Anacostia Park	Anacostia River	7	WET-UJ	PFO, PEM	3	Soils were not checked due to recorded contamination.	NE	NPS
1	Anacostia Park	Anacostia River	8	WET-DN	PEM	3	Wildlife Habitat Area signs, Potential restoration area: Riparian area mowed.	SE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Anacostia River	Anacostia River	7	WET-FK	PFO1Q, PUB3Q	3		SE	NPS
1	Anacostia River	Anacostia River	7	WET-FN	PEM1Q	3		NE	NPS
1	Anacostia River	Anacostia River	7	WET-GY	PEM1Q	3	Created tidal wetland; mudflats also present nearby.	SE	Public (DC govt.)
1	Anacostia River	Anacostia River	7	WET-SE	PEM1Q	3		NE	NPS
1	Anacostia River	Anacostia River	7	WET-SL	PEM2Q	3		NE	NPS
1	Anacostia River Gateway	Anacostia River	5	WET-JE	PFO	3		NE	NPS
1	Arboretum	Anacostia River	5	WET-YL	PEM	3		NE	Public (US govt.)
1	Arboretum	Anacostia River	5	WET-YQ	PFO, PUB	3		NE	Public (US govt.)

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Bald Eagle Hill	Potomac River	8	WET-BD	PEM	3	Located in a disturbed area.	SW	Public (US govt.)
1	Dumbarton Oaks	Rock Creek	2	WET-NH	PFO	3		NW	NPS
1	Fort Dupont Tributary	Anacostia River	7	WET-FH	PFO	3		SE	NPS
1	Fort Dupont Tributary	Anacostia River	7	WET-FI	PFO	3		SE	Public (US govt.)
1	Fort Dupont Tributary	Anacostia River	7	WET-FJ	PFO, PEM	3		SE	Public (US & DC govt.)
1	Fort Lincoln	Anacostia River	5	WET-IO	PFO	3		NE	Public (US & DC govt.)
1	Fort Lincoln	Anacostia River	5	WET-IU	PFO	3		NE	Public (US & DC govt.)

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Fort Stanton Park	Anacostia River	8	WET-BK	PFO	3	There is a trail in the middle of wetland.	SE	NPS
1	Fort Stanton Park	Anacostia River	8	WET-BL	PFO	3	There is a trail in the middle of wetland.	SE	NPS
1	Foundry Branch	Potomac River	3	WET-LZ	PFO	3		NW	NPS
1	Foundry Branch	Potomac River	3	WET-MC	PFO	3	Small wetland that receives runoff from adjacent foot path.	NW	NPS
1	Foundry Branch	Potomac River	3	WET-ME	PFO	3	Wetland flows downslope into a sewer drain, which may account for the soil/water smelling of sewage. Sewage does not appear to flow into the wetland regularly.	NW	NPS
1	Foundry Branch	Potomac River	3	WET-MG	PFO	3		NW	NPS
1	Foundry Branch	Potomac River	3	WET-MI	PFO	3	Flagged this area as wetland because it appears to have been delineated previously.	NW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Foundry Branch	Potomac River	3	WET-MJ	PFO	3		NW	NPS
1	Foundry Branch	Potomac River	3	WET-MR	PFO, PEM	3		NW	NPS
1	Kenilworth	Anacostia River	7	WET-UU	PFO	3		NE	NPS
1	Kenilworth	Anacostia River	7	WET-VQ	PEM	3		NE	NPS
1	Kingman and Heritage Islands	Anacostia River	5	WET-RF	PEM2Q	3		NE	NPS
1	Kingman and Heritage Islands	Anacostia River	5	WET-RQ	PEM2Q	3		NE	NPS
1	Kingman and Heritage Islands	Anacostia River	5	WET-RZ	PEM2Q	3		NE	NPS
1	Kingman and Heritage Islands	Anacostia River	7	WET-FS	PEM2Q	3	Created tidal wetland; mudflats also present nearby.	NE	Public (DC govt.)

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Kingman and Heritage Islands	Anacostia River	7	WET-FT	PFO/PEM	3		NE	Public (DC govt.)
1	Kingman and Heritage Islands	Anacostia River	7	WET-FX	PEM	3		NE	NPS
1	Kingman and Heritage Islands	Anacostia River	7	WET-FY	PEM2Q	3		NE	NPS
1	Kingman and Heritage Islands	Anacostia River	7	WET-GW	PFO1S	3		SE	Public (DC govt.)
1	Kingman and Heritage Islands	Anacostia River	7	WET-QE	PFO	3		NE	Public (DC govt.)
1	Kingman and Heritage Islands	Anacostia River	7	WET-QF	PFO	3		NE	Public (DC govt.)
1	Oxon Hill	Potomac River	8	WET-I	PEM	3		SW	NPS
1	Oxon Hill	Potomac River	8	WET-O	PFO, PEM	3		SW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Oxon Hill	Potomac River	8	WET-P	PFO	3		SW	NPS
1	Oxon Hill	Potomac River	8	WET-Q	PFO	3		SW	NPS
1	Pinehurst Branch	Rock Creek	4	WET-LF	PFO	3	Wetland has been enhanced with sapling/shrub plantings.	NW	NPS
1	Poplar Point	Anacostia River	8	WET-DE	PEM	3		SE	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OB	PFO1S	3	Seep wetland, some tidal influence from backwater downslope.	NW	NPS
1	Rock Creek	Rock Creek	4	WET-KG	PFO	3	Many invasives present in the wetland along Rock Creek.	NW	NPS
1	Rock Creek	Rock Creek	4	WET-KJ	PFO, PEM	3		NW	NPS
1	Rock Creek	Rock Creek	4	WET-KX	PUB	3		NW	NPS
1	None (South Dakota Ave NE & V St NE)	Anacostia River	5	WET-HR	PEM	3		NE	Private

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	None (cloverleaf of New York Ave NE to South Dakota Ave NE)	Anacostia River	5	WET-IF	PEM	3	PEM wetland surrounded by PFO wetland. Multiple stormwater outfalls contribute water to this stormwater-driven wetland.	NE	NPS
1	None (South Dakota Ave NE & Jefferson St NE)	Anacostia River	5	WET-JP	PFO	3	Portion of wetland impacted during neighboring development. Wetland borders construction fence.	NE	Private
1	None (north of M St SE and south of Southeast Blvd)	Anacostia River	6	WET-GC	PFO	3		SE	NPS
1	None (north of M St SE and south of Southeast Blvd)	Anacostia River	6	WET-GD	PSS	3	Wetland adjacent to railroad tracks. Disabled access for wetland possible if birds-eye view possible from bridge.	SE	Public (US govt.)

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	None (Park Dr SE & Hillcrest Dr SE)	Anacostia River	7	WET-CK	PSS	3	Wetland boundary obtained from previous delineation.	SE	Public (DC govt.)
1	None (Klingle Rd NW & Cortland Pl NW)	Rock Creek	3	WET-ST	PFO, PUB	3	Wetland boundary obtained from previous delineation.	NW	Private
1	Anacostia River Gateway	Anacostia River	5	WET-YG	PFO1R, PEM1R, PUB	2		NE	NPS
1	Anacostia River Gateway	Anacostia River	5	WET-ZX	PFO1Q	2		NE	NPS
1	Anacostia Park	Anacostia River	5	WET-QX	PEM	1	Golf course; no data point done here.	NE	NPS
1	Anacostia Park	Anacostia River	7	WET-DQ	PFO, PSS, PEM	1		SE	NPS
1	Anacostia Park	Anacostia River	7	WET-DS	PFO, PEM	1		SE	NPS
1	Anacostia Park	Anacostia River	7	WET-SJ	PFO	1		NE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Anacostia Park	Anacostia River	7	WET-SQ	PSS	1	Soils not checked due to recorded contamination.	NE	NPS
1	Anacostia Park	Anacostia River	7	WET-UL	PSS	1	Soils not checked due to recorded contamination.	NE	NPS
1	Anacostia Park	Anacostia River	7	WET-UM	PFO, PEM	1	Soils not checked due to recorded contamination.	NE	NPS
1	Anacostia Park	Anacostia River	7	WET-UN	PFO	1	Soils not checked due to recorded contamination.	NE	NPS
1	Anacostia Park	Anacostia River	8	WET-DI	PEM	1	Potential restoration area: Riparian area mowed.	SE	NPS
1	Anacostia Park	Anacostia River	8	WET-DM	PEM	1	Potential restoration area: Riparian area mowed.	SE	NPS
1	Anacostia River	Anacostia River	7	WET-UP	PEM1Q	1		NE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Anacostia River	Anacostia River	7	WET-VD	PEM1Q	1	Active construction site. No access, but has visible PEM wetland.	NE	NPS
1	Anacostia River Gateway	Anacostia River	5	WET-HV	PFO, PFO1b, PUB3b	1	Beaver pond with fringe PFO.	NE	NPS
1	Arboretum	Anacostia River	5	WET-YX	PUB	1		NE	Public (US govt.)
1	Bald Eagle Hill	Potomac River	8	WET-R	PFO	1		SW	NPS
1	Bald Eagle Hill	Potomac River	8	WET-T	PFO	1		SW	NPS
1	Broad Branch	Rock Creek	3	WET-LB	PFO	1		NW	Public (US govt.)
1	Broad Branch	Rock Creek	3	WET-LC	PFO	1		NW	Public (US govt.)
1	Fort Dupont Tributary	Anacostia River	7	WET-FB	PEM	1	Potential restoration area: Mowed regularly.	SE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Fort Lincoln	Anacostia River	5	WET-IH	PEM, PUB	1	Created wetland.	NE	Public (US & DC govt.)
1	Fort Lincoln	Anacostia River	5	WET-IP	PFO	1	Seep on hillslope.	NE	Public (US & DC govt.)
1	Fort Lincoln	Anacostia River	5	WET-IQ	PFO	1	Seep on hillslope.	NE	Public (US & DC govt.)
1	Fort Lincoln	Anacostia River	5	WET-IT	PFO	1		NE	Public (US & DC govt.)
1	Fort Stanton Park	Anacostia River	8	WET-BJ	PFO	1		SE	NPS
1	Fort Stanton Park	Anacostia River	8	WET-BM	PFO	1		SE	NPS
1	Fort Stanton Park	Anacostia River	8	WET-BX	PSS	1		SE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Foundry Branch	Potomac River	3	WET-LT	PFO	1		NW	NPS
1	Foundry Branch	Potomac River	3	WET-LW	PFO	1		NW	NPS
1	Foundry Branch	Potomac River	3	WET-LX	PFO	1		NW	NPS
1	Foundry Branch	Potomac River	3	WET-MA	PFO	1		NW	NPS
1	Hains Point	Potomac River	2	WET-VV	PEM	1	Golf course; no data point done here.	SW	NPS
1	Hains Point	Potomac River	2	WET-VW	PEM	1	Golf course; no data point done here.	SW	NPS
1	Hains Point	Potomac River	2	WET-WW	PEM	1	Golf course; no data point done here.	SW	NPS
1	Hains Point	Potomac River	2	WET-XE	PFO, PEM	1	Golf course; no data point done here.	SW	NPS
1	Hains Point	Potomac River	2	WET-XI	PEM	1	Golf course; no data point done here.	SW	NPS
1	Hains Point	Potomac River	2	WET-XL	PEM	1	Golf course; no data point done here.	SW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Hains Point	Potomac River	2	WET-XN	PEM	1	Golf course; no data point done here.	SW	NPS
1	Hains Point	Potomac River	2	WET-XQ	PEM	1	Golf course; no data point done here.	SW	NPS
1	Hains Point	Potomac River	2	WET-XY	PEM	1	Golf course; no data point done here. Hydric soils not present, but area seems to be frequently disturbed.	SW	NPS
1	Hains Point	Potomac River	2	WET-YC	PEM	1	Golf course; no data point done here.	SW	NPS
1	Kenilworth	Anacostia River	7	WET-SW	PEM	1		NE	NPS
1	Kenilworth	Anacostia River	7	WET-SZ	PEM	1	Potential restoration area: Mowed regularly.	NE	NPS
1	Kenilworth	Anacostia River	7	WET-TD	PEM	1	Potential restoration area: Mowed regularly.	NE	NPS
1	Kenilworth	Anacostia River	7	WET-TI	PEM	1	Potential restoration area: Mowed regularly.	NE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Kenilworth	Anacostia River	7	WET-TK	PFO	1		NE	NPS
1	Kenilworth	Anacostia River	7	WET-TL	PEM	1	Potential restoration area: Mowed regularly. Soil is mostly fill.	NE	NPS
1	Kenilworth	Anacostia River	7	WET-TN	PEM	1	Potential restoration area: Mowed regularly. Soil is mostly fill.	NE	NPS
1	Kenilworth	Anacostia River	7	WET-TP	PEM	1	Potential restoration area: Mowed regularly.	NE	NPS
1	Kenilworth	Anacostia River	7	WET-TQ	PEM	1	Potential restoration area: Mowed regularly.	NE	NPS
1	Kenilworth	Anacostia River	7	WET-TR	PEM	1	Potential restoration area: Mowed regularly. Tadpoles and other water organisms present.	NE	NPS
1	Kenilworth	Anacostia River	7	WET-TU	PEM	1	Potential restoration area: Mowed regularly.	NE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Kenilworth	Anacostia River	7	WET-UA	PFO	1		NE	NPS
1	Kenilworth	Anacostia River	7	WET-UD	PEM	1	Potential restoration area: Mowed regularly.	NE	NPS
1	Kenilworth	Anacostia River	7	WET-UE	PEM	1	Potential restoration area: Mowed regularly.	NE	NPS
1	Kenilworth	Anacostia River	7	WET-UQ	PFO1S	1		NE	NPS
1	Kenilworth	Anacostia River	7	WET-UR	PFO1S	1		NE	NPS
1	Kenilworth	Anacostia River	7	WET-US	PFO1S	1		NE	NPS
1	Kingman and Heritage Islands	Anacostia River	5	WET-RC	PEM2Q	1		NE	NPS
1	Kingman and Heritage Islands	Anacostia River	5	WET-RE	PEM2Q	1		NE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Kingman and Heritage Islands	Anacostia River	5	WET-RK	PFO, PUB	1		NE	NPS
1	Kingman and Heritage Islands	Anacostia River	7	WET-FR	PFO	1		NE	Public (DC govt.)
1	Kingman and Heritage Islands	Anacostia River	7	WET-GV	PFO	1		SE	Public (DC govt.)
1	Kingman and Heritage Islands	Anacostia River	7	WET-HA	PFO	1		SE	Public (DC govt.)
1	Kingman and Heritage Islands	Anacostia River	7	WET-JG	PFO	1	Old cabin structure located here.	NE	Public (DC govt.)
1	Kingman and Heritage Islands	Anacostia River	7	WET-QD	PFO	1	No photos taken.	NE	Public (DC govt.)
1	Kingman and Heritage Islands	Anacostia River	7	WET-QG	PFO	1		NE	Public (DC govt.)
1	Oxon Hill	Potomac River	8	WET-J	POW	1	Concrete, rebar, and tire debris present.	SW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Oxon Hill	Potomac River	8	WET-K	PFO	1	Concrete debris present.	SW	NPS
1	Oxon Hill	Potomac River	8	WET-L	PFO	1		SW	NPS
1	Oxon Run	Potomac River	8	WET-BB	PFO	1		SE	NPS
1	Oxon Run	Potomac River	8	WET-BC	PFO	1		SE	NPS
1	Piney Branch	Rock Creek	1	WET-LS	PFO, PSS	1	Seep.	NW	NPS
1	Piney Branch	Rock Creek	4	WET-LP	PEM	1	Spring at top.	NW	NPS
1	Piney Branch	Rock Creek	4	WET-LQ	PFO	1	Seep at top.	NW	NPS
1	Poplar Point	Anacostia River	8	WET-DF	PFO	1		SE	NPS
1	Poplar Point	Anacostia River	8	WET-DH	PFO	1	No photos taken.	SE	NPS
1	Potomac River Floodplain	Potomac River	2	WET-NS	PFO	1		NW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Potomac River Floodplain	Potomac River	2	WET-NT	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-NU	PFO1S, PEM1Q	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-NV	PFO1S	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-NW	PSS1S	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-NY	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-NZ	PFO	1	Wetland mosaic.	NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OC	PFO	1		NW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Potomac River Floodplain	Potomac River	3	WET-OD	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OE	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OF	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OG	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OL	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OM	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-ON	PFO	1		NW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Potomac River Floodplain	Potomac River	3	WET-OO	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OR	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OU	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OW	PFO	1		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PR	PFO, PSS, PUB	1		NW	NPS
1	Rock Creek	Rock Creek	4	WET-JY	PFO	1		NW	NPS
1	Rock Creek	Rock Creek	4	WET-JZ	PFO	1		NW	NPS
1	Rock Creek	Rock Creek	4	WET-KA	PFO	1		NW	NPS
1	Rock Creek	Rock Creek	4	WET-KB	PFO	1		NW	NPS
1	Rock Creek	Rock Creek	4	WET-KC	PFO	1		NW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Rock Creek	Rock Creek	4	WET-KF	PFO	1		NW	NPS
1	Rock Creek	Rock Creek	4	WET-KH	PFO	1		NW	NPS
1	Rock Creek	Rock Creek	4	WET-KI	PFO	1	Wetland has check-dams.	NW	NPS
1	Rock Creek	Rock Creek	4	WET-KP	PFO	1	Good potential bat habitat (snag) east of wetland.	NW	NPS
1	Theodore Roosevelt Island	Potomac River	2	WET-QI	PFO1S, PEM2Q	1		NW	NPS
1	Theodore Roosevelt Island	Potomac River	2	WET-QJ	PFO1S	1	Stormwater pipe outfalls water from memorial into wetland.	NW	NPS
1	None (33rd St NE & Ames Pl NE)	Anacostia River	5	WET-IB	PEM	1	Broken underground pipe suspected. Potential restoration area: Mowed regularly.	NE	Private

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	None (near Howard University's School of Divinity)	Anacostia River	5	WET-JF	PFO	1		NE	Private
1	None (near Howard University's School of Divinity)	Anacostia River	5	WET-JI	PFO	1		NE	Private
1	None (Old Soldiers' Home)	Anacostia River	5	WET-VF	PUB	1	Ponds connected by stone-lined streams.	NW	Public (US govt.)
1	None (Old Soldiers' Home)	Anacostia River	5	WET-VI	PUB	1	Golf course.	NW	Public (US govt.)
1	None (Old Soldiers' Home)	Anacostia River	5	WET-VN	PEM, PUB	1	Golf course; no data point done here.	NW	Public (US govt.)

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	None (near Eastern Ave NE & Nash St NE)	Anacostia River	7	WET-BS	PSS	1	Potential restoration site: Neighbors commented that local flooding in this area is a big problem. Adjacent landowner has created a French drain.	NE	Private
1	None (Pennsylvania Ave SE & 33rd St SE)	Anacostia River	7	WET-CM	PFO	1		SE	NPS
1	None (near Burns St SE & Hildreth St SE)	Anacostia River	7	WET-CO	PFO	1		SE	Public (US govt.)
1	None (M Pl SE & 30th St SE)	Anacostia River	7	WET-CR	PEM	1	Potential restoration area: -Riparian area mowed.	SE	Public (US govt.)
1	None (terminus of Anacostia Ave NE)	Anacostia River	7	WET-VR	PFO, PSS, PEM	1		NE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	None (near Ainger Pl SE & Langston Pl SE)	Anacostia River	8	WET-AL	PEM	1	Site not accessible, no data point done here.	SE	Private
1	None (near Stanton Rd SE & Bruce Pl SE)	Anacostia River	8	WET-BF	PFO, PEM	1	Seep with overland sheetflow.	SE	NPS
1	None (near Stanton Rd SE & Bruce Pl SE)	Anacostia River	8	WET-BG	PFO	1		SE	NPS
1	None (near Stanton Rd SE & Dunbar Rd SE)	Anacostia River	8	WET-F	PEM	1		SE	Public (US govt.)
1	None (southwest of Suitland Pkwy & east of Martin Luther King Jr Ave SE)	Anacostia River	8	WET-H	PFO, PEM	1		SE	Public (US govt.)

