

Agency Correspondence

DC Fisheries and Wildlife

National Marine Fisheries Service Essential Fish Habitat

US Fish & Wildlife Services

National Marine Fisheries Service Protected Resources Division

Corresponding Acts

District Wildlife Action Plan

Bald Golden Eagle Protection Act

Lacey Act

Manuson-Stevens Fishery Conservation and Management Act

Migratory Bird Treaty Act of 1918

National Bald Eagle Management Guidelines



**STRAUGHAN
ENVIRONMENTAL
SERVICES, INC.**

October 8, 2009

Ms. Mary Pfaffko
Department of Health
D.C. Fisheries and Wildlife Division
51 N Street N.E., 5th Floor
Washington, DC 20002

RE: DC WASA Long Term CSO Control Plan
Anacostia River Projects
Environmental Assessment

Dear Ms. Pfaffko:

As a follow up to DCWASA's letter dated April 25, 2006 and in response to your letter dated May 8, 2006 the following table describes each ARP component, or contract division, and its corresponding construction schedule and disturbance impact as you have requested.

TABLE 1			
Contract Division	Description	Construction Schedule	Nature of Construction
A	Contract Division A is referred to as the Blue Plains Tunnel (BPT). The tunnel would be approximately 23,600 feet (4.5 miles) long, 23 feet in diameter, and 100 to 130 feet underground. The BPT would extend from the Blue Plains Waste Water Treatment Plant (Contract Y), under Bolling Air Force Base and the Anacostia River, to its terminus at the Main Pumping Station (Contract I). All of the shafts that are tied directed into this tunnel, but shown within Contract Divisions, will be constructed with the tunnel.	May 2011 - July 2015	The tunnel will be built underground. Surface disturbance associated with this tunnel will be located within other contract divisions.

9135 GUILFORD ROAD, SUITE 100,
COLUMBIA, MARYLAND 21046-2579
301.362.9200 FAX 301.362.9245

TABLE 1

Contract Division	Description	Construction Schedule	Nature of Construction
B	Contract Division B is referred to as the Tingey Street Diversion Chambers for CSO 013 and 014. This contract would include two diversion chambers, a junction chamber, and new 66-inch pipes along Tingey Street. These structures would divert approximately 78 million gallons per day from CSOs 013 and 014 to the Blue Plains Tunnel through the CSO 012 Diversion Chamber and on to the Main Pumping Station (Contract I).	October 2015 - January 2018	There would be surface disturbance at three locations along Tingey Street within the roadway. All project facilities will be located underground.
C	Contract Division C is referred to as the CSO 019 Overflow and Diversion Structures. Contract C consists of one diversion chamber, one vortex drop facility, and a tunnel overflow facility. The proposed facility would be situated at the terminus of the Anacostia River Tunnel (Contract H). This location also marks the starting point for the Northeast Boundary Tunnel (Contract J).	December 2011 - November 2013	There would be surface disturbance within Anacostia Park adjacent to the river. The overflow structure would be located above ground. Also, existing parking lots will be used for construction staging.
D	Contract Division D is referred to as the Bolling Air Force Base Overflow Structure and Bolling Potomac Outfall Sewer Diversion Chamber. The proposed facility would use a diversion chamber to redirect up to 450 million gallons per day from the existing Potomac Outfall Sewers into the Blue Plains Tunnel (Contract Division A) through a drop shaft. The drop shaft would also function as an overflow shaft, discharging up to 770 million gallons per day of excess flow to the Potomac River. The drop/overflow shaft would be 50 feet in diameter and 125 feet deep. This shaft will be constructed under Contract Division A.	June 2015 - June 2017	There would be surface disturbance within Bolling Air Force Base adjacent to the Potomac River. The overflow structure would be located above ground.
E	Contract Division E is referred to as the M Street Diversion Sewer for CSOs 015, 016, and 017. The contract facilities consist of three diversion chambers, one junction chamber and one vortex drop facility. A series of new sewers would extend along M Street to connect the diversion and junction chambers to the vortex drop facility. Contract Division E would result in the ability to divert a combined flow of 667 million gallons per day from Outfalls 015/016/017 to the Anacostia River Tunnel (Contract H).	March 2012 - November 2013	There would be surface disturbance at three locations along M Street within the roadway. All project facilities will be located underground.

TABLE 1

Contract Division	Description	Construction Schedule	Nature of Construction
F	Contract Division F is referred to as the CSO 018 Diversion Sewer. The contract would include a diversion chamber and drop shaft. A 90-inch diversion sewer would connect the diversion chamber to the vortex drop facility. Approximately 347 million gallons per day would be diverted from Outfall 018 to the Anacostia River Tunnel (Contract H).	May 2012 - November 2013	There would be surface disturbance adjacent to I-295 near the Pennsylvania Avenue overpass. All project facilities will be located underground.
G	Contract Division G is referred to as the CSO 005 and 007 Diversion Sewer. The structure would include two diversion chambers, one drop shaft, and new 36-inch and 48-inch sewer pipes with interconnecting manholes. The sewer pipes would extend approximately 2,000 feet along Anacostia Drive S.E. The facility would divert approximately 66 million gallons per day from CSO 005 and CSO 007 to the Anacostia River Tunnel (Contract H). The drop shaft shown at CSO-007 will be constructed under Contract Division H.	May 2012 - November 2013	There would be surface disturbance along the length of the diversion sewer. All project facilities will be located underground.
H	Contract Division H is referred to as the Anacostia River Tunnel (ART). The tunnel would be approximately 12,450 feet (2.4 miles) long, 23 feet in diameter, and 100 feet underground. The ART would begin at the Poplar Point Junction Shaft, extend northeast under the Anacostia River and the WMATA Green Line, and terminate at a drop/overflow shaft adjacent to the existing WASA Northeast Boundary Swirl Facility. The ART would connect the Blue Plains Tunnel (Contract A) to the Northeast Boundary Tunnel (Contract J). All of the shafts that are tied directed into this tunnel, but shown within Contract Divisions, will be constructed with the tunnel.	November 2013 - January 2018	The tunnel will be built underground. Surface disturbance associated with this tunnel will be located within other contract divisions.
I	Contract Division I is referred to as the Main Pumping Station Diversions facility. This site serves as the terminus point for the Blue Plains Tunnel (BPT) (Contract A). The facility would include four diversion chambers, one junction chamber, and one tide gate chamber. The total diverted flow of 500 million gallons per day would be dropped into the BPT through the 55-foot-diameter Main Pumping Station Drop Shaft. The diversion sewer will be located on the north side of the Main Pumping Station. The drop shaft shown within this contract will be constructed under Contract Division A.	July 2012 - October 2015	There would be surface disturbance primarily located on the existing Main Pumping Station site. Some of the surface disturbance would be located on Tingey Street.

TABLE 1			
Contract Division	Description	Construction Schedule	Nature of Construction
W	Contract Division W is referred to as the Blue Plains Wastewater Treatment Plant Digesters Demolition project. This project would involve approximately 150,000 square feet of surface disturbance and 1.6 million cubic feet of excavation for the demolition of the existing digester facility located on the grounds of the Blue Plains Wastewater Treatment Plant.	February 2010 - April 2011	There would be surface disturbance on the Blue Plains Advanced Wastewater Treatment Plant.
Y	Contract Division Y is referred to as the Blue Plains Tunnel Dewatering Pumping Station and Enhanced Clarification Facility. This facility would house the pumping equipment required for dewatering the CSO storage/conveyance tunnels, as well as the facilities for trapping and collecting screens and grit. The facility would be situated at the terminus of the Blue Plains Tunnel (Contract A) and would consist of two shafts, one 60 feet in diameter and the other 110 feet in diameter, with an overall depth of approximately 160 feet.	July 2015 - December 2017	There would be surface disturbance on the Blue Plains Advanced Wastewater Treatment Plant.
Z	Contract Division Z is referred to as Poplar Point Pumping Station Replacement project. This Contract serves as the connection point between the Anacostia River Tunnel and the Blue Plains Tunnel. The facility will divert up to 200 million gallons per day from the Main Pumping Station Outfall (Contract I) to the Blue Plains Tunnel to reduce flow to the Blue Plains Wastewater Treatment Plant. This contract will involve a new pumping station, two diversion structures, a diversion tunnel, and diversion sewer lines. The drop shaft shown within this contract will be constructed within Contract Division A.	March 2015 - March 2018	There would be surface disturbance near the existing pumping station on an asphalt lot.

TABLE 1

Contract Division	Description	Construction Schedule	Nature of Construction
J	<p>Contract Division J is referred to as the Northeast Boundary Tunnel (NEBT). The tunnel will begin north on the Anacostia River Tunnel (Contract H) under the RFK Stadium parking lots along the Anacostia River, Langston Golf Course and under the National Arboretum. It will then continue west along Mount Olivet Road NE and terminate at WASA's Brentwood Reservoir site adjacent to New York Avenue. Along the NEBT there will be a drop shaft near the intersection of Mount Olivet Road NE and West Virginia Avenue NE to receive flows from this flooding area. All shafts that are tied directed into this tunnel, will be constructed with the tunnel. At the tunnel terminus at the Brentwood Reservoir, there will be at a junction shaft for connecting the Northeast Area Boundary branch tunnels to the NEBT, and as the mining shaft for the R Street and Rhode Island Avenue branch tunnels.</p>	<p>January 2021 - March 2025</p>	<p>The tunnel will be built underground. Surface disturbance associated with this tunnel will be located within other contract divisions.</p>
K	<p>Contract Division K is referred to as the Northeast Boundary Branch Tunnels. Three branch tunnels will convey flows from chronic flooding areas west of the Pullman Rail Yard, they are: the R Street Branch Tunnel (RSBT), the Rhode Island Avenue Branch Tunnel (RIBT), and the First Street NW Branch Tunnel (FSNWBT). These tunnels have planned inside diameters of 12 feet, but could be as much as 15 feet and will require shafts as a part of their construction. Drop shafts are planned at the upstream ends of the respective tunnels. The RSBT and FSNWBT will join at an intermediate, combination drop and junction shaft. All other drop shafts will connect to the existing Combined Sewer System via diversion chambers and sewers.</p>	<p>March 2018 - June 2022</p>	<p>Specific surface disturbance areas are under development</p>
L & M	<p>Contracts L & M are referred to the Northeast Boundary and Mt. Olivet Road Diversions. Several diversion chambers and sewers will be built in order to capture and convey flows from the existing Combined Sewer System to the respective drop shaft facilities. Diversion chambers will be constructed at the points of diversion, and diversion sewers will be constructed from those points to the nearest drop shafts. These will involve surface construction at the diversion points and potentially at intermediate locations along the diversion sewer alignments.</p>	<p>March 2016 – March 2018 (Contract L) January 2019 – December 2020 (Contract M)</p>	<p>Specific surface disturbance areas are under development</p>

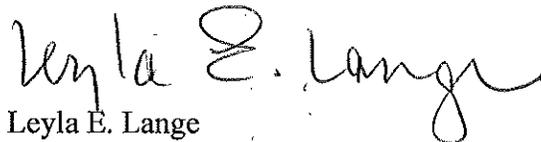
Ms. Mary Pfaffko
October 8, 2009

DC WASA has retained the services of a team led by Greeley and Hansen/Jacobs Associates to manage the project and document its effects in accordance with the National Environmental Protection Act (NEPA). Straughan Environmental Services, Inc. (SES) is part of the team working to assist in preparing the Environmental Assessment for this project. The Environmental Assessment will focus on a preferred alternative, as shown on the attached figure.

To assist us with the preparation of a NEPA determination, several maps are included that show the limits of disturbance (LOD) at each surface disturbance area. These LODs also include the construction work and staging/laydown areas. Construction in any area could include temporary noise, dust, and air pollution. However, these effects will be addressed in the detail design documents for mitigation throughout construction.

If you have any questions regarding this request please call (301) 362-9200.

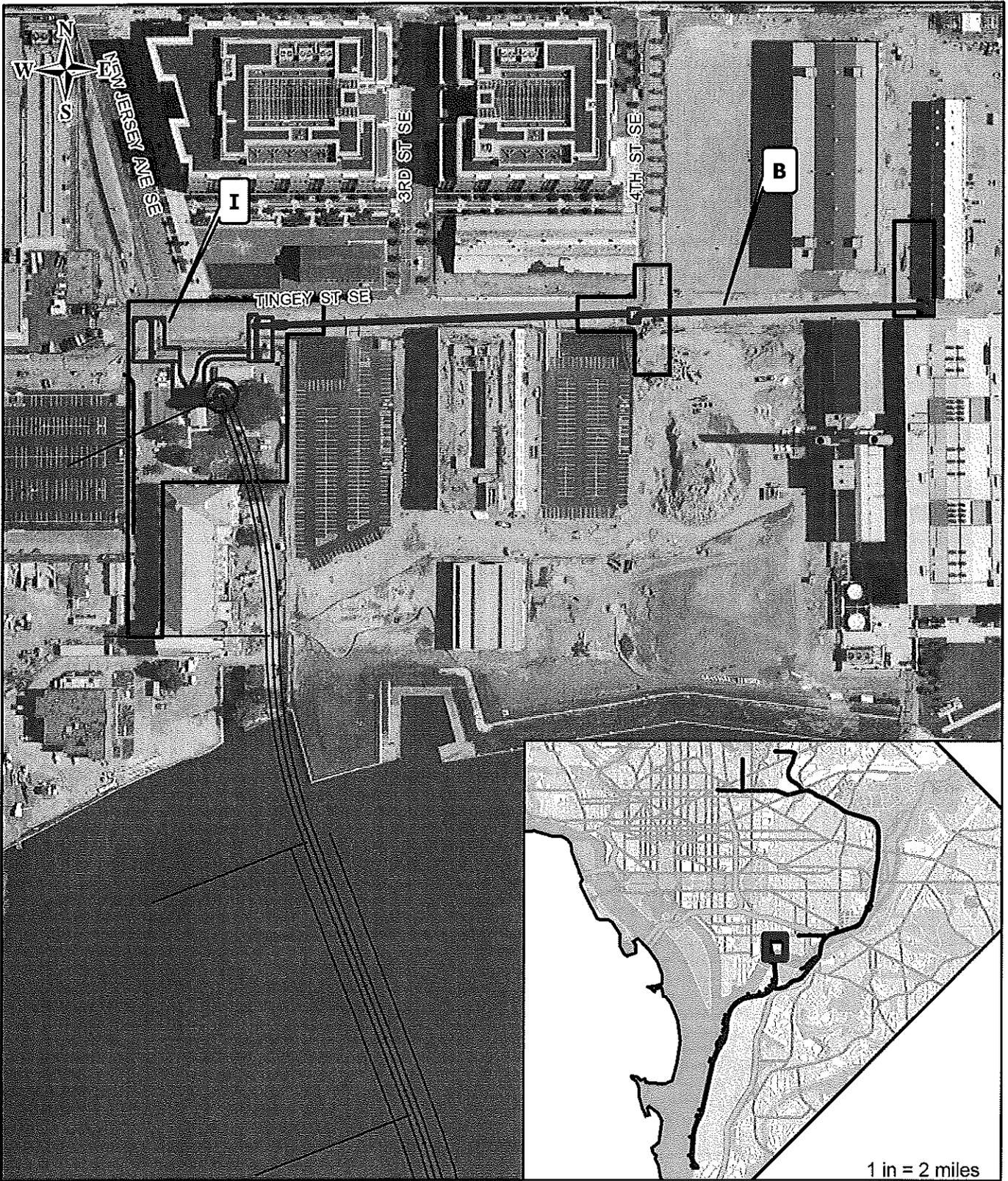
Sincerely,
STRAUGHAN ENVIRONMENTAL SERVICES, INC.



Leyla E. Lange
Senior Environmental Scientist

Attachment

cc: Tim Harvey, (SES)
Donal Barron, (G-H)
David Campbell, (G-H)



Contract Divisions B & I
Washington, DC

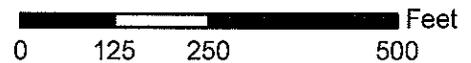


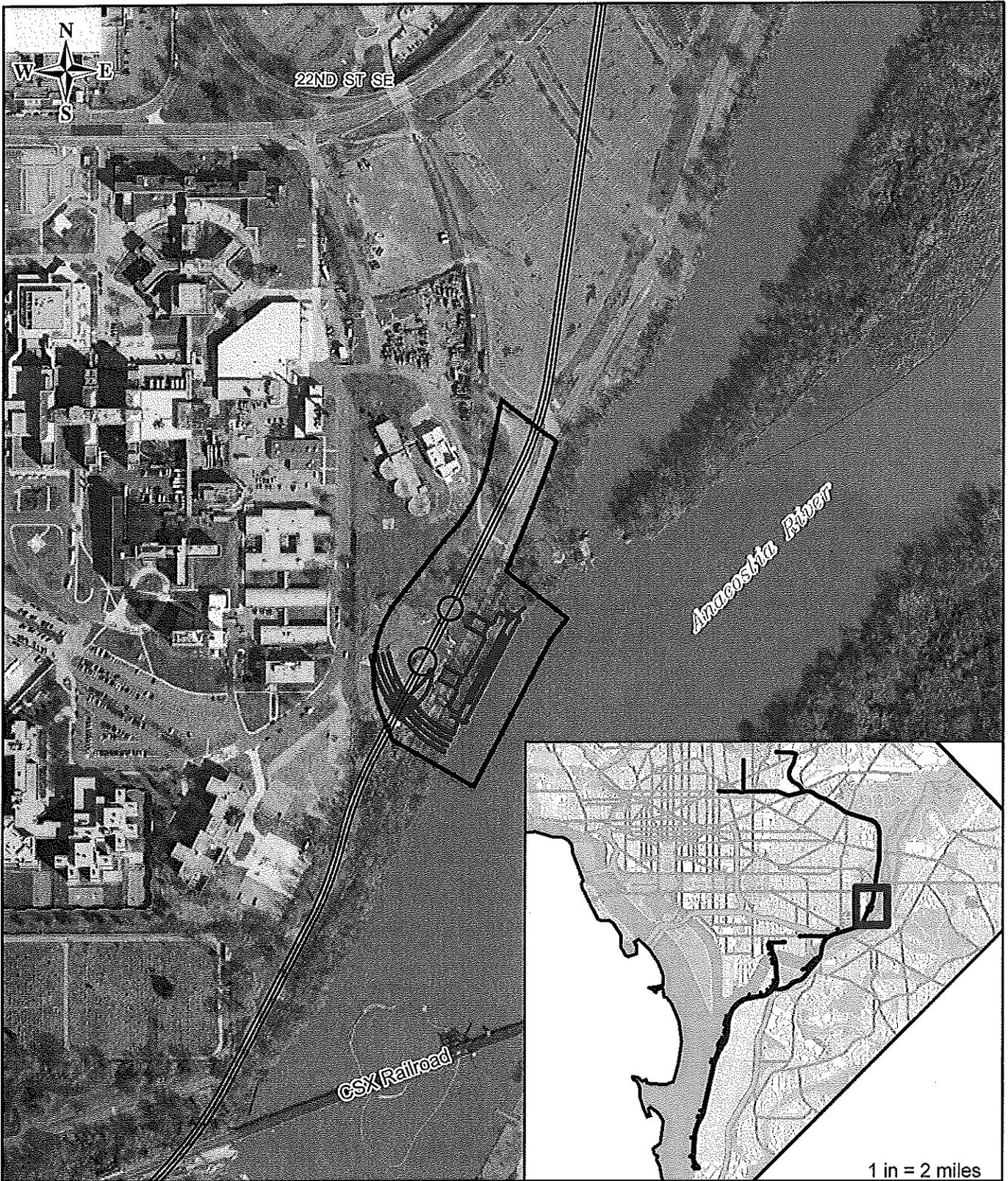
SERVING THE PUBLIC
PROTECTING THE ENVIRONMENT

Legend:

-  Contract Divisions B & I
-  Study Area
-  Blue Plains Tunnel

Scale: 1 inch = 250 feet





Contract Division C
Washington, DC

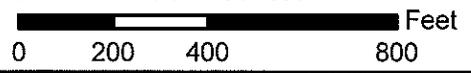


SERVING THE PUBLIC
PROTECTING THE ENVIRONMENT

Legend:

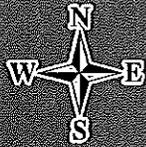
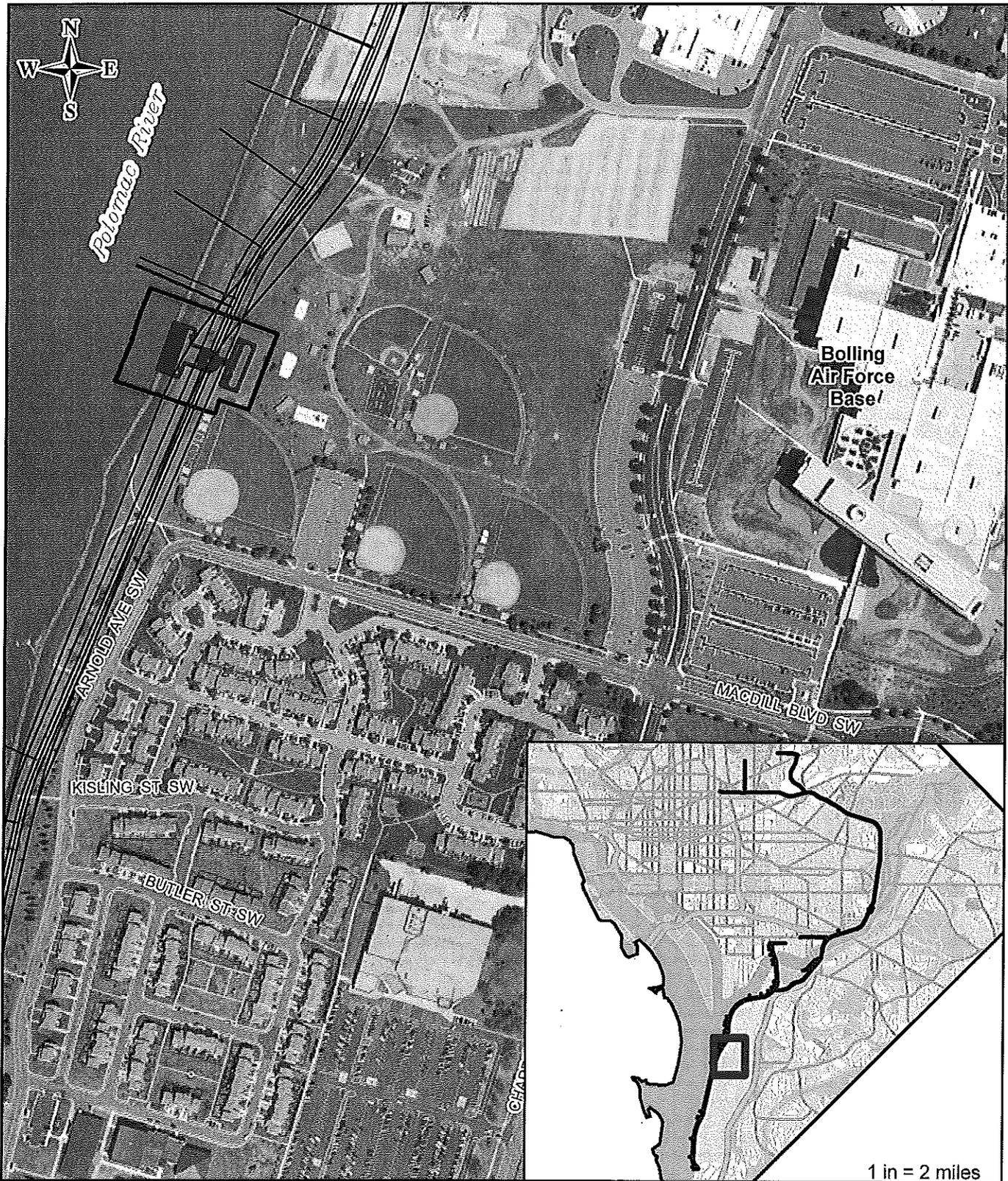
-  Contract Division C
-  Study Area
-  Anacostia River Tunnel

Scale: 1 inch = 400 feet



1 in = 2 miles

Source: Natural Resources Conservation Service. 2002. Soil Survey Geographic Database (SSURGO). Washington, DC.



Potomac River

Bolling Air Force Base

ARNOLD AVE SW

MACDILL BLVD SW

KISING ST SW

BUTLER ST SW

CHAMBERS ST SW

1 in = 2 miles

Contract Division D
Washington, D.C.

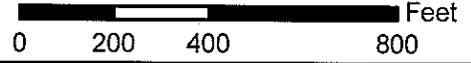


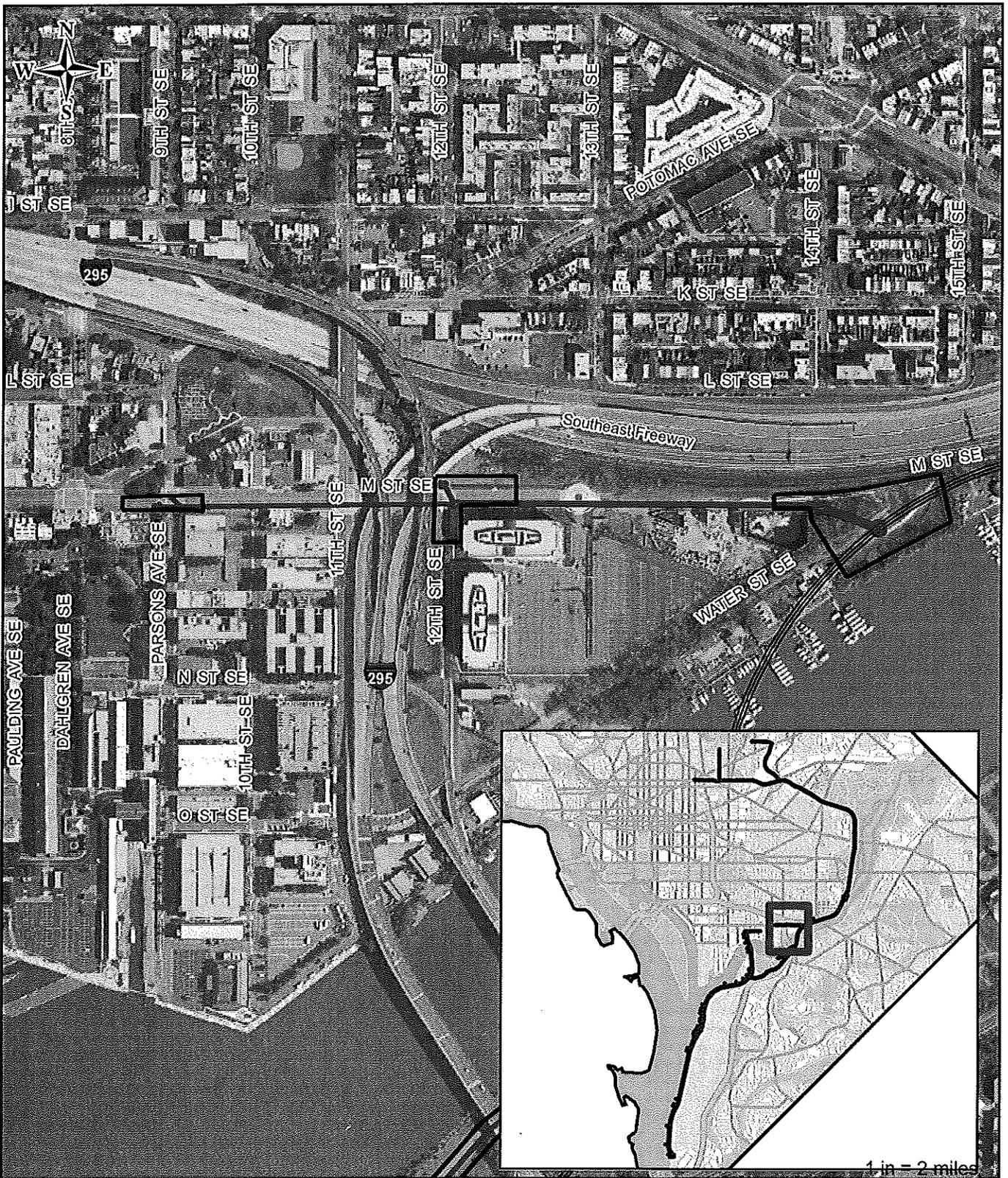
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Legend:

-  Contract Division D
-  Blue Plains Tunnel
-  Study Area

Scale: 1 inch = 400 feet





Contract Division E
Washington, DC

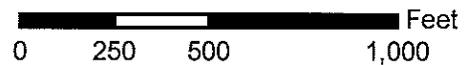


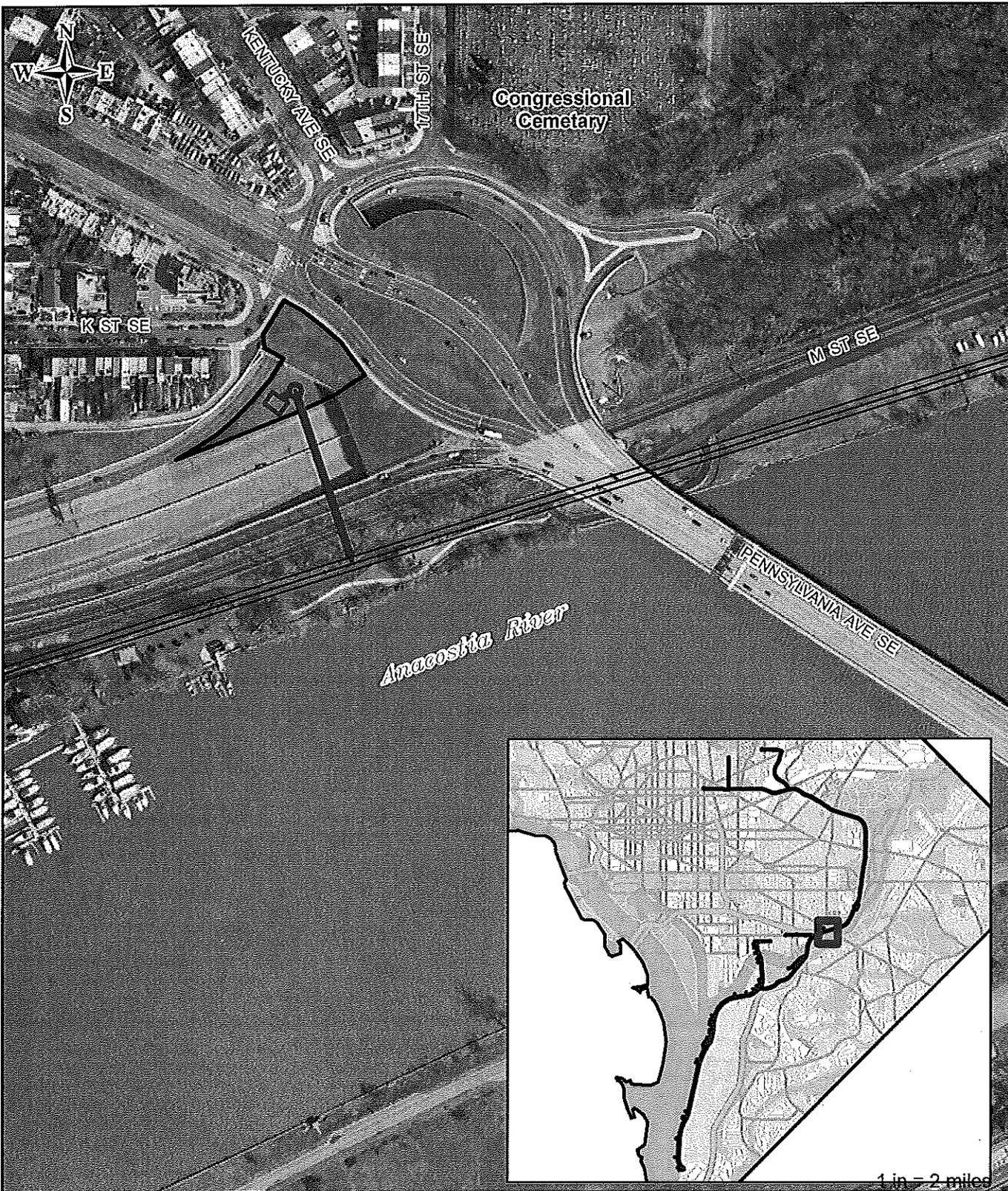
SERVING THE PUBLIC
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Legend:

- Contract Division E
- Study Area
- Anacostia River Tunnel

Scale: 1 inch = 500 feet





Contract Division F
Washington, DC

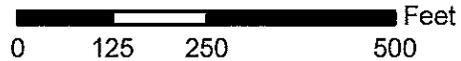


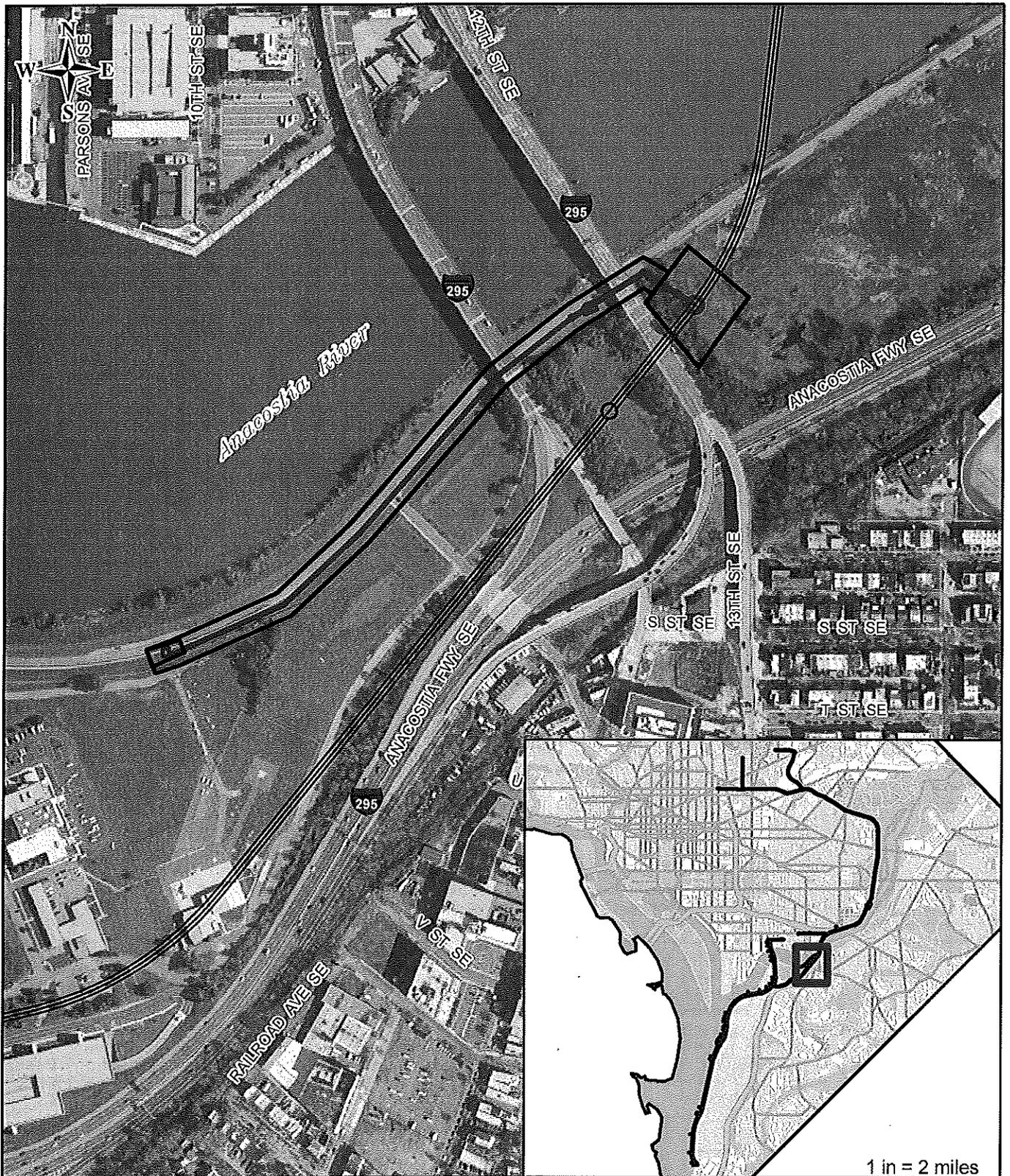
SERVING THE PUBLIC
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Legend:

-  Contract Division F
-  Study Area
-  Anacostia River Tunnel

Scale: 1 inch = 250 feet





1 in = 2 miles

Contract Division G
Washington, DC

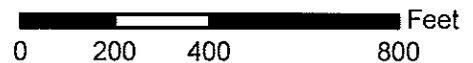


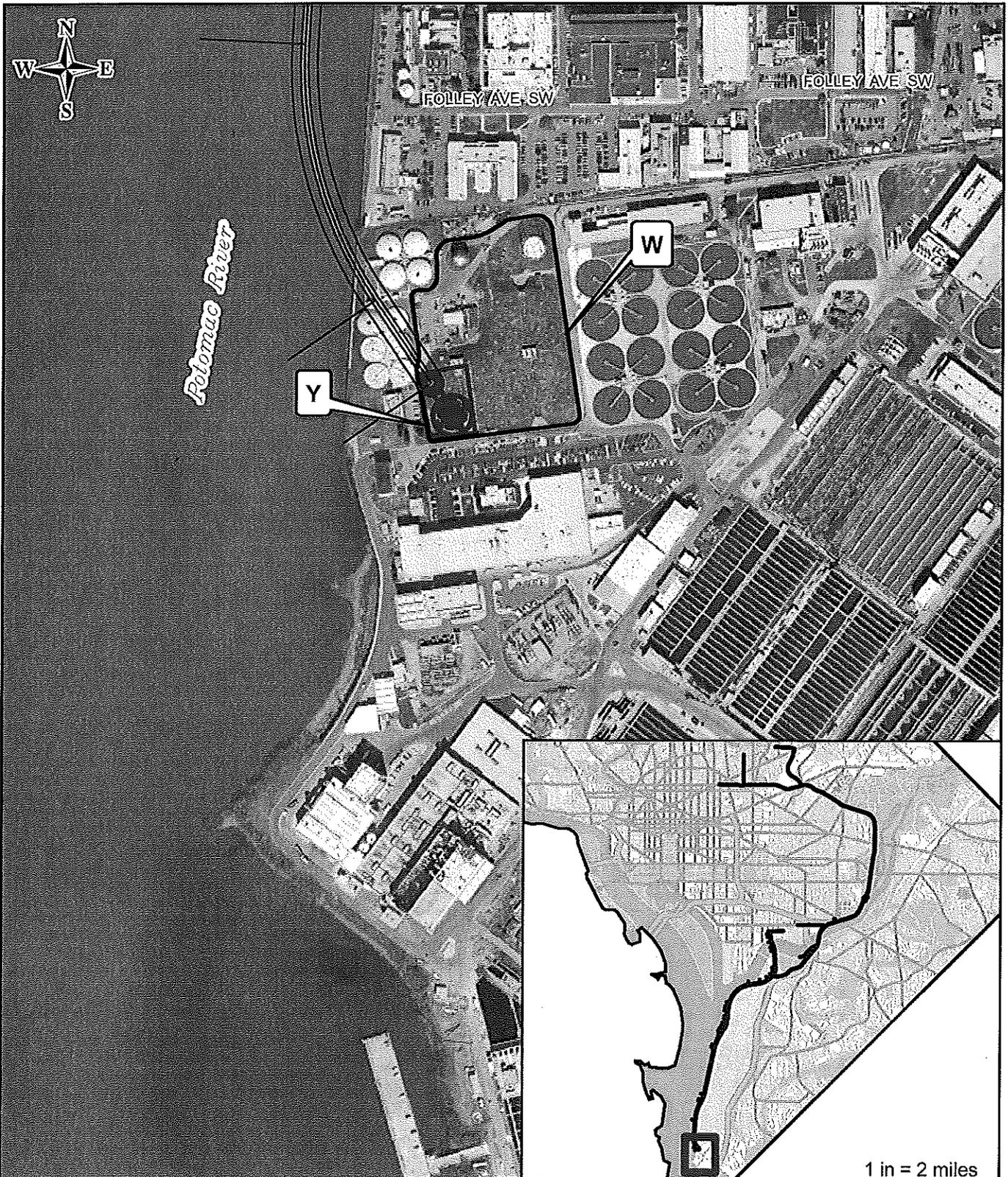
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Legend:

-  Contract Division G
-  Study Area
-  Anacostia River Tunnel

Scale: 1 inch = 400 feet





Contract Divisions W & Y
Washington, D.C.

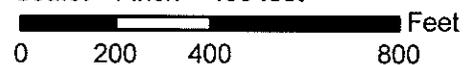


SERVING THE PUBLIC
PROTECTING THE ENVIRONMENT

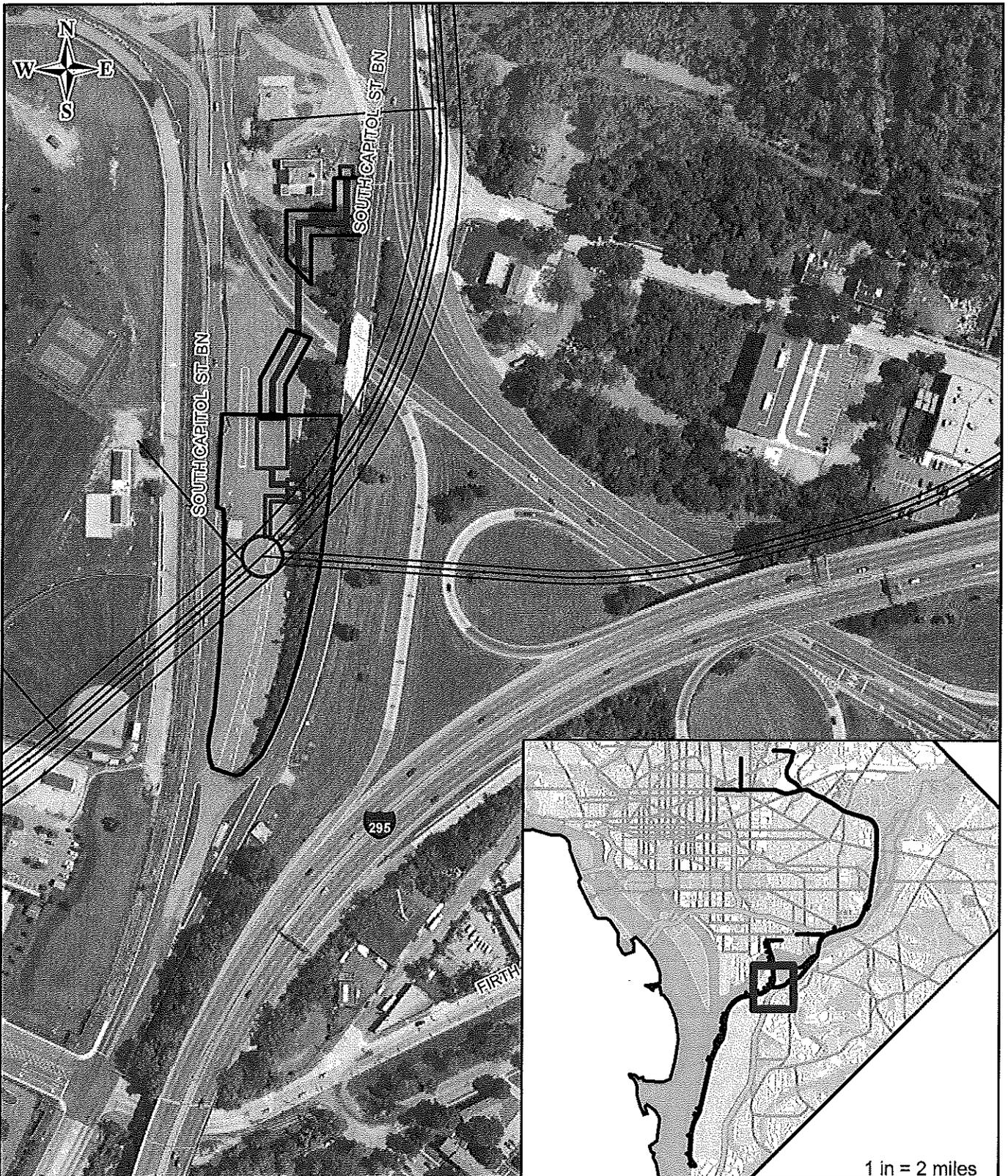
Legend:

-  Contract Divisions W & Y
-  Blue Plains Tunnel
-  Study Area

Scale: 1 inch = 400 feet



1 in = 2 miles



Poplar Point Pumping
Station Replacement
Washington, D.C.

