

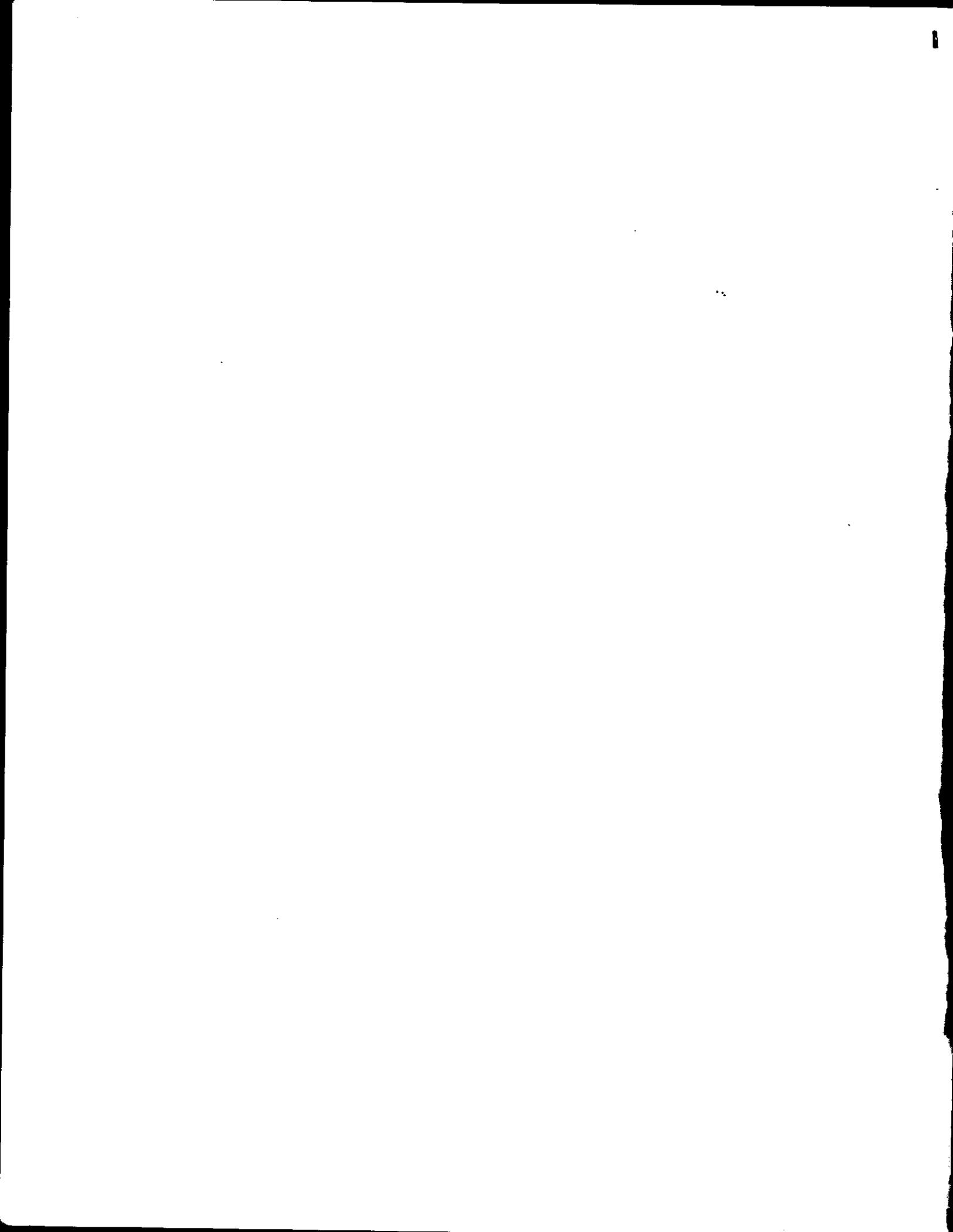
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# District of Columbia Wetland Conservation Plan

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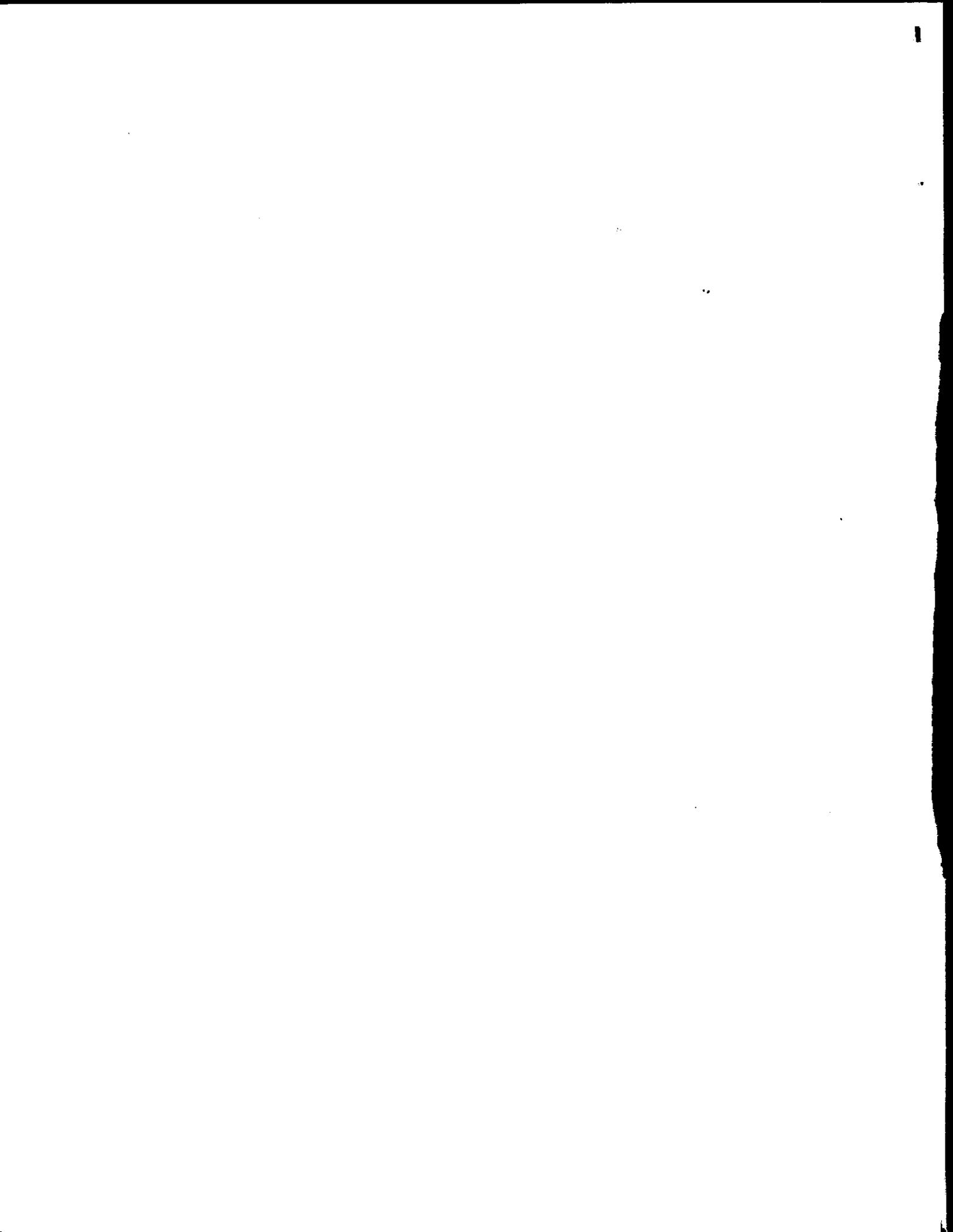
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**Abbreviations and Acronyms**

<b>ADID</b>	Advanced Identification
<b>AWRA</b>	Anacostia Watershed Restoration Agreement
<b>AWRC</b>	Anacostia Watershed Restoration Committee
<b>CSO</b>	Combined sewer overflows
<b>CWP</b>	Center for Watershed Protection
<b>DC/DPW</b>	District of Columbia Department of Public Works
<b>DC/ERA</b>	District of Columbia Environmental Regulation Administration
<b>EA</b>	environmental assessment
<b>EIS</b>	environmental impact statement
<b>ESC</b>	erosion and sediment controls
<b>GIS</b>	Geographical information system
<b>MDE</b>	Maryland Department of the Environment
<b>MWCOG</b>	Metropolitan Washington Council of Governments
<b>NAPP</b>	National Aerial Photography Program
<b>NEPA</b>	National Environmental Policy Act
<b>NMFS</b>	National Marine Fisheries Service

<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>NPS</b>	National Park Service
<b>NWI</b>	National Wetland Inventory
<b>OWOW</b>	Office of Watersheds, Oceans, and Wetlands
<b>PEPCO</b>	Potomac Electric Power Company
<b>SAV</b>	Submerged aquatic vegetation
<b>USCOE</b>	United States Army Corp of Engineers
<b>USDA</b>	United States Department of Agriculture
<b>USEPA</b>	United States Environmental Protection Agency
<b>USFWS</b>	United States Fish and Wildlife Service
<b>USGS</b>	United States Geological Survey
<b>WET 2.0</b>	Wetland Evaluation Technique, Version 2.0

# Chapter 1

## Statement of Needs, Goals, and Objectives

---

The District of Columbia Wetland Conservation Strategy represents the ongoing commitment of the District of Columbia to the protection, restoration, and enhancement of wetlands. Once a major feature of the landscape, wetlands within the District are now scattered in fragmented patches along the banks of the Anacostia River, Potomac River, and within relatively isolated stream valleys. The purpose of the District of Columbia Wetland Conservation Strategy is to establish a comprehensive framework to manage, preserve, and extend the remaining wetlands. The strategies for accomplishing these goals are outlined in this document, the *District of Columbia Wetland Conservation Plan*.

### 1.1 Needs, Goals, and Objectives

Wetlands are an important natural resource, providing a variety of benefits, including wildlife habitat; water quality improvement; flood protection; shoreline erosion control; natural products for human use; recreation; and aesthetic appreciation. Wetlands within the District have been greatly reduced and impaired by colonial agriculture, filling and dredging in the 1800's to mid 1900's, and, more recently, construction and point and nonpoint source discharges. These ongoing impacts illustrate the need for a coordinated effort to protect the remaining wetlands within the District.

The District of Columbia Environmental Regulation Administration (DC/ERA) has implemented an effort to protect, restore, and enhance the remaining District wetlands. The cornerstone of this effort is the District of Columbia Wetland Conservation Strategy. The goal of the Strategy is two-fold: (1) no net loss of wetlands within the District; and (2) eventual overall net-gain of wetlands. DC/ERA has identified a series of objectives to achieve these goals (Figure 1.1). This document, the *District of Columbia Wetland Conservation Plan*, specifically outlines how these goals and objectives will be accomplished.

### 1.2 Wetland Conservation Stakeholders

Central to achieving the goals of the Strategy are the Wetland Conservation Stakeholders. These stakeholders represent the various landowners, regulatory entities, research institutes, and community representatives who use, manage, and determine the fate of wetlands within the District. Implementation of the Strategy will require extensive coordination with agencies such as DC/ERA, the District of Columbia Department of Public Works (DC/DPW), National Park Service (NPS), the U.S. Environmental Protection Agency (USEPA), U.S. Army Corps of Engineers (USCOE), U.S. Fish and Wildlife Service (USFWS), and the Anacostia Watershed Restoration Committee (AWRC).

The Stakeholders function as a steering committee, guiding and overseeing the implementation of the plan. The first two Stakeholders Meetings were held in March 1996 and July 1997. At these meetings, the Stakeholders identified historical and ongoing wetland studies; discussed individual Stakeholder wetland protection and restoration efforts; and identified additional wetland sites not included in the National Wetlands Inventory (NWI). The meeting summaries are presented in Appendix A. The Stakeholders will continue to meet on an annual basis to review progress achieved to date and to consider revisions to the *Wetland Conservation Plan*.

**Figure 1.1**

**District of Columbia Wetland Conservation Strategy Goals**

**Goal 1: No Net Loss of Wetlands**

- Objective 1:** *Identify location and types of existing wetlands within the District through the review of existing reports, maps, and color infrared aerial photographs and periodic field reconnaissances to collect information on hydrology, vegetation, soils, location, acreage, water quality characteristics, sediment characteristics, and biological characteristics for each wetland.*
- Objective 2:** *Identify ongoing and current impacts to wetlands in the District through review of historical and existing reports; field reconnaissances to identify ongoing impacts; and qualitative evaluation of the functions and values of existing wetlands.*
- Objective 3:** *Develop and implement wetland protection regulations which strictly limit impacts and disturbances to wetlands and requires a minimum one-to-one mitigation for unavoidable impacts.*

**Goal 2: Eventual Overall Net Gain of Wetlands**

- Objective 1:** *Identify potential restoration, creation, and expansion opportunities within the District through meetings with the Wetland Stakeholders and identifying current and planned wetland restoration programs and projects within the District.*
- Objective 2:** *Identify potential sources of funding for wetland restoration, creation, and expansion projects including Federal and multi-jurisdictional funding sources including revolving loans, grants, taxes, and fees.*
- Objective 3:** *Develop and implement wetland protection regulations which require greater than one-to-one mitigation for unavoidable impacts to high-value wetlands.*

**1.3 Overview of the Wetland Conservation Strategy and Plan**

USEPA has adopted a goal to assist all States in developing wetland conservation plans by the Year 2000. To achieve this goal, EPA offers financial support in the form of State Wetlands Protection Grants and technical assistance from the Office of Watersheds, Oceans, and Wetlands (OWOW). Towards this end, USEPA Region III provided DC/ERA with a grant to develop a wetland conservation plan; a wetland geographic information system (GIS) map, and draft wetland protection regulations. DC/ERA retained the Center for Watershed Protection to help develop the *District of Columbia Wetland Conservation Plan*. Additional technical assistance was provided by Coastal Resources, Inc. and Maryland Mapping and Graphics, Inc.

This document, the *District of Columbia Wetland Conservation Plan*, examines the current state of the District's wetlands and potential and ongoing impacts to these resources; outlines a comprehensive strategy to mitigate these impacts; and presents a regulatory approach to protect, restore, and enhance wetlands within the District. The *Wetland Conservation Plan* integrates various Federal, regional, and local wetland protection programs to provide a more comprehensive wetland strategy and to maximize the effectiveness of existing wetland programs with respect to regulatory oversight, mapping and monitoring, restoration, acquisition, incentives and disincentives, public outreach, and research.

Specifically:

A description of the District wetlands is presented in **Chapter 2: Inventory and Assessment of Wetlands**. Historical and ongoing impacts to the wetlands are also discussed and the results of the 1996 - 1997 field reconnaissance are presented.

Federal, District, and multi-jurisdictional wetland programs are discussed in **Chapter 3: Protection Mechanisms**. Wetland conservation and restoration efforts are also described.

The supporting strategy for the draft wetland protection is presented in **Chapter 4: Strategy and Implementation**. This chapter examines potential regulatory strategies for accomplishing the two goals of the Wetland Conservation Plan: no net loss and eventual net gain.

**Chapter 5: Plan Approval** outlines the process for implementing the various regulatory and cooperative wetland protection efforts included in the Wetland Conservation Strategy.

**Chapter 6: Monitoring and Assessment of the Wetland Conservation Effort** describes how the success of the Strategy will be determined. Ongoing biological and water chemistry monitoring is included as well as continued assessment by the Wetland Conservation Stakeholders.



## Chapter 2

# Inventory and Assessment of Wetlands

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### 2.1 Historical Wetlands

Historically, much of the original city of Washington was a lowland swamp that supported a rich biodiversity of plants and wildlife. Water formed natural boundaries on three sides of the original city: the Potomac River on the south, Rock Creek to the west, and the Anacostia River on the east. The northern boundary of the original city generally followed the area where Florida Avenue is today. L'Enfant's plan for the city centered on the high dry ground of three finger-like knolls that overlooked the Potomac estuary. Jenkins Hill on the Wicomico Terrace became Capitol Hill; the Burnes Farm knoll on the Talbot Terrace became the site for the White House; and Easby's Point, a bedrock ledge to the west, was used for a defense site and the site of the old Naval Observatory at 21st and C streets NW (O'Connor 1985).

A stream called Tiber Creek once flowed between the White House and the Capitol, where Constitution Avenue runs today. The headwaters and upper reaches of the Tiber Creek drainage system centered around the Soldier's Home. In the 1870's the B&O railroad opened a commuter line that covered Tiber Creek between Union Station and Catholic University. Subsequent urban development placed the remaining portion of the creek and its tributaries into storm drain pipes (Williams 1977).

Tiber Creek emptied into the Potomac River through a lowland swamp that later became the site of the Washington Monument. This area fostered water-borne and insect-borne diseases during the hot summers. Reclamation projects during the late 1800's created a healthier environment for city residents by eliminating much of the tidal flat that was a breeding ground for the anopheles mosquitoes, which carried the plasmodium malaria parasite. All land south and west of the Washington Monument has been reclaimed by filling the Potomac and adjacent tidal flats with material dredged from the river farther downstream. Subsequent development, in accord with the James McMillan Mall Plan of 1901, filled most of the remaining wetlands in the northeast section of the District.

The Anacostia River estuary is a natural barrier that separates the entire eastern segment of the District from the city. Until the 1880's, the Anacostia River was twice its present width and supported hundreds of acres of wild rice and submerged aquatic vegetation (SAV). As development of the District continued, these wetlands were filled for construction of highways, power plants, military bases, and industrial parks.

The use of wetlands as dumpsites was a common practice along the Anacostia River. An estimated 450 acres of marshes were filled and used as dumpsites, such as the area currently occupied by St. Elizabeth's Hospital (Guerrero 1993a). Extensive wetland areas of Kenilworth Park in the southeast part of the District were used as a city dump for thirty years. As urbanization spread throughout the watershed, dredge and fill operations, and seawall construction along the Anacostia resulted in the loss of approximately 90% of the tidal marshes that were in existence at the beginning of this century (Bernstein and Shepp 1992).

## **2.2 Impacts to Wetlands**

It is clear that a large percentage of the historical wetlands in the District have been drained, filled, or otherwise altered as urbanization occurred over the past two hundred years. Although the District is now almost fully urbanized, the effect of past development continues to impact the remaining wetlands as the result of industrial and municipal wastewater discharge, runoff from impervious surfaces, increased sedimentation, and redevelopment of private and public lands.

### **2.2.1 Point and Nonpoint Source Impacts**

Point sources of pollutants in the District are generally associated with discharges through pipes, such as outfalls for industrial and municipal wastewater. Point source discharge permits are required under the Federal National Pollutant Discharge Elimination System (NPDES). There are currently eight facilities that have been granted NPDES permits for discharging to Anacostia River in the District. Six of these permits allow for limited discharge of petroleum hydrocarbons, and one permit for the PEPCO Benning Road Generating Station, allows the discharge of zinc and chromium (ICPRB 1996). The Blue Plains Wastewater Treatment Plant operates under an NPDES permit that limits the amount of chemical contaminants discharged to the Potomac River.

Nonpoint sources of pollutants are more ubiquitous and less definable than point sources of pollutants. The most common sources of nonpoint pollutants that impact waters and wetlands in the District include stormwater runoff and combined sewer overflows (CSOs). Fifteen CSOs discharge stormwater mixed with untreated and partially treated sewage into the Anacostia River. The impact of CSOs on the waters and wetlands of the District have not been thoroughly studied; limited sampling, however, has detected elevated levels of organic contaminants in sediment within the combined sewers and in sediment near the outfalls compared to river sediments away from the outfalls (Velinsky et al. 1992). Although the effect of water and sediment contamination on wetland vegetation is not clear, Stevenson et al. (1995) suggest that root discoloration and survivability of wetland transplants in the Anacostia River may be the result of toxicity problems. Nonpoint source pollutants may also contribute to fish tissue toxicity problems and have the potential to enter the food chain through recreational fish consumption.

Physical impacts due to stormwater runoff, and not chemical impacts, probably have the greatest effect on wetlands in the District. Increased water velocities and alteration of hydrologic regimes frequently causes excessive scouring in the wetlands. In many instances, scouring has decreased species diversity in the wetlands, or has created such significant disturbance that invasive vegetation has become established. In addition, accelerated streambank erosion due to uncontrolled runoff increases the amount of sediment that is transported to wetlands, which may also decrease species diversity. Extreme cases of sediment accumulation can modify the hydrologic regime of the wetland to such an extent that the area is no longer inundated or saturated to the surface.

### **2.2.2 Construction Activities**

Construction activities, which are historically the primary reason for wetland loss in the District,

continue to threaten the wetlands that remain. Unlike wetlands that have been degraded by point and nonpoint sources, construction activities typically eliminate the wetland from the landscape. In general, construction activities result in the filling of wetlands, which results in permanent impacts. Opportunities for restoration and enhancement are usually not available for wetlands that have been filled by construction, such as the case for degraded wetlands.

Examples of current construction activity that continue to threaten the District's wetlands are development of Fort Lincoln New Town and construction of the Metro's Green Line and Anacostia Station. Athanas (1993) assessed the ecology of wetlands in the Fort Lincoln area in relation to past and ongoing disturbances. Portions of the wetland complex are likely to experience hydrologic alterations as the result of planned commercial facilities and stormwater management ponds associated with the development. Construction of the Metro's Green line may also affect wetlands in the Oxon Run floodplain and near St. Elizabeth's Hospital. In addition, numerous small-scale private and commercial construction continue to impact the remaining fragments of wetlands in the District, such as parking lot construction at Howard Street and near the intersection of Mississippi Avenue and Wheeler Road.

### **2.3 Survey of Wetlands : Previous Surveys**

A limited number of wetland surveys have been completed to document the current acreage, location, or condition of wetlands in the District of Columbia. The NWI program, administered by the US Fish and Wildlife Service, has identified and mapped wetlands in the District using aerial photographs acquired in 1977 and 1981. The NWI wetlands are delineated on each of the four, 7.5 minute quadrangles that cover the District: Anacostia, Washington West, Washington East, and Alexandria.

In 1993, Guerrero reported on a research project to inventory and evaluate the status of wetlands in the District using a combination of the NWI maps and selective field verification. During the ground truthing, Guerrero (1993) completed a vegetation analysis along transects in Rock Creek Park, Kenilworth Marsh, Theodore Roosevelt Island, the C&O Canal Park, and wetlands along the Anacostia River. The results of the vegetation analysis indicate that many of the wetlands, particularly within the Anacostia watershed, have been significantly degraded by past disturbance, invasion by exotic or aggressive species, and point and nonpoint source pollutants. The total amount of wetlands identified by Guerrero (1993) includes approximately 37 acres of lacustrine wetlands (primarily within Kenilworth Marsh), 285 acres of palustrine wetlands (primarily within the Anacostia watershed, Rock Creek Park, and Theodore Roosevelt Island), and 523 acres of riverine wetlands (primarily open water areas of the Anacostia River and other streams in the District).

A detailed study of wetlands in the Fort Lincoln area was conducted by Athanas and Schaefer (1993), which included the delineation, flagging, and survey of 20 acres of wetlands. The purpose of the study was to assess the ecology of the wetlands in relation to the present and proposed hydrology of the area, to past and ongoing disturbances, and to the soil and geological components of the watershed. Athanas and Schaefer (1993) found that development in the Fort Lincoln area has resulted in considerable alteration of the watershed of the wetland complex. Direct impacts to the wetlands included construction generated sediment and stormwater runoff,

and dumping of vegetative material and other landscaping related debris. They concluded that the hydrology to portions of the wetlands complex may be altered by proposed development in the area, which could result in the proliferation of common reed (*Phragmites australis*), a competitive species that is already established in a portion of the wetland.

Wetland surveys of Kingman Lake were conducted by the U.S. Army Corps of Engineers as part of wetland restoration studies presented in the Anacostia River and Tributaries Feasibility Report (USCOE 1994). Less than one acre of emergent and scrub/shrub fringe wetlands were identified in Kingman Lake, a 110-acre area that was originally a large tidal marsh before being subjected to extensive dredging and filling during the early part of this century.

## **2.4 Wetland Conservation Field Reconnaissance Survey**

An essential part of any wetland protection effort is an inventory of existing wetland resources and current point and nonpoint impacts to the wetlands. The District Wetland Conservation Strategy included a field reconnaissance survey of wetlands in the District. Prior to initiating the field work for the project, a preliminary wetlands map was prepared through review of USFWS NWI Maps, Soil Survey maps, and previous wetland studies in the District. This reference information was then augmented and updated through stereoscopic interpretation of March 1994 color-infrared aerial photography (scale 1:40,000) acquired from the National Aerial Photography Program (NAPP). The reconnaissance survey was conducted in Fall 1996 with a follow-up in the Spring/Summer 1997 to document dominant wetland characteristics.

### **2.4.1 Methodology**

Stereoscopic interpretation of the aerial photography was performed using a Bausch & Lomb Stereo Zoom Transfer Scope (ZTS). Stereo viewing of aerial photography greatly facilitates discrimination of the topographic lows and depressions often associated with wetlands. The ZTS allows for direct transfer of the delineated data from the aerial photography to the topographic base map, thus minimizing transfer error and maximizing mapping accuracy. Base maps used for the delineation were plotted from the DC/ERA digital files of the US Geologic Survey (USGS) 7-½ minute quadrangles for the District.

Field work for the wetland delineation was conducted in accordance with the Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1 (USCOE 1987). This manual is based on a three parameter approach - dominance of hydrophytic vegetation, hydric soils and hydrology. In most situations, all three parameters must be present before a wetland determination can be made. Detailed field data were collected for vegetation, soils and hydrology and recorded on the Corps of Engineers Routine Wetland Determination Data Form. The 1987 Manual specifies a Routine Method for identification of wetlands that are less than five acres.

Based on existing information, the majority of individual wetlands in the District are less than five acres, and the Routine Method was employed for the field work. One sampling plot was established within each homogenous cover type of the wetland in accordance with the Routine Method. The following information was collected at each sampling plot:

- Dominant vegetation was evaluated in terms of plant species indicator status (obligate, facultative wetland, and facultative plants representing wetland species) as identified using the National List of Plant Species That Occur in Wetlands: 1988 Maryland (USFWS, St. Petersburg, FL).
- Soil samples were examined using a hand auger and were described using standard US Department of Agriculture (USDA) terminology for soil color and texture. Soil color was determined by comparison to the Munsell Color Chart for hue, value and chroma. Other soil indicators of prolonged saturation, such as sulfidic odor, iron concretions, and high organic matter content were noted on the data sheets.
- Wetland hydrology was determined based on primary and secondary field indicators. The primary indicators include observation or visual evidence of inundation or saturation in the upper 12 inches, water marks, drift lines, sediment deposits and drainage patterns.
- Additional data for each wetland was collected and documented on a Wetland Characterization Data Sheet to assess pollution problems impacting the wetlands and to assist in evaluating the function and value of the wetlands. These data include location (longitude and latitude), acreage (based on digitized wetland boundaries), water and sediment quality, hydrologic characteristics, and biologic characteristics.

The delineated wetlands were classified according to the Cowardin Classification System, as described in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin 1979). This is a hierarchical system which provides uniformity of concepts and terms used to define wetlands according to hydrological, geomorphological, and biological factors.

#### **2.4.2 Results**

Approximately 280 acres of vegetated wetlands have been identified in the District, primarily within protected parklands along the Anacostia and Potomac Rivers. This total includes an additional 85 acres of wetlands that are not identified on National Wetland Inventory (NWI) maps, but were confirmed during field work for this study. The wetlands consist of the following four classes: forested (182 acres), emergent (37 acres), scrub/shrub (10 acres), and aquatic bed (51 acres).

An additional 108 acres of open water areas, such as ponds and reservoirs, have also been identified. These open waters include areas such as McMillian Reservoir, Georgetown Reservoir, Dalecarlia Reservoir, Constitution Gardens Lake, and reflecting pools on the grounds of the Capitol. These open water areas are delineated on NWI maps; however, they may not be considered jurisdictional wetlands under Section 404 of the Clean Water Act because they are man-made, isolated waters that do not support interstate commerce.

It should be noted that the wetland acreage tabulated above does not include stream channels or open water portions of the Anacostia and Potomac Rivers (i.e., mud flats, submerged aquatic vegetation beds, and riverine open water channels). Although submerged aquatic vegetation (SAV) beds provide valuable habitat and water quality functions, the location and density of SAV

beds within the Potomac and Anacostia Rivers varies greatly each year. The Fisheries Management Branch of DC/ERA conducts yearly surveys of SAV, and maintains maps that identify the species composition and specific location of SAV beds. The upstream limit of SAV within the Potomac River is historically near the Chain Bridge, and the upstream limit within the Anacostia River is historically near the Memorial Bridge.

The location of each wetland is shown on the Wetland Delineation Map provided in Appendix B. This map represents the overall shape and location of the wetlands, and a number has been assigned to represent contiguous wetlands in a given area. The wetland numbers are referenced in Table 2.1, which shows the general location, size, classification, diversity, and quality of each wetland area. More detailed mapping of individual wetland types within each contiguous wetland area has been completed and incorporated into a GIS system maintained by DC/ERA.

The minimum resolution for mapping wetlands is limited by the map scale. For this study, base maps were prepared at a scale of 1:24,000, which results in a mapping resolution of approximately 0.5 acre. Therefore, wetland seeps and depression wetlands that are too small to identify at the map scale may exist along intermittent and perennial stream valleys. For example, a number of small seeps are known to occur along the Rock Creek stream valley, such as the area near the National Zoo, and along Oxon Run in the area of Mississippi Avenue. Intermittent and perennial streams are shown on the wetland delineation plan to identify areas where small wetlands may occur.

The diversity and quality of each wetland was noted during the field investigation and from previous wetland studies. Diversity is intended to reflect a composite of the number of vegetative species, stratification of the species, and complexity of habitat types within the wetland system. For example, a wetland that has more than five species in each vegetative strata, and has a variety of edge habitats (open water, scrub/shrub, emergent, and forested) would have high diversity. A wetland that consists of one type of vegetation (i.e., emergent) with less than five species is considered to have low diversity. The quality of the wetland is a subjective determination based on professional judgment of observed impacts from pollutant sources, excessive scouring from uncontrolled runoff, and accumulation of sediment and trash.

Within the Anacostia River watershed, the largest wetlands are located in the area of the Kenilworth Aquatic Gardens, and in the area opposite of the Aquatic Gardens on the west bank of the Anacostia, known as the Fort Lincoln wetland complex. These two areas make up approximately 50% of the total wetland acreage that currently exists in the District. The Kenilworth Marsh is also one of the last wetlands of significant size that is under the tidal influence of the Anacostia River. Kenilworth Marsh has been severely impacted over the years by dredging and landfilling, and a majority of the marsh had become an unvegetated mudflat. Kenilworth Marsh was reduced from approximately 300 acres in 1927 to seventy-six acres in 1989. Restoration efforts were initiated in the early 1990's to raise the marsh substrate elevations using material dredged from the adjacent Anacostia River, and planting with locally native vegetation. As a result of this project, thirty-two acres of freshwater tidal marsh were restored. The majority of the remaining tidal wetlands along the Anacostia consist of narrow fringe wetlands (10 to 30 feet wide) on both sides of the seawall, primarily above East Capitol Street.