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	None (48th St NW & W St NW)	Potomac River	3	WET-LN	PFO	1	Seep.	NW	Public (US govt.)
1	None (Dalecarlia Pkwy NW & Warren Pl NW)	Potomac River	3	WET-MO	PFO	1		NW	Public (US govt.)
1	None (Dalecarlia Pkwy NW & Warren Pl NW)	Potomac River	3	WET-MP	PFO	1		NW	Public (US govt.)
1	None (Dalecarlia Pkwy NW & Warren Pl NW)	Potomac River	3	WET-MQ	PFO	1		NW	Public (US govt.)
1	None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NK	PEM	1		NW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NL	PFO	1	Potential restoration area: Mowed regularly.	NW	NPS
1	None (MacArthur Blvd NW & Elliot Pl NW)	Potomac River	3	WET-NM	PSS	1		NW	NPS
1	None (near Alabama Ave SE & 30th St SE)	Potomac River	7	WET-CG	PFO	1		SE	Public (US govt.)
1	None (near Alabama Ave SE & 30th St SE)	Potomac River	7	WET-CH	PFO	1		SE	Public (US govt.)
1	None (Savannah St SE & 25th St SE)	Potomac River	8	WET-AF	PFO	1		SE	Public (US govt.)
1	Anacostia Park	Anacostia River	5	WET-QQ	PEM	0	Golf course, no data point done here.	NE	NPS
1	Anacostia Park	Anacostia River	5	WET-QT	PEM	0	Golf course, no data point done here.	NE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Arboretum	Anacostia River	5	WET-YH	PFO, PUB	0		NE	Public (US govt.)
1	Arboretum	Anacostia River	5	WET-YI	PFO	0	Vernal pool.	NE	Public (US govt.)
1	Arboretum	Anacostia River	5	WET-YT	PFO, PUB	0		NE	Public (US govt.)
1	Arboretum	Anacostia River	5	WET-YU	PUB	0		NE	Public (US govt.)
1	Arboretum	Anacostia River	5	WET-ZE	PUB	0		NE	Public (US govt.)
1	Arboretum	Anacostia River	5	WET-ZG	PEM, PUB	0		NE	Public (US govt.)
1	Fort Dupont Tributary	Anacostia River	7	WET-DA	PFO	0	Stream originates as a seep.	SE	NPS
1	Fort Dupont Tributary	Anacostia River	7	WET-DB	PFO	0	Stream originates as a seep.	SE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Fort Dupont Tributary	Anacostia River	7	WET-DC	PFO	0	Stream originates as a seep.	SE	NPS
1	Fort Dupont Tributary	Anacostia River	7	WET-ER	PFO	0		SE	NPS
1	Fort Dupont Tributary	Anacostia River	7	WET-ET	PFO	0		SE	NPS
1	Fort Dupont Tributary	Anacostia River	7	WET-EU	PFO	0		SE	NPS
1	Fort Dupont Tributary	Anacostia River	7	WET-EV	PFO	0		SE	NPS
1	Kenilworth	Anacostia River	7	WET-UO	PFO, PEM, PEM1Q, PEM2Q	0		NE	NPS
1	Kenilworth	Anacostia River	7	WET-UV	PFO	0		NE	NPS
1	Kenilworth	Anacostia River	7	WET-UW	PEM	0	Constructed aquatic garden.	NE	NPS
1	Oxon Run	Potomac River	8	WET-AT	PFO	0	Seeps along the edge of hill.	SE	NPS
1	Oxon Run	Potomac River	8	WET-AU	PFO	0	Seep.	SE	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Oxon Run	Potomac River	8	WET-AV	PFO	0		SE	NPS
1	Oxon Run	Potomac River	8	WET-AZ	PFO	0		SE	NPS
1	Oxon Run	Potomac River	8	WET-BA	PFO	0		SE	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OK	PFO	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OP	PFO	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OQ	PFO1S	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-OX	PFO, PUB	0	Wetland mosaic.	NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PA	PFO	0		NW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Potomac River Floodplain	Potomac River	3	WET-PC	PFO1S, PUB3S	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PD	PFO	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PE	PFO	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PF	PFO	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PG	PFO	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PH	PFO	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PI	PFO	0		NW	NPS

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Potomac River Floodplain	Potomac River	3	WET-PJ	PFO	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PL	PFO	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PN	PFO	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PO	PFO, PUB	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PP	PUB	0		NW	NPS
1	Potomac River Floodplain	Potomac River	3	WET-PQ	PSS	0		NW	NPS
1	Rock Creek	Rock Creek	4	WET-JX	PFO	0	Wetland on school property; no data point done here.	NW	Private

Categ-ory	Wetland Group	Watershed	Ward	Site ID	Cowardin Classification	WERE Tool Score	Comments	Quad-rant	Owner-ship
1	Rock Creek	Rock Creek	4	WET-KS	PFO	0	Springhouse present.	NW	NPS
1	None (German Embassy)	Potomac River	3	WET-NJ	PUB	0	Created pond with maintained riparian area.	NW	Private
1	None (National Zoo)	Rock Creek	3	WET-NA	PUB	0	Created pond within the zoo.	NW	Public (US govt.)
1	None (National Zoo)	Rock Creek	3	WET-NC	PUB	0	Created pond within the zoo.	NW	Public (US govt.)

*WET-LJ, VP, YP, ZH, and ZI sites were inaccessible, therefore no WERE tool score was assigned.

2.2.4 Potential Wetland Creation Sites within the District

Potential wetland creation sites were noted during the field study. Areas that did not meet the definition of a wetland but exhibited some of the following characteristics were considered to have potential for wetland creation:

- Low-lying or concave landscape position near a source of hydrology;
- Possessed one or two of the three criteria that define a wetland: hydrology, indicators of hydric soil, and/or wetland vegetation; and
- Areas known to be wetlands in the past (i.e., historic wetlands), but no longer meeting the criteria to be considered a wetland.

Creation potential was assessed solely on field observations and does not account for permits, cost, design, suitability, permission from the land owner, and other factors necessary to plan a wetland creation project. The field assessment identified potential creation sites only as candidates for further study and evaluation. The Wetland Creation Site Suitability Guidance (see Appendix D) should be reviewed when determining if a site may be suitable for wetland creation.

Table 2.10 lists the 36 potential wetland creation sites that were identified, including their location, watershed, ownership information, and site-specific comments. Figure 2-24 shows the locations of these wetland in the District and indicates whether the potential creation site is on private land or public land (i.e., land owned by NPS, other federal agencies, or the District government). Detailed information is available in the Wetland Registry.

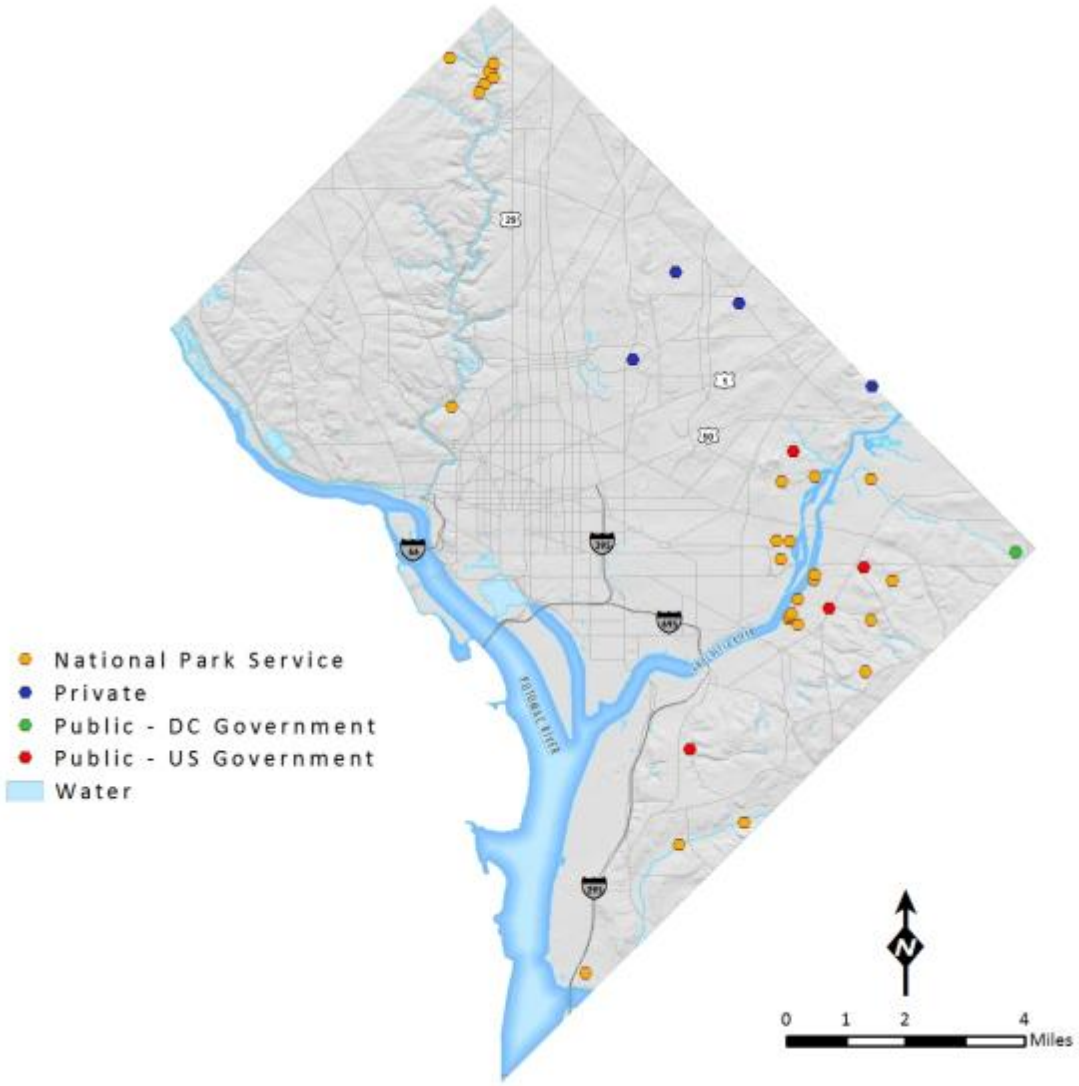

Figure 2-24 2017 potential wetland creation sites by ownership type.

Five potential creation sites were located on public land (14%; four on Federal government land and one on District government land) and four were located on private land (11%). NPS owns the majority (75%) of the land where potential creation sites were identified, of which 19 are located within the National Capital Parks-East National Park and 8 are located within the Rock Creek Parkway National Park.

Table 2.10 Summary of Potential Wetland Creation Sites

Watershed	Ward	Creation Site ID	Comments	Quadrant	Ownership (NPS, Public, or Private)[1]
Anacostia River	5	CRE-HN	Evidence of wetland hydrology present (leaves washed away, adjacent housing complex created a rock-lined swale), no hydrophytic vegetation, soils unable to be sampled (fence)	NE	Private
Anacostia River	5	CRE-IJ	Hydrophytic vegetation and evidence of wetland hydrology present, no hydric soils	NE	Private
Anacostia River	5	CRE-JH	Surface cracks and microtopographic relief in small areas (but evidence of wetland hydrology very weak), Mixed hydrophytic and upland vegetation, hydric soils present	NE	Private
Anacostia River	5	CRE-NQ	Hydrophytic vegetation in tree layer, weak hydric soils, no evidence of wetland hydrology	NE	Private
Anacostia River	5	CRE-RA	No hydrophytic vegetation, no evidence of wetland hydrology, has hydric soils, near Anacostia River floodplain	NE	NPS
Anacostia River	5	CRE-SD	Evidence of wetland hydrology and hydrophytic vegetation present, no hydric soils, wetland hydrology appears to originate from neighboring wetland on National Arboretum land	NE	NPS

Anacostia River	5	CRE-YO	Hydrophytic vegetation and hydric soils are present, no evidence of wetland hydrology present	NE	Public (US Govt.)
Anacostia River	7	CRE-BW	Area has evidence of wetland hydrology in portions, hydrophytic vegetation in portions, no hydric soils	NE	Public (DC Govt.)
Anacostia River	7	CRE-CX	Evidence of wetland hydrology present, no hydric soils, no hydrophytic vegetation	SE	NPS
Anacostia River	7	CRE-DT		SE	NPS
Anacostia River	7	CRE-DU		SE	NPS
Anacostia River	7	CRE-DW	Receives runoff from adjacent roadway, hydric soils present, weak hydrophytic vegetation	SE	NPS
Anacostia River	7	CRE-DY	Vegetation is mixed (part hydrophytic, part upland), hydric soils present, evidence of wetland hydrology during rainfall	SE	NPS
Anacostia River	7	CRE-DZ	Cleared area near the Anacostia River floodplain	SE	NPS
Anacostia River	7	CRE-EJ		SE	NPS
Anacostia River	7	CRE-EM	Small pipe outfalls water into this area	SE	Public (US Govt.)
Anacostia River	7	CRE-EO		SE	NPS
Anacostia River	7	CRE-FC	Located in floodplain of two perennial streams	SE	Public (US Govt.)
Anacostia River	7	CRE-FL	Cleared area near the Anacostia River floodplain	SE	NPS

Anacostia River	7	CRE-FM	Cleared area near the Anacostia River floodplain	SE	NPS
Anacostia River	7	CRE-FU	Receives runoff from parking lot, has hydrophytic vegetation, no hydric soils	NE	NPS
Anacostia River	7	CRE-FV	Previous delineation called this area an isolated non-jurisdictional wetland, does not currently meet wetland definition	NE	NPS
Anacostia River	7	CRE-FZ	Swale between RFK and a main road, fenced off - soils unable to be sampled, no evidence of wetland hydrology, no hydrophytic vegetation (mowed)	NE	NPS
Anacostia River	7	CRE-SV	No hydric soils, evidence of wetland hydrology, or hydrophytic vegetation present, potential for wetland hydrology if adjacent stream were reconnected with floodplain	NE	NPS
Anacostia River	8	CRE-G		SE	Public (US Govt.)
Potomac River	8	CRE-AY	Hydrophytic vegetation and evidence of wetland hydrology present, no hydric soils, located in Oxon Run floodplain	SE	NPS
Potomac River	8	CRE-C	Evidence of wetland hydrology and some hydrophytic vegetation present in floodplain of stream	SE	NPS

Potomac River	8	CRE-M	No evidence of wetland hydrology, dominated by *Phragmites australis*, some hydric soils, depression landform	SW	NPS
Rock Creek	2	CRE-MU	No hydric soils, has hydrophytic vegetation, no evidence of wetland hydrology, located in floodplain of Rock Creek	NW	NPS
Rock Creek	4	CRE-JU	Located in floodplain of Rock Creek, some hydrophytic vegetation, no evidence of wetland hydrology, no hydric soils	NW	NPS
Rock Creek	4	CRE-JV	Located in old floodplain of Rock Creek, sand deposits present in areas from high flow events, no hydrophytic vegetation	NW	NPS
Rock Creek	4	CRE-JW	Mixed hydrophytic and upland vegetation, no hydric soils, if nearby perennial stream is daylighted this area may receive hydrology from stream during floods	NW	NPS
Rock Creek	4	CRE-KE	Some hydric soils, sparse wetland vegetation, no evidence of wetland hydrology	NW	NPS
Rock Creek	4	CRE-KM	Strong evidence of wetland hydrology from floodwaters of Rock Creek, no hydric soils, has hydrophytic vegetation	NW	NPS
Rock Creek	4	CRE-KN	Strong evidence of wetland hydrology from floodwaters of Rock Creek, no hydric soils, has hydrophytic vegetation	NW	NPS

Rock Creek	4	CRE-KO	Strong evidence of wetland hydrology from floodwaters of Rock Creek, no hydric soils, has hydrophytic vegetation	NW	NPS

[1] Public denotes federal or District Government.

2.3 Summary of the District Wetlands Mapped During the 2017 WCP Update

Most of the wetland acreage in the District is confined to a few large wetland systems. Small wetlands are located throughout the District and provide important functions and values to stakeholders. Twenty-three wetland group names were assigned to clusters of wetlands based on shared location characteristics such as public park name or the name of the nearest stream or river corridor. The wetland groups are summarized in the following sections.

Anacostia Park

The Anacostia Park wetland group included 16 nontidal wetlands located on both banks of the Anacostia River, within a portion of the National Capital Parks-East National Park. The wetlands within this group were relatively small and cumulatively totaled approximately 2 acres. The largest wetland was 0.5 acres. This group included palustrine emergent, palustrine forested, palustrine scrub-shrub, and palustrine unconsolidated bottom (i.e., ponded, vernal pool) wetlands. Surrounding land uses included outdoor recreation, roads, and railroads, with some limited accessibility to the public. One wetland in this group was mowed, and the remaining 14 were surrounded by maintained non-forested areas.

Using the District Wetland Function and Value Checklist, 2 wetlands were documented as high relative value, 12 as average relative value, and 2 as low relative value. The amount of trash found in these wetlands was relatively low. The following invasive species were present: *Lonicera japonica, Typha latifolia, Lonicera maackii, and Phragmites australis*. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Per the NH Method, these functions for Anacostia Park Wetlands had scores relatively higher than the most frequently recorded scores across all District wetlands: ecological integrity, fish and aquatic habitat, sediment trapping, and wetland-based recreation. Due to the relatively small size of wetlands in this group, scores for floodwater storage were low and comparable to other wetlands across the District. Wetlands that were not located along the bank of a waterbody received a score of zero for shoreline anchoring. See Appendix M for NH completed NH method data forms for each wetland.

Wetland-DM in Anacostia Park

Figure 2-25 is a scatter graph that compares the NH method results for the Anacostia Park wetlands group to all other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see graph legend). The maximum, minimum, and mode score are marked for every function category to provide a reference for comparison across District wetlands. Each blue circle represents one Anacostia Park wetland score. If multiple wetlands received the same score for a particular function category, then only one circle appears for that score. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds.

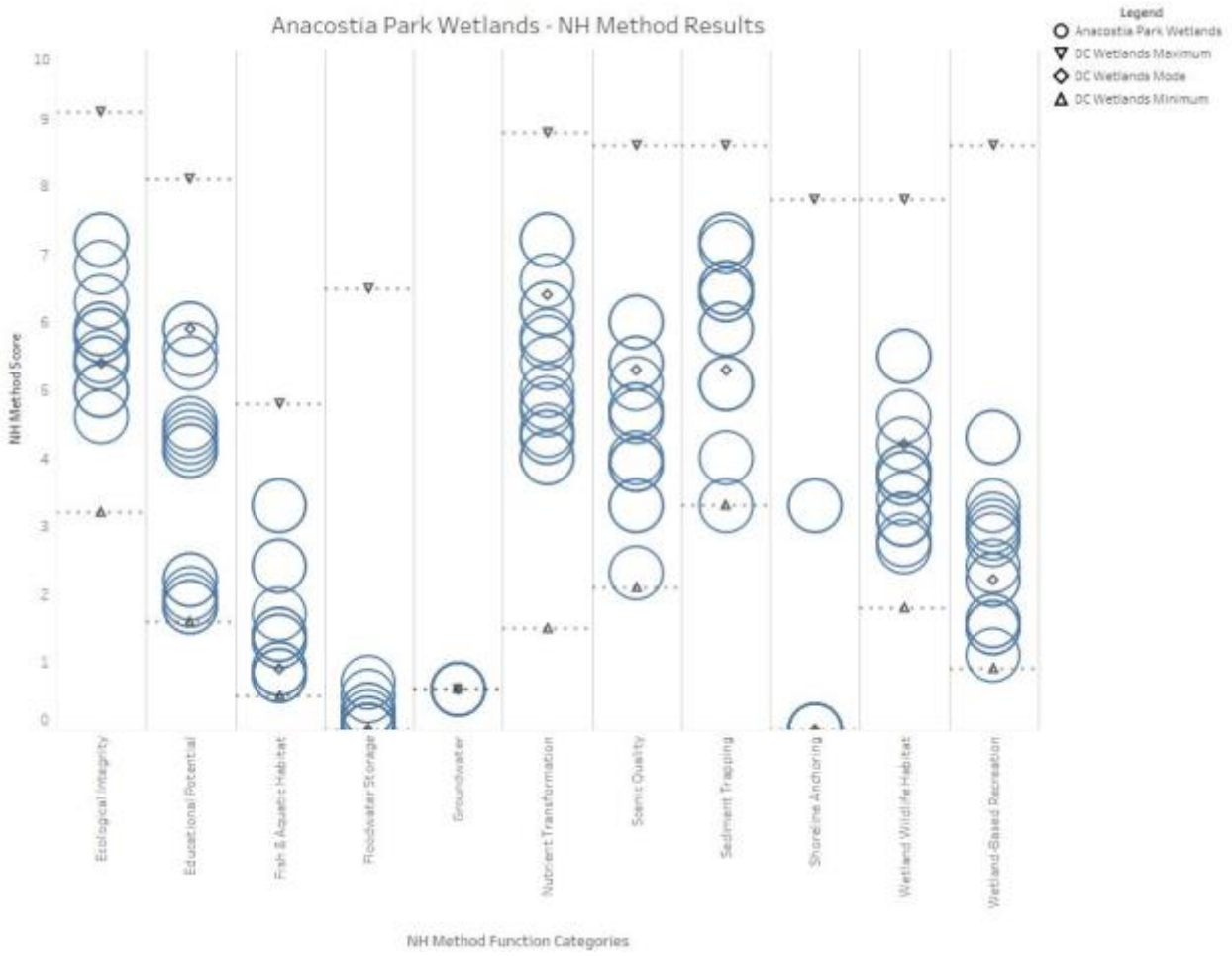

Figure 2-25 NH Method results for Anacostia Park wetlands.