Contract Division Z

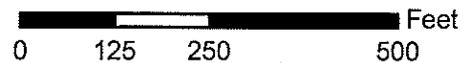


SERVING THE PUBLIC
PROTECTING THE ENVIRONMENT

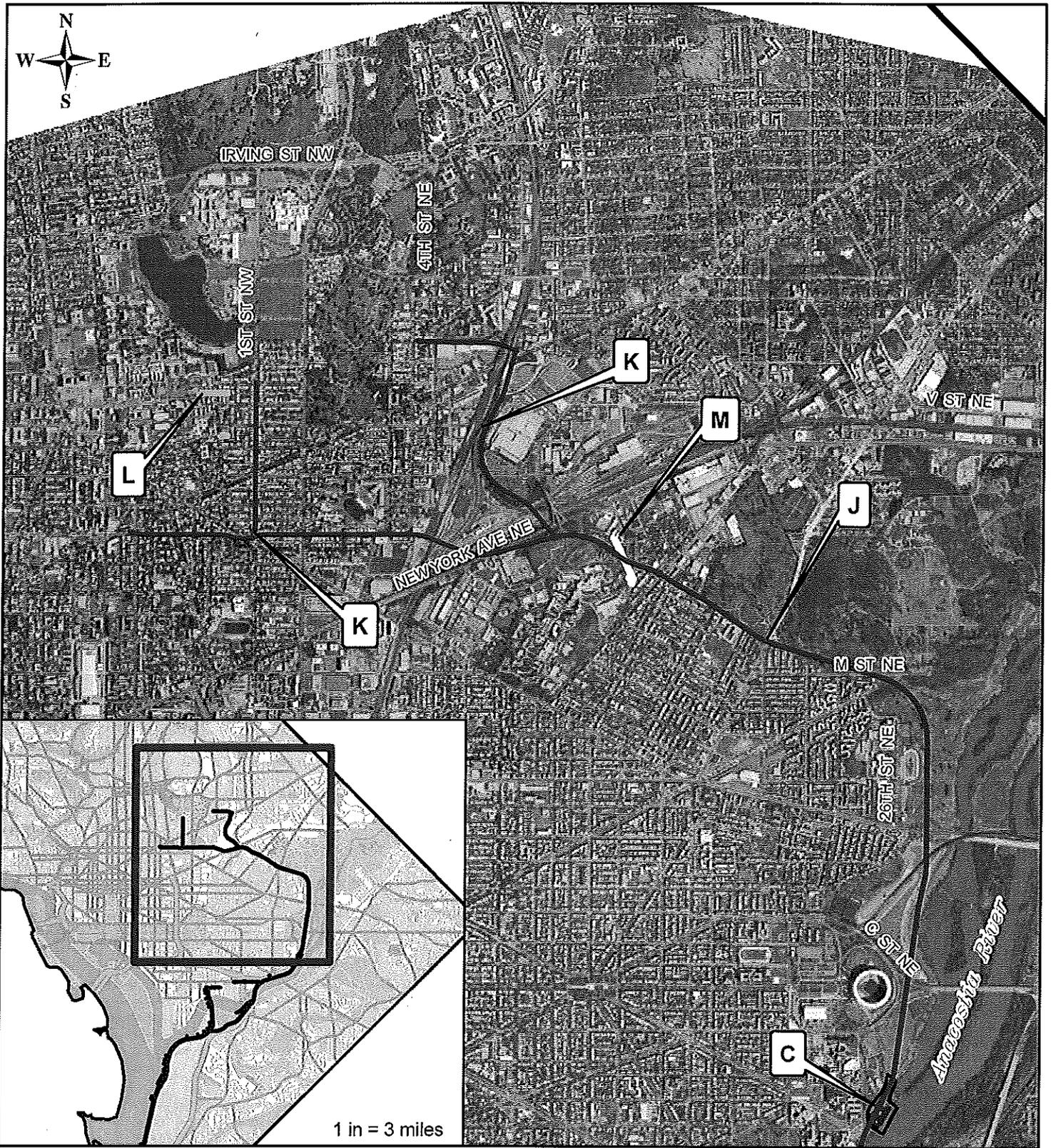
Legend:

-  Contract Division Z
-  Blue Plains & Anacostia River Tunnels
-  Study Area

Scale: 1 inch = 250 feet



1 in = 2 miles



CSO LTCP Phase II
Washington, DC

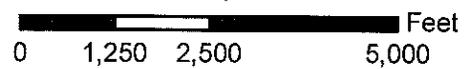


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Legend:

— Northeast Boundary Tunnel

Scale: 1 inch = 2,500 feet



Source: Natural Resources Conservation Service. 2002. Soil Survey Geographic Database (SSURGO). Washington, DC.



GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of the Environment
1200 First St. NE, 6th Floor
Washington, DC 20002

Fisheries and Wildlife Division
Phone: (202) 535-2260
Fax: (202) 535-1373

March 12, 2010

Mr. Justin Haynes
Straughan Environmental Services, Inc.
9135 Guilford Rd., Suite 100
Columbia, MD 21046-2579

RE: Information Request
DC WASA Long Term CSO Control Plan
Anacostia River Projects
Environmental Assessment

Dear Mr. Haynes:

Thank you for the additional information and table regarding the possible impact of the DC WASA Long Term CSO Control Plan. After reviewing the areas of investigation, we maintain that there are no federally listed rare, threatened, or endangered (RTE) species that could be impacted from the project.

However, several locally RTE species have been documented to utilize the areas of investigation. Under the authority of the congressionally mandated District Wildlife Action Plan, the District's Fisheries and Wildlife Division is charged with conserving species of greatest conservation need (SGCN). Our data indicates that there are 19 SGCN that utilize the areas of investigation, particularly in contract divisions C, E, F, J, and Z. These species include:

American Black Duck <i>Anas rubripes</i>	Brown Thrasher <i>Toxostoma rufum</i>	Red-shouldered Hawk <i>Buteo lineatus</i>
American Woodcock <i>Scolopax minor</i>	Chimney Swift <i>Chaetura pelagica</i>	Willow Flycatcher <i>Empidonax traillii</i>
Black-crowned Nigh-Heron <i>Nycticorax nycticorax</i>	Eastern Meadowlark <i>Sturnella magna</i>	Wilson's Snipe <i>Gallinago delicata</i>
Bobwhite Quail <i>Colinus virginianus</i>	Field Sparrow <i>Spizella pusilla</i>	Wood Duck <i>Aix sponsa</i>

Eastern Cottontail
Sylvilagus floridanus

Eastern Garter Snake
Thamnophis sirtalis

Northern Spring Peeper
Pseudacris crucifer

Gray Fox
Urocyon cinereoargenteus

Five-lined Skink
Plestiodon fasciatus

Monarch Butterfly
Danadus p. plexippus

Virginia opossum
Didelphis virginianus

Northern Brown Snake
Storeria dekyai dekyai

Variegated Fritillary Butterfly
Euptoieta caludia

Due to the primarily underground nature of this project, we do not anticipate impact to the species at the contract division locations. We do, however, recommend that you contact Stephen Syphax with National Capital Parks – East at 202-690-5160 in regards to the possible impact to the National Park Service managed land. These parts include contract divisions C, E, F, G, J, and Z.

We would also recommend that you contact Diane Douglas with the District Department of the Environment – Water Quality Division at 202-535-2641 in regards to any possible impact to water quality in terms of the depth of the project and groundwater level.

Thank you for your interest.

Sincerely,

Lindsay Rohrbaugh
Fish and Wildlife Biologist



**STRAUGHAN
ENVIRONMENTAL
SERVICES, INC.**

October 15, 2009

Mr. John Nichols
National Marine Fisheries Service
Chesapeake Bay Office
410 Severn Avenue, Suite 107A
Annapolis, MD 21403

RE: DC WASA Long Term CSO Control Plan
Anacostia River Projects
Environmental Assessment

Dear Mr. Nichols:

Under a Federal Court mandated Consent Decree, the District of Columbia Water and Sewer Authority (DC WASA) is planning and developing an Environmental Assessment (EA) to document the environmental effects of the Anacostia River Projects (ARP). The ARP include several miles of deep storage and conveyance tunnels and associated hydraulic facilities between the Blue Plains Advanced Wastewater Treatment Plant (BPAWTP) in Southwest D.C. to north of Rhode Island Avenue in Northwest DC. The purpose of the project is to capture and control overflows from the District's combined sewer system currently flowing into the Anacostia River during rain events and divert the flows to the BPAWTP. This project is being conducted in accordance with an established milestone schedule under the Consent Decree.

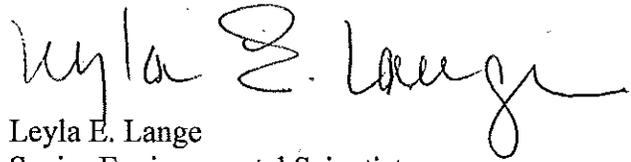
DC WASA has retained the services of a team led by Greeley and Hansen/Jacobs Associates to managed the design and implementation of the project and document its effects in accordance with the National Environmental Protection Act (NEPA). Straughan Environmental Services, Inc. (SES) is a part of the team working to prepare the EA for the above referenced project. The EA will focus on a preferred alternative, as shown on the attached figure.

To assist us with the preparation of a NEPA determination, we are requesting information from your office regarding Essential Fish Habitat within the vicinity of the proposed project. A site vicinity map, which illustrates the preferred alternative, is attached for your reference. Also attached are figures illustrating areas of potential disturbance to the Potomac and Anacostia Rivers associated with reconstruction of overflow facilities. If you have any questions regarding this request please call (301) 362-9200.

9135 GUILFORD ROAD, SUITE 100
COLUMBIA, MARYLAND 21046-2579
301.362.9200 FAX 301.362.9245

Mr. John Nichols
October 15, 2009

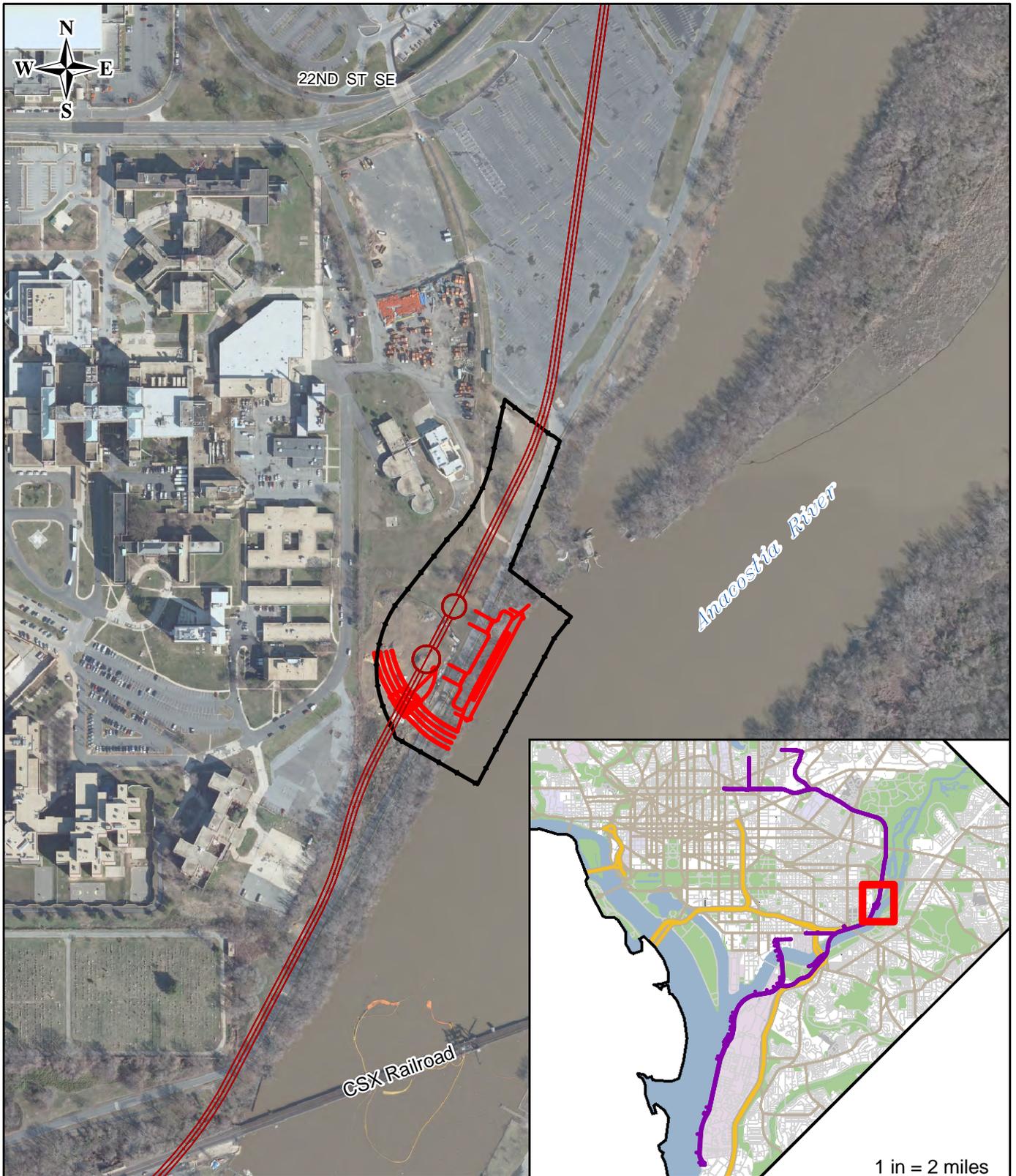
Sincerely,
STRAUGHAN ENVIRONMENTAL SERVICES, INC.

A handwritten signature in cursive script that reads "Leyla E. Lange". The signature is written in black ink and is positioned above the printed name and title.

Leyla E. Lange
Senior Environmental Scientist

Attachment

cc: Tim Harvey, (SES)
Donal Barron, (Greeley and Hansen)
David Campbell, (Greeley and Hansen)



Contract Division C
Washington, DC



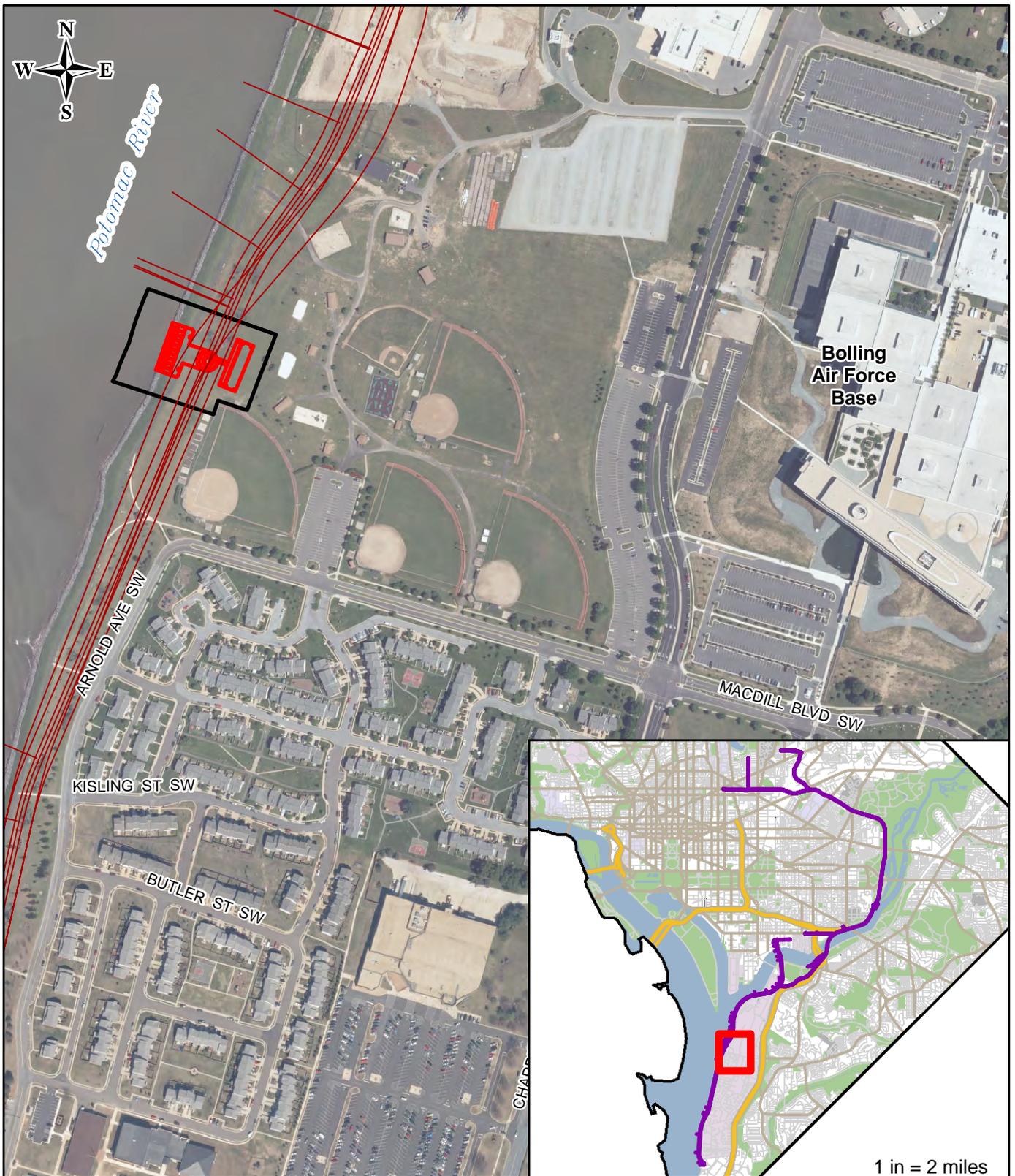
SERVING THE PUBLIC
PROTECTING THE ENVIRONMENT

- Legend:**
- Contract Division C
 - Study Area
 - Anacostia River Tunnel

Scale: 1 inch = 400 feet

0 200 400 800 Feet

Source: Natural Resources Conservation Service. 2002. Soil Survey Geographic Database (SSURGO). Washington, DC.



Contract Division D
Washington, D.C.

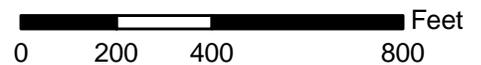


SERVING THE PUBLIC
PROTECTING THE ENVIRONMENT

Legend:

- Contract Division D
- Blue Plains Tunnel
- Study Area

Scale: 1 inch = 400 feet





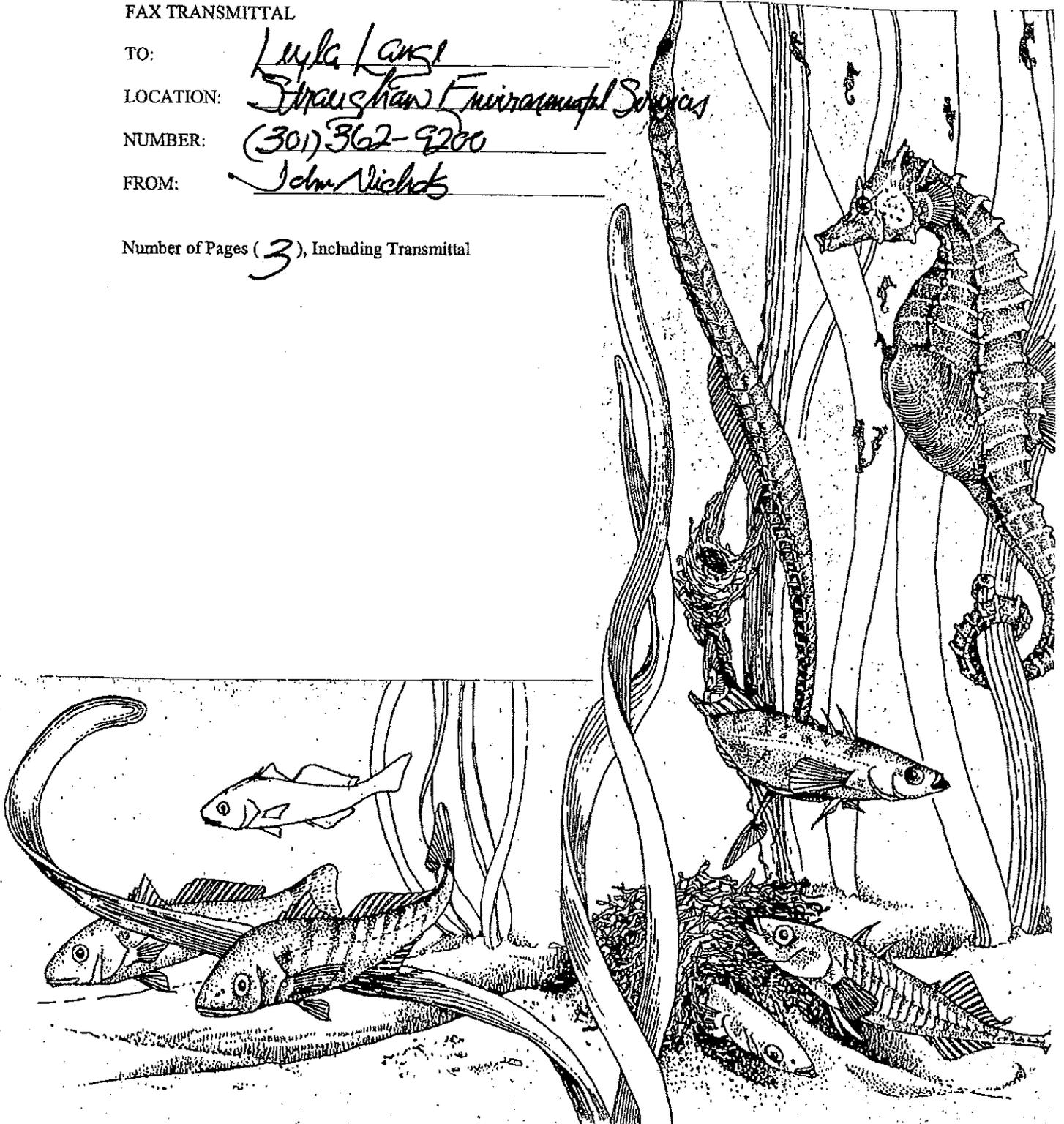
UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Northeast Region
Habitat Conservation Division
410 Severn Avenue, Suite 107A
Annapolis, MD 21403
Commercial Phone: (410) 267-5675
FAX#: (410) 267-5666 **(410) 295-3134**

FAX TRANSMITTAL

TO: Lyle Lusk
LOCATION: Strausman Environmental Services
NUMBER: (301) 362-9200
FROM: John Nichols

Number of Pages (3), Including Transmittal





UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Habitat Conservation Division
Chesapeake Bay Program Office
410 Severn Ave., Suite 107A
Annapolis, Maryland 21403

October 17, 2009

MEMORANDUM TO: Leyla E. Lange
Straughan Environmental Services

FROM: John Nichols

SUBJECT: Anacostia River Projects (ARP)

This concerns your request, dated October 15, 2009, for information on Essential Fish Habitat (EFH) in the tidal Anacostia River, specifically in the vicinity of the Anacostia River Projects of the District of Columbia Water Sewer Authority (WASA). WASA is preparing an Environmental Assessment (EA) to address the affects of the ARP, and to identify measures for capture and control of storm overflows from the combined sewer system currently discharging to the Anacostia River.

The tidal Anacostia River and project vicinity lie upstream of EFH designated for the Potomac River (the approximate upstream limit of EFH in the tidal Potomac River is the Indian Head area, or head of saltwater intrusion). Consequently, this proposal will not directly affect federally managed species, such as bluefish and summer flounder, which occur in the lower Potomac River. However, the Anacostia River is a migratory corridor and spawning/nursery ground for several anadromous fish species which are important prey for bluefish and summer flounder in the Chesapeake Bay system. These anadromous species include white perch, yellow perch, alewife, blueback herring, and hickory shad.

Normally, preparation of an EFH assessment for this proposal would be the responsibility of the federal action agency; i.e., the federal agency which will fund and/or authorize a permit for this project (e.g., U.S. Environmental Protection Agency). Preparation of an EFH assessment can be delegated to a state or local agency, or private consulting firm with expertise in fishery science. Because the proposed project will not directly affect EFH, preparation of an EFH assessment is not required under the Magnuson-Stevens Fishery Conservation & Management Act. Should the federal action agency choose to submit an EFH assessment to NOAA Fisheries for our review, it should focus on project impacts on anadromous prey species listed above. An EFH assessment for this project may be incorporated into the proposed EA, provided it is presented as a separate and distinct section of the NEPA document.



Protected Resources

The endangered shortnose sturgeon has been determined by NOAA Fisheries to be present in the Potomac River, including the lower Anacostia River. The federal action agency for this project (or representing consultant) should contact Julie Crocker of our Protected Resources Division in Gloucester, MA; (978) 281-9328, ext. 6530, or, Julie.Crocker@NOAA.GOV, to determine its Section 7 consultation responsibilities for this project under the Endangered Species Act.

Should you have any questions, please contact me at (410) 267-5675; or, John.Nichols@NOAA.GOV.



**STRAUGHAN
ENVIRONMENTAL
SERVICES, INC.**

October 8, 2009

Ms. Maricela Constantino
US Fish and Wildlife Service
177 Admiral Cochrane Drive
Annapolis, MD 21401

RE: DC WASA Long Term CSO Control Plan
Anacostia River Projects
Environmental Assessment

Dear Ms. Constantino:

Under a Federal Court mandated Consent Decree, The District of Columbia Water and Sewer Authority (DC WASA) is planning and developing an Environmental Assessment to document the environmental effects of the Anacostia River Projects (ARP). The ARP include several miles of deep storage and conveyance tunnels and associated hydraulic facilities between the Blue Plains Advanced Wastewater Treatment Plant (BPAWTP) in Southwest D.C. to north of Rhode Island Avenue in Northwest DC. The purpose of the project is to capture and control overflows from the District's combined sewer system currently flowing into the Anacostia River during rain events and divert the flows to the BPAWTP. This project is being conducted in accordance with an established milestone schedule under the Consent Decree.

DC WASA has retained the services of a team led by Greeley and Hansen/Jacobs Associates to managed the design and implementation of the project and document its effects in accordance with the National Environmental Protection Act (NEPA). Straughan Environmental Services, Inc. (SES) is a part of the team working to prepare the Environmental Assessment (EA) for the above referenced project. The EA will focus on a preferred alternative, as shown on the attached figure.

To assist us with the preparation of a NEPA determination, we are requesting information from your office regarding flora and fauna species within the project site that are District or Federally listed rare, threatened, or endangered.

9135 GUILFORD ROAD, SUITE 100
COLUMBIA, MARYLAND 21046-2579
301.362.9200 FAX 301.362.9245

Ms. Maricela Constantino
October 8, 2009

A site vicinity map, which illustrates the preferred alternative, is attached for your reference. If you have any questions regarding this request please call (301) 362-9200.

Sincerely,
STRAUGHAN ENVIRONMENTAL SERVICES, INC.



Leyla E. Lange
Senior Environmental Scientist

Attachment

cc: Tim Harvey, (SES)
Donal Barron, (Greeley and Hansen)
David Campbell, (Greeley and Hansen)

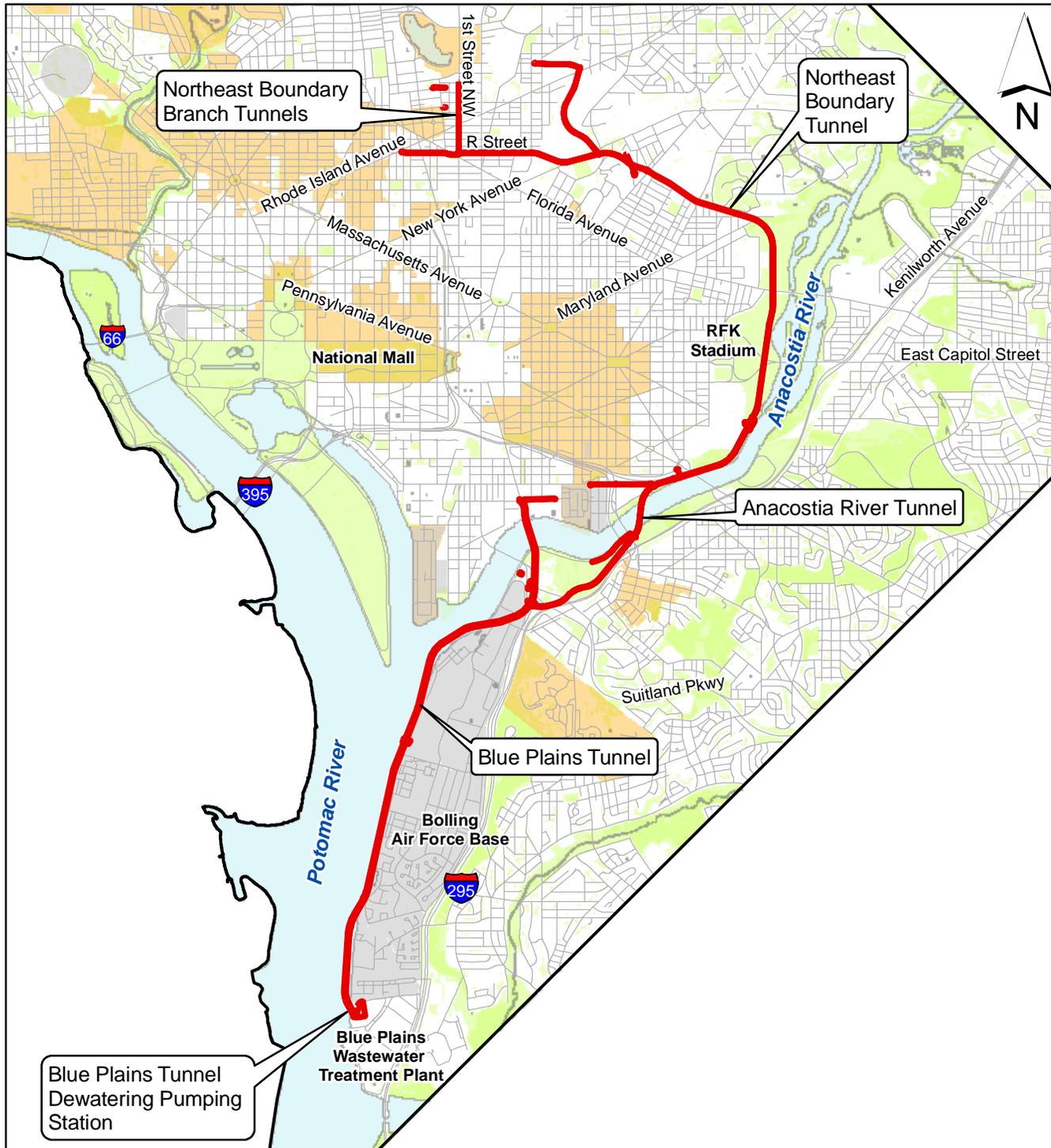
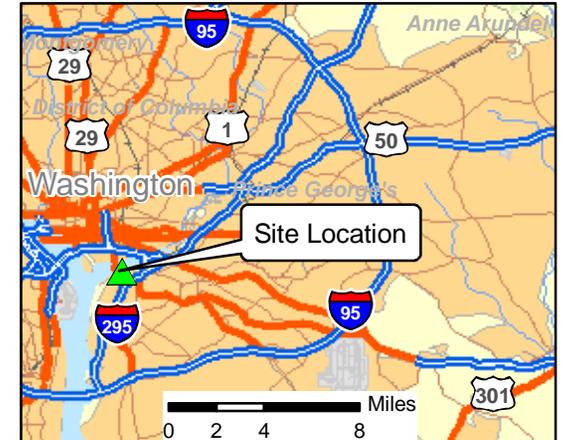


Figure 1:
Anacostia River Projects



Legend:

- Contract Divisions
- Road
- Water
- Parks & Forests
- Historic District
- Military Base

Scale: 1 in = 6,000 feet



Source: District Department of Transportation. 2009. *Street Centerlines, Sidewalks, Buildings, Parks*. Washington, DC.



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573-4575



October 27, 2009

Straughan Environmental Services, Inc.
9135 Guilford Road, Suite 100
Columbia, MD 21046-2579

RE: DC WASA Long Term CSO Control Plan Anacostia River Projects Environmental Assessments

Dear: Leyla E. Lange

This responds to your letter, received October 13, 2009, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened in the above referenced project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Except for occasional transient individuals, no proposed or federally listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or should additional information on the distribution of listed or proposed species become available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. Limited information is currently available regarding the distribution of other rare species in the District of Columbia. However, the Nature Conservancy and National Park Service (NPS) have initiated an inventory of rare species within the District. For further information on such rare species, you should contact Mary Pfaffko of the National Park Service at (202)-535-1739.

Effective August 8, 2007, under the authority of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (Service) removed (delist) the bald eagle in the lower 48 States of the United States from the Federal List of Endangered and Threatened Wildlife. However, the bald eagle will still be protected by the Bald and Golden Eagle Protection Act, Lacey Act and the Migratory Bird Treaty Act. As a result, starting on August 8, 2007, if your project may cause "disturbance" to the bald eagle, please consult the "National Bald Eagle Management Guidelines" dated May 2007.

If any planned or ongoing activities cannot be conducted in compliance with the National Bald Eagle Management Guidelines (Eagle Management Guidelines), please contact the Chesapeake Bay Ecological Services Field Office at 410-573-4573 for technical assistance. The Eagle Management Guidelines can be found at:

<http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

In the future, if your project can not avoid disturbance to the bald eagle by complying with the Eagle Management Guidelines, you will be able to apply for a permit that authorizes the take of bald and golden eagles under the Bald and Golden Eagle Protection Act, generally where the take to be authorized is associated with otherwise lawful activities. This proposed permit process will not be available until the Service issues a final rule for the issuance of these take permits under the Bald and Golden Eagle Protection Act.

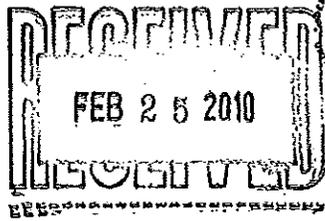
An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if alterations of wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Devin Ray at (410) 573-4531.

Sincerely,

A handwritten signature in black ink, appearing to read "Leopoldo Miranda". The signature is fluid and cursive, written over a light blue horizontal line.

Leopoldo Miranda
Field Supervisor



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

FEB 23 2010

Leyla E. Lange
Straughan Environmental Services, Inc.
9135 Guildford Road, Suite 100
Columbia, Maryland 21046-2579

Re: DC WASA Long Term CSO Control Plan – Anacostia River Projects

Dear Ms. Lange,

This is in response to your letter regarding the proposed Anacostia River Projects. According to your letter, under a Federal court-mandated consent decree, the District of Columbia Water and Sewer Authority (DC WASA) is planning and developing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) regarding the Anacostia River Projects (ARP). The ARP includes several miles of deep storage and conveyance tunnels and associated hydraulic facilities between the Blue Plains Advanced Wastewater Treatment Plant (Blue Plains) in Southwest DC to north of Rhode Island Avenue in Northwest DC. The stated purpose of the project is to capture and control overflows from the District's combined sewer system currently flowing into the Anacostia River during rain events and divert the flows to the Blue Plains facility. The lead Federal agency for the NEPA process was not identified in your letter. Your letter requested information regarding threatened or endangered species listed under the jurisdiction of NOAA's National Marine Fisheries Service (NMFS).

NMFS has reviewed the location maps provided with your letter. Based on these maps, it appears that work may take place in the Anacostia and Potomac rivers. Without a complete project description it is difficult to determine where effects of the project may be experienced. As such, this letter provides information on the listed species found in the Anacostia and Potomac rivers as well as in the mainstem of the Chesapeake Bay, given that it is possible effects in the rivers may ultimately affect the Bay. Information is also provided on candidate



species that occur in these areas.

NMFS Listed Species

The federally endangered shortnose sturgeon (*Acipenser brevirostrum*) is known to be present in the Chesapeake Bay and has been documented in the Potomac River. Through March 2008, the incidental capture of 73 individual shortnose sturgeon in Maryland waters of the Chesapeake Bay has been reported via the Fish and Wildlife Service's Atlantic Sturgeon reward program. Two fish were recaptured within one to two weeks of their initial capture date (February 1999 in the mainstem of the Bay and then in the Sassafras River and May/June 2000 in the mainstem of the Bay). All of these fish were captured alive in either commercial or recreational fisheries.

Most of the shortnose sturgeon documented in the reward program have been caught in the upper Bay, from Kent Island to the mouth of the Susquehanna River and the C&D Canal, in Fishing Bay and around Hoopers Island in the middle Bay, and in the Potomac River (Litwiler 2001, Skjeveland et al. 2000; Welsh et al, 2002). Twelve shortnose sturgeon have been captured in the Potomac River since 1996. The eleven shortnose sturgeon captured in the Potomac River and reported via the FWS reward program were documented in the following locations: six at the mouth of the river (May 3, 2000, March 26, 2001, two on March 8, 2002, December 10, 2004, May 22, 2005); one at the mouth of the Saint Mary's River (April 21, 1998); one at the mouth of Potomac Creek (May 17, 1996); one at rkm 63 (March 22, 2006); one at rkm 57 (Cobb Bar; December 23, 2007); and, one at rkm 48 (March 14, 2008). Additionally, 1 adult female was captured by USGS researchers within the Potomac River (at rkm 103) in September 2005.

An ongoing tagging and telemetry study of shortnose sturgeon in the Potomac River began in 2004 (Kynard 2007). Three shortnose sturgeon (the 9/22/05, 3/22/06 and 3/14/08 fish mentioned above) have been tagged with CART tags (Combined Acoustic and Radio Transmitting). While the sex and reproductive status of the 2008 fish is unknown, the 2005 and 2006 fish were both females with late stage eggs. Tracking has demonstrated that the two females spent the majority of the year in a 79-km reach between river km 141–63. The female tagged in 2005 migrated upstream in April 2006 and again in April 2009 to a 2-km reach (river km 187–185) containing habitat determined to be suitable for spawning (Kynard et al. 2007). Water temperatures during the time the fish was on the presumed spawning grounds were suitable for spawning. The fish tagged in 2008 has not been detected by the telemetry array that is within the Potomac River. This suggests that the fish either shed the tag or that the fish has left the Potomac River. Information available to date indicates that the 2005 and 2006 fish have remained within the Potomac River since they were tagged, with both fish overwintering in the Potomac River near Mattawoman Creek. As noted above, one of the females was documented at the presumed spawning grounds near Little Falls in the spring of 2006 and again in the spring of 2009. The occurrence of pre-spawning females in the Potomac River as well as movements consistent with spawning migrations suggests that a spawning population of shortnose sturgeon continues to exist in this river system.

While an extensive study of shortnose sturgeon in the Potomac River has not been conducted, the data resulting from the tracking of the two females by Kynard et al. (2007) provides valuable information on habitat use and the likely distribution of the species within the River. The two tracked fish have been concentrated in a 102 km stretch of the river, from rkm 187 (Chain Bridge) to rkm 85 (just downstream of the confluence with the Port Tobacco River). The researchers also indicate that not much change would be expected in the size of the foraging-overwintering concentration area even with a larger sample size of tracked adults. The type of habitat used did not change based on season, with the majority of time spent in the channel or channel edge, with very few excursions to shoal habitat. The range of water depth used was 7.0 – 21.3 meters. The limited use of areas outside of the deep water channel is likely due to the lack of forage items in those habitats, which is supported by evidence of limited shortnose sturgeon forage items in the River (Kynard et al. 2007). As shortnose sturgeon use similar habitats throughout their range, it is possible to make some conclusions regarding the likelihood of shortnose sturgeon to occur in a particular location. Shortnose sturgeon are typically found in the deepest areas (i.e., greater than 3 meters) with suitable dissolved oxygen (i.e., greater than 5 parts per million); often this type of habitat occurs in deepwater navigation channels. While foraging, shortnose sturgeon can also be found in shallower water over mudflats of shellfish beds. During the winter or during the summer while seeking out thermal refugia, shortnose sturgeon are known to occur in deep holes. These assumptions regarding shortnose sturgeon distribution are well supported by the Kynard et al. (2007) study as they found that shortnose sturgeon were largely restricted to the deep water channel as forage items in shallower areas were limited.

To date, no shortnose sturgeon have been documented in the Anacostia River. However, based on new information on shortnose sturgeon use of other river systems, it is possible that shortnose sturgeon in the Potomac River enter the Anacostia River. Habitat in the Anacostia River is currently degraded so the likelihood of shortnose sturgeon residing in this river is low. However, we cannot rule out the presence of transient shortnose sturgeon in at least the lower part of the Anacostia River.

Several species of listed sea turtles are known to be present in the Chesapeake Bay. Endangered leatherback (*Dermochelys coriacea*), Kemp's ridley (*Lepidochelys kempi*), and green sea turtles (*Chelonia mydas*) and threatened loggerhead (*Caretta caretta*) sea turtles are present in the Chesapeake Bay during the warmer months, typically when water temperatures are greater than 11°C, between mid-April and late November. Sea turtles have been occasionally documented in the Potomac River but are not thought to occur upstream of Ragged Point, Virginia. No sea turtles are expected to occur in the Anacostia River.

Listed whales, including endangered North Atlantic right whales (*Eubalaena glacialis*) and humpback whales (*Megaptera novaeangliae*) are occasionally documented near the mouth of the Chesapeake Bay; however, these occurrences are generally rare and limited to the November 1 – April 30 time frame.

Section 7(a)(2) of the Endangered Species Act (ESA) of 1973, as amended, states that each Federal agency shall, in consultation with the Secretary, insure that any action they authorize,

fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Any federal action in which there is discretionary federal involvement or control and that may affect a listed species must undergo Section 7 consultation. In addition, ESA Section 7(c) requires a Biological Assessment for major construction activities (see also 50CFR 402.02 and 402.12). Based on the limited information we have received to date on the construction project, it appears at this time that the project may affect at least shortnose sturgeon.

Technical Assistance for Candidate Species

Candidate species are those petitioned species that are actively being considered for listing as endangered or threatened under the ESA, as well as those species for which NMFS has initiated an ESA status review that it has announced in the *Federal Register*.

Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) occur in the Chesapeake Bay and are known to occur in the Potomac River. No information is currently available on the use of the Anacostia River by Atlantic sturgeon. In 2006, NMFS initiated a status review for Atlantic sturgeon to determine if listing as threatened or endangered under the ESA is warranted. The Status Review Report was published on February 23, 2007. NMFS is currently considering the information presented in the Status Review Report to determine if any listing action pursuant to the ESA is warranted at this time. If it is determined that listing is warranted, a final rule listing the species could be published within a year from the date of publication of the listing determination or proposed rule. Currently, NMFS expects to publish a finding as to whether any listing action is appropriate by the Fall of 2010. As a candidate species, Atlantic sturgeon receive no substantive or procedural protection under the ESA; however, NMFS recommends that project proponents consider implementing conservation actions to limit the potential for adverse effects on Atlantic sturgeon from any proposed project. Please note that once a species is proposed for listing the conference provisions of the ESA apply (see 50 CFR 402.10). As the listing status for this species may change, NMFS recommends that DC WASA obtain updated status information from NMFS prior to the completion of the EA.

As you may know, NMFS is currently engaged in an ESA Section 7 consultation with the US EPA regarding the reissuance of a National Pollutant Discharge Elimination System (NPDES) permit for the Blue Plains facility. As the proposed Anacostia River Projects are related to the Blue Plains facility, some of the information developed during this consultation may be informative to the environmental documentation being completed for the ARP. Additionally, NMFS has received a request for information from ABCOM in support of DC WASA's preparation of an EA for construction of enhanced nitrogen removal facilities at Blue Plains. It is unclear to NMFS how the Anacostia River Projects and the nitrogen removal facility projects are related and whether separate NEPA documents are being prepared. It is also unclear as to which Federal agency (i.e., EPA and/or US Army Corps of Engineers) is the lead under NEPA.

We encourage Straughan Environmental Services and DC WASA to work with NMFS as project plans become more developed to identify and evaluate the potential for impacts to all of the species under NMFS' jurisdiction as well as their habitat. Informal discussions can greatly

facilitate any required consultation and/or conference. Thank you for the opportunity to provide information for the development of the EA. Should you have any questions regarding these comments, please contact Julie Crocker of my staff at (978)282-8480 or Julie.Crocker@Noaa.gov.

Sincerely,



Mary A. Colligan
Assistant Regional Administrator
for Protected Resources

File Code: Sec 7 technical assistance 2010 – Blue Plains DC WASA ARP
PCTS: T/NER/2009/07199



**STRAUGHAN
ENVIRONMENTAL
SERVICES, INC.**

October 15, 2009

Ms. Julie Crocker
National Marine Fisheries Service
Protected Resources Division
NOAA Fisheries Service, NER
55 Great Republic Drive
Glouster, MA 01930

RE: DC WASA Long Term CSO Control Plan
Anacostia River Projects
Environmental Assessment

Dear Ms. Crocker:

Under a Federal Court mandated Consent Decree, the District of Columbia Water and Sewer Authority (DC WASA) is planning and developing an Environmental Assessment (EA) to document the environmental effects of the Anacostia River Projects (ARP). The ARP include several miles of deep storage and conveyance tunnels and associated hydraulic facilities between the Blue Plains Advanced Wastewater Treatment Plant (BPAWTP) in Southwest D.C. to north of Rhode Island Avenue in Northwest DC. The purpose of the project is to capture and control overflows from the District's combined sewer system currently flowing into the Anacostia River during rain events and divert the flows to the BPAWTP. This project is being conducted in accordance with an established milestone schedule under the Consent Decree.

DC WASA has retained the services of a team led by Greeley and Hansen/Jacobs Associates to managed the design and implementation of the project and document its effects in accordance with the National Environmental Protection Act (NEPA). Straughan Environmental Services, Inc. (SES) is a part of the team working to prepare the EA for the above referenced project. The EA will focus on a preferred alternative, as shown on the attached figure.

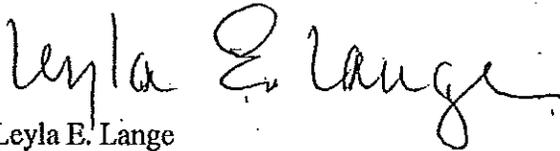
To assist us with the preparation of a NEPA determination, we are requesting information from your office regarding flora and fauna species within the project site that are federally-listed rare, threatened, or endangered.

9135 GUILFORD ROAD, SUITE 100
COLUMBIA, MARYLAND 21046-2579
301.362.9200 FAX 301.362.9245

Ms. Julie Crocker
October 15, 2009

A site vicinity map, which illustrates the preferred alternative, is attached for your reference. Also attached are figures illustrating areas of potential disturbance to the Potomac and Anacostia Rivers associated with reconstruction of overflow facilities. If you have any questions regarding this request please call (301) 362-9200.

Sincerely,
STRAUGHAN ENVIRONMENTAL SERVICES, INC.