**Table 2.1  
Existing Wetlands within the District  
District of Columbia Wetland Conservation Plan**

Wetland No.	Classification	Size (acre)	Location/Comments	Dominant Vegetation	Soil Type	Diversity	Quality
1	PFO1B/E	17.10	Beaverdam Creek at Kenilworth Courts	Green Ash, Red Maple, Silver Maple, Spicebush, Lizard Tail, Green Bulrush, Woolgrass, Arrow-wood, Woodreed, Arrowhead	Ponded Fluvaquent, Bibb sandy loam	Good	Good
2	L1/2A/B4, PFO1R	88.20	Kenilworth Marsh and Aquatic Gardens	Spatterdock, Arrow Arum, Lizard Tail, Pickeral Weed (see monitoring reports for Kenilworth Marsh Restoration)	Ponded Fluvaquent, Bibb sandy loam	Good	Good
3	PFO1B, PAB6F	14.20	Fort Lincoln New Town between Rt. 50 and Fort Lincoln cemetery; adjacent to SWM pond	Black Willow, River Birch, Woodreed, Arrow-wood, Red Maple, Nettle Chainfern, Rose Mallow, Soft Stem Bulrush, Arrowhead, Spatterdock	Ponded Fluvaquent	Good	Good
4	PFO1C	2.80	Fort Lincoln between Rt. 50 and RR tracks	Green Ash, Red Maple, River Birch, Arrow-wood, Jewelweed, White Avers, Vitus, sp., Poison Ivy, Virginia Creeper, Aster, sp.	Fluvaquents, ponded	Fair	Fair
5	PEM1E, PFO/SS1B	15.60	Fort Lincoln between Rt. 50 and Anacostia	Black Willow, Red Maple, Pin Oak, Green Ash, Purple Loosestrife, Arrow-leaf Tearthumb, False Nettle, Sensitive Fern, Phragmites, Monkey Flower, Vitus, Hibiscus, Cattail	Bibb sandy loam	Good	Good
6	PEM/FO1R	1.00	West bank of Anacostia opposite Kenilworth Marsh Inlet; 20-foot wide fringe on both sides of seawall	Black Willow, Silver Maple, Green Ash, Sycamore, Reed Canary grass, Soft Rush, Jewelweed, Yellow Flag, Pickeral-weed, Honeysuckle, J. Knotweed, Loosestrife	Bibb sandy loam	Fair	Good
7	PFO/EM1R	3.00	East bank of Anacostia, immediately south of Kenilworth Marsh inlet; wetlands on both sides of seawall	Pickeral-weed, Narrow-leaf Cattail, Sweetflag, Black Willow, Silver Maple, Reed Canary grass, Arrowhead, River Birch, Jewelweed, Bulrush, Alder, Spicebush, Arrow-leaved Tearthumb	Bibb sandy loam	Good	Good
8	PEM1R	0.40	West bank of Anacostia, 1000 ft. north of Hickey Run; pilot restoration project	Pickeral-weed, Narrow-leaf Cattail	Fluvaquents-Udfluvents, frequently flooded	Poor	Fair
9	PEM1R	0.50	East bank of Anacostia, 800 feet north of Watts Branch	Narrow-leaf Cattail	Fluvaquents, ponded	Poor	Fair
10	POWJ	0.50	National Arboretum Pond at Beechwood Road	Edge: Rubus, Soft Rush, White Mulberry, Elm, Lurid Sedge, Redtop, Cattail, Cataiba	Not Applicable	Poor	Fair
11	POWHh	0.70	National Arboretum Pond at Eagle Nest Drive	Edge: River Birch, Alder, Silky Dogwood, Pokeweed, and few Cypress	Not Applicable	Poor	Fair

**Table 2.1  
Existing Wetlands within the District  
District of Columbia Wetland Conservation Plan**

Wetland No.	Classification	Size (acre)	Location/Comments	Dominant Vegetation	Soil Type	Diversity	Quality
12	POWHh	1.30	National Arboretum Pond at Crabtree Road	Edge: Cypress, Black Willow, Green Ash	Not Applicable	Poor	Fair
13	PFO/EM1B	0.50	National Arboretum south of Crabtree Road nature center; associated with intermittent stream; impounded in lower end	Green Ash, Blackgum, Jewelweed, Smartweed, Redtop, Arrow-wood, Gill-over-the-ground	Udorthents, clayey	Fair	Fair
14	PEM1J	0.10	National Arboretum along Rhododendron Valley Road; historical maps show pond in this location	Common Cattail, Green Bulrush, Rice Cutgrass, Iris versicolor, Black Willow	Udorthents, clayey, smoothed	Fair	Fair
15	PSS/EM1B	0.20	Langston Golf Course; portion of wetland filled for fairway	Black Willow, Cottonwood, Elm	Udorthents, deep, 0-8% slope	Poor	Poor
16	PFO1B	1.80	Watts Branch Park; old oxbow	Red Maple, Sycamore, Green Ash, Arrow-wood, Box Elder, Jewelweed	Udorthents, sandy	Fair	Poor
17	PFO1A	1.00	Watts Branch Park	Green Ash, Box Elder, Woodreed, Jewelweed, White Honeysuckle	luka sandy loam	Poor	Fair
18	PEM1R	0.50	East bank of Anacostia south of Watts Branch	Narrow-leaf Cattail	Fluvaquents, ponded	Poor	Poor
19	R1EM2N, PEM1E	1.50	East bank of Anacostia opposite Kingman Island	Spatterdock, Narrow-leaf Cattail, Loosestrife, Black Willow	Fluvaquents, ponded	Fair	Fair
20	R1EM2N	0.50	East bank of Anacostia immediately north of Benning Road Bridge; dredged disposal area	Purple Loosestrife, Narrow-leaf Cattail	Fluvaquents, ponded	Poor	Poor
21	R1EM2N, PSS1R	1.10	East bank of Anacostia between East Capitol Street and Benning Road; 10-20' wide wetland fringe	Purple Loosestrife, Yellow Flag, Cattail, Black Willow, (Arrow-wood, Silver Maple, Green Ash, Cottonwood - edge of island)	Fluvaquents, ponded	Fair	Poor
22	PFO1R	1.00	East bank of Anacostia between East Capitol Street and railroad bridge; fringe widens to 20-30' near E. Capitol Bridge	Sycamore, Black Willow, Arrow-wood, Box Elder, Silver Maple, Green Ash, Lurid Sedge, Lizard's Tail, Jewelweed, Hibiscus, Narrow-leaf Cattail	Fluvaquents-Udfluvents, frequently flooded	Good	Fair

Table 2.1  
Existing Wetlands within the District  
District of Columbia Wetland Conservation Plan

Wetland No.	Classification	Size (acre)	Location/Comments	Dominant Vegetation	Soil Type	Diversity	Quality
23	PFO1A	1.00	Fort Dupont Park near rehabilitation center; recent alluvial washdown has elevated ground surface	Silver Maple, Elm, Spicebush, Woodreed, Jewelweed, Multiflora Rose, Virginia Creeper, J. Honeysuckle, Poison Ivy, Vitus. sp.	luka sandy loam	Fair	Good
24	PEM1B	0.20	Fort Dupont Park along F-Street parking area	Soft Rush, Carex, sp., Redtop (Agrostis alba)	luka sandy loam	Poor	Poor
25	PEM1C	0.40	Anacostia Park at Nicholson Street parking area; wet depression in mowed field behind public restrooms	Lady's Thumb, Spike Rush, Redtop, Barnyard Grass, Swamp Dock,	Udorthernts	Poor	Poor
26	PFO1B	1.00	Bayne Circle and Water Street	Box Elder, Red Maple, Spicebush, J. Honeysuckle	Udorthernts	Fair	Fair
27	PFO1B	1.00	Between Water Street and Anacostia, 700 feet north of Sousa Bridge	Red Maple, Green Ash, Box Elder, Poison Ivy, Arrow-wood	Urban Land	Fair	Fair
28	PFO1A	1.80	Fort Stanton Park, Good Hope Road opposite 22nd Place; small berm on downstream side next to apartment complex	Red Maple, Silver Maple, Elm, Woodreed, Jewelweed, Spicebush, Poison Ivy, Japanese Spider Maple (?)	Udorthernts	Fair	Fair
29	PEM1C	0.01	Anacostia Park at 11th Street Bridge; surface drainage outlet for mowed field at Robbins Blvd.	Arrowhead, Carex, sp.	luka sandy loam	Poor	Poor
30	PEM/SS1R	1.50	East bank of Anacostia River opposite Washington Navy Yard; breeched seawall edge mowed north of 11th Street Bridge	Swamp Loosestrife, Sweet Flag, Yellow Flag, Silky Dogwood, Silver Maple, Marsh Hibiscus, Weeping Willow, Three-square, Cattail, Reed Canarygrass	Fluvaquents, ponded	Fair	Fair
31	PEM1B, PSS1J	4.00	Anacostia Park near old greenhouses; remnant wetland from previous filling to construct greenhouses	Redtop, New York Ironweed, Seedbox, Fox Sedge, Spike Rush, Lady's Thumb, Canada Rush, Water Hemlock, Black Willow, Cottonwood	Udorthernts	Fair	Poor
32	PSS1J	7.10	Anacostia Park near old greenhouses; recent grading along western edge	Black Willow, Cottonwood, Elm, Common Cattail, Phragmites, Soft Rush	Melvin silt loam	Good	Good

**Table 2.1  
Existing Wetlands within the District  
District of Columbia Wetland Conservation Plan**

Wetland No.	Classification	Size (acre)	Location/Comments	Dominant Vegetation	Soil Type	Diversity	Quality
33	PFO1B	0.40	St. Elizabeths Hospital along western property boundary; receives runoff from ash disposal area	Red Maple, Black Willow, Elm, Box Elder, Jewelweed, Spicebush	Udorthents	Fair	Fair
34	PFO1A	15.60	Floodplain of Oxon Run between Stanton Rd. and 13th street	Red Maple, Sweetbay Magnolia, Skunk Cabbage, Trout Lily, Cinnamon Fern, Royal Fern	Fluvaquents-Udifuvents, frequently flooded	Fair	Good
35	PFO1R	4.50	Oxon Creek at I-295 bridge	Sycamore, Silver Maple, Red Maple, Silky Dogwood, Spicebush	Fallsington sandy loam	Fair	Good
36	PFO1A	14.20	Rock Creek Park between Beach and Parkside Drive; heavy scour throughout floodplain	Red Maple, Box Elder, Sycamore, Elm, Tulip Poplar, Hornbeam, Spicebush, Arrow-wood, Enchanters Nightshade, J. Honeysuckle, Violet sp., Multiflora Rose, Virginia Creeper	Codorus silt loam	Fair	Good
37	POWHh	0.20	Whitehaven Park	NA	Not Applicable	Poor	Fair
38	PFO1A	0.20	Glover-Archibald Park at Whitehaven Tributary; seep area with sparse herbaceous cover	Box Elder, Spicebush, Polygonum sp., Enchanters Nightshade, Poison Ivy	Codorus silt loam	Poor	Fair
39	PFO1B	2.80	Glover-Archibald Park at Reservoir Road; severe sediment accumulation due to blocked culvert	Box Elder, Sycamore, Arrow-wood, Lizards Tail, Clearweed, Polygonum sp.	Codorus silt loam	Poor	Poor
40	PFO1A, PEM1E	42.00	Chain Bridge Flats; numerous depressions and sloughs throughout wetland	Box Elder, Sycamore, Silver Maple, Swamp White Oak, Spicebush, Paw Paw, Lizards Tail, Woodreed, Wingstem, Redtop, Enchanters Nightshade, Stinging Nettle, Polygonum sp.	Fluvaquents, bouldery	Good	Fair
41	PSS1R	0.80	C&O Canal Park south of Fletchers Boathouse; no access due to reconstruction of C&O Canal	No Access	Fluvaquents, bouldery	NA	NA
42	PFO/EM1R	18.50	East side of Roosevelt Island	Silver Maple, Box Elder, Green Ash, Spicebush, Black Willow, Lizards Tail, Rice Cutgrass, Arrowhead, Sweet Flag	Fluvaquents, ponded	Good	Good

Table 2.1  
Existing Wetlands within the District  
District of Columbia Wetland Conservation Plan

Wetland No.	Classification	Size (acre)	Location/Comments	Dominant Vegetation	Soil Type	Diversity	Quality
43	PFO1R	5.50	Roosevelt Island south of T. Roosevelt Bridge	Silver Maple, Green Ash, Box Elder, Black Willow, Sweet Flag, Pickerelweed, Reed Canarygrass, Spicebush	Bibb sandy loam	Good	Good
44	PFO1R	4.50	West side of Roosevelt Island	Silver Maple, Box Elder, Green Ash, Spicebush, Paw Paw, Black Willow, Lizards Tail, Arrowhead, Enchanters Nightshade, Cleanweed	Bibb sandy loam	Good	Good
45	R1EM2N, PEM1R	1.80	Potomac River at Boundary Channel and Memorial Bridge	Spatterdock, Narrow-leaf Cattail	Bibb sandy loam	Poor	Fair
46	PFO/SS1C	0.80	South Dakota & Hamilton Avenue at Riggs Plaza Apts.; heavy sediment accumulation near Hamilton Ave.	Red Maple, Elm, Silver Maple, Seedbox, Common Cattail, Rice Cutgrass, Black Willow, Elderberry, Monkey Flower	Udorthents, sandy	Fair	Fair
47	POWHx	0.20	Soldiers Home; excavated golf course pond	Mowed to edge of pond	Not Applicable	Poor	Fair
48	POWHh	2.00	Soldiers Home; aerated pond surrounded by chain-link fence	Edge of ponds: Cypress, Silver Maple, White Oak, mowed grass	Not Applicable	Poor	Good
49	L1OWHh	38.00	McMillan Reservoir	Phragmites along edge	Not Applicable	Poor	Good
50	POWHx	3.00	Capitol Pool	NA	Not Applicable	Poor	Fair
51	POWHx	4.60	Reflecting Pool	NA	Not Applicable	Poor	Fair
52	POWHx	5.50	Constitution Gardens Lake	NA	Not Applicable	Poor	Fair
53	POWZx	37.00	Georgetown Reservoir	NA	Not Applicable	Poor	Good
54	L1OWHh	15.50	Datecattia Reservoir	NA	Not Applicable	Poor	Good

The Fort Lincoln wetland complex is located on the west bank of the Anacostia River between the Fort Lincoln Cemetery, the Fort Lincoln New Town development, and the National Arboretum. The wetland complex includes well developed emergent, scrub/shrub, and forested zones, as well as open water and upland forests. Athanas (1993) conducted a detailed study of the Fort Lincoln wetland complex, and concluded that the hydrology in portions of the wetland could be affected by proposed adjacent development.

Within the Potomac River watershed, the largest remaining wetlands are located on Theodore Roosevelt Island, the C&O Canal Park, and Rock Creek Park. These three areas include approximately 30% of the total wetland acreage in the District. Theodore Roosevelt Island is an 88-acre wilderness preserve located in the Potomac River. The Island contains a diverse habitat of upland forests, tidal marsh, and nontidal forested wetlands. The wetland areas account for approximately 28 acres of the Island. Educational tours and research studies are often conducted on the Island, and wide variety of plants and animals have been documented (Guerrero 1993).

The wetlands in the C&O Canal Park and Rock Creek Park that were identified during this study were not originally shown on National Wetland Inventory maps. Approximately 42 acres of forested and emergent wetlands have been delineated in the C&O Canal Park, upstream and downstream of the Chain Bridge. This area of the Park is in an active portion of the Potomac floodplain and extensive vegetation damage, scouring, and sedimentation occurred during the spring floods of 1996.

Forested wetlands in Rock Creek Park are located between Parkside Drive and the District boundary. Approximately 14 acres of wetlands exist in this area of the floodplain, which is characterized by a backwater slough and several seeps from adjacent hillsides. In general, the park is highly dissected by Rock Creek and its tributaries, and overbank flooding of sufficient duration does not occur frequently enough to support wetlands within the floodplain. During the course of the field investigation, many seeps at the base of slopes and along the tributaries to Rock Creek were observed that support wetland vegetation; however, these seeps were too small to identify at the scale used for mapping the wetlands.

## **2.5 Assessment of Functional Quality**

A number of methods to assess wetland function have been proposed over the past two decades in response to increasing wetland losses from urbanization, highway construction, and agricultural conversions. However, the numerous biological, chemical, and hydrological processes that occur in wetlands has prohibited the general acceptance of a single method that can be used to quantitatively assess wetland functions. Functions of wetlands in urbanized areas, in particular, are difficult to assess using current assessment methodologies because basic assumptions pertaining to hydrologic regime, pollutant loadings, and drainage area are often difficult to determine.

Three methods that are often used to evaluate wetland functions are the U.S. Army Corps of Engineers Wetland Evaluation Technique, Version 2.0 (WET 2.0), the New Hampshire Method, and the Maryland Method for the Assessment of Wetland Function. A summary of these methods is presented below.

### 2.5.1 Wetland Evaluation Technique (WET 2.0)

WET 2.0 was developed by the Corps of Engineers to provide a technically supported and reproducible method for assessing wetland function and values. The fundamental assumption of WET 2.0 is that wetlands perform certain functions that are important to the environment, and that specific physical and biological attributes of the wetland can be used to determine the existence of these functions. WET 2.0 uses a series of word models to evaluate a wetland relative to the following functions and values:

- groundwater recharge
- groundwater discharge
- floodflow alteration
- sediment stabilization
- sediment/toxicant retention
- nutrient removal/transformation
- production export
- wildlife diversity/abundance
- aquatic diversity/abundance
- uniqueness/heritage
- recreation

The results of the WET 2.0 evaluation are qualitative rankings of the probability that a wetland performs a given function (effectiveness), that its position in the landscape allow it to perform the function (opportunity), and that the function offers societal benefits (social significance). Effectiveness assesses the capability of a wetland to perform a function because of its physical, chemical or biological characteristics. Opportunity assesses the opportunity of a wetland to perform a function to its level of capability. Social significance assesses the value of a wetland to society in terms of its special designations, potential economic value and strategic location.

WET 2.0 was designed primarily to conduct an initial, rapid assessment of wetland functions and values. However, the method does not account for regional variation of wetlands or for conditions that are specific to urban wetlands.

### 2.5.2 The New Hampshire Method

The New Hampshire method was specifically designed as a wetland evaluation tool for public officials and planners who have some familiarity with wetlands, but who are not necessarily wetland professionals. The method ranks evaluated wetlands on each of 14 recognized functional values, including:

- |                            |                               |                           |
|----------------------------|-------------------------------|---------------------------|
| ecological integrity       | nutrient attenuation          | water based recreation    |
| ground water use potential | educational potential         | historical site potential |
| wetland wildlife habitat   | dissipation of erosive forces | flood control potential   |
| sediment trapping          | visual/aesthetic quality      | note worthiness           |
| finfish habitat            | urban quality of life         |                           |

The method is intended for use at a watershed, jurisdictional or regional level, where each of the functions and values of each of the wetlands in the study area is comparatively ranked. There is no overall score and no built-in rating of high, medium or low. The method is not suitable for evaluating a single wetland, although the information collected during the evaluation may be useful for professionals interested in undertaking a detailed assessment of individual wetlands. This evaluation procedure allows planners to identify the wetlands within the study area with the highest comparative values for certain functions. The information can then be used to make informed decisions about the wetlands in the study area, based on the relative value of each function.

### **2.5.3 Maryland Method for the Assessment of Wetland Function**

This method was developed for the Maryland Department of the Environment (MDE) as a predominantly desk top wetland assessment method using existing data sources. The method was designed for rapid assessment of the wetland functions for broad area planning purposes where the relative function of wetland to each other is assessed. The method is strictly qualitative. The functional indices and units generated cannot be used as quantitative data. The method only applies to non-tidal palustrine vegetated wetlands. The wetland functions assessed by this method include:

- groundwater discharge
- flood flow attenuation
- modification of water quality (combines both sediment/toxic retention and nutrient removal/transformation)
- aquatic diversity/abundance
- wildlife diversity/abundance
- sediment stabilization

This method can be used to assess a single wetland but is more applicable to large area assessments of wetlands such as within a watershed. If a wetland is being impacted by a particular activity, this method can be used to predict the potential consequences to wetland's functional capacity. The method can also be used to aid in selecting mitigation or restoration sites - the questions can be answered as if a certain wetland type existed in a particular location. The method can also help to determine land use practices and decisions within a watershed. For example, if poor water quality is a major concern in a watershed, the focus of future planning could be protection of wetlands in that watershed that have been determined by the method to provide water quality functions.

### **2.5.4 Assessment Methodology**

In general, existing methods for evaluating wetland functions focus on systems with small to moderate impacts, and are insensitive to the existing conditions of disturbed urban wetlands. The existing methods do not provide a means for direct comparison of wetlands on an areal basis, are not readily adaptable to a variety of wetland types, are not specific to urban wetland conditions,

and have data requirements that are too cumbersome for routine field applications. In addition, the functions of urban wetlands are often difficult to measure due to the impacts they have sustained. In urban systems, the methods are so insensitive to existing conditions that false or unrealistically low assessments of wetland functions and values are often concluded.

Therefore, the principles and theoretical parameters of existing assessment models have been adapted to meet the needs of this study to perform a simplified field assessment of wetland functions and values. Seven wetland functions, based on the generally accepted wetland functions of existing models, have been identified that are most relevant to wetland conditions in the District. The definition and assessment criteria that were used during the field review of wetland functions is provide below. The criteria were applied in a checklist format, whereby the applicable wetland characteristics described below, could be used as predictors that a certain function was provided by the wetland. The checklist format was used only to establish whether a given function would be provided by the wetland; no attempt was made to determine the level of functionality (i.e., high, moderate, or low).

- **Recreation/Uniqueness** - Wetlands in an urban environment can provide aesthetic enjoyment, nature study, education, open space, and preservation of rare species of plants or animals. Wetlands that are located within parks or are known for their education, scientific, or preservation of species value are rated as providing this function.
- **Habitat for Wildlife/Fisheries** - Food and cover needs of birds, mammals, reptiles, amphibians, and waterfowl are often provided by wetlands. Wetlands often provide the last remaining habitat for wildlife in urban areas. Wetlands that are associated with perennial streams also provide fisheries value.
- **Food Chain Support** - Food chain support refers to the direct or indirect use of nutrients by animals that inhabit aquatic environments and 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 that are associated with streams. The absence of a surface water outlet precludes most organic export. Forested or scrub/shrub wetlands that overhang a stream are identified as providing food chain support function.
- **Sediment Trapping** - Sediment trapping involves the interception and retention of inorganic material (sand, silt, and clay) from runoff before it is carried downstream or offshore. Wetlands that receive stormwater runoff and have a constricted outlet, or are located within a floodplain provide sediment trapping functions.
- **Nutrient Retention** - High nutrient retention areas are those that 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. Wetlands with these characteristics are identified as providing nutrient retention function.

- **Floodflow Alteration** - Floodflow alteration occurs when wetlands store runoff or attenuate runoff flow rates. Forested wetlands that are irregularly shaped within wide floodplains, and those that are broader than they are long, are considered to have a greater capacity to alter floodflows.
- **Shoreline Stabilization** - High stabilization areas are those that more effectively bind soil and dissipate erosive forces than are typical in upland environments. Wetlands that are present at the waters edge, or tidal wetlands, are rated as providing the shoreline stabilization function.

## 2.6 Assessment of District Wetlands

Although many of the wetlands in the District have been severely affected by urbanization, this does not necessarily indicate an actual diminishment of their environmental values. As an example, contamination and poor water quality are often cited as reasons why wetlands in urban areas are considered of low value. This rating is based on the assumption that less contamination and better water quality are more desirable. Although these attributes would be more desirable, poor water quality and contamination do not diminish the value of the wetlands themselves. In reality, contamination and water quality problems in the aquatic environment would probably be worse if the wetlands were removed from the system.

Given the limitations of traditional assessment methodologies, it is still possible to evaluate the **relative value** of wetlands in the District. To determine the relative value, a classification scheme was developed based on wetland quality, diversity, and functional viability (Figure 2.1) as indicated by the field reconnaissance results. Wetlands in the District were classified as having either HIGH, AVERAGE, or LOW relative value (Figure 2.2). A summary of relative values for District wetlands is presented in Tables 2.2 through 2.4.

Figure 2.1  
Determination of Wetland Relative Value

Wetland relative value is determined based on diversity, quality, and functional viability which are defined as follows:
<b>Diversity</b> indicates the variety of vegetative species and strata in the wetland and the complexity of the wetland habitat.
<b>Quality</b> reflects impacts to wetlands from pollutant sources, excessive scouring from uncontrolled stormwater discharges, sediment loading, and trash accumulation.
<b>Functional viability</b> indicates the ability of the wetland to perform general wetland functions directly related to the physical, chemical, and biological integrity of wetlands.

**Figure 2.2**  
**Classification of Wetlands as High, Average, or Low Relative Value Wetlands**

Classification	Description
HIGH	Wetland exhibits a wide variety of vegetative species and strata; complex habitat; minimal impacts; performance of most general wetland functions
AVERAGE	Wetland exhibits some variety of vegetative species and strata; some impacts; performance of five to three wetland functions.
LOW	Wetland exhibits limited variety of vegetative species and strata; simple habitat; significant impacts; inability to perform most general wetland functions.

In general, wetlands located in the Potomac subwatershed are classified as HIGH relative value wetlands. Examples include wetlands on Roosevelt Island (Nos. 42, 43, and 44), in Rock Creek, and along the C&O Canal. AVERAGE relative value wetlands are located in the National Arboretum (Nos. 10, 11, 12, and 13) and in Watts Branch Park (Nos. 16 and 17). In concordance with the field reconnaissance observations, many of the lowest quality wetlands are located along the banks of the Anacostia (Nos. 8, 18, and 20) and in Anacostia Park (Nos. 25, 29, and 31). "Artificial" wetlands (i.e., the McMillian, Georgetown, and Dalecarlia Reservoirs, Constitution Gardens Lake, and the Reflecting Pools) were also classified as LOW relative value resources. These wetlands exhibit poor diversity and limited wetland functions.

The relative value will be incorporated into future regulatory mechanisms to protect wetlands. These regulations will provide protection and penalties for impacts based, in part, on the relative value of the impact wetlands. This use of wetland valuation is discussed in greater depth in **Chapter 4: Strategy and Implementation.**

**Table 2.2  
High Relative Value Wetlands  
District of Columbia Wetland Conservation Plan**

Wetland No.	Location	Classification	Size (acre)	Diversity	Quality	Functional Viability*
1	Beaverdam Creek at Kenilworth Courts	PFO1B/E	17.10	Good	Good	Fair
2	Kenilworth Marsh	L1/2AB4, PFO1R	88.20	Good	Good	Fair
3	Fort Lincoln New Town between Rt. 50 and Fort Lincoln cemetery	PFO1B, PAB6F	14.20	Good	Good	Fair
5	Fort Lincoln between Rt. 50 and Anacostia	PEM1E, PFO/SS1B	15.60	Good	Good	Good
7	East bank of Anacostia, immediately south of Kenilworth Marsh inlet	PFO/EM1R	3.00	Good	Good	Good
32	Anacostia Park near old greenhouses	PSS1J	7.10	Good	Good	Fair
36	Rock Creek Park between Beach and Parkside Drive	PFO1A	14.20	Fair	Good	Good
40	Chain Bridge Flats	PFO1A, PEM1E	42.00	Good	Fair	Good
42	East side of Roosevelt Island	PFO/EM1R	18.50	Good	Good	Good
43	Roosevelt Island south of Roosevelt Bridge	PFO1R	5.50	Good	Good	Good
44	West side of Roosevelt Island	PFO1R	4.50	Good	Good	Good

\* *Good functional viability indicates that the wetland exhibits six or seven wetland functions.  
Fair functional viability indicates that the wetland exhibits three to five wetland functions.  
Poor functional viability indicates that the wetland exhibits two or fewer wetland functions.*

**Table 2.3**  
**Average Relative Value Wetlands**  
**District of Columbia Wetland Conservation Plan**

Wetland No.	Location	Classification	Size (acre)	Diversity	Quality	Functional Viability*
4	Fort Lincoln between Rt. 50 and RR tracks	PFO1C	2.80	Fair	Fair	Fair
6	West bank of Anacostia opposite Kenilworth Marsh Inlet	PEM/FO1R	1.00	Fair	Good	Fair
9	East bank of Anacostia , 800 feet north of Watts Branch	PEM1R	0.50	Poor	Fair	Fair
10	National Arboretum Pond at Beechwood Road	POWJ	0.50	Poor	Fair	Fair
11	National Arboretum Pond at Eagle Nest Drive	POWHh	0.70	Poor	Fair	Fair
12	National Arboretum Pond at Crabtree Road	POWHh	1.30	Poor	Fair	Fair
13	National Arboretum south of Crabtree Road nature center	PFO/EM1B	0.50	Fair	Fair	Fair
14	National Arboretum along Rhododendron Valley Road	PEM1J	0.10	Fair	Fair	Poor
16	Watts Branch Park	PFO1B	1.80	Fair	Poor	Fair
17	Watts Branch Park	PFO1A	1.00	Poor	Fair	Fair
19	East bank of Anacostia opposite Kingman Island	R1EM2N, PEM1E	1.50	Fair	Fair	Fair
21	East bank of Anacostia between East Capitol Street and Benning Road	R1EM2N, PSS1R	1.10	Fair	Poor	Fair
22	East bank of Anacostia between East Capitol Street and railroad bridge	PFO1R	1.00	Good	Fair	Fair
23	Fort Dupont Park near rehabilitation center	PFO1A	1.00	Fair	Good	Fair
26	Barney Circle and Water Street	PFO1B	1.00	Fair	Fair	Poor
27	Between Water Street and Anacostia, 700 feet north of Sousa Bridge	PFO1B	1.00	Fair	Fair	Poor
28	Fort Stanton Park, Good Hope Road opposite 22nd Place	PFO1A	1.80	Fair	Fair	Fair
30	East bank of Anacostia River opposite Washington Navy Yard	PEM/SS1R	1.50	Fair	Fair	Fair

- \* *Good functional viability indicates that the wetland exhibits six or seven wetland functions.*  
*Fair functional viability indicates that the wetland exhibits three to five wetland functions.*  
*Poor functional viability indicates that the wetland exhibits two or fewer wetland functions.*

**Table 2.3  
Average Relative Value Wetlands  
District of Columbia Wetland Conservation Plan**

<b>Wetland No.</b>	<b>Location</b>	<b>Classification</b>	<b>Size (acre)</b>	<b>Diversity</b>	<b>Quality</b>	<b>Functional Viability*</b>
34	Floodplain of Oxon Run between Stanton Rd. and 13th Street	PFO1A	15.60	Fair	Good	Fair
35	Oxon Creek at I-295 bridge	PFO1R	4.50	Fair	Good	Fair
45	Potomac River at Boundary Channel and Memorial Bridge	R1EM2N, PEM1R	1.80	Poor	Fair	Fair
46	South Dakota & Hamilton Avenue at Riggs Plaza Apts.	PFO/SS1C	0.80	Fair	Fair	Poor
48	Soldiers Home	POWHh	2.00	Poor	Good	Poor

- \* *Good functional viability indicates that the wetland exhibits six or seven wetland functions.*
- Fair functional viability indicates that the wetland exhibits three to five wetland functions.*
- Poor functional viability indicates that the wetland exhibits two or fewer wetland functions.*

**Table 2.4**  
**Low Relative Value Wetlands**  
**District of Columbia Wetland Conservation Plan**

Wetland No.	Location	Classification	Size (acre)	Diversity	Quality	Functional Viability*
8	West bank of Anacostia, 1000 ft. north of Hickey Run	PEM1R	0.40	Poor	Fair	Poor
15	Langston Golf Course	PSS/EM1B	0.20	Poor	Poor	Poor
18	East bank of Anacostia south of Watts Branch	PEM1R	0.50	Poor	Poor	Fair
20	East bank of Anacostia immediately north of Benning Road Bridge	R1EM2N	0.50	Poor	Poor	Fair
24	Fort Dupont Park along F-Street parking area	PEM1B	0.20	Poor	Poor	Poor
25	Anacostia Park at Nicholson Street parking area	PEM1C	0.40	Poor	Poor	Poor
29	Anacostia Park at 11th Street Bridge	PEM1C	0.01	Poor	Poor	Poor
31	Anacostia Park near old greenhouses	PEM1B, PSS1J	4.00	Fair	Poor	Poor
37	Whitehaven Park	POWHh	0.20	Poor	Fair	Poor
38	Glover-Archibald Park at Whitehaven Tributary	PFO1A	0.20	Poor	Fair	Poor
39	Glover-Archibald Park at Reservoir Road	PFO1B	2.80	Poor	Poor	Fair
47	Soldiers and Sailors Home	POWHx	0.20	Poor	Fair	Poor
49	McMillan Reservoir	L1OWHh	38.00	Poor	Good	Poor
50	Capitol Pool	POWHx	3.00	Poor	Fair	Poor
51	Reflecting Pool	POWHx	4.60	Poor	Fair	Poor
52	Constitution Gardens Lake	POWHx	5.50	Poor	Fair	Poor
53	Georgetown Reservoir	POWZx	37.00	Poor	Good	Poor
54	Dalecarlia Reservoir	L1OWHh	15.50	Poor	Good	Poor

- \* *Good functional viability indicates that the wetland exhibits six or seven wetland functions.*  
*Fair functional viability indicates that the wetland exhibits three to five wetland functions.*  
*Poor functional viability indicates that the wetland exhibits two or fewer wetland functions.*



# Chapter 3

## Protection Mechanisms

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The traditional mechanism for wetland protection are regulatory programs limiting activities in and around wetlands. These regulatory programs may be implemented and enforced on the local, state, and Federal level. The most frequently invoked wetland protection mechanism is the USCOE's Section 404 program.