The groundwater category received the same average score for each wetland because the evaluation questions referenced information that is unknown for the District.

Most of the wetlands in this group scored zero for floodwater storage, but that does not mean they have no ability to store floodwater. Wetlands that were 0.049 acres or smaller scored zero for floodwater storage, which means they have a low ability to serve the function.

Potential creation sites within the Anacostia Park wetland group were located in maintained, non-forested areas and appeared to receive hydrology mostly from stormwater runoff. All Anacostia Park wetlands had a WERE tool score of three or lower, which implies these wetlands could benefit from enhancement, such as controlling invasive species and reestablishing native vegetation. A small portion of wetlands within this wetland group are considered Tier II and Tier III habitat areas in the District's Wildlife Action Plan (Ossi et al. 2015). Tier II areas are extremely significant for the conservation of biodiversity, and Tier III areas are highly significant for the conservation of biodiversity.

Anacostia River

The Anacostia River wetland group included seven tidal wetlands located in the floodplain of the Anacostia River within the National Capital Parks-East National Park and one nontidal wetland located on District government land. These wetlands are best observed from the river or from the walking trails on Kingman Island. The eight wetlands in this group cumulatively total approximately 23 acres and include nontidal and tidal palustrine emergent wetlands, tidal palustrine forested wetlands, and a tidal pond. Recent wetland creation performed by DOEE and USACE within the channel of the Anacostia River have added approximately 15 acres of tidal wetlands to this wetland group (District of Columbia 2009).

Using the District Wetland Function and Value Checklist, five high relative value and two average relative value wetlands were documented in this wetland group. Some of the Anacostia River wetlands contained moderate levels of trash relative to other wetlands in the District. Most wetlands in this group contained a moderate to a high amount of invasive species, including broadleaf cattail (*Typha latifolia*) and common reed (*Phragmites australis*). See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Anacostia River Wetland-FH

Per the NH Method, these functions for Anacostia River Wetlands had scores relatively higher than the most frequently recorded scores across District wetlands: ecological integrity, fish and aquatic habitat, scenic quality, shoreline anchoring, sediment trapping, wetland wildlife habitat, and wetland-based recreation. Scores for wetland-based recreation, scenic quality, and ecological integrity were relatively higher than other District wetlands because some of these wetlands are located along the river, kayak-accessible, and have a relatively large buffer from development, roads and other impervious surfaces. Scores for educational potential were lower than the most frequently recorded District scores because of inaccessibility from land. See Appendix M for completed NH method data forms for each wetland.

Figure 2-26 is a scatter graph that compares this wetland group to all other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see legend). Each blue circle represents one Anacostia Park wetland score. If multiple wetlands received the same score for a particular function category, then only one circle appears for that score. The groundwater category received the same average score for each wetland because the evaluation questions were referencing information that is unknown for the District.

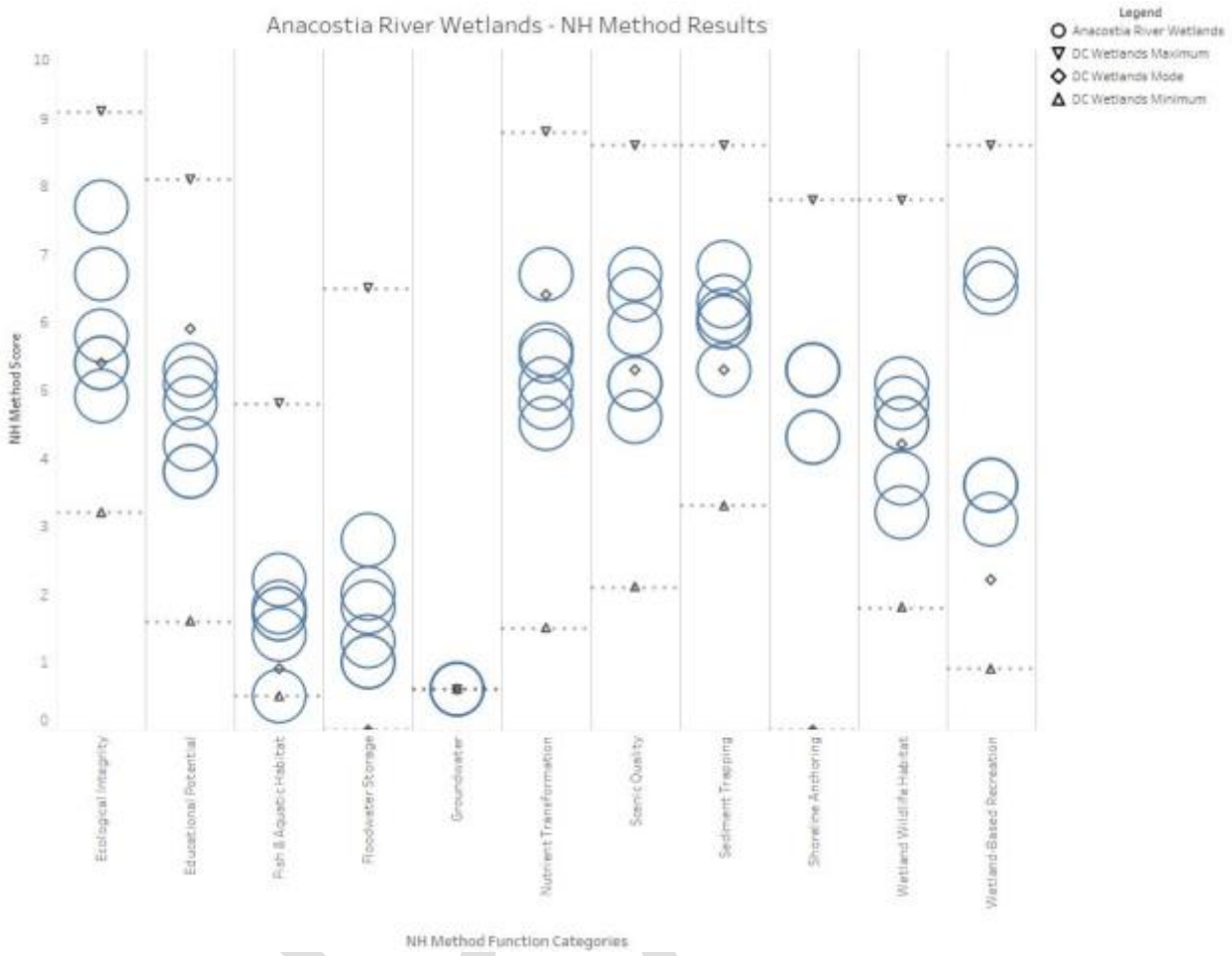

Figure 2-26 NH Method results for Anacostia River wetlands.

All Anacostia River wetlands had a WERE tool score of three or lower, which implies these wetlands could benefit from enhancement, such as controlling invasive species and reestablishing native vegetation. The three potential creation sites located in this group were non-forested, previously cleared areas in close proximity to the Anacostia River floodplain. The wetlands in the northern portion of the Anacostia River wetland group are listed in the District's Wildlife Action Plan as Tier III wetlands. One wetland is included in the Kenilworth and Fort Lincoln Wetland Complex conservation opportunity area, per the Wildlife Action Plan. Tier III areas are highly significant for the conservation of biodiversity.

Anacostia River Gateway

The Anacostia River Gateway wetland group included four wetlands located southwest of the New York Avenue Bridge over the Anacostia River, just south of the railroad tracks in the northeast quadrant of the District within the National Capital Parks-East National Park. Wetlands located along the banks of the Anacostia River were tidal and wetlands further upslope were nontidal. This wetland group cumulatively totaled approximately 35 acres and included a tidal palustrine emergent wetland, tidal and nontidal

palustrine forested wetlands, a nontidal pond, and beaver-impounded palustrine emergent and palustrine forested wetlands. Wetland YG is the second largest wetland in the District and is 23.5 acres.

Using the District Wetland Function and Value Checklist, three high value wetlands and one average relative value wetland were documented in this wetland group. Wetland ZX contained a severe amount of trash relative to other wetlands in the District. A common reed (*Phragmites australis*) was present in almost every wetland in this group, mostly in areas adjacent to roadways, railroad tracks, or the Anacostia River. Other invasive plants observed include *Typha latifolia, Microstegium vimineum, Lonicera japonica, and Lonicera maackii.* See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Per the NH method, this wetland group scored higher than the most frequently recorded score across District wetlands for these functions: ecological integrity, wetland wildlife habitat, fish and aquatic habitat, scenic quality, floodwater storage, sediment trapping, nutrient transformation, shoreline anchoring, and noteworthiness. These wetlands were large (ranging from 1.5 to 23 acres); contained a diversity of vegetation including forest, shrub, open water, and emergent plants; and had a relatively large buffer from impervious surfaces in most locations. One wetland located along the Anacostia River provided shoreline anchoring. This wetland group scored high for noteworthiness. See Appendix M for NH completed NH method data forms for each wetland.

Anacostia River Gateway Wetland-HV

All Anacostia River Gateway wetlands had a WERE tool score of three or lower, which implies these wetlands could benefit from enhancement, such as controlling invasive species and reestablishing native vegetation). A large portion of the Anacostia River Gateway wetlands were listed as Tier III wetlands in the WAP and are within the Kenilworth and Fort Lincoln Wetland Complex conservation opportunity area. Tier III areas are significant for the conservation of biodiversity. These large riparian wetlands along the Anacostia River provide important habitat for wildlife within the District.

Arboretum

The Arboretum wetland group included wetlands located within the National Arboretum. These wetlands were nontidal and consisted of ponds, one vernal pool, and floodplain wetlands along streams. The 12 wetlands in this group total approximately 4 acres and are composed of palustrine emergent and forested wetlands, and ponds. Surrounding land use includes outdoor recreation with an extensive road and trail system accessible to the public.

Using the District Wetland Function and Value Checklist, three high and six average relative value wetlands were documented in this group. All of these wetlands had little to no trash present. Broadleaf cattails (*Typha latifolia*) and Nepalese browntop (*Microstegium vimineum*) were among the invasive species found in the Arboretum wetlands. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Arboretum Wetland-YQ

Per the NH method, the following function scores for this wetland group were higher than the most frequently recorded score across District wetlands: ecological integrity, fish and aquatic habitat, sediment trapping, wetland wildlife habitat, and wetland-based recreation. The recreational and educational uses of the Arboretum might provide some explanation for these high scores, along with the distance of some wetlands from impervious surfaces and other development. Scores for both nutrient transformation and floodwater storage were low due to the small size of most wetlands within this group. Wetlands that were not located along the shoreline of a waterbody received a shoreline anchoring score of zero. See Appendix M for completed NH method data forms for each wetland.

Figure 2-27 is a scatter graph that compares this wetland group to all other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see legend). Each blue circle represents one Arboretum wetland score. If multiple wetlands received the same score for a particular function category, then only one circle appears for that score. The groundwater category received the same average score for each wetland because the evaluation questions were referencing information that is unknown for the District.

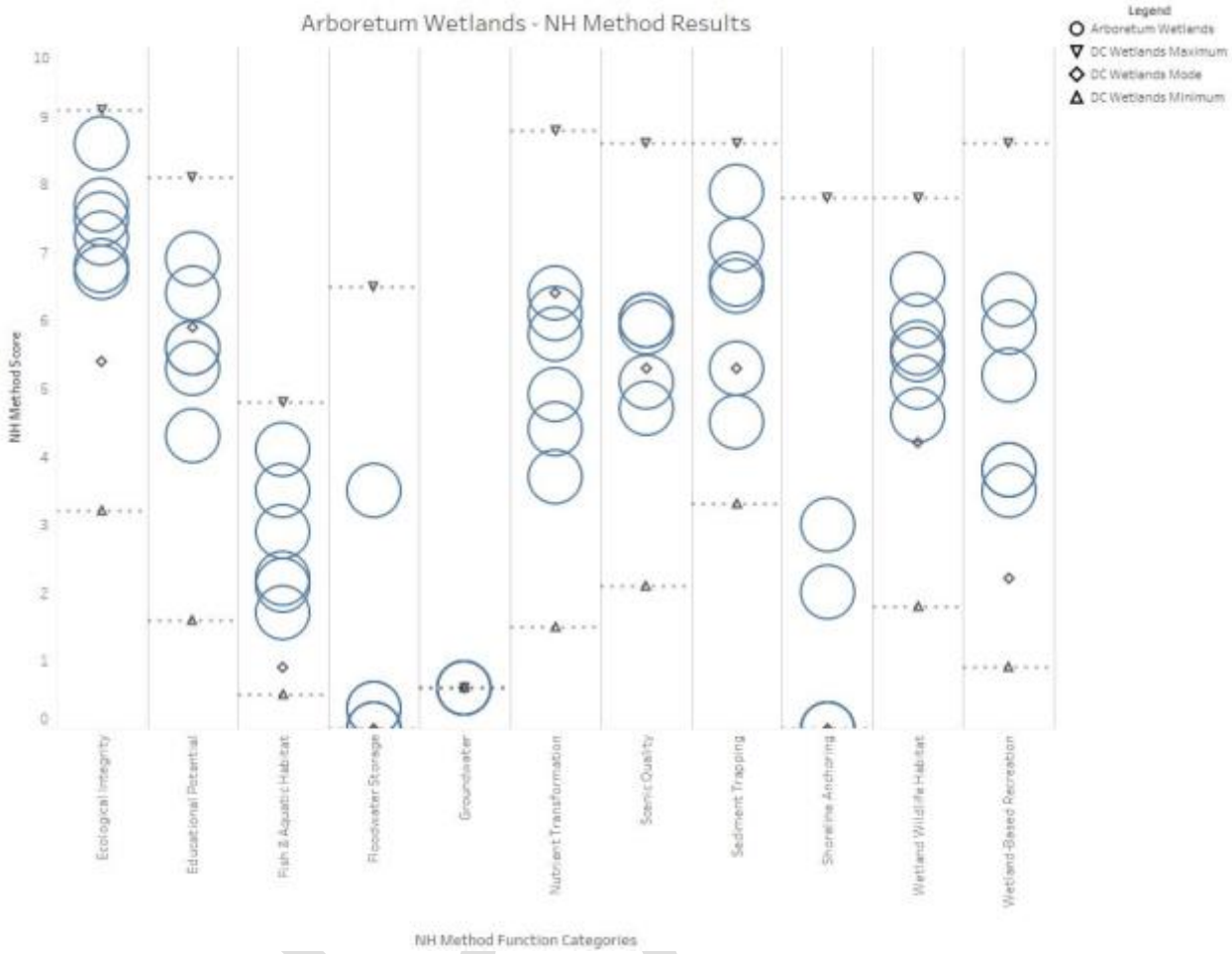

Figure 2-27 NH Method results for Arboretum wetlands.

All Arboretum wetlands had a WERE tool score of three or lower, which implies these wetlands could benefit from enhancement, such as controlling invasive species, reestablishing native vegetation, and increasing the riparian buffer where possible). One potential creation site was identified due to the presence of hydrophytic vegetation and hydric soils. The majority of wetlands in the Arboretum group are listed as Tier I, Tier II, or Tier III habitat areas in the WAP.

Bald Eagle Hill

The wetlands within the Bald Eagle Hill group are located in the National Capital Parks-East National Park along Oxon Run in the southwest quadrant of the District. Three nontidal wetlands cumulatively total approximately 1 acre and include palustrine emergent and forested wetlands.

Using the District Wetland Function and Value Checklist, two high value wetlands and one average relative value wetland were documented in this wetland group. Per the NH method, these wetlands scored relatively low for these functions: fish and aquatic habitat, educational potential, wetland-based recreation, and floodwater storage.

Wetlands T and R scored high due to their location along the Anacostia River banks. Wetlands BC and T were small in size, resulting in low scores for floodwater storage. See Appendix M for completed NH method data forms for each wetland.

Bald Eagle Hill Wetland-R

A common reed (*Phragmites* australis) monoculture was observed in Wetland BD, which may be due to recent soil disturbance. Other invasive plants observed include *Lonicera* japonica, *Microstegium vimineum*, and *Rosa multiflora.* See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands. This wetland had a WERE tool score of three and could benefit from enhancement such as invasive species control, seeding with a native seed mix, and planting woody stems. Two wetlands had a WERE tool score of one, which implies these wetlands could benefit from enhancement. The wetlands in the Bald Eagle Hill wetland group are adjacent to Tier II and Tier III habitat areas in the WAP.

Broad Branch

The Broad Branch wetland group included two nontidal wetlands located along Broad Branch stream in the northwest quadrant of the District. These wetlands cumulatively total 0.5 acres and are composed of a headwater seep palustrine forested wetland and ponds.

Using the District Wetland Function and Value Checklist, two average relative value wetlands were documented in this wetland group. The Broad Branch wetlands contained no trash and very few invasive species including, *Alliaria petiolate, Lonicera maackii,* and *Morus alba*. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands. Per the NH method, these wetlands scored relatively high for fish and aquatic habitat. Ecological integrity and scenic quality scores were similar to the most frequently recorded scores across the District. Although these wetlands were composed of multiple vegetation strata (i.e., tree, shrub, and emergent layers), they scored similar to the most frequently recorded scores in the District due to their small size. See Appendix M for NH completed NH method data forms for each wetland.

Broad Branch Wetland-LC

One wetland had a WERE tool score of seven, because it appeared to be blocked (i.e., dammed). This wetland may benefit from implementation of measures to maintain the wetland hydrology. The other wetland had a WERE tool score of one and could benefit

from simple enhancement such as adding woody debris. Portions of the Broad Branch wetlands are considered Tier III habitat areas in the District's WAP.

Dumbarton Oaks

The Dumbarton Oaks wetland group included one 0.005-acre, nontidal, palustrine forested wetland, located in the Dumbarton Oaks Park. This wetland was formed in a concave depression in the landscape that receives hydrology mostly from precipitation. Surrounding land uses include outdoor recreation and education.

Using the District Wetland Function and Value Checklist, this wetland was documented as having an average relative value, and no trash was observed. Invasive species such as Japanese knotweed (*Fallopia japonica*) and Chinese wisteria (*Wisteria sinensis*) were present along the perimeter of the wetland. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands. Per the NH method, this wetland had relatively high scores for sediment trapping and nutrient transformation functions, likely due to high percent cover of all vegetation strata, relatively small watershed size, and location within a floodplain. Small size (0.005 acre) likely accounted for low floodwater storage and shoreline anchoring scores. Fish and aquatic habitat scores were higher than the most frequently recorded scores across District wetlands due to the location of the wetlands within a stream floodplain. See Appendix M for NH completed NH method data forms for each wetland.