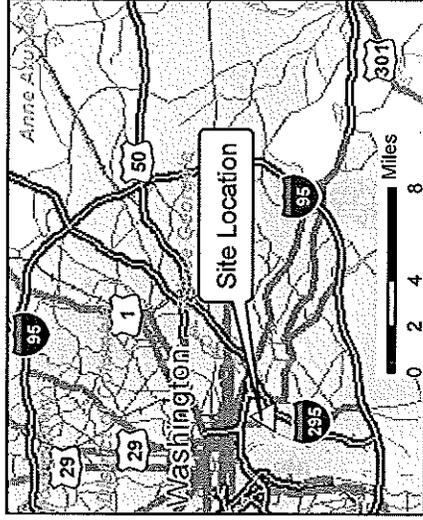


Leyla E. Lange
Senior Environmental Scientist

Attachment

cc: Tim Harvey, (SES)
Donal Barron, (Greeley and Hansen)
David Campbell, (Greeley and Hansen)

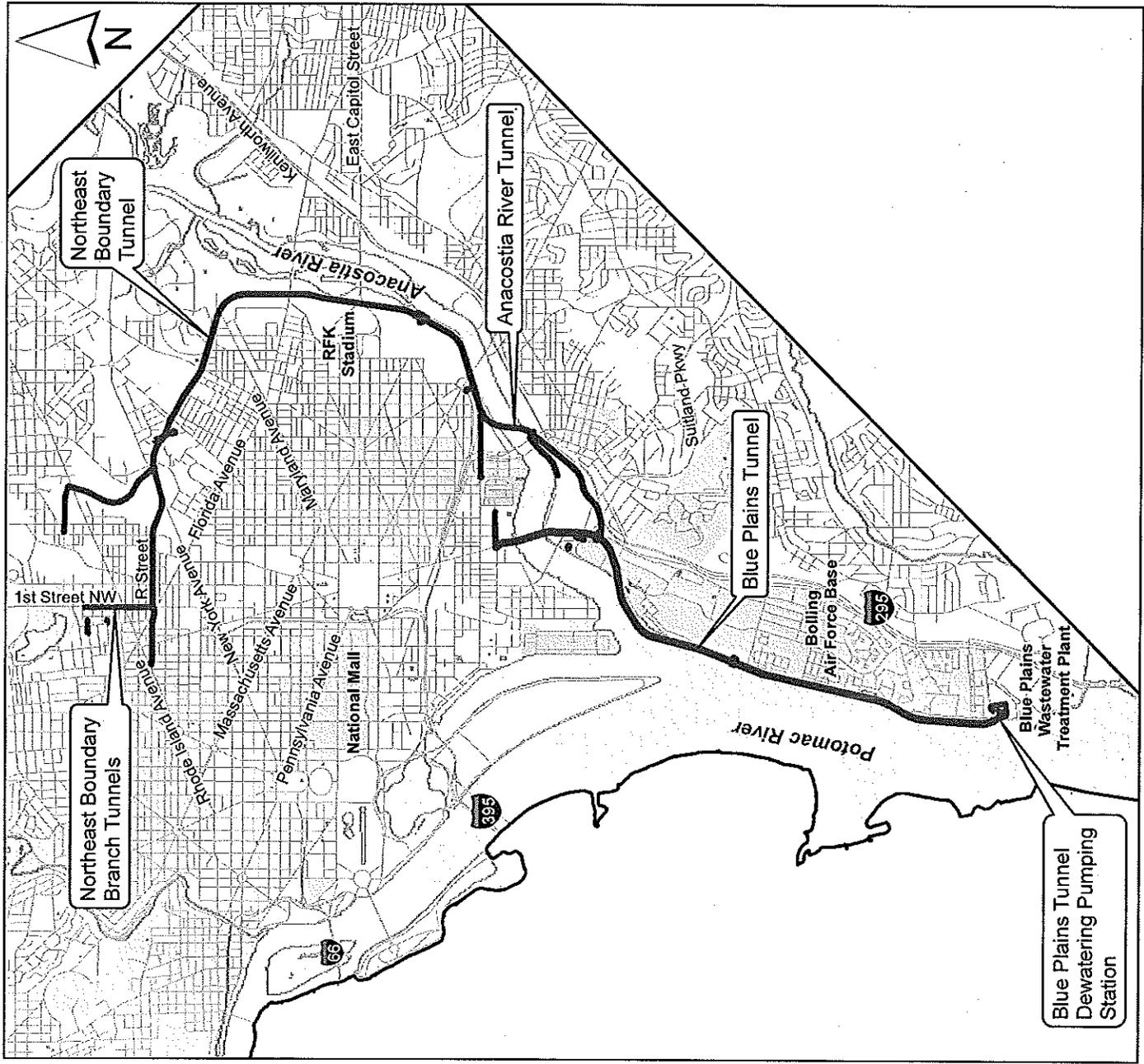
Figure 1:
Anacostia River Projects

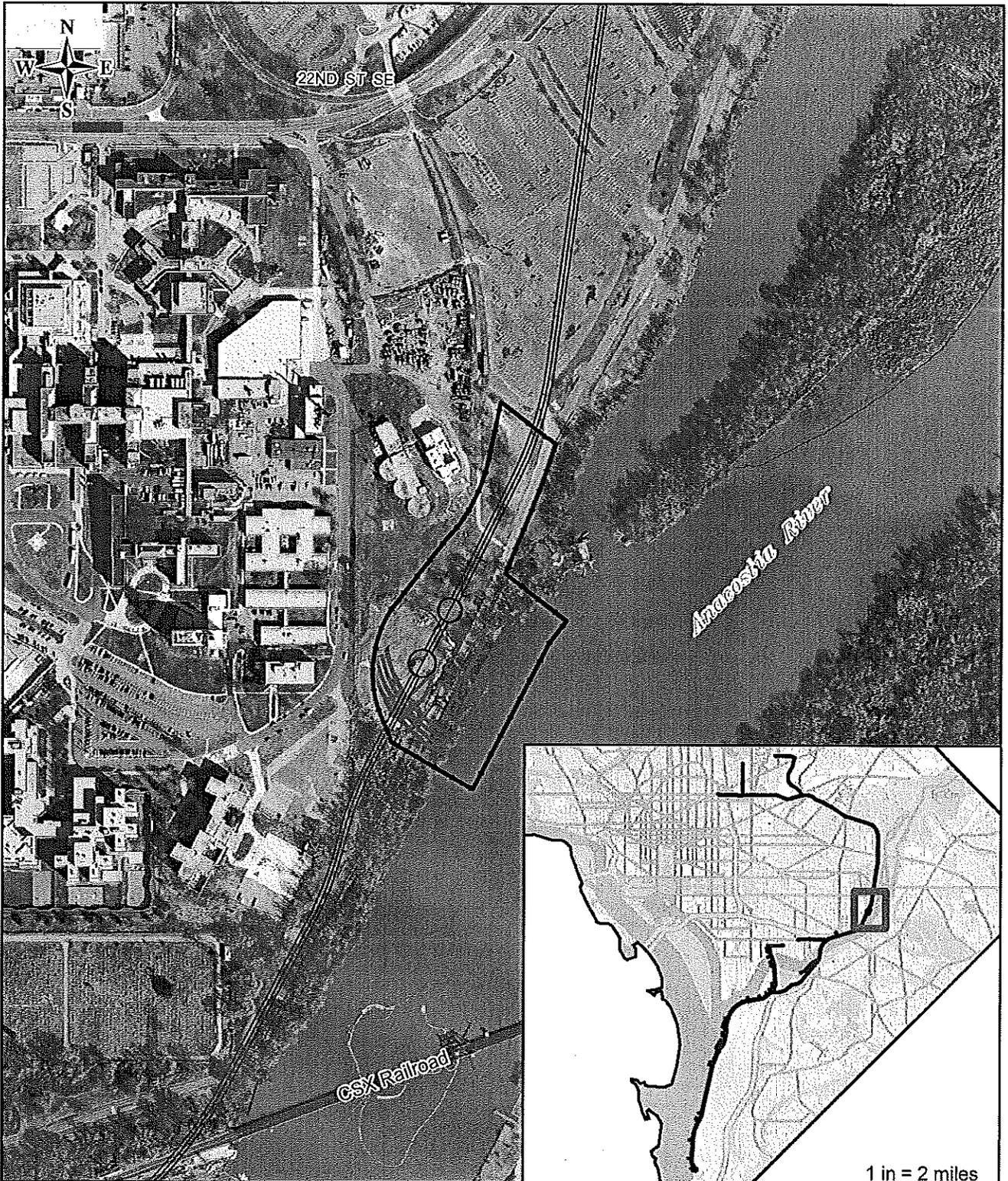


- Legend:**
- Contract Divisions
 - Road
 - Water
 - Parks & Forests
 - Historic District
 - Military Base

Scale: 1 in = 6,000 feet

Source: District Department of Transportation, 2009. Street Centerlines, Sidewalks, Buildings, Parks. Washington, DC.





Contract Division C
Washington, DC

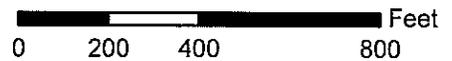


SERVING THE PUBLIC
PROTECTING THE ENVIRONMENT

Legend:

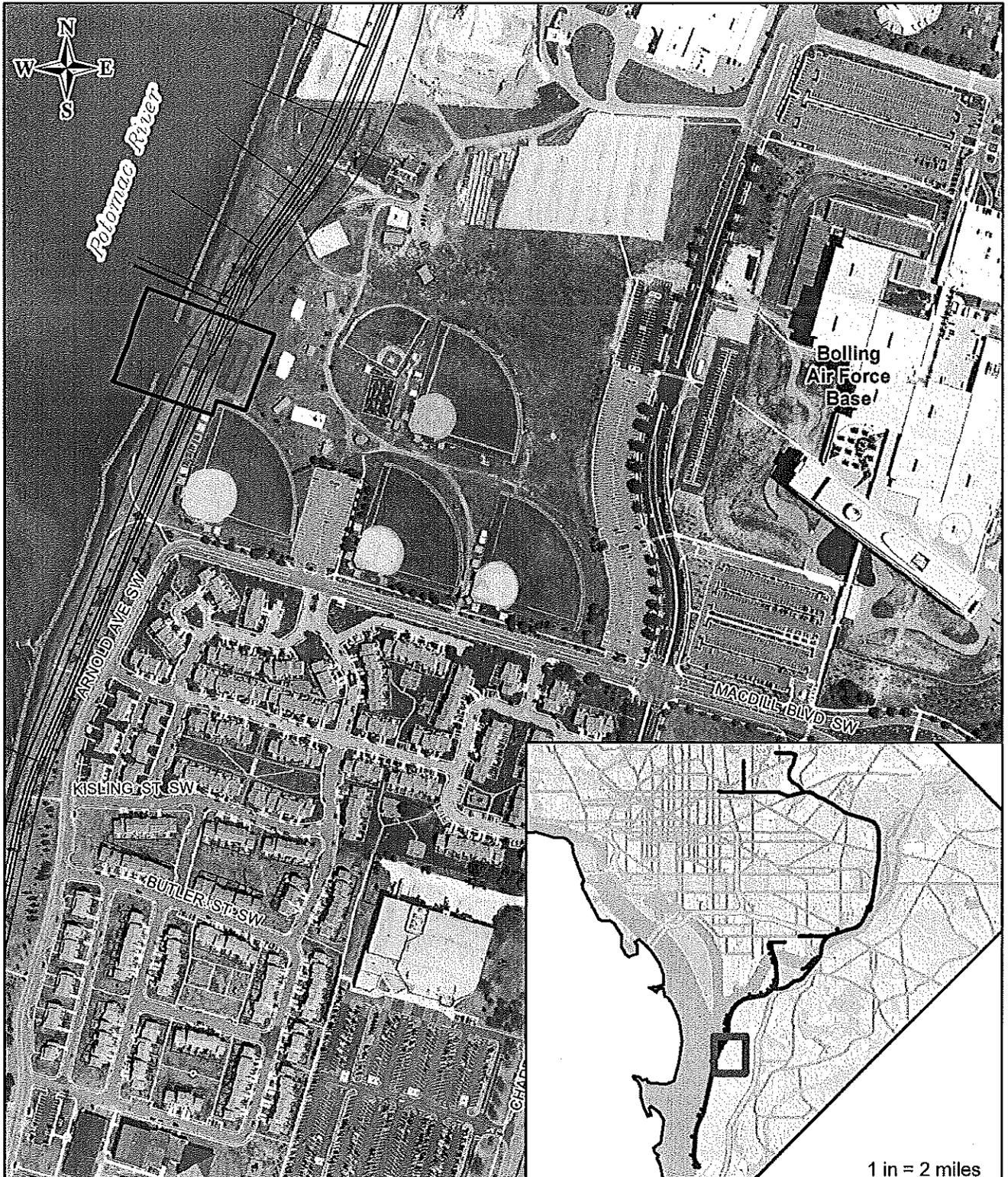
-  Contract Division C
-  Study Area
-  Anacostia River Tunnel

Scale: 1 inch = 400 feet



1 in = 2 miles

Source: Natural Resources Conservation Service. 2002. Soil Survey Geographic Database (SSURGO). Washington, DC.



Source: Natural Resources Conservation Service. 2002. Soil Survey Geographic Database (SSURGO). Washington, DC.

District of Columbia
Wildlife Action Plan

2006

GOVERNMENT OF THE DISTRICT OF COLUMBIA
Department of the Environment
Fisheries and Wildlife Division
51 N Street, N.E., 5th floor
Washington, DC 20002

DISTRICT OF COLUMBIA 'S WILDLIFE ACTION PLAN

Prepared by Mary Pfaffko, Wildlife Biologist and the Internal Group of the Fisheries and Wildlife Division, under the supervision of Ira Palmer, Program Manager (1987-2005) Fisheries and Wildlife Division.

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The District of Columbia's Fisheries and Wildlife Division would like to acknowledge and thank all of the individuals, groups, agencies and organizations that contributed to the development and writing of the District of Columbia's Wildlife Action Plan (WAP).

The Internal Group, composed of key staff from the District's Fisheries and Wildlife Division, included Basil Buchanan, Michael Kaspar, Dhananjaya Katju, Ira Palmer, Mary Pfaffko, Jon Siemien, and Sylvia Whitworth. In addition to being very small, the Fisheries and Wildlife Division has only been officially managing the District's wildlife resources for less than five years. In this short period of time, the staff has learned a tremendous amount about the District's wildlife resources, which has helped in the development of this WAP. The staff's dedication and hard work has made the difference in what seemed like an enormous task for such a young organization as the Fisheries and Wildlife Division. My deep appreciation and thanks goes out for a job well done.

Special thanks go to Mary Pfaffko, a Wildlife Biologist with the District's Fisheries and Wildlife Division, who did a yeoman's work in leading the effort to write the WAP and even more for her unswerving spirit that helped the Internal Group keep focused and on task.

The Working Group, composed of District and federal agencies, conservation organizations and other interested parties, was essential in the development of the District's WAP and the future of the District's wildlife resources. The members of the Working Group were committed to meeting faithfully on a bi-weekly basis for nearly a year. Their wealth of knowledge in the area of wildlife biology and ecology, along with their expertise and experience with the District's flora and fauna was invaluable. The Working Group included: Scott Bates, Shawn Carter, Ken Ferebee, Marcus Koenen, James Rosenstock, and Susan Rudy, National Capital Region, National Park Service; Deanna Dawson, Richard Hammerschlag, and Mary Paul, Patuxent Wildlife Research Center, US Geological Survey; Dan Murphy, US Fish and Wildlife Service; Susan Greeley, US National Arboretum, US Department of Agriculture; Doug Samson, the Nature Conservancy; Dave Curson, Maryland-DC Chapter, National Audubon Society; and Jeff Lerner, Defenders of Wildlife.

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Executive Summary

The District of Columbia is unique in so many ways. It is the nation's capital and the only totally urban jurisdiction in the country required by federal law to manage its fisheries and wildlife resources. Management of fisheries and wildlife resources is usually a state function. However, not being part of another state, the District must function as a state in this regard. In the District government, the Fisheries and Wildlife Division is the responsible entity for managing wildlife.

The mission of the DC Fisheries and Wildlife Division (the Division) is to determine the status of the fisheries and wildlife resources found within the District, ascertain how they interact, and actively manage the resources so that they can endure, through protection, conservation and education. The vision of the Division is to fully maximize the functioning of the terrestrial and aquatic ecosystems within the District through adaptive management based on sound research. The Division works to understand the interrelationships of the local wildlife and humans in the urban environment. These resources consist of both resident species, which complete their life cycles within the District, and migratory species, which spend only a part of their life within the District's jurisdiction.

The DC Fisheries and Wildlife Division takes great pride in the fact that it is one of the 56 jurisdictions required to complete a Wildlife Action Plan (WAP). The Division definitely sees itself as the new kid on the block in the area of wildlife management, only formally managing the District's wildlife resources for about five years. We know we have much to learn regarding wildlife management and how to apply it to a small land area that is predominantly urban.

It has been only through the State Wildlife Grants (SWG) Program that the District has been able to even begin to implement a comprehensive survey for wildlife. Using SWG Program funds appropriated to the District, the Division is now in the fourth year of a citywide bird survey that includes both the resident and migratory species. The SWG Program has also enabled the Division to implement the first-ever comprehensive citywide survey of mammals, reptiles, amphibians and invertebrates.

Through the development of the District's WAP document, the DC Fisheries and Wildlife Division has gathered a wealth of information about the District's wildlife resources. Although we have learned a lot about the wildlife in the District, it is very clear that there is so much more we need to learn. While the District is a very small geographic area, only 69 square miles, a tremendous amount of preliminary information that tells us that the District is home to over 500 species of birds, fish, mammals, reptiles and amphibians. Furthermore, it is too early to even estimate a number for invertebrates, for which we have only scratched the surface on what we believe to be in the thousands. While all of these species of wildlife in the District need some degree of conservation, for the purpose of this WAP, we have focused on those of greatest conservation need.

Introduction

This introduction provides the background, purpose and scope of the WAP for the District of Columbia. It describes the goals, approach, value, legislative mandate and guidance, background on the DC Fisheries and Wildlife Division, problem and need, threats to wildlife in the District, existing conservation legislation in the District, and the list of partners that contributed to the development of this WAP.

Goals, Approach & Value

Goals include:

- o Identifying species of greatest conservation need and their habitats in order to develop and implement conservation actions targeted to those species
- o Improving the understanding of species in order to enhance the ability to make management decisions
- o Conserving and enhancing priority habitats
- o Fostering partnerships among conservation agencies and organizations
- o Generating interest and participation in wildlife conservation among the general public, students, and youth through education and outreach
- o Strengthening existing conservation actions and regulations

In accomplishing these goals, the DC Fisheries and Wildlife Division staff uses this **approach**:

- o Use the best information available to identify species of greatest conservation need and their priority habitats
- o Protect species of greatest conservation need by conserving their habitats
- o Identify critical knowledge gaps and future data needs as well as identify the agencies and organizations most capable of helping fill those gaps and needs
- o Address the local concerns that affect the larger surrounding region with which the District shares habitats and migratory paths
- o Monitor progress and revise the Plan to account for changing conservation needs over time
- o Develop invaluable partnerships that combine the expertise of the District's most experienced land managers with the concerns of environmental groups and the interest of the District's residents

The **value** of this Plan includes, but is not limited to:

- o Developing the first nationwide effort for wildlife conservation
- o Developing a District-wide conservation plan which incorporates the expertise of all conservation agencies and organizations as well as the public
- o Saving species from becoming endangered

- o Saving tax dollars from being used to restore populations of species listed by the Endangered Species Act
- o Ensure implementation of the WAP for at least 10 years by matching federal funds
- o Protecting species that have not traditionally received federal funds, such as non-game wildlife species
- o Providing new guidance to conservation agencies in implementing the most efficient technologies and allocating manpower, funds and other resources
- o Providing new ways for nongovernmental conservation organizations to collaborate with governmental agencies and affect conservation policy
- o Growing interest and participation in conservation among the District's residents and youth
- o Fostering an environment that flourishes with fish and wildlife for nature enthusiasts, such as birdwatchers, boaters and fishermen
- o Bringing together conservationists across the country as partners in protecting the nation's natural treasures

Legislative Mandate and Guidance

Financial support at the District level for wildlife conservation is critical, but conservation governance at the national level is also necessary. In 2001, Congress addressed this need and developed new conservation funding legislation called:

- o Wildlife Conservation and Restoration Program, and
- o State Wildlife Grants (SWG) Program.

The Wildlife Conservation and Restoration Program was created by the Commerce, Justice and State Appropriations Act of FY 2001, Title IX, Public Law 106-553. This act provided one year of appropriations for fish and wildlife conservation for the development of the WAP for all states and the District of Columbia.

The State Wildlife Grants (SWG) Program was created by the Department of the Interior and Related Agencies Appropriations Act of 2002, Title I, Public Law 107-63. The program was developed with support from Teaming with Wildlife, a bipartisan coalition working to increase state funding for wildlife conservation. This program provides funding aimed at preventing wildlife population declines and keeping common species common. The funds are intended to work in conjunction with other funding sources, not to replace existing programs, and are only a small portion of the funding that is actually required to implement the WAP conservation actions. The other necessary funds will be matched by partners.

As congressionally mandated by this program, each state and the District of Columbia were required to submit a WAP to the US Fish and Wildlife Service by October 2005. These strategies provide an essential foundation for the future of wildlife conservation and a stimulus to engage the states, federal agencies and other conservation partners to

think strategically about their individual and coordinated roles in prioritizing conservation efforts.

These programs were designed to provide annual allocations for the development and implementation of programs to benefit wildlife and their habitats. The funding was intended to supplement, not duplicate, existing fish and wildlife programs, and to target species of greatest need of conservation, species indicative of the diversity and health of the state's wildlife, and species with low and declining populations, as deemed appropriate by the state's fish and wildlife agency.

These plans must incorporate these **8 required elements** :

1. Information on the distribution and abundance of species of wildlife, including low and declining populations as the State fish and wildlife agency deems appropriate, that are indicative of the diversity and health of the State's wildlife;
2. Descriptions of locations and relative condition of key habitats and community types essential to conservation of species identified in (1);
3. Descriptions of problems which may adversely affect species identified in (1) or their habitats, and priority research and survey efforts needed to identify factors which may assist in restoration and improved conservation of these species and habitats;
4. Descriptions of conservation actions proposed to conserve the identified species and habitats, and priorities for implementing such actions;
5. Proposed plans for monitoring species identified in (1) and their habitats, for monitoring the effectiveness of the conservation actions proposed in (4), and for adapting these conservation actions to respond appropriately to new information or changing conditions;
6. Descriptions of procedures to review the Plan at intervals not to exceed ten years;
7. Plans for coordinating the development, implementation, review and the revision of the plan with Federal, State and local agencies and Indian tribes that manage significant land and water areas within the State or administer programs that significantly affect the conservation of identified species and habitats;
8. Congress also affirmed through this legislation that broad public participation is an essential element of developing and implementing these plans, the projects that are carried out while these plans are developed, and the Species in Greatest Need of Conservation that Congress has indicated such programs and projects are intended to emphasize.

The Association of Fish and Wildlife Agencies (AFWA) and the US Fish and Wildlife Service (USFWS) established **guiding principles** to supplement the 8 required elements (IAFWA 2002). These guiding principles provide recommendations across four topics that help improve and strengthen the WAP development and revision process. The District used these principles to guide the development of the WAP. They include:

Planning Process and Partnerships

- a. Involve multiple staff levels within each agency, and broad public-private partnerships, to develop and implement the Plan-Strategy.
- b. Involve partners that have the authorities necessary to ensure that the Plan-Strategy addresses the full range of issues at hand.
- c. Build capacity for cooperative engagement among all partners in the effort, and make sure that it is productive, so trust and confidence grow, and organizational and interpersonal relationships become strengths of the Plan-Strategy.
- d. Share responsibility and credit for planning and implementation among all partners, who collectively share responsibility for success of the Plan-Strategy.
- e. Focus on efficiency and effectiveness, so the value added in planning and implementation is commensurate to the funds invested.
- f. Ensure that the planning processes and the resultant Plans-Strategies are dynamic so they can be improved and updated efficiently as new information is gained.
- g. Communicate effectively with stakeholders, other partners, and the public, early and often.
- h. The planning processes, and the decisions made during planning, should be obvious to those who read and use the Plan-Strategy, and repeatable – document the processes and the decisions so the next planning cycle can build on this one.

Focus and Scope

- a. Base the Plan-Strategy in the principles of “best science,” “best management practices,” and “adaptive management,” with measurable goals, objectives, strategies, approaches, and activities that are complete, realistic, feasible, logical, and achievable. Describe these processes and practices sufficiently that partners understand what they entail and how they should function.
- b. Address the broad range of wildlife and associated habitats, with appropriate priority placed on those species of greatest conservation need and taking into account the relative level of funding available for conservation of those species
- c. Integrate and address wildlife-related issues statewide, across jurisdictions and interests, and coordinate with parallel efforts in other States and countries.
- d. Combine landscape/ecosystem/habitat-based approaches and smaller-scale approaches (e.g. focal, keystone, and/or indicator species; guilds; species of special concern) for planning and implementation.
- e. Make the Plan-Strategy an effective, long-lasting blueprint for conservation that provides a broad vision and priorities, so a broad array of organizations, including other government agencies and NGOs, can help realize the vision. The

Plan-Strategy should have sufficient flexibility to respond to the full spectrum of conditions and circumstances likely to be encountered within the planning area.

Format and Content

- a. Make the Plan-Strategy readable, understandable, and useful, with well-defined issues, short and long-term goals and objectives, strategies, and realistic measures of performance that enable State agencies and their partners to demonstrate accountability.
- b. Make full and effective use of relevant existing information; in particular, integrate appropriate elements of other plans and initiatives (such as Partners-in-Flight and the many regional and other plans), databases, GIS layers, records, reports, other information sources, and management information systems that overlap or complement these Plans-Strategies.
- c. Identify knowledge gaps, as well as areas of knowledge, to help focus future efforts to improve understanding and planning, but do not allow a lack of information to inappropriately limit necessary short-term application of the best available science and good judgment in decision-making.
- d. Make the Plan-Strategy spatially explicit, to the extent feasible and appropriate, with a full complement of GIS and other maps, figures, and other graphics, as well as appropriate text to provide sufficient detail and consistency in describing species and habitat conditions, conservation needs, conservation recommendations, and other issues/actions, so it can be used effectively by all partners.
- e. Use “threats analyses,” “risk and stressor assessments,” and other techniques to help set priorities for goals, objectives, strategies, and activities.
- f. In addition to wildlife, address factors that can have substantial impact on wildlife conservation, such as management of invasive species, wildlife-related and conservation-related education, law enforcement, and outdoor recreation.
- g. Include a comprehensive glossary, so partners and the public have a shared and common understanding of key terms used in the Plan-Strategy.
- h. Develop an updatable information system to monitor Plan-Strategy implementation and the status and trends of wildlife and habitat.
- i. Consider wildlife conservation-related education and wildlife-associated recreation as tools that can help accomplishing conservation goals.

Completion, Outcomes and Availability

- a. Provide annual written progress updates on the planning effort and progress to AFWA's CARA Implementation Committee each September, in addition to annual performance reports that must be submitted to the U.S. Fish and Wildlife Service pursuant to Federal Aid guidelines.
- b. Ensure that the Plan-Strategy clearly and definitively meets State obligations to Congress under the WCRP and SWG legislation, and to the U.S. Fish and Wildlife Service with regard to Federal Aid administration.

- c. Provide sufficient documentation in or with the Plan-Strategy to facilitate public understanding of the decisions that are made, how and why they were made.
- d. Make the Plan-Strategy a driving force in guiding activities under diverse wildlife and habitat conservation initiatives, and usable for helping to inform land-use decision-making.
- e. Make the Plan-Strategy readily available to the public in a variety of media.
- f. Provide a mechanism for reporting accomplishments and tracking progress so local partners are aware of both.
- g. Ensure that the Plan-Strategy can be implemented, i.e. that it is administratively and politically feasible, and that there are sufficient resources (funding and staff) among the partners to accomplish significant gains at a large scale, and within an appropriate time frame, to preserve our Nation's wildlife heritage.

Background on the DC Fisheries and Wildlife Division

The DC Fisheries and Wildlife Division was charged with developing and implementing the District's WAP. The primary responsibility for managing and protecting wildlife rests with the states and the District of Columbia (Musgrave et al. 1993).

The Division belongs to the District Department of the Environment. Currently, the Division is divided into three branches:

- o Fisheries Research Branch
- o Wildlife Research Branch
- o Aquatic Education Branch

The **Fisheries Research Branch** was implemented as a program in 1986. Its mission is to protect and enhance the District's fish populations and aquatic resources. The Branch conducts annual surveys to monitor populations of migratory and resident fish as well as assess water quality conditions and the state of aquatic habitats. This data is used to identify the conservation needs of the District's fish species and their habitats (Tilak and Siemien 1990-1997, Siemien 1998-2005).

Current research projects include:

- o Anadromous and resident fish surveys
- o Ichthyoplankton studies to determine the spawning success of both anadromous and resident fish species
- o Research to determine age and growth rate of fish
- o Monitoring and evaluation to assess and improve fish habitat
- o Monitoring to assess the yearly trends of the extent, density, and species composition of submerged aquatic vegetation
- o Restoration activities including a hatchery for American Shad, one of the District's most critical fish species of greatest conservation need
- o Angler surveys to determine who is fishing in the District

The **Wildlife Research Branch** was established in 2000 and began implementing the DC Natural Heritage Program in 2005. Its mission is to protect and enhance the District's wildlife species and their habitats.

Current research projects include:

- o Annual survey of migratory, resident and breeding bird species
- o Annual winter waterbird and shorebird survey
- o Annual reptile and amphibian survey

The purpose of these surveys is to build the foundation for developing an historical database from which population trends and conservation needs can be identified. Additional surveys are being implemented to include all wildlife taxa, including mammals, invertebrates and plants. A future research technique may include establishing a Monitoring Avian Productivity and Survivorship (MAPS) station within the District, which would determine the productivity and survivorship of breeding bird species. As part of this WAP, these surveys will be used to monitor the success of the WAP's conservation actions and revise the Plan, as necessary.

The **Aquatic Resources Education Branch** involves students and the general public in wildlife conservation. The Branch plays an integral role in fulfilling Required Element #8—public involvement in the development and implementation of the WAP.

Current projects include:

- o Residential Backyard Habitat Program
- o Schoolyard Habitat Program
- o Fishing clinics
- o Aquatic Resources Education Center (AREC)

The Residential Backyard Habitat Program educates the public to the mutual benefits of providing wildlife habitat in their own backyards. Fishing clinics provide hands-on instruction to the public on fishing techniques, while providing information on species and habitat ecology and generating interest in fish conservation. The AREC is a facility devoted to educating students and the public about the aquatic ecology of the Potomac and Anacostia Rivers (Whitworth 1998-2004). The AREC houses exhibits, displays, aquariums, and educational computer programs. In 2005, it also became the location of the American Shad hatchery.

Problem and Need

Sustaining a healthy environment among an urban area is one of the greatest conservation challenges of land managers, developers and policymakers within the District. The staff of the DC Fisheries and Wildlife Division aims to meet this need by developing and implementing the WAP. However, there are many challenges in terms of taking conservation actions, including research needs and building partnerships and public interest.

In response to these needs, the Division has taken the lead in building the partnerships that capture the expertise to fulfill the District's conservation goals. This has been made possible by the funds provided by the US Fish and Wildlife Service. Thus far, the Division established a Fisheries Research Branch that includes long-term planning and conservation efforts for the District's fish species and their habitats. Fifteen years of research on the District's fish species has helped enhance fish populations, water quality and public interest in fish and water conservation. However, 12 of the District's 90 fish species are species of greatest conservation need and many aquatic habitats are in dire condition. Because the Fisheries Research Branch provides most of the data used to develop fish conservation strategies, the continued financial support for this program will be critical for the success of the District's WAP.

The Wildlife Research Branch, on the other hand, has only been implemented since 2002. Therefore, at the time of writing this WAP, only three years of research have been conducted for bird species and none for other wildlife taxa. Many more years of research will be needed to be able to identify population trends and conservation needs for the District's 136 non-fish wildlife species of greatest conservation need. There are also significant knowledge and resource gaps in terms of research and conservation planning that must be addressed before the Branch can conduct this research. Furthermore, the District does not have jurisdiction over much of the priority land for conservation. Instead, priority habitats in the District span both local and federal land. Therefore, the Wildlife Research Branch has partnered with the National Park Service and other land management agencies, both federal and local, to develop and implement the District's WAP.

As mentioned, the Division staff has focused its research on fish and bird species at the time of writing this WAP because of funding limitations. It currently has very little information regarding other wildlife taxa. Therefore, many of the examples and explanations used in this document refer to bird and fish species. This is for no other reason than the Division has more extensive population and ecology information for the District's fish and bird species. The text in this document reflects the best knowledge available and does not intend to prioritize one taxon over another. Where the document lacks information on other wildlife taxa indicates the need for further research and exploration of those species.

Threats

Today, much of the District's land is urbanized and its habitats are fragmented, causing dire consequences for wildlife. Indeed, as a result, the District is home to 149 species of greatest conservation need. For example, the District is an important breeding location for the Cerulean Warbler, but has limited unfragmented hardwood forest to sustain them.

The conservation actions identified in the District's WAP are targeted at specific threats to habitats. Because the number and extent of the threats are constantly increasing, there

has never been a more important time to restore the District's natural heritage and there is no better tool to develop conservation strategies than with the funds from the State Wildlife Grant Program.

Major threats include invasive and alien species, recreation, fragmentation, dumping, contaminants, sedimentation, changes to hydrologic regimes, stormwater erosion, and pollution. Chapter 4 provides tables that prioritize all of the threats and their associated habitats, as well as provides descriptions of threats. Chapter 5 describes conservation actions targeted at threats to specific habitats.

Conservation Legislation and Partners

Existing Conservation Legislation

While the District has a long way to go in terms of wildlife conservation, there are already several pieces of legislation in place that serve to protect the District's wildlife. Below is a selection of existing conservation legislation.

- o State Wildlife Laws (Musgrave and Stein 1993)
 - State power to manage wildlife
 - DC wildlife policy and enforcement
 - Fishing licenses
- o DC Official Code (DC 2002)
 - Title 8—Environmental and Animal Control and Protection
 - Chapter 16—Criminal Offenses—Game and Fish Laws
- o Water Pollution Control Act of 1984
 - Chapter 15—No hunting, killing or taking of wildlife
 - Exceptions
- o Parks and Recreation Master Plan (DPR draft)
 - Framework for improving parks and recreational areas
 - Incorporating environmentally-friendly practices
- o Combined Sewer Overflow Control Plan (DC Water and Sewer Authority 2002)
 - Improvements to Blue Plains Wastewater Treatment Plant
- o DC Office of Planning
 - DC Comprehensive Plan (DC OP draft)
 - Chapter 4—Environmental Protection Element
 - Anacostia Waterfront Initiative (DC OP 2000)
 - Water quality
 - Shoreline restoration
 - Fishable and swimmable by 2020

- o Wetlands Act of 1972 (Partners in Flight 1999)
Federal protection for the Potomac River
- o Capper-Crampton Act (NPS 2003)
Establishment of parks in the National Capital Region

Key Conservation Partners

In response to the threats listed above, conservation agencies and organizations are taking action for the District's wildlife species of greatest conservation need. Partnerships with these agencies and organizations were and remain essential to both the development and implementation phases of this WAP. The varied jurisdictions of land among local and federal agencies required coordination among these entities in order to best conserve species of greatest conservation need all over the District. The synergy of expertise resulted in the best possible strategies for conservation actions. The following conservation agencies and organizations share the interest in conserving the District's wildlife species and their habitats and contributed to the planning process depending on their expertise.

Government agencies

DC Fisheries and Wildlife Division

The Division is taking the lead on developing and implementing the WAP. The mission of this Division is to protect and enhance the District's wildlife and habitats. The Fisheries Research Branch of this division has developed and implemented management plans for the fish species of the District that include population studies and water quality management. It supplied all of the data concerning fish species and habitat conservation for this WAP. The Wildlife Research Branch of this division is implementing a program to inventory and conserve bird species occurring in the District. The Aquatic Education Branch is involved in the public outreach and education portion of the WAP.

National Park Service

The mission of the National Park Service (NPS) is to preserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations (<http://www.nps.gov/legacy/mission.html>). NPS manages parks, monuments, cemeteries, and other natural and historic sites in the District. Both Rock Creek Park and National Capital Parks—East have been central the development of the WAP. They were the primary sources of species and habitat data, as well as helpful in editing and developing the selection processes. They are also currently developing the Canada Goose management plan that has been incorporated into the WAP. A strategy of this WAP is to fully implement their existing conservation actions. NPS will remain a close partner in the implementation and review phases of the WAP.

United States Geological Survey

The mission of the Patuxent Wildlife Research Center of the United States Geological Survey (USGS) is to excel in wildlife and natural resource science and provide the information needed to better manage the nation's biological resources (<http://www.pwrc.usgs.gov/aboutus/mission.cfm>). The Center was the primary source of data regarding the status of breeding birds in the District, as well as helpful in editing and developing the selection processes. It also participates in the Canada Goose management actions and will be important for the implementation phase of the WAP.

Maryland Department of Natural Resources

The mission of the Maryland Department of Natural Resources (MD DNR) is to preserve, protect, enhance and restore Maryland's natural resources for the wise use and enjoyment of all citizens (<http://www.dnr.state.md.us/mission.asp>). MD DNR is also responsible for developing the WAP for the state of Maryland. Because Maryland and the District share common habitats and regional priorities, the District coordinated with MD DNR in the development of the WAP to ensure consistency. As a result, Maryland and the District share many of the same criteria and Maryland's species of greatest conservation need were included in the species selection process of this WAP.

United States Fish and Wildlife Service

The mission of the US Fish and Wildlife Service (USFWS) is to work with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people (<http://www.fws.gov/mission.html>). USFWS provided guidance on the approach, format, and selection of species of the WAP.

United States Department of Agriculture

The mission of the Agricultural Research Service (ARS) is the main in-house scientific research agency of the US Department of Agriculture (USDA) (<http://www.ars.usda.gov/main/main.htm>). Part of their plant research efforts comes from the National Arboretum (USNA). The USNA was created in 1927 by an Act of Congress and placed under USDA. The National Arboretum provided data on threats to habitats and a strategy of this WAP is to fully implement their existing and future conservation actions.

Nongovernmental partners

Natural Heritage Program

The National Heritage Program (NHP) inventories, catalogues and facilitates protection of rare and outstanding elements of the natural diversity of the United States. The plant and animal species identified by the NHP are species that merit conservation action and thus their ratings were included in our criteria for selection species of greatest conservation need. The NHP also provided much of the data

regarding the listing of all species occurring within the District. DC Fisheries and Wildlife houses the NHP of the District and will carry out its mission in accordance with the WAP.

The Nature Conservancy

The mission of the Nature Conservancy (TNC) is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive (<http://nature.org/>). TNC provided guidance on the approach and format of the WAP.

Maryland-DC Audubon

The mission of the National Audubon Society is to conserve and restore natural ecosystems, focusing on birds, other wildlife and their habitats for the benefit of humanity and earth's biological diversity. MD-DC Audubon was a key partner in developing criteria for determining species of greatest conservation need and key habitat types.

DC Audubon

DC Audubon provided habitat data for bird species and helped in the public outreach portion of the WAP by informing its members of the public review meetings.

Association of Fish and Wildlife Agencies

The Association of Fish and Wildlife Agencies (AFWA) represents the government agencies for North America's fish and wildlife resources. AFWA applies expertise in science, policy, economics and coalition-building to serve its members as a national and international voice on a broad array of wildlife and conservation issues. AFWA was key to organizing this nation-wide effort by, among other activities, holding training workshops for the developers of WAPs and coordinating the effort across the nation.

Defenders of Wildlife

The mission of Defenders of Wildlife is to dedicate themselves to the protection of all native wild animals and plants in their natural communities (<http://www.defenders.org/about/>). Defenders of Wildlife provided guidance on the approach and format of the WAP.

Academic partners

Howard University

A Howard University professor provided data on the status of amphibian species of conservation need.

Overview

The overview explains how the 8 Required Elements were met and serves as a guide to locating the Elements within the Wildlife Action Plan (WAP). The first part describes in detail the organization and format of the WAP to help navigate the document. The second part is a road map to the 8 Required Elements, including page numbers.

Organization and Format of the Wildlife Action Plan (WAP)

The District's WAP is the blueprint for a plan of action for restoring the District's wildlife heritage. Its organization is based on incorporating the 8 elements required by Congress. First, it illustrates the District's existing wildlife and habitats and their conservation needs. Then, it describes plans for action and monitoring based on those needs.

Introduction. The Introduction provides the background, purpose and scope of the WAP. It describes the goals, approach, value, legislative mandate and guidance, background on the DC Fisheries and Wildlife Division, problem and need, threats to wildlife in the District, existing conservation legislation in the District, and the list of partners that contributed to the development of this WAP.

Chapter 1 – Approach. The Approach describes the process used to develop the WAP and meet the 8 Required Elements. It includes the timeline of events, including meetings with working groups and the public. It describes the processes used to select and rank the species, habitats and threats that are targeted by this WAP. Finally, it describes programmatic challenges that must be met to successfully implement this plan.

Chapter 2 - District Overview. The District Overview briefly illustrates the current geography of the District. It describes the District's two ecoregions and land use and cover. It also places the District in the context of the mid-Atlantic region.

Chapter 3 - Species of Greatest Conservation Need and their Habitats. This chapter describes the condition of the District's species of greatest conservation need and their habitats, as required by Elements #1 and 2. It lists and gives the status and trend of the District's 148 species of greatest conservation need and 13 priority habitat types. It also maps, describes and ranks its 13 priority habitats types, as well as lists the priority habitat locations.

Chapter 4 - Threats. This chapter presents the threats targeted by this WAP, as required by Element #3. It describes the sources and management challenges of the threats to the overall top-five highest-ranking threats to the District's terrestrial and aquatic habitats. It also gives descriptions for the other highest priority threats to each habitat type.

Chapter 5 – Conservation Actions – Habitats. The conservation actions are divided among three chapters, and fulfill Required Element #4. The first chapter—Chapter 5—lists overarching conservation actions that span all of the habitat types and then describes

existing and proposed conservation actions targeted to specific habitats, by providing a fact sheet for each habitat type. The actions are targeted at the top-five ranking threats to each habitat. The associated species of greatest conservation need and priority habitat locations are also provided for each habitat.

Chapter 6 – Conservation Actions - Species. The second conservation actions chapter—Chapter 6—briefly describes the species of greatest conservation need and their conservation concerns, as required by Element #4. This chapter provides the status, range, local habitat, species ecology, and at least one threat and conservation action for most species.

Chapter 7 – Public Outreach and Participation. The third chapter on conservation actions—Chapter 7—describes the strategies for engaging the public in developing and implementing the WAP, as required by Element #8.

Chapter 8 – Monitoring, Review and Revision. The monitoring chapter identifies the District's plan to monitor the species of greatest conservation need, the success of the conservation actions, adapt the Plan to new information and changing conditions, and subsequently review and revise the Plan, as required by Elements #5 and 6. The monitoring plan is divided by taxa: birds, mammals, reptiles, amphibians, fish and invertebrates. It lists existing monitoring actions as well as resources for standard monitoring protocols.

Roadmap to the 8 Required Elements

The District of Columbia, Department of Health, Environmental Division, Wildlife and Fisheries Branch has prepared this guide to D.C. Wildlife Action Plan (WAP) for the National Advisory Acceptance Team (NAAT) and others to readily find sections that address each of the eight required elements.