While simple in concept, the traditional regulatory approach has been less effective than anticipated. First, most regulatory programs are administered "from the top down", e.g., the program is administered from the State or Federal level, but the impacts occur on the local level. In general, local government agencies are usually more aware of the location, extent, and quality of existing wetlands than State or Federal regulators. Although the local regulators usually have a better working knowledge of the wetlands, Federal and State regulators are often in the position of issuing permits for wetlands which they may or may not be familiar with. Another aspect of this top down approach is that wetlands are not viewed as one continuous resource, but instead approach on a piece -meal basis, as if each wetland was entirely self contained and self sustaining.

The second impediment to effective wetland protection is the tendency to regulate *the activity* as opposed to protect the wetland resource. The focus becomes reducing the concentration of pollutants in a discharge, decreasing the acreage of wetland fill, or limiting the period of active construction. Wetland health, however, is dependent upon a variety of factors including groundwater hydrology, surface water flows, as well as point and nonpoint discharges to the wetland. Under the traditional wetland protection approach, permitted activities modified to reduce potential impairments, may still adversely impact the resource.

The District's wetland protection strategy seeks to overcome the traditional impediments to effective resource protection. As it will be implemented on the local level, the District's strategy represents a "bottom up" approach. Complementary and ongoing wetland protection efforts on the Federal and regional level will be integrated into the District's wetland conservation strategy to further strengthen the effectiveness of the program. These programs are identified in the following discussion.

The District's strategy will also focus on preservation and enhancement of current wetland resources as opposed to limiting activities near or within the wetlands. This will be accomplished through a development of a resource-based regulatory approach. This approach is discussed in Chapter 4, Strategy and Implementation.

### 3.1 Protection Mechanisms and Programs

The two District agencies primarily responsible for protection of wetlands within the District are DC/ERA and DC/DPW. Most of the regulatory and planning authority resides with DC/ERA. DC/DPW is a participant in various wetland protection and restoration efforts. Additional programs and efforts within the District have been instituted by Federal agencies and as part of regional restoration and protection efforts.

### **3.1.1 District of Columbia Regulatory Controls and Programs**

DC/ERA is primarily responsible for implementing and enforcing local wetland protection regulations. These regulations are authorized by DC Law 5-188 (Water Pollution Control Act) and DC Law 2-23. The regulations focus on both the water quality of the overlying waters in the wetlands and activities which may impact wetlands within the District.

#### **Water Pollution Control Act (DC Law 5-188)**

The District's Water Pollution Control Act of 1984 (DC Law 5-188) gives DC/ERA authority to develop water quality standards for the District. These standards are used to regulate the concentrations of various chemicals in the water column. Implementation of this authority is described in DCMR Chapter 11. DC/ERA classifies water bodies in the District into water use classifications lettered A through E. These classifications are:

- A: primary contact recreation
- B: secondary contact recreation and aesthetic enjoyment
- C: protection and propagation of fish, shellfish and wildlife
- D: protection of human health related to consumption of fish and shellfish; and
- E: navigation

Wetlands are explicitly addressed under Section 7(a)(3) of DC Law 5-188 and regulated under Section 1103 of DCMR Chapter 11. They are protected against adverse affects attributable to changes in hydrology, sedimentation, toxic substances and nutrients. Wetlands designed explicitly for wastewater treatment are exempted from these protections.

#### **DC Law 2-23**

DC Law 2-23 outlines requirements for erosion and sediment control and stormwater management in conjunction with new development and construction activity. This regulation focuses on limiting the impact of stormwater runoff from construction sites and new development on water resources within the District. Wetlands, as well as rivers and streams are defined as water resources.

Under this regulation, erosion and sediment control (ESC) practices are required in conjunction with most construction activity to reduce the impact of sediment-laden stormwater runoff from construction sites. Excessive discharges of sediment can result in "filling in" of wetlands. The turbid runoff from construction sites may also impair wetland vegetation. The cloudy water reduces the amount of light passing through the water to submerged vegetation, impairing the plants' ability to photosynthesize.

Stormwater management practices built in conjunction with new development can also reduce the amount of sediment discharged to wetlands. In addition, stormwater management facilities may reduce the concentration of other pollutants (e.g., nitrogen, phosphorus, hydrocarbons, and heavy

metals) discharged to wetlands. Typically, stormwater management practices also moderate peak stormwater runoff flows. High velocity stormwater runoff flows may significantly alter the hydrologic and hydraulic regime of wetlands. Scouring may result or sustained increased flows may result in the replacement of the existing wetland with a new wetland more tolerant of the new regime.

### 3.1.2 Conservation, Restoration, and Protection Programs

#### **Anacostia Watershed Restoration Agreement**

In 1987, representatives from the District, Prince George's and Montgomery Counties (MD), and the State of Maryland signed the Anacostia Watershed Restoration Agreement (AWRA). The focus of this agreement is restoration of the Anacostia River watershed. The goals and objectives of the AWRA are outlined in the "Six-Point Action Plan" for the restoration of the Anacostia (Anacostia Restoration Team 1991). The fourth point in this plan specifically addresses restoration and creation of wetlands in the Anacostia watershed.

The goals and objectives of the AWRA are being implemented by the Anacostia Watershed Restoration Committee. DC/ERA and DC/DPW are the District's representatives on the Anacostia Watershed Restoration Committee. The Anacostia Restoration Team of the Metropolitan Washington Council of Governments (MWCOCG) provides technical and administrative oversight to the Committee.

Several cooperative projects to restore the Anacostia have resulted from the District's participation in the Anacostia Watershed Restoration Committee. The strength of Anacostia Watershed Restoration Committee is in fostering agreement between signatory agencies and in implementing plans that affect the watershed as a whole.

#### **Kingman Lake/ Fringe Wetlands**

In 1994, the USCOE conducted the Anacostia Feasibility Study (USCOE 1994) to address different options for habitat restoration in the Anacostia Watershed. In the District, two wetland restoration projects are planned from this effort: the restoration of marshland in Kingman Lake and the development of fringe wetlands in the tidal Anacostia. Some long-term benefits of creating these wetlands are pollutant filtration and habitat preservation, among others.

Of the several alternatives proposed for Kingman Lake, the most preferred option was the creation of forty-five acres of freshwater marsh. Restoration of this marsh will begin when funding is available. Creation of these wetlands will be established by dredging sediment from the Anacostia River and some parts of Kingman Lake. This dredged sediment will be pumped into Kingman Lake, stabilized and planted with wetland plants.

In addition, the Feasibility Study recommended the creation of thirty acres of fringe wetlands along the Anacostia between the East Capitol Street Bridge and the New York Avenue Bridge. Fringe wetlands are wetlands along the perimeter of an open water body, in this case the

Anacostia River. As in Kingman Lake, these wetlands will be created by pumping sediment from the Anacostia to the wetland sites. This sediment will then be planted with wetland plants.

### **Kenilworth Marsh**

The restoration of Kenilworth Marsh is one of the most substantial wetland restoration projects in the District. Located near the border of Maryland at the shore of the Anacostia, Kenilworth Marsh was reduced from 300 acres in 1927 to seventy-six acres in 1989 (Anacostia Restoration Team, 1991). As a result of this project, thirty-two acres of freshwater tidal marsh were restored. Freshwater tidal marshes are wetlands that are influenced by tides and that have fresh or near-fresh water.

The project was conducted in concert with a 1993 USCOE river dredging project. The sediment from this project was to form the wetland floor where wetland plants were established. In addition to the actual restoration of these wetlands, an interagency group, the Kenilworth Marsh Monitoring Committee, has evolved with the mission to identify, promote, perform, and track monitoring of the restoration project.

### **PEPCO Cooperative Agreement**

DC/ERA, in cooperation with the Potomac Electric Power Company (PEPCO) and NPS has developed a plan under which the two organizations will work to create a two acre fringe wetland near the Benning Road PEPCO plant. Sediment placement has occurred and planting will take place in 1997.

### **DC/ERA Educational Programs**

DC/ERA has a public school education program, and also administers the Aquatic Resources Education Center in Anacostia Park. Both these avenues can be used to educate the public about the value of wetlands in the District.

## **3.2 Federal Programs**

Water resources (i.e., streams, wetlands, etc.) within the District are subject to several Federal regulations and programs. For example, the water quality criteria for point source and stormwater discharges set forth under Section 402 of the Clean Water Act is applicable to specifically wetlands as well as other sensitive water resources.

The following discussion is limited to Federal regulations and programs that specifically address wetland protection and restoration. Each Federal regulation or program is described briefly, focusing on its use and applicability within the District. Included in each description is a discussion of the program provisions, agencies responsible for program implementation, and the applicability to wetland protection and restoration within the District. The utility of the program (or regulation) with respect to wetland conservation is also discussed. Utility is considered with respect to:

- **acquisition:** transferral (via sale or easement) of wetland ownership to the District
- **funding:** sources of funding for wetland protection, restoration, enhancement, and acquisition
- **planning:** assessment, development, and implementation of wetland protection programs
- **restoration/creation:** creation of new wetlands or restoration of existing wetlands
- **research/technical assistance:** technical and research support to better understand the various ecological mechanisms and interactions in wetlands

Summary discussions of applicable Federal programs are presented in the following series of fact sheets.

## **Clean Water Act, Section 319**

### **Provisions**

Section 319 of the Clean Water Act addresses nonpoint source pollution. This regulation is applicable to all "waters of the United States." Under Section 319, States are required to classify surface waters with respect to water use classes (e.g., recreation, drinking water supply, etc.). States are then required to develop and implement a nonpoint source management plan based on these classifications.

Funding is available through the Section 319 program to develop and implement nonpoint source management plans. As of Fiscal Year 1997, these grants are no longer awarded on a competitive basis, but are instead distributed among states according to an area- and population-based formula.

### **Responsible Agencies**

On the Federal level, the USEPA is responsible for oversight of the Section 319 program. In the District, DC/ERA is responsible for developing water use classifications and for developing a nonpoint source management plan. Both DC/ERA and DC/DPW are responsible for implementing the management plan. All Section 319 management plans, including the District's, must be reviewed and approved by the USEPA.

### **Applicability to District wetlands**

District wetlands are defined as "waters of the United States." Therefore, wetlands are included in the District's Section 319 nonpoint source management plan.

### **Utility**

<b>Acquisition:</b>	Not applicable
<b>Funding:</b>	Nonpoint source grants are available from USEPA through Section 319 to develop and implement nonpoint source management plans.
<b>Planning:</b>	Wetland protection may be incorporated into the District's nonpoint source management plan.
<b>Restoration/Creation:</b>	Not applicable
<b>Research/ Education/ Technical Assistance:</b>	Technical assistance is available from the USEPA for development of nonpoint source plans. In addition, education outreach efforts and technical research may be included as part of the nonpoint source management program.

## Clean Water Act: Section 401

### Provisions

Section 401 of the Clean Water Act ensures that actions of the Federal government do not cause violations of State water quality standards. The law gives States the power to override government activity that causes such violations. There are two general cases where the law applies. First, a State or USEPA can review and modify or stop actions the Federal government takes on its lands. For example, a building project on NPS land is subject to EPA or State approval. Second, the Federal government must ensure that any permit it issues to a private individual complies with State water quality standards. For example, USCOE issues Section 404 permits, which regulate discharge of dredge or fill material into wetlands. These permits must be reviewed by a State environmental agency and USEPA before permits are granted.

### Responsible Agencies

In the District of Columbia, DC/ERA is responsible for 401 implementation. On Federal lands in the District, USEPA administers the 401 program.

### Applicability to District wetlands

The 401 process allows the District to limit impacts to its wetlands by disallowing Federal permits that violate its own standards.

### Utility

<b>Acquisition:</b>	Acquisition of wetlands can be required as an amendment to a federal permit.
<b>Funding:</b>	Not applicable
<b>Planning:</b>	Section 401 aids in the planning process by encouraging integration of Federal and District regulations.
<b>Restoration/Creation:</b>	Restoration or creation may be required as an amendment to a Federal permit.
<b>Research/ Education/ Technical Assistance:</b>	Not applicable

## Clean Water Act: Section 404

### Provisions

Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into "waters of the United States." These waters include wetlands adjacent to interstate rivers and streams (e.g., the Anacostia and Potomac Rivers) and coastal waters. In addition, they include isolated wetlands that affect interstate commerce, such as wetlands used by migratory birds. Permission to discharge fill material is only granted if: (1) there is no better alternative (2) the discharge does not violate any other Federal, state or local laws and (3) steps have been taken to mitigate impacts. Some farm activities, as well as the construction of temporary sedimentation ponds on construction sites and maintenance of current structures such as dams are exempt from 404 permits.

Section 404 has provisions to streamline the application process. While some activities need individual permits, others can apply under a general permits. General permits issued on a national, state or regional basis apply to activities that cause minimal damage. They are less time-consuming than individual permits, both for the applicant and the Federal agencies. Another component that can make application for permits easier is the use of Advanced Identification (ADID) of water resources. For example, very sensitive wetlands may be less appropriate for discharge. Although ADID does not necessarily guarantee denial or rejection of a permit unless linked to a general permit, it can be used as a general guideline to help planners.

### Responsible Agencies

The USCOE and USEPA are responsible for implementing Section 404. USCOE issues 404 permits and ensures that activities are consistent with environmental guidelines. USEPA develops guidelines of Section 404. USCOE and USEPA share responsibility for enforcement and the ADID process.

The National Marine Fisheries Service (NMFS), USFWS, and DC/ERA review each permit. In addition, these agencies can participate in the ADID process. DC/ERA can legally assume the 404 program, but at this time has not elected to do so.

### Applicability to District Wetlands

The wetlands in the District are "waters of the United States" and are covered by this legislation.

### Utility

- |                     |   |
|---------------------|---|
| <b>Acquisition:</b> | Not applicable  |
| <b>Funding:</b>     | If the District were to assume responsibility for the 404 permitting process, limited funding would be provided by the USEPA.   |
| <b>Planning:</b>    | The ADID process could be used to reinforce wetland protection measures within the District. At this time, however, no ADID areas have been identified within the District. |

**Restoration/Creation:** Section 404 permits require some form of mitigation to compensate for impacts to wetlands.

**Research/ Education/  
Technical Assistance:** Identification of ADID areas requires specialized technical knowledge. USFWS, NMFS, USEPA, USCOE would most likely provide DC/ERA with technical assistance in this matter.

## River and Harbor Act, Section 10

### Provisions

Section 10 of the River and Harbor Act affects alteration of navigable waters of the United States. The Act applies to activities below the mean high water mark of tidal waters and the ordinary high water mark of fresh waters. Environmental and fish and wildlife impacts are considered in issuing Section 10 permits.

### Responsible Agencies

USCOE is responsible for issuing Section 10 permits.

### Applicability to District wetlands

The Potomac and Anacostia Rivers are classified as navigable waters by USCOE. Any wetlands associated with these rivers are affected by Section 10.

### Utility

**Acquisition:** Not applicable

**Funding:** Not applicable

**Planning:** Section 10 can permits can be used to track activities that impact wetlands within the District. The permits are often used in combination with Section 404 and NEPA.

**Restoration/Creation:** Not applicable

**Research/ Education/** Not applicable

**Technical Assistance:**

## Endangered Species Act

### Provisions

The Endangered Species Act focuses on activities that impact the habitat of endangered species, including wetland habitat. States can support the listing of endangered or threatened species to protect their habitats. Species recovery plans developed under this act's authority can help to protect and restore populations of the endangered or threatened species. Endangered species considerations are always considered as a part of Clean Water Act Section 404 permitting.

### Responsible Agencies

USFWS, in coordination with DC/ERA, would develop strategies to protect endangered species.

### Applicability to District Wetlands

Although there are few endangered species in District wetlands, Bald Eagles have been spotted in the Kingman Lake area (USCOE, 1994). In addition, new plant and animal species are continuously added to endangered species lists.

### Utility

- Acquisition:** The Endangered Species Act can be used to justify acquisition of wetlands that provide habitat for endangered or threatened species, in coordination with the Land and Water Conservation Fund Act.
- Funding:** The District can apply for grants for endangered species conservation projects, if these species exist.
- Planning:** Species recovery plans can be an integral part of planning for granting of Clean Water Act Section 404 permits and for restoration and acquisition plans.
- Restoration/Creation:** Wetlands that provide habitat for endangered or threatened species can be given priority in receiving restoration funding from the Federal Government.
- Research/ Education/ Technical Assistance:** USFWS provides technical assistance in developing species recovery plans.

## **National Environmental Policy Act (NEPA)**

### **Provisions**

Under NEPA, the environmental impacts of any Federal action must be addressed. The Act covers projects conducted by the Federal government, as well projects that the Federal government funds. An environmental assessment (EA) is conducted to investigate possible environmental impacts. When the EA reveals possible significant impacts a more complete study, an Environmental Impact Statement (EIS) may be necessary. NEPA is automatically addressed in Section 404 permitting. The EIS or EA addresses what the impacts may be and how to avoid them. One integral part of the EIS process is the inclusion of a public comment period to address the value of a resource to the community.

### **Responsible Agencies**

The Federal agency funding or conducting the permitted activity is responsible for conducting an EA and EIS. DC/ERA may coordinate with this agency in developing the reports. The USEPA reviews every EA and EIS. Any government agency has the right to comment during the public comment period.

### **Applicability to District Wetlands**

The Federal Government owns 83% of the wetlands in the District. In addition, any activity that requires a Section 404 permit will also need to address NEPA regulations.

### **Utility**

**Acquisition:** Not applicable

**Funding:** Not applicable

**Planning:** The NEPA process addresses the impacts to wetlands for any project. EISs and EAs can be used to address the impacts of activities and be incorporated in to District-wide planning.

**Restoration/Creation:** Not applicable

**Research/ Education/  
Technical Assistance:** Not applicable

## USEPA Wetlands Program State Development Grants

### Provisions

The USEPA provides wetlands protection grants are available to States for the development or improvement of their wetlands programs. The grants are competitive and States, including the District are eligible to apply.

### Responsible Agencies

The USEPA oversees this program, and DC/ERA or DC/DPW would carry out individual projects in the District.

### Applicability to District Wetlands

The District is eligible for these funds.

### Utility

**Acquisition:** Not applicable

**Funding:** Provides funding for wetlands-related projects on a competitive basis.

**Planning:** Grants can be used to develop management plans or improve regulation.

**Restoration/Creation:** Restoration can be a part of projects funded.

**Research/ Education/  
Technical Assistance:** Monitoring projects or projects that incorporate education into state programs are eligible.

## Land and Water Conservation Fund Act

### Provisions

The Land and Water Conservation Fund Act provides funds to States for the acquisition of lands for recreation. In order to receive these funds, states must prepare an approved outdoor recreation plan. Land preserved by these funds needs to have recreational value. Wetlands that can be used for bird-watching or fishing, for example, are eligible for these funds.

### Responsible Agencies

The National Park Service (NPS) oversees this program. In the District, DC/ERA would be responsible for developing an applicable recreation plan.

### Applicability to District Wetlands

The District can use these funds to acquire wetlands with recreational value.

### Utility

- Acquisition:** The funds in this program are explicitly for acquiring land.
- Funding:** The program provides funds subject to the provisions of the NPS.
- Planning:** The recreation plans developed as part of funding application can be used as an integral part of wetlands planning.
- Restoration/Creation:** Not applicable
- Research/ Education/ Technical Assistance:** Not applicable

## Surplus Federal Property Transfer

### Provisions

Federally owned land can be transferred to NPS, who can sell that land to a State government at low cost. The land must be used for parks.

### Responsible Agencies

NPS oversees this program. DC/ERA may apply for property transfers through the NPS.

### Applicability to District Wetlands

Eighty-three percent of the District's wetlands are located on Federal property. The majority of these wetlands are owned by NPS.

### Utility

<b>Acquisition:</b>	Land transfer is one relatively inexpensive mechanism for the District to acquire wetlands.
<b>Funding:</b>	Not applicable
<b>Planning:</b>	Not applicable
<b>Restoration/Creation:</b>	Not applicable
<b>Research/ Education/ Technical Assistance:</b>	Not applicable

## **Dingell-Johnson and Pittman-Robertson Acts**

### **Provisions**

The Dingell-Johnson Act provides funding for sport fish restoration, and the Pittman-Robertson Act provides funds for wildlife restoration. Dingell-Johnson funds can be used for a wide range of activities related to fish restoration. Both can be used for wetlands acquisition or restoration projects.

### **Responsible Agencies**

The National Park Service oversees this program. DC/ERA can apply for these grants.

### **Applicability to District Wetlands**

The District is eligible for these funds, but the Dingell-Johnson funds are awarded based on geographic area, allowing little funding for the District.

### **Utility**

- Acquisition:** Both of these funds can be used in wetlands acquisition.
- Funding:** These Acts provide funding for wetlands projects.
- Planning:** Dingell-Johnson funds can be used in developing fish restoration plans.
- Restoration/Creation:** Both funds can be used for restoration or creation of wetlands.
- Research/ Education/ Technical Assistance:** The USFWS provides technical assistance on projects funded through these Acts.
- Dingell-Johnson funds can be used to fund educational efforts.

## North American Wetlands Conservation Act

### Provisions

The North American Wetlands Conservation Act provides funding to individuals, local or state governments, or other groups for the acquisition or improvement of wetlands. The primary goals of this Act are to preserve habitat for migratory birds and water. A one-to-one match from a non-federal source is needed for funds to be approved.

### Responsible Agencies

USFWS oversees these grants.

### Applicability to District Wetlands

DC/ERA as well as any private individual or other group in the District is eligible for these funds to acquire wetlands with migratory bird habitat.

### Utility

- Acquisition:** These funds can be used for acquisition of wetlands.
- Funding:** Matching funds are available on a competitive basis.
- Planning:** Not applicable
- Restoration/Creation:** Funds can be used for restoration or creation of wetlands
- Research/ Education/ Technical Assistance:** The USFWS provides technical assistance to land owners in developing proposals.

## **Private Lands Assistance and Restoration Program (Partners for Wildlife)**

### **Provisions**

Partners for Wildlife provides support to private individuals for restoration of wetlands. Since the focus is on wildlife, projects that contribute to the survival of endangered or migratory bird species or avoid habitat fragmentation are given preference. Support can be in the form of funding or informal advice from the Federal government. A cost-share is not necessary but increases the chances of funding, especially on larger projects.

### **Responsible Agencies**

The USFWS oversees this program and provides technical advice to individual projects.

### **Applicability to District Wetlands**

XX% of the wetlands in the District are privately owned.

### **Utility**

- |   |  |
|---|--|
| <b>Acquisition:</b>                                   | Not applicable   |
| <b>Funding:</b>                                       | Funds are available, usually for small projects.                         |
| <b>Planning:</b>                                      | Not applicable   |
| <b>Restoration/Creation:</b>                          | Both funds and assistance are available for the restoration of wetlands. |
| <b>Research/ Education/<br/>Technical Assistance:</b> | The USFWS provides technical assistance to land owners.                  |

## Chesapeake Bay Program

### Provisions

The Chesapeake Bay Program supports research and implementation of activities that protect the Chesapeake Bay and its tributaries. The Program was formed by the signing of the Chesapeake Bay Agreement in 1987. Representatives from Pennsylvania, Maryland, the District, and Virginia agreed to develop and implement plans to reduce the nutrient loads and toxics to the Chesapeake. Several representatives from the Federal government also signed this agreement. The Agreement emphasizes the health of the tributaries of the Chesapeake. The Bay Program offers technical support and funding to signatory states.

In 1994, the Federal members of the Chesapeake Bay Agreement signed the Chesapeake Bay Ecosystem Management Agreement. As a part of this agreement, the Anacostia was designated as an "demonstration watershed." As a result of this agreement, USCOE has developed a *Biennial Federal Workplan* for this watershed (USEPA, 1996). This workplan was developed in concert with AWRC and echoes the goals of the "Six Point Plan" (Anacostia Watershed Restoration Team, 1991).

### Responsible Agencies

The USEPA oversees this program. DC/ERA and DC/DPW have participated in Bay Program projects. Several other Federal agencies participate in the Bay Program.

### Applicability to District Wetlands

Chesapeake Bay program funds can and have been used to protect District wetlands. In addition, the coordinated federal activity identified in the *Federal Workplan* include District wetlands protection projects.

### Utility

<b>Acquisition:</b>	Not applicable
<b>Funding:</b>	Funds are available to the District through the Chesapeake Bay Program and can be used for wetlands restoration and protection.
<b>Planning:</b>	The Chesapeake Bay Program provides both technical and economic assistance for signatory states to develop comprehensive plans for the restoration of the Chesapeake. These plans can include a wetlands component.
<b>Restoration/Creation:</b>	Both funds and assistance are available for the restoration of wetlands.
<b>Research/ Education/ Technical Assistance:</b>	The Chesapeake Bay Program supports research and educational programs, and provides technical assistance.



# Chapter 4

## Strategy and Implementation

The goals of the *Wetland Conservation Plan* are no-net loss of and eventual net gain of wetlands in the District. A complementary, two part strategy is proposed to accomplish these goals: drafting of new wetland protection regulations and development of a wetland restoration and creation program. The key elements of this strategy are outlined in Figure 4.1.

**Figure 4.1**  
**Strategy for Achieving the Goals of the Wetland Conservation Plan**

Wetland Protection Regulations (No-Net Loss)	Restoration and Creation Program (Eventual Net-Gain)
Identification of high value wetlands  Strict limitation of impacts to existing wetlands	Identification of feasible wetland restoration and creation opportunities  Identification of potential funding sources for restoration and creation activities
← Mitigation of impacts to wetlands through restoration, creation, or enhancement of wetlands →	

The specifics of the strategy are examined in the following discussion.

### 4.1 Current Wetland Protection Regulations Within the District

In accordance with DC Law 5-188 (Water Pollution Control Act), wetlands in the District are defined as areas that are 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 specifically constructed or created as wastewater treatment devices are not included in this definition.) Protection guidelines for these wetlands are presented in the Water Pollution Control Act and Section 404 of the Clean Water Act. The District regulation focuses primarily on the quality of the overlying water as opposed to wetland vegetation, wildlife, function, or value. This protection strategy is outlined in Section 1103 of the Water Pollution Control Act:

*"wetlands with rooted vascular vegetation [are to] be protected from significant adverse hydrologic modifications, excessive sedimentation, deposition of substances in toxic amounts, nutrient imbalances, and other adverse anthropogenic impacts."*

Activities which may adversely impact wetlands are not specifically restricted in the District regulation. Section 404 of the Clean Water Act, however, does prohibits most activities which will result in the dredging or filling in of wetlands.

### 4.2 Comparison to Maryland Wetland Protection Regulations

The goals of the State of Maryland's wetland protection program are the same as those of the District's: no net loss of wetlands and an eventual overall net gain. Unlike the District's program, Maryland's wetland protection program specifically restricts activities which may adversely impact nontidal wetlands and associated wetland buffers. Permits are required for all projects which may potentially impact nontidal wetlands. The permit program is authorized under Title 08, Subtitle

05, Chapter 04 (Nontidal Wetlands) of the Annotated Code of Maryland and is administered by the Maryland Department of the Environment (MDE).

In general, MDE prohibits all projects which will adversely impact nontidal wetlands. Projects with potential impacts are permitted only under the following circumstances:

- the proposed project is water dependent and requires access to nontidal wetlands;
- there is no practicable alternative for the project;
- as implemented, the potential adverse impacts to nontidal wetlands, groundwater, and surface water will be minimal or minimized; or
- the project is consistent with an MDE-approved comprehensive watershed management plan.

The nontidal wetland protection program is not applicable to forestry and agricultural activities.

When a permitted activity results in adverse impacts to nontidal wetlands, mitigation or monetary compensation is required. Monetary compensation is only considered when creation, restoration, and enhancement are not feasible. There are four possible mitigation options: (1) restoration of historical or impacted wetlands, (2) creation of new wetlands, (3) enhancement of existing wetlands, and (4) participation in an approved wetland bank. The Maryland mitigation ratios are presented in Figure 4.2.

Whenever possible, mitigation sites are located onsite. When onsite mitigation is not feasible, MDE will next consider offsite sites located in the same watershed sub-basin sites and then offsite locations in adjacent watershed sub-basins.

**Figure 4.2a**  
**State of Maryland Mitigation Ratios**  
**Mitigation Option: Restoration, Enhancement, or Creation**

<b>Impacted Wetland</b>	<b>Mitigation to Loss Ratio (acre: acre)</b>
emergent wetlands	1:1
shrub-scrub wetlands	2:1
forested wetlands	2:1
emergent wetlands of special State concern*	2:1
shrub-scrub wetlands of special State concern*	3:1
forested wetlands of special State concern*	3:1

*\*wetlands of special State concern are defined as wetlands ecologically important to endangered, threatened, locally unusual, or rare plant or animal species*

**Figure 4.2b**  
**State of Maryland Mitigation Ratios**  
**Mitigation Option: Participation in Wetland Bank**

<b>Impacted Wetland</b>	<b>Bank credit to Loss Ratio (acre: acre)</b>
emergent wetlands	1.5:1
shrub-scrub wetlands	3:1
forested wetlands	3:1
emergent wetlands of special State concern*	3:1
shrub-scrub wetlands of special State concern*	4.5:1
forested wetlands of special State concern	4.5:1

*\*wetlands of special State concern are defined as wetlands ecologically important to endangered, threatened, locally unusual, or rare plant or animal species*

### **4.3 Proposed Regulatory Strategy: Wetland Permitting**

The District's proposed regulatory strategy focuses on the protection of wetland vegetation, wildlife, and ecology as opposed to the overlying surface water quality. A permit will be required for activities which potentially impact wetlands in the District. A sequence for mitigating impacts will be established based on the relative quality of the impaired wetland. The proposed regulatory approach will also provide for development of a wetland mitigation banking program and a wetland compensation fund.

Under the proposed strategy, the following impacts to wetlands may be regulated:

- reduction in wetland acreage;
- failure to maintain the current or designated use of the overlying surface water as defined in the Water Pollution Control Act;
- significant modification of the hydrologic and hydraulic regime of areas upstream and downstream of the wetland;
- the discharge of dredged or fill material into the wetland;
- impairment of the wetland's ability to support and provide habitat for indigenous wildlife; and
- harm to a threatened or endangered wetland plant or animal species.

The mitigation sequence, the wetland banking program, and the wetland compensation fund are discussed in the following sections.

**4.3.1 Mitigation of Impacts**

Under the proposed regulatory strategy, DC/ERA will review all activities and construction projects which may impact wetlands in the District. Although the purpose of the proposed approach is to minimize impacts, it is anticipated that some projects that may impact wetlands will be allowed to proceed. These projects include water dependent projects and projects for which there is no practicable alternative. Mitigation will be required for impacts associated with these efforts. DC/ERA will work in conjunction with the developer (or person responsible for the activity) to develop an appropriate mitigation plan. All mitigation projects must be approved by DC/ERA prior to issuance of a wetland permit. Mitigation of impacts to wetlands will be considered in accordance with the sequence presented in Figure 4.3.

**Figure 4.3  
Proposed Mitigation Sequence**

<b>Sequence Options (In order of preference)</b>	<b>Description</b>
<b>#1: Avoidance</b>	Modification of the scope of the proposed activity or construction to completely avoid the potential impacts to the wetland.
<b>#2: Restoration</b>	Rectifying the impact by repairing, rehabilitating, or restoring the affected wetland following completion of the activity or construction.
<b>#3: Compensation</b>	Compensating for the impact to the wetland by creating or enhancing an alternative wetland or via contribution to wetland compensation fund

When impacts to wetlands are unavoidable, restoration (Option 2) or compensation (Option 3) will be required. The total acreage restored or created will be determined based on the relative value of the impacted wetland and in accordance with a mitigation ratio (Figure 4.4). Restoration and creation options will be prioritized with respect to location (on-site versus off-site) and type of restoration (similar wetland versus different type of wetland). Restoration and creation options priorities are presented in Figure 4.5.