Dumbarton Oaks Wetland-NH

This wetland had a WERE tool score of three and could benefit from forms of enhancement, such as controlling invasive species, reestablishing native vegetation, and planting trees. The Dumbarton Oaks wetland is adjacent to a Tier I habitat area, according to the District's WAP.

Fort Dupont Tributary

Nine wetlands in the Fort Dupont Park group were located in Fort Dupont Park, a portion of National Capital Parks-East National Park located in the southeast quadrant of the District. Two wetlands were located northwest of Fort Dupont Park on public property (federal government or federal and District government land). Fort Dupont Tributary wetlands were nontidal, mostly seep, headwater wetlands that flowed into a neighboring stream. This group was composed of palustrine emergent and forested wetlands and cumulatively totaled approximately 1 acre. Some of the wetlands were near parks, neighborhoods, and recreational trails along streams in the northwestern portion of the group.

Using the District Wetland Function and Value Checklist, nine high and two average relative value wetlands were documented in this wetland group. Trash was absent from

a few of the smaller headwater seeps and present in the rest of the Fort Dupont Park wetlands. Invasive species were observed in most wetlands and included *Lonicera japonica, Lonicera maackii,* and *Hedera helix*. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Fort Dupont Wetland-EJ

NH method scores were relatively high for ecological integrity,likely due to the surrounding undisturbed upland forests and high percent cover of all vegetation strata. The following function category scores were similar or higher to the most frequently recorded scores across District wetlands: wetland-based recreation, wetland wildlife habitat, sediment trapping, and floodwater storage. See Appendix M for completed NH method data forms for each wetland.

Figure 2-28 is a scatter graph that compares this wetland group to other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see the legend). Each blue circle represents one Fort Dupont wetland score. If multiple wetlands received the same score for a

particular function category, then only one circle appears for that score. The groundwater category received the same average score for each wetland because the evaluation questions were referencing information that is unknown for the District.

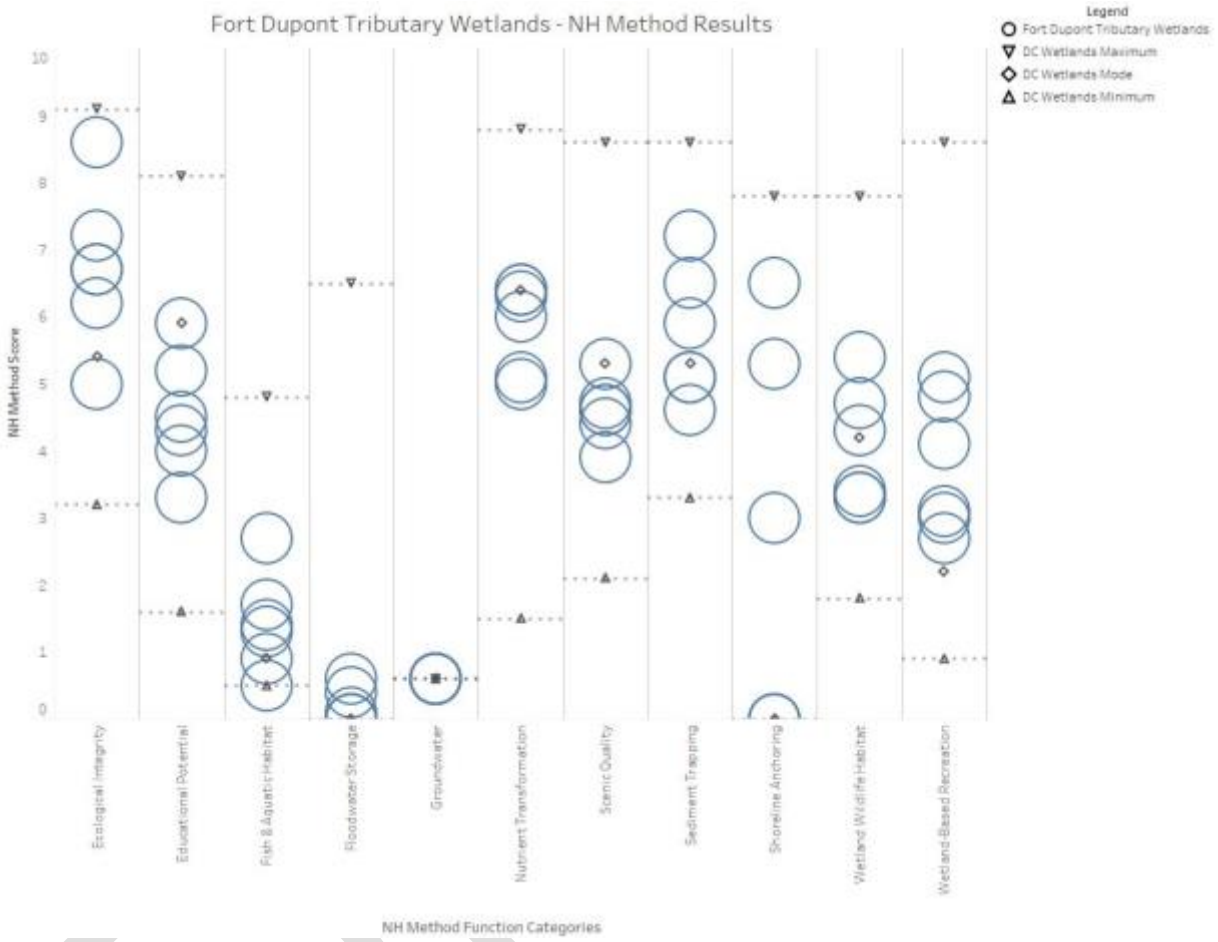

Figure 2-28 NH Method results for Fort Dupont Tributary wetlands.

All wetlands had a WERE tool score of three or lower, which implies these wetlands could benefit from forms of enhancement, such as planting trees, controlling invasive species, seeding with a native seed mix, preventing mowing operations, and increasing the riparian buffer. Two potential wetland creation sites were identified within the Fort Dupont Tributary group: one was located in the floodplain of two perennial streams and the other was located in a non-forested, toe-of-slope, concave area adjacent to Fort Davis Drive SE.

The Fort Dupont Tributary wetlands are mostly considered to be Tier II habitat areas, although some areas were shown as in or adjacent to Tier I or Tier III habitat areas, per the District's WAP. This wetland group is also part of the Large Fort Circle Parks conservation opportunity area, which includes the most undisturbed upland forests in

the District (Ossi et al. 2015) and may explain why most of the wetlands in this group are considered to have a high value relative to other District wetlands.

Fort Lincoln

The wetlands in this group included six nontidal wetlands located within the Fort Lincoln neighborhood in the northeastern part of the District. This group included seep wetlands, a pond, and palustrine emergent and forested wetlands. Hydrology sources included groundwater seeps and stream overflow. One wetland was created as compensatory mitigation to mitigate for permitted wetland impacts. These wetlands cumulatively totaled 3 acres.

Using the District Wetland Function and Value Checklist, four high and two average relative value wetlands were documented in this wetland group. Little trash was observed, and some invasive species were present including, *Typha latifolia, Lonicera japonica,* and *Microstegium vimineum*. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Ft. Lincoln Wetland-IP

Per the NH Method, some wetlands in this group had higher scores than the most frequently recorded score for these functions: ecological integrity, fish and aquatic habitat, scenic quality, sediment, trapping, and wetland-based recreation. Scores for floodwater storage were relatively higher than the most frequently recorded scores in the District, due to size and the concave topography of these wetlands. See Appendix M for completed NH method data forms for each wetland.

Figure 2-29 is a scatter graph that compares this wetland group to other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see legend). Each blue circle represents one Fort Lincoln wetland score. If multiple wetlands received the same score for a particular function category, then only one circle appears for that score. The groundwater category received the same average score for each wetland because the evaluation questions were referencing information that is unknown for the District.

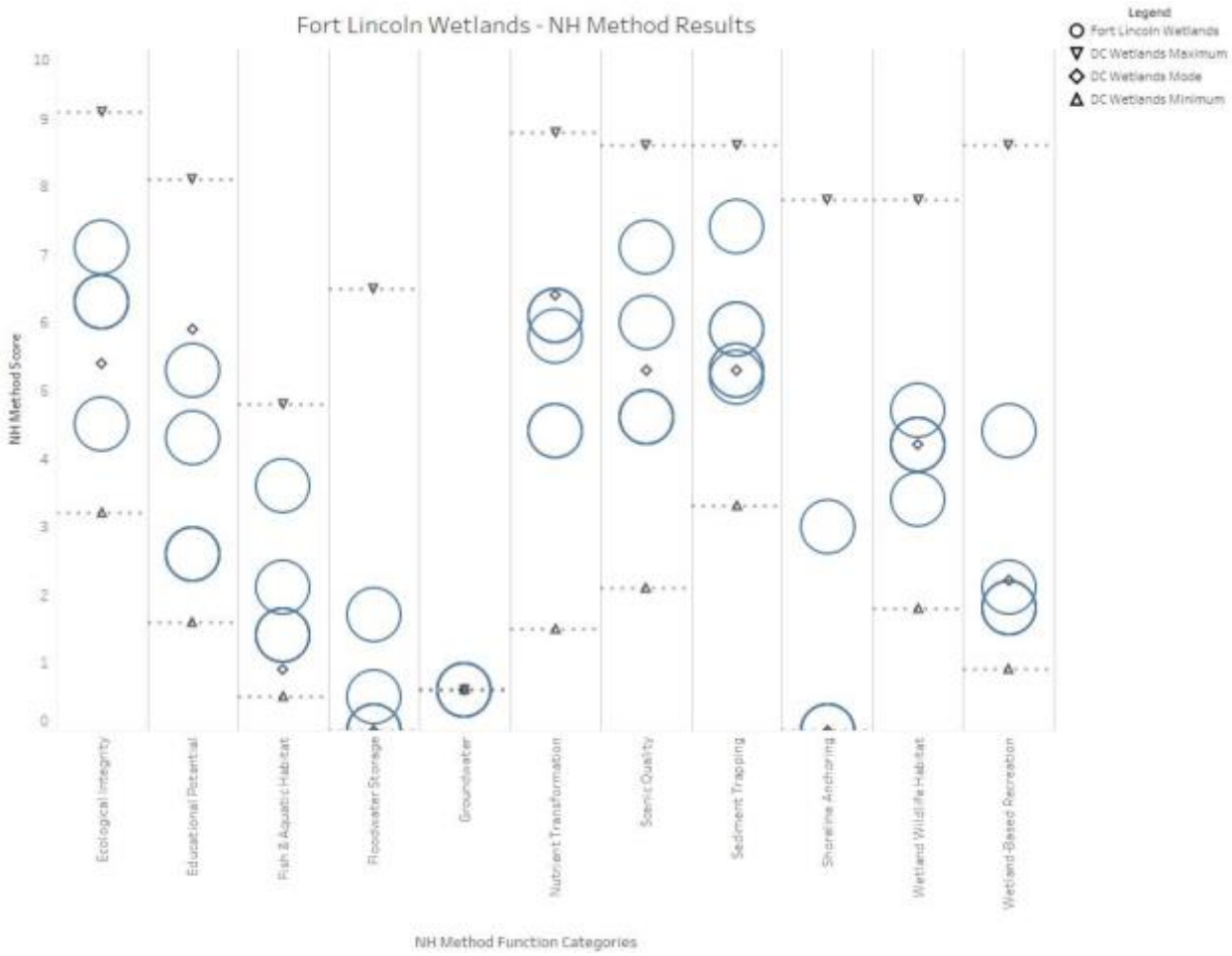

Figure 2-29 NH Method results for Fort Lincoln wetlands.

All wetlands had a WERE tool score of three or lower, which implies these wetlands could benefit from enhancement, such as planting trees, controlling invasive species, and seeding with a native seed mix. There was one potential creation site identified in this group, with hydrophytic vegetation present and evidence of wetland hydrology, but no hydric soils. The majority of the wetlands in the Fort Lincoln wetland group are considered Tier I and Tier II habitat areas, per the District's WAP.

Fort Stanton Park

The Fort Stanton Park group included five nontidal wetlands located within Fort Stanton Park, in the southeast quadrant of the District. The wetlands in this group were mostly seep wetlands and included palustrine scrub shrub and forested wetlands. These wetlands were relatively small and cumulatively totaled 0.4 acres. Surrounding land use included outdoor recreation and hiking trails.

Using the District Wetland Function and Value Checklist, five average relative value wetlands were documented in this wetland group. Only a small amount of trash was observed in this area. Invasive species were observed in each wetland but were not

prevalent; they included *Rosa multiflora, Lonicera japonica,* and *Microstegium vimineum*. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Per the NH method, these functions for Fort Stanton Park wetlands had scores relatively similar to the most frequently recorded scores in the District: ecological integrity, educational potential, and wetland-based recreation. These functions were relatively higher than other District wetlands: fish and aquatic habitat, sediment trapping, and nutrient transformation. High scores for sediment trapping and nutrient transformation can be attributed to the presence of all vegetation strata and the surrounding forested and scrub shrub buffer. See Appendix M for completed NH method data forms for each wetland.

Fort Stanton Park Wetland-BJ

All wetlands had a WERE tool score of three or lower, which implies these wetlands could benefit from simple forms of enhancement, such as planting trees, controlling invasive species, and seeding with a native seed mix. The wetlands within the Fort Stanton Park wetland group are located on the outskirts of the park.

Foundry Branch

The Foundry Branch wetlands were located along the Foundry Branch stream within a large forested corridor of NPS' Rock Creek Park in the northwest quadrant of the District. These nontidal wetlands received hydrology from stream overflow, groundwater (i.e., seeps), stormwater, or precipitation. Twelve relatively small wetlands cumulatively totaled approximately 4 acres and included mostly palustrine forested wetlands, with one palustrine emergent wetland. Surrounding land use included outdoor recreation with trails adjacent to many wetlands.

Using the District Wetland Function and Value Checklist, three high and nine average relative value wetlands were documented in this wetland group. Little to no trash was observed in the wetlands. Invasive species were observed as dominant vegetation in about half of the wetlands, especially in Wetland MI, and included *Euonymus fortune, Lonicera japonica, Ligustrum sinense,* and *Hedera helix.* See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands. Wetland ME had a strong odor and was draining directly into a manhole.

Per the NH method, the Foundry Branch wetlands scored higher than the most frequently recorded score across District wetlands for these functions: ecological integrity, fish and aquatic habitat, nutrient transformation, sediment trapping, and wetland-based recreation. Some reasons for these relatively high scores include the location of this wetland group within a forested stream valley, distance from development and impervious surfaces, lack of human disturbance observed within some of the wetlands, and percent cover of multiple vegetation strata. See Appendix M for completed NH method data forms for each wetland.

Figure 2-30 is a scatter graph that compares this wetland group to other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see legend). Each blue circle represents one Foundry Branch wetland score. If multiple wetlands received the same score for a particular function category, then only one circle appears for that score. The groundwater category received the same average score for each wetland because the evaluation questions were referencing information that is unknown for the District.

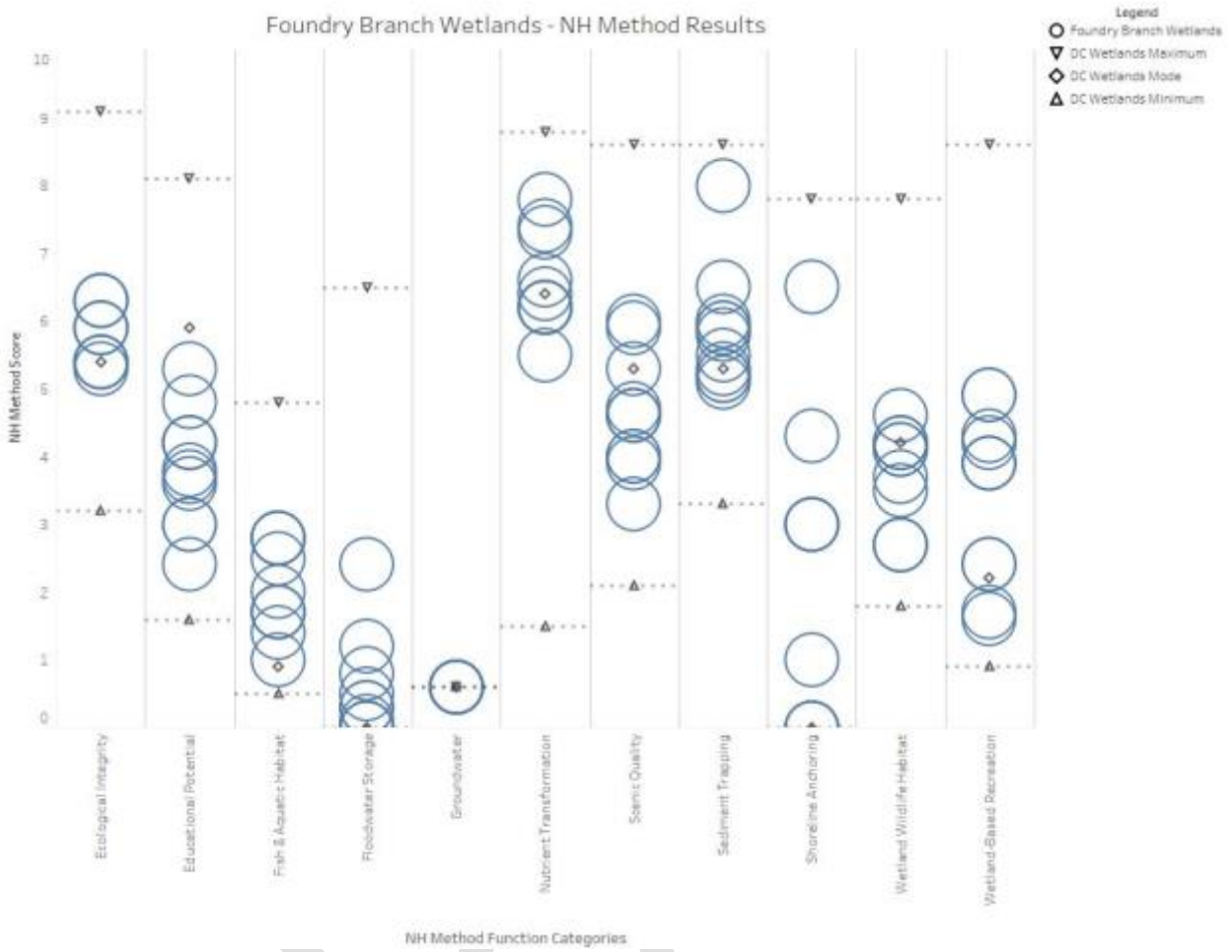

Figure 2-30 NH Method results for Foundry Branch wetlands.

Wetland MH, located in the southern portion of the wetland group, had a large partially blocked culvert that acted as a dam in Foundry Branch stream, and appeared to be maintaining hydrology in this wetland. If the culvert were repaired, restoration would be necessary to maintain hydrology for Wetland MH.

Foundry Branch Wetland MH

All other wetlands in this group had a WERE tool score of three or lower, which implies these wetlands could benefit from forms of enhancement, such as planting trees, controlling invasive species, and seeding with a native seed mix. Most of the wetlands within the Foundry Branch group are considered to be Tier III habitat areas, per the District's WAP.

Hains Point

The Hains Point wetlands are located on the East Potomac golf course on Hains Point peninsula in the Potomac River within East Potomac Park. This area is part of NPS' National Mall and Memorial Parks in the southwest quadrant of the District. The wetlands in this group are nontidal and receive hydrology from either groundwater or precipitation. The 10 wetlands in this group cumulatively totaled approximately 1 acre and included mostly palustrine emergent wetlands and one palustrine forested wetland.