Required Element #1:

Information on distribution and abundance, including low and declining populations that are indicative of the diversity and health of the District's wildlife	
A. Sources of information on wildlife abundance and distribution	
Ch. 3—Table 5. Species of greatest conservation need	45
Ch. 6—Species Fact Sheets	129
B. Information about abundance and distribution, or plans to obtain this information	
Ch. 3—Table 6. Status and trend of species of greatest conservation need	50
Ch. 6—Species Fact Sheets	129
C. Identification of low and declining populations	
Ch. 3—Table 5. Species of greatest conservation need	45
Ch. 3—Table 6. Status and trend of species of greatest conservation need	50
Ch. 6—Species Fact Sheets	129
D. All major groups of wildlife	
Ch. 3—Table 5. Species of greatest conservation need	45
Ch. 8—Monitoring Species of greatest conservation need	252
Ch. 8—Some invertebrate groups excluded right now due to lack of knowledge	252
E. Species selection process	
Ch. 1—Species selection process	28
Ch. 3—Table 6. Status and trend of species of greatest conservation need	50
Ch. 3—List of species of greatest conservation need may change over time after monitoring and review process	44

Required Element #2:

Descriptions of locations and condition of key habitats	
A. Explanation for level of detail provided, or plans to obtain greater detail	
Ch. 3—Lists, prioritizes, describes, and identifies conservation needs for all key habitat types	44
Ch. 5—Provides threats, conservation actions, and identifies key locations for each habitat type	81

B. Key habitats and their conditions in enough detail to determine best conservation actions	
Ch. 3—Table 8. Status and trend of habitat types	56
Ch. 4—Table 9. Habitat types prioritized	56
Ch. 3—Lists, prioritizes, describes, and identifies conservation needs for all key habitat types	44
Ch. 3—Describes conservation needs for urban landscapes and springs and seeps	44
Ch. 5—Provides threats, conservation actions, and identifies key locations for each habitat type	81

Required Element #3:

Descriptions of problems affecting species or their habitats, and priority research efforts to identify conservation efforts	
A. Sources of information used to determine threats	
Ch. 1—Threat prioritization process	28
B. Threats are detailed enough to determine best conservation actions	
Ch. 3—Specific threats and conservation actions identified for emergent tidal wetlands	44
Ch. 4—Top five threats across habitats identified and detailed	70
Ch. 4—Top five threats for each habitat identified and detailed	70
C. Consideration of threats originating outside of the District	
Ch. 4—National, international and global threats	70
Ch. 4—Sedimentation	70
Ch. 4—Pollution	70
Ch. 5—Coordinate with regional land managers	81
D. Plans to obtain information that is currently unavailable regarding describing threats	
Ch. 3—Ponds and pools	44
E. Needs are sufficiently described to develop projects after Plan is approved	
Ch. 4—Threats	70

Required Element #4:

Descriptions of conservation actions to conserve species and their habitats and priorities for implementing actions	
A. Identification of how conservation actions address threats to species and their habitats	
Ch. 5—Conservation actions are targeted to specific threats	81
B. Descriptions of conservation actions to guide implementation of those actions through the development and execution of specific projects and programs	

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Ch. 5—Description of conservation actions	81
Ch. 5—List of partners for implementation	81
Ch. 8—Monitoring the success of actions using measurable goals	252
C. Linkage of conservation actions to objectives that will facilitate monitoring and performance measurement of those conservation actions	
Ch. 3—Forested wetlands/ riparian woodlands/ floodplain	44
Ch. 5—Monitor browser populations	81
Ch. 5—Description of conservation actions with goals	81
D. Descriptions of conservation actions that could be addressed by Federal agencies or regional, national, or international partners and shared with other States	
Ch. 5—List of partners for implementation	81
Ch. 5—Exotic Plants Management Team as overarching action	81
Ch. 5—National Park Service deer management plan	81
Ch. 5—Anacostia Watershed Society goose management efforts	81
E. In cases where there is insufficient information to describe needed conservation actions, research or survey needs for obtaining information to develop specific conservation actions	
Ch. 3—Plans to develop surveys to research unknown status and trend data	44
Ch. 3—Continued research as an overarching conservation action	44
Ch. 8—Develop comprehensive inventory for invertebrates	252
F. Identification of the relative priority of conservation actions	
Ch. 5—Conservation actions are prioritized in that they are linked to items that are prioritized; conservation actions are linked to threats which are prioritized, which are linked to habitats which are prioritized.	81

Required Element #5:

Proposed plans for monitoring species and their habitats, the effectiveness of conservation actions, and adapting these actions to respond to new information or changing conditions.	
A. Plans for monitoring species and their habitats	
Ch. 8—Monitoring species of greatest conservation need and their habitats	252
B. Descriptions for how the outcomes of the conservation actions will be monitored	
Ch. 8—Monitoring conservation actions	252
C. If monitoring is not identified for a species, explanations for why it is not appropriate, necessary, or possible	
Ch. 5—Continued research as an overarching action	81

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D. Monitoring is to be accomplished at one of several levels including, individual species, guilds, or natural communities	
Ch. 8—Monitoring species of greatest conservation need	252
Ch. 8—Approach to monitoring	252
E. The monitoring utilities or builds on existing monitoring and survey systems or explains how information will be obtained to determine the effectiveness of conservation actions	
Ch. 8—Monitoring species of greatest conservation need	252
Ch. 8—Approach to monitoring	252
F. The monitoring considers the appropriate geographic scale to evaluate status of species and the effectiveness of conservation actions	
Ch. 8—Monitoring species of greatest conservation need	252
Ch. 8—Approach to monitoring	252
G. Adaptiveness of conservation actions and implementation of new actions accordingly	
Ch. 8—Monitoring conservation action	252

Required Element #6:

Descriptions of procedures to review the Strategy at intervals not to exceed ten years.	
A. Process that will be used to review the Plan within the next ten years	
Ch. 8—Review and revision	252

Required Element #7:

Descriptions of the plans for coordinating the development, implementation, review, and revision of the Plan with Federal, State, and local agencies and Indian tribes that manage significant land and water areas within the State or administer programs that significantly affect the conservation of identified species and habitats.	
A. Descriptions of the extent of coordination with and efforts to involve Federal, State, local agencies and Indian tribes in the development of this WAP	
Ch. 1—Roles and Groups—Working Group	28
Ch. 1—Table 2. Working Group participants and their affiliations	31
B. Descriptions of continued coordination with these agencies in the implementation, review and revision of the WAP	
Ch. 3—Partnerships with overbrowsing and vernal pools	44
Ch. 4—Partnerships with invasive species and emergent tidal wetlands	70
Ch. 5—List of partners for implementation	81
Ch. 8—Monitoring partnerships	252

Required Element #8:

Descriptions of public participation in the development, revision, and implementation	
A. Descriptions of the extent of the efforts to involve the public in the development of the WAP	
Ch. 1—Public participation process	28
Ch. 1—Table 3. Level of public involvement	32
B. Descriptions of continued public involvement in the implementation and revision of the WAP	
Ch. 7—Public participation and outreach	247

Chapter 1 – Approach

This chapter describes the process by which the District's WAP was developed and how the 8 Required Elements were met.

Timeline

The timeline describes the progress of developing the WAP in chronological order to meet the 8 Required Elements and the final deadline of October 1, 2005. It involves eight main components:

- o Drafting species lists
- o Master list of all species occurring within the District to serve as an historical database
- o List of species of greatest conservation need
- o Coordinating with other land managers and conservation groups in the District, including local and federal agencies and organizations and NGOs
- o Identifying priority habitats
- o Identifying threats to priority habitats
- o Identifying existing conservation actions and developing new ones
- o Developing monitoring protocols
- o Developing a timeline and process for review and revision
- o Developing a plan for public involvement

During Fall 2004, the staff of DC Fisheries and Wildlife Division created an outline for developing the District's WAP. In November, staff identified and met with the Working Group of federal and state partners to explain the process and to solicit their expertise. (Later, representatives from NGOs became active in the Working Group). By the end of the first meeting, a set of criteria was developed from which to develop the list of species of greatest conservation need. Following that meeting, DC Fisheries and Wildlife Division staff drew up a first draft of that list. In subsequent meetings throughout Winter 2004, partners commented on and helped edit the list.

By February 2005, a final draft list was completed and the Working Group began to identify priority habitat types and locations. In April, specific threats to those habitats were identified. In May, existing conservation actions around the District were compiled and new ones were developed where there were gaps.

The first draft was prepared July 2005 and was available for review by the Working Group and the public. The second draft was prepared August 2005 and was again made available for review by the Working Group and the public. The final District WAP was turned into the National Advisory Acceptance Team (NAAT) on October 1, 2005.

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Table 1. Timeline used to meet the 8 Required Elements

	Nov	Jan	Feb	Mar	April	May	June	July	Aug
	2005								
R.E. #1	1 st Working Group meeting, Master List and SGCN list	Final SGCN list							
R.E. #2			Identify key habitats						
R.E. #3				Identify threats	Threat charts				
R.E. #4						Conservation Actions	Conservation Action	Conservation Actions	Conservation Actions
R.E. #5								Monitoring plan	
R.E. #6								Process & timeline	
R.E. #7	Coordinate with land managers	Coordinate with land managers	Coordinate with land managers	Coordinate with land managers	Coordinate with land managers	Coordinate with land managers	Coordinate with land managers	Coordinate with land managers	Coordinate with land managers
R.E. #8				Public involvement strategies				First public review meeting	Second public review meeting

WAP Development Process

Roles and Groups

WAP Coordinator—Ira Palmer

The role of the WAP Coordinator is to oversee the development of the WAP. The role of WAP Coordinator will be reassigned during the implementation phase of the WAP.

Internal Group—DC Fisheries and Wildlife Division

The role of the Internal Group is to develop and implement the WAP. During the WAP development phase, tasks of the group included, but were not limited to:

- o drafting the WAP
- o drafting lists of species, habitats and threats
- o identifying partners
- o involving the public
- o creating the agenda for Working Group meetings

The group consists of the Program Manager for DC Fisheries and Wildlife, the Chief of the Fisheries Research Branch, the Chief of the Aquatic Resources Education Branch, fisheries and wildlife biologists, aquatic educators and the DC Fisheries and Wildlife Division grants coordinator. This group is subject to change during the WAP implementation phase.

The group met formally and informally as necessary.

Working Group—local, state, federal and nongovernmental

The role of the Working Group is to coordinate data regarding species of greatest conservation need, priority habitats, threats, conservation actions, and monitoring protocols. The Working Group was central to the planning process and data collection. Integrating the expertise and existing programs of other agencies and organizations from the region ensures that the most efficient and successful plans are implemented.

The group consists of the DC Fisheries and Wildlife Division and other federal, state, local conservation agencies and organizations, as well as NGOs, including:

- 1) Federal— provided species and habitat data
 - o National Park Service (NPS)
 - o US Geological Survey (USGS)
 - o US Fish and Wildlife Service (USFWS)
 - o US Department of Agriculture (USDA)
- 2) State— helped create consistency in terms of criteria and format and introduced the National Heritage Program data

- o Maryland Department of Natural Resources (MD DNR)
- 3) NGO— provided guidance on developing criteria and format
- o MD-DC Audubon
 - o DC Audubon
 - o The Nature Conservancy
 - o Defenders of Wildlife
 - o Association of Fish and Wildlife Agencies (AFWA)
 - o Natural Heritage Program

Table 2. Working Group Participants and their Affiliations

Participant	Affiliation	Participant	Affiliation
Ira Palmer	DC Fisheries and Wildlife Division (DC FWD)	Shawn Carter	NPS—Center for Urban Ecology
Mary Pfaffko	DC FWD, DC Audubon	Richard Hammerschlag	US Geological Survey (USGS)—Patuxent Wildlife Research Center
Dhananjaya Katju	DC FWD, DC Audubon	Mary Paul	USGS—Patuxent Wildlife Research Center
Jon Siemien	DC FWD	Deanna Dawson	USGS—Patuxent Wildlife Research Center
Michael Kaspar	DC FWD, DC Audubon	Dan Murphy	US Fish and Wildlife Service
Sylvia Whitworth	DC FWD	Susan Greeley	US Department of Agriculture—National Arboretum
Basil Buchanan	DC FWD	Glenn Therres and staff	MD Natural Heritage Program
Susan Rudy	National Park Service (NPS)—National Capital Parks East	Judy Soule and staff	NatureServe
Ken Ferebee	NPS—Rock Creek Park	Doug Samson	The Nature Conservancy
James Rosenstock	NPS—National Capital Parks East	Dave Curson	MD-DC Audubon
Marcus Koenen	NPS—Center for Urban Ecology	Dave Chadwick	Association of Fish and Wildlife Agencies (AFWA)
Scott Bates	NPS—Center for Urban Ecology	Jeff Lerner	Defenders of Wildlife

Public Involvement Summary

As required by Element #8, the public will be involved in both the development and implementation of the WAP. This section describes the role of several different sectors of the District's public in the development phase. Chapter 7 describes the role of the public in the implementation phase of the WAP.

Educators and Students

Before WAP planning efforts began, the Aquatic Resources Education Branch of the DC Fisheries and Wildlife Division was engaging the public in fish and wildlife conservation via education and training efforts. The Branch staff trained fish and wildlife educators and taught District residents. Programs include fishing clinics and classroom activities at the Aquatic Resources Education Center (AREC). This provides a solid foundation from which to involve the public upon implementing the conservation actions of the WAP.

Conservation NGOs

Early in the WAP planning effort, DC Fisheries and Wildlife Division staff engaged NGOs with an interest in wildlife conservation. These NGOs were invited to be members of the Working Group. Some of these groups were familiar with conservation planning and had helped other states develop their WAPs. They commented and advised on both the content and format of the WAP during the development phase of the WAP, and are expected to continue to be involved throughout the implementation phase.

General Public

The general public was provided an opportunity to be involved in the development of the WAP. There were two public comment meetings, during which the public was invited to review the list of species of greatest conservation need and conservation actions. Both meetings were advertised via targeted emails to several conservation organizations. A draft WAP was made available before each meeting. A public notice will also be posted in the *Washington Post*, the *Washington Times*, the *DC Register* for a month, informing the public of how to view and comment on the document. The DC Advisory Neighborhood Commissions will also be notified, advising the public on how to view and comment on the document. In terms of the implementation stage of the WAP, the public will be invited to be involved in conservation actions such as volunteering to participate in wildlife surveys and habitat restoration.

Table 3. Level of Public Involvement in the Development of the WAP

Level of involvement	Type of activity	NGOs	Educators and Students	General Public
Inform	Meetings, Public notices	X	X	X
Involve	Comments/Feedback	X	X	X
Collaborate	Data sharing/Project coordination	X		

Selecting and Ranking Species

With funds from the State Wildlife Grants Program, the District will be able to focus on conserving species that have not traditionally received federal funding. To develop conservation actions for these species, Congress mandated the District to develop and implement the WAP for “species of greatest conservation need.” The District was granted the authority to develop the selection process used to identify its species of greatest conservation need.¹ The list includes all wildlife taxa: birds, mammals, reptiles, amphibians, fish and invertebrates.

Before identifying species of greatest conservation need, the District’s WAP Working Group compiled a comprehensive list of all wildlife species occurring currently or historically within the District. From this list, species of greatest conservation need were identified. The Working Group developed a list of criteria to guide the selection of those species. The group based its criteria on the set of criteria used by Teaming with Wildlife (TWW), given that TWW spent a great deal of time developing their criteria and that their criteria were closely aligned with criteria used by local and regional organizations.

Selection Criteria

The overall focus and scope of species includes the full array of wildlife species, including historically occurring species. Species with greatest conservation need shall be defined by:

Quantitative, concrete criteria:

- o Endangered, threatened, candidate species, including federally endangered species of Maryland that also occur in DC, species receiving Natural Heritage Program (NHP) combined global and state ranks of G4 and a low S rank.
- o Imperiled species, including globally rare species receiving NHP ranks of G1-G3.

Subjective dependent upon subject matter expertise:

- o Declining species
- o Endemic species
- o Disjunct species
- o Vulnerable species
- o Species with small, localized “at-risk” populations
- o Species with limited dispersal
- o Species with fragmented or isolated populations
- o Species of special, or conservation, concern
- o Focal species (keystone species, wide-ranging species, species with specific needs)
- o Indicator species

¹ The authority for the DC Fisheries and Wildlife Division to determine the selection criteria for species of greatest conservation need is given in first Required Element of this WAP.

- o “Responsibility” species (i.e. species that have their center of range within a state).
- o Conservation areas (eg. migratory stopover sites, bat roosts, maternity sites, etc.).

Prioritization Process

The criteria used by the District were modified slightly from the TWW criteria by the District’s prioritization process. The Working Group often gave priority to those species that were:

- o Listed by local and regional conservation agencies and organizations,
- o Feasible to conserve, and
- o Urban specialist species.

Prioritizing species listed by local and regional organizations added a local dimension that takes into account factors such as the breeding and migration status of the species. Furthermore, in light of the size and geographic location of the District, it is important to capture greater regional concerns and remain generally consistent with the neighboring states with which the District shares priority species and habitats. Therefore, the District prioritized species included on the lists of local and regional conservation agencies such as the DC Fisheries and Wildlife Division, the National Park Service, the US Fish and Wildlife Service, and the neighboring states of Maryland and Virginia.

However, because the District is relatively small and urban, it is more limited than other states in terms of conserving wildlife. The District is home to a limited number of habitat types and acreage that can make conserving a species unfeasible. Therefore, feasibility was a limiting factor included in the District’s prioritization process. In order to make best use of funds, any species that was determined to be unfeasible to conserve was excluded from the list. On the other hand, because the District has a large number of urban habitats, it has many opportunities to affect urban specialist species. Therefore, any species that can use urban landscapes was given priority because the District should take responsibility for urban specialist species.

The final listing was made using the following scoring process:

1. All species listed by Rock Creek Park and National Capital Parks—East, or advised by the US Fish and Wildlife Service as species of greatest conservation need were included on the list. All fish species listed by the DC Fisheries and Wildlife Division as species of greatest conservation need were also included on the list.
2. All species (except birds) that were listed by more than two agencies or organizations as species of greatest conservation need, or breeders that were listed by at least one agency or organization were included on the list. Agencies and organizations that were considered include:
 - o Maryland Department of Natural Resources
 - o Virginia Department of Game and Inland Fisheries

- o Endangered Species Act
 - o Natural Heritage Program
 - o American Fisheries Society
 - o Atlantic States Marine Fisheries Commission
3. For birds, all species listed by more than five agencies or organizations as species of greatest conservation need were included. Agencies and organizations include:
- o Maryland Department of Natural Resources
 - o Virginia Department of Game and Inland Fisheries
 - o Endangered Species Act
 - o Natural Heritage Program
 - o Partners in Flight Conservation Plan for the mid-Atlantic Piedmont
 - o Partners in Flight Landbird Conservation Plan
 - o North American Waterbird Conservation Plan
 - o North American Waterfowl Management Plan
 - o Breeding Bird Survey

The list of species of greatest conservation need is located in Chapter 3. The list of species and their scores is located in Appendix 1.

Selecting and Ranking Habitats

After identifying species of greatest conservation need, the Working Group divided those species into their habitat types and locations using data from the DC Fisheries and Wildlife Division, the US Fish and Wildlife Service, the National Park Service, the US Geological Survey, Partners in Flight, MD-DC Audubon, and DC Audubon. Priority habitats were chosen based on the expert opinion of the Working Group members. GIS maps were produced to locate those habitats and can be found in Chapter 3. Because the exact location of certain species is sensitive information and undisclosed to the public, the mapping of their habitats may be limited.

The source of habitat condition data was the Working Group partners who have jurisdiction over the management of those habitats. Status and trend were determined using their expert opinion and by averaging the condition over all locations within each habitat type in their jurisdiction. Criteria for determining status and trend were based on the threats identified in Chapter 4. The trend timetable covers the current trend, as well as the expected trend over the next 5-10 years.

Scoring of habitat condition was based on a four-point scale (4=excellent, 1=poor). To avoid underreporting, we gave full weight to areas of fair or poor habitat condition. Specifically, on a four-point scale, in cases of 2.5 or 3.5, the score was rounded down to 2 or 3, respectively.

A table ranking the status and trend of habitat types is located in Chapter 3.

Habitat types are prioritized based on the following process:

- o # Species of greatest conservation need
- o Acreage
- o Habitats that have many potential conservation opportunities may be given weight during the implementation process

A table with the prioritized list of habitats is located in Chapter 3.

Selecting and Ranking Threats

The conservation actions included in this WAP are targeted at specific threats to habitats. The District's species of greatest conservation need and their habitats face considerable threats. The District is especially vulnerable to those threats caused by urbanization such as fragmentation and pollution. In fact, because the District's ratio of land area to human population, there are so many threats that it would be virtually impossible to address them all in one plan. Thus, while all the threats are important and have been listed in this WAP, in the interest of feasibility, only the highest-ranking threats were targeted. The Working Group developed a process to determine the top-ranking threats that would be feasible to address in this version of the WAP.

The first step was to list and rank all of the threats to each of the priority habitat locations within the 13 habitat types. The resident experts within the Working Group determined the threats and ranked each threat as "high," "medium," or "low" according to their expert opinion.

The second step was to average the ranks across habitat types. These averages are arranged into two summary threat tables—one for terrestrial habitats and one for aquatic habitats and include all threats. As explained above, due to feasibility limitations, only the top five threats were targeted. Chapter 4 describes the top five highest-ranking threats across all habitats. Chapter 5 describes the conservation actions being taken for the top five highest-ranking threats for each habitat type.

Programmatic Challenges

There can be many administrative and management challenges to implementing the conservation actions included in this WAP. This section presents some of the obstacles that must be overcome before the District will be able to effectively implement its conservation actions.

Shared jurisdictions

The DC Fisheries and Wildlife Division is responsible for the development and implementation of the WAP for the entire District. However, the District's land is divided into many jurisdictions. Thus, conservation actions must coordinate all of these land

managers. Determining the role of each and serving everyone's interest presents a challenge to a coordinated conservation effort.

The District also shares habitat with the surrounding states and region. It is home to several stopover points for migratory species that spend their lives traveling across the region. Since their habitats cross borders, the District is affected by factors across those borders including air and water quality. Therefore, the District must coordinate with land managers of the region and attempt to address cross-border pollution issues.

Communication

Communication among partners is essential. Communication helps, for example, to reduce redundancy in data collection and analysis. However, communication among a large group of agencies and organizations can be difficult. Moreover, these groups can have conflicting goals or fundamentally different approaches to conservation. While partnerships have been formed, the effort to maintain the partnerships will remain a challenge.

Information management

Information management format preferences vary across agencies and organizations. The District's planning process has been one of integrating data from several different sources. For the most part, data sharing was facilitated because all partners used similar information management formats. However, this may not be the case when sharing data with other conservation managers across the region or the nation. In order to effectively coordinate with those conservation managers, standardization among data management formats should be established.

Chapter 2 – District Overview

The District has an interesting dynamic in terms of the interface between humans and wildlife. It is home to both a bustling metropolis as well as a retreat for wildlife and recreationalists. Today, the District boasts more than 900 acres of city parks and more than 6,700 acres of national parkland (DC OP draft). While it can be difficult for humans and wildlife to coexist within the borders of one city, the District actually has an unexpectedly wide diversity of wildlife and habitats. This coexistence between humans and wildlife can improve and thrive with comprehensive strategic planning.

This chapter gives context to the District's WAP by providing an overview of the District's geography and land use. The chapter is divided into three parts: the District's ecoregions, land use, and regional context.

Ecoregions

An ecoregion is defined by the World Wildlife Fund as a large area of land or water that contains a geographically distinct assemblage of natural communities that

- o shares a large majority of species and ecological dynamics,
- o shares similar environmental conditions, and
- o interacts ecologically in ways that are critical for longtime persistence (<http://www.worldwildlife.org/science/ecoregions.cfm>).

The District is located between two ecoregions: the mid-Atlantic Piedmont and the mid-Atlantic Coastal Plain. Essentially, the ecoregions divide the District in half diagonally along the fall line, with the Coastal Plain covering the southeastern half and the Piedmont covering the northwestern half.

The District shares these ecoregions with the surrounding states of the mid-Atlantic region, including Maryland, Virginia, Pennsylvania, New Jersey and, in the case of the Coastal Plain, Delaware, making the District geographically similar to those states. This has many important implications for conservation planning. Issues important to habitats within the District are also important to the surrounding states. Therefore, coordination with those states should be a central component to developing conservation strategies.

The following section gives an overview of the characteristic geography and natural history of these two ecoregions.

**Mid-Atlantic Piedmont Ecoregion
(Physiographic Area 10)**

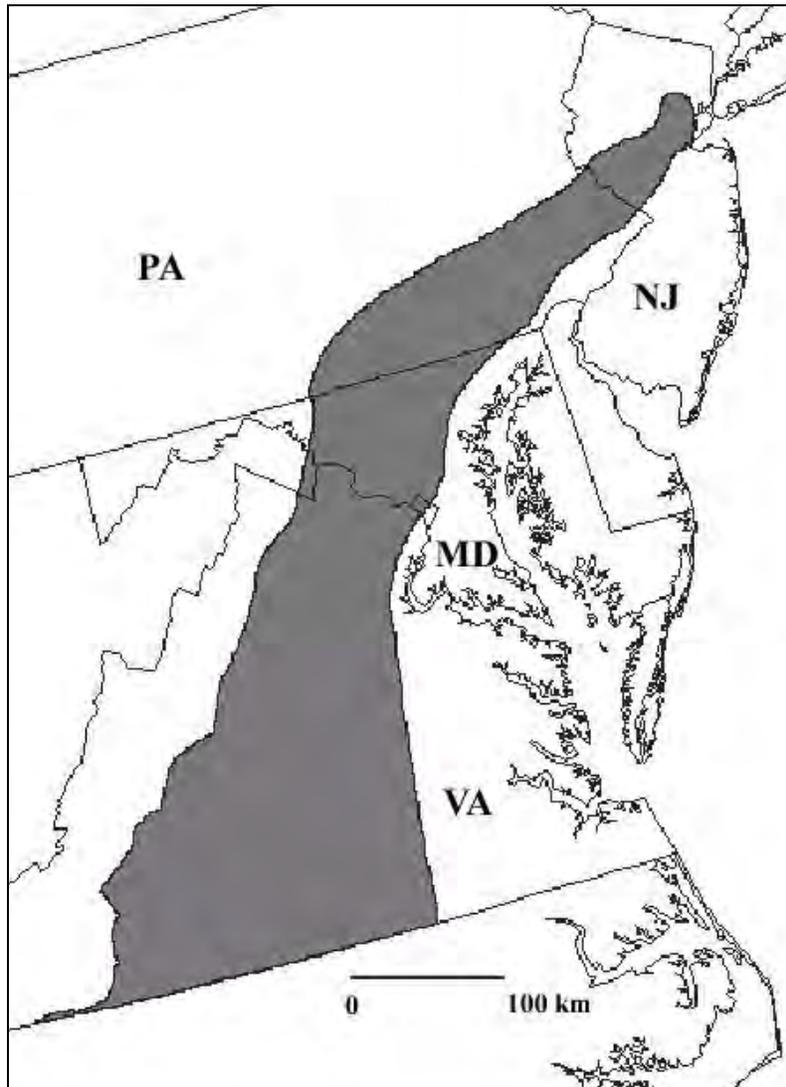


Figure 2.1 Physiographic Area 10 (Source: PIF)

The mid-Atlantic Piedmont extends into Virginia, Maryland, southeastern Pennsylvania and northern New Jersey. It currently covers approximately 66,491 sq km in total. The region is bordered by mid-Atlantic Coastal Plain to the east and the Appalachian Mountains to the west. Beginning at the fall line at 60m in elevation, the Piedmont extends west to the Blue Ridge and the Ridge and Valley regions of the Appalachian Mountains, reaching elevations of 300-600m. The topography of the Piedmont is higher, rolling and more rugged than the Coastal Plain and its soils are composed of erosion-resistant igneous and metamorphic rock, rather than the sands and clays of the Coastal Plain (Kearney 2003).

**Mid-Atlantic Coastal Plain Ecoregion
(Physiographic Area 44)**

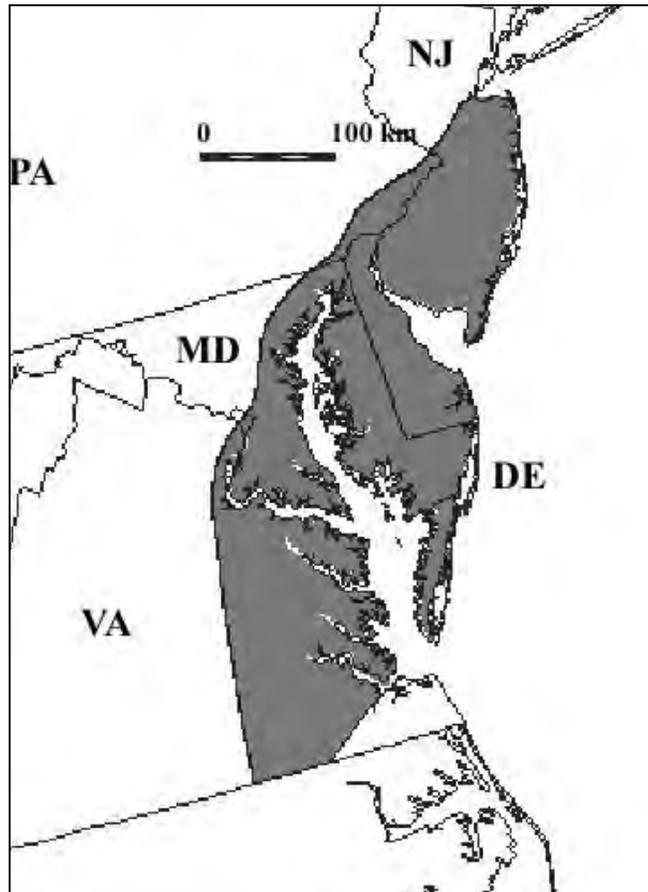


Figure 2.2 Physiographic Area 44 (Source: PIF)

The mid-Atlantic Coastal Plain extends into Virginia, Maryland, Delaware, Pennsylvania and New Jersey. It currently covers approximately 56,220 sq km in total. The region is bordered by the Atlantic Ocean to the east and the fall line to the west. From the west, rivers flow down from the Piedmont and mountains, including the Appalachian Mountains, where they slow down and release sediment onto the Coastal Plain. At this point, the low-lying plain reaches an elevation of less than 80m and is characterized by bays and tidal rivers, such as the Chesapeake Bay and Potomac River. The soils are primarily derived from the sediments deposited from the mountains and are slow draining, leading to the development of many types of expansive wetlands (Watts 1999).

In 1995, Bailey provided descriptions of the ecoregions of the U.S. Forest Service classification system (McNab and Avers 1994, Bailey 1995). The Nature Conservancy (TNC) adapted Bailey's system (1995) to classify ecoregions for its regional planning effort (Groves et al. 2002). The District falls within TNC's Chesapeake Bay Lowlands and the Lower New England Northern Piedmont Ecoregion (Figure 2.3).

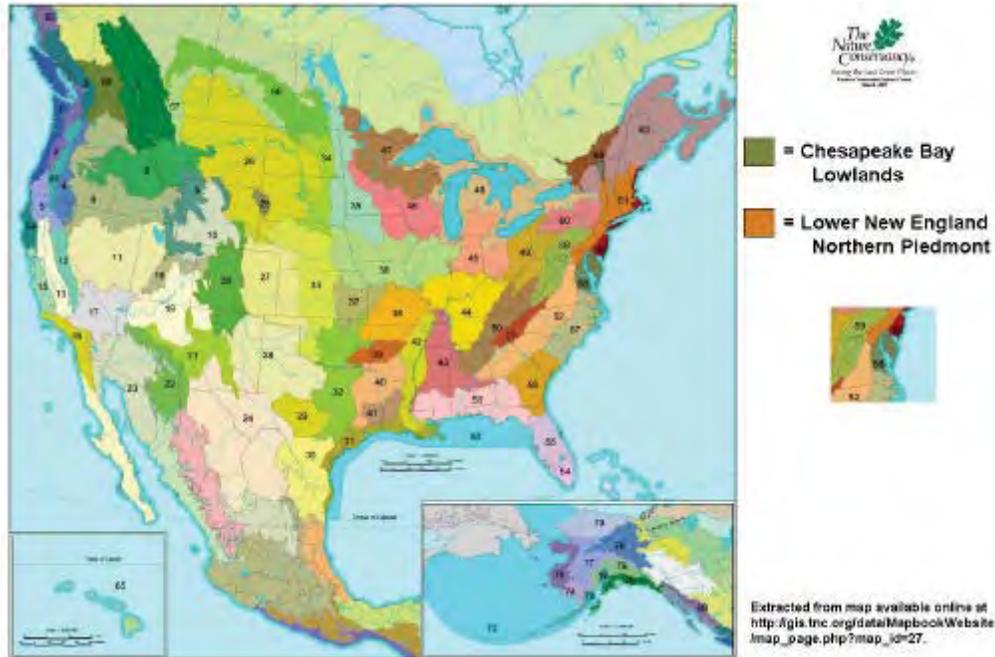


Figure 2.3 TNC Ecoregion System (Source: TNC)

In 1998, the North American Bird Conservation Initiative, in conjunction with Partners In Flight, developed its Bird Conservation Regions (BCR) based on TNC's Ecoregions. The District falls within two Bird Conservation Regions: the Piedmont (BCR #29) and the England/Mid-Atlantic Coast BCR (#30) (Kearney 2003, Watts 1999) (Figure 2.4).

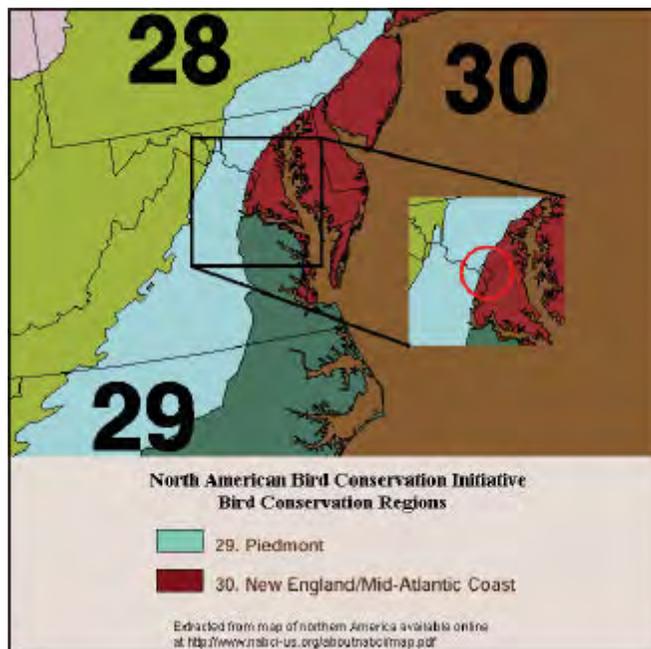


Figure 2.4 North American Bird Conservation Initiative Bird Conservation Regions (Source: NABCI)

Land Use

While the District is considered an urban center with a large amount of developed land, there are actually multiple other land uses. The DC Office of Planning implements a Comprehensive Plan that includes a land use element (DC OP draft). It identifies many elements of land use within the District. Figure 2.5 depicts the land use element “Parks and Open Space”.

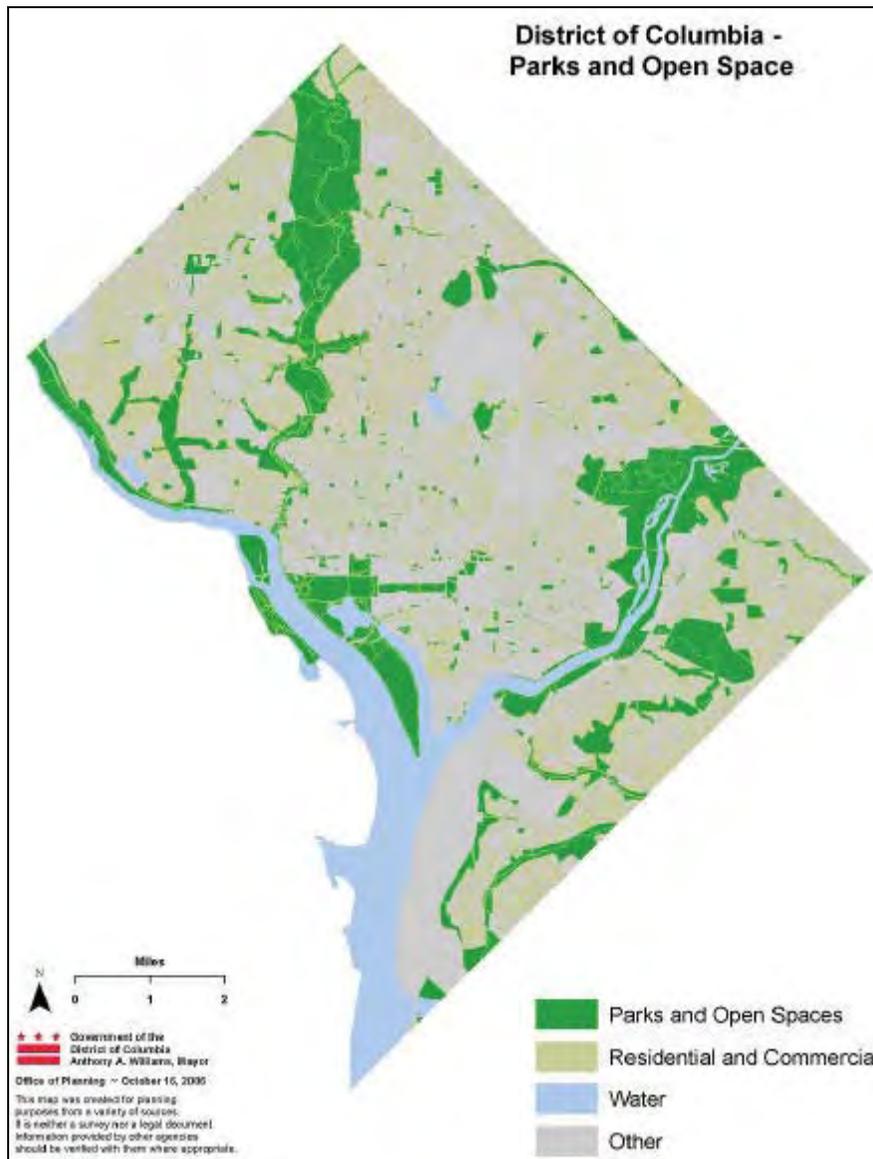


Figure 2.5 Land Use Map of DC (Source: DC Office of Planning 2006)

Regional Context

The District is home to many habitats for species of greatest conservation need. These habitats are part of an ecological system that is larger than the boundaries of the District, giving the District an important regional context. The District belongs to the mid-Atlantic region of the United States, which also includes Maryland, Virginia, Delaware, West Virginia and Pennsylvania (EPA <http://www.epa.gov/region03/index.htm>). When viewed as part of the region, the District occupies a comparatively small area of land. Therefore, it is important to view the District in the context of the larger geographical region to gain a full understanding of the needs of shared species and habitats.

The District is bordered by the states of Maryland and Virginia. Both of these states are home to common priority species and habitats. For example, the Chesapeake Bay is an important habitat that extends across the two states and the District. Furthermore, the District is home to migratory species that spend only part of their lives in the District and spend the other part with its neighbors.

Given the regional context, it is essential to coordinate not only with conservation agencies and organizations within the District, but also with conservation agencies and organizations from around the region. In response, the criteria used to determine species of greatest conservation need accounted for the concerns of the District's neighboring states, Maryland and Virginia, as well as regional conservation plans such as the Partners in Flight (PIF) conservation plans.

Chapter 3 – Species of Greatest Conservation Need and their Habitats

This chapter describes the status and trend of the District's species of greatest conservation need and their priority habitats.

Species of Greatest Conservation Need

Element #1 requires that the District provide information on the distribution and abundance of wildlife, including low and declining populations, that are indicative of the diversity and health of the District's wildlife. As such, the following section lists the District's species of greatest conservation need and indicates their status and trend.

As part of protecting the diversity of the District's wildlife, it is critical to conserve all types of wildlife species, including birds, mammals, reptiles, amphibians, fish and invertebrates. The District's species of greatest conservation need also include a variety of types including resident, breeding, migratory, endemic and federally protected species.

Resident and breeding species of greatest conservation need

The District's resident and breeding species keep the nation's capital diverse and ecologically healthy. Many of these species are economically important as well. For example, American Shad is a fish species of greatest conservation need that supported an important recreational fishery until it became over-harvested and one of the District's most threatened fish species.

Migratory species of greatest conservation need

The District is located such that it is a stopover point for many migratory species of greatest conservation need. For example, the Cerulean Warbler is a species of greatest conservation need that is a migrant. Maintaining the integrity of migratory stopover points benefits the entire migration path of the species. Conserving habitats located within the District is vital to the efforts made by other states that share the path of the species. In turn, the District must also deal with environmental conditions outside of its jurisdictions that provide the other migration stopover points of the species.

Endemic species of greatest conservation need

Despite the District's small and urban character, it is home to two known endemic species. The Hay's Spring Amphipod and Kenk's Amphipod have been found only in the Rock Creek Valley. They are restricted to shallow groundwater communities of only five springs along Rock Creek (Pavek 2002). Therefore, the District has the responsibility for ensuring their persistence.

Federally protected species of greatest conservation need

Within the District, there are six federally endangered wildlife species protected by the US Fish and Wildlife Service under the Endangered Species Act of 1973 (<http://www.fws.gov/endangered/esa.html>). They include the Bald Eagle, Bog Turtle,

Atlantic Sturgeon, Shortnosed Sturgeon, Dwarf Wedgemussel, and Hay's Spring Amphipod. The District has no federally endangered mammal or amphibian species of greatest conservation need.

The following table shows what percentage of the District's wildlife species are of greatest conservation need. It also shows the percentage of species by taxa.

Table 4. Summary Statistics of the District's Wildlife Species, by Taxa

Taxa	Total # species in DC	Total # SGCN	% SGCN
Birds	249	35	14
Mammals	53	11	21
Reptiles	47	23	49
Amphibians	29	16	55
Fish	90	12	13
Invertebrates	314	51	16
Total	782	148	19

Species selection

The selection of species of greatest conservation need was made using the best possible information and expertise available at the time. Whereas conditions and threats change over time as a result of conservation actions, new information, and changing conditions, the list is subject to change. As mentioned, as the District implements Required Elements #6 and 7 by monitoring and revising the WAP, a change in the population status or trend of a species may necessitate the modification of the list of species of greatest conservation need.

Table 5. Species of Greatest Conservation Need

Common Name	Scientific Name
Birds	
Acadian Flycatcher	<i>Empidonax virescens</i>
American Bittern	<i>Botaurus lentiginosus</i>
American Black Duck	<i>Anas rubripes</i>
American Woodcock	<i>Scolopax minor</i>
Bald Eagle	<i>Haliaeetus leucocephalus</i>
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Broad-winged Hawk	<i>Buteo platypterus</i>
Brown Creeper	<i>Certhia americana</i>
Brown Thrasher	<i>Toxostoma rufum</i>
Cerulean Warbler	<i>Dendroica cerulean</i>

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Common Name	Scientific Name
Chimney Swift	<i>Chaetura pelagica</i>
Eastern Meadowlark	<i>Sturnella magna</i>
Eastern Towhee	<i>Pipilo erythrophthalmus</i>
Field Sparrow	<i>Spizella pusilla</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>
Great Horned Owl	<i>Bubo virginianus</i>
Hooded Warbler	<i>Wilsonia citrine</i>
Kentucky Warbler	<i>Oporornis formosus</i>
Least Bittern	<i>Ixobrychus exilis</i>
Louisiana Waterthrush	<i>Seiurus motacilla</i>
Marsh Wren	<i>Cistothorus palustris</i>
Northern Bobwhite	<i>Colinus virginianus</i>
Ovenbird	<i>Seiurus aurocapilla</i>
Prothonotary Warbler	<i>Protonotaria citrea</i>
Red-shouldered Hawk	<i>Buteo lineatus</i>
Scarlet Tanager	<i>Piranga olivacea</i>
Sora	<i>Porzana carolina</i>
Virginia Rail	<i>Rallus limicola</i>
White-eyed Vireo	<i>Vireo griseus</i>
Wilson's Snipe	<i>Gallinago delicata</i>
Wood Duck	<i>Aix sponsa</i>
Wood Thrush	<i>Hylocichla mustelina</i>
Worm-eating Warbler	<i>Helmitheros vermivorus</i>
Yellow-throated Vireo	<i>Vireo flavifrons</i>
Mammals	
Allegheny Woodrat	<i>Neotoma magister</i>
American Mink	<i>Mustela vison</i>
Eastern Chipmunk	<i>Tamias striatus</i>
Eastern Cottontail	<i>Sylvilagus floridanus</i>
Eastern Red Bat	<i>Lasiurus borealis</i>
Eastern Small-footed Myotis	<i>Myotis lebii</i>
Gray Fox	<i>Urocyon cinereoargenteus</i>
Northern River Otter	<i>Lutra canadensis</i>
Southern Bog Lemming	<i>Synaptomys cooperi</i>
Southern Flying Squirrel	<i>Glaucomys volans</i>
Virginia Opossum	<i>Didelphis virginiana</i>
Reptiles	
Bog Turtle	<i>Clemmys muhlenbergii</i>
Common Musk Turtle	<i>Sternotherus odoratus</i>
Corn Snake	<i>Elaphe guttata guttata</i>

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Common Name	Scientific Name
Eastern Box Turtle	<i>Terrapene carolina</i>
Eastern Fence Lizard	<i>Sceloporus undulates</i>
Eastern Garter Snake	<i>Thamnophis sirtalis</i>
Eastern Hognose Snake	<i>Heterodon platirhinos</i>
Eastern Mud Turtle	<i>Kinosternon subrubrum</i>
Eastern Painted Turtle	<i>Chrysemys picta picta</i>
Eastern Ribbon Snake	<i>Thamnophis sauritus</i>
Eastern Worm Snake	<i>Carphophis amoenus amoenus</i>
Five-lined Skink	<i>Eumeces fasciatus</i>
Northern Black Racer	<i>Coluber constrictor</i>
Northern Brown Snake	<i>Storeria dekayi</i>
Northern Copperhead	<i>Agkistrodon contortrix</i>
Northern Ringneck Snake	<i>Diadophis punctatus edwardsii</i>
Queen Snake	<i>Regina septemvittata</i>
Redbelly Turtle	<i>Pseudemys rubriventris</i>
Rough Green Snake	<i>Opheodrys aestivus</i>
Scarlet Snake	<i>Cemophora coccinea copei</i>
Spotted Turtle	<i>Chrysemys guttata</i>
Timber Rattlesnake	<i>Crotalus horridus</i>
Wood Turtle	<i>Clemmys insculpta</i>
Amphibians	
American Toad	<i>Bufo americanus</i>
Bullfrog	<i>Rana catesbeiana</i>
Fowler's Toad	<i>Bufo fowleri</i>
Marbled Salamander	<i>Ambystoma opacum</i>
Eastern Mud Salamander	<i>Pseudotriton m. montanus</i>
Northern Cricket Frog	<i>Acris crepitans</i>
Northern Dusky Salamander	<i>Desmognathus fuscus</i>
Northern Spring Peeper	<i>Pseudacris crucifer</i>
Northern Two-lined Salamander	<i>Eurycea bislineata</i>
Pickerel Frog	<i>Rana palustris</i>
Northern Red Salamander	<i>Pseudotriton ruber ruber</i>
Redback Salamander	<i>Plethodon cinereus</i>
Red Spotted Newt	<i>Notophthalmus viridescens</i>
Spotted Salamander	<i>Ambystoma maculatum</i>
Upland Chorus Frog	<i>Pseudacris feriarum feriarum</i>
Wood Frog	<i>Rana sylvatica</i>
Fish	
Alewife	<i>Alosa pseudoharengus</i>
American Eel	<i>Anguilla rostrata</i>

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Common Name	Scientific Name
American Shad	<i>Alosa sapidissima</i>
Atlantic Sturgeon	<i>Acipenser oxyrinchus</i>
Blueback Herring	<i>Alosa aestivalis</i>
Bowfin	<i>Amia calva</i>
Central Stoneroller	<i>Campostoma anomalum</i>
Greenside Darter	<i>Etheostoma blennioides</i>
Hickory Shad	<i>Alosa mediocris</i>
Shortnosed Sturgeon	<i>Acipenser brevirostrum</i>
Silverjaw Minnow	<i>Ericymba buccata</i>
Warmouth	<i>Lepomis gulosus</i>
Invertebrates	
A Copepod	<i>Acanthocyclops Columbiensis</i>
A Copepod	<i>Acanthocyclops Villosipes</i>
A Copepod	<i>Attheyella (Canthocamptus) Illinosensis</i>
A Copepod	<i>Attheyella (Mrazekiella) Illinosensis</i>
A Copepod	<i>Attheyella (Mrazekiella) Obatogamensis</i>
A Copepod	<i>Bryocamptus Hutchinsoni</i>
A Copepod	<i>Bryocamptus Minutus</i>
A Copepod	<i>Bryocamptus Nivalis</i>
A Copepod	<i>Bryocamptus Zschokkei</i>
A Copepod	<i>Diacyclops Harryi</i>
A Copepod	<i>Diacyclops Nearcticus</i>
A Copepod	<i>Eucyclops Agilis</i>
A Copepod	<i>Macrocyclus Albidus</i>
A Copepod	<i>Paracyclops Fimbriatus Chiltoni</i>
Alewife Floater	<i>Anodonta implicata</i>
Appalachian Grizzled Skipper	<i>Pyrgus wyandot</i>
Appalachian Spring Snail	<i>Fontigens bottimeri</i>
Brook Floater	<i>Alasmidonta varicosa</i>
Crossline Skipper Butterfly	<i>Polites origenes</i>
Dwarf Wedgemussel	<i>Alasmidonta heterodon</i>
Eastern Comma Butterfly	<i>Polygonia comma</i>
Eastern Pondmussel	<i>Ligumia nasuta</i>
Edward's Hairstreak	<i>Satyrium edwardsii Fontigens bottimeri</i>
Emerald Spreadwing	<i>Lestes dryas</i>
Fine-lined Emerald	<i>Somatochlora filosa</i>
Frosted Elfin	<i>Callophrys irus</i>
Great Spangled Fritillary Butterfly	<i>Speyeria cybele</i>
Green Floater	<i>Lasmigona subviridis</i>
Grey Petaltail	<i>Tachopteryx thoreyi</i>

Common Name	Scientific Name
Hay's Spring Amphipod	<i>Sygobromus hayi</i>
Kenk's Amphipod	<i>Stygobromus kenki</i>
Lilypad Forktail Damsselfly	<i>Ischnura kellicotti williamsoni</i>
Little Glassywing Butterfly	<i>Pompeius verna</i>
Mocha Emerald Dragonfly	<i>Somatochlora linearis</i>
Monarch Butterfly	<i>Danaus P. Plexippus</i>
Mottled Duskywing	<i>Erynnis martialis</i>
Pizzini's Cave Amphipod	<i>Stygobromus pizzinii</i>
Potomac Groundwater Amphipod	<i>Stygobromus tenuis potomacus</i>
Question Mark Butterfly	<i>Polygonia interrogationis</i>
Red Admiral Butterfly	<i>Vanessa atalanta rubria</i>
Regal Fritillary Butterfly	<i>Speyeria idalia</i>
Sedge Sprite	<i>Nehalennia irene</i>
Sphagnum Sprite	<i>Nehalennia gracilis</i>
Spiny-foot Copepod	<i>Attheyella villosipes</i>
Tidewater Mucket	<i>Leptodea ochracea</i>
Tiger Spiketail Dragonfly	<i>Cordulegaster erroneus</i>
Triangle Floater	<i>Alasmidonta undulata</i>
Unicorn Clubtail Dragonfly	<i>Arigomphus villosipes</i>
Variiegated Fritillary Butterfly	<i>Euptoieta claudia</i>
Yellow Lampmussel	<i>Lampsilis cariosa</i>

Status and Trend

Element #1 requires the WAP to provide information on low and declining populations. Many of the District's species of greatest conservation need have one of the following population status and trends:

- o Imperiled, vulnerable or declining
- o Stable, but habitat is at risk
- o Imperiled, vulnerable or declining in surrounding region, but undetermined within the District
- o Stable in surrounding region, but undetermined within the District, or
- o Undetermined within the District, but subjectively determined "of greatest conservation need" by resident experts

In cases for which the species have been determined to be imperiled, vulnerable, or declining, or if their habitat is at risk, actions will be implemented to conserve those species or habitats. In cases for which the status and trend is less understood, research and monitoring will be undertaken as a strategy of this WAP until populations, threats and effective actions can be identified. The following table gives a species-by-species indication of these research needs by providing information on their status and trend.