**Figure 4.4  
Proposed District of Columbia Wetland Mitigation Ratios  
Mitigation Option: Restoration, Enhancement, or Creation**

<b>Impacted Wetland</b>	<b>Mitigation to Loss Ratio (acre: acre)</b>
LOW relative value wetlands	1:1
AVERAGE relative value wetlands	2:1
HIGH relative value wetlands	3:1

**Figure 4.5**  
**Proposed Restoration/Creation Priority Sequence**

<b>Sequence Options (in order of preference)</b>	<b>Description</b>
<b>1. On-site, in-kind restoration/creation</b>	On-site restoration or creation of an in-kind wetlands (e.g., restoration of palustrine wetlands with palustrine wetlands)
<b>2. Within subwatershed, in-kind restoration/creation</b>	Restoration or creation of an in-kind wetland within the same subwatershed (i.e., Anacostia River or Rock Creek subwatersheds)
<b>3. Within subwatershed, out-of-kind restoration/creation</b>	Restoration or creation of an out-of-kind wetland (e.g., creation of shrub-scrub wetlands in mitigation for impacts to riverine wetlands) within the same subwatershed
<b>4. Outside subwatershed, in-kind restoration/creation</b>	Restoration or creation of an in-kind wetland within a different subwatershed
<b>5. Outside subwatershed, out-of-kind restoration/creation</b>	Restoration or creation of an out-of-kind wetland within a different subwatershed

### 4.3.2 Wetland Mitigation Banking

Wetland mitigation banks were developed in the 1980's in response to Section 10 (Rivers and Harbors Act) and Section 404 of the Clean Water Act. Wetland mitigation banks are programs that provide relatively large offsite mitigation sites to address unavoidable adverse impacts from numerous projects. In contrast, traditional mitigation requires compensatory restoration, creation, or enhancement concurrent with *one* project. Wetland mitigation banks are created and administered by State or local agencies, nonprofit organizations (e.g., land trusts), or private entities. Wetland mitigation banks secure large sites for mitigation; restore (or create) wetlands on these sites; and maintain and monitor the sites. The bank then offers "credit" to projects which impact wetlands. Projects pay a fee to the wetland mitigation bank commensurate with the acreage of wetlands impacted and representing per-acre creation and maintenance costs associated with the bank site.

Wetland mitigation banks can theoretically provide higher value and higher functioning wetlands than traditional mitigation efforts. Wetland mitigation banks avoid habitat fragmentation, provide for large, contiguous wetland systems, and place the care and management of wetlands into the hands of specialists. DC/ERA will investigate the potential benefits of establishing a wetland bank program. This investigation will focus specifically on the four program elements: identification of bank operator; identification of bank sites; creation of inter-agency agreements; and development of a bank use policy.

#### 1. Identification of Appropriate Administrating Entity/Bank Operator

DC/ERA would most likely administer the wetland mitigation bank as it is the primary agency within the District charged with protection of wetland resources.

**2. Identification and Selection of Bank Sites**

Due to the urban nature of the District, the lack of suitable bank sites is a significant impediment to development of a wetland banking program. Typically wetland mitigation bank sites are large, contiguous areas. However, many of the potential sites in the District are small and discontinuous. Furthermore, the few large sites are located on Federal property, typically on NPS-managed lands. One potential large, contiguous bank site located on NPS property is Kenilworth Marsh. As discussed in Chapter 2, restoration of this site is currently underway. Completion of the restoration represents a potential wetland banking opportunity.

**3. Inter-agency Agreements**

Inter-agency agreements will be key to the success of the wetland mitigation bank program. As noted above, the most feasible bank sites are located on National Park Service property. Coordination of NPS and DC/ERA program objectives, funding, and regulatory oversight will be required to create an effective wetland banking program. This coordination can be addressed via a cooperative agreement between the two agencies or through the larger Stakeholder Memorandum of Understanding discussed in **Chapter 5: Plan Approval**.

Finally, the USCOE may wish to incorporate the wetland mitigation bank program with the Section 404 permit program.

**4. Policy for Use of Bank Credits**

The two major components of the bank credit policy are (1) determining when bank credits may be used (as opposed to traditional mitigation), and (2) setting a mitigation ratio. In Maryland, wetland mitigation bank credits may only be used when the extent of the wetland impact is less than one acre or when in-kind mitigation is technically infeasible. A similar policy may be appropriate for the District.

Bank credit mitigation ratios are typically larger than traditional mitigation ratios (see Figure 4.2 for Maryland's ratios). The larger ratios reflect the increased risk of failure associated with increased scale of the project. In other words, when traditional, individual mitigation efforts fail to thrive, the failure is limited to only one project. When large, wetland mitigation bank sites fail, however, mitigation efforts for numerous projects are deemed unsuccessful. Proposed bank credit ratios for the District are presented in Figure 4.6.

DC/ERA will assess the feasibility of a wetland mitigation bank program based on consideration of the various program elements. Additional considerations which will be evaluated by DC/ERA include construction costs and liability and implementation of a long-term management and monitoring plan.

There are some risks associated with wetland mitigation banks. One consideration is the significant amount of staff time and funding required to administer the program. An additional consideration is recovery of initial investment, monitoring, maintenance costs. Wetland mitigation bank sites are developed and paid for prior to implementation of the projects that may be debited

against the bank. Furthermore, there is no guarantee that sufficient projects will apply for mitigation credits. Thus it is possible that the bank operators costs will not be recovered. These risks will be incorporated into DC/ERA's evaluation of a potential wetland mitigation bank program.

**Figure 4.6**  
**Proposed District of Columbia Wetland Mitigation Ratios**  
**Mitigation Option: Participation in Wetland Bank**

<b>Impacted Wetland</b>	<b>Bank credit to Loss Ratio (acre: acre)</b>
LOW relative value wetlands	1.5:1
AVERAGE relative value wetlands	3:1
HIGH relative value wetlands	4.5:1

### 4.3.3 Wetland Compensation Fund

Establishment of a viable wetland banking program in the District will require significant resources and time. An alternative mitigation option which will be considered is a wetland compensation fund. The wetland compensation fund will consist of monetary contributions from developers or property owners provided in lieu of, or in addition to, wetland avoidance, restoration, or enhancement. In addition, fines for unauthorized wetland disturbances, wetland permitting fees, and other similar monetary contributions may be included in the wetland compensation fund.

Similar to the wetland mitigation bank option, contributions to the wetland compensation fund would only be allowed when the extent of the wetland impact was less than one acre or when in-kind mitigation was technically infeasible. The money in the wetland compensation fund would primarily be used for the creation, restoration, or enhancement of wetlands in the District. This would include the location and acquisition of land; development of mitigation plans; construction; monitoring; and maintenance.

DC/ERA would administer the fund and determine monetary compensation fees based on costs anticipated to construct mitigation projects. These costs would include the following:

- **land acquisition costs** based on fair market value;
- **design costs** derived from a percentage of construction costs or actual costs for projects similar in size and complexity;
- **construction costs** derived on a case-by-case basis, taking into wetland type, size, and functions; amount of planting, grading, and other site preparations; and costs of similar mitigation projects; and
- **monitoring and maintenance costs** based on a percentage of construction costs or actual costs for projects similar in size and complexity.

#### **4.3.4 Draft Wetland Protection Regulations**

DC/ERA currently does not have the authority to implement a wetland permitting program, enforce mitigation requirements, establish a wetland mitigation bank, or administer a wetland compensation fund. Authorization may be established through amendment and/or revision of the Water Pollution Control Act (DC Law 188). Draft wetland protection regulations which may be used as a model for providing DC/ERA with the appropriate regulatory, administrative, and enforcement authority are provided in Appendix C.

#### **4.4 Restoration and Creation Opportunities**

The second goal of the *Wetland Conservation Plan* is eventual net gain of wetlands. In order to accomplish this goal, restoration (or enhancement) of existing wetlands and creation of new wetlands will be required. Opportunities in the District for restoration and creation, however, are limited due to ongoing point and nonpoint source discharges and the proximity of developed areas. Selection of potential restoration and creation sites, therefore, focused on identification of sites exhibiting the least amount of historical impairment and the greatest amount of protection from future development.

Potential restoration/creation opportunities were evaluated based on the results of the field reconnaissance survey; comments and insight from DC/ERA staff and the Wetland Conservation Stakeholders; and an assessment of relative quality (Chapter 2), ownership, and conflict with proposed construction. Current restoration/creation sites were excluded from this analysis, including Kenilworth Aquatic Gardens (No. 2) and the area along the west bank of the Anacostia near the confluence with Hickey Run (No. 8).

Evaluation and identification of potential sites focused on the following wetlands:

- Wetlands exhibiting GOOD or FAIR diversity;
- Wetlands exhibiting GOOD or FAIR vegetation quality;
- Wetlands classified as a HIGH or AVERAGE-value wetland;
- Wetlands located on publicly-owned land; and
- Wetlands unlikely to be impacted by future development or construction.

Additionally, a select number of sites that received lower diversity and quality ratings are identified as potential restoration/creation sites. These include sites in Watts Branch Park and the Fort Lincoln complex. The remaining wetlands in Watts Branch Park are the last wetlands in the Watts Branch floodplain. The Fort Lincoln complex represent one of the largest wetlands in the Anacostia subwatershed (Athanas and Schaefer 1993). (Athanas [1993] noted, however, that proposed adjacent development may further degrade these wetlands.)

The potential sites are presented in Tables 4.1 and 4.2. Table 4.1 presents the recommended restoration and creation sites. The sites presented in Table 4.2 are recommended with reservations attributable to ongoing construction or due to poor diversity or vegetation quality. These lists represent a preliminary identification of potential restoration/creation sites. Prior to

**Table 4.1**  
**Recommended Wetland Restoration/Creation Sites**  
**District of Columbia Wetland Conservation Plan**

Wetland No.	Location	Classification	Size (acre)	Relative Value	Owner	Comments
1	Beaverdam Creek at Kenilworth Courts	PFO1B/E	17.1	High	NPS	
6	West bank of Anacostia opposite Kenilworth Marsh Inlet	PEM/FO1R	1	Average	NPS	20-foot wide fringe along Anacostia on both sides of seawall
7	East bank of Anacostia, immediately south of Kenilworth Marsh inlet	PFO/EM1R	3	High	NPS	Wetlands on both sides of seawall
19	East bank of Anacostia opposite Kingman Island	R1EM2N, PEM1E	1.5	Average	NPS	
22	East bank of Anacostia between East Capitol Street and railroad bridge	PFO1R	1	Average	NPS	Fringe widens to 20-30 feet near E. Capital Bridge
23	Fort Dupont Park near rehabilitation center	PFO1A	1	Average	NPS	Recent alluvial washdown has elevated ground surface; altered hydrology
28	Fort Stanton Park, Good Hope Road opposite 22nd Place	PFO1A	1.8	Average	DC	Small berm on downstream side next to apartment complex
30	East bank of Anacostia River opposite Washington Navy Yard	PEM/SS1R	1.5	Average	NPS	Breeched seawall; edge mowed by Park Service north of 11th Street Bridge
32	Anacostia Park near old greenhouses	PSS1J	7.1	High	NPS	No direct access due to fencing; recent grading along western edge
35	Oxon Creek at I-295 bridge	PFO1R	4.5	Average	NPS	
40	Chain Bridge Flats	PFO1A, PEM1E	42	High	NPS	Numerous depressions and sloughs throughout wetland
42	East side of Roosevelt Island	PFO/EM1R	18.5	High	NPS	

Total Acreage 110.0 acres

development of a final list, additional research will be required. The additional research includes evaluation of utility conflicts, Section 404 permitting requirements, and acquisition (or easement) feasibility. Following finalization of the restoration site list, a second, more intense series of on-site investigations will be required. These investigations include, but are not limited to:

- identification of utility conflicts;
- investigation of site hydrology; and
- soil sampling and analysis.

The restoration/creation sites are to be considered as individual opportunities for enhancement and extension of wetland resources in the District. It is anticipated that these sites will be incorporated into the proposed wetland permitting and wetland bank programs.

It should be noted that the majority of the potential restoration/creation sites are located on NPS property. Parkland wetlands are unlikely to be impacted by future construction activity and are typically set back from developed areas. This result once again underscores the need for continued cooperation and coordination between DC/ERA, NPS, and the other Stakeholders as the District enhances its efforts to protect and preserve its remaining wetlands.

**Table 4.2  
Wetland Restoration/Creation Sites, Recommended with Reservations  
District of Columbia Wetland Conservation Plan**

Wetland No.	Location	Classification	Size (acre)	Relative Value	Owner	Comments
3	Fort Lincoln New Town between Rt. 50 and Fort Lincoln cemetery	PFO1B, PAB6F	14.2	High	DC/ NPS	Ongoing construction threatens integrity of existing wetlands and feasibility of restoration, enhancement activities
4	Fort Lincoln between Rt. 50 and RR tracks	PFO1C	2.8	Average	NPS	Ongoing construction threatens integrity of existing wetlands and feasibility of restoration, enhancement activities
5	Fort Lincoln between Rt. 50 and Anacostia	PEM1E, PFO/SS1B	15.6	High	NPS	Ongoing construction threatens integrity of existing wetlands and feasibility of restoration, enhancement activities
16	Watts Branch Park	PFO1B	1.8	Average	DC	Old oxbow of Watts Branch; one of last wetlands in Watts Branch floodplain
17	Watts Branch Park	PFO1A	1	Average	DC	One of last wetlands in Watts Branch floodplain

Total Acreage 35.8 acres

**4.5 Funding**

Funding and support for DC/ERA's current wetland protection programs include city budget appropriations and cooperative grants from the USEPA. In addition, the District participates in

several cooperative wetland restoration ventures. Additional financial support is available for select restoration and protection activities from Federal agencies and from non-traditional sources such as foundations. It is anticipated that a diverse funding base will be required to implement and support additional restoration activities.

#### 4.5.1 Federal Funding

Federal wetland protection programs were identified in Chapter 3. Many of these programs provide loans, grants, and in-kind support for State wetland protection programs. These programs are identified in Table 4.3.

**Table 4.3**  
**Federal Funding Sources**  
**District of Columbia Wetland Conservation Plan**

Federal Funding Source	Description
Clean Water Act, Section 319 (USEPA)	Nonpoint source grants are available from USEPA through Section 319 for development and implementation of nonpoint source management plans. As of Fiscal Year 1997, these grants are distributed according to an area- and population-based formula. Wetland protection may be incorporated into the nonpoint source management plans.
Endangered Species Act	States can receive grants through the Endangered Species Act to protect the habitat of endangered or threatened species. Although there are few endangered species in District wetlands, bald eagles have been spotted in the Kingman Lake area (USCOE 1994). These grants can be used to acquire wetlands in the District that provide habitat for endangered or threatened species.
USEPA Wetlands Program State Development Grants (USEPA)	The USEPA provides wetlands protection grants to States for development or improvement of wetland programs. The grants are competitive. Development of this Plan was funded in large part through a wetlands protection grant.
Land and Water Conservation Fund Act (NPS)	The Land and Water Conservation Fund Act provides funds to States for the acquisition of lands for recreational use. In order to receive these funds, States must prepare an approved outdoor recreation plan and land preserved by these funds must have recreational value. In the District, wetlands that can be used for bird-watching or fishing may be eligible for these funds.
The Dingell-Johnson Act (NPS)	The Dingell-Johnson Act provides funding for restoration of sports fishing habitat. Wetlands acquisition and restoration projects are eligible if acquisition or restoration will result in the enhancement of sports fishing habitat. NPS oversees this program and USFWS provides technical assistance for projects funded through this Act. The District is eligible for this program. However, Dingell-Johnson funds are awarded based on geographic size, therefore the District will receive relatively limited funding under this program.
North American Wetlands Conservation Act (USFWS)	The North American Wetlands Conservation Act provides funding to individuals, organizations, and local and State governments to preserve habitat for migratory birds. As wetlands are valuable habitat for migratory birds, these funds may be used for the acquisition or enhancement of wetlands. These funds are available on a competitive basis, and a one-to-one match from a non-federal source is required.

#### **4.5.2 Nontraditional Funding Sources**

Foundations are under-utilized source of funding for wetland protection efforts. Many foundations will provide financial support for acquisition of wetlands and restoration and creation projects. Traditionally, foundations do not award money directly to governments. Instead, money is provided to nonprofit organizations, watershed-based citizens groups, and land conservancies.

It is anticipated that incorporation of foundation support in the District wetland conservation effort will require establishment of a cooperative agreement with a non-governmental entity. Potential candidates include the Anacostia Watershed Committee, the Chesapeake Bay Foundation, the Alliance for the Chesapeake Bay, and the Conservation Fund. Potential foundation sources are presented in Table 4.4.

**Table 4.4  
Non-Traditional Funding Sources**

The Summit Fund of Washington 1120 19th Street, Suite 550 Washington, DC 20036 <i>restoration and protection of streams in urban environments</i>	Clayton Baker Trust 250 West Pratt Street, 13th Floor Baltimore, Maryland 21201 <i>restoration and protection of streams in urban environments</i>
The Abell Foundation 111 South Calvert Street Baltimore, Maryland <i>wetland conservation, demonstration projects</i>	Alexander Brown & Sons Charitable Foundation Inc 135 East Baltimore Street Baltimore, Maryland 21202 <i>river and stream restoration efforts</i>
Pew Charitable Trusts 2005 Market Street, Suite 1700 Philadelphia, Pennsylvania 19103-7017 <i>wetland conservation, demonstration projects</i>	The Beincke Foundation Inc 8 Sound Shore Drive Greenwich, Connecticut 06830 <i>wetland conservation</i>
The Freed Foundation Inc 3050 K Street, NW, Suite 335 Washington, DC 20007 <i>wetland conservation</i>	The Henry P. Kendall Foundation 176 Federal Street Boston, Massachusetts 02110 <i>wetland conservation</i>
Mars Foundation 6885 Elm Street McLean, Virginia 22101-3883 <i>wetland conservation</i>	Jessie Smith Noyes Foundation, Inc. 16 East 34th Street New York, New York 10016 <i>wetland conservation</i>
Prince Charitable Trusts 10 South Wacker Drive, Suite 2575 Chicago, Illinois 60606 <i>wetland conservation, restoration and protection of streams in urban environments</i>	Lila Wallace - Reader's Digest Fund Two Park Avenue, 23rd Floor New York, New York 10016 <i>wetland conservation, restoration and protection of streams in urban environments</i>

Table 4.4  
Non-Traditional Funding Sources

Richard King Mellon Foundation One Mellon Bank Center, 500 Grant Street, Suite 4106 Pittsburgh, Pennsylvania 15219-2502 <i>wetland conservation</i>	Ittleson Foundation, Inc. 645 Madison Avenue New York, New York 10022 <i>wetland conservation, watershed restoration efforts, demonstration projects</i>
MARPAT Foundation 655 15th Street, NW Washington, DC 20005 <i>wetland conservation, watershed restoration efforts</i>	FishAmerica Foundation 1033 North Fairfax Street, Suite 200 Alexandria, Virginia 22314 <i>wetland conservation, watershed restoration efforts</i>
The Morris and Gwendolyn Cafritz Foundation 1825 K Street, NW Washington, DC 20006 <i>wetland conservation, watershed restoration efforts</i>	Town Creek Foundation, Inc. 221 South Street, P.O. Box 159 Oxford, Maryland 21654 <i>wetland conservation, river and stream restoration efforts</i>



# Chapter 5

## Plan Approval

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Conservation of the wetlands in the District is uniquely dependent upon the cooperation of various District and Federal regulatory agencies, landowners, and natural resource protection organizations. Protection of wetlands within the District is regulated both on the local (District) and Federal level. Federal and District interests also intersect with respect to potential impacts to existing wetlands. Approximately forty percent of the land and three-quarters of the wetlands within the District are on Federal lands and therefore subject to Federal oversight.

Through the Wetland Conservation Stakeholder process, both the District and the Federal interests have demonstrated their desire and ability to work together to protect and conserve wetlands in the District. The Wetland Conservation Plan is the result of the partnership between the District and the Federal government. Successful implementation of the protection, conservation, and restoration strategies outlined in this Plan depends upon continuation of the cooperative Stakeholder process.

### 5.1 Cooperative Agreement

To this point, the stakeholder process has been fairly informal. Stakeholders voluntarily attended meetings, reviewed the draft wetland GIS database and map, provided input on the conservation strategy, and reviewed the draft wetland conservation plan. This spirit of cooperation came about as the Stakeholders recognized that each agency will influence the implementation of the Wetland Conservation Plan.

Successful implementation of the Plan will depend upon the continued participation of the Stakeholders. DC/ERA and the Stakeholders have agreed to consider a formal commitment to the goals and objectives of the Plan. This commitment will be outlined in a Memorandum of Understanding (MOU) outlining the Stakeholders' commitment to limit impacts to wetlands in the District and to voluntarily participate in the restoration and enhancement efforts outlined in the Plan. Although the Stakeholders will have no regulatory or enforcement authority, the Stakeholders will provide direction and guidance to DC/ERA as the Wetland Conservation Plan is implemented.

Potential signatories to the MOU will include all current Stakeholders including the District of Columbia Department of Public Works (DC/DPW), the National Park Service (NPS), the U.S. Environmental Protection Agency (USEPA), the U.S. Army Corps of Engineers (USCOE), U.S. Fish and Wildlife Service (USFWS), and the Anacostia Watershed Restoration Committee (AWRC). The signed MOU will be incorporated as part of the Wetland Conservation Plan.

The MOU will include pledges to facilitate communication and cooperation between Stakeholders; provide technical assistance to DC/ERA; share biological and water quality wetland monitoring data; and help identify funding resources for restoration and enhancement efforts. Potential points of agreement may include, but are not limited to:

- A **partnership pledge** to work to cooperatively work together to protect wetlands in the District and to encourage other Federal agencies to become stakeholders, as where appropriate;

- A **research pledge** to coordinate wetland research agendas and, when feasible, coordinate research efforts for the protection and restoration of District wetlands;
- A **data coordination pledge** to establish a workgroup under the Federal Agencies Committee to assess and evaluate existing wetland resources in the District and to make recommendations to improve coordination, compatibility, standardization of GIS-based data layers and interagency transfers of information;
- A **funding pledge** to convene and attend workshops focusing on Federal, District, and private financial assistance vehicles such as grants, loans, in-kind services and related interagency agreements that further the goals of the Plan;
- An **education and technical assistance pledge** to participate in technology transfer workshops and to assist in the development of programs to increase the public awareness of and involvement in wetland issues; and
- A **coordination, evaluation, and reporting pledge** to share information, provide assistance, and improve interagency coordination regarding District wetlands.

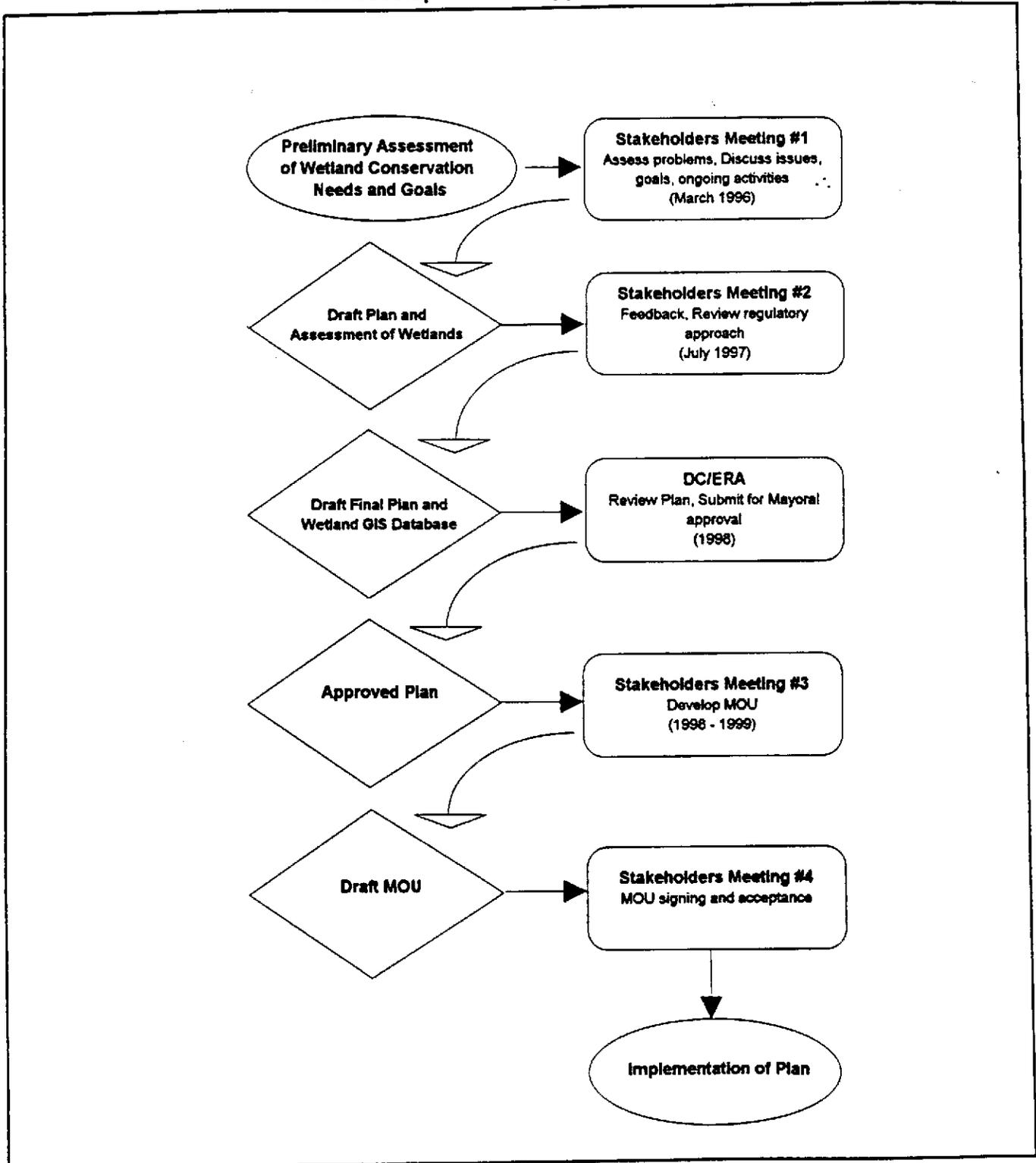
It is envisioned that the Stakeholders group will continue to meet to ensure that commitments of this Plan are being met and to assess progress made to date. DC/ERA will be responsible for convening the Stakeholders annually.

## **5.2 Plan Approval Process**

The approval process for the Wetland Conservation Plan will be led by DC/ERA, which will be responsible for overseeing Plan implementation as well as making all final policy decisions regarding the Plan (Figure 5.1). The Plan approval process consists primarily of three parts: (1) review of the Plan by the Stakeholders and DC/ERA; (2) approval of the Plan by the Mayor; and (3) development and acceptance of the Wetland Conservation MOU. DC/ERA will assume responsibility for obtaining the Mayor's approval as well as for drafting the MOU.

The plan approval represents only one phase of the Wetland Conservation Strategy. Stakeholders will have continued opportunities to provide input and feedback and to review the effectiveness of the Plan. Successful implementation of the Plan is a long-term commitment. It is likely that the scope of the Plan will change in time as objectives are accomplished and new goals are set; and as regulatory, resource, and protection priorities are adjusted to reflect the interests of the various Stakeholders and the District of Columbia.

Figure 5.1  
Plan Development and Approval Process



1

# Chapter 6

## Monitoring and Assessment of Wetland Conservation Effort

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### 6.1 Indicators of Success

The success of wetland conservation efforts are traditionally measured in terms of "no net loss" of wetland area. However, in urbanized areas such as the District of Columbia, a large percentage of historical wetlands have been filled, and the function and values of the remaining wetlands have been compromised by uncontrolled runoff and nonpoint source pollutants. Under these circumstances, a "net gain" in wetland acreage and functions over time is needed to offset historical impacts. Therefore, indicators of success include an increase in the overall wetland acreage in the District of Columbia, and an increase the quality of the wetlands as determined by type, diversity and species composition of wetland vegetation.

### 6.2 Monitoring and Assessment Strategy

The implementation of an effective monitoring and assessment strategy to determine if the goals of the Plan are met requires a consistent routine for collecting wetland data and a centralized system to track information gathered on wetland characteristics. A key element of this strategy is to improve interdepartment and interagency coordination to identify projects that may impact wetlands and to identify measures that can be taken to avoid or minimize these impacts. As described in Chapter 5, a Memorandum of Understanding will be developed among Stakeholders that outlines the objectives of this Plan, including a commitment for joint review of project plans to ensure that wetland impacts are minimized to the greatest extent practicable. Unavoidable impacts to wetlands would require mitigation in the form of wetland creation, restoration, or enhancement. Participants in the MOU would report wetland impacts and mitigation plans to the DC/ERA, which would track the cumulative amount of wetland impact and mitigation to determine "net gain" of wetland area.

Included with this strategy is greater coordination between DC/ERA and DC/DPW for advanced identification of potential wetland involvement in proposed public works projects. The District Wetland Delineation Map, as well as other information sources such as Soil Survey maps and floodplain maps can be used to alert DC/DPW of the potential for wetlands to exist in the area of a proposed project. The Soil Survey and floodplain maps are particularly useful to identify areas where small wetlands may exist that could not be shown at the mapping scale used for the District wetland inventory map. Soil types in the District that have the potential to include wetland areas are provided in Table 6.1. If DC/DPW determines that a soil type listed in Table 6.1 exists in the project area, coordination with DC/ERA would be initiated to verify the location and extent of wetlands in the field.

Monitoring of wetlands falls into two basic categories: monitoring to identify the total acreage of wetlands lost or gained and monitoring of wetland quality. The total area of wetlands lost or gained in the District can be monitored through existing programs and regulatory reporting requirements of the DC/ERA, with the support of the Stakeholders. Monitoring of wetland quality is limited by the current scientific knowledge concerning indicators of wetland quality. For example, biological indicators of wetland quality have not been widely tested for wetlands and

are not generally available. Therefore, the type, diversity, and distribution of wetland vegetation may be used as a surrogate measure of wetland quality.

**Table 6.1**  
**Soil Types That May Contain Wetlands**  
**District of Columbia Wetland Conservation Plan**

<b>Soil Name</b>	<b>Soil Survey Symbol</b>	<b>Description</b>
Bibb	Bg	Hydric
Codorus	Ck, Cn	Hydric Inclusions
Dunning	Dn	Hydric
Fallsington	Fa	Hydric
Fluvaquents	FB, FD, FF, FH	Hydric
Glenelg Variant	GIB, GmB	Hydric Inclusions
Iuka	Ik, Ip	Hydric Inclusions
Keyport	KeB, KeC, KmB, KmC	Hydric Inclusions
Lindside	Ld, Lp	Hydric Inclusions
Melvin	Mp	Hydric
Udifluvents	UA	Hydric Inclusions
Woodstown	WoB, WpB	Hydric Inclusions

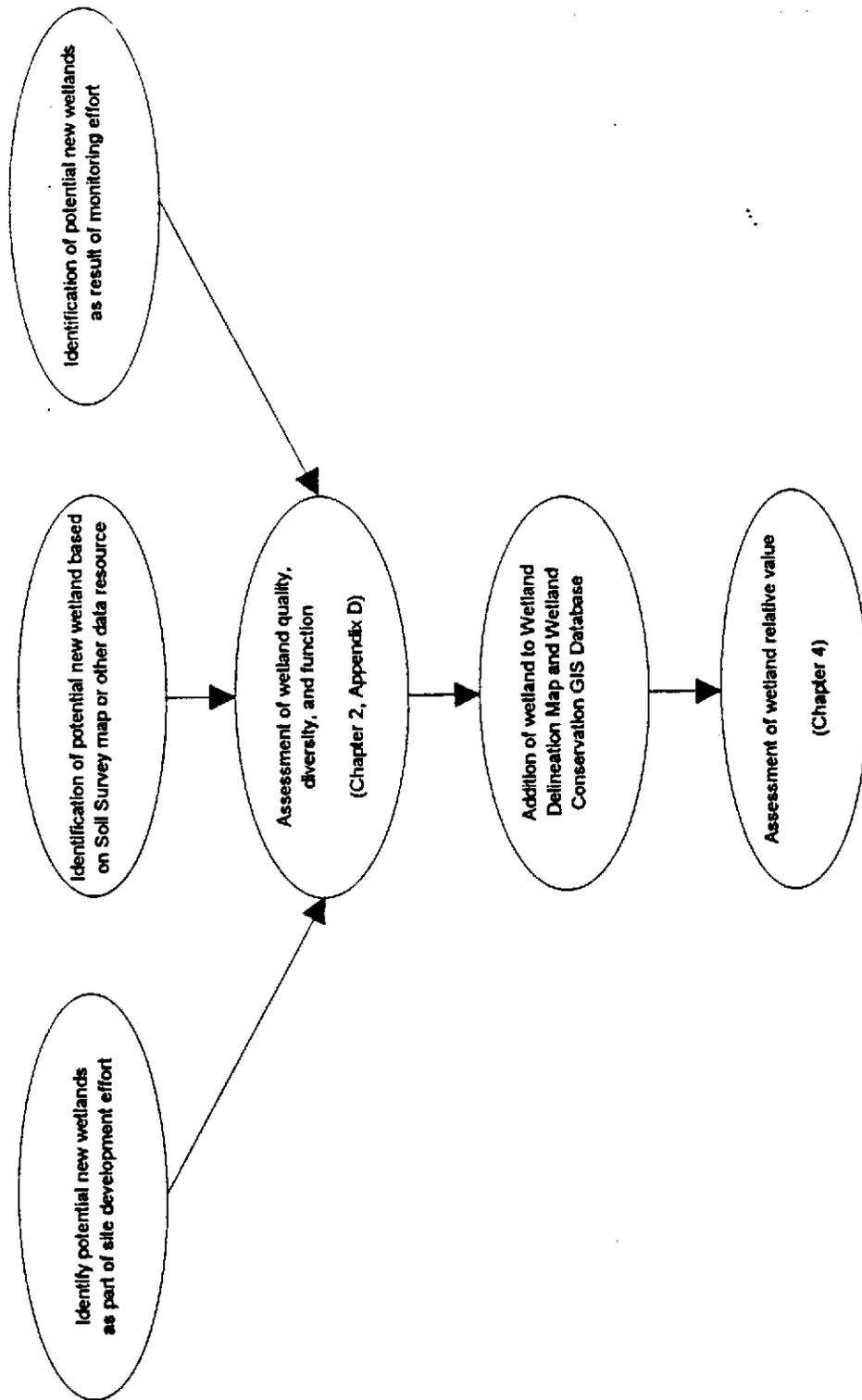
Two existing programs administered by DC/ERA already have established procedures for routine data collection and reporting that can be used as the framework for monitoring and assessment of change in wetland quality. The Tributary Monitoring Assessment Program includes yearly stream walks that can be used to document changes to existing wetland characteristics and to identify new wetlands that were not found during the field reconnaissance survey. The Habitat Monitoring Program includes annual surveys of submerged aquatic vegetation in the Potomac and Anacostia Rivers; these surveys can be used to monitor changes in the extent and diversity of fringe wetlands along both rivers. The ability of these two existing programs to conduct wetland monitoring will depend on the availability of additional funding sources.