Using the District Wetland Function and Value Checklist, five average and five low relative value wetlands were documented in this wetland group. Most of the wetlands on this golf course had little to no trash present and most did not contain invasive species. Broadleaf cattails (*Typha latifolia*) were prevalent in Wetland XQ. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Hains Point Wetland-XE

Per the NH method, the Hains Point wetlands scored similarly to the most frequently recorded score in the District for these functions: ecological integrity, fish and aquatic habitat, floodwater storage, and wetland wildlife habitat. These wetlands were small in size, had moderate human activity (e.g., located within a golf course), lacked deep water habitats, and were not associated with a stream. Nearby mowing activities reduce wetland buffers. From an aerial view, there was a high percent cover of vegetation within the wetland, which was attributed to sediment trapping scores that were higher than the most frequently recorded scores in the District. See Appendix M for completed NH method data forms for each wetland.

Figure 2-31 is a scatter graph that compares this wetland group to other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see legend). Each blue circle represents one Hains Point wetland score. If multiple wetlands received the same score for a particular function category, then only one circle appears for that score. The groundwater category received the same average score for each wetland because the evaluation questions were referencing information that is unknown for the District.

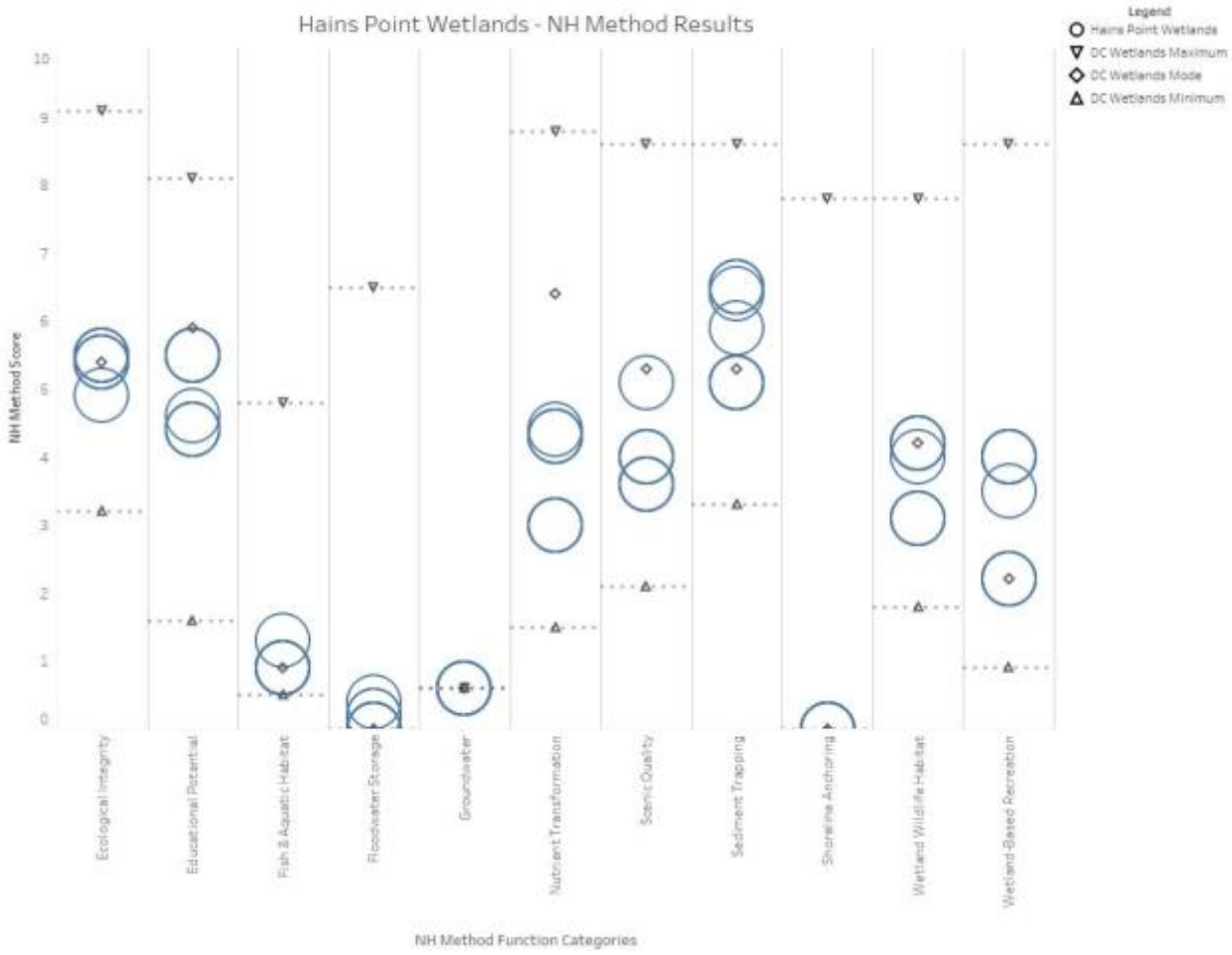

Figure 2-31 NH Method results for Hains Point wetlands.

All wetlands had a WERE tool score of one, which implies these wetlands could benefit from simple forms of enhancement, such as preventing mowing operations in the wetlands where applicable, expanding the riparian buffer, planting trees, adding woody debris, and controlling invasive species).

Kenilworth

The Kenilworth wetland group is the largest wetland system in the Anacostia River watershed and included the Kenilworth Aquatic Gardens, located in the northeast quadrant of the District within NPS' National Capital Parks-East. The 22 wetlands in this group cumulatively total 83 acres and include tidal and nontidal palustrine emergent and palustrine forested wetlands. Wetland UO is 76 acres and the largest wetland in the District. Most of the wetlands in this group that are not part of the Kenilworth Aquatic Gardens were nontidal, concave areas that receive hydrology from precipitation or stormwater runoff. Wetlands located directly adjacent to the Anacostia River and within Kenilworth Aquatic Gardens were mostly tidal. Nontidal wetland areas were

located further upslope and received hydrology through groundwater (i.e., seeps) or precipitation. The area in and around the Kenilworth Aquatic Gardens has trails that encircle different wetland systems and raised walkways provide that provide access to the center of the large tidal marsh. A few wetlands had a prevalence of invasive species including broadleaf cattails (*Typha latifolia*) and pale-yellow iris (*Iris pseudacorus*). See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Approximately 80 out of 83 acres of wetlands within Kenilworth group were ranked as high relative value, per the District Wetland Function and Value Checklist. Per the NH method, Wetland UO, within Kenilworth Aquatic Gardens, had the maximum score in the District for these functions: wetland wildlife habitat, scenic quality, educational potential, and wetland-based recreation. Wetland UW, also within Kenilworth Aquatic Gardens, had the maximum score in the District for the noteworthiness function. The group scored high for these functions: ecological integrity, educational potential, fish and aquatic habitat, floodwater storage, nutrient transformation, scenic quality, sediment trapping, shoreline anchoring, wetland wildlife habitat, noteworthiness, and wetland-based recreation. See Appendix M for completed NH method data forms for each wetland.

Figure 2-31 is a scatter graph that compares this wetland group to other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see legend). Each blue circle represents one Kenilworth wetland score. If multiple wetlands received the same score for a particular function category, then only one circle appears for that score. The groundwater category received the same average score for each wetland because the evaluation questions were referencing information that is unknown for the District.

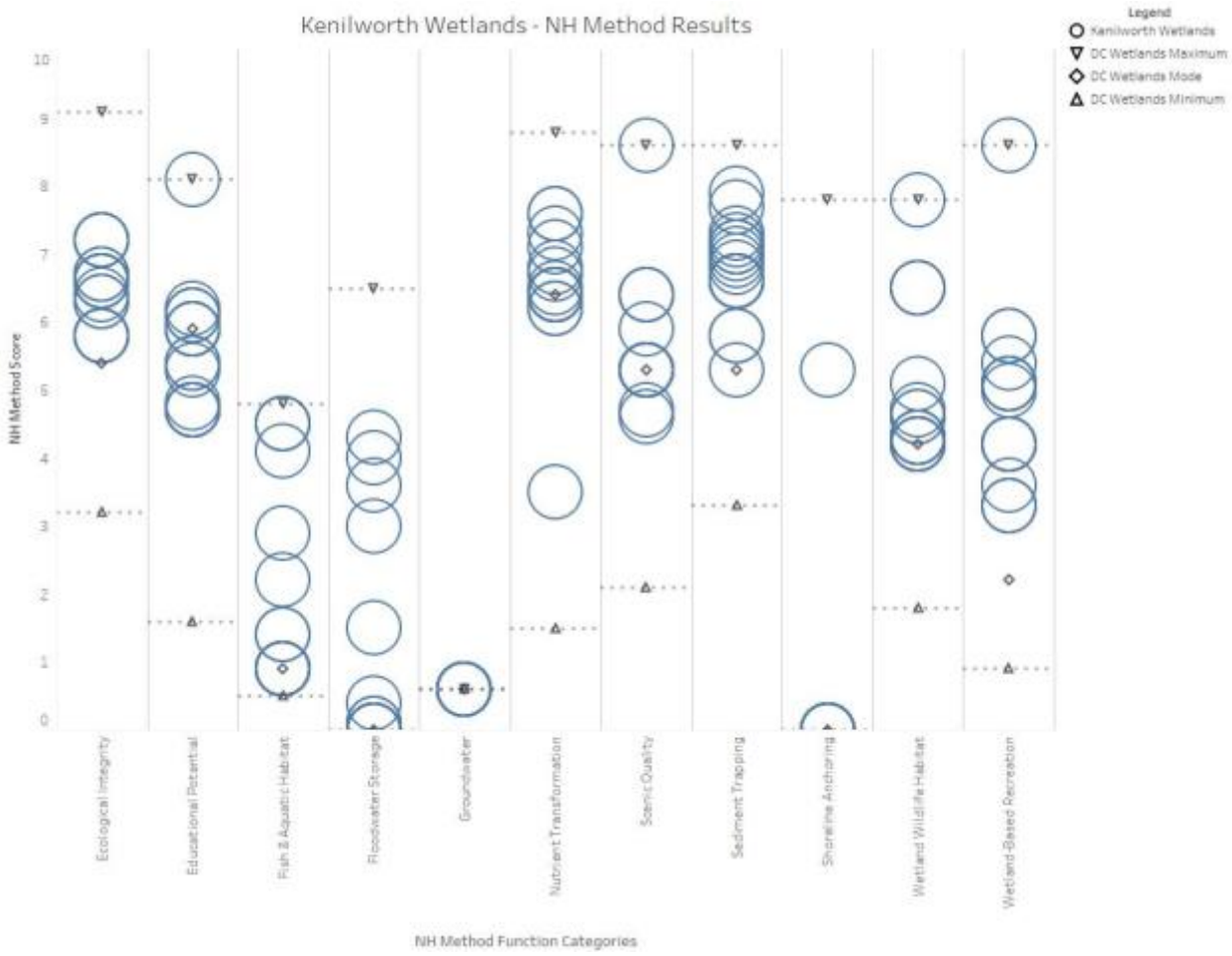

Figure 2-32 NH Method results for Kenilworth wetlands.

Seventeen of the wetlands had a WERE tool score of one, are in a maintained park, and could benefit from simple enhancement, such as preventing mowing operations in the wetlands where applicable and expanding the riparian buffer. Two wetlands have a WERE tool score of three and could benefit from enhancement, such as planting trees, controlling invasive species, and seeding with a native seed mix. Three wetlands within Kenilworth Aquatic Gardens had a WERE tool score of zero and no work is recommended. A potential creation site was identified in this wetland group because of the potential for wetland hydrology if the adjacent stream was to be reconnected with its floodplain. A portion of the wetlands within the Kenilworth wetland group are considered Tier I, Tier II, and Tier III habitat areas and fall within the Kenilworth and Fort Lincoln Wetland Complex conservation opportunity area, per the District's WAP.

Boardwalks in Wetland-UO in Kenilworth Aquatic Gardens allow visitors to walk into the middle of this large marsh

Kingman and Heritage Islands

The Kingman and Heritage Islands wetland group is located on or near Kingman and Heritage Islands and is composed of tidal and nontidal palustrine emergent and palustrine forested wetlands and a ponded wetland. Nineteen wetlands in this group cumulatively total approximately 28 acres in area. Wetlands RC, RE, RF, RQ, and RZ constitute the fourth largest wetland complex in the District and total 15 acres. Most of the wetlands are within the National Capital Parks-East National Park but some are located on District government property. Recent wetland creation projects by DOEE and USACE in Kingman Marsh, located on the west side of Kingman Island, have created 26 acres of intertidal wetlands within the Anacostia Watershed (District of Columbia 2009). Kingman and Heritage Island wetlands provide important functions such as wildlife habitat, environmental education opportunities, outdoor recreation, bird watching, shoreline erosion protection, and scenic quality.

Wetland-FR on Heritage Island

Using the District Wetland Function and Value Checklist, 14ourteen high and 5 average relative value wetlands were documented in this wetland group. Invasive plants observed in this wetland group included *Phragmites australis, Lonicera japonica, Typha latifolia, and Hedera helix.* See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Per the NH method, multiple wetlands in this group had the maximum score for functions including ecological integrity, fish and aquatic habitat, and sediment trapping. The group scored high for these functions: ecological integrity, educational potential, fish and aquatic habitat, scenic quality, sediment trapping, shoreline anchoring, wetland wildlife habitat, and wetland-based recreation. Scores for nutrient transformation were relatively similar or lower than the most frequently recorded score in the District mostly due to the wetland to watershed size ratio. See Appendix M for completed NH method data forms for each wetland.

Figure 2-32 is a scatter graph that compares this wetland group to other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see legend). Each blue circle represents one Kingman and Heritage Island wetland score. If multiple wetlands received the same score for a particular function category, then only one circle appears for that score. The

groundwater category received the same average score for each wetland because the evaluation questions were referencing information that is unknown for the District.

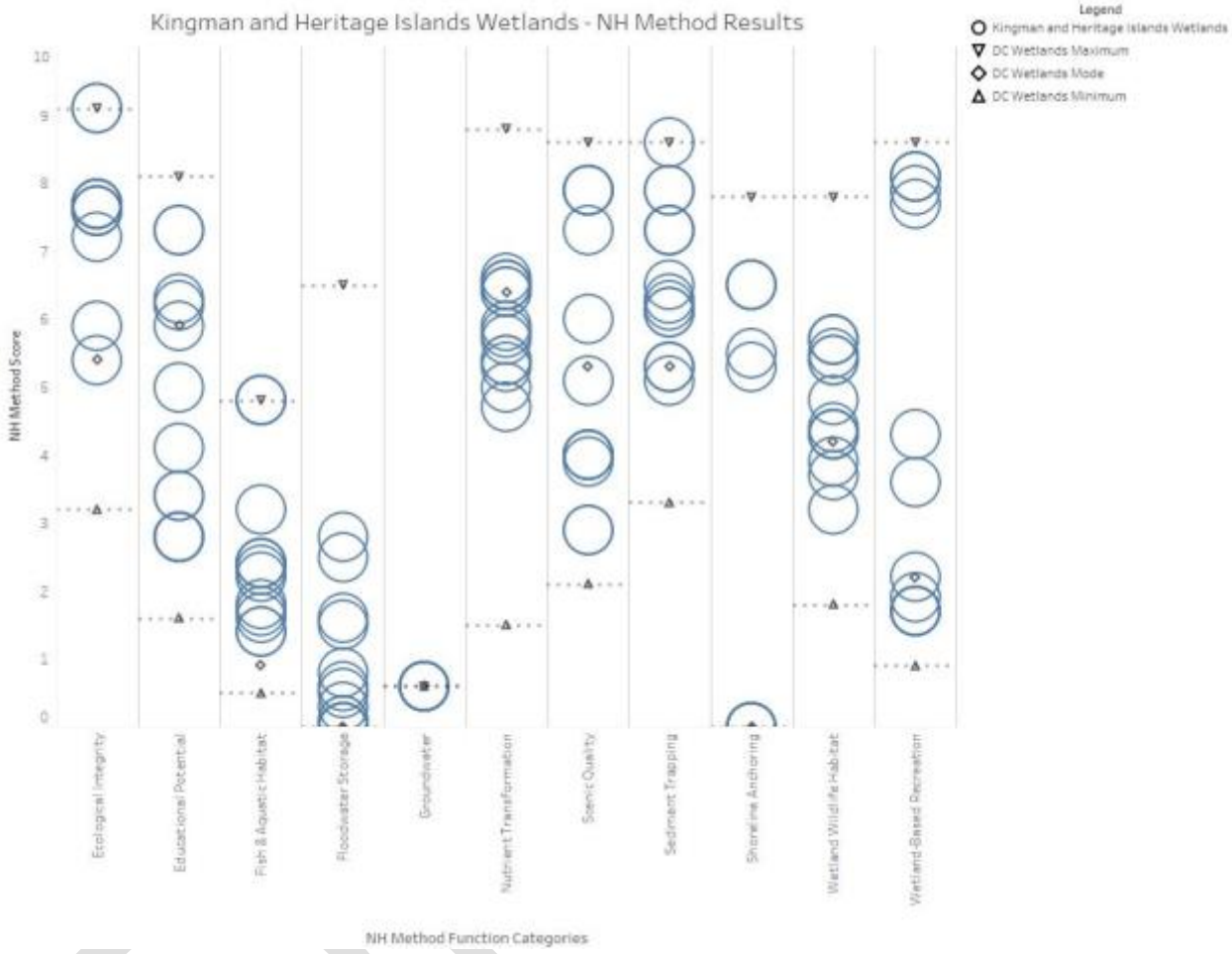

Figure 2-33 NH Method results for Kingman and Heritage Island wetlands.

All wetlands had a WERE tool score of three or lower, which implies these wetlands could benefit from forms of enhancement, such as planting trees, controlling invasive species, and seeding with a native seed mix. Wetland GW, a tidal palustrine forested wetland, has a severe amount of trash relative to other District wetlands. One potential wetland creation site, located near the Anacostia River floodplain, had hydric soils, but did not have hydrophytic vegetation or evidence of hydrology. Some wetlands in this group are in a Tier 1 habitat area, and others are located in or near Tier III habitat areas, per the District's WAP. All wetlands are within the Kingman and Heritage Islands and Tidal Wetlands conservation opportunity area, which is composed of a vernal pool, restored tidal wetlands, and riparian areas along the Anacostia River.

Oxon Hill

The Oxon Hill wetlands are located within National Capital Parks-East toward the southern tip of the District. Seven nontidal wetlands cumulatively totaled approximately 0.7 acres and included palustrine emergent and forested wetlands and a pond. These wetlands receive hydrology from precipitation, stormwater, or groundwater (i.e., seeps).

Using the District Wetland Function and Value Checklist, average relative value wetlands were observed in this wetland group. Per the NH method, these functions had scores lower than the most frequently recorded score in the District: scenic quality, educational potential, wetland-based recreation, and floodwater storage. Small size, invasive plants, lack of public access, and lack of open water access contributed to these lower scores. Distance from development and roads, the large surrounding forest buffer, and the presence of multiple substrate types contributed to relatively higher scores than the most frequently recorded score in the District for ecological integrity and fish and aquatic habitat. See Appendix M for completed NH method data forms for each wetland.

The Oxon Hill wetlands had very little trash compared to other wetlands in the District. An invasive common reed (*Phragmites australis*) dominated the plant cover in Wetlands I and K, and was present in Wetlands O and P. Other observed invasive plants included *Lonicera japonica, Lonicera maackii,* and *Microstegium vimineum.* See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Invasive *Phragmites australis* displaces native plants in Oxon Hill wetlands

All wetlands within this group had a WERE tool score of three or lower, which implies these wetlands could benefit from forms of enhancement, such as controlling invasive species, seeding with a native seed mix, and planting trees. One potential creation site was identified due to its concave position in the landscape, presence of hydrophytic vegetation, and small pockets containing hydric soils. No strong evidence of wetland hydrology was observed in the potential creation site.