Table 6. Status and trend of Species of Greatest Conservation Need

Species of Greatest Conservation Need		Status				Trend			
		Low	Medium	Abundant	Unknown	Declining	Stable	Increasing	Unknown
Birds									
1	Acadian Flycatcher				X				X
2	American Bittern	X				X			
3	American Woodcock				X				X
4	American Black Duck				X				X
5	Bald Eagle	X							X
6	Black-crowned Night-Heron	X							X
7	Bobolink				X				X
8	Broad-winged Hawk	X							X
9	Brown Creeper				X				X
10	Brown Thrasher	X							X
11	Cerulean Warbler				X				X
12	Chimney Swift		X						X
13	Wilson's Snipe				X				X
14	Eastern Meadowlark	X							X
15	Eastern Towhee		X						X
16	Field Sparrow	X							X
17	Grasshopper Sparrow				X				X
18	Great Horned Owl	X							X
19	Hooded Warbler				X				X
20	Kentucky Warbler				X				X
21	Least Bittern	X							X
22	Louisiana Waterthrush	X							X
23	Marsh Wren	X							X
24	Northern Bobwhite	X							X
25	Ovenbird	X							X
26	Prothonotary Warbler	X							X
27	Red-shouldered Hawk	X							X
28	Scarlet Tanager	X							X
29	Sora Rail				X				X

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Species of Greatest Conservation Need		Status				Trend			
		Low	Medium	Abundant	Unknown	Declining	Stable	Increasing	Unknown
30	Virginia Rail	PE							X
31	White-eyed Vireo	X							X
32	Wood Duck		X						X
33	Wood Thrush	X							X
34	Worm-eating Warbler				X				X
35	Yellow-throated Vireo	X							X
Mammals									
36	Allegheny Woodrat	PE							X
37	American Mink	X							X
38	Eastern Chipmunk		X						X
39	Eastern Cottontail		X						X
40	Eastern Red Bat		X						X
41	Eastern Small-footed Myotis	X							X
42	Gray Fox	X							X
43	Northern River Otter	X							X
44	Southern Bog Lemming	X							X
45	Southern Flying Squirrel		X						X
46	Virginia Opossum		X			X			
Reptiles									
47	Bog Turtle	PE				X			
48	Common Musk Turtle		X						X
49	Corn Snake				X				X
50	Eastern Box Turtle	X			X				X
51	Eastern Fence Lizard	PE			X				X
52	Eastern Garter Snake		X						X
53	Eastern Hognose Snake	PE							X
54	Eastern Mud Turtle		X						X
55	Eastern Painted Turtle		X						X
56	Eastern Ribbon Snake		X						X
57	Eastern Worm Snake		X						X
58	Five-lined Skink		X						X

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Species of Greatest Conservation Need		Status				Trend			
		Low	Medium	Abundant	Unknown	Declining	Stable	Increasing	Unknown
59	Northern Black Racer		X						X
60	Northern Brown Snake		X						X
61	Northern Copperhead Snake	X							X
62	Northern Ringneck Snake		X						X
63	Queen Snake	X							X
64	Redbelly Turtle		X						X
65	Rough Green Snake		X						X
66	Scarlet Snake	PE							X
67	Spotted Turtle	PE							X
68	Timber Rattlesnake	PE							X
69	Wood Turtle	PE							X
Amphibians									
70	American Toad		X						X
71	Bullfrog		X						X
72	Fowler's Toad		X						X
73	Marbled Salamander	X							X
74	Mud Salamander	X							X
75	Northern Cricket Frog	X							X
76	Northern Dusky Salamander	X							X
77	Northern Spring Peeper		X						X
78	Northern Two-lined Salamander		X						X
79	Pickerel Frog		X						X
80	Northern Red Salamander	X							X
81	Redback Salamander		X						X
82	Red-spotted Newt	X							X
83	Spotted Salamander		X						X
84	Upland Chorus Frog	X							X
85	Wood Frog	X							X
Fish									
86	Alewife	X					X		
87	American Eel	X				X			

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Species of Greatest Conservation Need		Status				Trend			
		Low	Medium	Abundant	Unknown	Declining	Stable	Increasing	Unknown
88	American Shad	X					X		
89	Atlantic Sturgeon	PE							
90	Blueback Herring	X				X			
91	Bowfin	X							X
92	Central Stoneroller	X							X
93	Greenside Darter	X							X
94	Hickory Shad	X					X		
95	Shortnosed Sturgeon	PE							
96	Silverjaw Minnow	X							X
97	Warmouth	X							X
Invertebrates									
98	A Copepod <i>Acanthocyclops Columbiensis</i>				X				X
99	A Copepod <i>Acanthocyclops Villosipes</i>				X				X
100	A Copepod <i>Attheyella (Canthocamptus)</i>				X				X
101	A Copepod <i>Attheyella (Mrazekiella) Illinosensis</i>				X				X
102	A Copepod <i>Attheyella (Mrazekiella)</i>				X				X
103	A Copepod <i>Bryocamptus Hutchinsoni</i>				X				X
104	A Copepod <i>Bryocamptus Minutus</i>				X				X
105	A Copepod <i>Bryocamptus Nivalis</i>				X				X
106	A Copepod <i>Bryocamptus Zschokkei</i>				X				X
107	A Copepod <i>Diacyclops Harryi</i>				X				X
108	A Copepod <i>Diacyclops Nearcticus</i>				X				X
109	A Copepod <i>Eucyclops Agilis</i>				X				X
110	A Copepod <i>Macrocyclus Albidus</i>				X				X
111	A Copepod <i>Paracyclus Fimbriatus Chiltoni</i>				X				X
112	Alewife Floater				X				X
113	Appalachian Grizzled Skipper				X				X
114	Appalachian Spring Snail				X				X
115	Brook Floater				X				X
116	Crossline Skipper Butterfly				X				X
117	Dwarf Wedgemussel				X				X

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Species of Greatest Conservation Need		Status				Trend			
		Low	Medium	Abundant	Unknown	Declining	Stable	Increasing	Unknown
118	Eastern Comma Butterfly				X				X
119	Eastern Pondmussel				X				X
120	Edward's Hairstreak				X				X
121	Emerald Spreadwing				X				X
122	Fine-lined Emerald				X				X
123	Frosted Elfin				X				X
124	Great Spangled Fritillary Butterfly				X				X
125	Green Floater				X				X
126	Grey Petaltail				X				X
127	Hay's Spring Amphipod				X				X
129	Ken's Amphipod				X				X
130	Lilypad Forktail Damselfly				X				X
131	Little Glassywing Butterfly				X				X
132	Mocha Emerald Dragonfly				X				X
133	Monarch Butterfly				X				X
134	Mottled Duskywing				X				X
135	Pizzini's Cave Amphipod				X				X
136	Potomac Groundwater Amphipod				X				X
137	Question Mark Butterfly				X				X
138	Red Admiral Butterfly				X				X
139	Regal Fritillary Butterfly				X				X
140	Rock Creek Groundwater Amphipod				X				X
141	Sedge Sprite				X				X
142	Sphagnum Sprite				X				X
143	Spiny-foot Copepod				X				X
144	Tidewater Mucket				X				X
145	Tiger Spiketail Dragonfly				X				X
146	Triangle Floater				X				X
147	Unicorn Clubtail Dragonfly				X				X
148	Variegated Fritillary Butterfly				X				X
149	Yellow Lampmussel				X				X

Notes to table on following page

Notes:

- Low—population is imperiled or vulnerable**
- Medium—population appears to be stable**
- Abundant—population is over carrying capacity**
- Unknown—population is undetermined**
- PE—possibly extirpated**

Sources for species status and trend data are located in Chapter 6—Conservation Actions—Species. All status and trend data for this table for the fish species of greatest conservation need was provided by Jon Siemien, Chief, Fisheries Research Branch, DC Fisheries and Wildlife Division.

Habitat Types and Conditions

One of the most exciting features of the District is that while it is a bustling metropolis, it also has a variety of vibrant natural areas ranging from urban landscapes with historic monuments and memorials to deep hardwood forests for birdwatching to rivers for fishing and boating. 13 identified habitat types are considered priority habitats for conservation.

Table 7. Priority Habitat Types

Habitat Types	
Terrestrial	Hardwood Forest
	Early successional/ Shrub-scrub/ Edge
	Grasslands/ Managed Meadows
	Urban Landscapes
Aquatic	Rivers and Streams
	Forested Wetlands, Riparian Woodlands, Floodplains
	Emergent Tidal Wetlands
	Emergent Non-tidal Wetlands
	Tidal Mudflats
	Vernal Pools
	Springs and Seeps
	Submerged Aquatic Vegetation
	Ponds and Pools

Habitat types are ordered based on the prioritization process, as described in Chapter 1. In sum, habitat types that house greater numbers of species in greatest conservation need, as well as a larger acreage of land are of greater conservation priority. The following Summary Chart lists the habitats in order of their priority:

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Table 8. Status and Trend of Habitat Types

Habitat Type	Status				Trend			
	Excellent	Good	Fair	Poor	Decreasing	Stable	Increasing	Unknown
Terrestrial								
Hardwood Forests			X		X			
Grasslands/ Managed Meadows			X		X			
Early successional/ Shrub-scrub/ Edge			X		X			
Urban Landscapes		X					X	
Aquatic								
Rivers and Streams			X			X		
Emergent Non-tidal Wetlands			X		X			
Forested Wetlands/ Riparian Woodlands / Floodplains			X			X		
Emergent Tidal Wetlands			X				X	
Tidal Mudflats			X				X	
Springs and Seeps			X			X		
Submerged Aquatic Vegetation			X				X	
Vernal Pools			X		X			
Ponds and Pools			X			X		

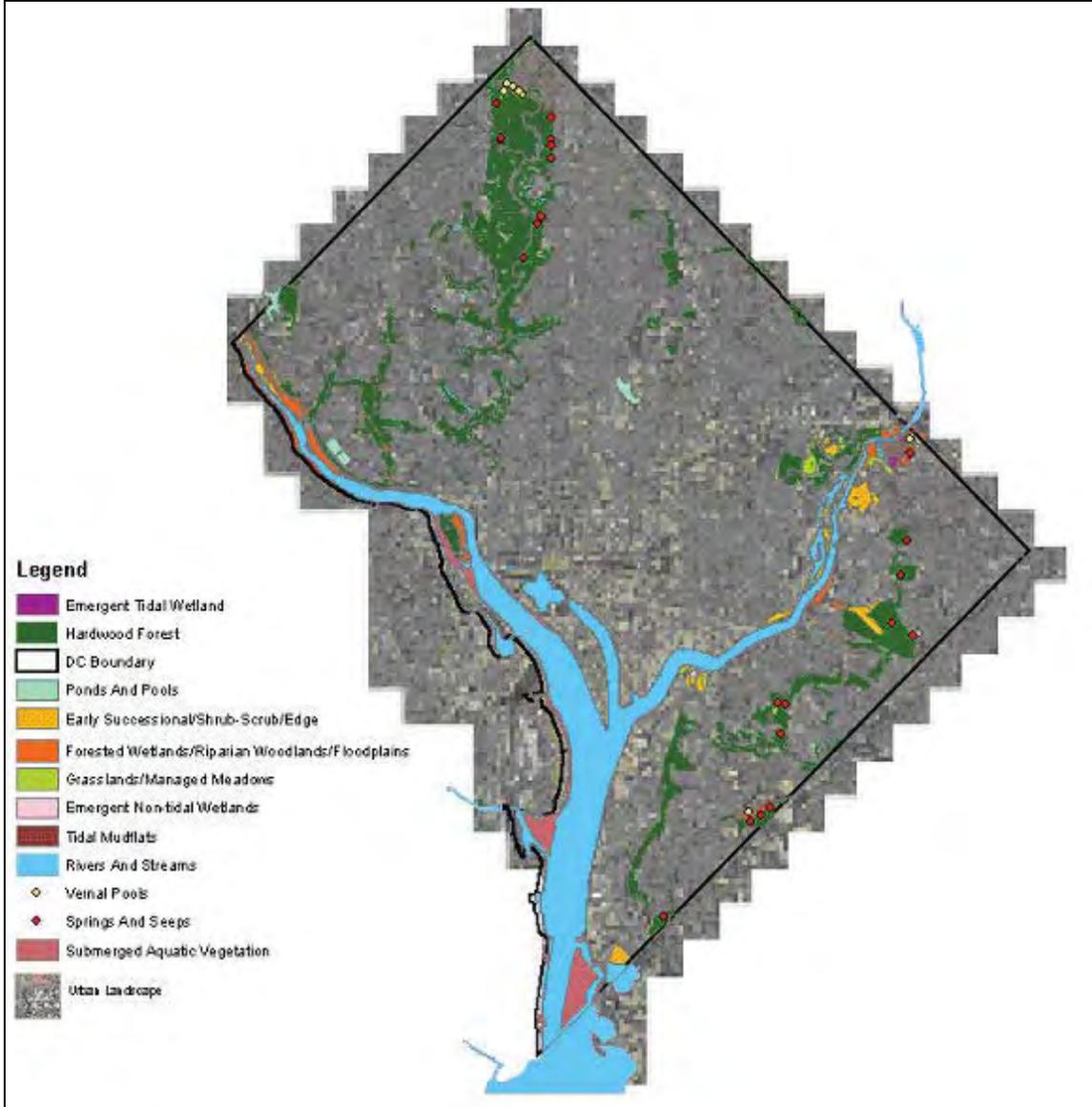
Note: The source of habitat condition data and the description of the ranking process is located in Chapter 1—Approach.

Table 9. Habitat Types Prioritized

Rank	Habitat Type	# Species	Acreage
1	Rivers and Streams	62	~4645
2	Hardwood Forests	45	~6864
3	Emergent Non-tidal Wetlands	40	<500
4	Grasslands/ Managed Meadows	23	<1000
5	Forested Wetlands/ Riparian Woodlands/ Floodplains	22	<1000
6	Early successional/ Shrub-scrub/ Edge	19	<15000
7	Emergent Tidal Wetlands	12	<2000
8	Urban Landscapes	10	~24,000
9	Tidal Mudflats	10	<600
10	Springs and Seeps	10	<100
11	Submerged Aquatic Vegetation	8	<1000

12	Vernal Pools	7	<200
13	Ponds and Pools	6	<500

Figure 3.1 Priority Habitat Types for the District of Columbia



Terrestrial Habitats

Hardwood Forest

Hardwood forests house 45 species of greatest conservation need, making hardwood forests the second highest priority habitat. Five major types of hardwood forest are found within the District, including chestnut oak forests, mixed oak—beech forests, tulip poplar forests, loblolly pine—mixed oak forests, and Virginia pine—oak forests.

1. **Chestnut oak forests** occur on ridgetops, convex upper slopes, and south-facing slopes, and are often associated with the mid-Atlantic Piedmont. Soils found in these forests are rocky, well-drained, acidic, sandy loams with a poorly developed organic layer and bedrock close to or at the surface. A conservation concern of these types of forests is that surface runoff and erosion is common (TNC 1998).

Dominant vegetation includes:

- o Canopy— Chestnut oak, Black gum
- o Sub-canopy— Serviceberry, Sassafras
- o Shrub layer— Blueberry, Black huckleberry
- o Herbaceous— sparse

2. **Mixed oak—beech forests** are mixed hardwood upland forests that occur on mesic to dry-mesic slopes or gentle gradients, primarily on or in close proximity to the mid-Atlantic Coastal Plain. Soils found in these forests are typically well-drained, acidic sandy loams, which may be derived from parent material of relatively greater fertility. This type of forest is of conservation concern because, for example, it has been mapped in Glover Archbold Park, which is a priority habitat location of this WAP, and the characteristics of the soil may play a role in the proliferation of non-native species at this site (TNC 1998).

Dominant vegetation includes:

- o Canopy— Beech, White oak, Tulip poplar
- o Sub-canopy— American holly, flowering dogwood
- o Shrub layer— Maple-leaved viburnum
- o Herbaceous— Bellwort, Virginia creeper, Solomon's seal, Christmas fern

3. **Tulip poplar forests** occur along streams and on mesic, mid-slope to low-slope sites that have been cleared and/or cultivated. They have been found on areas mapped as Manor loam soils that are deep, well-drained and underlain by acidic rock. These types of forests could be of conservation concern because they are successional forests that follow cropping or clear-cut logging or other severe disturbances, including fire (TNC 1998).

Dominant vegetation includes:

- o Canopy— Tulip poplar
- o Sub-canopy— Boxelder

- o Shrub layer— Spicebush, Blackberry, Multiflora rose, Porcelain berry
- o Herbaceous— Lesser celandine

4. **Loblolly pine—mixed oak forests** occur on mid to lower slopes on broad flats or in sheltered ravines, and are associated with the mid-Atlantic Coastal Plain. Soils within the District are well-drained to excessively drained gravelly sandy loams. This type of forest could be of conservation concern because it has a relatively high diversity of tree species (TNC 1998).

Dominant vegetation includes:

- o Canopy— diverse; no dominate species; species include Black cherry, Sweet gum, Post oak, Turkey oak, Willow oak, Loblolly pine
- o Sub-canopy—
- o Shrub layer—
- o Herbaceous— sparse

5. **Virginia pine—oak forests** occur on middle to upper slope positions at elevations below 3,000 feet. Within the District, these forests usually occur on well-drained soils of hilltops. These types of forests could be of conservation concern because they were once common in 1977, but have now almost all succeeded to hardwood forests.

Dominant vegetation includes:

- o Canopy— Virginia pine, Oaks, Tulip poplar
- o Sub-canopy— Oak
- o Shrub layer— Maple-leaved viburnum
- o Herbaceous— sparse

An overarching conservation concern of all hardwood forest habitats is changes to the composition and vegetation structure. Some species specialize in specific vertical vegetation structures so that changes to the structure creates habitat unfit for those species. For example, the Wood Thrush is a species of greatest conservation need that requires a well-developed subcanopy and midstory vegetation with a relatively open understory and decaying leaf litter (PIF 1999).

One cause of a change in a forest's vertical structure is overbrowsing of the understory by deer. In fact, overbrowsing is a serious conservation threat within the District. Currently Rock Creek Park is assessing the damage to the understory by deer overbrowsing and has produced an Internal Scoping Report. Overbrowsing may be a serious threat to hardwood forest habitat and may require the production of a deer management plan. DC Fisheries and Wildlife Division staff plans to partner with the National Park Service to address the threat of overbrowsing across the District.

Currently, overbrowsing is not one of the top five threats to hardwood forest habitats and hopefully through the National Park Service's efforts and the conservation actions of this WAP, deer overbrowsing will never become a higher-ranking threat. However, a high-

ranking threat in emergent tidal wetland habitats is goose overbrowsing. The Anacostia Watershed Society is working with the Patuxent Wildlife Research Center, the DC Fisheries and Wildlife Division, the DC Watershed Protection Division, the National Park Service, MD Department of Natural Resources and other agencies and organizations to address this threat.

Grasslands/ Managed Meadows

Grasslands are home to 23 species of greatest conservation need and are a habitat that is at risk within the District and surrounding region. Grasslands are composed of vegetation that does not mature into successional growth or shrubland. They are primarily composed of grasses and can only sometimes support scattered shrubs and trees. Managed meadows are natural areas that are similar in ecological structure to grasslands but are managed by agencies and organizations by practices such as mowing.

While the availability of grasslands declines, it appears to be one of the last remaining strongholds for the Grasshopper Sparrow in the northeast. Furthermore, species that rely on open grasslands for breeding are among the species with the highest rates of population decline such as the Bobolink (PIF 1999). Therefore, grassland species as well as their habitat, especially large patches of grasslands, are in need of conservation.

Early Successional/ Shrub-scrub/ Edge

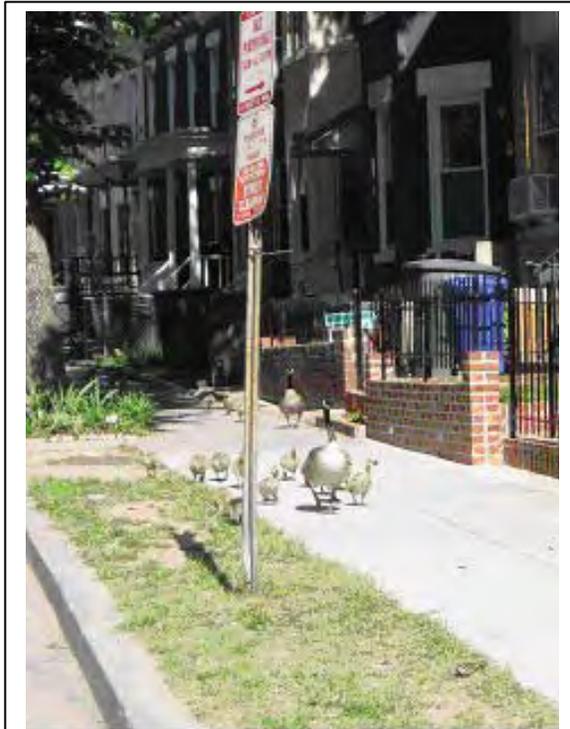
Early successional/ shrub-scrub/ edge habitats are home to 19 species of greatest conservation need. These habitats are habitats that have not matured into forest because of periodic natural or human disturbances. They are characterized by natural or semi-natural woody vegetation with aerial stems, generally less than six meters tall, with individuals or clumps not touching or interlocking. Both evergreen and deciduous species of true shrubs, young trees, and trees or shrubs are small or stunted because of environmental conditions. Shrubs dominate this habitat, with shrub canopy accounting for 25 to 100 percent of the cover. Shrub cover is generally greater than 25 percent when tree cover is less than 25 percent.

Some species depend on the type of vegetation that thrives in areas that have not matured into forest. For example, the American Woodcock is a species of greatest conservation need that prefers moist early successional habitat scattered with alder, dogwood, crab apple and hawthorn. It feeds at twilight or night by probing damp ground in fields or woods for earthworms, grubs, slugs and insects. Because of these specific habitat requirements, the American Woodcock serves as a good indicator species for early successional habitat suitable for many other species (PIF 2003).

Urban Landscapes

Urban landscapes are home to at least 10 species of greatest conservation need. After further research, more species are expected to be found using this habitat. Urban landscapes include both built and natural areas that are managed for human use. Usually

these areas are mowed, trimmed, experience a great deal of foot traffic, and are exposed to wind because they are cleared. These areas consist of the remaining land not identified under the other twelve habitats listed in this WAP, including golf courses, school campuses, backyards, cemeteries, land surrounding memorials and monuments, and non-vegetated areas such as roads, residential and commercial buildings, and parking lots. These areas are divided among the District's 8 wards, which would be equivalent to counties in a state.



Canada geese adapting well to the urban setting. Canada goose management is a component of the DC Wildlife Action Plan.

While some urban landscapes are built space, they still provide habitat for wildlife and are important areas for conservation planning. Within the extremely urbanized setting, the natural areas could provide important wildlife habitat and migratory corridors. There are several options for transforming urban landscapes into habitat, including using native plants in landscaping, strategic mowing, limiting pesticides, turning off lights in buildings and educating the public as to keeping pets inside and as to the value of wildlife (CRBC 1999).

Because the District has a large acreage of urban landscapes, it has a responsibility for conserving species that specialize in urban habitats. For example, the District has a high responsibility for ensuring that the Chimney Swift maintains stable populations since it is a species that specializes in urban habitats.

Currently, conservation agencies and organizations within the District lack information regarding the species of greatest conservation need that use these areas. However, urban landscapes represent a large portion of the District's land use and have a high potential for providing habitat and management opportunities. Thus, a strategy of this WAP is to start the research and surveys that are necessary to develop the expertise on the wildlife component of these urban landscapes in order to identify impacted species of greatest conservation need and to determine the most effective conservation actions.

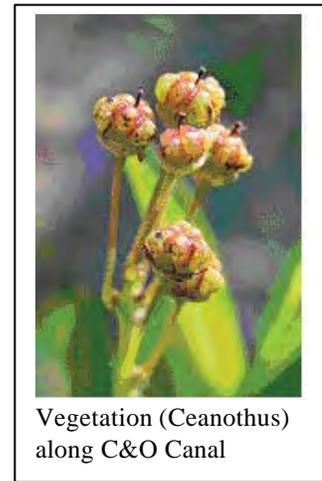
Aquatic Habitats

Rivers and Streams

The District is home to two rivers—the Potomac and Anacostia—and several streams. They provide habitat for 62 species of greatest conservation need, making it the highest priority habitat. All wildlife taxa utilize the rivers and streams in some way, whether it is

to drink, forage, breed, travel, or live. All life depends on water so the health of the District's rivers and streams affects all species of greatest conservation need. It is critical to have clean and healthy river and stream habitat.

They also perform many other ecological functions. They form natural corridors that connect otherwise isolated habitats. They connect the neighboring states to the District's habitats. They carry sediment and pollution downstream across borders. They are important for recreational activities such as fishing, swimming, wildlife observation, and boating and are aesthetic amenities for residential development and public open space. Drainage conveys urban waste and runoff from the land, especially during floods.



Vegetation (Ceanothus) along C&O Canal

However, the reliance on rivers and streams as conduits for stormwater and wastewater, as well as stream channelization and the alteration of the stream's watershed, has greatly diminished their ability to perform their functions. As a result, this habitat for wildlife faces erosion, degraded water quality and frequent flooding (CRBC 1999). Erosion and pollution are two of their greatest threats.

Emergent Non-tidal Wetlands

Emergent non-tidal wetlands are home to 40 species of greatest conservation need and the third highest priority habitat type. Emergent non-tidal wetlands are newly-formed wetlands that are not subject to tides (Environmental Technical Services Co. 1999). While this type of wetland does not support fish populations because it does not become inundated with water, it is habitat for invertebrate species that live in the substrate and the reptile, amphibian and the bird species that feed on those invertebrates.

Forested Wetlands / Riparian Woodlands / Floodplains

Together, forested wetlands, riparian woodlands and floodplains are home to 22 species in greatest conservation need.

1. **Forested wetlands** support vegetation with roots that are adapted to saturation during the growing season. Nationwide, forested wetlands account for the greatest amount of wetland loss and are experiencing changes in plant composition. The mid-Atlantic Coastal Plain accounts for nearly 7.4% of these wetlands. Between the 1950s and 1970s, nearly 2.5 million hectares of forested wetlands were lost. Much of this loss was due to the harvest of wetland forests or to filling or draining of forested wetlands for conversion to agriculture or urban development (PIF 1999).

The Prothonotary Warbler is a breeding bird of greatest conservation need that inhabits mature forested wetlands of the Coastal Plain. They require a relatively low, open canopy, a high density of small stems, cavities, and prefer the flooded rather than drier areas. Because of these highly specific habitat requirements, they are a

good indicator species for permanently forested wetlands. Therefore, conserving enough habitat to support their populations would also provide enough habitat for other species of greatest conservation need such as the Yellow-throated Vireo (PIF 1999).

2. **Riparian woodlands** are woodlands on either side of rivers and streams. They create recreational activities such as fishing and camping (BLM 1999). These areas help purify the water by:
 - o removing sediments,
 - o reducing the risk of flooding,
 - o reducing bank erosion, and
 - o providing water, food and habitat for a diversity of plant and wildlife species
3. **Floodplains** are low plains adjacent to stream banks, rivers, lakes or oceans and are subject to temporary or irregular flooding (Floodplain Management Association 2005). Floodplains are shaped by the frequency and duration of flooding, by nutrient and sediment deposition, and by the permeability of the soil. Flooding usually occurs during early spring when the snow is melting or during times of unusually heavy rainfall. The flooding of the area is important for the plant and wildlife species that inhabit or utilize the floodplain. These areas are of conservation concern because when they are developed or disturbed, overflowing and flooding can occur on the banks (Twin Groves Museum in the Classroom 2000).

Within the District, floodplains are associated with the mid-Atlantic Piedmont and the soils tend to be strongly acidic and moderately well-drained to somewhat poorly-drained Codorus silt loam with smaller deposits of sand and gravel. Woody debris typically covers 15% of the ground surface, whereas a leaf litter layer may be thin to absent. Floodplains within the District tend to be small with an average of about 30-40 acres (TNC 1998). The canopy cover is 50-90%, but the understory is more open than hardwood forests due to the frequent flooding (CRBC 1999).

Dominant vegetation includes:

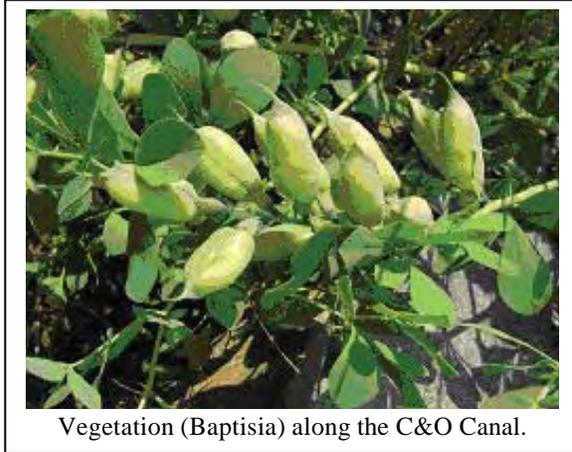
- o Canopy— Sycamore
- o Sub-canopy— Box elder
- o Shrub layer— Spicebush
- o Herbaceous— Garlic mustard, Jewelweed

Emergent Tidal Wetlands

Emergent tidal wetlands are home to 12 species of greatest conservation need. They are lands that are inundated by tidal waters. They can be seasonally, temporarily, and semi-permanently flooded. Emergent vegetation is important for water quality because it acts as a filter for sediment and other substances. Common plant species include wild rice, duck potato, American lotus, polygnum species, soft rush, pickerelweed, sedges,

bulrush, nuphar, common boneset, spikerush, wool-grass, spatterdock, swamp milkweed, and stiff march bedstraw (APG 2005).

More than 90% of the Anacostia River's historic wetlands have been destroyed or altered, due to land conversion, urban development and dredging and filling (AWRC 1991). The Wetlands Act of 1972 has been able to slow the trend wetland conversion across the country (PIF 1999). Locally, one of the top five threats to emergent tidal wetlands is



Vegetation (Baptisia) along the C&O Canal.

overbrowsing by resident Canada Goose populations. The geese eat the wild rice and other native vegetation, which diminishes the habitat for other animal species and increases opportunities for non-native invasive plant species.

The Anacostia Watershed Society is working with the Patuxent Wildlife Research Center, the DC Fisheries and Wildlife Division, the DC Watershed Protection Division, the National Park Service, MD Department of Natural Resources and other agencies and

organizations to address this threat. The National Park Service has begun work toward producing a goose management plan. However, management options in the District are limited because all wildlife is protected under the Water Pollution Control Act of 1984.

Tidal Mudflats

Tidal mudflats are home to 10 species of greatest conservation need. They are wetlands that occur between vegetated marsh and the water's edge and are alternately exposed and submerged by the tide. Tidal mudflats occur where wave energy is low and herbaceous vegetation covers less than 10% of the mud (FWC 2005). They are important for wildlife because they provide habitat and at the same time improve habitat quality by purifying the water. Many invertebrates live in the mud and provide food for birds and mammals when the tides are out (<http://www.petalumawetlandspark.org/HTML/Station7.html>).

Springs and Seeps

Springs and seeps of the District are a very important habitat because they are home to two endemic and one federally endangered species of greatest conservation need. The Hay's Spring amphipod is both endangered and endemic and Kenk's amphipod is endemic to Rock Creek. Springs and seeps within the District are required by several other species of greatest conservation need, particularly rare subterranean amphipods and copepods. A comprehensive inventory of groundwater invertebrate species within the District is needed to identify all of the species, threats, and conservation needs of this habitat, but resident expert opinion of the WAP Working Group expects such an inventory to reveal springs and seeps to remain a priority habitat.

Springs and seeps occur where groundwater flows to the surface. A spring has a concentrated flow, whereas a seep has a diffuse flow (CRBC 1999). Springs occur when the water table is higher than the ground surface and pressure forces the water out of the land (<http://pasture.ecn.purdue.edu/~agenhtml/agen521/epadir/grndwtr/spring.html>). They serve as a water source for almost every kind of wildlife species. The District's springs were once the best source of drinking water in the 1700s and 1800s. Today, those springs have disappeared due to the diversion of rainwater, direct piping into the sewers, filling or contamination (Pavek 2002).

Seeps are areas where groundwater continuously surfaces and flows down a slope. They support habitats made up of tiny mosses, lichens, ferns and flowering plants that cling to the surface of the slope (<http://www.nps.gov/dewa/pphtml/subnaturalfeatures21.html>).

Submerged Aquatic Vegetation

Submerged aquatic vegetation (SAV) in the District is a very important habitat type for both resident and catadromous fish. It is utilized by both aquatic and terrestrial species, of which eight are on our list of species of greatest conservation need. SAV provides food and habitat for many aquatic species, as well as helps to prevent erosion and sedimentation. Many species depend upon SAV for foraging or spending their juvenile life stages. SAV is decreasing throughout the District's waterways, which has a negative impact on both aquatic habitats and species of greatest conservation need (<http://www.chesapeakebay.net/info/baygras.cfm>).

This habitat is made up of permanently submerged vegetation and can be a mix of from one or two species in small patches, to seven to ten species in larger patches; the large mat had seven species in 2003. The largest patch of SAV in the District is located just upstream of the Woodrow Wilson Bridge. Species commonly found in the SAV beds in the District include *Hydrilla verticillata*, *Ceratophyllum demersum*, *Myriophyllum spicatum*, *Vallisneria americana*, *Heteranthera dubia*, and *Najas minor*, *Najas guadalupensis*, and *Myriophyllum spicatum*.

The SAV beds in the District are constantly changing, both in size and location, in response to several environmental variables all related to water quality. This prime aquatic habitat is constantly threatened by poor water quality related to high suspended solid loads because these solids block light from penetrating to the plants. During dry years, or during years when solids loading is high before or after the active growing season, the SAV can become established. During years when the loadings are high during the growing season however the plants either do not develop to the stage where seeds or shoots are not produced, or can die off entirely. Once the SAV density declines, more river, stream and pond bottom is exposed to further erosion and resuspension of sediment. Depending on the amount of precipitation in any one year then, our SAV beds can either flourish or decline. In 2002 there were 699 acres of SAV and after a record wet year in 2003 the acreage was down to 24 acres.

Presently the District is actively monitoring its SAV beds and plans are being developed to try test plantings. Potential partners include the Earth Conservation Corp, National Park Service, and the Anacostia Watershed Society in planting efforts. Enhanced SAV populations could not only help stabilize river, stream and pond bottom, but also enhance essential habitat for our aquatic and terrestrial species with the greatest conservation need.



Wood frog egg mass from an important vernal pool amphibian breeding habitat.

Vernal Pools

Vernal pools are seasonal bodies of water that flood each year for a few months during the spring and dry up by the end of summer. Because they are not permanently flooded, they do not support fish populations. Instead, they provide important breeding habitat for many species of amphibians. Some species, such as the spotted salamander and wood frog, are obligate vernal pool species, meaning that they require vernal pools to breed (<http://www.nhaudubon.org/conservation/vernal.htm>).

Vernal pool habitat in the District is by definition a transitory habitat, but even while transitory it provides habitat for seven of the District's species of greatest conservation need. The habitat is most often found in woodland areas but some are also found in the rocky floodplain area of the Potomac River.

Threats encountered by local vernal pool habitats can be as varied as surface runoff contamination caused by nearby development, or poaching of species which inhabit these habitats. Threats also include changes in nearby land use, or climatological changes, which can alter the hydrology of the surrounding area. Since vernal pool habitat is so reliant on an area's hydrology, if the hydrology changes the habitat can either be disrupted where it will no longer support its previous species diversity or it may totally disappear. In an urban area like the District, developmental pressures are constantly threatening the continuation of these marginalized habitats.



Spotted salamander egg mass in important amphibian vernal pool breeding habitat.

Vernal pool management is new to the DC Fisheries and Wildlife Division. Therefore, partnerships will be critical for guidance in the inventory and management of priority habitats, with an eye on restoration and even the creation of new habitats. Potential partners include the National Park Service and the US Fish and Wildlife Service. Over the next five years, the DC Fisheries and Wildlife Division hopes to develop a permanent system for tracking these habitats in the District. Currently, Rock Creek Park conducts monitoring surveys of vernal pools and amphibian egg masses occurring within the park.

Ponds and Pools

Pond and pool habitat in the District, while a relatively minor habitat type, supports six species of greatest conservation need. These habitats consist of small impoundments which are not presently actively surveyed or managed by the DC Fisheries and Wildlife Division. They often contain some submerged aquatic vegetation, another priority habitat, and can potentially support bird, fish, invertebrate, amphibian, reptilian, and mammalian species.

The pond and pool habitats are endangered mainly from threats which are directly or indirectly related to development. Nearby development can directly effect surface runoff contamination into the systems, and if runoff is extreme there can also be erosion and erosional deposition of sediments into the habitats. As with any system supporting SAV, erosional deposition generally leads to increased suspended solids in the water column and thus decreased light penetration. With a decrease in light penetration there is a decreased chance for SAV to become established or be maintained.

Because the District is highly urbanized, ponds and pools have a high potential for providing habitat to many aquatic species of greatest conservation need within urbanized areas. However, pond and pool habitat, like that of vernal pools, is not currently surveyed or managed by the DC Fisheries and Wildlife Division. Therefore, partnerships, especially the National Park Service and the US Fish and Wildlife Service, are essential for guidance in inventory and management of pond and pool habitats, with an eye on restoration and even creation of new pond and pool habitats.

Priority Habitat Locations

Below is a list of all priority habitats locations divided into the habitat types listed above. The selection process of priority habitat locations was explained in Chapter 1.

Terrestrial Habitats

Hardwood Forests

- o Glover Archbold Park
- o National Arboretum
- o Kenilworth Park (River Trail)
- o Shepherd Parkway
- o St. Elizabeth Hospital
- o Catholic University
- o Oxon Cove Park
- o Rock Creek Park
- o Fort Circle Parks
- o Oxon Run Parkway
- o Suitland Parkway
- o Veteran's Hospital
- o National Zoo
- o Lincoln Wetland Complex (between Nat. Arboretum & Anacostia Park)

Grasslands / Managed Meadows

- o Anacostia Park
- o Oxon Run Parkway

- o Fort Circle Parks
- o Kenilworth Park
- o National Arboretum
- o Oxon Cove
- o Poplar Point
- o Rock Creek Park
- o Veteran's Hospital area

Early Successional / Shrub-scrub/ Edge

- o Kingman Island
- o Poplar Point
- o Fort Dupont (along Old Golf Course)
- o Anacostia Park (East Bank)
- o National Arboretum
- o Kenilworth Aquatic Gardens
- o Fort Lincoln
- o Right of Ways

Urban Landscapes

- o The National Mall
- o Anacostia Park
- o National Arboretum
- o Hains Point Golf Course
- o Cemeteries
- o School campuses
- o Langston Golf Course
- o Wards 1-8

Aquatic Habitats

Rivers and Streams

- o Potomac River
- o Anacostia River
- o Rock Creek and tributaries
- o Oxon Run
- o Hickey Run
- o Fort Dupont
- o Pope's Branch
- o Watts Branch

Emergent Non-tidal Wetlands

- o Poplar Point
- o Lincoln Wetland Complex
- o National Arboretum
- o Kenilworth Aquatic Gardens
- o Oxon Run Parkway
- o Fort Dupont
- o C&O Canal

Forested Wetlands / Riparian Woodlands / Floodplains

- o Watt's Branch
- o Oxon Run Parkway
- o Oxon Cove
- o Kenilworth Aquatic Gardens
- o Kingman Island
- o National Arboretum
- o Anacostia Park
- o C&O Canal

- o Rock Creek Park
- o Lincoln Wetland Complex
- o Theodore Roosevelt Island

Emergent Tidal Wetlands

- o Anacostia River
- o Kenilworth Aquatic Gardens
- o Kingman Island
- o Theodore Roosevelt Island

Tidal Mudflats

- o Anacostia Park
- o Kenilworth Marsh
- o Kingman Island
- o Oxon Cove
- o Theodore Roosevelt Island

Springs and Seeps

- o Rock Creek Park
- o Oxon Run Parkway
- o Fort Circle sites
- o National Arboretum

Submerged Aquatic Vegetation

- o Potomac River
- o Anacostia River
- o Kenilworth Aquatic Gardens

Vernal Pools

- o Kenilworth Aquatic Gardens
- o Fort Dupont
- o National Arboretum
- o Rock Creek National Park
- o Oxon Run Parkway
- o Heritage Island
- o C&O Canal

Ponds and Pools

- o McMillan Reservoir
- o Kenilworth Aquatic Gardens
- o National Arboretum
- o Soldier's/ Veteran's home
- o Constitution Gardens
- o Lincoln Wetland Complex
- o Rock Creek Cemetery
- o Del Carlia Reservoir
- o Langston Golf Course

Chapter 4 - Threats

Threat Prioritization

This chapter outlines the major threats to the District's species of greatest conservation needs and their habitats. The District's species of greatest conservation need and their habitats face considerable threats and they are all important. However, it would be virtually impossible to address them all in a 10-year plan. Furthermore, some threats are not feasible to mitigate due to the District's size and urban character. Thus, it was necessary to prioritize the threats and to target the top five highest-ranking threats. Threats were ranked by expert opinion, as described in Chapter 1.

The development phase of the WAP included a threat selection and prioritization process. The implementation phase will include a threat reassessment and reprioritization process. As conservation actions are implemented, the status and trends of species, habitats, and threats are expected to change. These changes will be measured by the District's monitoring plan (Chapter 8). Furthermore, conservation technologies will improve, and the District's approach to conservation will have to adapt to remain effective. Therefore, the District has a plan to reassess and reprioritize threats and subsequently revise the WAP. For example, a revised WAP may prioritize a threat that is currently ranked low on the table. This process will include the entire Working Group, with the collaboration of monitoring data from the DC Fisheries and Wildlife Division, the National Park Service, the US Geological Survey, the National Arboretum, the US Fish and Wildlife Service, MD Department of Natural Resources, and others.