Potential future monitoring efforts could include establishment of wetland plots within representative landscape positions to monitor wetland hydrology and the number and density of vegetation species within several reference wetlands. Standard plot techniques would be used to determine percent areal cover and species composition over time, with consideration of seasonal changes in vegetation and annual fluctuations in rainfall.

### **6.3 Revisions and Amendments to the Plan**

Over time, the Wetland Conservation Plan may need to be revised based on changing conditions or the results of ongoing wetland monitoring and assessment. Additional wetlands too small to show on the Wetland Delineation Map may be identified or wetland boundaries may be modified

Figure 6.1  
Protocol for Identifying Additional Wetlands



based on detailed field investigations and survey. The functions and values of any additional wetlands will be assessed and ranked using the protocol outlined in Figure 6.1. This protocol is based on the wetland function assessment described in Chapter 2 and the assessment of relative value outlined in Chapter 4.

Revisions and amendments to Plan will be consistent with the reporting process of Section 305(b) of the Clean Water Act. The Section 305(b) reporting process is a mechanism that is currently in-place within DC/ERA for review of the District's water quality regulations. Section 3.05(b) requires a 5-year review period, at which time any revisions or amendments to the Wetland Conservation Plan will be formulated by DC/ERA for review and approval by the Stakeholders and the Mayor.

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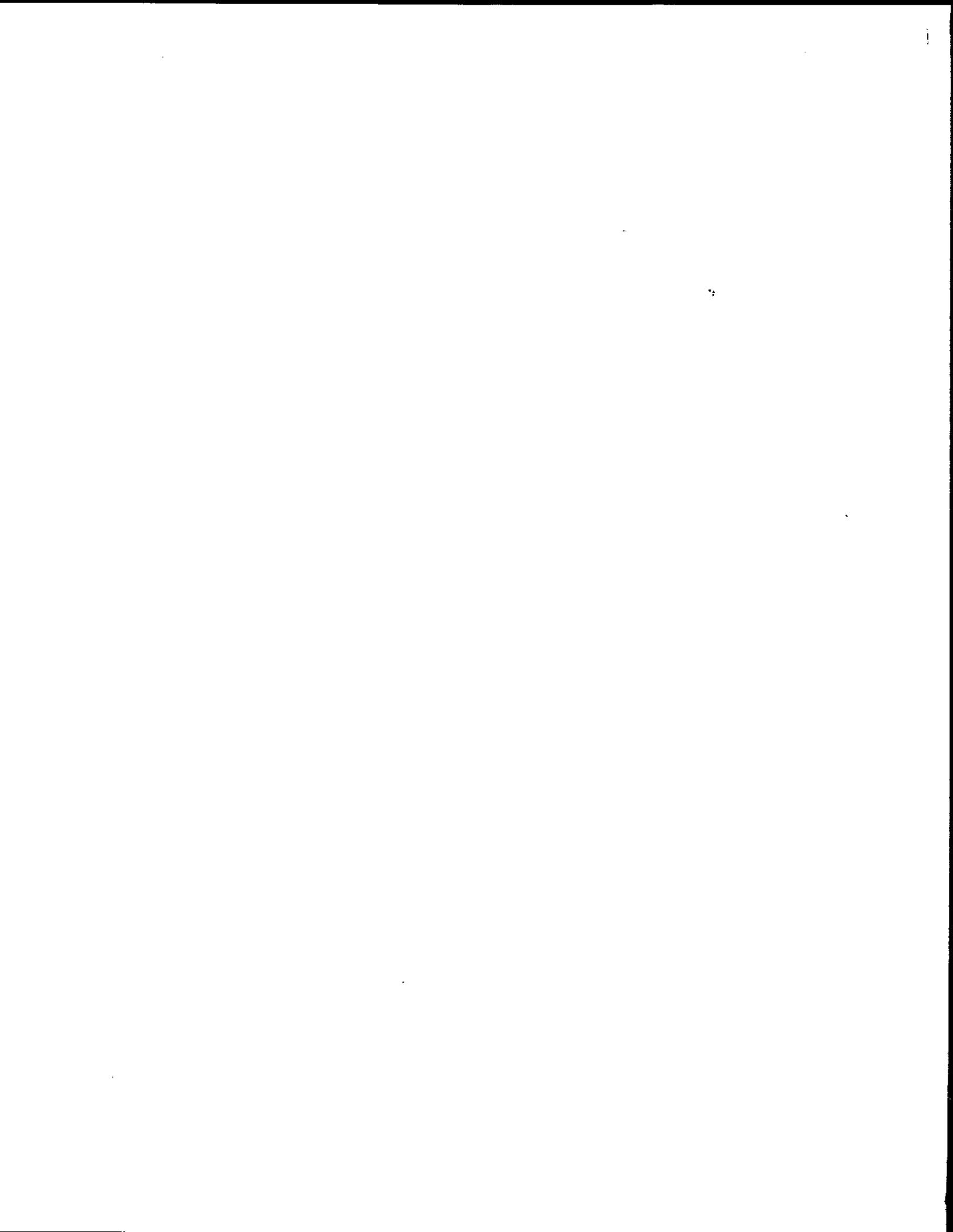
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**Appendix A:**

**Wetland Conservation Stakeholders Meeting Summaries**



# District of Columbia Wetlands Conservation Project



Date: March 26, 1996  
Time: 2:00 PM - 4:00 PM  
Location: Third Floor Conference Room  
DC Environmental Regulation Administration  
2100 Martin Luther King Avenue, SE  
Washington, DC  
(Accessible by Metro, Anacostia Station on the Green Line)

MEETING CALLED BY: District of Columbia Environmental Regulation Administration (DC/ERA)  
Center for Watershed Protection (CWP)      TYPE OF MEETING: Kick-Off Meeting

ATTENDEES: DC/ERA, CWP, Coastal Resources, Inc. (CRI), Stakeholders  
PLEASE READ: Attached list of documents reviewed for this project.  
PLEASE BRING: Documents pertaining to wetlands in the District of Columbia

## ----- AGENDA TOPICS -----

- |   |   |                                 |              |
|---|---|---------------------------------|--------------|
| 1 | <b>Introductions</b><br>DC/ERA project staff<br>CWP project staff<br>Stakeholders   | James Collier, DC/ERA,<br>CHAIR | 2:00-2:15 PM |
| 2 | <b>Overview</b><br>Summary of Project Scope<br>Role of Stakeholder Group  | Moshin Siddique, DC/ERA         | 2:15-2:30 PM |
| 3 | <b>Review of Efforts to Date</b><br>Review of Literature Sources<br>Preliminary Wetland Map<br>Wetland Assessment Models                  | CWP, CRI                        | 2:30-2:50 PM |
| 4 | <b>Review of Future Efforts/Stakeholder Input</b><br>Field Investigation<br>Wetland Assessment<br>Model Wetlands Conservation Regulations | All                             | 2:45-3:00 PM |
| 5 | <b>Review of Agency Activities Influencing Wetlands</b><br>Construction Activities<br>Regulatory Activities<br>Other                      | Stakeholders                    | 3:00-3:30 PM |
| 6 | <b>Identification of Additional Resources</b><br>Review of Stakeholder Resources<br>Other Resources                                       | Stakeholders                    | 3:30-3:50 PM |
| 7 | <b>Questions and Answers</b>  | All                             | 3:50-4:00 PM |

### Special notes:

Thank you for participating in the Kick-Off meeting of the DC Wetlands Conservation Project Stakeholders Group. Please contact Whitney Brown, Project Manager, CWP, at 301.589.1890 to confirm your attendance. Also note that a preliminary Stakeholders listing is attached with this agenda.



### MEETING SUMMARY

The Kickoff DC Wetland Conservation Project Stakeholders Meeting was held March 26, 1996, at the DC Environmental Regulation Administration offices. Twenty people attended, including representatives from DC/ERA, USCOE, NPS, and others (see attached attendance list).

Highlights from the meeting are summarized below. Please note that names presented in bold italics have been tentatively identified as parties responsible for obtaining and forwarding referenced reports, data, and other documents to Whitney Brown at the Center for Watershed Protection. Please contact Ms. Brown at (301) 589-1890 if you have any corrections, additions, deletions, or comments regarding this summary.

### GENERAL

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1. Geo-regional differences should be incorporated into the wetland assessment effort (i.e., piedmont versus coastal plain). Dr. Hammerschlag noted that Dueling Creek, located just above DC line, could potentially be used as a reference stream.
2. The field investigation will consider vegetation. For example, Dr. Guerrero noted that wetlands in the Glover Archibald Park and DuPont Park have been altered and the habitat has been stressed.

### KENILWORTH MARSH

---

- Dr. Guerrero indicated that she had conducted additional vegetation monitoring at Kenilworth Marsh. (*Guerrero*)
- The ICPRB has also conducted monitoring at Kenilworth Marsh. (*Cummings*)
- Lynn Holm's (George Washington) 1992 Masters thesis examined Kenilworth Marsh. (*to be contacted by CWP*)

### ROCK CREEK

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- Additional information on wetlands in Rock Creek may be available from three studies:
  - Springs and Seeps Study
  - Outfall Study
  - Vernal Pool StudyThe contact for these studies is Bob Ford, Rock Creek HQ Office. (*to be contacted by CWP*)
- The Department of Public Works has additional maps and information available regarding stream reaches in Rock Creek Park which may have wetlands. (*Karimi*)

### SAV BEDS

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Information on SAV beds is available from the DC Fisheries Department. The contact for this information is Adam Rockman. (*to be contacted by CWP*)

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**POTENTIAL STAKEHOLDERS**

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- Bolling AFB
- DC Dept. of Recreation
- Park Service, GW Parkway Arm, Columbia Island Marina
- USDA, Arboretum (onsite wetlands)  
*(all to be contacted by CWP)*

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**CONSTRUCTION PROJECTS WHICH MAY IMPACT WETLANDS**

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- Metro Green Line  
*(Syphax)*
- Construction in Anacostia Park  
*(Roddy)*

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**POTENTIAL WETLAND SITES**

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- valley near 295S, Bolling AFB  
*(Syphax)*
- Soldiers Home (Veterans Administration)  
*(to be contacted by CWP)*
- PEPCO wetlands  
*(to be contacted by CWP)*
- Rock Creek Park, especially springs and seeps  
*(various)*

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**ADDITIONAL RESOURCES**

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- DC Office of Planning (Sheila Bessy)  
*(to be contacted by CWP)*
- Dr. Logan (George Washington), geologist studying interactions between wetlands and groundwater with respect to water quality near Fort Lincoln  
*(to be contacted by CWP)*
- Infra-red photographs from the USCOE  
*(Zelen)*
- Digitized maps from the NC-PPC  
*(to be contacted by CWP)*
- Toxics and Hydrology Study (Kingman Lake), available from the USCOE  
*(Zelen)*

- The USCOE has maps which show all wetlands that have had a jurisdictional determination. In addition, USCOE may be able to assist with the field work under a Special Area Management Plan scenario.  
*(Zelen)*
- Peter Mays (Water Quality Monitoring Branch) has walked most of the streams in the Southeast and Northwest portions of the Anacostia watershed. He also has a list of fish species observed in District.  
*(Mays)*

*The next meeting is tentatively slated for Fall 1996, following completion of the draft report.*

**PRELIMINARY LISTING  
DISTRICT OF COLUMBIA WETLANDS CONSERVATION PROJECT  
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**District of Columbia Wetland Conservation Project  
Stakeholders Group  
March 26, 1996**

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RAJ TILAK	DCRA/ERA/FISHERIES	(202) 645-6601 (3014)
Peter May	DC/ERA-WQMB	" " x3216
Victoria C Guerrero	UDC <sup>Biol</sup> / <sub>Enviro</sub>	(202) 274-5879
James Butler	DC/ERA	(202) 645-6617
Hamid Kafini	" "	(202) 645-6611
GAJINDAR SINGH	" "	645 6601
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Betsy Weinkam	Coastal Resources	410-268-1268
Tom Schueler	CWP	301-589-1890
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Ken Liden	DC DPW	202-939-8115
Stephen Synhax	NPS	202-690-5185
DAN Roddy	" "	" " "

Name	Agency	Phone Number
Cynthia Patten-Stich	NPS/Kennedy Park Aquatic Gardens	202 690-5112



# District of Columbia Wetlands Conservation Project



**Date:** July 15, 1997  
**Time:** 10:00 AM - 1:00 PM  
**Location:** Third Floor Conference Room  
 DC Environmental Regulation Administration  
 2100 Martin Luther King Avenue, SE  
 Washington, DC  
 (Accessible by Metro, Anacostia Station on the Green Line)

**MEETING CALLED BY:** District of Columbia Environmental Regulation Administration (DC/ERA)  
 Center for Watershed Protection (CWP)

**TYPE OF MEETING:** Follow-up Meeting

**ATTENDEES:** DC/ERA, CWP, Coastal Resources, Inc. (CRI), Stakeholders  
**PLEASE READ:** Attached list of documents reviewed for this project.  
**PLEASE BRING:** Documents pertaining to wetlands in the District of Columbia

## ----- AGENDA TOPICS -----

- |   |   |                                 |                       |
|---|---|---------------------------------|-----------------------|
| 1 | <b>Introductions</b><br>DC/ERA project staff<br>CWP project staff<br>Stakeholders                           | James Collier, DC/ERA,<br>CHAIR | 10:00-10:15 AM        |
| 2 | <b>Overview</b><br>Summary of Project to date   | Moshin Siddique, DC/ERA<br>CWP  | 10:15-10:30 AM        |
| 3 | <b>Review of Wetland Reconnaissance Effort</b><br>Review of reconnaissance results<br>Review of wetland Map | CWP, CRI                        | 10:30-11:00 AM        |
| 4 | <b>Review of Wetland Assessment Methodology</b><br>Wetland Assessment                                       | CWP, CRI, Stakeholders          | 11:00 - 11:30 AM      |
| 5 | <b>Review of Stakeholder Comments</b><br>Comments on Draft Report   | Stakeholders                    | 11:30 AM - 12:00 Noon |
| 6 | <b>Schedule and Implementation</b><br>Schedule and Implementation of the Conservation Plan                  | All                             | 12:00 - 12:30 PM      |
| 7 | <b>Questions and Answers</b>  | All                             | 12:30 - 1:00 PM       |

### Special notes:

Thank you for participating in the DC Wetlands Conservation Project Stakeholders Group.



## MEETING SUMMARY

The Follow-up DC Wetland Conservation Project Stakeholders Meeting was held July 15, 1997, at the DC Environmental Regulation Administration offices. Thirteen persons attended, including representatives from DC/ERA, NPS, and others (see attached attendance list). In addition, two Stakeholders, Dr. Dick Hammerschlag and Dr. Victoria Guerrero submitted written comments for review at the meeting.

Discussion at this meeting focused on final review of the Wetland Delineation Map, review of the Draft Wetland Conservation Plan (distributed in advance to the Stakeholders), and the proposed regulatory approach. Highlights from the discussion are presented below.

### WETLAND DELINEATION MAP

Gary Jellick of Coastal Resources, Inc. clarified differences between the Wetland Delineation Map and the Wetland Conservation GIS Database. The Wetland Delineation Map is not intended to show the precise size and shape of individual wetlands; the scale of resolution does not allow that level of accuracy. Instead, the Wetland Delineation Map is to be used as a general guidance tool, indicating the overall shape and location of wetlands in the District. Cowardian classification, wetland size, diversity, and quality are listed in the Map legend.

The Wetland Conservation GIS Database is a comprehensive database/mapping resource. Individual wetland shapes and locations are included in the Database. In addition, the Database includes Cowardian classification, wetland size, diversity, quality, wetland function, soil type, vegetation description, narrative description of the wetland location, latitude and longitude, ADC map coordinates, and pertinent comments on pollution sources and other points of interest.

### WETLAND REGULATIONS

Wetland banking will be included as a potential wetland protection strategy. Potential impediments to implementation should be addressed in the Plan. One of the most significant impediments is the lack of large, contiguous sites suitable for wetland creation.

A wetland compensation fund option should be included in the draft wetland protection regulations. This option would allow DC/ERA to collect monies from wetland permittees when mitigation via restoration or creation was determined to be infeasible. The monies would be used to implement ongoing and future wetland creation, restoration, and enhancement efforts in the District.

### PLAN APPROVAL

DC/ERA noted that the plan approval process should incorporate Mayoral approval and approval by the Stakeholders.

**MONITORING**

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DC Fisheries suggested that the ongoing tributary assessment effort as well as other water quality monitoring efforts should be incorporated into the monitoring process.

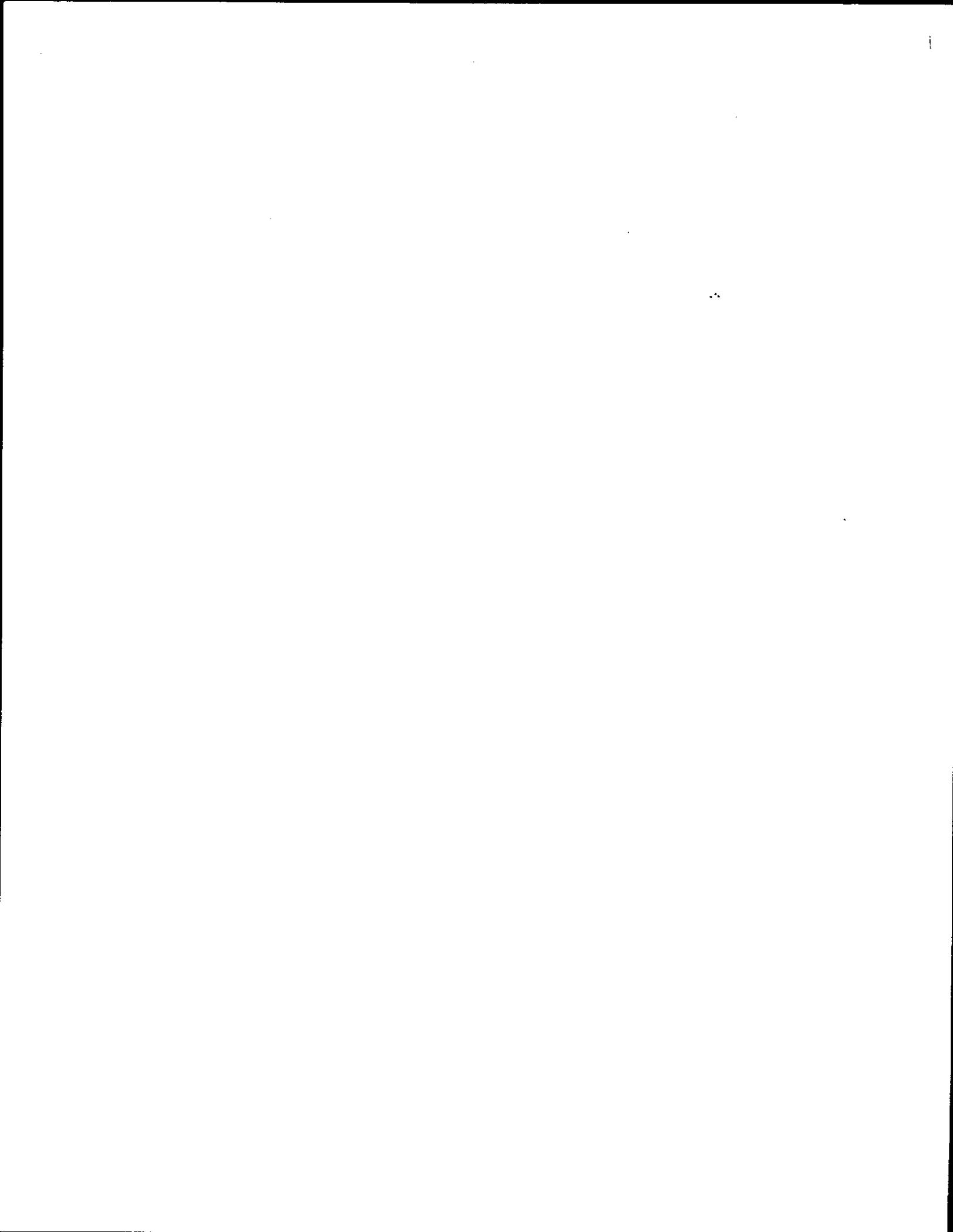
Identification of reference wetlands in the District may be appropriate as part of the Wetland Conservation Plan.





**Appendix B:**  
**Wetland Conservation Database**

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# Wetland Conservation Plan Database - Soil and Vegetation

Wetland No.	Classification	Size	Location	Diversity	Quality	Soil Type	Dominant Vegetation
1	PFO1B/E	7.10 ac	Beaverdam Creek at Kenilworth Courts	Good	Good	Ponded Fluvaquent, Bibb sandy loam	Green Ash, Red Maple, Silver Maple, Spicebush, Lizard Tail, Green Bulrush, Woolgrass, Arrow-wood, Woodreed, Arrowhead
2	L1/2ABA, PFO1	8.20 ac	Kenilworth Aquatic Gardens	Good	Good	Ponded Fluvaquent, Bibb sandy loam	Spatterdock, Arrow Arum, Lizard Tail, Pickeral Weed (see monitoring reports for Kenilworth Marsh Restoration)
3	PFO1B,PAB6F	4.20 ac	Fort Lincoln New Town between Rt. 50 and Fort Lincoln cemetery	Good	Good	Ponded Fluvaquent	Black Willow, River Birch, Woodreed, Arrow-wood, Red Maple, Nettle Chainfern, Rose Mallow, Soft Stem Bulrush, Arrowhead, Spatterdock
4	PFO1C	2.80 ac	Fort Lincoln between Rt. 50 and RR tracks	Fair	Fair	Fluvaquents, ponded	Green Ash, Red Maple, River Birch, Arrow-wood, Jewelweed, White Avens, Vitus, sp., Poison Ivy, Virginia Creeper, Aster, sp.
5	PEM1E, PFO/SS	5.60 ac	Fort Lincoln between Rt. 50 and Anacostia	Good	Good	Bibb sandy loam	Black Willow, Red Maple, Pin Oak, Green Ash, Purple Loosestrife, Arrow-leaf Tearthumb, False Nettle, Sensitive Fern, Phragmites, Monkey Flower, Vitus, Hibiscus, Cattail
6	PEM/FO1R	1.00 ac	West bank of Anacostia opposite Kenilworth Marsh Inlet	Fair	Good	Bibb sandy loam	Black Willow, Silver Maple, Green Ash, Sycamore, Reed Canarygrass, Soft Rush, Jewelweed, Yellow Flag, Pickeral-weed, Honeysuckle, J. Knotweed, Loosestrife
7	PFO/EM1R	3.00 ac	East bank of Anacostia, immediately south of Kenilworth Marsh inlet	Good	Good	Bibb sandy loam	Pickeral-weed, Narrow-leaf Cattail, Sweetflag, Black Willow, Silver Maple, Reed Canarygrass, Arrowhead, River Birch, Jewelweed, Bulrush, Alder, Spicebush, Arrow-leaved Tearthumb
8	PEM1R	0.40 ac	West bank of Anacostia, 1000 ft. north of Hickey Run	Poor	Fair	Fluvaquents-Udifuvents, frequently flooded	Pickeral-weed, Narrow-leaf Cattail
9	PEM1R	0.50 ac	East bank of Anacostia, 800 feet north of Watts Branch	Poor	Fair	Fluvaquents, ponded	Narrow-leaf Cattail

Wetland No.	Classification	Size	Location	Diversity	Quality	Soil Type	Dominant Vegetation
10	POWJ	0.50 ac	National Arboretum Pond at Beechwood Road	Poor	Fair	Not Applicable	Edge: Rubus, Soft Rush, White Mulberry, Elm, Lurid Sedge, Redtop, Cattail, Catalpa
11	POWHh	0.70 ac	National Arboretum Pond at Eagle Nest Drive	Poor	Fair	Not Applicable	Edge: River Birch, Alder, Silky Dogwood, Pokeweed, and few Cypress
12	POWHh	1.30 ac	National Arboretum Pond at Crabtree Road	Poor	Fair	Not Applicable	Edge: Cypress, Black Willow, Green Ash
13	PFO/EM1B	0.50 ac	National Arboretum south of Crabtree Road nature center	Fair	Fair	Udorthents, clayey	Green Ash, Blackgum, Jewelweed, Smartweed, Redtop, Arrow-wood, Gill-over-the-ground
14	PEM1J	0.10 ac	National Arboretum along Rhododendron Valley Road	Fair	Fair	Udorthents, clayey, smoothed	Common Cattail, Green Bulrush, Rice Cutgrass, Iris versicolor, Black Willow
15	PSS/EM1B	0.20 ac	Langston Golf Course	Poor	Poor	Udorthents, deep, 0-8% slope	Black Willow, Cottonwood, Elm
16	PFO1B	1.80 ac	Watts Branch Park	Fair	Poor	Udorthents, sandy	Red Maple, Sycamore, Green Ash, Arrow-wood, Box Elder, Jewelweed
17	PFO1A	1.00 ac	Watts Branch Park	Poor	Fair	luka sandy loam	Green Ash, Box Elder, Woodreed, Jewelweed, White Honewort
18	PEM1R	0.50 ac	East bank of Anacostia south of Watts Branch	Poor	Poor	Fluvaquents, ponded	Narrow-leaf Cattail
19	R1EM2N, PEM1	1.50 ac	East bank of Anacostia opposite Kingman Island	Fair	Fair	Fluvaquents, ponded	Spatterdock, Narrow-leaf Cattail, Loosestrife, Black Willow
20	R1EM2N	0.50 ac	East bank of Anacostia immediately north of Benning Road Bridge	Poor	Poor	Fluvaquents, ponded	Purple Loosestrife, Narrow-leaf Cattail
21	R1EM2N, PSS1	1.10 ac	East bank of Anacostia between East Capitol Street and Benning Road	Fair	Poor	Fluvaquents, ponded	Purple Loosestrife, Yellow Flag, Cattail, Black Willow, (Arrow-wood, Silver Maple, Green Ash, Cottonwood - edge of island)
22	PFO1R	1.00 ac	East bank of Anacostia between East Capitol Street and railroad bridge	Good	Fair	Fluvaquents-Udifuvents, frequently flooded	Sycamore, Black Willow, Arrow-wood, Box Elder, Silver Maple, Green Ash, Lurid Sedge, Lizard's Tail, Jewelweed, Hibiscus, Narrow-leaf Cattail

Wetland No.	Classification	Size	Location	Diversity	Quality	Soil Type	Dominant Vegetation
23	PFO1A	1.00 ac	Fort Dupont Park near rehabilitation center	Fair	Good	luka sandy loam	Silver Maple, Elm, Spicebush, Woodreed, Jewelweed, Multiflora Rose, Virginia Creeper, J. Honeysuckle, Poison Ivy, Vitus. sp.
24	PEM1B	0.20 ac	Fort Dupont Park along F-Street parking area	Poor	Poor	luka sandy loam	Soft Rush, Carex, sp., Redtop (Agrostis alba)
25	PEM1C	0.40 ac	Anacostia Park at Nicholson Street parking area	Poor	Poor	Udorthents	Lady's Thumb, Spike Rush, Redtop, Barnyard Grass, Swamp Dock,
26	PFO1B	1.00 ac	Barney Circle and Water Street	Fair	Fair	Udorthents	Box Elder, Red Maple, Spicebush, J. Honeysuckle
27	PFO1B	1.00 ac	Between Water Street and Anacostia, 700 feet north of Sousa Bridge	Fair	Fair	Urban Land	Red Maple, Green Ash, Box Elder, Poison Ivy, Arrow-wood
28	PFO1A	1.80 ac	Fort Stanton Park, Good Hope Road opposite 22nd Place	Fair	Fair	Udorthents	Red Maple, Silver Maple, Elm, Woodreed, Jewelweed, Spicebush, Poison Ivy, Japanese Spider Maple (?)
29	PEM1C	0.01 ac	Anacostia Park at 11th Street Bridge	Poor	Poor	luka sandy loam	Arrowhead, Carex, sp.
30	PEM/SS1R	1.50 ac	East bank of Anacostia River opposite Washington Navy Yard	Fair	Fair	Fluvaquents, ponded	Swamp Loosestrife, Sweet Flag, Yellow Flag, Silky Dogwood, Silver Maple, Marsh Hibiscus, Weeping Willow, Three-square, Cattail, Reed Canarygrass
31	PEM1B, PSS1J	4.00 ac	Anacostia Park near old greenhouses	Fair	Poor	Udorthents	Redtop, New York Ironweed, Seedbox, Fox Sedge, Spike Rush, Lady's Thumb, Canada Rush, Water Hemlock, Black Willow, Cottonwood
32	PSS1J	7.10 ac	Anacostia Park near old greenhouses	Good	Good	Melvin silt loam	Black Willow, Cottonwood, Elm, Common Cattail, Phragmites, Soft Rush
33	PFO1B	0.40 ac	St. Elizabeths Hospital along western property boundary	NA	NA	Udorthents	No Access
34	PFO1A	5.60 ac	Floodplain of Oxon Run east of Valley Avenue	Fair	Good	Fluvaquents-Udfluvents, frequently flooded	No Access
35	PFO1R	4.50 ac	Oxon Creek at I-295 bridge	Fair	Good	Fallsington sandy loam	Sycamore, Silver Maple, Red Maple, Silky Dogwood, Spicebush