Oxon Run

The Oxon Run wetlands located along Oxon Run floodplain in Oxon Run Parkway National Capital Parks-East. This wetland group was composed of nontidal, groundwater-fed, palustrine forested wetlands and totaled approximately 13 acres. Wetland AT, the largest in the group, totaled 11.6 acres and is the sixth largest wetland in the District.

Oxon Run Wetland-AT

Using the District Wetland Function and Value Checklist, six high relative value wetlands and one average relative value wetland were documented in this wetland group.

Per the NH method, two of the four wetlands within this group had maximum scores for noteworthiness. High scores were recorded for Wetland AT for these functions: ecological integrity, wetland and wildlife habitat, fish and aquatic habitat, scenic quality, floodwater storage, sediment trapping, nutrient transformation, and shoreline anchoring. Reasons for high scores include large size, having an outlet, proximity to streams, a large forested buffer, distance from development, open water habitat, wildlife travel corridors, vegetation diversity, and the presence of all vegetation strata.

The Oxon Run wetland group scored near or higher than the most frequently recorded score for these functions: ecological integrity, wetland wildlife habitat, fish and aquatic habitat, wetland-based recreation, sediment trapping, nutrient transformation, shoreline anchoring and noteworthiness. See Appendix M for completed NH method data forms for each wetland.

Relative to other wetlands in the District, the majority of these wetlands had very little trash. However, the southern portions of Wetland AT, AU, and AZ had areas of heavy

trash that may be due to runoff from the roads located uphill. Very few invasive species were observed and included *Lonicera japonica, Rosa multiflora,* and *Microstegium vimineum*. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands. All wetlands had a WERE tool score of one or zero, which implies some wetlands could benefit from forms of enhancement, such as controlling invasive species or habitat restoration, while others were not recommended for further work. One area along the floodplain of Oxon Run was identified as a potential creation site because of its position in the landscape, presence of hydrophytic vegetation and evidence of wetland hydrology however, hydric soils were absent. Most of the Oxon Run wetlands were listed as both Tier II and Tier III habitat, and were within the Oxon Run Magnolia Bog and Forests conservation opportunity area identified in the District's WAP.

Pinehurst Branch

The Pinehurst Branch wetland was located adjacent to Pinehurst Branch within Rock Creek Park. This palustrine forested wetland was 0.08 acres and appeared to receive hydrology from groundwater and precipitation. Surrounding land use included outdoor recreation and a well-maintained hiking trail. Invasive plants observed in the wetland included *Lonicera maackii, Euonymus fortune, Lonicera japonica, Rosa multiflora,* and *Hedera helix.* See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Pinehurst Branch Wetland-LF

This wetland was determined to have high relative value per the District Wetland Function and Value Checklist. Per the NH method, this wetland scored high for educational potential, wetland-based recreation. Reasons for these high function scores include the presence of the adjacent hiking trail that provides public access. This wetland also received a high score for sediment trapping due to the high percent cover of vegetation, proximity to a stream, and lack of an outlet. Recent enhancement (i.e., planting of saplings and shrubs) was observed in this wetland, however this wetland received a WERE tool score of three, and could further benefit from invasive species control.

Piney Branch

The three wetlands in this group are located along the floodplain of Piney Branch within the Rock Creek Parkway National Park. Nontidal palustrine emergent, scrub shrub, and forested wetlands, cumulatively totaled 0.4 acres, and receive hydrology from groundwater (i.e., seeps) and precipitation.

Using the District Wetland Function and Value Checklist, two high value wetlands and one average relative value wetland were found in this wetland group. Relative to other

wetlands in the District, a moderate amount of trash was observed in Wetlands LP and LQ. Invasive species including, *Microstegium vimineum, Lonicera japonica, Wisteria sinensis, and Hedera helix* were observed in the Piney Branch wetlands. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Piney Branch Wetland-LQ

Per the NH method, scores for ecological integrity, wetland wildlife habitat, scenic quality, and educational potential were near or higher than the most frequently recorded scores in the District. Low scores for floodwater storage are due to the small size of these wetlands. See Appendix M for completed NH method data forms for each wetland.

All wetlands within this group had a WERE tool score of one, which implies these wetlands could benefit from simple forms of enhancement, such as increasing the riparian buffer around the pavilion and controlling invasive species. The Piney Branch wetlands are located along the periphery of a Tier III habitat area, per the District's WAP.

Poplar Point

The Poplar Point wetlands are located in Anacostia Park, in Poplar Point along the Anacostia River, and part of National Capital Parks-East. These wetlands are partially included as Tier III habitat areas and all are within the Poplar Point conservation opportunity area, in accordance with the District's WAP. The Poplar Point area has mixed wetland and upland areas that provide important habitat for the District's wildlife. The four nontidal wetlands in this group total approximately 6 acres and are composed of palustrine emergent, scrub shrub, and forested wetlands. Some of these wetlands receive hydrology from groundwater (i.e., seeps) and others from precipitation.

Poplar Point Wetland-DE

According to the District Wetland Function and Value Checklist, all wetlands in this group fell under the average relative value category. Trash was present in these wetlands relative to other District wetlands. Invasive species such as *Phragmites australis* were observed but not prevalent in the Poplar Point wetlands. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Per the NH method, scores for ecological integrity, fish and aquatic habitat, floodwater storage and sediment trapping were near or higher than the most frequently recorded

scores in the District. High scores for floodwater storage werere due to the relatively larger size of Wetlands DF and DE. High scores for fish and aquatic habitat were due to the presence of deep water and open water, coarse woody material, submerged vegetation and distance from development. Ecological integrity scores were high due to a small percentage of impervious surface within 500 feet of the wetlands, distance from development, the presence of a forested buffer, little human disturbance in the wetlands, and a lack of water flow regulation by structures. Sediment trapping scores were high because of the lack of an outlet, high percent cover of multiple vegetation strata, and wetland-to-watershed size ratio. See Appendix M for completed NH method data forms for each wetland.

One wetland, Wetland DG, appeared to have been altered in the past but had evidence of seasonal/temporary flooding. With a WERE tool score of seven, this wetland could benefit from simple enhancement, such as implementing measures to maintain wetland hydrology, controlling invasive species, and seeding with a native seed mix. The other three wetlands had WERE tool scores of three and lower, which implies these wetlands could benefit from simple forms of enhancement, such as planting woody stems, adding bird boxes, controlling invasive species, and seeding with a native seed mix. The Poplar Point wetlands are partially included as Tier III habitat areas, and all are within the Poplar Point conservation opportunity area. This area has mixed wetland and upland areas that provide important habitat for the District's wildlife.

Potomac River Floodplain

The Potomac River Floodplain wetland group is located within the Chesapeake & Ohio Canal Parks along the eastern bank of the Potomac River in the northwest quadrant of the District. This group comprises 39 wetlands that total 41 acres. Tidal wetlands are located adjacent to the Potomac River. Wetlands located upslope from the river are nontidal and receive hydrology from groundwater, precipitation, and/or runoff. This group included both tidal and nontidal palustrine emergent, scrub shrub, and forested wetlands, and vernal pools.

Portions of these wetlands are visible from the Chesapeake and Ohio Canal Towpath and a paved path north of Chain Bridge that provides access from the towpath to an observation platform next to the Potomac River. The C&O Canal National Park preserves a large tract of wetland mosaic habitat that is unlike any other wetland system in the District. Thirty-seven of the wetlands in this group are in or adjacent to either Tier II or Tier III habitat areas and are included in the Potomac River and Floodplain conservation opportunity area, according to the District's WAP. Habitats in this area include "diverse ice-scour shrublands and forests, riverine pools, vernal pools, tidal mudflats, rocky shoals, deep water habitat, and fish spawning areas" (Ossi et al. 2015). This wetland group is one of the largest remaining wetlands within the Potomac River watershed.

A vernal pool in the Potomac River Floodplain

Using the District Wetland Function and Value Checklist, the largest percentage of total high relative value wetlands was documented in the Potomac River Floodplain wetland group. Relative to other District wetlands, the Potomac River Floodplain wetlands contained very little trash. Some wetlands in this group had a high presence of invasive species, such as Japanese knotweed (*Lonicera japonica*) and Chinese wisteria (*Wisteria sinensis*), but most areas appeared to have very little invasive species cover. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Per the NH method, this wetland group scored high for these functions: ecological integrity, fish and aquatic habitat, floodwater storage, nutrient transformation, scenic quality, sediment trapping, shoreline anchoring, wetland wildlife habitat, and wetland-based recreation. Some low scores were recorded for educational potential due to the relative remoteness of the area and difficulty for walking access. See Appendix M for completed NH method data forms for each wetland.

Figure 2-34 is a scatter graph that compares this wetland group to other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see legend). Each blue circle represents one Potomac River Floodplain wetland score. If multiple wetlands received the same score

for a particular function category, then only one circle appears for that score. The groundwater category received the same average score for each wetland because the evaluation questions were referencing information that is unknown for the District.

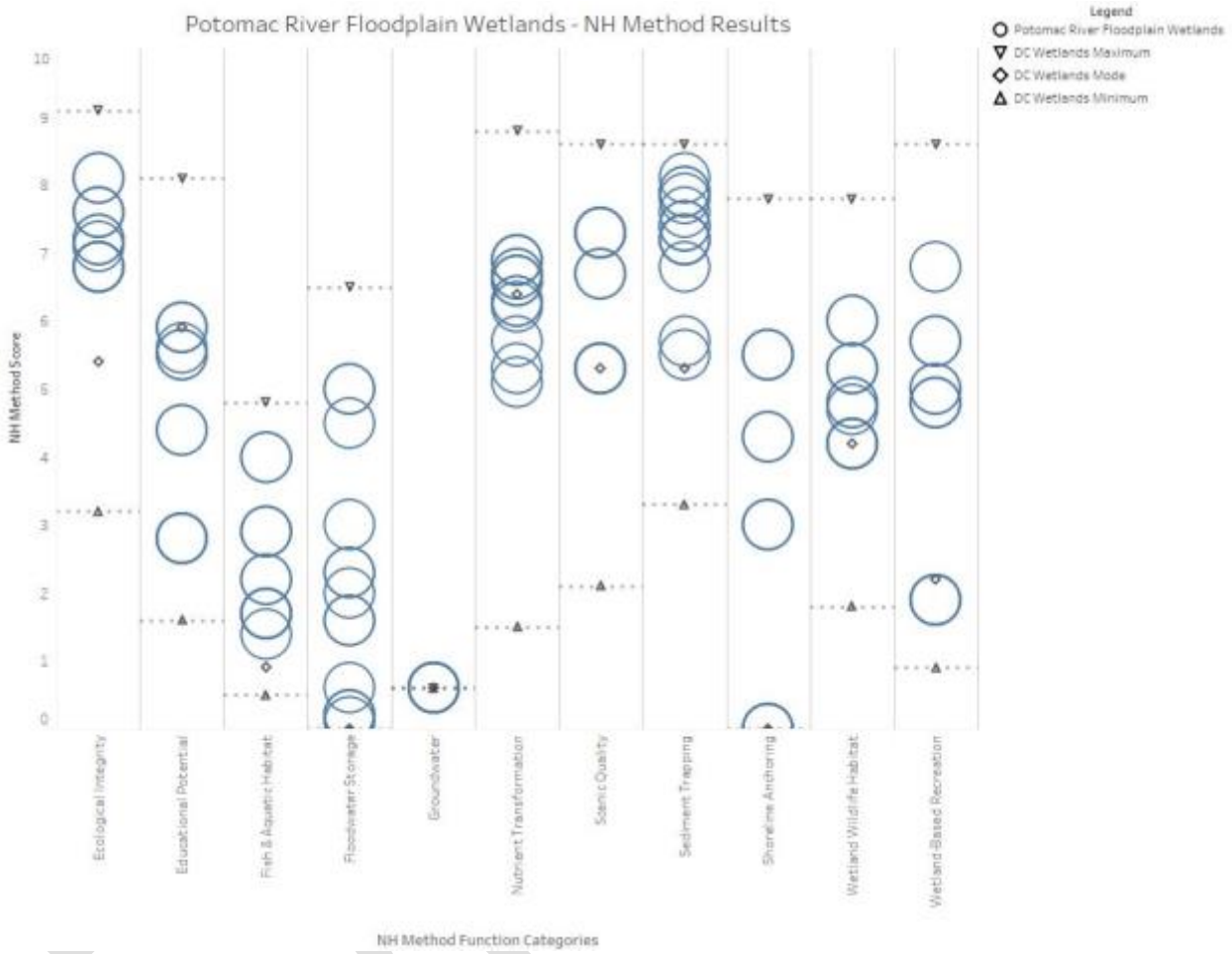

Figure 2-34 NH Method results for Potomac River floodplain wetlands.

Thirty-eight wetlands had a WERE tool score of one or zero, and one wetland (Wetland-OB) had a score of 3. A score of 3 implies that Wetland-OB could benefit from forms of enhancement such as invasive species control or seeding with a native seed mix. The wetlands with a score of 1 could benefit from enhancement such as invasive species control. No restoration or enhancement is recommended for WERE scores of zero.

Rock Creek

The Rock Creek wetland group is located within Rock Creek Parkway National Park in the northwest quadrant of the District. This large forested tract of land contains palustrine forested and emergent wetlands and a ponded wetland. Fourteen wetlands are included and cumulatively total 6 acres. Wetlands are located throughout the Rock

Creek watershed from steeper gradient headwater wetlands to floodplain wetlands along Rock Creek and Beach Drive. The largest number of wetlands within this group is located in the northernmost portion of the park near the District border with Maryland. The largest wetland in Rock Creek (Wetlands JY, JZ, KC) is located along the floodplain of Rock Creek and is visible from a nearby walking trail.

Using the District Wetland Function and Value Checklist, only high and average relative value wetlands were documented in this wetland group. Relative to other District wetlands, the Rock Creek wetlands contained very little trash. This wetland group had no prevalent invasive species cover. Invasive species that were observed included *Rosa multiflora, Typha latifolia, Lysimachia nummularia, and Microstegium vimineum.* See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Rock Creek Wetland-KX

Per the NH method, Rock Creek Park wetlands scored high for these functions: ecological integrity, sediment trapping, shoreline anchoring, wetland wildlife habitat, and wetland-based recreation. Scores for floodwater storage and fish and aquatic

habitat functions ranged from similar to the most frequently recorded scores in the District to near the maximum recorded score in the District. Scores for educational potential ranged based on ease of access and parking area availability. Floodwater storage and nutrient transformation scores ranged from low to near the most frequently recorded scores in the District due to the relatively small size of wetlands within this group. See Appendix M for completed NH method data forms for each wetland.

Figure 2-35 is a scatter graph that compares this wetland group to other District wetlands. Within each wetland function category along the x-axis, the maximum, minimum, and most frequently recorded (i.e., mode) scores across all District wetlands are depicted as triangles or diamonds (see legend). Each blue circle represents one Rock Creek wetland score. If multiple wetlands received the same score for a particular function category, then only one circle appears for that score. The groundwater category received the same average score for each wetland because the evaluation questions were referencing information that is unknown for the District.

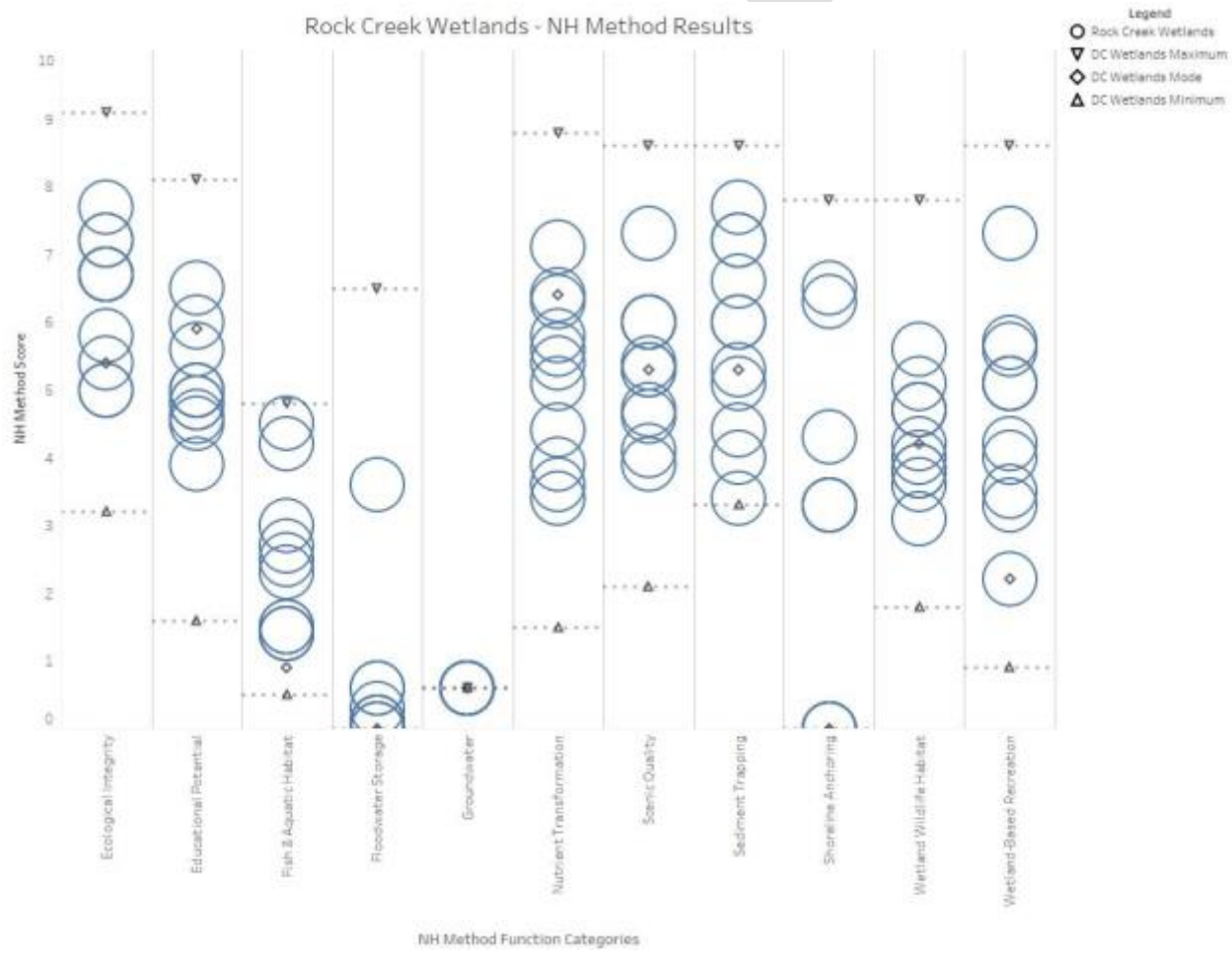

Figure 2-35 NH Method results for Rock Creek wetlands.

Most of the Rock Creek wetlands are located in or adjacent to a Tier III habitat area, per the District's WAP. Wetlands in the northern-most portion of the park are in a Tier II habitat area and in the Northern Rock Creek Park conservation opportunity area, which includes "the northern floodplain of Rock Creek Park and the surrounding uplands" (Ossi et al. 2015). The National Park protects many seep wetlands, in addition to many other wetland types, and provides important habitat for the District's wildlife.

Every Rock Creek wetland had a WERE tool score of three or lower, which implies these wetlands could benefit from forms of enhancement, such as planting trees, controlling invasive species, and seeding with a native seed mix. Within Rock Creek Park, seven potential wetland creation sites were recorded based on their landscape position in the current and relict floodplain of Rock Creek.

Soapstone Valley

The Soapstone Valley wetlands are located in the Melvin C. Hazen Park within Rock Creek National Park and nearby residential area in the northwest quadrant of the District. Two nontidal palustrine emergent and forested wetlands are included in this group and cumulatively total 0.1 acres. Hydrology sources include groundwater (i.e., seeps) and the adjacent stream. These wetlands are visible from the Melvin C. Hazen walking trail.