National, International and Global Threats

Global

The conservation of many of the District's species of greatest conservation need is unfortunately outside the scope of the District's conservation actions alone. These species face threats that are outside of the District's sphere of influence because the threats originate outside of the District. These threats are regional, national, international, or even global in character. One overarching global threat may be climate change. Climate change can lead to increased precipitation in some regions and more arid conditions in others. More precipitation can lead to increased erosion and sedimentation and thus adversely affect priority habitats such as submerged aquatic vegetation in the District as well as species of greatest conservation need that are dependent on them such as alewife, blueback herring, American shad and hickory shad. It could also lead to erosion which could scour out potential spawning areas for Atlantic and shortnosed sturgeon. A decrease in precipitation could be just as disastrous for certain species as an increase is for others. If drought conditions caused certain springs and seeps to dry-up then the only available habitat for species such as the Hay's Spring amphipod could be lost. Whether caused by too much or too little rain, any additional loss of habitat for

populations which are already stressed could prevent them from recovering. Conservation actions should attempt to address all scales of threats whenever possible.

International

Certain international threats can be more easily addressed than others because the origin of the threat can be identified, as in the case of rainforest destruction. While rainforests may not at first appear important to species in our area, several species migrate to these regions during the winter and return to the District during spring migration. Since certain countries such as Brazil are known to be suffering from deforestation, international conservation actions could be directed at these specific locations. While it may be in a countries' immediate financial interest to allow the destruction of its rainforest, through fostering worldwide environmental stewardship, and implementing environmentally friendly ecotourism types of activities, it could be possible to prevent some of the rainforest loss and thus help the District's species of greatest conservation need. While international cooperation is not always easy, long term partnerships could pay off with truly rewarding outcomes.

National

Another group of migratory species affected by threats originating outside of the District are fish. Migratory species are very difficult to manage during the parts of their lives that they are spending outside of the District. They are living in a different habitat under a different jurisdiction. Attempting to partner with these jurisdictions is a strategy of this WAP. Species of greatest conservation need, including alewife, blueback herring, hickory shad, American shad, Atlantic sturgeon and shortnosed sturgeon are all vulnerable to fishing pressure, both targeted and as bycatch, when they are out of District jurisdiction. While the District has no commercial fishery, since these species are migratory and move in and out of different jurisdictional waters, they do encounter commercial fishing pressure as well as additional recreational pressure. In addition to the legal catch the commercial and recreational fisheries provide, there is also bycatch mortality and a poaching threat to each fishery. Taken together, the threats faced by these species when they are outside of the District are probably greater than those faced when they are within the District's jurisdictional waters.

Threat Tables

The following tables (Tables 10 & 11) show the threats in order of priority divided by habitat. The score on the right column represents the overall rank of each threat for terrestrial and aquatic habitats. Following the tables, the top five overall highest priority threats for terrestrial and aquatic habitats are described in detail. Then, there are descriptions for threats for which this WAP targets conservation actions.

Table 10. Threats to Terrestrial Habitats

Threat	Habitat Type				Priority Rank
	Hardwood Forest	Early successional/ Shrub-scrub/ Edge	Grasslands/ Managed meadows	Urban Landscapes	
Invasive/ alien species	3	2.9	2.4	1.8	2.5
Recreation	2.3		1.7	2.4	1.6
Fragmentation	2.5	2.1	1.7		1.6
Dumping	2.1	2.1	1	0.8	1.5
Contaminants	1	1.6	1.3	2.2	1.5
Noise pollution	1.9	1.9	1.3	1	1.5
Habitat loss	1.6	1.8	2		1.4
Parasites/ pathogens	1.5	1.4	0.1	2	1.3
Overbrowsing	1.8	1.1	0.8	1	1.2
Stormwater erosion	2			2	1
Air pollution	1		1	2	1
Poaching	0.4	1	0.8	1.4	0.9
Roads/ utility			1.3	2.2	0.9
Park facilities/ operations/			1.8	1.6	0.9
Erosion	0.4	1		1.8	0.8
Light pollution		0.5	0.2	2.2	0.7
Development		2			0.5
Change in land use/ ownership			1.4		0.4

Key to table:

- 3— high threat
- 2— medium threat
- 1— low threat
- (blank)— not a threat to each habitat

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Table 11. Threats to Aquatic Habitats

Threat	Habitat Type										Priority Rank
	Rivers & streams	Emergent Non-tidal Wetlands	Forested wetlands, riparian, floodplain	Emergent Tidal Wetland	Tidal Mudflats	Springs & seeps	SAV	Vernal Pools	Ponds & pools		
Invasive/ alien species	2.3	2.9	3	2.5	2.8	2	2.2		1.5		2.1
Sedimentation	3	2.1	0.9	2.8	2.6	3	2.1	1.1	1.5		2.1
Changes to hydrologic regimes	3	2.1	1.8	1.5	2	2	1.1	2.7	1.5		2
Stormwater erosion	3	1.9	2.2	1.8	2.2	2	2.4		1.6		1.9
Pollution	2.5	2.1		2.7	2.6	2	2.1	1.4	1.8		1.9
Erosion	2.9	2		1.3	1.8	1			1.6		1.2
Habitat loss		2.1	1.6	1.8		1	2.6				1
Over-browsing		0.8	1.5	2			1.3		1.4		0.9
Parasites/ pathogens		0.5	1.4	1.5		1	1.6		1.1		0.8
Poaching	1.6	0.4	1.2	0.7		1		1.1	0.4		0.7
Recreation	1		1.6				1	1			0.6
Hardened shorelines	1.9	0.5		1.3							0.5
Contaminants			1.5			3					0.5
Park facilities/ operation/ maintenance			1.5			2		1.3			0.4

The Top Five Threats

Terrestrial Habitats

- 1. Invasive and alien species**— Invasive species are species that are not native to the area and are likely to threaten the native biodiversity of the habitat. Invasive and alien species could have been brought to habitats either intentionally or unintentionally by human disruptions of natural processes or by lack of management. Habitats can also be susceptible to invasive and alien species if they are suffering other stresses, such as nutrient loading, hydrological change, or soil compaction. They become established in habitats because they lack the predators and diseases that kept them at stable populations in their native environments (CRBC 1999).

Invasive and alien plant and animal species are the overall biggest threat across both terrestrial and aquatic habitat types within the District. Invasive and alien species can include both plant and animal species. An example of an invasive plant species is lesser celandine, *Ranunculus ficaria*, which is a threat targeted by this WAP. Examples of invasive animal species are rats and raccoons. They have become invasive due to reasons associated with human development, resulting in increased predation on some of the District's species of greatest conservation need. Populations of these predators have reached historic highs and have reduced productivity for many species across all habitat types.

While the threat of invasive and alien species is not unique to the District, the District does have a unique dilemma. Because all wildlife species are protected by District regulation- Water Pollution Control Act of 1984, wildlife agencies are extremely limited in management actions for animal invasive and alien species. For example, there are few options for managing the destructive overpopulation of resident Canada Geese, as discussed earlier.

- 2. Recreation**— The demand for outdoor recreation amongst the urban setting has led recreationalists to the only remaining natural areas in the District. The DC Office of Planning says that much of the District's parkland is inaccessible to the public, resulting in high pressure on the parks that are accessible (DC OP draft). For example, Rock Creek Park contains some of the largest unfragmented natural areas in and around the District, so it is expectedly inundated with recreationalists. It is also home to the spotted salamander, which is a species of greatest conservation need. The salamander requires vernal pools during the spring for breeding success and Rock Creek Park is a priority location for vernal pools. However, the pools are disturbed and damaged by recreational activities and pets off leash. Despite signs and other enforcement efforts taken by the park, the salamander continues to be threatened by recreation. While recreation is not one of the top five highest ranking threats for vernal pools, it is a strategy of this WAP to prevent recreation from becoming a bigger threat to this habitat and the species of greatest conservation need that are dependent upon it.

- 3. Fragmentation**— Fragmentation is caused by many forms of human development, such as roads and residences. Much of the original forest in the District has been developed and fragmented. When habitats are fragmented, gene flow alters, predation increases, and opportunities for invasive species increases. Fragmentation is a significant threat to animal species that require large, contiguous habitat blocks, such as grassland and forests species. Often, these species need these habitat blocks to breed or forage successfully. Less obvious forms of fragmentation, such as power lines through forests, may fragment habitat for insects and other invertebrate species (CRBC 1999). As such, almost all of the District's terrestrial species of greatest conservation need are impacted by fragmentation.

This makes managing land use changes while simultaneously preserving the environment one of the greatest conservation challenges. Because of the high rate of urbanization, the District has a large responsibility for conserving the species that are impacted by urbanization.

- 4. Dumping**— Dumping is a threat to all terrestrial habitats, as well as for forested wetlands/ riparian woodlands/ floodplains and springs and seeps.
- 5. Contaminants**— Although the District was never a major industrial center, it still has Brownfields, or areas that are, or are perceived to be, polluted from past activities. Contamination on these sites impacts wildlife and their habitats and needs to be addressed before new uses can be developed (DC OP draft).

Aquatic Habitats

- 1. Invasive and alien species**— See Terrestrial Habitats
- 2. Sedimentation**— Sedimentation in the District is mainly a function of activities occurring in jurisdictions bordering the Potomac and Anacostia Rivers outside of the District. Due to land disturbance caused by housing and road construction, changes in the hydrologic regime caused by development, and the concurrent increase in impervious surfaces, stormwater runoff during rain events move large quantities of soil from land surfaces into the waterways. Once the rivers begin to widen and slow in the District, the sediment which had been transported downstream with the swift upstream currents begins to settle out as sediment. Sedimentation is also caused by water moving soil from disturbed sites in the District.
- 3. Changes to hydrologic regimes**— Changes to hydrologic regimes have a number of sources. Urban development with associated draining, paving, topography changes, and other changes in land use can either increase or decrease the quantity of water flow. Converting forests to lawns, roadways, driveways or rooftops changes the hydrologic regime by removing the effect of water uptake and transpiration by the trees. The water not normally taken up and transpired by the

trees then has to go somewhere and may flow overland and directly into a receiving waterbody. Changing hydrologic regimes in the District are generally leading to reduced recharging of the aquifers and more runoff directly into creeks, streams and rivers. The runoff also tends to lead to increased rates of erosion, increased pollutant loads, and sedimentation.

Low-lying habitats, such as emergent non-tidal wetlands, emergent tidal wetlands, tidal mudflats, springs and seeps are impacted by changes in hydrologic regimes when their associated upland habitats are developed (CRBC 1999). Riparian woodlands are impacted by changes in hydrologic regimes when the channelization of streams lowers the water table. This eliminates the connection between streams and riparian woodlands, except during floods. This, in turn, increases sedimentation in floodplain forests due to floods (CRBC 1999).

- 4. Stormwater erosion**— Increases in stormwater erosion occur concurrently with increases in impervious surfaces and changes in land use which occur during development. Due to the highly developed character of the District, stormwater has a tendency to produce a lot of erosion even in naturally vegetated areas. When stormwater is unregulated, or improperly directed to a receiving pond, it leads to sedimentation, the transport of pollutants, and dramatic changes in water temperature in the District's creeks, streams and rivers into which the water flows. Stormwater erosion thus leads to a degradation of those habitats into which it is deposited.
- 5. Pollution**— Pollution can enter a habitat in a variety of ways ranging from urban runoff to air pollution. Nutrient loading can create conditions in which native plants cannot compete with invasive and alien species. Airborne pollutants, such as nitrogen and carbon dioxide, can contribute to this excess nutrient loading (CRBC 1999).

The District, as an urban center, is especially vulnerable to both point and non-point source water pollution. Point source pollution includes municipal wastewater and stormwater discharges. For example, millions of gallons of raw sewage are released into the Anacostia River every year (DC OP draft). Non-point source pollution results from vast urban development and road construction. For example, urban development in the District and upstream in Maryland brings pollutants from buildings and streets into the Anacostia River (DC OP draft).

Additional Threats Prioritized

Terrestrial

- 1. Stormwater erosion of Hardwood Forests.** Hardwood forests in the District are susceptible to stormwater erosion from urban area storm/sewer pipe outflows that empty into the streams or creeks running through such habitat. During periods of

- heavy rainfall, such outflows may have sufficient volume and may generate the requisite erosive force to wash away stream-side vegetation.
2. **Habitat loss of Hardwood Forests.** Hardwood forests in the District face constant threat from the myriad effects of ever-increasing urbanization. Loss and degradation of such habitat from development projects such as roads, power lines, etc. is an ongoing process. The insidious effects on hardwood forest ecology of over-browsing by a burgeoning Whitetail Deer population, is another significant management issue.
 3. **Park facilities, operations and maintenance in Grasslands/ Managed Meadows.** Laying of roads and trails and other infrastructure by park and municipal managers are a source of stress on grasslands/ managed meadows as well as urban landscapes. Mowing of grasslands and meadows at inappropriate times can alter critical habitat for associated species.
 4. **Development on Early Successional/ Shrub-scrub/ Edge habitat.** The laying of trails and roads, as well as construction of infrastructure (e.g. buildings) is a constant threat to early successional/ shrub-scrub/ edge habitat within the District. Such habitat has a tendency to not get the same level of concern and respect by the layperson as some other habitat types, e.g. hardwood forest.
 5. **Noise pollution in Early Successional/ Shrub-scrub/ Edge habitat.** Noise can be very disruptive to behavior patterns of animals that are required for their reproduction and survival. Little is known of the potential effects of sources of constant and substantial noise pollution on terrestrial species within metro areas. Basic research is needed to better understand the precise nature of the effects of this pervasive phenomenon within urban DC.
 6. **Light pollution in Urban Landscapes.** The excessive use of street illumination and other sources of light throughout much of the urban landscapes of the District have the potential of being a source of disturbance for nocturnal species. Bright lights from tall buildings within the DC metro area are a source for mortality for bird species during migration seasons. Brightly lit buildings tend to disorient migrating birds thus causing them to collide into such structures.
 7. **Roads/ utility corridors through Urban Landscapes.** See #1.
 8. **Parasites/ pathogens in Urban Landscapes.** Parasites and pathogens have the potential for seriously impacting resident populations of a range of species within the District. Recent outbreaks of the West Nile virus have severely depleted bird populations within the metro area. Rabies and canine distemper are an ever-present threat for some of the District's priority bat and canine species.

9. **Poaching (terrestrial and aquatic) vs. Overharvesting (aquatic).** Poaching is an illegal form of removing wildlife. Overharvesting occurs when the removal of the species is not illegal, but is ecologically unsustainable.

Aquatic

1. **Erosion of Rivers and Streams** is caused both by high flows, typically caused by heavy rains, in the spring falling on frozen ground incapable of absorbing the precipitation, and in the summer and fall associated with passing hurricanes or other large scale meteorological events. It can also occur in the winter, caused by the scouring of river and stream bottoms and banks by ice flows. This type of erosion is believed to be partially responsible for the loss of submerged aquatic vegetation in the District.
2. **Habitat loss of Emergent Non-tidal Wetlands** is associated with both natural sedimentation and developmentally induced filling-in. Since land for development is at such a premium in the District, developers have great incentives to try and make these areas suitable for development.
3. **Overbrowsing of Emergent Tidal Wetlands** is a threat most closely linked to resident Canada geese. The overly abundant resident geese enter these wetlands to feed, but due their numbers, end up destroying the habitat.
4. **Contaminants entering Springs and Seeps** are associated with both overland flow into these habitats as well as groundwater contamination. Contaminants include airborne pollutants, and terrestrial pollutants such as runoff from roadways, and manicured and maintained lawns and gardens.
5. **Park facilities, operations and maintenance effects on Springs and Seeps** include activities as innocuous as vehicular traffic in-and-out of maintenance facilities, and maintenance of parkland. These operations allow for additional air-born and terrestrial contamination to occur due to the close proximity of facilities to these habitats.
6. **Habitat loss of Submerged Aquatic Vegetation** is caused by poor water quality and physical erosion and scouring. High turbidity, often caused by wind and wave induced erosion in aquatic systems, and overland stormwater erosion in terrestrial environments, prohibits light penetration needed for vegetative growth. Physical erosion and scouring of stream and river bottoms by either high flows or ice can cause the uprooting of established plants. All of these processes are negatively affecting our submerged aquatic vegetation habitats in the District.
7. **Park facilities, operations and maintenance effects on Vernal Pools** include activities as innocuous as vehicular traffic in-and-out of maintenance facilities, and maintenance of parkland. These operations allow for additional air-born and

terrestrial contamination to occur due to the close proximity of facilities to these habitats.

8. **Poaching in Vernal Pools** is associated with people visiting these habitats and removing organisms, either for display in their own homes or for sale in retail businesses.
9. **Erosion of Ponds & Pools** is generally caused by wind induced wave action cutting at shorelines and to some extent the shallow bottom areas. Erosion in these habitats can lead to a decrease in water quality by increasing the suspended solids found in these waters. The increased suspended solids in turn cuts down on the amount of light capable of sustaining aquatic vegetation.

Chapter 5 – Conservation Actions – Habitats

This chapter details the District's actions for conserving its wildlife species of greatest conservation need. It is possible for the District to continue growing while minimizing the depletion of its natural treasures. Many of the threats can be mitigated with coordinated and comprehensive conservation planning.

Some species face unique threats and need to be addressed by actions specific to that species. Other species share the same threats. In other words, some species share similar habitat requirements and would all benefit from improvements to that habitat. For example, conserving tidal mudflats has the mutual benefit of potentially benefiting the American mink, northern river otter, and the common musk turtle. Therefore, the DC Fisheries and Wildlife Division staff used a two-pronged approach to develop a conservation plan for wildlife species of greatest conservation need:

- o species approach
- o habitat approach

This chapter deals with the habitat approach. Chapter 6 deals with the species approach.

Overarching Actions

While many threats are associated with specific habitats and species, other threats are District-wide or impact more than one habitat. For those threats, actions must be taken on the appropriate scale. These are overarching actions and can span the District across all or most habitats and species. The list of these actions is as follows:

1. Prevent habitat loss

Due to threats such as urbanization and private property encroachment, significant habitat loss occurs District-wide. As such, while some populations of amphibian species of greatest conservation need are currently stable, they may decrease in the future because their habitat is threatened. In response, the District seeks to protect all habitats through acquisitions and easements programs and through 'best management practices' wherever possible.

2. Reduce and control invasive and alien species

Invasive and alien species are one of the biggest threats to species of greatest conservation need across all habitats of the District. The Exotic Plants Management Team (EPMT) is based out of the Center for Urban Ecology of the National Park Service and removes and monitors a limited number of invasive plants for parks within the National Capital Region. Potential actions for this team could be to identify current and potential locations of specific invasive species using GPS.

3. Reduce overbrowser populations

Overbrowsing is a threat to many habitats, specifically to hardwood forests by white-tailed deer and emergent tidal wetlands by Canada Geese. Overbrowsing can destroy and change the structure of habitats. The National Park Service is currently researching the identification of deer and geese as a source of overbrowsing and the management options for those species. Implementing deer and goose management plans is a conservation action of this WAP. Other partners include the Anacostia Watershed Society, the US Geological Survey, and many others.

4. Reduce and control predation

There are several predators of the District's species of greatest conservation need that are invasive including pets, feral animals, raccoons and rats. Strategies to reduce this predation include controlling feral cats and dogs, enforcing leash laws, and minimizing the human disturbances that create habitat for raccoons and rats. Another plan is to implement 'integrated pest management' District-wide.

5. Participate in the planning process

It is strategic to use smart growth by aligning conservation principles with development goals during the District planning process. The DC Office of Planning produces a Comprehensive Plan that provides guidance for future land use, planning, and development (DC OP draft). The Division of Fisheries and Wildlife Division staff will keep abreast of proposed plans that would impact species of greatest conservation need and their habitats and become involved in the planning process wherever possible.

6. Congressional and mayoral involvement

Support for wildlife conservation must be enlisted at both the federal and local level. This can be done in a variety of ways, ranging from establishing wildlife conservation laws to inviting congressional staff to participate in fieldwork. The support of elected officials could help secure funding for the adequate implementation of this WAP.

7. Involve the public

Public involvement in the implementation of the District's WAP is an integral part of the Plan. The public will be involved in a variety of ways ranging from volunteering in fieldwork to participating in NGOs. This will increase awareness about the value of wildlife and the appropriate use of resources, as well as capture the power that groups of citizens have when they work together for the common goal of conserving wildlife. A detailed description of the public education and outreach plan is the heart of Chapter 7.

8. Coordinate District land managers

Coordination among land managers in the District is an integral part of the implementation of this WAP. The Working Group is composed of partners that manage land in the District and are already implementing conservation actions on

those lands. A strategy of this WAP is to enhance the ability of the partners to protect the District's wildlife and habitats by facilitating data flow, reducing redundancy, and continuing the partnerships.

9. Coordinate regional land managers

While coordination among land managers at the local level is crucial, it is also important to coordinate at the regional level. Due to the District's size and location, it shares many priority species and habitats with its surrounding states and the mid-Atlantic region. There are also threats to the District's species of greatest conservation need that originate from outside of the District's borders that must therefore be addressed at the regional level. Thus, coordination among land managers at the regional level would help ensure the effectiveness of conservation actions. Also, one of the major strategies of this WAP is to enhance the effectiveness of existing conservation actions, including regional plans. This would, for example, enhance the status and trends of migratory species that commute across the region.

10. Enforce regulations

There are many threats addressed in this WAP that are already targeted by regulations. For example, regulations regarding pets on leashes in Rock Creek Park or recreation within the National Arboretum were established to prevent harm to wildlife. These regulations need to be better enforced.

11. Continue research

Some of the District's species of greatest conservation need and their habitats have not been sufficiently surveyed to determine their status, trend, threats or needs, resulting in the inability to determine the most effective conservation actions. Some of these habitats are specific to the District, such as urban landscapes, ponds and pools. These habitats have a local dimension that has not been sufficiently explored to determine the most effective conservation actions. These locations have the potential to house or provide food for species of greatest conservation need, but more research is needed. As such, research and surveys are required to develop conservation actions for many species of greatest conservation need and their priority habitats. The most effective WAP possible is a major goal that requires ongoing research and monitoring of the status and trend of species of greatest conservation need and their habitats. Continued research and surveys will help prioritize species and habitats so that the most urgent threats are targeted as conditions change over time.

Conservation Actions by Habitat

The following set of conservation actions are organized by habitat type and are targeted to specific threats to those habitats. For each threat, partners for implementation are identified. Below are the acronyms for those partners:

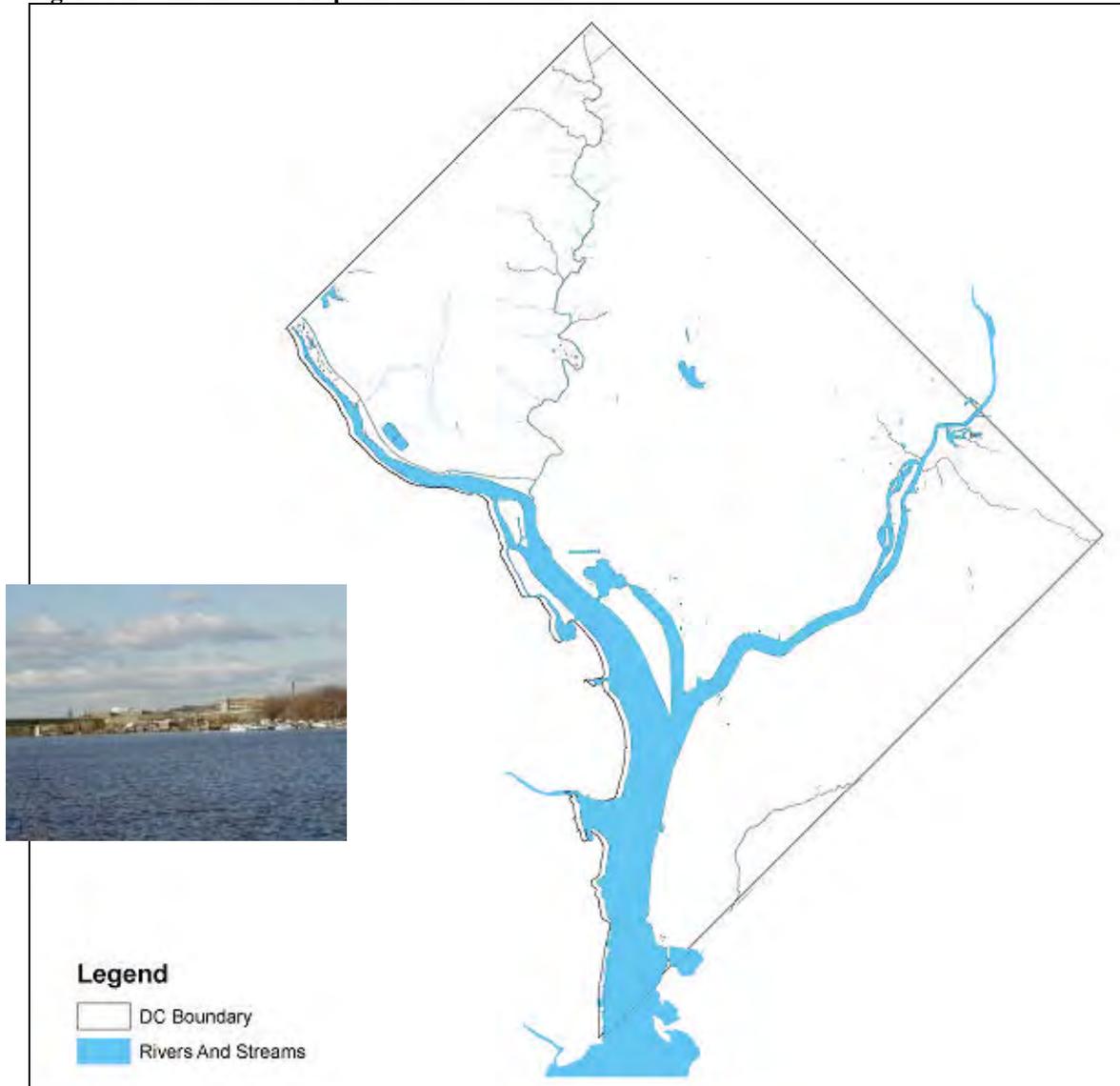
Partners for Implementation

ACD	Animal Control Division
AWS	Anacostia Watershed Society
BEQ	Bureau of Environmental Quality
COE	Corps of Engineers
DCW	DC Woodlands
DED	Department of Economic Development
DOT	Department of Transportation
DOW	Defenders of Wildlife
DPR	Department of Parks and Recreation
DPW	Department of Public Works
ECC	Earth Conservation Corps
ECU	Environmental Crimes Unit (Police Department)
MNPS	Maryland Native Plant Society
NA	National Arboretum
NPS	National Park Service
NZ	National Zoo
OOP	Office of Planning
USFWS	U. S. Fish and Wildlife Service
WASA	Water and Sewer Authority
WPD	Watershed Protection Division
WQD	Water Quality Division

Habitat 1 – Rivers and Streams

The Potomac and Anacostia rivers and several streams provide habitat for 62 species of greatest conservation need, making them the highest priority habitat. They form corridors to connect habitats and carry sediment and pollution downstream. However, the reliance on rivers and streams as conduits for storm and wastewater, among other uses, has resulted in erosion, degraded water quality and flooding (CRBC 1999).

Figure 5.1 WAP Habitat Map: Rivers and Streams



Conservation Actions for Rivers and Streams	
Threat: Sedimentation	
Rank: High	
Conservation Plan: Reduce Sedimentation	Actions: <ol style="list-style-type: none"> 1. Develop and implement a sediment control plan 2. Promote 'best management practices' for all DC projects. 3. Create or enhance buffers of vegetation along rivers for bank stabilization. <p>Sub-action 1. Support the US Fish and Wildlife Service plan in regard to sedimentation in Hickey Creek and its tributaries.</p>
Partners in Implementation: NPS, WPD, DPW, WASA	
Threat: Changes to Hydrologic Regimes	
Rank: High	
Conservation Plan: Reduce or eliminate activities that cause changes to hydrologic regimes	Actions: <ol style="list-style-type: none"> 1. Preserve groundwater recharge areas and avoid creating impervious surfaces, and where possible, remove impervious surfaces. 2. Preserve the pH of the groundwater. 3. Minimize disturbance in upstream watersheds. 4. Maximize the effects of stormwater management projects on maintaining the hydrologic regime. 5. Eliminate pollution and sediment from stormwater outfalls through facilities such as swirl concentrators. 6. Monitor the planning process from the beginning of all DC projects and, where possible, require 'low impact development.' 7. Promote 'best management practices' for all DC projects to increase the quality of runoff. 8. Where feasible, return streams to their natural conditions using techniques such as 'daylighting.' 9. Work with outside agencies and developers to mitigate impacts to the watershed.
Partners in Implementation: NPS, COE, DPW, WASA	
Threat: Stormwater Erosion	
Rank: High	
Conservation Plan: Reduce or eliminate stormwater runoff	Actions: <ol style="list-style-type: none"> 1. Implement the District's stormwater control plan District-wide, as developed by the Water Quality Division. 2. Promote 'best management practices' for all new DC development projects. 3. Work with contractors and designers during the planning process to mitigate stormwater runoff.
Partners in Implementation: WSP, OOP	

Conservation Actions for Rivers and Streams	
Threat: Erosion	
Rank: High	
Conservation Plan: Reduce or eliminate erosion	Actions: <ol style="list-style-type: none"> 1. Promote 'best management practices' for all new DC development projects; perform stream bank restoration. 2. Regularly maintain trails to keep erosion control structures functioning properly and reduce runoff. 3. Clean catch basins on roads to reduce runoff. Sub-action 1. Support the US Fish and Wildlife Service plan in regard to erosion in Hickey Creek, Watts Branch and Oxon Run.
Partners in Implementation: DPW, WPD, NPS, NA, FWS	
Threat: Pollution	
Rank: High	
Conservation Plan: Reduce or eliminate pollution	Actions: <ol style="list-style-type: none"> 1. Where applicable, install new trash traps at the stormwater outfalls to rivers and streams. 2. Promote separating stormwater and sanitary sewers when retrofitting. 3. Regular inspections of outfall structures and sanitary sewers; mitigate illegal discharges as soon as possible. Sub-action 1. Install oil/grit separators on catch basins at the Maintenance Yard.
Partners in Implementation: WASA, WSD, DPW, COE, ECU	

Associated Species of Greatest Conservation Need

<p><u>Birds</u> Acadian Flycatcher American Black Duck Bald Eagle Black-crowned Night Heron Great Horned Owl Louisiana Waterthrush Wood Duck</p> <p><u>Mammals</u> American Mink Gray Fox N. River Otter S. Bog Lemming Virginia Opossum</p> <p><u>Amphibians</u> American Toad Bullfrog</p>	<p><u>Fish</u> Alewife American Eel American Shad Atlantic Sturgeon Blueback Herring Bowfin Central Stoneroller Greenside Darter Hickory Shad Shortnosed Sturgeon Silverjaw Minnow Warmouth</p> <p><u>Reptiles</u> Common Musk Turtle E. Mud Turtle E. Painted Turtle Redbelly Turtle Spotted Turtle</p>	<p><u>Invertebrates</u> Alewife Floater Brook Floater Dwarf Wedgemussel Emerald Spreadwing Fine-lined Emerald Gray Petaltail Lilypad Forktail Damselfly Regal Fritillary Butterfly Sedge Sprite Sphagnum Sprite Spiny-foot Copepod Tidewater Mucket Tiger Spiketail Dragonfly Triangle Floater Unicorn Clubtail Dragonfly Yellow Lampmussel 14 Copepod species</p>
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	Wood Turtle	
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Priority Locations

Potomac River

Anacostia River

Rock Creek and tributaries

Oxon Run

Hickey Run

Fort Dupont

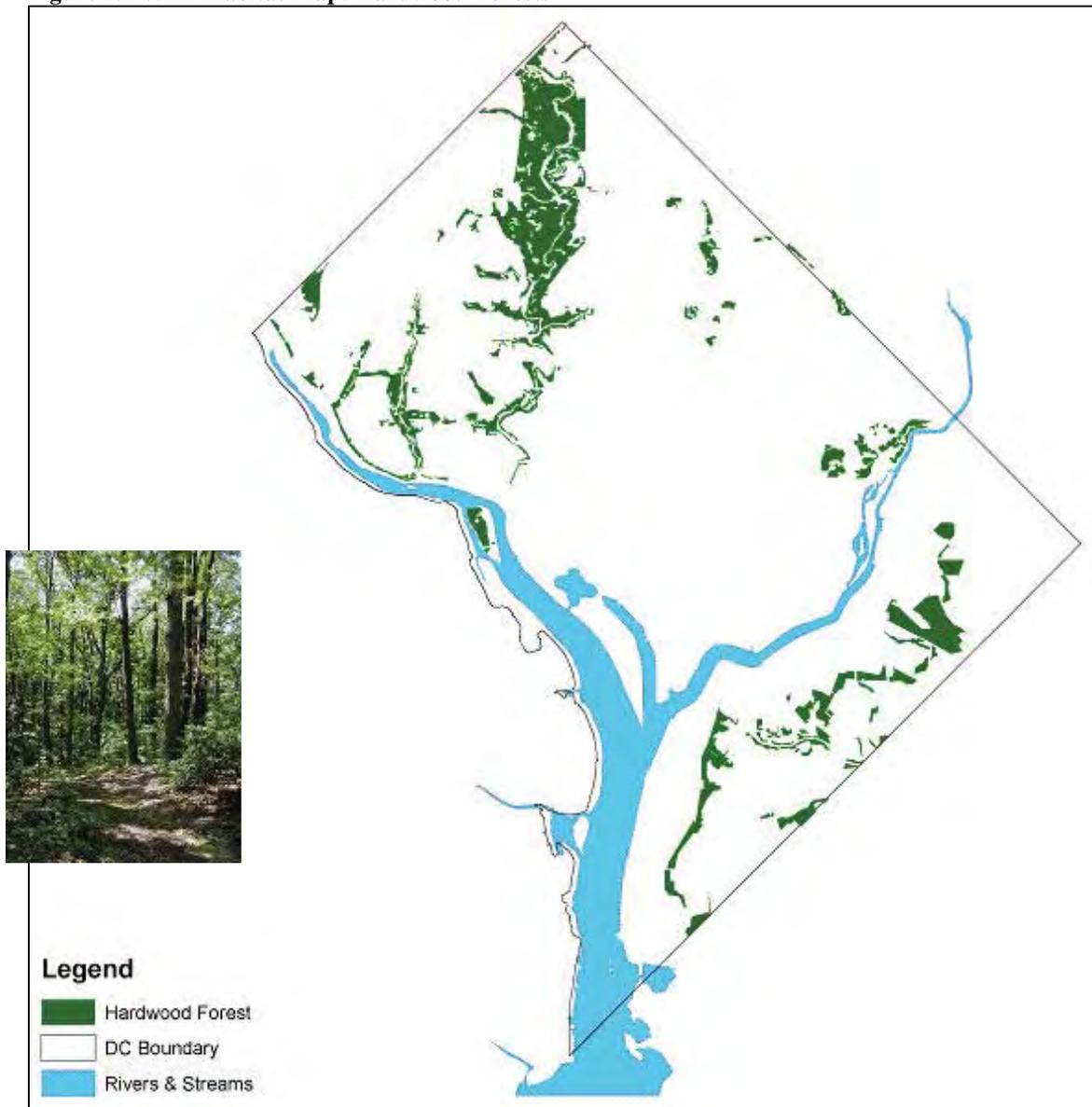
Pope's Branch

Watts Branch

Habitat 2 – Hardwood Forests

Hardwood forests are of priority conservation significance within the District because of their complex composition and vegetation structure. For example, many species of breeding birds require this habitat type. The species composition of these forests exhibits elements of both the mid-Atlantic Coastal Plain and the mid-Atlantic Piedmont ecoregions. Urbanization and browsing by white-tailed deer have contributed to significant fragmentation and degradation of this critical forest habitat within the District.

Figure 5.2 WAP Habitat Map: Hardwood Forests



Conservation Actions for Hardwood Forests	
Threat: Invasive/ Alien Species	
Rank: High	
<p>Conservation Plan: Reduce, eliminate, and/or control populations of invasive/ alien species</p>	<p>Actions for Plants:</p> <ol style="list-style-type: none"> 1. Fully fund the Exotic Plants Management Team (EPMT) exotics removal team and implement District-wide. 2. Implement control and management of invasive species District-wide. <ul style="list-style-type: none"> Sub-action 1. National Arboretum has invasive species contract for areas that are not curated. Staff sprays or manually removes invasive species from their areas for which they are responsible. Sub-action 2. A partnership between the Anacostia Watershed Society and Maryland Native Plant Society trains volunteers to identify and control exotic invasive plants, generally using mechanical methods. Sub-action 3. Rock Creek Park monitors and treats forest pests such as gypsy moth and Dutch elm disease. Sub-action 4. Fully fund Rock Creek Park's non-native plant management plan. <p>Actions for Animals:</p> <ol style="list-style-type: none"> 1. 'Integrated pest management' program for rat and feral animal control. 2. Implement Rock Creek Park's deer management plan District-wide to address the overabundant deer population that is affecting habitat quality within the District.
Partners in Implementation: NPS, NA, NPR, ECC, AWS	
Threat: Recreation	
Rank: High	
<p>Conservation Plan: Reduce the impacts of recreation</p> 	<p>Actions:</p> <ol style="list-style-type: none"> 1. Maximize use of existing recreational areas. 2. Establish and enforce laws and regulations to prohibit or limit recreational activities in hardwood forests. 3. Develop planning documents that designate management areas for long-term use. 4. Implement covenant on natural areas/riparian zones when these areas are transferred to DC/Sports and Entertainment at Kenilworth Park/North. <ul style="list-style-type: none"> Sub-action 1. Support the National Arboretum's mission statement and grounds rules prohibit most recreation, with 24-7 security forces to enforce rules.
Partners in Implementation: NPS, DPR, NA, DED	

Conservation Actions for Hardwood Forests	
Threat: Dumping	
Rank: High	
Conservation Plan: Stop dumping	Actions: <ol style="list-style-type: none"> 1. Increase surveillance and increase enforcement District-wide. 2. The District Environmental Crimes Unit and US Park Police will prosecute dumping/dumpers to the fullest extent of the law. 3. Public education using methods such as signs that have police contact numbers at popular dumping sites in the District. 4. Collect trash from dumping sites. Tires and rims are a considerable expense as they are considered hazardous waste and have a per/unit disposal fee. 5. Expand volunteer programs for park and river clean-ups, especially for floatable trash on the Anacostia River.
Partners in Implementation: DPW, NPS, ECU	
Threat: Storm-water Erosion	
Rank: High	
Conservation Plan: Reduce stormwater runoff	Actions: <ol style="list-style-type: none"> 1. Require 'best management practices' for all new DC projects. 2. Promote 'low impact development' and rain gardens District-wide. 3. Install riparian buffer plantings where appropriate. 4. Remove down trees in waterways that divert flows causing excessive bank erosion. <p>Sub-action 1. The FWS is developing a plan to help mitigate erosion in Hickey Creek and its tributaries. Erosion problems within plant collections are dealt with by the National Arboretum staff responsible for that area.</p> <p>Sub-action 2. Riparian buffer plantings along the Anacostia River and Park.</p>
Partners in Implementation: NPS, DPR, WPD, ECC, AWS	
Threat: Fragmentation	
Rank: High	
Conservation Plan: Reduce or eliminate fragmentation	Actions: <ol style="list-style-type: none"> 1. Protect hardwood forests through land purchases and easements. 2. Prepare a plan to identify and protect important natural areas prior to building trails, roads, etc. 3. Use land transfers to prevent utility corridors and DC right-of-ways from becoming developed causing fragmentation of habitat.
Partners in Implementation: OOP, DED, NPS	

Associated Species of Greatest Conservation Need

<p><u>Birds</u> Acadian Flycatcher American Woodcock Bald Eagle Broad-winged Hawk Brown Creeper Brown Thrasher Cerulean Warbler Chimney Swift Eastern Towhee Great-horned Owl Hooded Warbler Kentucky Warbler Louisiana Waterthrush Ovenbird Prothonotary Warbler Red-shouldered Hawk Scarlet Tanager Wood Thrush Worm-eating Warbler Yellow-throated Vireo</p>	<p><u>Mammals</u> Allegheny Woodrat E. Chipmunk E. Red Bat E. Small-footed Myotis S. Bog Lemming Gray Fox S. Flying Squirrel</p> <p><u>Reptiles</u> E. Box Turtle E. Hognose Snake E. Painted Turtle Five-lined Skink N. Copperhead Snake N. Ringneck Snake Rough Green Snake Timber Rattlesnake Wood Turtle</p>	<p><u>Amphibians</u> American Toad Fowler's Toad N. Spring Peeper Pickerel Frog Spotted Salamander Wood Frog</p> <p><u>Invertebrates</u> Appalachian Grizzled Skipper Frosted Elfin Mottled Duskywing</p>
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Priority Locations

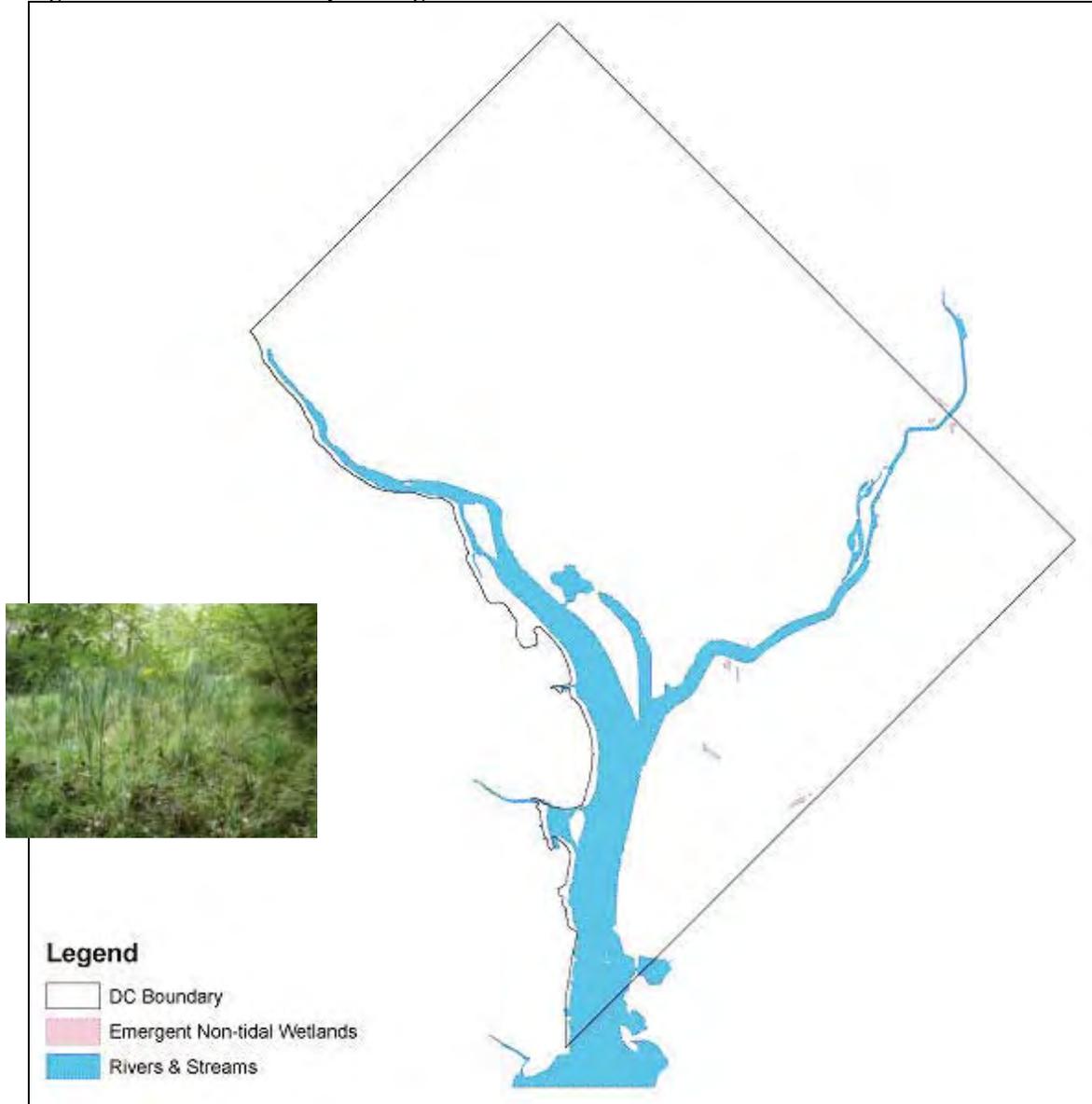
Glover-Archbold Park
 Rock Creek Park
 National Arboretum
 All Fort Circle sites
 Kenilworth Park (River Trail)
 Oxon Run Parkway
 Shepherd Parkway

Suitland Parkway
 Lincoln Wetland Complex
 Veteran's Hospital area
 Catholic University
 National Zoo
 Oxon Cove Park
 St. Elizabeth's Hospital

Habitat 3 – Emergent Non-tidal Wetlands

Emergent non-tidal wetlands are newly-formed wetlands that are not subject to tides. They include wet meadows and forb-dominated herbaceous areas in ponds, streams, and marshes. While this type of wetland does not support fish populations because it does not become inundated with water, it is habitat for invertebrate species that live in the substrate and the reptile, amphibian and the bird species that feed on those invertebrates.