Wetland No.	Classification	Size	Location	Diversity	Quality	Soil Type	Dominant Vegetation
36	PFO1A	4.20 ac	Rock Creek Park between Beach and Parkside Drive	Fair	Good	Codorus silt loam	Red Maple, Box Elder, Sycamore, Elm, Tulip Poplar, Hornbeam, Spicebush, Arrow-wood, Enchanters Nightshade, J. Honeysuckle, Violet sp., Multiflora Rose, Virginia Creeper
37	POWHh	0.20 ac	Whitehaven Park	Poor	Fair	Not Applicable	NA
38	PFO1A	0.20 ac	Glover-Archibald Park at Whitehaven Tributary	Poor	Fair	Codorus silt loam	Box Elder, Spicebush, Polygonum sp., Enchanters Nightshade, Poison Ivy
39	PFO1B	2.80 ac	Glover-Archibald Park at Reservoir Road	Poor	Poor	Codorus silt loam	Box Elder, Sycamore, Arrow-wood, Lizards Tail, Clearweed, Polygonum sp.
40	PFO1A, PEM1E	2.00 ac	C&O Canal Park at Chain Bridge	Good	Fair	Fluvaquents, bouldery	Box Elder, Sycamore, Silver Maple, Spicebush, Paw Paw, Lizards Tail, Woodreed, Wingstem, Redtop, Enchanters Nightshade, Stinging Nettle, Polygonum sp., Violet sp.
41	PSS1R	0.80 ac	C&O Canal Park south of Fletchers Boathouse	NA	NA	Fluvaquents, bouldery	No Access
42	PFO/EM1R	8.50 ac	East side of Roosevelt Island	Good	Good	Fluvaquents, ponded	Silver Maple, Box Elder, Green Ash, Spicebush, Black Willow, Lizards Tail, Rice Cutgrass, Arrowhead, Sweet Flag
43	PFO1R	5.50 ac	Roosevelt Island south of Memorial Bridge	Good	Good	Bibb sandy loam	Silver Maple, Green Ash, Box Elder, Black Willow, Sweet Flag, Pickerelweed, Reed Canarygrass, Spicebush
44	PFO1R	4.50 ac	West side of Roosevelt Island	Good	Good	Bibb sandy loam	Silver Maple, Box Elder, Green Ash, Spicebush, Paw Paw, Black Willow, Lizards Tail, Arrowhead, Enchanters Nightshade, Clearweed
45	R1EM2N, PEM1	1.80 ac	Potomac River at Boundary Channel and Memorial Bridge	Poor	Fair	Bibb sandy loam	Spatterdock, Narrow-leaf Cattail
46	PFO/SS1C	0.80 ac	South Dakota & Hamilton Avenue at Riggs Plaza Apts.	Fair	Fair	Udorhents, sandy	Red Maple, Elm, Silver Maple, Seedbox, Common Cattail, Rice Cutgrass, Black Willow, Elderberry, Monkey Flower
47	POWHx	0.20 ac	Soldiers and Sailors Home	Poor	Fair	Not Applicable	Mowed to edge of pond

Wetland No.	Classification	Size	Location	Diversity	Quality	Soil Type	Dominant Vegetation
48	POWHh	2.00 ac	Soldiers and Sailors Home	Poor	Good	Not Applicable	Edge of ponds: Cypress, Silver Maple, White Oak, mowed grass
49	L1OWHh	8.00 ac	McMillan Reservoir	Poor	Good	Not Applicable	Phragmites along edge
50	POWHx	3.00 ac	Capitol Pool	Poor	Fair	Not Applicable	NA
51	POWHx	4.60 ac	Reflecting Pool	Poor	Fair	Not Applicable	NA
52	POWHx	5.50 ac	Washington Monument Pool	Poor	Fair	Not Applicable	NA
53	POWZx	7.00 ac	Georgetown Reservoir	Poor	Good	Not Applicable	NA
54	L1OWHh	5.50 ac	Dalecarlia Reservoir	Poor	Good	Not Applicable	NA

# Wetland Conservation Plan Database - Location

Wetland No.	Classification	Size	Location	ADC Grid	Longitude	Latitude
1	PFO1B/E	17.1 ac.	Beaverdam Creek at Kenilworth Courts	11-D11	76-56'-38"/56'	38-54'-56"/54'
2	L1/2AB4, PFO1R	88.2 ac.	Kenilworth Aquatic Gardens	11-B,C12	76-57'-00"/56'	38-54'-54"/54'
3	PFO1B,PAB6F	14.2 ac.	Fort Lincoln New Town between Rt. 50 and Fort Lincoln cemetery	11-C9	76-56'-39"	38-55'-02"
4	PFO1C	2.8 ac.	Fort Lincoln between Rt. 50 and RR tracks	11-C10	76-56'-46"	38-55'-02"
5	PEM1E, PFO/SS1	15.6 ac.	Fort Lincoln between Rt. 50 and Anacostia	11-B,C11	76-57'-12"/56'	38-54'-59"/54'
6	PEMFO1R	1 ac.	West bank of Anacostia opposite Kenilworth Marsh Inlet	11-B,C11	76-57'-06"	38-54'-51"
7	PFO/EM1R	3 ac.	East bank of Anacostia, immediately south of Kenilworth Marsh inlet	11-B11,12	76-57'-10"	38-54'-49"
8	PEM1R	0.4 ac.	West bank of Anacostia, 1000 ft. north of Hickey Run	11-B11,12	76-57'-12"	38-54'-37"
9	PEM1R	0.5 ac.	East bank of Anacostia, 800 feet north of Watts Branch	11-B12	76-57'-15"	38-54'-28"
10	POWJ	0.5 ac.	National Arboretum Pond at Beechwood Road	10-K11	76-57'-54"	38-54'-45"
11	POWWh	0.7 ac.	National Arboretum Pond at Eagle Nest Drive	10-K10	76-57'-45"	38-54'-53"
12	POWWh	1.3 ac.	National Arboretum Pond at Crabtree Road	11-A11	76-57'-40"	38-54'-36"
13	PFO/EM1B	0.5 ac.	National Arboretum south of Crabtree Road nature center	10-K11	76-57'-56"	38-54'-23"
14	PEM1J	0.1 ac.	National Arboretum along Rhododendron Valley Road	10-J11	76-58'-16"	38-54'-20"
15	PSS/EM1B	0.2 ac.	Langston Golf Course	16-K11	76-58'-01"	38-54'-12"
16	PFO1B	1.8 ac.	Watts Branch Park	11-B13	76-57'-08"	38-54'-22"
17	PFO1A	1 ac.	Watts Branch Park	11-B,C12	76-56'-55"	38-54'-21"
18	PEM1R	0.5 ac.	East bank of Anacostia south of Watts Branch	11-A13	76-57'-31"	38-54'-17"/54'
19	R1EM2N, PEM1E	1.5 ac.	East bank of Anacostia opposite Kingman Island	11-A13	76-57'-34"	38-54'-02"
20	R1EM2N	0.5 ac.	East bank of Anacostia immediately north of Benning Road Bridge	17-A1	76-57'-38"	38-53'-52"

Wetland No.	Classification	Size	Location	ADC Grid	Longitude	Latitude
21	R1EM2N, PSS1R	1.1 ac.	East bank of Anacostia between East Capitol Street and Benning Road	17-A2	76-57'-42"	38-53'-43"/53'
22	PFO1R	1 ac.	East bank of Anacostia between East Capitol Street and railroad bridge	16-K3,4/17-A3	76-58'-11"/57'	38-53'-18"/52'
23	PFO1A	1 ac.	Fort Dupont Park near rehabilitation center	17-A4	76-57'-42"	38-52'-53"
24	PEM1B	0.2 ac.	Fort Dupont Park along F-Street parking area	17-A4	76-57'-20"	38-52'-52"
25	PEM1C	0.4 ac.	Anacostia Park at Nicholson Street parking area	16-H,J5	76-58'-39"	38-52'-28"
26	PFO1B	1 ac.	Barney Circle and Water Street	16-H5	76-58'-39"	38-52'-44"
27	PFO1B	1 ac.	Between Water Street and Anacostia, 700 feet north of Sousa Bridge	16-G5	76-59'-18"	38-52'-29"
28	PFO1A	1.8 ac.	Fort Stanton Park, Good Hope Road opposite 22nd Place	16-J7	76-58'-35"	38-51'-50"
29	PEM1C	0.01 ac.	Anacostia Park at 11th Street Bridge	16-H5	76-59'-16"	38-52'-16"
30	PEM/SS1R	1.5 ac.	East bank of Anacostia River opposite Washington Navy Yard	16-E,F,G6	77-00'-09"/59'	38-52'-24"/52'
31	PEM1B, PSS1J	4 ac.	Anacostia Park near old greenhouses	16-F7	76-59'-47"	38-51'-58"
32	PSS1J	7.1 ac.	Anacostia Park near old greenhouses	16-E7	77-00'-04"/59'	38-52'-06"/51'
33	PFO1B	0.4 ac.	St. Elizabeths Hospital along western property boundary	16-G10	76-59'-15"	38-50'-47"
34	PFO1A	15.6 ac.	Floodplain of Oxon Run east of Valley Avenue	16-G12	76-59'-17"/58'	38-50'-17"
35	PFO1R	4.5 ac.	Oxon Creek at I-295 bridge	22-A,B5	77-01'-24"	38-48'-14"
36	PFO1A	14.2 ac.	Rock Creek Park between Beach and Parkside Drive	3-H11	77-03'-11"/02'	38-59'-10"/58'
37	POWHh	0.2 ac.	Whitehaven Park	9-C11	77-04'-33"	38-54'-53"
38	PFO1A	0.2 ac.	Glover-Archibald Park at Whitehaven Tributary	9-C10	77-04'-55"	38-55'-03"
39	PFO1B	2.8 ac.	Glover-Archibald Park at Reservoir Road	9-C11	77-04'-43"	38-54'48"
40	PFO1A, PEM1E	42 ac.	C&O Canal Park at Chain Bridge	8-H8,9	77-06'-53"/06'	38-56'-03"/55'
41	PSS1R	0.8 ac.	C&O Canal Park south of Fletchers Boathouse	8-K11	77-06'-03"	38-54'-49"

Wetland No.	Classification	Size	Location	ADC Grid	Longitude	Latitude
42	PFO/EM1R	18.5 ac.	East side of Roosevelt Island	15-E1	77-03'-41"/03'	38-53'-56"/53'
43	PFO1R	5.5 ac.	Roosevelt Island south of Memorial Bridge	15-E1	77-03'-33"	38-53'-26"
44	PFO1R	4.5 ac.	West side of Roosevelt Island	15-E1	77-03'-51"	38-53'-43"
45	R1EM2N, PEM1R	1.8 ac.	Potomac River at Boundary Channel and Memorial Bridge	15-E2	77-03'-48"	38-53'-27"
46	PFO/SS1C	0.8 ac.	South Dakota & Hamilton Avenue at Riggs Plaza Apts.	10-E4	77-00'-00"	38-57'-15"
47	POWHx	0.2 ac.	Soldiers and Sailors Home	10-C7	77-00'-58"	38-56'-12"
48	POWHh	2 ac.	Soldiers and Sailors Home	10-B8	77-01'-04"	38-55'-59"
49	L1OWHh	38 ac.	McMillan Reservoir	10-B,C9	77-01'-11"/00'	38-55'-41"/55'
50	POWHx	3 ac.	Capitol Pool	16-C2,3	77-00'-52"	38-53'-23"
51	POWHx	4.6 ac.	Reflecting Pool	15-H,J3	77-02'-41"	38-53'-22"
52	POWHx	5.5 ac.	Washington Monument Pool	15-H,J2	77-02'-34"	38-53'-27"
53	POWZx	37 ac.	Georgetown Reservoir	9-A11,12	77-05'-44"/05'	38-54'-54"/54'
54	L1OWHh	15.5 ac.	Dalecarlia Reservoir	8-J6	77-06'-50"	38-56'-46"

# Wetland Conservation Plan Database - Functions

Wetland No.	Classification	Size	Location	Recreation/ Uniqueness	Habitat for Wild/fish	Food Chain Support	Floodflow Alteration	Shoreline Stabilization	Sediment Trapping	Nutrient Retention
1	PFO1B/E	7.10 ac	Beaverdam Creek at Kenilworth Courts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	L1/2AB4, PFO1	8.20 ac	Kenilworth Aquatic Gardens	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	PFO1B,PAB6F	4.20 ac	Fort Lincoln New Town between Rt. 50 and Fort Lincoln cemetery	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	PFO1C	2.80 ac	Fort Lincoln between Rt. 50 and RR tracks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	PEM1E, PFO/SS	5.60 ac	Fort Lincoln between Rt. 50 and Anacostia	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	PEM/FO1R	1.00 ac	West bank of Anacostia opposite Kenilworth Marsh Inlet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	PFO/EM1R	3.00 ac	East bank of Anacostia, immediately south of Kenilworth Marsh inlet	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8	PEM1R	0.40 ac	West bank of Anacostia, 1000 ft. north of Hickey Run	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	PEM1R	0.50 ac	East bank of Anacostia, 800 feet north of Watts Branch	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	POWJ	0.50 ac	National Arboretum Pond at Beechwood Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	POWHh	0.70 ac	National Arboretum Pond at Eagle Nest Drive	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	POWHh	1.30 ac	National Arboretum Pond at Crabtree Road	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
13	PFO/EM1B	0.50 ac	National Arboretum south of Crabtree Road nature center	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14	PEM1J	0.10 ac	National Arboretum along Rhododendron Valley Road	<input type="checkbox"/>						
15	PSS/EM1B	0.20 ac	Langston Golf Course	<input type="checkbox"/>						
16	PFO1B	1.80 ac	Watts Branch Park	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17	PFO1A	1.00 ac	Watts Branch Park	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Wetland No.	Classification	Size	Location	Recreation/ Uniqueness	Habitat for Wildfish	Food Chain Support	Floodflow Alteration	Shoreline Stabilization	Sediment Trapping	Nutrient Retention
18	PEM1R	0.50 ac	East bank of Anacostia south of Watts Branch	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
19	R1EM2N, PEM1	1.50 ac	East bank of Anacostia opposite Kingman Island	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
20	R1EM2N	0.50 ac	East bank of Anacostia immediately north of Benning Road Bridge	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
21	R1EM2N, PSS1	1.10 ac	East bank of Anacostia between East Capitol Street and Benning Road	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
22	PFO1R	1.00 ac	East bank of Anacostia between East Capitol Street and railroad bridge	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
23	PFO1A	1.00 ac	Fort Dupont Park near rehabilitation center	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
24	PEM1B	0.20 ac	Fort Dupont Park along F-Street parking area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	PEM1C	0.40 ac	Anacostia Park at Nicholson Street parking area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26	PFO1B	1.00 ac	Barney Circle and Water Street	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
27	PFO1B	1.00 ac	Between Water Street and Anacostia, 700 feet north of Sousa Bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
28	PFO1A	1.80 ac	Fort Stanton Park, Good Hope Road opposite 22nd Place	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
29	PEM1C	0.01 ac	Anacostia Park at 11th Street Bridge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30	PEM/SS1R	1.50 ac	East bank of Anacostia River opposite Washington Navy Yard	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
31	PEM1B, PSS1J	4.00 ac	Anacostia Park near old greenhouses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32	PSS1J	7.10 ac	Anacostia Park near old greenhouses	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
33	PFO1B	0.40 ac	St. Elizabeths Hospital along western property boundary	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>





# Wetland Conservation Plan Database - Location

Wetland No.	Classification	Size	Location	Comments
1	PFO1B/E	17.1 ac.	Beaverdam Creek at Kenilworth Courts	None
2	L1/2AB4, PFO1R	88.2 ac.	Kenilworth Aquatic Gardens	None
3	PFO1B, PAB6F	14.2 ac.	Fort Lincoln New Town between Rt. 50 and Fort Lincoln cemetery	Adjacent to SWM pond for new development
4	PFO1C	2.8 ac.	Fort Lincoln between Rt. 50 and RR tracks	None
5	PEM1E, PFO/SS1	15.6 ac.	Fort Lincoln between Rt. 50 and Anacostia	None
6	PEM/FO1R	1 ac.	West bank of Anacostia opposite Kenilworth Marsh Inlet	20-foot wide fringe along Anacostia on both sides of seawall
7	PFO/EM1R	3 ac.	East bank of Anacostia, immediately south of Kenilworth Marsh inlet	Wetlands on both sides of seawall
8	PEM1R	0.4 ac.	West bank of Anacostia, 1000 ft. north of Hickey Run	Pilot restoration project
9	PEM1R	0.5 ac.	East bank of Anacostia, 800 feet north of Watts Branch	None
10	POWJ	0.5 ac.	National Arboretum Pond at Beechwood Road	Heavy sediment loading to pond
11	POWHh	0.7 ac.	National Arboretum Pond at Eagle Nest Drive	None
12	POWHh	1.3 ac.	National Arboretum Pond at Crabtree Road	None
13	PFO/EM1B	0.5 ac.	National Arboretum south of Crabtree Road nature center	Associated with intermittent stream; impounded in lower end
14	PEM1J	0.1 ac.	National Arboretum along Rhododendron Valley Road	Old photo shows pond in this location
15	PSS/EM1B	0.2 ac.	Langston Golf Course	Portion of wetland filled and culverted for fairway; heavy trash accumulation in channel upstream of golf course
16	PFO1B	1.8 ac.	Watts Branch Park	Old oxbow of Watts Branch; one of last wetlands in Watts Branch floodplain
17	PFO1A	1 ac.	Watts Branch Park	One of last wetlands in Watts Branch floodplain
18	PEM1R	0.5 ac.	East bank of Anacostia south of Watts Branch	None

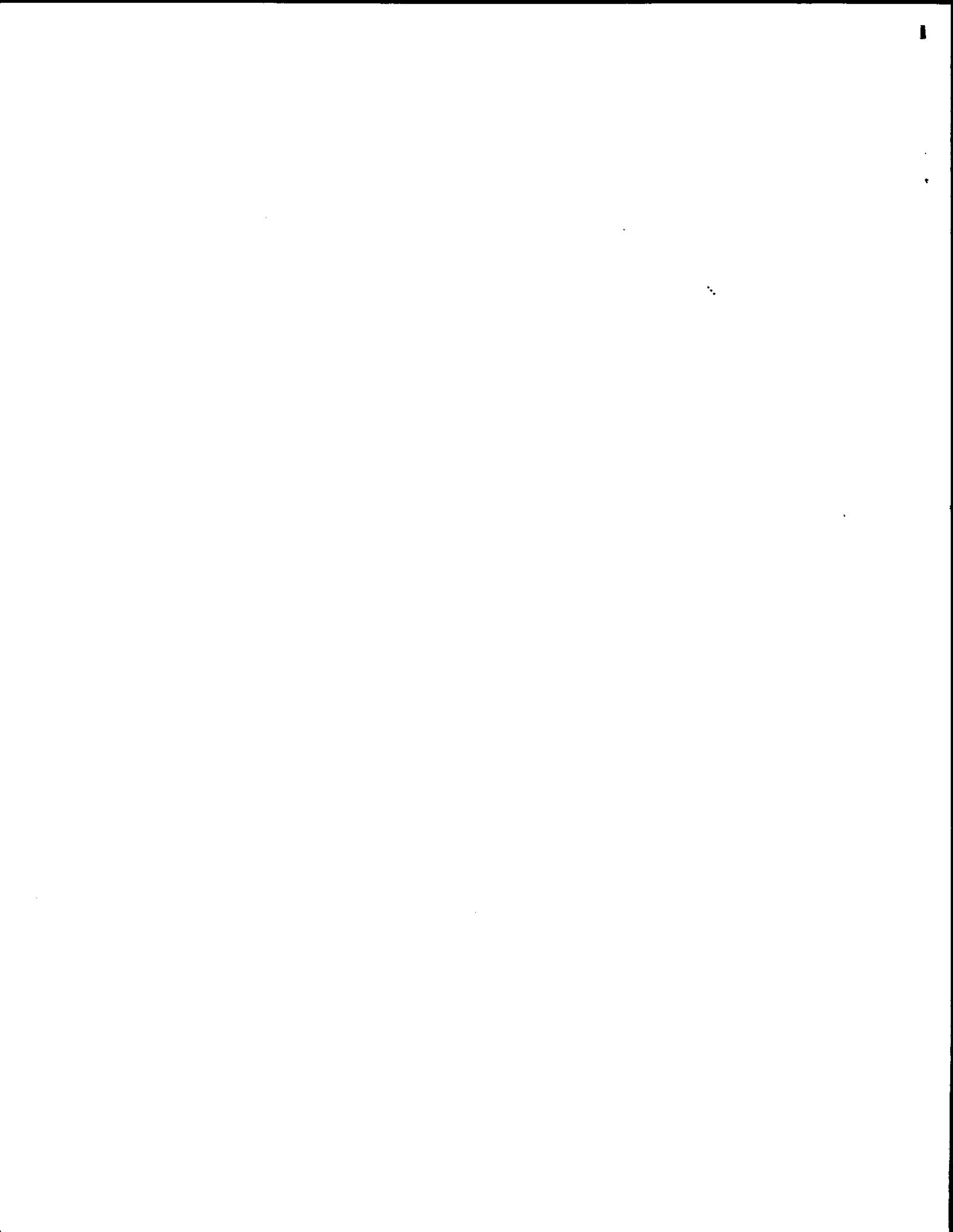
Wetland No.	Classification	Size	Location	Comments
19	R1EM2N, PEM1E	1.5 ac.	East bank of Anacostia opposite Kingman Island	None
20	R1EM2N	0.5 ac.	East bank of Anacostia immediately north of Benning Road Bridge	Dredge disposal area.
21	R1EM2N, PSS1R	1.1 ac.	East bank of Anacostia between East Capitol Street and Benning Road	10 to 20 ft. wide fringe wetland
22	PFO1R	1 ac.	East bank of Anacostia between East Capitol Street and railroad bridge	Fringe widens to 20-30 feet near E. Capital Bridge
23	PFO1A	1 ac.	Fort Dupont Park near rehabilitation center	Recent alluvial washdown has elevated ground surface; altered hydrology
24	PEM1B	0.2 ac.	Fort Dupont Park along F-Street parking area	None
25	PEM1C	0.4 ac.	Anacostia Park at Nicholson Street parking area	Wet depression in mowed field behind public restrooms
26	PFO1B	1 ac.	Barney Circle and Water Street	None
27	PFO1B	1 ac.	Between Water Street and Anacostia, 700 feet north of Sousa Bridge	None
28	PFO1A	1.8 ac.	Fort Stanton Park, Good Hope Road opposite 22nd Place	Small berm on downstream side next to apartment complex
29	PEM1C	0.01 ac.	Anacostia Park at 11th Street Bridge	Surface drainage outlet for mowed field at Robbins Boulevard
30	PEM/SS1R	1.5 ac.	East bank of Anacostia River opposite Washington Navy Yard	Breached seawall; edge mowed by Park Service north of 11th Street Bridge
31	PEM1B, PSS1J	4 ac.	Anacostia Park near old greenhouses	Remnant wetland from previous filling to construct greenhouses
32	PSS1J	7.1 ac.	Anacostia Park near old greenhouses	No direct access due to fencing; recent grading along western edge
33	PFO1B	0.4 ac.	St. Elizabeths Hospital along western property boundary	No access due to Metro construction
34	PFO1A	15.6 ac.	Floodplain of Oxon Run east of Valley Avenue	No access due to Metro construction and buried ammunitions investigation
35	PFO1R	4.5 ac.	Oxon Creek at I-295 bridge	None
36	PFO1A	14.2 ac.	Rock Creek Park between Beach and Parkside Drive	Heavy scour throughout floodplain

Wetland No.	Classification	Size	Location	Comments
37	POWHh	0.2 ac.	Whitehaven Park	None
38	PFO1A	0.2 ac.	Glover-Archibald Park at Whitehaven Tributary	Seep area with little herbaceous cover
39	PFO1B	2.8 ac.	Glover-Archibald Park at Reservoir Road	Severe sediment accumulation due to blocked culvert
40	PFO1A, PEM1E	42 ac.	C&O Canal Park at Chain Bridge	Numerous depressions and sloughs throughout wetland
41	PSS1R	0.8 ac.	C&O Canal Park south of Fletchers Boathouse	No access due to reconstruction of C&O canal
42	PFO/EM1R	18.5 ac.	East side of Roosevelt Island	None
43	PFO1R	5.5 ac.	Roosevelt Island south of Memorial Bridge	None
44	PFO1R	4.5 ac.	West side of Roosevelt Island	None
45	R1EM2N, PEM1R	1.8 ac.	Potomac River at Boundary Channel and Memorial Bridge	None
46	PFO/SS1C	0.8 ac.	South Dakota & Hamilton Avenue at Riggs Plaza Apts.	Heavy sediment accumulation near Hamilton Ave.
47	POWHx	0.2 ac.	Soldiers and Sailors Home	Excavated golf course pond
48	POWHh	2 ac.	Soldiers and Sailors Home	Pond surrounded by chain-link fence; aerated
49	L1OWHh	38 ac.	McMillan Reservoir	None
50	POWHx	3 ac.	Capitol Pool	None
51	POWHx	4.6 ac.	Reflecting Pool	None
52	POWHx	5.5 ac.	Washington Monument Pool	None
53	POWZx	37 ac.	Georgetown Reservoir	None
54	L1OWHh	15.5 ac.	Dalecarlia Reservoir	None



**Appendix C:**  
**Draft Wetland Conservation Regulations**

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Section 1: For the purpose of this act, the term:

- A. "Avoid" means to refrain from conducting an activity that may adversely impact a wetland.
- B. "Clean Water Act" means the Federal Water Pollution Control Act of 1972, as amended by the Clean Water Act of 1977 and later amendments (33 U.S.C. Sec. 1251 et seq.).
- C. "Creation" means actions performed which establish wetlands on upland sites.
- D. "Department" means District of Columbia Department of Consumer and Regulatory Affairs, Environmental Regulation Administration.
- E. "Director" means the Director of the Department of Consumer and Regulatory Affairs.
- F. "Discharge of fill material" means the addition from any source of fill material into wetlands, which includes the following activities:
  - (1.) Placement of fill necessary for the construction of any structure;
  - (2.) Building of any structure or impoundment requiring rock, sand, dirt, or other materials for its construction;
  - (3.) Site development fill for recreational, industrial, commercial, residential, and other uses;
  - (4.) Causeways or road fills;
  - (5.) Dams and dikes;
  - (6.) Artificial islands;
  - (7.) Property protection or reclamation devices, or both;
  - (8.) Levees; and
  - (9.) Fills for structures such as, and associated with, sewage treatment facilities and intake and outfall pipes.
- G. "District of Columbia program general permit" means a general permit issued by the U.S. Army Corps of Engineers governing the protection of wetlands in the District of Columbia.
- H. "Disturbance of water level or water table" means the alteration of the existing elevation of ground water or surface water by:
  - (1.) Adding or impounding a sufficient quantity of stormwater or water from other sources to modify the existing vegetation, values, or functions of the wetland; or
  - (2.) Draining, ditching, or otherwise causing the depletion of the existing ground water or surface water levels so that the activity would modify the existing vegetation.
- I. "Drainage" means methods for changing the hydrologic conditions of wetlands, including lowering ground water or surface water levels through pumping, ditching, or otherwise altering water flow patterns.
- J. "Emergent wetland" means that portion of a wetland dominated by erect, rooted, herbaceous vegetation as the uppermost vegetative strata.
- K. "Enhancement" means actions performed to provide additional protection to, or create or improve the functions of, a wetland, or other aquatic sites or resources.
- L. "Excavation" means to dig or remove soil, rocks, or other materials resulting in a change in all or part of the elevation of a site.
- M. "Exotic" means any species of plant or animal that is foreign to the District of Columbia.
- N. "Extenuating circumstances" means conditions requiring extension of a set time limit to process an application, render a decision, or conduct a public hearing.
- O. "Federal Manual" means the "Federal Manual for Identifying and Delineating Jurisdictional Wetlands", 1989, promulgated by the Federal Interagency Committee for Wetland Delineation, which is incorporated by reference.
- P. "Feasible" means available and capable of being done after taking into consideration costs, existing technology, and logistics in light of overall project purposes.

- Q. "Fill" means any materials placed in an area which change the elevation of the pre-existing surface or ground water level, or the soil surface.
- R. "Forested wetland" means that portion of a wetland dominated by woody vegetation greater than 20 feet in height.
- S. "Functions" means roles wetlands serve through:
- (1.) Recreation and uniqueness;
  - (2.) Habitat for wildlife and fisheries;
  - (3.) Food chain support;
  - (4.) Sediment trapping;
  - (5.) Nutrient retention;
  - (6.) Floodflow alteration; and
  - (7.) Shoreline stabilization.
- T. "General area" means the geographic or market vicinity that has desired characteristics for fulfilling the basic project purpose.
- U. "Hydrologically connected" means a wetland that:
- (1.) Is contiguous to a watercourse, surface water body, tidal wetland, or drainage ditch;
  - (2.) Is within or connected to any 100-year floodplain as determined by calculation or Federal Emergency Management Agency maps;
  - (3.) Receives or discharges surface water or groundwater as intermittent or perennial flow from or to a surface water body, watercourse, or other tidal or wetland as demonstrated by the presence of an intermittent or perennial stream or spring flow; or
  - (4.) Was formerly contiguous to a surface water body, watercourse, or a wetland and is presently separated from these areas by a man-made berm, fill, road, or other structure.
- V. "Hydrophyte" means plant life adapted to growth and reproduction under periodically saturated root zone conditions during at least a portion of the growing season.
- W. "In-kind" means characteristics closely approximating those of a wetland before it was adversely impacted by a regulated activity.
- X. "Initial planning phase" means the period of time in which the feasibility of a project is evaluated before committing resources necessary for its implementation.
- Y. "Intermittent stream" means those areas that are surface waters, contained within a defined channel or bed, that flow at least once per year. A defined channel or bed is indicated by hydraulically sorted sediment, or the removal of vegetative litter, or loosely rooted vegetation by the action of moving water.
- Z. "Isolated wetland" means a wetland that is not hydrologically connected, through surface or subsurface flow to streams, tidal or wetlands, or tidal waters.
- AA. "Loss of wetlands" means the alteration of:
- (1.) Existing wetland vegetation or water levels that significantly impairs or eliminates its principal functions, or
  - (2.) An area so that it no longer meets the wetland definition.
- BB. "Minimize" means to reduce adverse impacts to wetlands to the greatest practicable and reasonable degree.
- CC. "Mitigation" means creation, restoration, or enhancement of wetlands, that were or will be lost due to regulated activities.
- DD. "Mitigation bank" means an area approved by the Department and used for wetland mitigation projects required for future wetland impacts, usually from multiple projects, and operated using a system of credits and debits based on acreages or functions as specified by the Department.

- EE. "Native" means any plant or animal species indigenous to the District of Columbia.
- FF. "On-site" means the same parcel on which a wetland has been adversely impacted by a regulated activity.
- GG. "Out-of-kind" means biological characteristics not closely approximating those of the wetland before it was adversely impacted by a regulated or an agricultural activity.
- HH. "Person" means the Federal government, the District of Columbia, any municipal corporation, or other political subdivision of the District of Columbia, or any of their units, or an individual, receiver, trustee, guardian, executor, administrator, fiduciary, or representative of any kind, or any partnership, firm, association, public or private corporation, or any other entity.
- II. "Regulated activity" means any of the following activities which are directly undertaken or originate in a wetland:
- (1.) Reduction in wetland acreage;
  - (2.) Failure to maintain the current or designated use of the overlying surface water as defined in the Water Pollution Control Act;
  - (3.) Significant modification of the hydrologic and hydraulic regime of areas upstream and downstream of the wetland;
  - (4.) The discharge of dredged or fill material into the wetland;
  - (5.) Impairment of the wetland's ability to support and provide habitat for indigenous wildlife; and
  - (6.) Harm to a threatened or endangered wetland plant or animal species
- JJ. "Restoration" or "restore" means actions performed which establish wetlands on former wetland sites.
- KK. "Scrub-shrub wetland" means that portion of a wetland dominated by woody vegetation less than 20 feet in height as the uppermost strata.
- LL. "Spring" means a wetland that discharges ground water at the surface to form a pool or to provide intermittent or perennial surface flow, and that is usually characterized by saturated or organic soils.
- MM. "Vernal pool" means a wetland in a confined depression that has surface water for at least 2 consecutive months during the growing season, and:
- (1.) Is free of adult fish populations;
  - (2.) Provides habitat for amphibians; and
  - (3.) Lacks abundant herbaceous vegetation.
- NN. "Water dependent activity" means an activity for which the use of surface water would be essential to fulfill a basic purpose of the proposed project.
- OO. "Wetland" means an area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation, in accordance with the Federal Manual.
- PP. "Wetland impact" means any diminishment of wetland acreage or function.
- QQ. "Wildlife" means any species of a vertebrate or invertebrate animal, excluding domestic species.