Using the District Wetland Function and Value Checklist, this group was documented as having average relative value. Relative to other wetlands in the District, very little trash was observed. *Hedera helix* was the only invasive plant observed within the group and was found in Wetland LJ. See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Per the NH method, scores for ecological integrity, fish and aquatic habitat, scenic quality, wetland-based recreation, sediment trapping, and nutrient transformation were near or higher than the most frequently recorded scores in the District. Reasons for these scores included the presence of multiple vegetation strata, the presence of coarse woody material, distance from development, the presence of a forested buffer, and the accessibility from the nearby trail. Low scores for floodwater were due to the small size of the wetlands. See Appendix M for completed NH method data forms for each wetland.

Due to a blocked culvert raising water levels in this area, Wetland LG had a WERE tool score of seven, which provides an opportunity for wetland enhancement, such as fixing the blocked culvert, maintaining wetland hydrology, and enhancing the vegetation). The wetland in the eastern portion of the Soapstone Valley wetland group is considered to be a Tier III habitat area, according to the District's WAP.

Soapstone Valley Wetland-LG

Theodore Roosevelt Island

The Theodore Roosevelt Island wetland group is located within the Potomac River, and part of the George Washington Memorial National Park. This group comprises two large, mostly tidal wetlands and cumulatively total approximately 27 acres. Theodore Roosevelt Island has an extensive trail system that provides views of the wetlands. The Theodore Roosevelt Island wetlands, in combination with the Potomac River Floodplain wetlands, are the largest remaining wetlands within the Potomac River in the District and cumulatively total 68 acres. These two combined wetland groups account for 25% of the total wetland acreage in the District.

Using the District Wetland Function and Value Checklist, only high relative value wetlands were documented in this wetland group. Relative to other wetlands in the District, very little trash was observed. Invasive species were observed within both wetlands and included *Iris pseudacorus, Hedera helix, Lonicera japonica,* and *Lonicera maackii.* See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

The invasive plant *Iris pseudacorus* displaces native plants in Theodore Roosevelt Island wetlands.

The highest scores for shoreline anchoring were recorded for this group, based on the NH method. High scores were recorded for these functions: ecological integrity, wetland wildlife habitat, fish and aquatic habitat, scenic quality, educational potential, wetland-based recreation, floodwater storage, nutrient transformation, and noteworthiness. Scores for sediment trapping were slightly higher than the most frequently recorded score in the District for that function. Reasons for high scores included lack of human activity within wetlands, presence of mudflats and submerged aquatic vegetation, distance of more than 500 feet from impervious surface, large size, presence of open water and deep-water habitats, three or more vegetation strata, wildlife travel corridors, undisturbed wetland buffers, no barriers to aquatic life, public access via trails, and location adjacent to the Potomac river. See Appendix M for completed NH method data forms for each wetland.

All wetlands had a WERE tool score of one, which implies these wetlands could benefit from forms of enhancement, such as controlling invasive species and seeding with a native seed mix. The wetlands on the eastern side of the island are listed as Tier III wetlands, and the entire island is included in the Theodore Roosevelt Island Area conservation opportunity area, according to the District's WAP. Tier III areas are highly significant for the conservation of biodiversity.

Wetlands not assigned a Wetland Group

Thirty-eight wetlands throughout District were not assigned a wetland group because they were scattered and not clustered in a shared location. Wetland groups were created based solely on location. Wetlands not assigned a group were located within nontidal areas of the District and consisted of palustrine emergent, scrub shrub and forested wetlands, and ponds. These wetlands were located in the Northeast, Southeast, and Southwest quadrants and cumulatively total approximately 9 acres.

Using the District Wetland Function and Value Checklist, 4 wetlands were documented as high relative value, 37 as average relative value, and 4 as low relative value. A severe amount of trash was observed in Wetlands AF and IF. Invasive species observed included *Glechoma hederacea, Hedera helix, Lonicera japonica, Lonicera maackii, Morus alba, Typha latifolia, Phragmites australis, Euonymus fortune, Microstegium vimineum, Iris pseudacorus, and Ligustrum sinense.* See Appendix K for a full list of the invasive plants observed in each wetland and in surrounding uplands.

Per the NH method, Wetlands VF, IF, and AM scored high for floodwater storage due to their relatively large size, ranging from 1 to 2 acres. Sediment trapping scores for the following wetlands were higher than the most frequently recorded score in the District for this function: Wetland IF, GD, VR, JP, JI, AF, HR, AL, JF, CR, NC, F, LN, BF, BG, and IB. Shoreline anchoring scores were high for Wetlands MO, MP, MQ, VK, AM, AF, CR, GC, ST, CG, CH, VF, H, CM, and CO due to the proximity of these wetlands to a waterbody; presence of a high vegetation density; and presence of many stones, boulders, and cobble. The following wetlands scored higher than the most frequently recorded score in the District for ecological integrity: Wetlands VI, VN, MO, MP, MQ, VR, NA, JF, JI, NC, H, ST, CK, CH, CG, CR and GC. Some reasons for high ecological integrity scores include limited human activity within the wetland and a 500-foot buffer, distance from the wetland to impervious surface, lack of invasive species and lack of fill in the wetland. Fish and aquatic habitat scores for the following wetlands were higher than the most frequently recorded score in the District for this function: Wetland ST, CK, VK, CM, CG, CH, AM, VR, CO, LN, MO, MP, MQ, VF, BF, BG, NJ, AF, JI, H, BS, VI, VN, JF, NC, CR, AND GC. See Appendix M for completed NH method data forms for each wetland.

Potential wetland creation sites, such as CRE-HN, CRE-NQ, and CRE-JH, were identified in areas of the District not included in a wetland group. Please refer to Table 2.10Table 2.1 for information regarding these sites. Wetland AM received a WERE tool score of 25 and could benefit from restoration, because a portion of the wetland is receiving excess sediment. Wetland VK appears to have been formed due to an undersized culvert, and received a WERE tool score of nine because it could benefit from forms of enhancement. If the culvert is replaced near Wetland VK, measures would need to be implemented to maintain hydrology. All other wetlands not assigned a wetland group had a WERE tool score of three or lower, which implies these wetlands could benefit from enhancement, such as controlling invasive species and seeding with a native seed mix.

The following wetlands are considered Tier III habitat areas according to the District's WAP: Wetland MQ, MP, BA, NC, and ST. Tier III areas are highly significant for the conservation of biodiversity. Wetlands F, H, CG, CH, CM, CR, CO, CK, and AM are

considered Tier II habitat areas that are extremely significant for the conservation of biodiversity.

2.3.1 Comparison of Wetlands Mapped in 1997 and 2017

The primary purpose of the 2017 field study was to update the District's wetland inventory, gather baseline data, and create a Wetland Registry. The 2017 field study mapped 289 acres of wetlands, compared to 280 acres mapped for the 1997 WCP. As mentioned previously, potential reasons for the difference in wetland acreage between the two WCPs include the following:

1. The base maps used to map the 1997 wetlands were limited to a mapping resolution of 0.5 acres; therefore, wetlands smaller than 0.5 acres were most likely unrepresented in the study;
2. The 2017 mapping was developed using submeter-accuracy GPS, which was more accurate than previous mapping;
3. In the 20 years between these two studies, wetland acreage may have been changed in certain areas due to land use change; and
4. Site accessibility may have been different between the two studies. Due to the differences in mapping and methods, a direct comparison between the 1997 and 2017 wetlands cannot be made.

Even though a direct wetland-to-wetland comparison between the 1997 and 2017 WCPs was beyond the scope of this updated WCP, some general observations are included for each wetland group. The wetlands mapped in the Anacostia Park, Broad Branch, Dumbarton Oaks, Fort Dupont Tributary, Fort Stanton Park, Hains Point, Oxon Hill, Pinehurst Branch, Piney Branch, Poplar Point, and Soapstone Valley groups during the 2017 field study do not appear on the 1997 map. Between the 1997 and 2017 studies, several mapped wetlands were similar in size and shape in the Anacostia River, Arboretum, Kenilworth, Oxon Run, Potomac River Floodplain, and Theodore Roosevelt Island groups, although some wetlands in these areas are shown as being mapped only in 1997 or 2017 and cannot be compared.

The Anacostia River Gateway wetland group shows a large area of overlap between the 1997 and 2017 wetlands. The 1997 study mapped more wetlands in the Bald Eagle Hill wetland group, although there was some overlap between the two studies, and a few small areas were mapped during the 2017 study only. The Fort Lincoln wetland group shows multiple mapped wetlands during the 2017 study as well as one wetland mapped during the 1997 study, which was impacted subsequently due to development. The large wetland mapped in 2017 was constructed for compensatory mitigation to offset the impact to the 1997 wetland.

The 2017 study mapped more wetlands in the Foundry Branch wetland group than during the 1997 study, while a small area in the southern portion of the group showed overlap between the two studies. The Kingman and Heritage Island wetland group shows some overlap between the 1997 and 2017 studies. Wetlands were only mapped in the northern portion of Kingman and Heritage Island during the 1997 study. A large

portion of 2017 mapped wetlands in the southern portion of the Kingman and Heritage Island represent recent wetland creation projects. The Rock Creek wetland group contained more wetlands in the northern portion during the 2017 study, while the southern portion of the group had more mapped wetlands during the 1997 study. In portions of Rock creek, wetlands were similar in size and shape between the 1997 and 2017 studies.

2.3.2 Future Impacts – Climate Change

Indirect impacts to the District's wetlands may be occurring now and are expected to occur as a result of global climate change. These are some results of climate change that would readily be seen in the tidal portions of the Potomac and Anacostia Rivers, and Rock Creek:

- Increased annual average and summer temperatures (Thompson et al. 2015);
- Increased flooding due to shorter duration, higher frequency, and higher intensity storms is expected (Thompson et al. 2015);
- Precipitation and coastal storms leading to flooding in the District, either through overbank flooding, storm surges, or both (Ossi et al. 2015); and
- Sea level rise in the Chesapeake Bay (Wood et al. 2002).

This expected increase in temperature would lead to increased evapotranspiration (movement of water from soil, to plants, to the atmosphere), decreased soil moisture, and warmer water temperatures. These changes are expected to lead to shifts in plant species range, increased parasites and other pests in aquatic habitats, and changes in hydrology of more sensitive wetlands types like vernal pools (Ossi et al. 2015). Also, efforts to control the spread of invasive species will be crucial as the climate and habitats are changing (Erwin 2009).

With the expected increase in flooding due to higher intensity storms, flood events can carry polluted surface water into the District through the Potomac and Anacostia Rivers, which can lead to "a degradation of water quality and changes in hydrology, habitat structure, and aquatic biodiversity" (Ossi et al. 2015).

Much of the District, approximately 1.74–2.55 square miles, lies below 40 inches in elevation and is expected to be highly affected by this predicted sea level rise (District of Columbia 2010). "Sea level rise and more intense storm events are expected to increase shoreline erosion, facilitate salt water intrusion, destroy habitats and ecological systems, and increase storm water overflows and sewage contamination" (Ossi et al. 2015). Conversions of wetland cover types and higher salinity amounts will lead to shifts in plant species (Ossi et al. 2015) and quite possibly a decrease in habitat acreage, especially in areas where the landward edge of the aquatic resources is unable to adjust naturally because of the presence of development. As suggested by Erwin (2009), coastal wetlands may have the ability to adapt to sea level rise as long as existing wetlands are protected and buffer space is allowed inland and upslope to accommodate for this change in wetland elevation. Human influence along the

shoreline (e.g., development or building protective bulkheads) is likely to worsen the sea level rise effect on tidal wetlands (Wood et al. 2002).

Chapter 3 Wetland Conservation Plan Implementation

The District understands the critical importance of wetlands for a healthy watershed and the innate ecosystem service provided by wetlands. The District also recognizes that the dramatic loss of historic wetlands makes the protection and restoration of its remaining wetlands and the creation of new wetlands even more critical than it might otherwise be. Recognizing this, District policies, such a the Mayor's Sustainable DC 2.0 Plan, have set the target of no net loss and eventual net gain of wetland acreage and function, consistent with the Wetland Conservation Plan (WCP). The District plans to achieve that goal through a combination of regulatory programs, restoration projects, and other initiatives. Taken together, these efforts constitute the implementation of the District's WCP.

The WCP is also implemented through nonprofit organizations, non-regulatory programs, and interstate programs. Many of these programs recruit volunteers for a variety of hands-on stream and wetland restoration projects such as replanting native plants and removing trash and invasive plants. Other organizations rely on wetland creation and stream restoration experts who volunteer for Chesapeake Bay or other watershed restoration efforts. Government policies, such as the Sustainable DC Plan, establish targets to achieve no net loss and eventual net gain of wetlands.

3.1 Current Regulatory Controls and Programs

Federal and District Regulations

The principal federal legal authority governing the protection of wetlands is the federal Clean Water Act Section 404 Program, administered by USACE and EPA. Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States. Under the CWA, states have the authority to enact their own regulatory programs for wetlands and can adopt more stringent limitations than those of federal programs (33 U.S.C. § 1251 (b)).

The District enacted the Water Pollution Control Act (WPCA) of 1984, D.C. Official Code § 8-103.01 *et seq*., which prohibits the discharge of pollutants to the waters of the District, unless permitted (D.C. Official Code § 8-103.06). The WPCA does not include the word "wetland" as a type of "waterbody," rather the WPCA defines the "waters of the District" (D.C. Official Code § 8-103.01(26)). "Waters of the District" includes USACE-jurisdictional wetlands and non-USACE-jurisdictional (i.e., isolated) wetlands, unless the waterbodies (e.g., wetlands) are physically prevented from reaching underground or land watercourses, as in the case of swimming pools.

Wetland Delineation and Jurisdictional Determination

The identification and location of wetlands is determined through a process known as a wetland delineation followed by a jurisdictional determination (JD). First, a wetland delineation must be performed in accordance with the USACE Wetland Delineation Manual (1987) and Regional Supplements.

In the District, two regional supplements apply, depending upon which part of the District the wetland delineation is performed: the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, Version 2.0 dated November 2010, or the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0) dated April 2012. The Atlantic and Gulf Coastal Plain Region supplement is used in the eastern and southern part of the District and the Eastern Mountains and Piedmont Region supplement is used in the western portion of the District.

In general, the process requires positive evidence of hydrophytic vegetation, hydric soils, and wetland hydrology to determine that an area is a wetland. The wetland boundary is marked or flagged in the field. Within the District, JDs typically involve an on-site field meeting with USACE and DOEE to review flagged wetland boundaries that were established during the wetland delineation. USACE will make a determination if delineated wetlands are within its jurisdiction.

USACE Review of Section 404 Permit

If a project has a potential wetland impact, USACE review is required to determine if the wetland is under USACE jurisdiction and a Section 404 permit is needed. Review is initiated when an applicant sends the Joint Federal/State Application Form for the Alteration of any Floodplain, Waterway, Tidal or Nontidal Wetland in Maryland to the USACE Baltimore District. Although the application form title states "Maryland," it is also used for projects proposed in the District. The applicant should submit this form, including all required information (e.g., project description, maps, alternatives analysis, impact calculations) to both USACE and DOEE, concurrently.

DOEE review of Water Quality Certification

The District exercises its authority to regulate discharges of pollutants to federally protected wetlands by issuing a state water quality certification (WQC) under Section 401 of the CWA for activities requiring a USACE Section 404 permit. Wetlands that do not require a Section 404 permit may be regulated under the District's Water Pollution Control Act.

Discharge of pollutants means, any "releasing, pumping, pouring, emitting, emptying or dumping of any pollutant" to the District's waters. Pollutants mean, in part, "any substance which may alter or interfere with the restoration or maintenance of the chemical, physical, radiological, and biological integrity of the waters of the District" (D.C. Official Code § 8-103.01).

Wetlands determined to be under the jurisdiction of the District shall not be filled, dredged, drained, or otherwise impacted without written authorization from DOEE. In

the District's Surface Water Quality Standards, 21 DCMR § 1102.2, wetlands are designated for the beneficial use of the protection and propagation of fish and shellfish. Activities may be permitted in wetlands only when aquatic animal and plant habitat remains preserved or damage to or destruction of the habitat is mitigated, per D.C. Official Code § 8-103.06(a)(3).

A property owner proposing an activity that may impact a District water must apply to USACE and DOEE for a determination as to whether the wetland is under the jurisdiction of the District only, or both the USACE and District (i.e. waters of the US). If USACE determines the proposed activity requires a Section 404 permit, then the District will also review the project for a Section 401 WQC. The WQC verifies that the discharge activities are consistent with District Water Quality Standards, regulations, and other water quality goals, provided that certain conditions listed in the certification are followed. Conditions may include requirements for treating water impacted by the project with an appropriate treatment system or a requirement to monitor turbidity in streams during the permitted disturbance. When a WQC is issued, it becomes a condition of the Section 404 permit. In some cases when impacts to wetlands or other aquatic resources are proposed, mitigation is required and becomes part of the Section 404 permit and WQC, see Section **Error! Reference source not found.** for details.

DOEE Letter of Authorization

If USACE determines that the proposed project does not require a Section 404 permit, then the District will review the project for a letter of authorization to proceed with the project, which may involve certain limitations and conditions, pursuant to D.C. Official Code § 8-103.06 and § 8-103.13. Impacts to an isolated wetland also require mitigation, as described in Section 3.2.

Practicable Alternatives

During both the CWA Section 404/401 review process and DOEE letter of authorization review, applicants must demonstrate that all practicable alternatives (e.g., sites, designs) have been considered. A practicable alternative is one that could achieve the project's purpose and need and would avoid and minimize impacts to aquatic resources. An alternative is practicable if it is available and capable of being completed after taking into consideration cost, existing technology, and logistics in light of the overall project purpose. Practicable alternatives include areas not presently owned by the applicant that could be reasonably obtained, utilized, expanded, or managed to fulfill the basic purpose of the proposed project, per CFR 40 Part 230 Section 404(b)(1)(a)(2). A USACE permit or DOEE letter of authorization cannot be issued if a practicable alternative exists that would have less impact on aquatic resources.

3.2 District Wetland Regulations

Although the District has an existing regulatory approach for federally protected and for isolated wetlands, this does not exist in a single set of regulations that provides a clear framework for property owners and assurance to environmental stakeholders and the general public that the District's wetlands are protected. To address this, the District

is currently drafting wetland regulations that would provide a clear framework and serve the District's larger goals of no net loss and eventual net gain of wetlands and their functions. Prior to being proposed, these regulations would be proposed for public comment, so that all stakeholders and the general public can share their views on the proposal.

Through CWA Section 404/401 permits, the DOEE letter of authorization, and enforcement actions, regulatory programs require compensatory mitigation to replace loss of wetland areas and other aquatic resources. Methods to provide compensatory mitigation include restoring, creating, enhancing, and preserving wetlands and aquatic resources. USACE and DOEE determine the appropriate form and amount of compensatory mitigation required for impacts to wetlands under their jurisdiction.

According to CFR Section 33, Chapter II, Part 332 – *Compensatory Mitigation for Losses of Aquatic Resources*, when compensatory mitigation is required, USACE prefers the following, in order: purchase of mitigation bank credits, payment to an in-lieu fee program, or permittee-responsible mitigation. The meaning of these terms is described below per the USACE document, Compensatory Mitigation Rule: Improving, Restoring, and Protecting the Nation's Wetlands and Streams, Questions and Answers:

Mitigation bank credits are created when a government agency, corporation, nonprofit organization, or other entity restores, creates, enhances, or preserves a wetland, stream, or other aquatic resource area at a site that does not have a regulatory requirement. A regulatory agency quantifies the value of the improvements in terms of "credits" and approves or certifies them. The improved area that generated the credits remains protected, and a permittee at another site that causes impacts to aquatic resources can purchase credits to meet their project's compensatory mitigation requirement. Mitigation banks are a form of third-party compensatory mitigation, in which the responsibility for compensatory mitigation implementation and success is assumed by a party other than the permittee.

In-lieu fee programs allow permittees with a mitigation requirement to pay a fee to a regulatory agency that uses the funds to restore, create, enhance, or preserve wetlands, streams or other aquatic resources to offset the impacts that occur at regulated sites. In-lieu fee programs are also a form of third-party mitigation.