Figure 5.3 WAP Habitat Map: Emergent Non-tidal Wetlands



Conservation Actions for Emergent Non-tidal Wetlands	
Threat: Invasive/ Alien Species	
Rank: High	
Conservation Plan: Reduce, eliminate, and/or control populations of invasive/ alien species	Actions: <ol style="list-style-type: none"> 1. Fully fund the Exotic Plants Management Team (EPMT) exotics removal team and implement District-wide. 2. Control invasive species and prevent their establishment. 3. Provide sources to spray and manually remove plants, such as lesser celandine, <i>Ranunculus ficaria</i>. 4. Conduct 'integrated pest management' to remove rats and feral animals. <ul style="list-style-type: none"> Sub-action 1. Rock Creek Park monitors and treats forest pests such as gypsy moth and Dutch elm disease. Sub-action 2. Fully fund Rock Creek Park's non-native plant management plan.
Partners in Implementation: NPS, DPW, DPR, ECC, AWS	
Threat: Sedimentation	
Rank: High	
Conservation Plan: Reduce sedimentation	Actions: <ol style="list-style-type: none"> 1. Develop and implement a sediment control plan. 2. Promote 'best management practices' for all DC projects. <ul style="list-style-type: none"> Sub-action 1. Support the US Fish and Wildlife Service plan in regard to sedimentation in Hickey Creek and its tributaries.
Partners in Implementation: NPS, DPW, FWS	
Threat: Changes to Hydrologic Regimes	
Rank: High	
Conservation Plan: Reduce or eliminate activities that cause changes to hydrologic regimes	Actions: <ol style="list-style-type: none"> 1. Preserve groundwater recharge areas and avoid creating impervious surfaces, and where possible, remove impervious surfaces. 2. Preserve the pH of the groundwater. 3. Minimize disturbance in upstream watersheds. 4. Maximize the effects of stormwater management projects on maintaining the hydrologic regime. 5. Monitor the planning process from the beginning of all DC projects and, where possible, require 'low impact development.' 6. Where feasible, return streams to their natural conditions using techniques such as 'daylighting.' 7. Enhance the function of the wetland by restoring native plants and sustaining mitigation that has been done. 8. Work with outside agencies and developers to mitigate impacts to the watershed.
Partners in Implementation: DPW, WASA, COE, NPS	

Conservation Actions for Emergent Non-tidal Wetlands	
Threat: Pollution	
Rank: High	
Conservation Plan: Reduce or eliminate pollution	Actions: 1. Where applicable, install new trash collectors and at the inlets of emergent non-tidal wetlands. 2. Implement 'best management practices' District-wide.
Partners in Implementation: DPW, NPS, COE	
Threat: Habitat Loss	
Rank: High	
Conservation Plan: Prevent habitat loss	Actions: 1. Protect wetlands through acquisition and easements.
Partners in Implementation: NPS, OOP, DED	

Associated Species of Greatest Conservation Need

<p><u>Birds</u> American Bittern American Black Duck Black-crowned Night Heron Least Bittern Marsh Wren Sora Virginia Rail Wilson's Snipe</p> <p><u>Mammals</u> American Mink N. River Otter S. Bog Lemming Virginia Opossum</p>	<p><u>Amphibians</u> American Toad Bullfrog Fowler's Toad Marbled Salamander Mud Salamander N. Cricket Frog N. Dusky Salamander N. Spring Peeper N. Two-lined Salamander N. Red Salamander Pickerel Frog Redback Salamander Red-spotted Newt Salamander Spotted Salamander Upland Chorus Frog Wood Frog</p>	<p><u>Reptiles</u> Queen Snake Common Musk Turtle Eastern Box Turtle Eastern Mud Turtle Eastern Painted Turtle Redbelly Turtle Spotted Turtle Wood Turtle</p> <p><u>Invertebrates</u> Lilypad Forktail Damselfly Mocha Emerald Dragonfly Tiger Spiketail Dragonfly Unicorn Clubtail Dragonfly</p>
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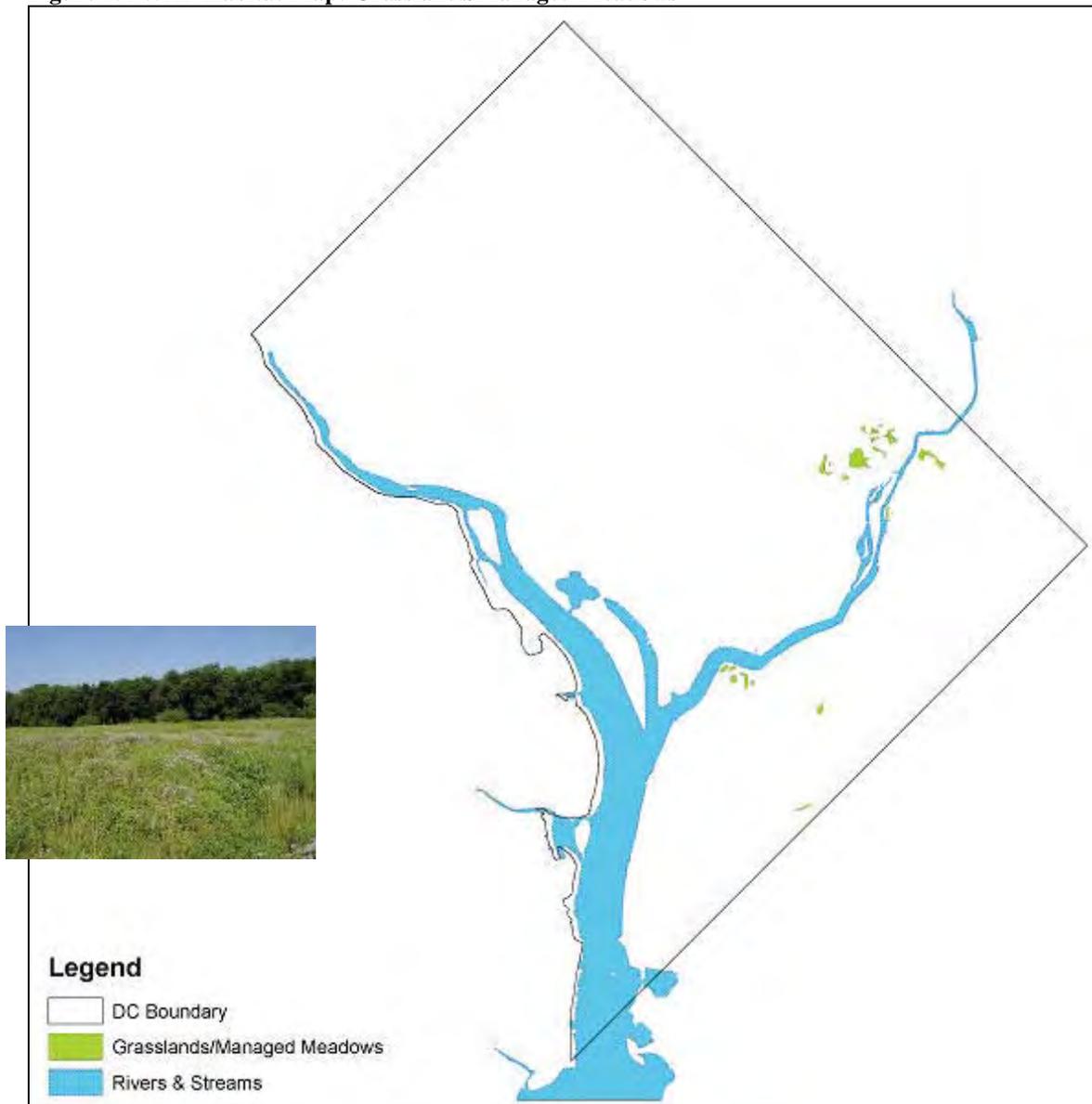
Priority Locations

Poplar Point	Oxon Run Parkway
Lincoln Wetland Complex	Fort Dupont
National Arboretum	C&O Canal
Kenilworth Aquatic Gardens	

Habitat 4 – Grasslands/Managed Meadows

Grasslands are composed of vegetation that does not mature into successional growth or shrubland. They are primarily composed of grasses and can sometimes support scattered shrubs and trees. Species that rely on grasslands for breeding are among the species with the highest rates of population decline, such as the Bobolink (*Dolichonyx orizivorus*). Pervasive threats to grassland habitat come from secondary succession and their conversion to other human uses.

Figure 5.4 WAP Habitat Map: Grasslands/Managed Meadows



Conservation Actions for Grasslands/Managed Meadows	
Threat: Invasive/ Alien Species	
Rank: High	
<p>Conservation Plan: Reduce, eliminate, and/or control populations of invasive/ alien species</p>	<p>Actions for Plants:</p> <ol style="list-style-type: none"> 1. Fully fund the Exotic Plants Management Team (EPMT) exotics removal team and implement District-wide. 2. Implement control and management of invasive species District-wide. 3. Collect and plant native seeds from meadow plants to use in restoration efforts. <p>Sub-action 1. National Arboretum has invasive species contract for areas that are not curated. Staff sprays or manually removes invasive species from their areas for which they are responsible.</p> <p>Sub-action 2. A partnership between the Anacostia Watershed Society and Maryland Native Plant Society trains volunteers to identify and control exotic invasive plants, generally using mechanical methods.</p> <p>Actions for Animals:</p> <ol style="list-style-type: none"> 1. Trapping of feral cats and dogs.
Partners in Implementation: NPS, NA, ECC, AWS, ACD	
Threat: Habitat Loss	
Rank: High	
<p>Conservation Plan: Stop or slow habitat loss</p>	<p>Actions:</p> <ol style="list-style-type: none"> 2. Land exchanges, acquisitions, and easements. 3. Prepare a plan to identify and protect grasslands and managed meadows across the District. 4. Require NEPA compliance. 5. National park management will conduct state and local planning activities for projects impact grasslands and managed meadows. <p>Sub-action 1. The National Arboretum has Woodland and Wildlife Management Plans that encourage habitat restoration and biodiversity within the woodland plant community. There are plans (such as an educational Flowering tree walk and a new Classical Chinese Garden) that will have some impact on meadows. However, the Arboretum is letting some other areas become meadows.</p>
Partners in Implementation: NPS, OOP, DED	

Conservation Actions for Grasslands/Managed Meadows	
Threat: Park Facilities/ Operations/ Maintenance	
Rank: Medium	
Conservation Plan: Reduce the impact of park facilities, operation and management	Actions: <ol style="list-style-type: none"> 1. Enforce policies that reduce the impact of park facilities, operation and management. 2. Educate staff in regard to the impact of the park on grasslands and managed meadows. 3. Cut managed meadows to reduce growth of woody plants.
Partners in Implementation: NPS, NA, DPR	
Threat: Recreation	
Rank: Medium	
Conservation Plan: Reduce the impacts of recreation	Actions: <ol style="list-style-type: none"> 1. Maximize use of existing recreational areas. 2. Prepare a plan that designates management areas for long-term use. Sub-action 1. The National Arboretum's mission statement and grounds rules prohibit most recreation, with 24-7 security forces to enforce rules.
Partners in Implementation: DPR, NPS, NA	
Threat: Fragmentation	
Rank: Medium	
Conservation Plan: Reduce or eliminate fragmentation	Actions: <ol style="list-style-type: none"> 1. Protect through land purchases and easements. 2. Prepare a plan to identify and protect important natural areas prior to building trails, roads, etc. 3. Managed meadows management plans to protect habitat diversity.
Partners in Implementation: OOP, DED, NPS	

Associated Species of Greatest Conservation Need

<u>Birds</u>	<u>Reptiles</u>	<u>Invertebrates</u>
Bobolink	E. Box Turtle	Appalachian Grizzled Skipper
Wilson's Snipe	E. Fence Lizard	Crossline Skipper Butterfly
Eastern Meadowlark	E. Hognose Snake	Edward's Hairstreak
Field Sparrow	E. Worm Snake	Frosted Elfin
Grasshopper Sparrow	N. Black Racer Snake	Great Spangled Fritillary Butterfly
Northern Bobwhite	Rough Green Snake	Imported Cabbage Butterfly
<u>Mammals</u>		Monarch Butterfly
Eastern Cottontail		Mottled Duskywing
		Regal Fritillary Butterfly
		Variegated Fritillary Butterfly

Priority Locations

Oxon Cove

Poplar Point

Kenilworth Park

National Arboretum

Anacostia Park

Oxon Run Parkway

Military Road area (RCNP)

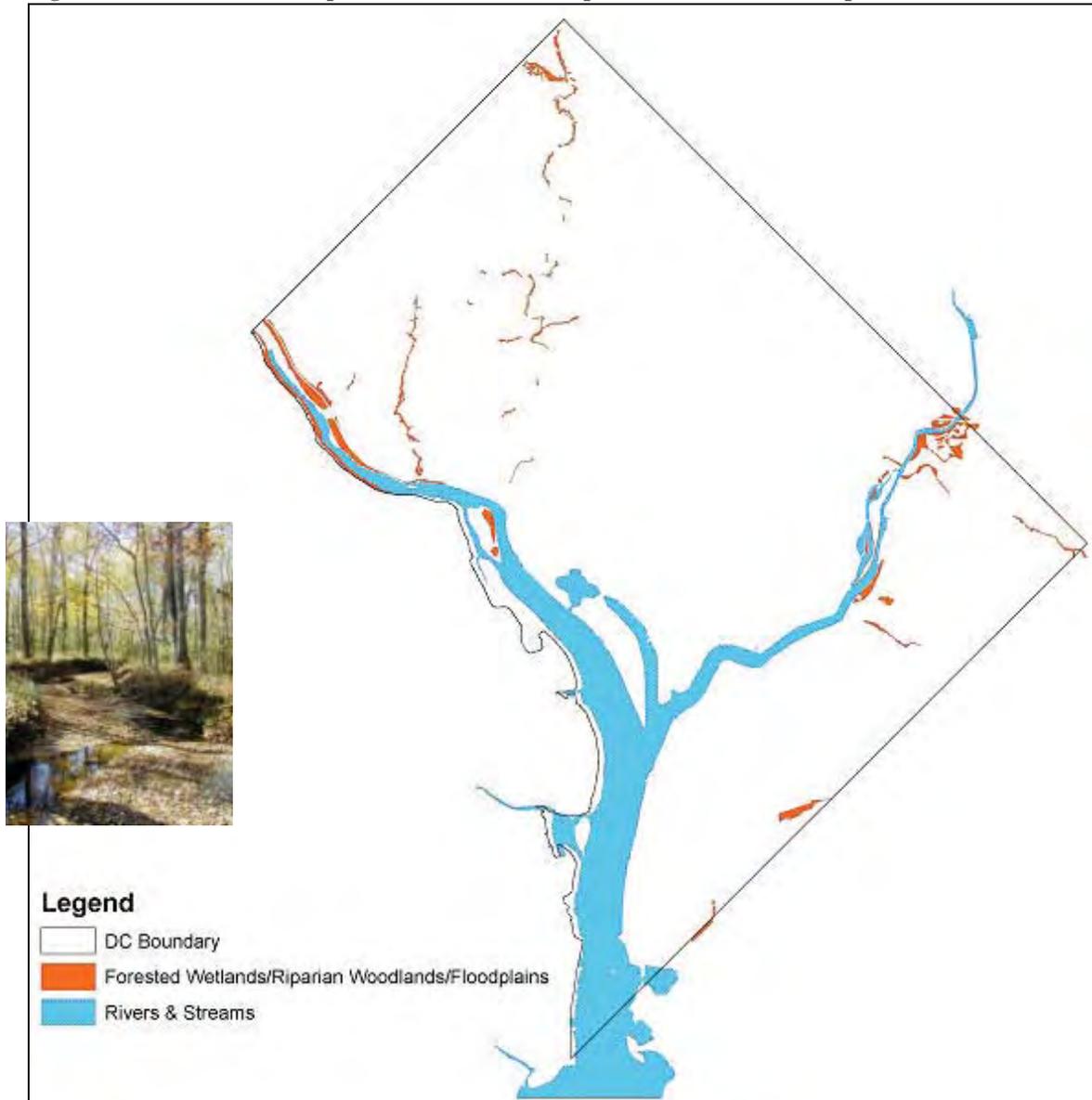
Fort Circle Parks

Veteran's Hospital area

Habitat 5 – Forested Wetlands / Riparian Woodlands / Floodplains

Forested wetlands support vegetation with roots that are adapted to saturation during the growing season. The boundaries of forested wetlands can be difficult to delineate because forests with short hydroperiods are very similar to upland hardwood forests. Nationwide, forested wetlands account for the greatest amount of wetland loss and are experiencing changes in plant composition. Forested wetlands are important to many species in greatest conservation need. For example, the Yellow-throated Vireo reaches its highest densities in forested wetlands of the coastal plain.

Figure 5.5 WAP Habitat Map: Forested Wetlands/Riparian Woodlands/Floodplains



Conservation Actions for Forested Wetlands / Riparian Woodlands / Floodplains	
Threat: Invasive/ Alien Species	
Rank: High	
Conservation Plan: Reduce, eliminate, and/or control populations of invasive/ alien species	Actions: <ol style="list-style-type: none"> 1. Fully fund the Exotic Plants Management Team (EPMT) exotics removal team and implement District-wide. 2. Control invasive species and prevent their establishment. 3. Provide sources to spray and manually remove plants, such as lesser celandine, <i>Ranunculus ficaria</i>. 4. Conduct 'integrated pest management' to remove rats and feral animals. <p style="margin-left: 40px;">Sub-action 1. Rock Creek Park monitors and treats forest pests such as gypsy moth and Dutch elm disease.</p> <p style="margin-left: 40px;">Sub-action 2. Fully fund Rock Creek Park's non-native plant management plan.</p>
Partners in Implementation: NPS, NA, ECC, AWS	
Threat: Fragmentation	
Rank: High	
Conservation Plan: Reduce or eliminate fragmentation	Actions: <ol style="list-style-type: none"> 1. Conserve forested wetlands/ riparian woodlands/ floodplains. 2. Restore forested wetlands/ riparian woodlands/ floodplains, particularly where there are opportunities to connect forests that are currently separated by development or degraded habitat. 3. Encourage developers and property owners to preserve forested wetlands/ riparian woodlands/ floodplains during regulatory review. 4. Conduct planning efforts in parks before projects are initiated to determine impacts to natural resources. Projects will be avoided or altered in cases of impacts to natural resources. Areas with sensitive resources will be avoided.
Partners in Implementation: OOP, DEP, NPS	

Conservation Actions for Forested Wetlands / Riparian Woodlands / Floodplains	
Threat: Stormwater Erosion	
Rank: High	
Conservation Plan: Reduce or eliminate stormwater runoff	Actions: <ol style="list-style-type: none"> 1. Implement the District's stormwater control plan District-wide, as developed by the Water Quality Division. The District will enforce stormwater controls on construction sites vigorously. Regular inspections of sites will be necessary to prevent uncontrolled runoff. 2. Promote 'best management practices' for all new DC development projects. 'Low impact development' to reduce stormwater runoff and improve the quality of runoff to include fewer contaminants and sediment. 3. Pursue other opportunities to restore streams, reduce runoff, and reduce the amount of impervious surface.
Partners in Implementation: WASA, WPD, NPS, OOP	
Threat: Private Property Encroachment	
Rank: High	
Conservation Plan: Reduce or limit private property encroachment	Actions: <ol style="list-style-type: none"> 1. Enforce property boundaries via cooperation among parties, regular inspections, and restoration of sites. 2. Educate private property owners on impact of encroachment on species of greatest conservation need. Encroachments cause impacts on species of greatest conservation need by altering habitat and introducing non-native species. 3. Encourage property owners to restore, protect, and provide buffers for forested wetlands/riparian woodlands/floodplains.
Partners in Implementation: NPS	
Threat: Change in Land Use/ Ownership	
Rank: Medium	
Conservation Plan: Reduce or limit impact	Actions: <ol style="list-style-type: none"> 1. Work with landowners to use management practices that benefit species of greatest conservation need. 2. Encourage developers and property owners to preserve these areas during regulatory review. 3. Encourage property owners to restore, protect and provide buffers for these areas. 4. Designate areas as 'critical or special protection areas' to protect critical habitat from certain types of development, such as the cutting of trees by private landowners.
Partners in Implementation: NPS	

Associated Species of Greatest Conservation Need

<p><u>Birds</u> Acadian Flycatcher American Black Duck American Woodcock Bald Eagle Black-crowned Night Heron Cerulean Warbler Chimney Swift Kentucky Warbler Louisiana Waterthrush Prothonotary Warbler Red-shouldered Hawk Wood Duck Yellow-throated Vireo</p>	<p><u>Amphibians</u> American Toad Fowler's Toad Marbled Salamander N. Spring Peeper Spotted Salamander</p> <p><u>Reptiles</u> E. Box Turtle</p>	<p><u>Invertebrates</u> E. Comma Butterfly Mocha Emerald Dragonfly Red Admiral Dragonfly</p>
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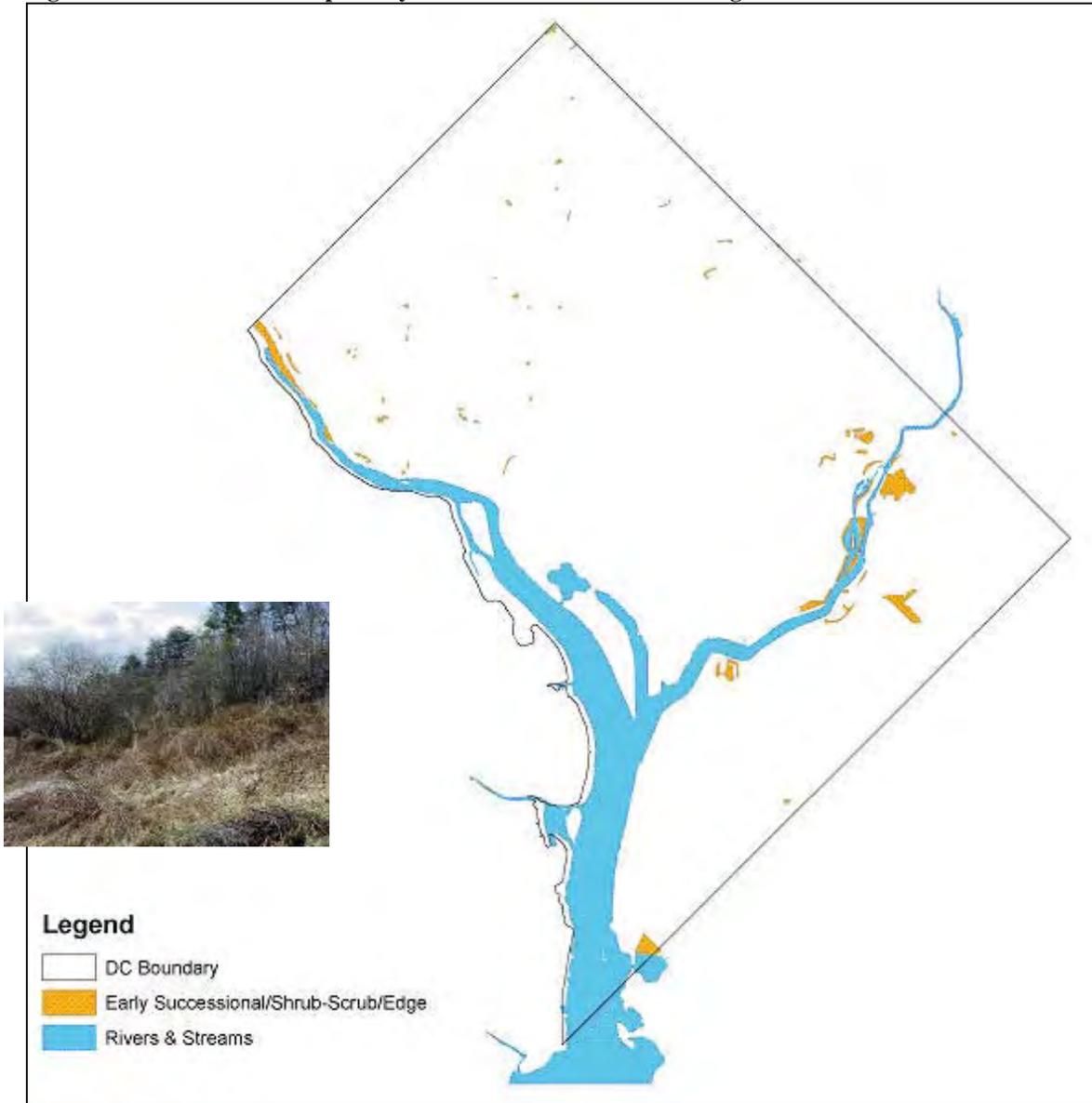
Priority Locations

- | | |
|--------------------|---------------------------|
| Watt's Branch | Kenilworth Park |
| Kingman Island | C&O Canal |
| Oxon Run Parkway | Rock Creek National Park |
| National Arboretum | Theodore Roosevelt Island |
| Oxon Cove | Lincoln Wetland Complex |
| Anacostia Park | |

Habitat 6 – Early Successional / Shrub-Scrub / Edge

Early successional/shrub-scrub/edge habitats are habitats that have not matured into forest because of periodic natural or human disturbance. They are characterized by natural or semi-natural woody vegetation with aerial stems, usually less than six meters tall. Shrubs dominate this habitat, with shrub canopy accounting for 25-100 percent of the cover. Shrub cover is generally greater than 25 percent when tree cover is less than 25 percent. The vegetation characteristics provide unique habitat required by many species.

Figure 5.6 WAP Habitat Map: Early Successional/Shrub-Scrub/Edge



Conservation Actions for Early Successional / Shrub-Scrub / Edge	
Threat: Invasive/ Alien Species Rank: High	
Conservation Plan: Reduce, eliminate, and/or control populations of invasive/ alien species	Actions: <ol style="list-style-type: none"> 1. Fully fund the Exotic Plants Management Team (EPMT) exotics removal team and implement District-wide. 2. Control invasive species and prevent their establishment. 3. Provide sources to spray and manually remove plants, such as lesser celandine, <i>Ranunculus ficaria</i>. 4. Conduct 'integrated pest management' to remove rats and feral animals. <p style="margin-left: 40px;">Sub-action 1. Support Rock Creek Park in monitoring and treating forest pests such as gypsy moth and Dutch elm disease.</p> <p style="margin-left: 40px;">Sub-action 2. Fully fund Rock Creek Park's non-native plant management plan.</p>
Partners in Implementation: DPW, DPR, NPS, NA, ECC, AWS	
Threat: Fragmentation Rank: High	
Conservation Plan: Reduce or eliminate fragmentation	Actions: <ol style="list-style-type: none"> 1. Protect early successional/ shrub-scrub/ edge habitat through land purchases and easements. 2. Prepare a plan to identify and protect important natural areas prior to building trails, roads, etc. <p style="margin-left: 40px;">Sub-action 1. Encourage PEPCO electric service to manage its Right-of-Ways for early successional/ shrub-scrub/ edge habitat.</p>
Partners in Implementation: OOP, DED, NPS	
Threat: Dumping Rank: High	
Conservation Plan: Stop dumping	Actions: <ol style="list-style-type: none"> 1. Increase surveillance and increase enforcement District-wide. 2. Support prosecution of dumpers by District and US Park Police to the fullest extent of the law. 3. Public education using methods such as signs that have police contact numbers at popular dumping sites in the District. 4. Collect trash from dumping sites. Tires and rims are a considerable expense as they are considered hazardous waste and have a per/unit disposal fee. 5. Expand volunteer programs for park and river clean-ups, especially for floatable trash on the Anacostia River.
Partners in Implementation: DPW, NPS, ECU	

Conservation Actions for Early Successional / Shrub-Scrub / Edge	
Threat: Development	
Rank: High	
Conservation Plan: Reduce development or the impact of development	Actions: <ol style="list-style-type: none"> 1. Be involved in the planning process for development projects. 2. Require 'best management practices' for all DC projects, using smart development strategies such as rain gardens, impervious surfaces, and native species plantings. 3. Reserve portions of the land to be used for parkland instead of remaining idle.
Partners in Implementation: OOP, DED	
Threat: Noise Pollution	
Rank: Medium	
Conservation Plan: Reduce noise pollution	Actions: <ol style="list-style-type: none"> 1. Study/research the effects of noise pollution on species. 2. Add the effects of noise pollution on wildlife to existing research projects. 3. Create and maintain buffers around the habitat.
Partners in Implementation: OOP	

Associated Species of Greatest Conservation Need

<p><u>Birds</u> American Woodcock Brown Thrasher Eastern Towhee Field Sparrow Northern Bobwhite Ovenbird White-eyed Vireo</p>	<p><u>Mammals</u> Allegheny Woodrat E. Chipmunk Gray Fox</p> <p><u>Reptiles</u> Corn Snake E. Box Turtle E. Fence Lizard E. Worm Snake N. Black Racer Snake</p>	<p><u>Invertebrates</u> Frosted Elfin Little Glassywing Butterfly Mottled Duskywing Question Mark Butterfly</p>
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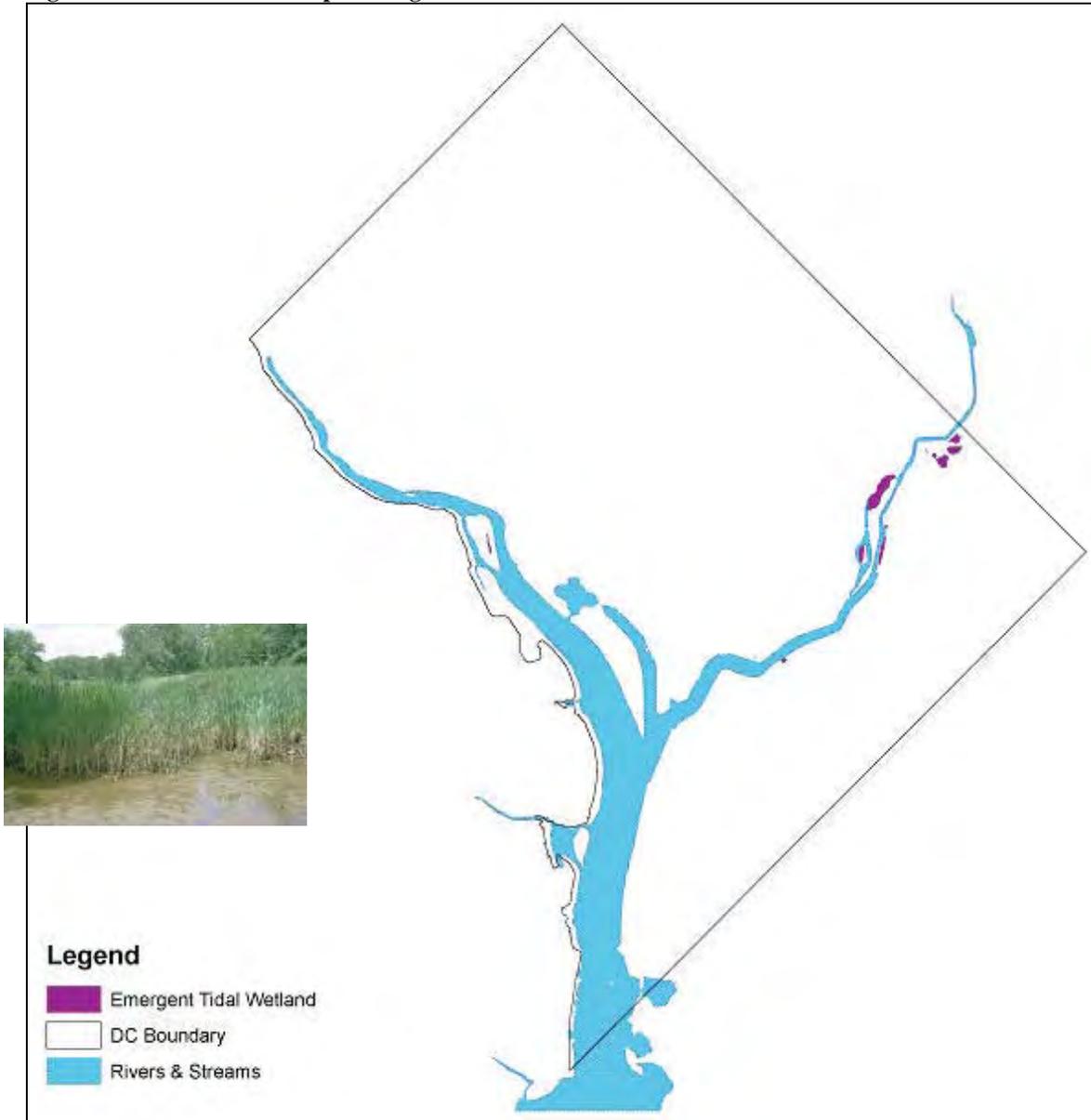
Priority Locations

Kingman Island	Fort Lincoln
National Arboretum	Anacostia Park (East Bank)
Poplar Point	Right-of-Ways
Fort Dupont (along Old Golf Course Fairways)	Kenilworth Aquatic Gardens

Habitat 7 – Emergent Tidal Wetlands

Emergent tidal wetlands are lands that are inundated by tidal waters. They can be seasonally, temporarily, and semi-permanently flooded. Emergent vegetation is important for water quality because it acts as a filter for sediment and other substances. Common plant species include wild rice, duck potato, American lotus, *Polygonum* species, soft rush, pickerelweed, sedges, bulrush, nuphar, common boneset, spikerush, wool-grass, spatterdock, swamp milkweed, and stiff march bedstraw.

Figure 5.7 WAP Habitat Map: Emergent Tidal Wetlands



Conservation Actions for Emergent Tidal Wetlands	
Threat: Sedimentation Rank: High	
Conservation Plan: Reduce sedimentation	Actions: <ol style="list-style-type: none"> 1. Develop and implement a sediment control plan. 2. Promote 'best management practices' for all DC projects
Partners in Implementation: NPS, WPD, NA	
Threat: Pollution Rank: High	
Conservation Plan: Reduce or eliminate pollution	Actions: <ol style="list-style-type: none"> 1. Where applicable, install new trash traps at the outfalls to emergent tidal wetlands. 2. Implement 'best management practices' District-wide.
Partners in Implementation: WPD, DPW	
Threat: Invasive/ Alien Species Rank: High	
Conservation Plan: Reduce, eliminate, and/or control populations of invasive/ alien species	Actions: <ol style="list-style-type: none"> 1. Fully fund the Exotic Plants Management Team (EPMT) exotics removal team and implement District-wide. 2. Control invasive species and prevent their establishment. 3. Provide resources to spray and manually remove plants, such as lesser celandine, <i>Ranunculus ficaria</i>. 4. Conduct 'integrated pest management' to remove rats and feral animals.
Partners in Implementation: NPS, ECC, AWS	
Threat: Overbrowsing Rank: High	
Conservation Plan: Reduce overbrowsing	Actions: <ol style="list-style-type: none"> 1. Reduce browser populations. 2. Implement deer management plan. 3. Implement goose management plan.
Partners in Implementation: AWS, NPS, NA	
Threat: Stormwater Erosion Rank: Medium	
Conservation Plan: Reduce or eliminate stormwater runoff	Actions: <ol style="list-style-type: none"> 1. Implement the District's stormwater control plan District-wide, as developed by the Water Quality Division. 2. Promote 'best management practices' for all new DC development projects.
Partners in Implementation: WPD, DPW, WASA	

Priority Locations

Anacostia River
 Kingman Island
 Theodore Roosevelt Island
 Kenilworth Marsh

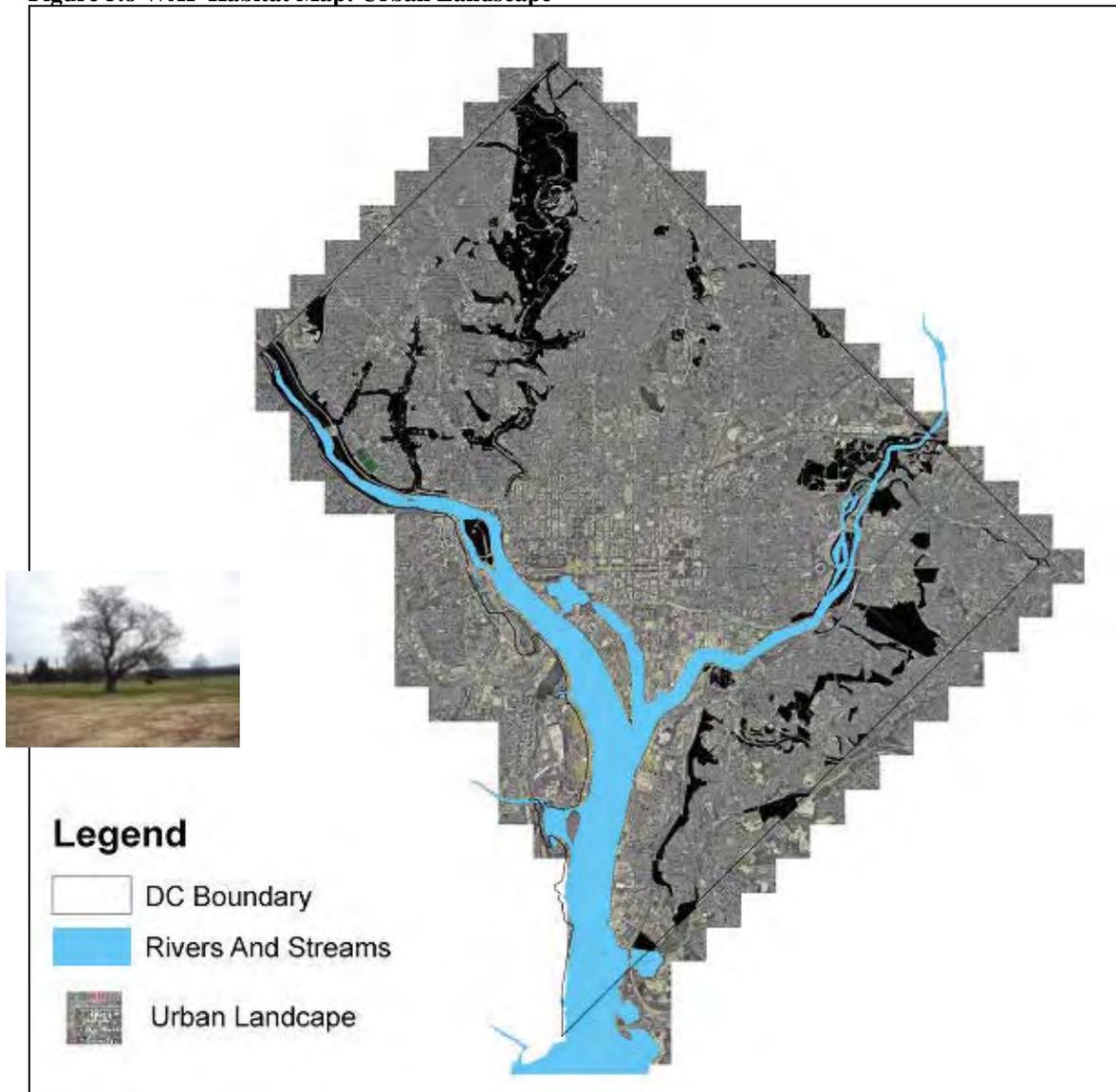
Associated Species of Greatest Conservation Need

<p><u>Birds</u> American Black Duck American Bittern Black-crowned Night Heron Least Bittern Sora Virginia Rail Wilson's Snipe</p>	<p><u>Mammals</u> American Mink N. River Otter S. Bog Lemming Virginia Opossum</p>	<p><u>Fish</u> American Eel Warmouth</p> <p><u>Invertebrates</u> Research is needed</p>
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Habitat 8 – Urban Landscape

Urban landscapes include both developed and natural areas that are managed for human use. Usually these areas are mowed, trimmed, experience a great deal of foot traffic, and are exposed to wind because they are cleared. Because the District has an extremely urbanized setting, the natural areas within the urban landscapes could provide important wildlife habitat and migratory corridors. While there is little scientific information regarding the species of greatest conservation need that use these areas, urban landscapes represent a large portion of the District's land use and has a high potential for providing habitat and management opportunities.

Figure 5.8 WAP Habitat Map: Urban Landscape



Conservation Actions for Urban Landscape	
Threat: Recreation	
Rank: High	
Conservation Plan: Reduce the impacts of recreation	Actions: <ol style="list-style-type: none"> 1. Maximize use of existing recreational areas. 2. Actively participate in land use planning committee. 3. Prepare a plan that designate management areas for long-term use. 4. Implement covenant on natural areas/riparian zones when these areas are transferred to DC Sports and Entertainment at Kenilworth Park North. <p>Sub-action 1. Support the National Arboretum's mission statement and grounds rules prohibit most recreation, with 24-7 security forces to enforce rules.</p>
Partners in Implementation: DPR, OOP, DPW, DED	
Threat: Contaminants	
Rank: High	
Conservation Plan: Reduce or eliminate contaminants	Actions: <ol style="list-style-type: none"> 1. Implement 'best management practices' District-wide. 2. Develop an action plan for non-point source pollution reduction District-wide. <p>Sub-action 1. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) cleanups and/or pre-CERCLA investigations at several sites within the Anacostia sites contaminated prior to NPS acquisition: Washington Gas (coal tar), Poplar Point (pesticides?, unknown), Kenilworth Park (historic sanitary landfill).</p> <p>Sub-action 2. Remove subterranean munitions at some Formerly Used Defense Sites (FUDS). Work has already been done at Oxon Run. Other potential sites include Anacostia Park, Fort Circle Forts/Shepherd Parkway.</p>
Partners in Implementation: NPS, WPD	
Threat: Roads/ Utility Corridors	
Rank: High	
Conservation Plan: Minimize impacts of roads/ utility corridors	Actions: <ol style="list-style-type: none"> 1. Underground utilities to highest extent possible. 2. Be involved with urban planning process and incorporate 'best management practices' that are designed to minimize impacts to wildlife. 3. Actively participate in land use planning committee. 4. Allocate funds for wildlife planning in the Transportation Bill.
Partners in Implementation: OOP, DED, DPW, DOT	

Conservation Actions for Urban Landscape	
Threat: Light Pollution	
Rank: High	
Conservation Plan: Reduce light pollution	Actions: <ol style="list-style-type: none"> 1. Adopt 'best management practices' to prevent light pollution. 2. Consult the International Dark Sky Association. 3. Adopt District-wide the National Park Service's 'best management practices' that prevent light trespass. 4. Carefully direct lighting at facilities such as stadiums and ball fields. 5. Turn off unnecessary lights. 6. Use natural lighting when possible. 7. Use timers.
Partners in Implementation: OOP, DED, DPW	
Threat: Parasites/ Pathogens	
Rank: High	
Conservation Plan: Reduce or eliminate parasites and pathogens	Actions: <ol style="list-style-type: none"> 1. Implement 'integrated pest management' across the District. 2. Implement the National Capital Region Animal and Plant Health Inspection Service (APHIS) oral rabies vaccine program across the District. 3. Monitor Sudden Oak Death. 4. Monitor Chronic Wasting Disease in deer. 5. Monitor parasites and pathogens in wild animals.
Partners in Implementation: ACD	

Associated Species of Greatest Conservation Need

<u>Birds</u> Black-crowned Night Heron Brown Thrasher Chimney Swift Eastern Towhee Red-shouldered Hawk	<u>Mammals</u> E. Red Bat E. Chipmunk Gray Fox	<u>Reptiles</u> E. Box Turtle E. Hognose Snake <u>Invertebrates</u> Research is needed
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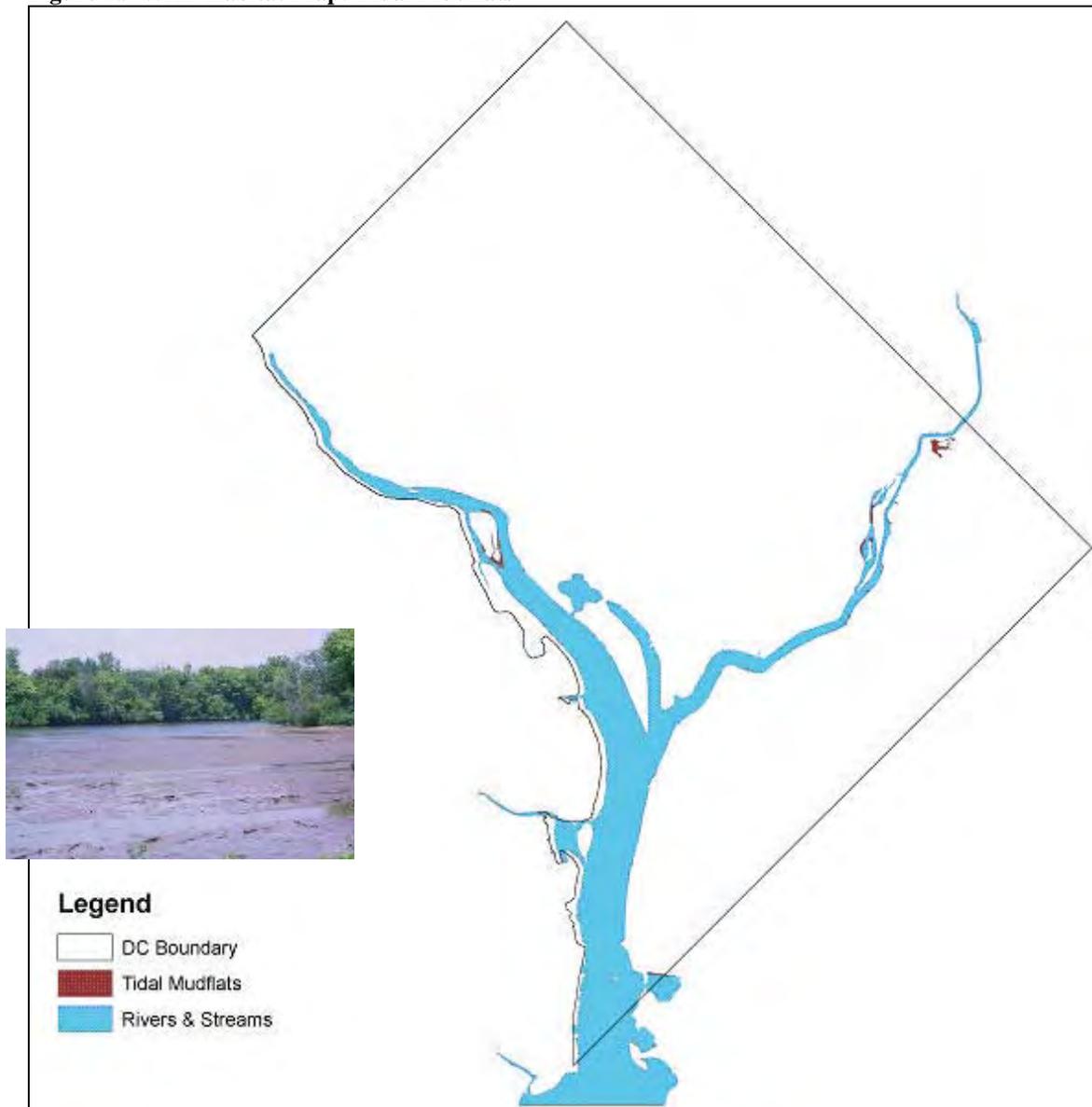
Priority Locations

All 8 Wards of the District	Cemeteries
Anacostia Park	School campuses
National Arboretum	Langston Golf Course
Hains Point Golf Course	The National Mall

Habitat 9 – Tidal Mudflats

Tidal mudflats occur between vegetated marsh and the water's edge and are alternately exposed and submerged by the tide. They are important for wildlife because they provide habitat and improve habitat quality by purifying the water. Many invertebrates live in the mud and provide food for birds and mammals when the tides are out. Tidal mudflats occur where wave energy is low and herbaceous vegetation covers less than 10% of the mud.