Section 2: Application Requirements for Regulated Activities

- A. After MONTH DAY, YEAR, a person may not conduct a regulated activity in a wetland unless the Department has issued a permit, letter of exemption, or the regulated activity is exempt.
- B. Application Form
  - (1.) An application for a wetland permit or letter of exemption shall include all of the information required in the application form and any additional information required by the Department in Section 2.D.
  - (2.) The application form shall be a joint Federal and District of Columbia application for regulated activities in wetlands in the District of Columbia.
  - (3.) The Department shall:
    - (a.) Coordinate with other District of Columbia and Federal governmental agencies to expedite review of associated permits;
    - (b.) Work with the U.S. Army Corps of Engineers in developing a District-wide program general permit for regulated activities in wetlands;
    - (c.) Coordinate the permit review process under memoranda of understanding with the appropriate Federal agencies.
  - (4.) The application form may be obtained from the District of Columbia Department of Consumer and Regulatory Affairs, Environmental Regulation Administration.
  - (5.) An applicant is encouraged to consult the District of Columbia Wetland Delineation Map provided by the Department to assist in identifying and locating wetlands.
  - (6.) The person signing the application form shall be the legal property owner and:
    - (a.) An officer of the corporation, or an authorized agent of a corporation;
    - (b.) A legally authorized official of the Federal or District of Columbia government;
    - (c.) An authorized partner of an association or partnership; or
    - (d.) An individual applicant.
  - (7.) The person who signs an application shall be responsible for the truth, accuracy, and completeness of all information in the application.
  - (8.) An applicant may not submit false or misleading information on the application form, or submit an application without intending to conduct the activity described in the application.
- C. An applicant for a permit or letter of exemption shall submit all of the information required in the application form.
- D. In addition to the information required in Section 2. C, an applicant for a permit or letter of exemption may be required to submit one or more of the following items of information for an application to be considered complete and the delineation correct:
  - (1.) A site plan at a scale not less than 1 inch equals 200 feet that includes the following, if applicable:
    - (a.) Wetland boundary, as marked or flagged in the field, based on a field delineation and in accordance with the Federal Manual,
    - (b.) Location of hydric soils;
    - (c.) Location of wetlands shown on the Wetland Delineation Map;
    - (d.) Location of existing and proposed structures;
    - (e.) Location of proposed regulated activities,
    - (f.) Property lines of parcels impacted by the regulated activity,
    - (g.) Names of contiguous property owners,
    - (h.) Location and number of all soil investigations.

- (2.) A cross-section of estimated final elevations after filling, grading, or excavating;
  - (3.) The acreage, function, and type of wetlands to be affected permanently or temporarily by the regulated activity;
  - (4.) A representative photograph of the affected wetland;
  - (5.) Data from soil samples which shall be:
    - (a.) Taken to a minimum depth of 20 inches and which include a description of soil colors and textures obtained from borings sufficient to verify hydric or non-hydric conditions,
    - (b.) On transects perpendicular to the wetlands boundary, starting within the wetlands area and moving towards the uplands, and
    - (c.) Numbered and accompanied by a soil description indicating the observed or estimated depth to the highest water table during the year,
  - (6.) Data sheets from the Federal Manual identifying and describing hydrology, and vegetation;
  - (7.) Identification of wetlands known or believed to have significant plant or wildlife value;
  - (8.) Description of the type and quantity of fill material to be used;
  - (9.) Alternative site information, including a description of available utilities, site access, type of wetland, and description of potential impacts for each alternative site considered by the applicant;
  - (10.) Map of the geographic boundaries of the general area where the proposed project could be undertaken and still meet the project purpose;
  - (11.) Brief discussion of demographic factors which are critical to the success of the project including census data, statistics, or marketing studies;
  - (12.) Description of water, wastewater, community facilities, schools, transportation, or other public facility requirements of the project;
  - (13.) Evidence of present or future availability of projects with the same or similar public need;
  - (14.) Demonstration of public need, including evidence of a demand for the project in the general area;
  - (15.) An assessment of wetland functions;
  - (16.) Field survey of animal species or the natural characteristics of the site;
  - (17.) Larger scale or more detailed engineering design plans or maps;
  - (18.) Soil infiltration rates as determined in the field;
  - (19.) Factors considered for avoiding and minimizing losses of wetlands
  - (20.) Evidence of an applicant's efforts to accommodate site constraints;
  - (21.) Evidence that the regulated activity will not cause or contribute to a degradation of water quality standards;
  - (22.) Information for fulfilling potential mitigation requirements.
- E. The Department may require the applicant to flag the wetland boundary in the field in accordance with the Federal Manual. The applicant shall maintain the boundary flags in place until notified by the Department.

**Section 3: Application Processing Procedures for the Department**

- A. The Department shall acknowledge receipt of the application in writing, by regular mail, and assign the application a processing number. An applicant shall use the application processing number when making inquiries concerning the application.
- B. The Department shall notify an applicant in writing within 45 days of receipt of an application whether the application is complete and the delineation correct.
- C. The Department shall consider an application complete if:
  - (1.) It contains all of the information required in Section 2.C and requested in Section 2.D; and
  - (2.) The Department determines that all the information submitted is sufficient for the Department to process the application.
- D. The following apply to the Department's determination whether the application is complete and the delineation correct:
  - (1.) If the information submitted is insufficient for the Department to make either determination, the Department shall notify the applicant in writing of any items of additional information listed in Section 2.D that will be required.
  - (2.) If the information submitted is so insufficient that the Department is unable to make an initial completeness determination, the Department shall return the application and may not review the delineation, if one is submitted.
- E. If the Department fails to notify an applicant within 45 days of receipt of the application, the application shall be considered complete and the delineation correct.
- F. The Department, upon written notice to the applicant, may extend the 45-day time period when the following extenuating circumstances prevent consideration of the application:
  - (1.) Inclement weather conditions;
  - (2.) Review required by Federal agencies; or
  - (3.) Review required by other District of Columbia agencies.
- G. Public Notice.
  - (1.) After the Department has determined that an application is complete, and the delineation is correct, the Department shall issue, at the applicant's expense, a public notice of an opportunity to submit written comments or to request a public informational hearing about the application. Public notice may not be required for activities that qualify for a letter of exemption.
  - (2.) The public notice shall contain:
    - (a.) The name and address of the applicant;
    - (b.) A description of the nature and location of the proposed activity and mitigation plan, if applicable;
    - (c.) Instructions for submission of written comments, requests for a public hearing, and requests to be included on the interested persons list;
    - (d.) The expiration date for the opportunity to comment or to request a public informational hearing;
    - (e.) A statement that any further notices concerning actions on the application will be provided only by mail to those persons on the interested persons list;
    - (f.) The name, address, and telephone number of a person in the Department from which information about the application may be obtained; and
    - (g.) A reference to the applicable statute or regulations governing the application process.
  - (3.) The public notice may be given by:
    - (a.) Joint notice with other Federal or District of Columbia agencies;

- (b.) Joint notice with other units or programs within the Department;
- (c.) Selected mailing to Federal and District of Columbia authorities and other interested persons;
- (d.) Publication for at least 1 business day in a daily newspaper distributed in the District of Columbia; or
- (e.) Publication in the District of Columbia Register.

H. Public Informational Hearing.

- (1.) Any interested person may request in writing a public informational hearing.
- (2.) If requested, a public informational hearing shall be held on a permit application within 45 days of the expiration date specified in the public notice. After setting the date, time, and place for the hearing, the Department shall mail a hearing notice only to those persons on the interested persons list.
- (3.) The Department may extend the time period for the public informational hearing for the following extenuating circumstances:
  - (a.) Circumstances listed in Section F;
  - (b.) A request by an applicant; or
  - (c.) A Department request for individual permit review under Section 22.C.
- (4.) The Director may delegate all or part of the Director's authority to hold a public informational hearing to any employee of the Department.
- (5.) An applicant and any interested person shall be given an opportunity at the public informational hearing to present facts and make statements for or against granting the permit.

I. Letters of Exemption.

- (1.) Within 21 days of the Department's determination that the application is complete and the delineation correct, the Department shall notify the applicant in writing whether the activity qualifies for a letter of exemption and, if so, what best management practices, if any, will be required.
- (2.) The letter of exemption is void if the information submitted is later shown to have been false, misleading, or inaccurate, and the Department shall pursue any appropriate enforcement action under Section 24 as to any activities that have been undertaken under the void letter of exemption.
- (3.) If the Department determines that the proposed activity does not qualify for a letter of exemption, it shall notify the applicant of the need to apply for a permit under Section 2.
- (4.) The Department shall specify in the letter of exemption the time period for which it is valid.
- (5.) If an applicant applies for both a letter of exemption and a permit, the Department may withhold its decision on the letter of exemption pending a final permit decision.

**Section 4: Permit Decision and Appeal.**

**A. Permit Decision.**

- (1.) After the closing date for receipt of written comments and after a public informational hearing, if requested, the Department shall:
  - (a.) Consider the written comments, testimony, and other information received; and
  - (b.) Render a decision to grant, deny, or condition a permit within:
    - (1) 60 days from the Department's determination that an application is complete and the delineation correct, if no public informational hearing is requested, or
    - (2) 45 days of a public informational hearing.
- (2.) The Department may extend the time period in which to render a decision for an additional 30 days for the following extenuating circumstances:
  - (a.) Review required by a Federal or District of Columbia agency;
  - (b.) A Department request for individual permit review under Section 22; or
  - (c.) A request by an applicant.
- (3.) The Department may afford the applicant an opportunity to provide additional information to address concerns raised in written comments or testimony at the public informational hearing.
- (4.) The applicant may request in writing that the Department withhold its decision until additional information can be provided. The Department may withhold its permit decision for 6 months, after which the application shall be deemed withdrawn and a new application submitted, unless otherwise determined by the Department.
- (5.) The Department may request additional information from the applicant as a result of concerns raised in written comments or testimony at the public informational hearing.
- (6.) Written notice of the permit decision shall be mailed to the applicant. Notice of the permit decision need not be published.
- (7.) Work authorized under a permit shall begin within 3 years of the date of permit issuance and the work shall be completed within the time period specified in the permit, which may not exceed 10 years.
- (8.) An applicant may not resubmit a denied permit application for 6 months from the date of denial unless there is a substantive change in the application.
- (9.) A permit may not be issued, and work may not begin under a permit, unless a final site plan or any other necessary information is provided to the Department.

**B. Appeal of Permit Decision.**

- (1.) A person who has legal rights, duties, interests, or privileges different from the general public which are adversely affected by the Department's decision to grant, deny, or condition a permit, may request a contested case hearing.
- (2.) The contested case hearing request shall be in writing and filed within 30 days of issuance of the permit decision with the unit issuing the decision.
- (3.) The contested case hearing request shall contain:
  - (a.) The name, address, and telephone number of the person requesting the hearing;
  - (b.) The name, address, and telephone number of any attorney representing the person requesting a hearing, or a statement of intent to proceed without counsel;
  - (c.) A description of the grounds for the request, including the specific legal right, duty, privilege, or interest which may be adversely affected by the permit determination, and which is different from those interests held by the general public;

- (d.) A statement of the specific relief desired as a result of the contested case hearing; and
  - (e.) A general outline of the evidence to be presented in support of the desired relief, including the names and addresses of all witnesses to be called.
- (4.) The decision of the Department on the basis of the contested case hearing shall be the final decision for purposes of judicial review.

**C. Determinations on Standing.**

- (1.) The Director or a designee shall review a request for a contested case hearing to determine whether the person requesting a hearing has:
- (a.) A specific legal right, duty, privilege, or interest which is or may be adversely affected by the permit determination and which is different from that held by the general public;
  - (b.) Raised at least one issue that is related to the subject of the permit and arises under this regulation; and
  - (c.) Made a contested case hearing request within the required 30 day time period.
- (2.) The Director or a designee shall determine whether to grant or deny the request for a contested case hearing. If the determination is to deny the request for a contested case hearing, the determination shall be in writing and mailed by certified mail to the person requesting a hearing.
- (3.) The notification of the determination to deny a request for a contested case hearing shall contain the following:
- (a.) The specific reasons for the denial;
  - (b.) A statement of the right to request a review of the denial under Section 4.C(4); and
  - (c.) A statement that if review under this regulation is not sought, the denial shall be the Department's final decision as to the contested case hearing request.
- (4.) A person who is adversely affected by the determination to deny a request for a contested case hearing may, within 10 calendar days of receipt of the denial, file with the Director written exceptions and a request to present oral argument. After considering the written exceptions, the Director may hear oral argument, and shall issue a written final decision.

## Section 5: Criteria for Review of Wetland Permit Applications

- A. The Department may not issue a permit for a regulated activity unless the Department finds that the applicant has demonstrated that the:
- (1.) Proposed project is water dependent and requires access to a wetland as a central element of its basic function under the criteria in Section 5.B and 5.C, or is not water dependent, and has no practicable alternative under the criteria in Section 5.D;
  - (2.) Regulated activity will first avoid and then minimize adverse impacts to the wetland based on consideration of existing topography, vegetation, fish and wildlife resources, and hydrological conditions under the criteria in Section 6.B; and
  - (3.) Regulated activity does not cause or contribute to a degradation of ground waters or surface waters under the criteria in Section 7.A.
- B. Water Dependency
- (1.) A proposed project is considered water dependent if the use of surface water or a wetland would be essential to fulfill the basic purpose of the proposed project.
  - (2.) The Department shall apply the following criteria in determining whether a proposed project is water dependent:
    - (a.) Whether an alternate water source is available for use, including surface runoff or ground water that may have fewer adverse impacts on wetlands; and
    - (b.) Whether the use of a wetland would only enhance a project rather than function as an essential element of a project.
  - (3.) In determining whether a proposed project is water dependent, the Department shall consider the applicant's definition of project purpose but may independently determine whether the proposed project is water dependent.
  - (4.) For a multiple use project which has both water-dependent and non-water-dependent features, the Department shall determine which features are water dependent and therefore exempt from the requirements of Section 5. C and Section 6.A.
- C. Access
- (1.) In determining whether the proposed project requires access to a wetland as a central element of its basic function, the Department shall consider whether access could be accomplished at another location that would first avoid and then minimize wetland impacts.
  - (2.) A water dependent project which the Department determines requires access to a wetland is exempted from the requirements of Section 5.D, but shall comply with all other requirements referenced in Section 5.A.
- D. Practicable Alternatives.
- (1.) The applicant shall demonstrate to the satisfaction of the Department that practicable alternatives, including both alternative site analysis and onsite minimization, have been analyzed and that the proposed regulated activity has no practicable alternative.
  - (2.) In determining whether the proposed regulated activity has a practicable alternative, the Department shall consider whether:
    - (a.) The basic project purpose cannot be reasonably accomplished using one or more other sites in the same general area as the proposed project that would avoid or result in less adverse impact to wetlands under the criteria in Section 6. The Department shall consider the applicant's definition of the general area, but may make an independent determination.
    - (b.) A reduction in the size, scope, configuration, or density of the proposed project and all alternative designs that would avoid or result in less adverse impact to wetlands would not accomplish the basic purpose of the project, under the criteria in Section 6.B.
    - (c.) The applicant has made a good faith effort to accommodate site constraints such as inadequate

zoning, infrastructure, or parcel size, that caused an alternative to the proposed regulated activity and project to be rejected. To determine if an applicant has made a reasonable effort to accommodate constraints, the Department shall consider any pertinent information, including:

- (d.) The regulated activity is necessary for the project to meet a demonstrated public need. The following apply:
  - (1) To determine if the regulated activity is necessary for the proposed project to meet a demonstrated public need, the Department shall consider any pertinent information, including the economic value that the proposed project contributes to an identified local economic priority and if the proposed project promotes the public health, safety, or welfare.
  - (2) In weighing the economic value of the proposed project in meeting a demonstrated public need in the general area, and the ecological and economic value associated with the wetland, the Department shall consider the functions of, benefits, and economic value provided to the general public by, the wetland adversely impacted by the regulated activity, and the ability of the wetland to continue to provide those identified functions and benefits to the general public.

**Section 6: Alternative Site and Avoidance and Minimization Analyses.****A. Alternative Sites.**

- (1.) An applicant shall prove to the Department's satisfaction that alternative sites for the proposed project have been examined during the initial planning phase.
- (2.) An applicant shall evaluate the feasibility of the project and the adverse impact on wetlands at the earliest stage of the development process, before the applicant has committed substantial resources in the project site. Consideration of alternative sites at the earliest stage enables the applicant to retain the flexibility to avoid adverse impacts to wetlands.
- (3.) An alternative site may not be excluded from consideration during the initial planning phase because it includes or requires an area not owned by the applicant which could reasonably be obtained, used, expanded, or managed to fulfill the basic purpose of the proposed project.

**B. Avoidance and Minimization Analysis.**

- (1.) The applicant shall demonstrate to the Department's satisfaction that all necessary steps have been taken to first avoid and then minimize adverse impacts to the wetlands. Losses of wetlands shall be permitted only when adverse impacts to wetlands are necessary and unavoidable.
- (2.) In reviewing the sufficiency of the applicant's efforts to first avoid and then minimize adverse impacts to a wetland by a reduction in the size, scope, or density of the proposed project, or by an alternative configuration or design, the Department shall include consideration of:
  - (a.) The spatial requirements of the proposed project;
  - (b.) The location of any existing structural or natural features that may dictate the placement or configuration of the proposed project;
  - (c.) The purpose of the proposed project, and how the purpose relates to placement, configuration, or density;
  - (d.) Sensitivity of the site design to wetlands;
  - (e.) An applicant's efforts to reduce the scope of the proposed project; remove or accommodate site constraints including zoning, infrastructure, access, or natural features; and otherwise avoid or minimize adverse impacts; and
  - (f.) The costs of fulfilling potential mitigation requirements based on the proposed project configuration or design versus the alternative project configuration or design.
- (3.) The Department shall consider pertinent factors when evaluating the extent to which a proposed project has avoided, or the regulated activity has minimized, direct or indirect adverse impacts to wetlands, including:
  - (a.) Reduction in acreage of a wetland affected by a regulated activity;
  - (b.) Harm to a threatened or endangered species or species in need of conservation, or to the critical habitat of these species;
  - (c.) Movement of wildlife indigenous to the wetland or water body;
  - (d.) Ability of the wetland to continue to support and provide habitat for those species of wildlife using the area;
  - (e.) Hydrologic regime of the areas upstream and downstream of the area of impact;
  - (f.) Functions of the impacted or adjacent wetlands;
  - (g.) Passage of normal or expected high flows, or the relocation of water;
  - (h.) Subsurface water flow into or out of any wetland area;
  - (i.) Presence of fish spawning areas;
  - (j.) Presence of areas having significant plant or wildlife value; and
  - (k.) Cumulative impact to wetlands.



**Section 7: Activities Exempt from Permit Requirement**

The following activities are exempt from the letter of exemption, permit, and mitigation requirements of this chapter:

- A. Approved mitigation projects required under this regulation.
- B. Any proposed regulated activity conducted by a person who has applied to the U.S. Army Corps of Engineers by December 31, 1990 for a permit under Sec. 404 of the Clean Water Act, provided that the following conditions are satisfied:
  - (1.) The U.S. Army Corps of Engineers ultimately issues a permit or other document;
  - (2.) The applicant does not alter the scope of the regulated activity originally applied for without authorization from the U.S. Army Corps of Engineers;
  - (3.) A person submits the following information to the Department, as may be applicable, and as may be requested by the Department:
    - (a.) A copy of a dated application for a permit under Sec. 404 of the Clean Water Act;
    - (b.) A copy of the plans for the project which were submitted to the U.S. Army Corps of Engineers;
    - (c.) A letter from the U.S. Army Corps of Engineers describing the project and proposed activity and stating one of the following:
      - (1) The project and proposed activity is authorized by the U.S. Army Corps of Engineers,
      - (2) The proposed activity is exempt from Sec. 404 of the Clean Water Act permit requirements.
- C. The following activities, provided they do not result in cumulative direct or indirect adverse impacts:
  - (1.) Construction of additions, outbuildings, and accessories to existing structures within a landscape management area which impacts less than 1,000 square feet of nontidal wetlands;
  - (2.) Construction placed on existing impervious surfaces or structures;
  - (3.) Mowing or other forms of vegetation control on existing rights-of-way;
  - (4.) Landscape management in the nontidal wetland;
  - (5.) Soil investigations;
  - (6.) Survey markers or survey monuments;
  - (7.) The maintenance of the following serviceable structures or fills:
    - (a.) Aboveground and underground utilities,
    - (b.) Structures in rights-of-way,
    - (c.) Railroad beds,
    - (d.) Road beds, roadside ditches, culverts, outlet ditches, wash ponds, and temporary sediment control structures,
    - (e.) Bridges,
    - (f.) Dams,
    - (g.) Dikes,
    - (h.) Levees,
    - (i.) Water and wastewater control structures; and
    - (j.) Facilities designed for stormwater management.



Section 8: Mitigation for Regulated Activities.

- A. Exemptions: Mitigation or monetary compensation for wetland losses is not required for regulated activities which do not result in a loss of wetlands.
- B. Requirements.
  - (1.) A permittee shall take all necessary steps to first avoid adverse impacts and then minimize losses of wetlands. If the permittee demonstrates to the Department's satisfaction that losses of wetlands are unavoidable and necessary, the Department shall require the permittee to develop and implement mitigation practices.
  - (2.) The Department shall require a permittee, as a condition of a permit, to mitigate or monetarily compensate for wetland losses caused by regulated activities not listed as exemptions.
  - (3.) The Department may reduce mitigation requirements if the regulated activity provides a significant environmental benefit or if the proposed mitigation project has a high likelihood of success, as determined by the Department.
  - (4.) The Department shall require a permittee to develop and submit for Department review and approval mitigation plans consistent with the mitigation.
  - (5.) The Department may accept monetary compensation only if it is determined that creation, restoration, or enhancement of wetlands are not feasible alternatives. Monetary compensation shall only be accepted under conditions and based on the fee structure guidelines described in Section 12.
  - (6.) The Department may not base a final wetland permit determination solely on the environmental benefits of a mitigation proposal or the financial benefits of monetary compensation proposals.
  - (7.) If the Department denies approval of a mitigation plan and the permittee is aggrieved by the decision, the permittee may appeal the denial. The Department may order a cessation of the permitted activity or interim stabilization measures pending resolution of the contested case over denial of a mitigation plan.
  - (8.) The Department may approve use of mitigation bank sites in consultation with the appropriate District of Columbia and Federal agencies for the purpose of providing mitigation for identified projects.



**Section 9: Mitigation Standards.**

- A. Goal. It is the goal of the Act to attain no net overall loss in wetland acreage and function, and to strive for a net resource gain in wetlands. However, it may not be possible for the goal of no net loss to be achieved in each permit action. Achievement of this goal will occur through the regulatory components of this regulation and other initiatives which incorporate wetlands creation, restoration, and enhancement projects outside of the regulatory framework.
- B. Mitigation standards shall be determined in part through the use of acreage replacement ratios. Acreage replacement ratios are expressed as a relationship between two numbers. The first number shall specify the acreage of wetlands to be mitigated and the second shall specify the acreage of wetlands lost.
- C. Determination of Wetland Relative Value. The Department shall assign a relative value ranking to all wetlands impacted by regulated activity.
  - (1.) Initial ranking shall be determined based on the Wetland Delineation Map. Wetlands not included in the Wetland Delineation Map shall be ranked as either HIGH, AVERAGE, or LOW relative value wetlands. Ranking will be based on diversity, quality, and functional viability which are defined as follows:
    - (a.) Diversity indicating the variety of vegetative species and strata in the wetland and the complexity of the wetland habitat.
    - (b.) Quality reflecting impacts to wetlands from pollutant sources, excessive scouring from uncontrolled stormwater discharges, sediment loading, and trash accumulation.
    - (c.) Functional viability indicating the ability of the wetland to perform general wetland functions directly related to the physical, chemical, and biological integrity of wetlands.
  - (2.) HIGH relative value wetlands are listed in Table 9.1.
  - (3.) AVERAGE relative value wetlands are listed in Table 9.2.
  - (4.) LOW relative value wetlands are listed in Table 9.3.

**Table 9.1 : High Relative Value Wetlands**

No.	Location	Classification	Size (acre)	Diversity	Quality
1	Beaverdam Creek at Kenilworth Courts	PFO1B/E	17.10	Good	Good
2	Kenilworth Marsh	L1/2AB4, PFO1R	88.20	Good	Good
3	Fort Lincoln New Town between Rt. 50 and Fort Lincoln cemetery	PFO1B, PAB6F	14.20	Good	Good
5	Fort Lincoln between Rt. 50 and Anacostia	PEM1E, PFO/SS1B	15.60	Good	Good
7	East bank of Anacostia, immediately south of Kenilworth Marsh inlet	PFO/EM1R	3.00	Good	Good
32	Anacostia Park near old greenhouses	PSS1J	7.10	Good	Good
36	Rock Creek Park between Beach and Parkside Drive	PFO1A	14.20	Fair	Good
40	Chain Bridge Flats	PFO1A, PEM1E	42.00	Good	Fair
42	East side of Roosevelt Island	PFO/EM1R	18.50	Good	Good
43	Roosevelt Island south of Roosevelt Bridge	PFO1R	5.50	Good	Good
44	West side of Roosevelt Island	PFO1R	4.50	Good	Good

Table 9.2: Average Relative Value Wetlands

No.	Location	Classification	Size (acre)	Diversity	Quality
4	Fort Lincoln between Rt. 50 and RR tracks	PFO1C	2.80	Fair	Fair
6	West bank of Anacostia opposite Kenilworth Marsh Inlet	PEM/FO1R	1.00	Fair	Good
9	East bank of Anacostia, 800 feet north of Watts Branch	PEM1R	0.50	Poor	Fair
10	National Arboretum Pond at Beechwood Road	POWJ	0.50	Poor	Fair
11	National Arboretum Pond at Eagle Nest Drive	POWHh	0.70	Poor	Fair
12	National Arboretum Pond at Crabtree Road	POWHh	1.30	Poor	Fair
13	National Arboretum south of Crabtree Road nature center	PFO/EM1B	0.50	Fair	Fair
14	National Arboretum along Rhododendron Valley Road	PEM1J	0.10	Fair	Fair
16	Watts Branch Park	PFO1B	1.80	Fair	Poor
17	Watts Branch Park	PFO1A	1.00	Poor	Fair
19	East bank of Anacostia opposite Kingman Island	R1EM2N, PEM1E	1.50	Fair	Fair
21	East bank of Anacostia between East Capitol Street and Benning Road	R1EM2N, PSS1R	1.10	Fair	Poor
22	East bank of Anacostia between East Capitol Street and railroad bridge	PFO1R	1.00	Good	Fair
23	Fort Dupont Park near rehabilitation center	PFO1A	1.00	Fair	Good
26	Barney Circle and Water Street	PFO1B	1.00	Fair	Fair
27	Between Water Street and Anacostia, 700 feet north of Sousa Bridge	PFO1B	1.00	Fair	Fair
28	Fort Stanton Park, Good Hope Road opposite 22nd Place	PFO1A	1.80	Fair	Fair
30	East bank of Anacostia River opposite Washington Navy Yard	PEM/SS1R	1.50	Fair	Fair
34	Floodplain of Oxon Run between Stanton Rd. and 13th Street	PFO1A	15.60	Fair	Good
35	Oxon Creek at I-295 bridge	PFO1R	4.50	Fair	Good
45	Potomac River at Boundary Channel and Memorial Bridge	R1EM2N, PEM1R	1.80	Poor	Fair
46	South Dakota & Hamilton Avenue at Riggs Plaza Apts.	PFO/SS1C	0.80	Fair	Fair
48	Soldiers Home	POWHh	2.00	Poor	Good

Table 9.3: Low Relative Value Wetlands

No.	Location	Classification	Size (acre)	Diversity	Quality
8	West bank of Anacostia, 1000 ft. north of Hickey Run	PEM1R	0.40	Poor	Fair
15	Langston Golf Course	PSS/EM1B	0.20	Poor	Poor
18	East bank of Anacostia south of Watts Branch	PEM1R	0.50	Poor	Poor
20	East bank of Anacostia immediately north of Benning Road Bridge	R1EM2N	0.50	Poor	Poor
24	Fort Dupont Park along F-Street parking area	PEM1B	0.20	Poor	Poor
25	Anacostia Park at Nicholson Street parking area	PEM1C	0.40	Poor	Poor
29	Anacostia Park at 11th Street Bridge	PEM1C	0.01	Poor	Poor
31	Anacostia Park near old greenhouses	PEM1B, PSS1J	4.00	Fair	Poor
37	Whitehaven Park	POWHh	0.20	Poor	Fair
38	Glover-Archibald Park at Whitehaven Tributary	PFO1A	0.20	Poor	Fair
39	Glover-Archibald Park at Reservoir Road	PFO1B	2.80	Poor	Poor
47	Soldiers and Sailors Home	POWHx	0.20	Poor	Fair
49	McMillan Reservoir	L1OWHh	38.00	Poor	Good
50	Capitol Pool	POWHx	3.00	Poor	Fair
51	Reflecting Pool	POWHx	4.60	Poor	Fair
52	Constitution Gardens Lake	POWHx	5.50	Poor	Fair
53	Georgetown Reservoir	POWZx	37.00	Poor	Good
54	Dalecarlia Reservoir	L1OWHh	15.50	Poor	Good

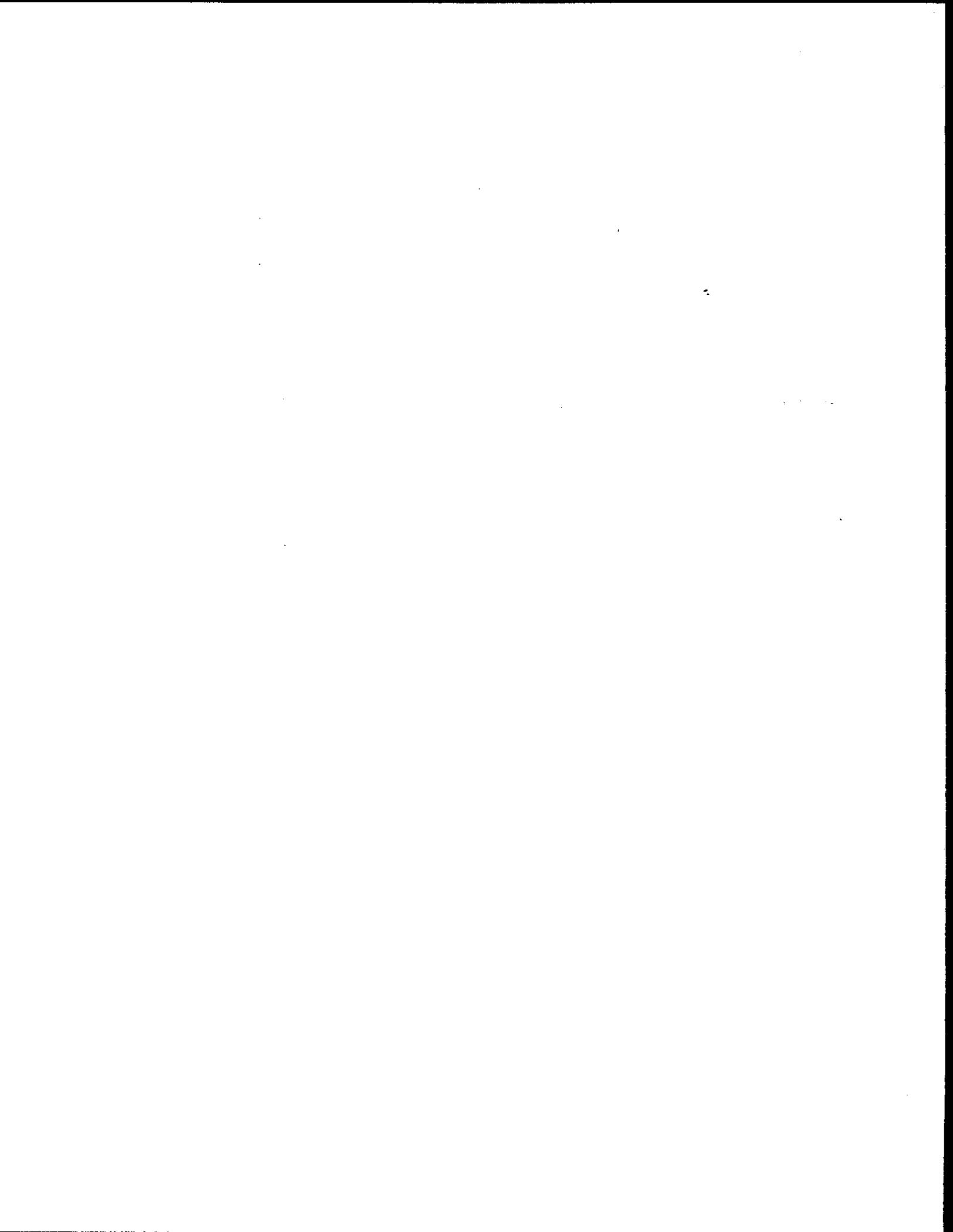
- D. The Department shall consider the mitigation requirement for replacing a loss of wetlands to be fulfilled when:
- (1.) The following acreage replacement ratios have been met through in-kind creation or restoration for:
    - (a.) Low relative value wetlands 1:1,
    - (b.) Average relative value wetlands 2:1,
    - (c.) High relative value wetlands 3:1.
  - (2.) A minimum in-kind acreage replacement ratio of 1:1 has been met, and lost wetland functions have been replaced by additional creation, restoration, or enhancement activities.
- E. Enhancement activities may be accepted to replace the loss of wetland functions when an enhancement activity provides additional protection to, creates, or improves the functions of, wetlands. Activities may include:
- (1.) Enhancement of degraded wetlands; and
  - (2.) Purchase or preservation of existing wetlands.
- F. In determining if enhancement activities will replace wetland acreage and functional losses, the Department shall consider the following:
- (1.) Degree to which the enhancement activity replaces functions of the lost wetland;
  - (2.) Benefits of the enhancement activity in rehabilitating or maintaining wetlands;
  - (3.) Scope and extent of the enhancement activity;

- (4.) Proximity of the enhancement activity to the wetland loss;
  - (5.) Technical merits of the enhancement activity and its likelihood of long-term success;
  - (6.) Adverse impact of the enhancement activity on natural resources; and
  - (7.) Relationship of the enhancement activity to ongoing natural resource management activities.
- G. Restoration and Creation Priority Sequence. Mitigation projects shall be considered according to the following priority sequence in order of preference, unless otherwise determined by the Department:
- (1.) On-site, in-kind: on-site restoration or creation of an in-kind wetlands;
  - (2.) Within subwatershed, in-kind: restoration or creation of an in-kind wetland within the same subwatershed;
  - (3.) Within subwatershed, out-of-kind: restoration or creation of an out-of-kind wetland within the same subwatershed;
  - (4.) Outside subwatershed, in-kind: restoration or creation of an in-kind wetland within a different subwatershed;
  - (5.) Outside subwatershed, out-of-kind: restoration or creation of an out-of-kind wetland within a different subwatershed.
- H. Geographic Location. Mitigation projects preferably shall be connected to existing wetlands, waterways, or 100-year floodplains. Projects may be located on multiple parcels. Projects shall be located according to the following geographic location in order of preference, unless otherwise determined by the Department:
- (1.) Locations onsite;
    - (a.) In the drainage basin where the wetland loss occurred,
    - (b.) In the subwatershed where the wetland loss occurred,
    - (c.) In the watershed where the wetland loss occurred; or
    - (d.) Outside the watershed basin where the wetland loss occurred.
- I. Siting Within Geographic Locations. In selecting sites within geographic regions for mitigation, a permittee or person shall should avoid, whenever possible, siting mitigation projects on:
- (1.) Forested lands;
  - (2.) Lands used for dredged disposal or other purposes where contaminant problems may exist; or
  - (3.) Lands which are existing or potential habitat for plant or animal species:
    - (a.) Listed as endangered or threatened by the U.S. Fish and Wildlife Service, or
    - (b.) Considered to be locally unusual or rare by the Department.
- J. Project Standards.
- (1.) The permittee shall successfully implement the approved mitigation plan within the time period required by the Department and specified in the mitigation plan.
  - (2.) Created or restored wetlands shall meet the following plant survival criteria:
    - (a.) After 5 years, greater than 85 percent of the site shall be vegetated by planted species approved by the Department or by a species composition agreed to by the Department;
    - (b.) Allowances shall be made for natural species changes as long as the plant communities are similar to those lost; and
    - (c.) After 5 years, the wetland shall be dominated by native or adaptive vegetation.
  - (3.) In the case of a permittee who has proposed the use of natural re-vegetation as part of the creation, restoration, or enhancement project, after 5 years, greater than 85 percent of the site shall be:
    - (a.) Vegetated by species similar to those found in the wetland lost or by a species composition agreed to by the Department; and

- (b.) Dominated by native or adaptive vegetation.
- (4.) In the case where the wetland was dominated by exotic or nuisance plants, the Department shall accept out of kind mitigation.
- (5.) The Department may not approve mitigation plans that include exotic or nuisance plants.