Permittee-responsible mitigation is when the permittee restores, creates, enhances, or preserves wetlands, streams or other aquatic resources to offset the impacts that occur at their own regulated site. The mitigation can be provided at or adjacent to the impacted site (i.e., on-site mitigation) or at another location, usually within the same watershed (i.e., off-site mitigation). The permittee is responsible for implementation and has an ongoing responsibility to ensure the improved area is maintained and functions properly as an aquatic resource.

USACE prefers mitigation bank credits because the improvements to the wetland or aquatic resource must already be completed and functioning successfully before the site can generate and sell credits. In addition, mitigation banks often have a higher success rate than permittee-responsible mitigation in creating, restoring, preserving,

and enhancing aquatic resources because they are subject to oversight from regulatory agencies, and the credit owners have an incentive to protect their financial interests.

In-lieu fee programs are USACE's second preference because they may involve larger, more ecologically valuable mitigation projects compared to permittee-responsible mitigation.

Permittee-responsible mitigation projects have the greatest risk that the wetland or other aquatic resource that is improved may not be maintained or protected in perpetuity, and therefore may not provide successful long-term outcomes (USACE, 2008). Also, permittee-responsible mitigation projects vary in size depending on the permitted impacts and replacement ratio.

Mitigation banks and in-lieu fee programs typically provide more expertise in planning, approval, and oversight of wetland restoration, enhancement, creation and protection.

Currently, permittee-responsible mitigation is the only available option in the District for USACE-jurisdictional impacts because there are no mitigation banks or in-lieu fee programs. Mitigation banks were proposed in the 1997 WCP; however, they have not been established in the District. Chapter 3.11 of this document discusses recommendations for an in-lieu fee program or mitigation bank.

Permit applicants for projects impacting wetlands must provide DOEE and USACE with a mitigation plan. This plan must include an alternatives analysis that demonstrates that all practicable alternatives for compensatory mitigation have been considered. DOEE and USACE will review the mitigation plan to determine if compensatory mitigation is an option.

If DOEE determines that permittee-responsible mitigation is not practicable for impacts to non-USACE-jurisdictional wetlands (e.g., isolated wetlands) and no practicable alternative exists for a mitigation project, applicants may pay into the District of Columbia Wetland and Stream Mitigation Trust Fund (Wetland Fund) to satisfy compensatory mitigation. The Wetland Fund is a non-lapsing fund dedicated to wetland creation, restoration, enhancement, and preservation. The Wetland and Stream Mitigation Trust Fund is not a USACE-approved in-lieu fee program, and therefore is not an option for third-party mitigation of USACE-jurisdictional impacts.

3.3 Wetland Registry

The Wetland Registry is a crucial tool for WCP implementation because it provides every stakeholder access to baseline data and the locations of the District's wetlands. The increased awareness of wetland locations that the Wetland Registry provides will help stakeholders plan to avoid wetland impacts that cause losses and regulators to better protect wetlands.

The Wetland Registry enables users to view the following information:

- Locations of known and potential wetlands throughout the District, using a geodatabase platform;
- Baseline data for each wetland, by clicking on its location. Baseline data includes photographs, functional assessments, and assessments for restoration and enhancement potential; and
- Locations of potential wetland creation areas for further study.

The Wetland Registry does not replace the need for site-specific wetland delineations. It does not include every wetland in the District, and the wetland polygons are approximations that do not represent actual jurisdictional boundaries. Therefore, permit applicants must perform site-specific wetland delineations according to the 1987 Manual (Environmental Laboratory 1987) and subsequent Regional Supplements, and they must consult with the USACE and DOEE to see which locations are under USACE or DOEE jurisdiction for review.

As part of the District's permitting process, new permit applicants, Department of Consumer and Regulatory Affairs (DCRA), and DOEE reviewers will use the Wetland Registry to screen permit applications for possible wetlands located on-site. If a DCRA or DOEE reviewer finds a permit application that involves a wetland on site that was not identified in the application, then they will direct the applicant to DOEE Regulatory Review Division for further review.

DOEE's Watershed Protection Division (see Section 3.5) will utilize trash data in the Wetland Registry, collected during the District-wide wetland inventory, to identify new areas for trash cleanup efforts and to plan potential locations for trash-traps, which skim floatable trash from streams and stormwater ponds.

3.4 Wetland Enhancement and Restoration Evaluation Tool and Wetland Creation Suitability Guidance Documents

The WERE Tool (see Appendix C) and Wetland Creation Suitability Guidance documents (see Appendix D) were created for this WCP update to improve the implementation of the WCP goal to achieve no net loss and eventual gain of wetlands.

The WERE Tool was used during the field study and wetland inventory to gather baseline data on each wetland's need for potential restoration and/or enhancement. Resulting data were stored in the publicly available Wetland Registry to provide a head start for stakeholders interested in planning wetland restoration and enhancement projects. This baseline data will improve regulators' ability to monitor impacts and changes in wetland functions over time due to natural and man-made disturbances. Because each wetland received a score and a category, users will be able to easily interpret the data to identify wetlands that have undergone change (e.g., invasive species have been introduced or sedimentation has occurred) or to identify economical enhancement options(e.g., invasive species control versus full restoration).

The Wetland Creation Suitability Guidance document provides a checklist of necessary considerations for choosing a potential wetland creation site. This simple guide helps to

screen areas for further consideration, which helps achieve the goal of eventual gain of wetlands. Note that the use of this guidance does not supersede the District's wetland policies or regulations or any federal statutes, regulations, or policies.

3.5 DOEE Divisions that Protect Wetlands and Water Quality

DOEE's Natural Resource Administration's (NRA) core function is to conserve, protect, and improve the soil, water, and living resources of the District and to protect its aquatic resources from pollution and degradation. NRA achieves this through a combination of federal and District authorities, such as: strategic planning; setting and enforcing water quality standards; and monitoring and assessing the quality of the aquaic and wildlife resources. NRA has five Divisions including: Regulatory Review Division (RRD), Fisheries and Wildlife Division (FWD), Inspection and Enforcement Division (IED), Water Quality Division (WQD), and Watershed Protection Division (WPD).RRD reviews proposed construction projects in the District to ensure they comply with applicable laws and regulations to protect and restore health to District waters and wetlands. Within RRD, the Wetland Program is responsible for the review of CWA Section 401 Water Quality Certification reviews, as described in 3.1 Current Regulatory Controls and Programs. Also within RRD, Erosion and Sediment Control plan and Stormwater Management plan review of proposed construction projects is required to ensure minimal erosion and to prevent sediment pollution from entering District waters and wetlands. Well permit reviews protect groundwater that could eventually transport contamination to District waters and wetlands. Floodplain reviews ensure construction activities in the floodplain are adequately secured to prevent debris,equipment, stockpiled materials, and pollutants from being transported into wetlands and District waters. Floodplain reviews also require designers to anticipate flooding during design to prevent the transport of materials and pollution from development into wetlands and District waters during a flood event.

Within DOEE's Inspection and Enforcement Division the Illicit Discharge and NPDES Branch coordinates, facilitates, and manages activities to protect the water quality and aquatic resources (e.g., wetlands) in the District. This branch inspects land-disturbing activities for compliance with regulations, including activities that involve wetland impacts. Wetland impacts found to be out of compliance with regulations are subject to enforcement actions that include a requirement for compensatory mitigation. Regulatory enforcement ensures that wetlands are protected and wetland losses are replaced.

Within the Watershed Protection Division, the Restoration Branch works toward the goal of the WCP, with a mission to conserve District soil and water resources (including wetlands) and to protect watersheds from pollution through education and outreach; stream, wetland, and habitat restoration; innovative stormwater management and watershed planning. Education and outreach increase stakeholder awareness and involvement in cleanup efforts in the Anacostia River, Chesapeake Bay, and District subwatersheds. By increasing awareness, wetland losses can be avoided. This branch administers RiverSmart Programs such as the RiverSmart Homes program (https://doee.dc.gov/service/riversmart-homes)that provides incentives to property owners to take action to reduce stormwater pollution on their properties by installing

stormwater controls such as rain gardens, rain barrels, and pervious pavers. To learn more visit Get RiverSmart! (https://doee.dc.gov/node/9492). This Branch also administers the RiverSmart Schools program (https://doee.dc.gov/service/riversmart-schools), and funding for school field trips such as Meaningful Watershed Educational Experiences (MWEEs) (https://doee.dc.gov/page/meaningful-watershed-educational-experiences-mwees). MWEEs are multi-day programs that teach students about their local watersheds and the Chesapeake Bay through classroom lessons, field experiences, action projects, and reflection activities.

The Restoration Branch's Watershed Planning Program works to develop and implement plans (e.g., Watershed Implementation Plans) for water quality restoration by restoring District streams and wetlands. Watershed Implementation Plans (WIPs) are plans for actions that District government and all stakeholders plan to undertake to clean up the District's waters. WIPs include stream and wetland restoration projects. The District has completed WIPs for the Anacostia River and its tributaries, Oxon Run, and Rock Creek and its tributaries (see: https://doee.dc.gov/publication/watershed-implementation-plans). Wetland restoration and creation projects undertaken due to a WIP increase wetland acreage and functions to achieve the WCP goal of eventual net gain of wetlands.

3.6 Sustainable DC 2.0

In July 2011, the Mayor set goals in the Sustainable DC Plan (District of Columbia 2013) to make the District the healthiest, greenest, and most livable city in the United States. Mayor Bowser has adopted the Sustainable DC Plan. The Mayor's vision is for a sustainable city and strategic action to achieve goals related to the environment, energy, food, nature, transportation, waste, and water, as well as the economy, public health, community equality, and climate. In April 2019, the Mayor released an updated sustainability plan, Sustainable DC 2.0. The District's priority for the natural environment is to protect, restore, and expand aquatic ecosystems.

Sustainable DC 2.0 set the following targets to protect, restore, and expand aquatic ecosystems:

Target NA1.1: Develop a Wetland Registry to facilitate restoration or creation of wetland habitat.

Target NA1.2: Plant and maintain an additional 150 acres of wetlands in targeted Conservation Opportunity Areas.

Target NA1.3: Partner with developers to incorporate living shorelines in waterfront developments.

Target NA1.4: Reduce threats to 75 aquatic species of greatest conservation need.

As a result of this update to the WCP, the Wetland Registry has been developed, and one of its many uses will be to serve as a tool to plan wetland creation and restoration projects. DOEE is working with NPS and USACE to plan fringe wetland creation sites

along the Anacostia River that will provide water quality improvement, wildlife habitat, flood control, wave attenuation, and sediment reduction.

3.7 Wetland Restoration, Enhancement, Creation, and Preservation Portfolio

The WERE Tool helps to determine if a wetland would benefit from restoration or enhancement, and the Wetland Creation Suitability Guidance document helps to choose a project area for potential wetland creation. However, these guidance documents are only applicable during the initial phases of planning a restoration, enhancement, or creation project.

To prioritize and implement future projects, it is necessary to also have detailed, site-specific feasibility studies involving landowner permission to proceed, cost-estimates, permitting needs, and construction drawings. A portfolio of site-specific plans would provide DOEE with the information necessary to plan and allocate funding for restoration, enhancement, and creation projects. This portfolio could also outline options for mitigation opportunities.

3.8 Wetland Registry Maintenance, Monitoring, and Wetland Conservation Plan Updates

The Wetland Registry is a centralized system to track wetland data and a tool to determine if the goals of the WCP are being met over time.

Maintenance of the Registry should include the following:

- Updating the Registry with each wetland delineation report and subsequent functional assessment provided to DOEE;
- Submitting surveyed wetland and stream delineation information in GIS format for inclusion in the Registry;
- Entering the location of each Section 404/401 permit, water quality certification, jurisdictional determination, and District wetland permit;
- Tracking mitigation projects; and
- Tracking of enhancement, restoration, and creation projects.

It is recommended that DOEE periodically reevaluate and monitor random or targeted wetlands to assess changes to wetland functions, acreage, and conditions and to ensure the District is making progress to achieve the WCP goals. Monitoring could involve reassessing a few wetland groups each year to eventually revisit every District wetland across a five-year span of rotation. During the first 5-year rotation, monitoring plots should be established to maintain consistency in monitoring long-term.

Examples of monitoring data include percent cover and identification of invasive species and data points to assess hydrology, vegetation, and hydric soils. The work performed and data recorded would be consistent with this WCP and in accordance

with the "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1 (1987 Manual; Environmental Laboratory 1987) and subsequent guidance.

Over time, the WCP will need to be revised and updated. Wetlands and monitoring will be need to be assessed District-wide to determine changes in wetland function, potential wetland loss due to natural changes or indirect impacts from human disturbance, and whether or not the WCP goals are being achieved.

3.9 Climate Change Resilience

Climate change is recognized as a major threat to the survival of species and integrity of ecosystems world-wide (Hulme 2005). Wetlands are vulnerable to change in water supply quality and quantity, and it is expected that climate change will alter wetland hydrology (Erwin 2009).

Examples of wetland impacts resulting from climate change include altered hydrology (i.e., water depth), increased flooding, increased soil erosion, increased flood runoff resulting in a decrease in recharge of some floodplain aquifers, decreased water quality, and extended range of invasive species (Root et. al 2003). Wetland responses to climate change will vary on a regional level, making it important to recognize that District wetlands will require examination for site-specific restoration and management needs. Monitoring and research will be necessary to detect changes in wetland systems, to provide insight to the consequences of climate change, and to help regulators and stakeholders improve the implementation of the wetland conservation plan and restoration approaches.

Reducing the impacts humans cause to wetlands (i.e., non-climate impacts) may increase the resiliency of wetland habitats and species to the effects of climate change (Erwin 2009). To help reduce the proximity of wetlands to development, it is recommended to maintain a buffer that would be measured landward from the edge of the delineated wetland boundary. This buffer would be similar to those used in Virginia under the Chesapeake Bay Preservation Act and in Maryland under the Critical Area Act to remove nutrients to help protect aquatic resources that are connected to the Chesapeake. It will also be essential to control invasive species because rapidly changing climates will increase opportunities for invasive species to spread (Erwin 2009).

3.10 Living Shorelines

Throughout the District's development, seawalls have been constructed along the shorelines of the Anacostia and Potomac Rivers. Prior to the construction of seawalls, the Anacostia River meandered through a broad floodplain that contained large marshes. Seawalls provide little habitat for aquatic and terrestrial species, remove the ability of the river to connect with its floodplain, and do little to reduce wave energy. Sea walls may also prevent the predicted landward migration of wetlands resulting from climate change (Hughes 2004), thereby reducing the District's climate change resiliency. DOEE should encourage stakeholders to consider the establishment of living

shorelines, where appropriate, as options for best management practices for future development projects and restoration projects along the river.

Living shorelines are a bank-stabilization technique that utilizes materials similar to natural shorelines and may include wetland plants, submerged aquatic vegetation, and a variety of structural material such as fiber logs, sand, rock and stone. Living shorelines provide shoreline stabilization, create habitat for aquatic and terrestrial wildlife, and improve water quality by filtering stormwater runoff. Living shorelines may be a preferred approach for adapting to sea level rise where there is space for landward migration of wetlands (Bilkovic et al. 2016).

Some living shoreline designs involve incorporating wetland plants and creating wetlands, which would help increase the number of District wetlands. Coordination between DOEE, USACE, NPS, and other stakeholders, as well as public outreach and public acceptance, will be necessary to encourage living shorelines within the District.

3.11 In-Lieu Fee Program/Mitigation Bank

An in-lieu fee program or mitigation bank may be a solution to the common struggle stakeholders face in finding appropriate land for permittee-responsible mitigation. Described in Section 3.2, mitigation banks are a form of third-pary compensatory mitigation, and is USACE's preferred method of compensatory mitigaiton. In-lieu fee payments are USACE's second preference for an applicant to satisfy compensatory mitigation requirements. Given the lack of suitable land to pursuit permittee-responsible mitigation, an in-lieu fee program or mitigation bank that involves restoration or enhancement of existing wetlands should be considered. Similar to a mitigation bank, an in-lieu fee program sells compensatory mitigation credits to permittees whose obligation to provide compensatory mitigation is then transferred to the in-lieu fee program sponsor (e.g., a governmental or nonprofit natural resources management entity responsible for maintaining and operating the in-lieu fee program).

Development of an in-lieu fee program will require USACE approval. In accordance with 33 CFR 332.8, an in-lieu fee program must have an approved instrument (e.g., legal agreement) signed by the sponsor and the USACE Baltimore District engineer prior to being used to provide compensatory mitigation. The sponsor is legally responsible for providing mitigation once a permittee purchases credits. Requirements for an in-lieu fee instrument include a compensation planning framework, accounting procedures for credit sales, monitoring and reporting protocols, and the fee schedule for credits. This WCP contains information that can be used as part of the compensation planning framework. For more information on in-lieu fee program requirements see 33 CFR 332.8.

The overall goal of a mitigation bank is to provide economically efficient and flexible compensatory mitigation, while fully compensating for aquatic resource losses in a manner that contributes to the long-term ecological functions of the watershed. Development of a mitigation bank will require the coordination of many District and federal agencies including but not limited to: USACE, EPA, US Fish & Wildlife Service, NPS, National Marine Fisheries Service, NRCS, Maryland Department of the Environment. In general, bank establishment will include, but is not limited to: development and

approval of a banking instrument, designation of a bank sponsor, feasibility and functional assessments, montoring, design, permitting, establishing credit and debit accounting procedures, long-term protection planning, identifying financial assurances, public review and comment, and interagency review. For more information on mitigation bank program requirements see (https://www.epa.gov/cwa-404/federal-guidance-establishment-use-and-operation-mitigation-banks-0).

3.12 Stream Registry

Wetlands in the District that have a hydrologic connection with a stream or river (e.g., floodplain wetlands, seeps) can also impact that stream or river physically, chemically, and biologically. These wetlands provide such functions as groundwater discharge and recharge, supporting baseflow in streams, and transportation of stored organic matter. They also provide nursery habitat for breeding fish and stream insects and act as sinks by retaining floodwater, sediment, nutrients, and contaminants that could impact downstream waters (de Groot et al. 2002; Mitch et al. 2007).

As described in D.C. Official Code § 8-103.01(26), wetlands are included in the definition of waters of the District, along with streams. A District-wide stream inventory and Stream Registry will provide more baseline data for the waters of the District. This project would involve an inventory with ground truthing of streams, assessment of stream conditions and potential impacts, and will result in the production of a geodatabase similar to the Wetland Registry. A Stream Registry would improve protection of District waters and provide regulators and stakeholders with a more complete picture of the District's aquatic resources.

3.13 Wetlands of Special Concern Designation

The District is fortunate to have numerous natural areas within the city's boundaries. These small pockets of the District's natural biological heritage have escaped encroachment. Wetlands are irreplaceable features of the District's natural landscape. Given the District's history of extensive wetland loss by filling, dredging, seawall construction, and urbanization, preservation of the remaining natural wetlands for present and future generations is encouraged to preserve biodiversity.

The District should encourage designating "wetlands of special concern" similar to Maryland's Wetlands of Special State Concern. Wetlands that provide exceptional ecological functions and values such as habitat for species of greatest conservation need, spring-fed wetlands, or wetlands that are unique to the District (e.g., magnolia bogs), could be designated for special protection under the District's future wetland regulations.

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Appendix A Property Access Request Letter

Appendix B National Park Service and National Arboretum Draft Revocable Permits

Appendix C Wetland Enhancement and Restoration Evaluation (WERE)

Appendix D Wetland Guidance Documents

Appendix E Wetland Determination Data Forms

Appendix F 2017 District of Columbia Plant List

Appendix G 2017 Overall Wetland Registry Map

Appendix H Cowardin Classification Diagram

Appendix I Method for Inventorying and Evaluating Freshwater Wetlands in New Hampshire

Appendix J District Wetland Function and Value Checklist

Appendix K DOEE Additional Information Checklist

Appendix L Representative Site Photographs

Appendix M New Hampshire Method Raw Data

Appendix N District Wetland Function and Value Checklist Raw Data

Appendix O 2017 Overall Wetland Registry Detail Maps

Appendix P 2017 Mapped Stream Segments in the District