K. Protection Mechanisms.

- (1.) The permittee shall provide mechanisms to assure the protection of the created, restored, or enhanced wetlands in perpetuity. This may be achieved through any protection mechanism the permittee chooses, including:
  - (a.) Deed restrictions;
  - (b.) Conservation easements;
  - (c.) Deeding the created, restored, or enhanced wetland to an organization or public agency capable of protecting the area in perpetuity; or
  - (d.) Restrictive covenants.
- (2.) Any protection mechanism under Section 9.1(2) above, shall include provisions on the following:
  - (a.) Language granting the Department, or any successor agency, access to the mitigation site for inspections during the monitoring period and for construction of the mitigation project, if the permittee forfeits a bond and the Department decides to complete construction of the mitigation project;
  - (b.) In the case of an easement agreement, language allowing assignment of a permittee's interest under the easement agreement to the Department, if the bond is forfeited and the Department decides to complete construction of the mitigation project;
  - (c.) An absolute prohibition on the draining, dredging, removal, or filling of the created wetland site;
  - (d.) Language that the restriction is perpetual, binding on the grantor's personal representatives, heirs, successors, and assigns and runs with the land.



Section 10: Monitoring and Bonding.

A. Monitoring.

- (1.) A permittee shall submit annual monitoring reports for 5 years from the completion of the construction of the mitigation project, unless the permittee or other person has received written notice from the Department that the monitoring requirements have been fulfilled in less than 5 years.
- (2.) The permittee shall consider monitoring requirements fulfilled upon receipt of written notice from the Department. If the Department fails to send written notice to the permittee within 60 days after the end of the monitoring period, the monitoring requirement shall be considered fulfilled.
- (3.) Through written notification to the permittee, the Department may extend the required monitoring period for not more than an additional 3-year period, if the mitigation project fails to comply with Section 10.
- (4.) The permittee shall provide annual monitoring reports to the Department which include the following information:
  - (a.) A description of how the mitigation project meets the mitigation project standards in Section 10.J;
  - (b.) Photographs of the mitigation project;
  - (c.) The commercial source of planting stock whenever planting is required; and
  - (d.) A description of any modifications which have been made or need to be made to implement the mitigation plan or component so as to meet the standards of Section 10.J.
  - (e.) An "as built" site design plan.
- (5.) The Department reserves the right to inspect the mitigation project at any time during the construction and required monitoring period, and any time after that to assess the long term viability of the mitigation site.

B. Bonding.

- (1.) This section does not apply to agencies of the District of Columbia or the Federal government.
- (2.) Within 60 days of the Department's approval of Phase II of the mitigation plan, the permittee shall file with the Department a surety bond on a form to be prescribed and furnished by the Department.
- (3.) The bond shall be payable to the District of Columbia and conditioned upon the successful completion of construction of the mitigation project according to an approved mitigation plan by a permittee.
- (4.) Alternate Forms of Security.
  - (a.) Instead of a surety bond, the Department may accept one of the following alternate forms of security:
    - (1) A deposit of cash or negotiable bonds of the U.S. Government having a market value equal to the acceptable bond amount accompanied by a written agreement of the bank to pay the District of Columbia on demand in the event of forfeiture;
    - (2) A certificate of deposit equal to the required bond, issued by a bank in the District of Columbia and accompanied by a written agreement of the bank to pay the District of Columbia on demand in the event of forfeiture;
    - (3) An irrevocable letter of credit that is equivalent to the required bond, issued by a bank or financial institution organized or authorized to do business in the District of Columbia, that expressly states that the total sum is guaranteed to be available and payable directly to the District of Columbia on demand in the event of forfeiture;
    - (4) The grant to the Department, in trust, of a deed, an easement, or other interest in upland property owned by the permittee that has at least the same monetary value as the selected mitigation site;
    - (5) Fulfillment of mitigation requirements before completion of the permitted activity results in a loss of wetlands.

- (b.) The permittee shall submit to the Department all alternate forms of security deposited under Section 10.B(4)(a)(1)–(3), above, until authorized for release. All alternate forms of security may not expire until construction of the mitigation project has been successfully completed pursuant to the approved mitigation plan, as may be modified under Section 10.D.
- (5.) Amount of Bond.
- (a.) The amount of the bond for a permittee shall be set at \$20,000 per acre of wetland mitigation required under the permit.
- (b.) The permittee may request reduction of the bond amount by submitting a written request to the Department with a justification for reducing the bond amount, including estimated or actual costs to complete the mitigation project, and any other relevant information.
- (c.) The Department shall determine whether a lesser amount is sufficient to cover the cost of mitigation, taking into account the following:
- (1) Number of acres to be mitigated;
  - (2) The cost of land in the area of the mitigation site;
  - (3) The proposed method of mitigation; and
  - (4) Any other relevant factors, including the likelihood of success of the project.
- (6.) Liability under a bond shall continue until the Department receives and approves of an as-built plan for the mitigation project and the surety or financial institution receives written notice from the Department that construction of the mitigation project was successfully completed.
- (7.) A surety bond or other alternative form of security may not be canceled by the surety, bank, or other issuing entity unless both of the following conditions are satisfied:
- (a.) The surety notifies the Department and the permittee of its intent to cancel the bond, in writing, by registered mail, not less than 90 days before cancellation; and
  - (b.) At least 45 days before the cancellation date indicated in the notice, the permittee files a commitment from a surety, bank, or other issuing entity to provide a substitute security which will be effective on the cancellation date indicated in the notice.
- (8.) Bond Forfeiture.
- (a.) The bond or other instrument securing compliance with the mitigation plan or component may be subject to forfeiture upon:
- (1) Revocation of a wetlands permit;
  - (2) Failure of the permittee to comply with an administrative order; or
  - (3) Failure to comply with any element of the approved mitigation plan and any approved modifications.
- (b.) The Department, in writing and by certified mail, shall notify the permittee and the surety or other financial institution, of the Department's intention to initiate forfeiture proceedings.
- (c.) The permittee shall have 30 days from receipt of the notice of forfeiture to show cause why the bond or other instrument may not be forfeited.
- (d.) On showing cause, the Department shall provide for a reasonable time for the permittee or surety or other financial institution, to correct the problem.
- (e.) If the permittee fails to show cause, the bond or other instrument shall be forfeited nisi and the Department shall notify the permittee, surety or other financial institution of the forfeiture. If a showing of an intention to correct the problem in compliance with the mitigation plan is not submitted to the Department within 30 days from forfeiture, the bond or other security shall be forfeited absolute.
- (9.) A permittee may not conduct a regulated activity in a wetland if the permittee previously forfeited any bond or alternate security under this regulation, unless the permittee repays the Department the cost

of completing the mitigation project in excess of the forfeited bond or alternate security, plus interest. If the mitigation project is still not completed, the permittee shall complete the mitigation project at its expense according to the approved mitigation plan and any approved modifications.



## Section 11: Mitigation Plan.

## A. Phase I.

- (1.) A permittee shall submit Phase I of a mitigation plan as part of the permit application.
- (2.) Phase I of the mitigation plan shall include all of the following information:
  - (a.) Names, addresses, and telephone numbers of the principals associated with project implementation.
  - (b.) A proposal, if applicable, to use monetary compensation consistent with Section 10 to fulfill mitigation requirements.
  - (c.) A photograph and description of the type and acreage of proposed wetland losses.
  - (d.) A description of the activity which may cause the loss of wetlands.
  - (e.) A description of mitigation projects proposed as fulfillment of the required replacement of lost wetland acreage and functions. The description shall include the proposed source of hydrology and project location maps showing the geographic relationship between the area of potential wetland losses and the proposed mitigation sites.
  - (f.) A description of the selected protection mechanisms for each mitigation site.
- (3.) The Department shall render a decision concerning the acceptability of Phase I of a mitigation plan as part of the final permit decision.
- (4.) The Department, in rendering a decision on Phase I of a mitigation plan, shall provide guidance to the applicant on the contents, timing, and necessity of proceeding with Phase II of the mitigation plan.

## B. Phase II.

- (1.) A permittee may submit Phase II of a mitigation plan as part of the permit application.
- (2.) Unless otherwise determined by the Department, Phase II of the mitigation plan shall be submitted within 3 months of the Department's final permit decision and shall include all of the following information about each mitigation project:
  - (a.) Plan view scaled drawings, including:
    - (1) Vicinity map showing the mitigation project location, existing land use, and zoning;
    - (2) Location, type, and acreage of proposed wetland mitigation activities;
    - (3) Proposed location of stockpile areas;
    - (4) Location of sediment and erosion control practices;
    - (5) Locations of all areas used to store machinery, equipment, or supplies;
    - (6) Proposed source of borrow materials;
    - (7) Proposed location, spacing, and type of propagules for each plant species; and
    - (8) Other information pertinent to Phase II of a mitigation plan as required by the Department.
  - (b.) Cross-section drawing showing existing and proposed final site conditions including grade, elevation, and slope.
  - (c.) Description of how enhancement will replace lost wetland acreage and functions.
  - (d.) Construction schedule, which includes estimated start and completion dates.
  - (e.) Hydrology, which includes:
    - (1) Estimated elevation of surface and ground water as measured from the soil surface bimonthly, March–May, and monthly, June–October;
    - (2) The source of the water such as ground water, precipitation, and surface water, over various seasons of the year.

- (3) The reliability of the hydrologic sources throughout the various seasons of the year, and
- (4) Relevant precipitation data.
- (f.) Substrate conditions including a description of:
  - (1) Existing soil and substrate conditions; and
  - (2) Soil and substrate amendments needed to meet hydric soil characteristics and maintain the specified plant species.
- (g.) Vegetation to be planted including all of the following:
  - (1) The scientific and common name of plant species, which shall be native or adaptive to the District of Columbia;
  - (2) Planting dates for each species according to propagation method; and
  - (3) Planting stock fertilizer requirements for the entire 5-year monitoring period.
- (h.) A 5-year monitoring schedule establishing responsibility for the removal of exotic and nuisance vegetation, and permanent establishment of the wetland system and its component parts. The Department shall encourage the permittee to provide for the long-term maintenance and monitoring of mitigation sites beyond the required monitoring period.
- (i.) A detailed budget of the proposed mitigation project costs including:
  - (1) Land acquisition; and
  - (2) Design, which includes construction, monitoring, and maintenance.
- (j.) Documentation of the protection mechanisms.
- (3.) The permittee shall present evidence of a legal right to implement the proposed mitigation plan on the selected sites by providing:
  - (a.) An executed deed conveying title to the selected site to the permittee;
  - (b.) An executed conservation easement agreement;
  - (c.) Written evidence of the landowner's consent to the use of the selected site;
  - (d.) A fully executed option agreement, long-term lease agreement, or contract of sale for the selected site; or
  - (e.) Other written evidence of a possessory or ownership interest in the selected site.
- (4.) The Department may waive all or part of the requirements of Phase II of a mitigation plan.
- (5.) The Department may not release a bond or terminate monitoring without receipt of a legally binding deed, long-term lease, or conservation easement agreement on those lands where mitigation will occur.
- (6.) The permittee shall provide the Department access to the mitigation site during business hours.
- (7.) The Department shall render a decision concerning the acceptability of Phase II of a mitigation plan within 45 days of receipt of a completed plan, unless a final permit decision has not been made. If the Department fails to notify the applicant within the 45-day period, the plan shall be considered acceptable unless a final permit decision has not been made.

#### C. Mitigation Plan Modification.

- (1.) The Department may require, and a permittee may request, modifications to an approved mitigation plan or component during construction to ensure compliance with this chapter. Modification, substitution, or other deviations from an approved mitigation plan or component may not be made without approval under this section.
- (2.) A modification request may be made orally or in writing.
- (3.) A written request shall contain the following information:

- (a.) The name of the permittee;
  - (b.) Location of the mitigation project;
  - (c.) A description of the proposed modification; and
  - (d.) A justification for the modification.
- (4.) The Department's decision may be given orally or in writing. The Department shall notify a permittee of its decision within 10 days of a written request. If an oral decision is made, the Department shall confirm its decision in writing within 10 days. The Department's decision, whether oral or written, is binding on the permittee.



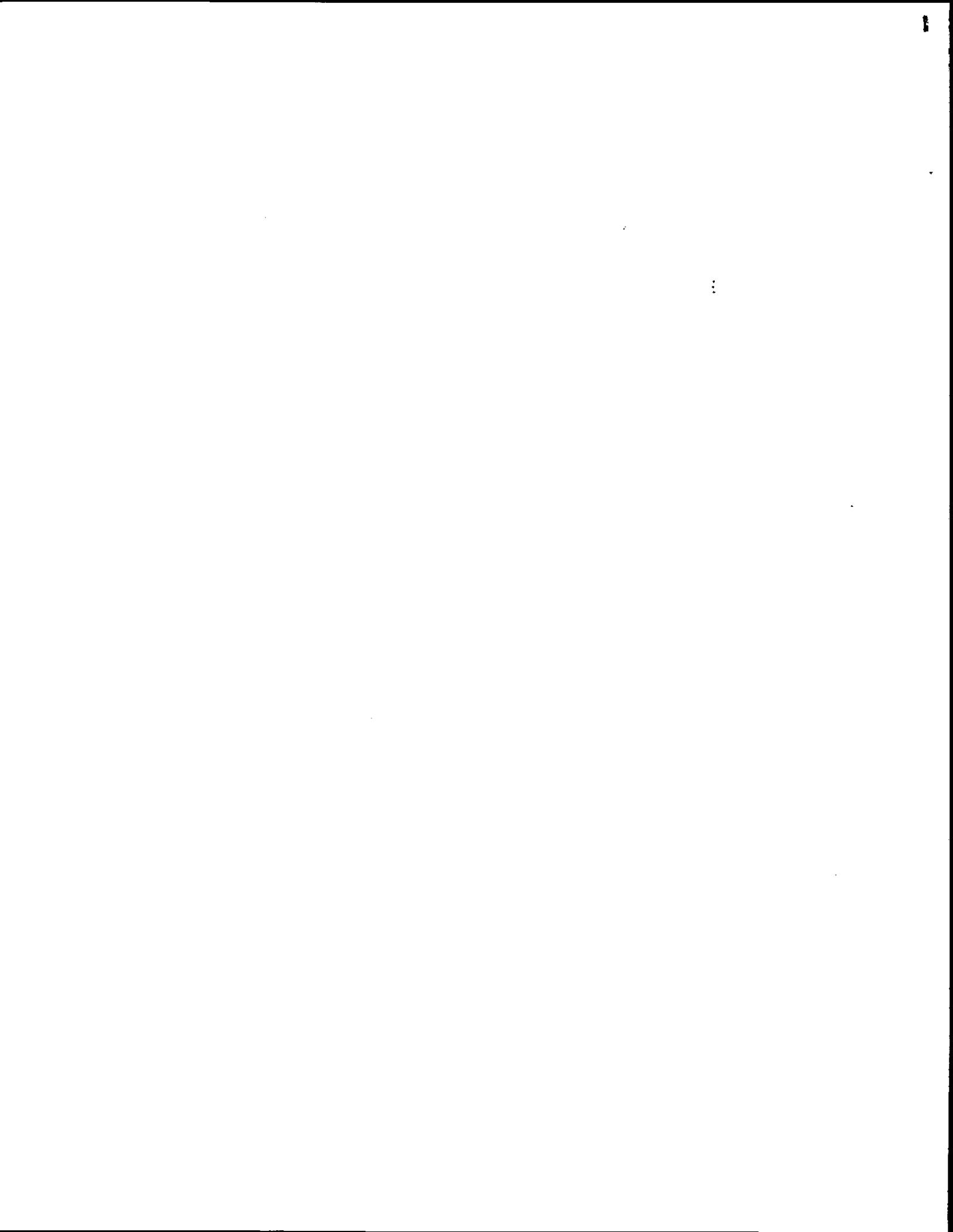
## Section 12: Wetland Compensation Fund.

- A. The Department may accept monetary compensation if it determines that mitigation for wetland losses is not a feasible alternative. Monetary compensation may not substitute for the requirement to avoid or minimize wetland losses.
- B. When a permittee maintains that mitigation is not a feasible alternative, the permittee shall propose that the Department accept monetary compensation. A proposal for acceptance of monetary compensation shall be submitted as a part of Phase I of a mitigation plan submitted to the Department for review.
- C. Monetary compensation may be accepted under one or more of the following circumstances:
  - (1.) The size of the wetland loss is less than 1 acre.
  - (2.) In-kind mitigation of wetlands to be lost is technically infeasible. The permittee shall demonstrate the technical infeasibility of in-kind mitigation by providing all of the following information:
    - (a.) Number of sites evaluated. A minimum number of seven sites is required.
    - (b.) A map and description of sites rejected.
    - (c.) A justification of why each site was unsuitable for mitigation.
    - (d.) Other information required by the Department.
  - (3.) The Department recommends the use of the compensation fund.
- D. Monetary compensation proposals may be rejected if the Department determines that mitigation requirements can be fulfilled onsite or in-kind mitigation is technically feasible.
- E. The Department shall render decisions on proposals to accept monetary compensation as part of a final permit or mitigation component decision.
- F. The Wetland Compensation Fund shall include:
  - (1.) Monetary compensation paid by a permittee instead of engaging in the creation, restoration, or enhancement of wetlands;
  - (2.) A civil or criminal penalty imposed by a court; and
  - (3.) Other monetary contributions to the Wetland Compensation Fund from other sources.
- G. Funds in the Wetland Compensation Fund may be used only for the creation, restoration, or enhancement of wetlands. This includes the location and acquisition of land, design, construction, monitoring, maintenance, and the development of mitigation plans.
- H. The Department may determine monetary compensation fees based on costs anticipated to construct mitigation projects, including location and acquisition of land, design, construction, maintenance, and monitoring costs. The Department may use the following to determine these costs:
  - (1.) Land acquisition costs derived from fair market value of the converted wetland by the permittee, based on at least two independent appraisals or other evidence of land value which may be acceptable to the Department;
  - (2.) Design costs derived from a percentage of construction costs or actual costs for projects similar in size and complexity completed by a permittee or the Department;
  - (3.) Construction costs derived on a case-by-case basis, taking into account the following factors:
    - (a.) Wetland type, size, and functions,
    - (b.) Amount of planting, grading, and other site preparations, and
    - (c.) Costs of similar mitigation projects completed by permittees or the Department; and
  - (4.) Monitoring and maintenance costs derived from a percentage of construction costs or actual costs for projects similar in size and complexity completed by a permittee or the Department.
- I. Funds credited and any interest accrued to the Wetland Compensation Fund shall remain available until expended, and may not revert to the general fund.

- J. The Department shall prepare an annual report on the Wetland Compensation Fund that includes an accounting of:
  - (1.) Financial receipts and expenditures to and from the Fund; and
  - (2.) Mitigation projects completed and in progress.

**Section 13: Enforcement.**

- A. Enforcement Authority.** The Department shall be designated as the enforcement authority for the provisions of this regulation.
- B. Complaints and Orders.**
  - (1.) The Department may serve a written complaint upon an alleged violator if the Department determines that there has been a violation of:
    - (a.) A section of this regulation;
    - (b.) A permit or condition of a permit; or
    - (c.) A condition of an exemption letter.
  - (2.) The complaint shall:
    - (a.) Identify the violator and the location of the violation;
    - (b.) State the provision violated;
    - (c.) State the specific facts upon which the complaint is based; and
    - (d.) Provide an opportunity to request a hearing to contest the complaint.
  - (3.) At any time, including during an enforcement action, the Department may issue an administrative order requiring the violator to take corrective action within a certain time period. The corrective action may include any or all of the following:
    - (a.) Cease the violation;
    - (b.) Stabilize the site;
    - (c.) Stop all construction work at the site of a regulated activity;
    - (d.) Restore or rectify unlawfully impacted nontidal wetlands; or
    - (e.) Submit a written report or plan concerning the violation.
  - (4.) **Service.**
    - (a.) A complaint, order, or other administrative notice issued by the Department may be served on the violator personally, on the violator's agent at the activity site, or by certified mail to the violator's last known address as shown in the Department's records.
    - (b.) An order issued under this regulation is effective immediately, according to its terms, when it is served.
- C. Hearings for Complaints and Orders.**
  - (1.) Within 10 calendar days of receiving a complaint, order, or notice under this regulation, the violator may request a hearing in writing.
  - (2.) If a person has been served with an order for corrective action, the person may request a stay in conjunction with a request for a hearing.
  - (3.) A request for stay may be heard before or during a hearing on the complaint. At the request of a permittee, a request for stay may be heard within 10 business days of the Department's receipt of the request.
- D. Administrative Action with Regard to Permit or Bond.** The Department may suspend or revoke a permit or forfeit a bond on a mitigation plan upon failure of the violator to comply with the requirements of an administrative order.
- E. Permit Suspension and Revocation.**
  - (1.) **Grounds for Permit Suspension or Revocation.** The Department may suspend or revoke a permit after notice to the permittee and opportunity for a hearing if the Department determines that any of the



**Section 14: Wetland Delineation Map and the Wetland Conservation Database**

- A. The Wetland Delineation Map and the Wetland Conservation Database shall be maintained by the Department and available for public review. The Map and Database shall be updated to include newly identified wetlands. Wetlands shall be ranked as described in Section 9.C.
- B. Wetland Delineation Map. The Wetland Delineation Map shall provide the following information:
  - (1.) the location of each known wetland greater than 0.5 acres in size; and
  - (2.) the representative overall shape of the wetlands;
- C. Wetland Conservation Database. The Wetland Conservation Database shall be maintained in an ARC/INFO compatible format. The following information shall be included:
  - (1.) Size of wetland;
  - (2.) ADC Map location key;
  - (3.) Latitude and longitude of the wetland centroid;
  - (4.) Cowardin classification;
  - (5.) Wetland diversity;
  - (6.) Wetland quality;
  - (7.) Wetland functions;
  - (8.) Narrative description of the wetland;
  - (9.) Soil types; and
  - (10.) General comments.



**Appendix D:**  
**Wetland Evaluation Forms**

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**DATA FORM**  
**ROUTINE WETLAND DETERMINATION**  
(1987 COE Wetlands Delineation Manual)

Project/Site: _____ Applicant/Owner: _____ Investigator: _____	Date: _____ County: _____ State: _____
Do Normal Circumstances exist on the site?      Yes   No Is the site significantly disturbed (Atypical Situation)?      Yes   No Is the area a potential Problem Area?      Yes   No (If needed, explain on reverse.)	Community ID: _____ Transect ID: _____ Plot ID: _____

**VEGETATION**

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. _____	_____	_____	9. _____	_____	_____
2. _____	_____	_____	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): \_\_\_\_\_

Remarks: \_\_\_\_\_

**HYDROLOGY**

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available <hr/> Field Observations:  Depth of Surface Water: _____ (in.)  Depth to Free Water in Pit: _____ (in.)  Depth to Saturated Soil: _____ (in.)	<b>Wetland Hydrology Indicators:</b> <b>Primary Indicators:</b> <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands <b>Secondary Indicators (2 or more required):</b> <input type="checkbox"/> Oxidized Root Channels in Upper 12 Inches <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Remarks: _____	



WETLAND FUNCTION AND VALUE CHECKLIST

Project \_\_\_\_\_  
Wetland Site No. \_\_\_\_\_

1. TYPE OF WETLANDS

- \_\_\_\_\_ Tidal  
\_\_\_\_\_ Non - Tidal

2. FUNCTIONS

- \_\_\_\_\_ Passive Recreation, Uniqueness, and Natural  
Heritage Value \*\*(occurs often)  
\_\_\_\_\_ Habitat for Wildlife or Fisheries  
\_\_\_\_\_ Sediment Trapping/Stabilization (short term)  
\_\_\_\_\_ Flood Desynchronization  
\_\_\_\_\_ Food Chain Support (nutrient export)  
\_\_\_\_\_ Dissipation of Erosive Forces  
\_\_\_\_\_ Active Recreation  
\_\_\_\_\_ Groundwater Discharge/Groundwater Recharge  
\_\_\_\_\_ Nutrient Retention/Removal (long term)  
\_\_\_\_\_ Sediment Trapping/Stabilization (long term)

2. VALUE

- \_\_\_\_\_ High  
\_\_\_\_\_ Medium  
\_\_\_\_\_ Low

\*\* Threatened or Endangered Species habitat, Areas of State Critical Concern, and Wetlands of Special State Concern, are always "high" valued wetlands regardless of function, size or location.

# DEFINITION CHECKLIST FOR FIELD REVIEW OF WETLAND FUNCTIONS

## 1. Passive Recreation and Natural Heritage Value

Aesthetic enjoyment, nature study, picnicking, education, scientific research, open space, preservation of rare species of plants or animals.

## 2. Active Recreation

Water-dependent recreational activities including swimming, boat launching or anchoring, power boating, sailing, and canoeing.

## 3. Habitat for Aquatic Wildlife or Fisheries

Food and cover needs of birds, mammals, reptiles, amphibians, and waterfowl; finfish and shellfish resources harvested by people, and wildlife fish species.

## 4. Sediment Trapping (short-term)

Process of depositing inorganic (sand, silt, clay) particulate matter within a wetland or water basin.

## 5. Groundwater Discharge

Look for in steep watersheds that have porous soils and valley streams. Ground water discharges to streams during dry seasons, the water exiting the porous soil and entering the stream or any body of water increasing the "base flow".

## 6. Nutrient Retention (short-term)

Look for wetlands with low gradients, sheet flow slow, with sinuous patterns or irregular shaped basins that are densely vegetated; \*wooded wetlands store the most nutrients the longest. Storing of nutrients such as nitrogen and phosphorus within the substrate or wetland vegetation. This improves downstream water quality.

## 7. Food Chain Support (Nutrient Export)

Direct or indirect use of nutrients by animals inhabiting aquatic environments. Nutrients are in continuous movement usually downstream, thus explaining the species diversity and density at river mouths and bays. This also explains that even though headwaters of streams may have few fish, this is where the nutrients enter the system from trees and bank vegetation.

## 8. Dissipation of Erosive Forces

Is there a decrease of energy associated with waves, currents, ice, or flood waters. The vegetation, or rocks, riprap, slow down the water sheet flow; look for at tidal locations or large river basins.

## 9. Flood Desynchronization

Process of simultaneous storage of peak flood flows in numerous basins or wetlands within a watershed, and their subsequent gradual release in a staggered manner, resulting in containment of water flow in the channel downstream. (Look for wetlands that are sinuous or irregularly shaped in wide floodplains with dense vegetation; wetland broader than it is long).

## 10. Nutrient Retention (Removal long-term)

Long-term storage is more significant to ecosystems. Swamp or forested wetlands store the nutrients for up to 50 years, therefore, the value of these wetlands are very high and hard to replace. Also, shallow retention ponds with specific wetland vegetation can have multiple uses.

## 11. Sediment Trapping (long-term)

Look for possible infiltration sites within porous (sand, gravel) soils or vegetated and woody/shrub swates.

## 12. Groundwater Recharge

Downward precipitation into the groundwater flow system. Look for basins with no outlet perched above most surrounding terrain, high in the subject watershed. This is the origin of a lot of mountain "seeps" and springheads.

## 13. Shoreline Anchoring

Stabilization of soil at the waters edge or in shallow water by fibrous plant root complexes. Look for on the tidal wetlands that have the various tall cordgrasses).



**Wetland Characterization Data Form**  
District of Columbia Wetland Conservation Plan

**GENERAL:**

Site Number \_\_\_\_\_ Acres \_\_\_\_\_ Descriptive Location \_\_\_\_\_  
Longitude/Latitude \_\_\_\_\_ ADC Map Page/Grid \_\_\_\_\_  
Soil Type \_\_\_\_\_ Cowardin Classification \_\_\_\_\_  
Adjacent Land Use/Buffer Distance \_\_\_\_\_

---

**BIOLOGIC CHARACTERISTICS:**

Edge Vegetation \_\_\_\_\_

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Diversity: Good \_\_\_ Fair \_\_\_ Poor \_\_\_

Observed Wildlife / Evidence of Usage \_\_\_\_\_

**HYDROLOGIC CHARACTERISTICS:**

Tidal \_\_\_ Nontidal \_\_\_ Channel Morphology: single \_\_\_ multiple \_\_\_ braided \_\_\_

Dams, Impoundments, Levees? \_\_\_\_\_

Stormwater Outfalls/Utility Crossings \_\_\_\_\_

---

Water Depth \_\_\_\_\_ Clarity: clear \_\_\_ cloudy \_\_\_ opaque \_\_\_

**WATER AND SEDIMENT QUALITY: (circle)**

Sediment Odors:    normal    petrol    sewer    chemical    sulfidic    other

Water Odors:        normal    petrol    sewer    chemical    sulfidic    other

Sediment Oils:    absent    slight    moderate    abundant

Water Oils:        absent    slight    moderate    abundant

Iron Deposition:   slight    moderate    severe

Trash/Debris       slight    moderate    severe

**OTHER OBSERVATIONS:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