Figure 5.9 WAP Habitat Map: Tidal Mudflats



Conservation Actions for Tidal Mudflats		
Threat: Invasive/ Alien Species		Rank: High
Conservation Plan: Reduce, eliminate, and/or control populations of invasive/ alien species	Actions: <ol style="list-style-type: none"> 1. Fully fund the Exotic Plants Management Team (EPMT) exotics removal team and implement District-wide. 2. Provide resources to spray and manually remove plants. 	
Partners in Implementation: NPS, DPW, ECC, AWS		
Threat: Sedimentation		Rank: High
Conservation Plan: Reduce sedimentation	Actions: <ol style="list-style-type: none"> 1. Develop and implement a sediment control plan. 2. Promote 'best management practices' for all DC projects. 	
Partners in Implementation: NPS, WSD, COE		
Threat: Pollution		Rank: High
Conservation Plan: Reduce or eliminate pollution	Actions : <ol style="list-style-type: none"> 1. Where applicable, install new trash traps at the outlets to tidal mudflats. 2. Implement 'best management practices' District-wide. 	
Partners in Implementation: DPW, COE, WSD		
Threat: Stormwater Erosion		Rank: High
Conservation Plan: Reduce or eliminate stormwater runoff	Actions: <ol style="list-style-type: none"> 1. Implement the District's stormwater control plan District-wide, as developed by the Water Quality Division. 2. Promote 'best management practices' for all new DC development projects. 	
Partners in Implementation: WSD, COE, WASA		
Threat: Changes to Hydrologic Regime		Rank: High
Conservation Plan: Reduce or eliminate activities that cause changes to hydrologic regimes	Actions: <ol style="list-style-type: none"> 1. Minimize disturbance in upstream watersheds. 2. Maximize the effects of stormwater management projects on maintaining the hydrologic regime. 3. Eliminate pollution and sediment from stormwater outfalls through facilities such as swirl concentrators. 4. Monitor the planning process from the beginning of all DC projects and, where possible, require 'low impact development.' 5. Promote 'best management practices' for all DC projects to increase the quality of runoff. 6. Where feasible, return streams to their natural conditions using techniques such as 'daylighting.' 7. Work with outside agencies and developers to mitigate impacts to the watershed. 	
Partners in Implementation: NPS, DPW, COE		

Associated Species of Greatest Conservation Need

<p><u>Birds</u> Bald Eagle Wilson's Snipe</p> <p><u>Amphibians</u> Bullfrog</p>	<p><u>Mammals</u> American Mink N. River Otter S. Bog Lemming Virginia Opossum</p>	<p><u>Fish</u> American Eel</p> <p><u>Reptiles</u> Bog Turtle Common Musk Turtle</p>
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Priority Locations

Anacostia Park
 Kenilworth Marsh
 Kingman Island

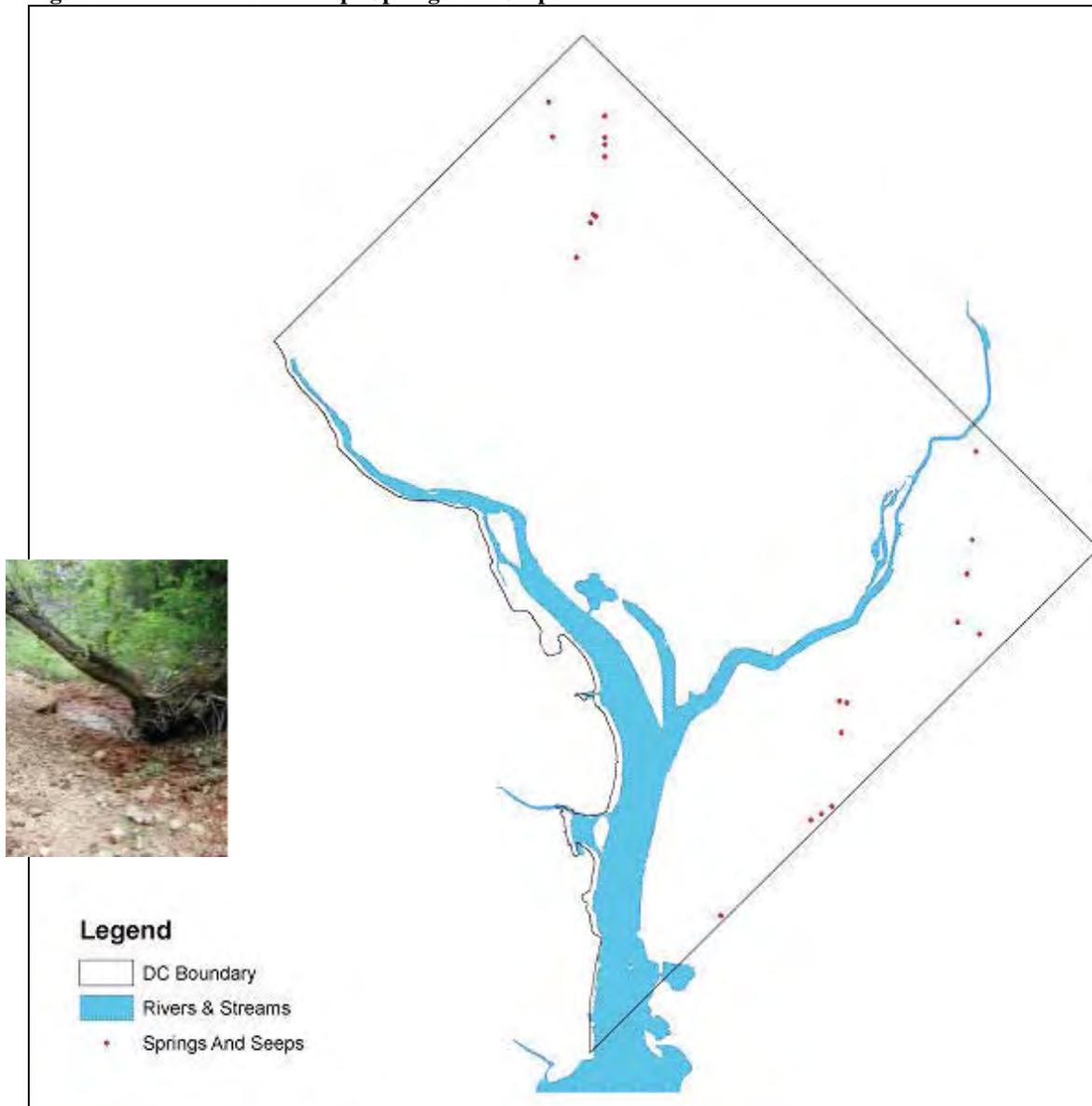
Oxon Cove
 Theodore Roosevelt Island

Habitat 10 – Springs and Seeps

Springs and seeps occur where groundwater flows to the surface. A spring has a concentrated flow, whereas a seep has a diffuse flow (CRBC 1999). Springs occur when the water table is higher than the ground surface and pressure forces the water out of the land (<http://pasture.ecn.purdue.edu/~agenhtml/agen521/epadir/grndwtr/spring.html>).

Seeps are areas where groundwater continuously surfaces and flows down a slope. They support habitats made up of tiny mosses, lichens, ferns and flowering plants that cling to the surface of the slope (<http://www.nps.gov/dewa/pphtml/subnaturalfeatures21.html>).

Figure 5.10 WAP Habitat Map: Springs and Seeps



Conservation Actions for Springs and Seeps		
Threat: Contaminants		Rank: High
Conservation Plan: Reduce or clean up contaminants	Actions: <ol style="list-style-type: none"> 1. Identify potential contaminants such as leaking storage tanks and fund the District Department of the Environment monitoring and leaking storage tank programs. 2. Identify locations where there is dumping into the watershed. 3. Clean-up dumps. 4. For property ownership exchanges, develop protocols for cleanups or removal of storage tanks. 5. Promote 'best management practices' for watersheds that involve pesticides, hazardous wastes, etc. 	
Partners in Implementation: NPS, NA, NZ		
Threat: Sedimentation		Rank: High
Conservation Plan: Reduce sedimentation	Actions: <ol style="list-style-type: none"> 1. Enforce strict sediment controls on construction permits issued in upstream watersheds. 2. Work with outside entities to mitigate runoff impacts with 'best management practices' and 'low impact development' to reduce runoff and potential sedimentation. 	
Partners in Implementation: NPS, NA, NZ		
Threat: Park Facilities/ Operations/ Management		Rank: Medium
Conservation Plan: Reduce the impact of park facilities, operation and management	Actions: <ol style="list-style-type: none"> 1. Review plans and planning documents for potential impacts and remove or relocate potential structures that would impact springs and seeps. 	
Partners in Implementation: NPS, NA, NZ		

Conservation Actions for Springs and Seeps	
Threat: Invasive/ Alien Species	
Rank: Medium	
<p>Conservation Plan: Reduce, eliminate, and/or control populations of invasive/ alien species</p>	<p>Actions:</p> <ol style="list-style-type: none"> 1. Fully fund the Exotic Plants Management Team (EPMT) exotics removal team and implement District-wide. 2. Implement control and management of invasive species District-wide. <ul style="list-style-type: none"> Sub-action 1. National Arboretum has invasive species contract for areas that are not curated. Staff sprays or manually removes invasive species from their areas for which they are responsible. Sub-action 2. A partnership between the Anacostia Watershed Society and Maryland Native Plant Society trains volunteers to identify and control exotic invasive plants, generally using mechanical methods.
Partners in Implementation: NPS, AWS, DCW, MNPS, NA, ECC, USFWS	
Threat: Changes to Hydrologic Regime	
Rank: Medium	
<p>Conservation Plan: Reduce or eliminate activities that cause changes to hydrologic regimes</p>	<p>Actions:</p> <ol style="list-style-type: none"> 1. Preserve groundwater recharge areas and avoid creating impervious surfaces, and where possible, remove impervious surfaces. 2. Preserve the pH of the groundwater. 3. Minimize disturbance in upstream watersheds. 4. Maximize the effects of stormwater management projects on maintaining the hydrologic regime. 5. Eliminate pollution and sediment from stormwater outfalls through facilities such as swirl concentrators. 6. Monitor the planning process from the beginning of all DC projects and, where possible, require 'low impact development.' 7. Promote 'best management practices' for all DC projects to increase the quality of runoff. 8. Where feasible, return streams to their natural conditions using techniques such as 'daylighting.' 9. Work with outside agencies and developers to mitigate impacts to the watershed.
Partners in Implementation: NPS, USGS, NA, USFWS, NZ	

Priority Locations

Rock Creek Park

National Arboretum

National Zoo

Fort Circle Parks

Oxon Run Parkway

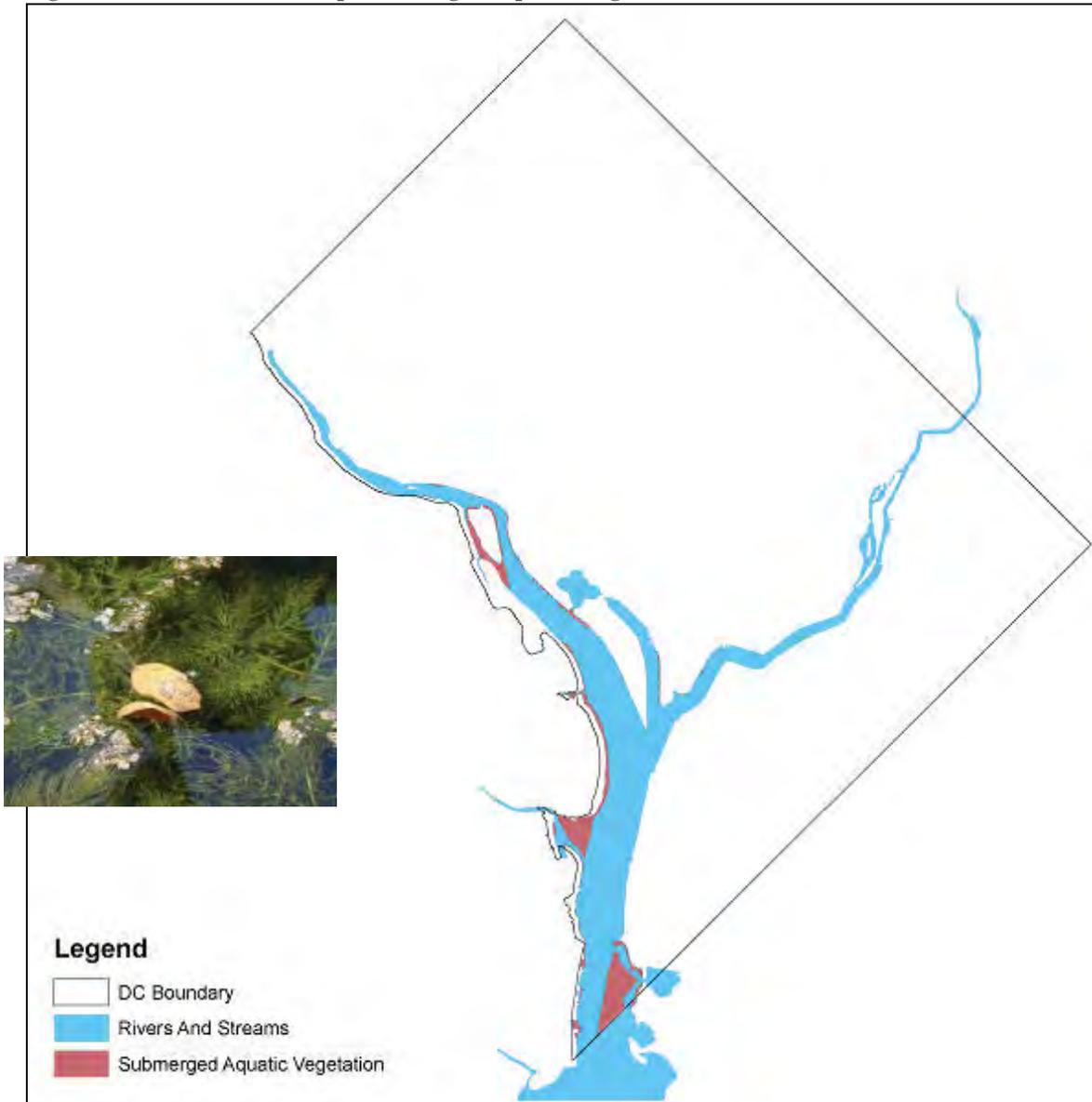
Associated Species of Greatest Conservation Need

<u>Amphibians</u>	<u>Invertebrates</u>
Mud Salamander	Hay's Spring Amphipod
N. Dusky Salamander	Kenk's Amphipod
N. Red Salamander	Lilypad Forktail Damselfly
N. Spring Peeper	Pizzini's Cave Amphipod
	Potomac Groundwater Amphipod
	Tiger Spiketail Dragonfly

Habitat 11 – Submerged Aquatic Vegetation

Submerged aquatic vegetation (SAV) is made up of permanently submerged vegetation and can be a mix of from one or two species in small patches, to seven to ten species in larger patches; the large mat had seven species in 2003. The largest patch of SAV in the District is located just upstream of the Woodrow Wilson Bridge. Species commonly found in the SAV beds in the District include *Hydrilla verticillata*, *Ceratophyllum demersum*, *Myriophyllum spicatum*, *Vallisneria americana*, *Heteranthera dubia*, and *Najas minor*, *Najas guadalupensis*, and *Myriophyllum spicatum*.

Figure 5.11 WAP Habitat Map: Submerged Aquatic Vegetation



Conservation Actions for Submerged Aquatic Vegetation		
Threat: Habitat Loss		Rank: High
Conservation Plan: Prevent habitat loss	Actions: <ol style="list-style-type: none"> 1. Introduce submerged aquatic vegetation to suitable areas through plantings. 2. Implement goose management to prevent overbrowsing. 	
Partners in Implementation: OOP, WPD, NPS		
Threat: Stormwater Erosion		Rank: High
Conservation Plan: Reduce or eliminate stormwater runoff	Actions: <ol style="list-style-type: none"> 1. Implement the District's stormwater control plan District-wide, as developed by the Water Quality Division. 2. Promote 'best management practices' for all new DC development projects. 	
Partners in Implementation: DPW, AWS, ECC		
Threat: Invasive/ Alien Species		Rank: High
Conservation Plan: Reduce, eliminate, and/or control populations of invasive/ alien species	Actions: <ol style="list-style-type: none"> 1. Fully fund the Exotic Plants Management Team (EPMT) exotics removal team and implement District-wide. 2. Provide resources to spray and manually remove plants, such as lesser celandine, <i>Ranunculus ficaria</i>. 	
Partners in Implementation: DPW, WASA		
Threat: Sedimentation		Rank: High
Conservation Plan: Reduce sedimentation	Actions: <ol style="list-style-type: none"> 1. Develop and implement a sediment control plan. 2. Promote 'best management practices' for all DC projects. 	
Partners in Implementation: DPW, WASA		
Threat: Pollution		Rank: High
Conservation Plan: Reduce or eliminate pollution	Actions: <ol style="list-style-type: none"> 1. Where applicable, install new trash traps at areas with submerged aquatic vegetation. 2. Implement 'best management practices' District-wide. 	
Partners in Implementation: WASA, DPW, COE		

Associated Species of Greatest Conservation Need

<u>Birds</u>	<u>Fish</u>	
American Black Duck	Alewife American Eel American Shad	Blueback Herring Bowfin Hickory Shad Warmouth

Priority Locations

Potomac River

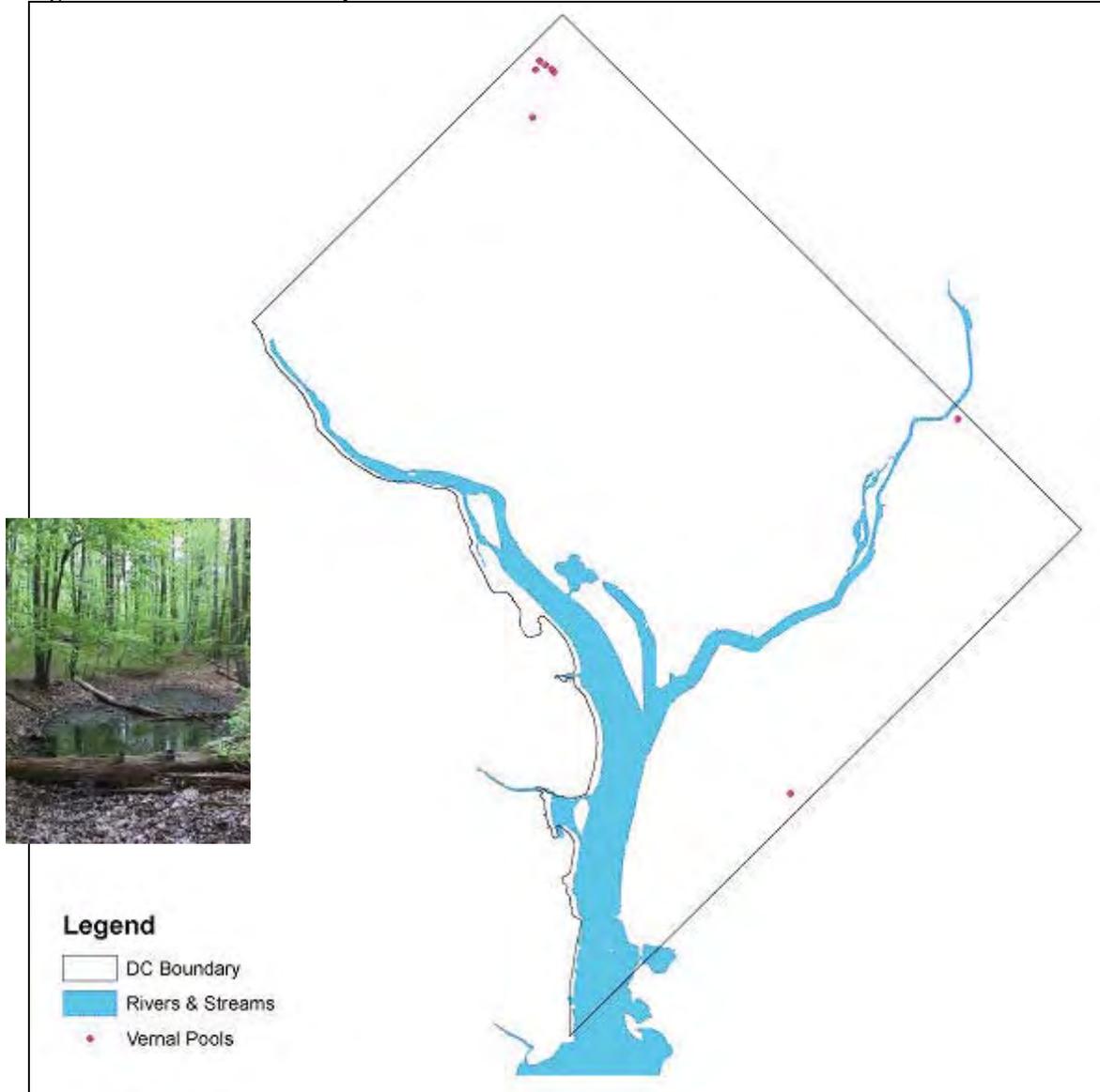
Anacostia River

Kenilworth Aquatic Gardens

Habitat 12 – Vernal Pools

Vernal pools are seasonal bodies of water that flood each year for a few months during the spring and dry up by the end of summer. Because they are not permanently flooded, they do not support fish populations. Instead, they provide important breeding habitat for many species of amphibians. Some species, such as the spotted salamander and wood frog, are obligate vernal pool species, meaning that they require vernal pools to breed.

Figure 5.12 WAP Habitat Map: Vernal Pools



Conservation Actions for Vernal Pools	
Threat: Changes to Hydrologic Regimes	
Rank: High	
Conservation Plan: Reduce or eliminate activities that cause changes to hydrologic regimes	Actions: <ol style="list-style-type: none"> 1. Maximize the effects of stormwater management projects on maintaining the hydrologic regime. 2. Monitor the planning process from the beginning of all DC projects and, where possible, require 'low impact development.' 3. Promote 'best management practices' for all DC projects to increase the quality of runoff. 4. Work with outside agencies and developers to mitigate impacts to the watershed.
Partners in Implementation: NPS, WPD, NA	
Threat: Pollution	
Rank: Medium	
Conservation Plan: Reduce or eliminate pollution	Actions: <ol style="list-style-type: none"> 1. Where applicable, install new trash collectors at the inlets of vernal pools. 2. Implement 'best management practices' District-wide. 3. 'Integrated pest management' in areas with vernal pools to eliminate the use of potentially toxic substances. 4. Monitor water chemistry for pollution and mitigation problems.
Partners in Implementation: NPS, NA, DPW, ECU	
Threat: Park Facilities/ Operation/ Maintenance	
Rank: Medium	
Conservation Plan: Reduce the impact of park facilities, operation and management	Actions: <ol style="list-style-type: none"> 1. Implement policies and procedures to minimize impact on wildlife. 2. Educate staff about the importance and location of vernal pools and how to protect them. 3. Minimize maintenance activities in areas with vernal pools.
Partners in Implementation: NPS, NA, DPR	
Threat: Sedimentation	
Rank: Medium	
Conservation Plan: Reduce sedimentation	Actions: <ol style="list-style-type: none"> 1. Develop and implement a sediment control plan. 2. Promote 'best management practices' for all DC projects. 3. Install temporary fencing around pools to protect breeding amphibians from pets off leash. <p>Sub-action 1. Support the US Fish and Wildlife Service plan in regard to sedimentation in Hickey Creek and its tributaries.</p>
Partners in Implementation: NPS, NA, DPR, WSD	

Conservation Actions for Vernal Pools	
Threat: Poaching	
Rank: Medium	
Conservation Plan: Reduce or eliminate poaching	Actions: <ol style="list-style-type: none"> 1. Increase enforcement and surveillance and increased visibility and presence of law enforcement. 2. Strengthen laws that prohibit poaching. 3. Increase fines. 4. Focused educational and interpretation programs to increase awareness of the importance of vernal pools.
Partners in Implementation: NPS, ECU, BEQ	

Associated Species of Greatest Conservation Need

<u>Amphibians</u>
American Toad
Fowler's Toad
Marbled Salamander
N. Spring Peeper
Pickerel Frog
Spotted Salamander
Wood Frog

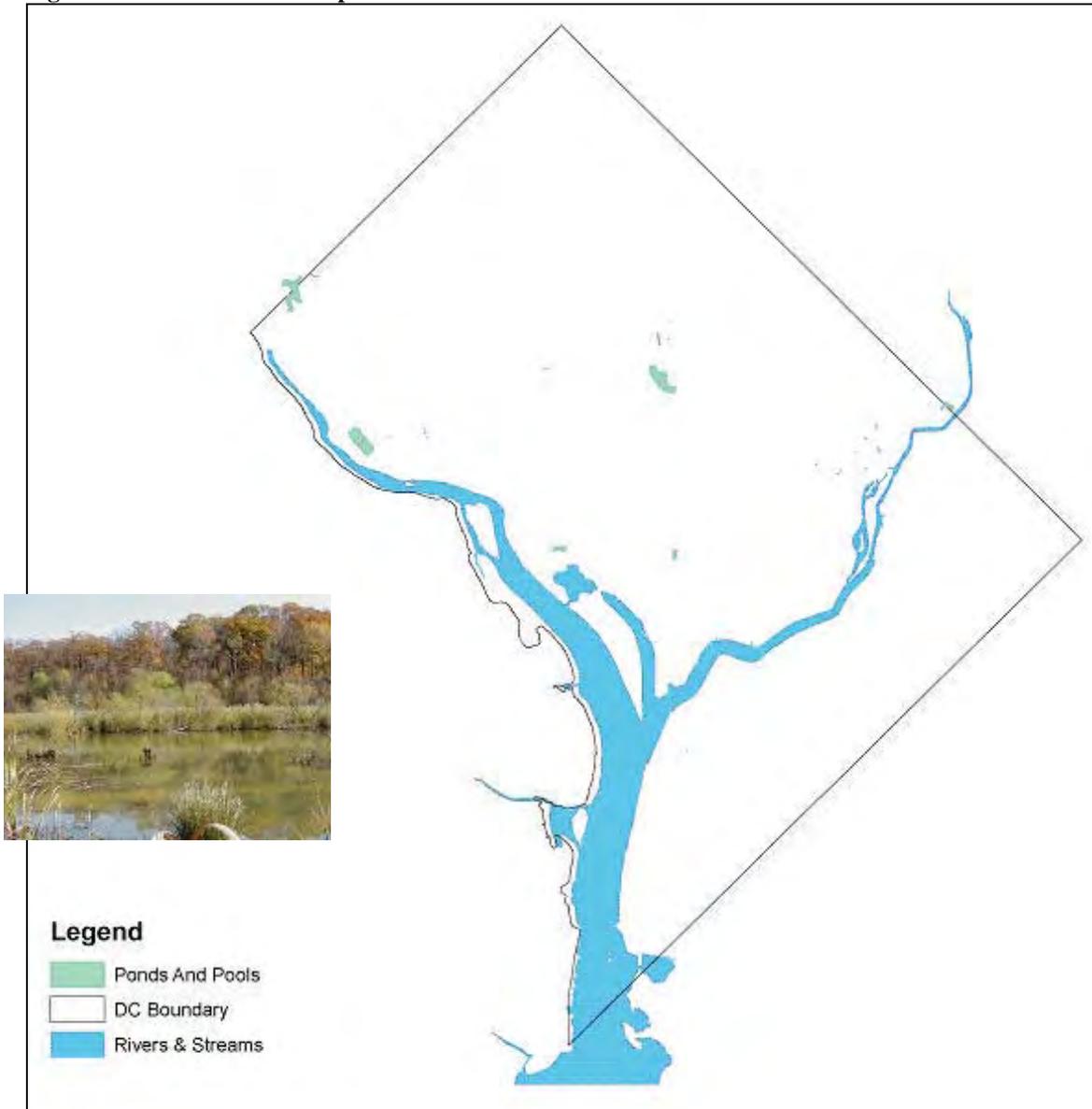
Priority Locations

Kenilworth Park	Oxon Run Parkway
Fort Dupont	Heritage Island
National Arboretum	C&O Canal
Rock Creek Park	

Habitat 13 – Ponds and Pools

Ponds and pools provide habitat for six species of greatest conservation need. They are located in various areas around the District. Because the District is highly urbanized, ponds and pools have a high potential for providing habitat to many aquatic species of greatest conservation need within urbanized areas. However, scientific data documenting usage by those species is lacking. Therefore, more research is needed to identify which species use this habitat and to develop the most effective conservation actions for those species.

Figure 5.13 WAP Habitat Map: Ponds and Pools



Conservation Actions for Ponds and Pools		
Threat: Pollution		Rank:Medium
Conservation Plan: Reduce or eliminate pollution	Actions: <ol style="list-style-type: none"> 1. Where applicable, install new trash collectors at the inlets of ponds and pools. 2. Promote separating stormwater and sanitary sewers when retrofitting roadways and sewer lines. 	
Partners in Implementation: WQD, WASA, DPW, COE		
Threat: Stormwater Erosion		Rank:Medium
Conservation Plan: Reduce or eliminate stormwater runoff	Actions: <ol style="list-style-type: none"> 1. Implement the District's stormwater control plan District-wide, as developed by the Water Quality Division. 2. Promote 'best management practices' for all new DC development projects. 	
Partners in Implementation: WPD, WASA		
Threat: Erosion		Rank:Medium
Conservation Plan: Reduce or eliminate erosion	Actions: <ol style="list-style-type: none"> 1. Promote 'best management practices' for all new DC development projects; perform stream bank restoration. Sub-action 1. Support the US Fish and Wildlife Service plan in regard to erosion in Hickey Creek and its tributaries. 	
Partners in Implementation: NPS, USFWS, NA		
Threat: Invasive/ Alien Species		Rank:Medium
Conservation Plan: Reduce, eliminate, and/or control populations of invasive/ alien species	Actions: <ol style="list-style-type: none"> 2. Fully fund the Exotic Plants Management Team (EPMT) exotics removal team and implement District-wide. Please see pg. 4- for a description of the goals of EPMT. 3. Control invasive species and prevent their establishment. 4. Provide resources to spray and manually remove plants, such as lesser celandine, <i>Ranunculus ficaria</i>. 	
Partners in Implementation: NPS, NA, DPW, ECC		
Threat: Sedimentation		Rank:Medium
Conservation Plan: Reduce sedimentation	Actions: Develop and implement a sediment control plan. Promote 'best management practices' for all DC projects. Sub-action 1. Support the US Fish and Wildlife Service plan in regard to sedimentation in Hickey Creek and its tributaries.	
Partners in Implementation: WSD, NPS, NA, COE		

Associated Species of Greatest Conservation Need

<p><u>Birds</u> Black-crowned Night Heron</p>	<p><u>Fish</u> Research is needed</p>	<p><u>Invertebrates</u> Appalachian Spring Snail</p>
<p><u>Amphibians</u> Research is needed</p>	<p><u>Reptiles</u> Research is needed</p>	<p>E. Pondmussel Green Floater Lilypad Forktail Damselfly Mocha Emerald Dragonfly</p>

Priority Locations

McMillan Reservoir
Kenilworth Aquatic Gardens
National Arboretum
Soldier's/ veteran's home
Constitution Gardens

Lincoln Wetland Complex
Rock Creek Cemetery
Del Carla Reservoir
Langston Golf Course

Chapter 6 – Conservation Actions – Species

Birds of Greatest Conservation Need



District of Columbia

Bird Fact Sheet

Bobolink

Dolichonyx oryzivorus



Species of Greatest Conservation Need

STATUS: Populations in the eastern U.S. have declined since the early 1900s. North American Breeding Bird Survey data indicate a significant population decline in North America in recent decades. Status within the District of Columbia is undetermined.

RANGE: Breeds in the northern United States and southern Canada and winter in southern South America from Peru to Argentina. It is a passage migrant through the District of Columbia.

LOCAL HABITAT: Kenilworth Park, Anacostia Park, Rock Creek National Park, and Fort Circle Parks area.

SPECIES ECOLOGY: Bobolinks use tall grass fields, pastures, and grain fields for breeding. In some areas, they favor hayfields in close association with dairy farms. In spring and summer, their diets consists largely of insects, especially caterpillars, grasshoppers, and beetles, but in fall it also includes large quantities of weed seeds, wild rice, and bristlegrass. Nests are usually placed in a scrape, either natural or created by the female. Clutch size varies from 4 to 7 eggs.

THREATS: Primary threats are due to loss of suitable habitat. Changing agricultural practices and the loss of farmland to development are key factors contributing to species decline.

CONSERVATION ACTION: : Need to identify and conserve grasslands. Studies to determine precise status and habitat use within the District.

SITE MAP: 4

REFERENCES: 1-4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Acadian Flycatcher *Empidonax virescens*

STATUS: BBS data from 1966 through 1989 show stable populations in the Eastern region and in neighboring Maryland.

RANGE: Breeds from southern Minnesota east through southern New England, south to Gulf Coast and central Florida. Winters in Caribbean slope of Nicaragua, both slopes of Costa Rica and Panama, and in northern and western Colombia, northern Venezuela, and western Ecuador. Passage migrant through the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Anacostia Park, Oxon Run Parkway, Oxon Cove Park, and the Fort Circle Parks area.

SPECIES ECOLOGY: Most often found in deciduous forests near streams, in bottomland hardwoods, and cypress swamps. Key habitat requirements are tall closed canopies and relatively open understories. Primarily breeds in moist, upland deciduous forests with a moderate understory, generally near a stream. Tends to be scarce or absent in small forest tracts, unless the tract is near a larger forested area.

THREATS: The major threat is loss of suitable habitat as natural forests become fragmented, favorable conditions become less common, and cowbird parasitism increases. Largely absent from most heavily suburbanized and urbanized areas, and present in low densities in agricultural zones.

CONSERVATION ACTION: Forest management practices that produce large mature forests with tall closed canopies and high tree density will be favorable for Acadian Flycatchers. Apparently, will tolerate light selection cutting, although any cutting that opens up the canopy would be detrimental. Preservation of the Acadian Flycatcher in the District requires the protection of extensive moist and riparian woodlands with brushy understories. Enhanced monitoring is required within the District.

SITE MAP: 1, 2,5

REFERENCES: 1-4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



American Bittern *Botaurus lentiginosus*

STATUS: Widespread distribution but populations are declining. Critically imperiled in the District of Columbia.

RANGE: Breeds from southeastern Alaska, Manitoba, and Newfoundland south to California, New Mexico, Arkansas, and Carolinas. Winters north to coastal British Columbia, Illinois, and along Atlantic coast to southern New England. Local migrant (resident?) within the District of Columbia.

LOCAL HABITAT: Kenilworth Park, Anacostia Park, Oxon Run Parkway, and Oxon Cove Park.

SPECIES ECOLOGY: Breeds and overwinters in freshwater wetlands with emergent vegetation and shallow water. Seems adaptable to a wide range of wetland habitats ranging from margins of boreal lakes, through riverine marshes, to dense cattail marshes, and can thrive in wetlands of many types as long as suitable prey and adequate cover are available. Diet consists of strictly animal prey, mainly frogs, fish, crayfish, and small mammals. American Bitterns construct a platform nest from mainly dead reeds, sticks, cattails, and tall grasses either on dry ground or above water in tall vegetation. Clutch size averages 4 to 5 eggs.

THREATS: Threatened by loss and degradation of wetlands due to drainage, filling, conversion to agriculture or recreational use, siltation, and pollution.

CONSERVATION ACTION: Readily uses artificial wetlands created by impoundments at waterfowl refuges, a trait that could facilitate restoration of populations in regions where natural, inland freshwater wetlands have been destroyed or were scarce originally. Small wetlands (less than five ha) may serve as important alternate feeding sites and as "stepping stones" during movements between larger wetlands. Further studies are needed to determine population trends for this secretive species within the District.

SITE MAP: 3, 7

REFERENCES: 1 - 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



American Black Duck *Anas rubripes*

STATUS: An abundant species that has been declining steadily. Eastern region data show stable populations from 1966 through 1989. Status within the District of Columbia is undetermined.

RANGE: Breeds in eastern and central North America, from Manitoba and Labrador to Texas and Florida. Winters from southern Minnesota and Nova Scotia south to southern Texas and central Florida. Local migrant (resident?) within the District of Columbia.

LOCAL HABITAT: Kenilworth Park, Anacostia Park, Oxon Cove Park, and the Fort Circle Parks area.

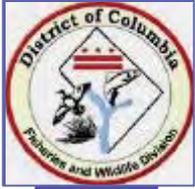
SPECIES ECOLOGY: Inhabits shallow margins of lakes, streams, bays mud flats, and open waters. Utilizes a wide variety of wetland habitats in both freshwater and marine situations, in and around marshes, swamps, ponds, lakes, bays, estuaries, and tidal flats. Eats mainly plant material (mainly seeds of various aquatic plants) and small aquatic animals (insects, amphibians, etc.) in freshwater habitats, and mostly mollusks and crustaceans in maritime habitat. Nests in tidal marshes, estuaries, as well as totally freshwater habitats. Clutch size varies from 9 to 12 eggs.

THREATS: Recent declines in past decades have been linked to habitat loss and an increase in Mallard numbers. Hybridization between the American Black Ducks and Mallards is a major concern. This species is particularly sensitive to human disturbance when nesting.

CONSERVATION ACTION: Maintaining large (30-50 ha) marshes containing dense emergent vegetation near a complex of diverse wetland types is the preferred management practice for this species. Further species-focused research is needed in the District.

SITE MAP: 1, 3, 5, 7, 11

REFERENCES: 1 - 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



American Woodcock *Scolopax minor*

STATUS: Non-significant annual declines have been recorded for this species. State and regional results show sharp, but non-statistically significant declines for the period 1980-1999. Status within the District of Columbia is undetermined.

RANGE: Breeds primarily in the northeastern Midwest and adjacent Canada and the Northeast. Winters in the southeastern US, with some birds remaining on the lower Eastern shore during mild winters. Resident, local migrant, and breeder within the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Anacostia Park, Oxon Run Parkway, Oxon Cove Park, and the Fort Circle Parks area.

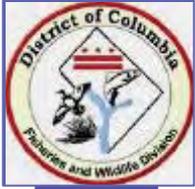
SPECIES ECOLOGY: The non-breeding habitat of this species is similar to its breeding habitat but typically includes more man-made habitats (e.g. sewage farms, rice fields), upper reaches of estuaries, and occasionally coastal meadows and is not limited to early-successional habitats. Unlike on the breeding grounds, mature pine-hardwood and bottomland hardwoods are often preferred. Wintering birds generally occupy moist thickets in daytime, and sometimes shift to more open habitats such as pastures, fields (including agricultural), and young clearcuts at night.

THREATS: The most serious threat is habitat loss and alteration, through urbanization, reforestation, drainage of wetlands, and agricultural development. The primary cause has been urbanization, which has severe impacts along the east coast. Environmental pollutants such as acid deposition, and pesticides pose additional threats. Long-term declines in populations of this species are apparent from a range of individual monitoring efforts.

CONSERVATION ACTION: Woodcocks use a wider variety of habitats during the non-breeding season. Wintering individuals may benefit most from a wide variety of habitats and age classes. This diversity of habitat types may be especially important to survival when severe weather forces woodcock from preferred sites.

SITE MAP: 2, 5, 6

REFERENCES: 1-4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Bald Eagle

Haliaeetus leucocephalus

STATUS: Breeding Bird Survey (BBS) data from 1966 through 1989 show a highly significant average annual increase of 2.8% in Eastern region populations; Maryland shows a similar increase of 3.0%. Critically imperiled in the District of Columbia.

RANGE: Breeds from Alaska east to Newfoundland and south locally to California, Great Lakes, and Virginia; also in Arizona, along Gulf Coast, and in Florida. Formerly more widespread. Winters along coasts and large rivers in much of the United States. Migrant and breeder within the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Anacostia Park, Oxon Cove Park, and the Fort Circle Parks area.

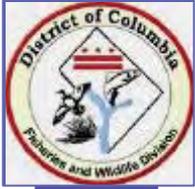
SPECIES ECOLOGY: Breeding habitat most commonly includes areas close to (within 4km) coastal areas, bays, rivers, lakes, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, and seabirds. Preferentially roosts in conifers or other sheltered sites in winter in some areas; typically selects the larger, more accessible trees. Feeds opportunistically on fishes, injured waterfowl and seabirds, various mammals, and carrion. Usually nests in the uppermost crotch of a tall coniferous or deciduous tree, or on cliffs near water. Loblolly Pine is the most commonly used tree species in Maryland. The nest is typically made of large sticks and branches, and is usually 5-6 ft. in diameter. Clutch size varies from 1 to 3 eggs.

THREATS: Major threats include habitat loss, disturbance by humans, biocide contamination, decreasing food supply, and illegal shooting. Loss of limited breeding habitat to urban development, and disturbance to breeding pairs are the two significant management issues within the District.

CONSERVATION ACTION: Protection of existing nest sites and maintaining suitable habitat throughout tidal waterways are critical to the continued existence of the Bald Eagle within the District of Columbia.

SITE MAP: 1, 2, 9

REFERENCES: 1 - 3



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Black-crowned Night-heron *Nycticorax nycticorax*

STATUS: Stable or increasing in most areas of North America, but has declined in some areas. Vulnerable within the District of Columbia.

RANGE: Breeds throughout the US (except Rocky Mountain region), from Washington, Saskatchewan, Minnesota, and New Brunswick to southern South America. Winters in the southern half of the United States. Local migrant (resident?) and breeder within the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Anacostia Park, Oxon Cove Park, and the National Zoo.

SPECIES ECOLOGY: Inhabits marshes, swamps, wooded streams, mangroves, shores of lakes, ponds, lagoons; salt water, brackish, and freshwater situations. Roosts by day in mangroves or swampy woodland. Diet consists mainly of fish, and lesser quantities of aquatic invertebrates, reptiles, amphibians, and small mammals. Eggs are laid in a platform nest in groves of trees near coastal marshes or on marine islands, swamps, marsh vegetation, clumps of grass on dry ground, orchards, and in many other situations. Clutch size varies from 3 to 5 eggs.

THREATS: Main threats are disturbance, degradation, and/or destruction of nesting and foraging sites. Breeding individuals are particularly sensitive to disturbance just before and during egg laying.

CONSERVATION ACTION: Known colony sites and foraging areas should be protected from disturbance and habitat destruction. Potential colony sites can be created on dredge spoil islands.

SITE MAP: 1, 3, 5, 7, 13

REFERENCES: 1 - 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Broad-winged Hawk *Buteo platypterus*

STATUS: May be decreasing in the northeastern United States. Critically imperiled in the District of Columbia.

RANGE: Breeds from Alberta east to Manitoba and Nova Scotia, south to the Gulf Coast and Florida. Winters from southern Florida southward into tropics. Passage migrant and breeder in the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Oxon Cove Park, and the Fort Circle Parks area.

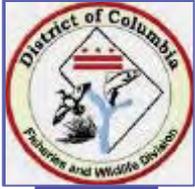
SPECIES ECOLOGY: Breeds in broadleaf and mixed forest, preferring denser situations, less frequently in open woodland. Generally perches under or in tree canopy, forages at openings, edges, and wet areas. Opportunistically consumes various small vertebrates (small mammals, birds, snakes, frogs, etc.) and large invertebrates. Typically hunts from perch on stub or dead limb of tree, typically at clearing, along woodland road, forest edge, or at margin of seasonal and permanent waters. Regularly nests near wet areas and forest openings, edges, and woodland roads. Typically nests in crotch of moderate- to large-sized tree or on branch next to trunk, about 7-12 m above ground. Clutch size varies from 2 to 3 eggs.

THREATS: Habitat loss and fragmentation.

CONSERVATION ACTION: Understanding this species' sensitivity to forest fragmentation and various silvicultural practices will be important in maintaining healthy populations of Broad-winged Hawks. Because the Broad-winged Hawk is not sensitive about the type of forest habitat used for nesting, any efforts to conserve forest lands, particularly large contiguous tracts, will help conserve populations of this raptor in the District.

SITE MAP: 2

REFERENCES: 1 - 5



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Brown Creeper *Certhia Americana*

STATUS: Widespread, reasonably common, and demonstrably secure in many areas of North America. Status in the District of Columbia is undetermined.

RANGE: Breeds from Alaska east through Ontario to Newfoundland, and southward throughout western mountains, Great Lakes region, North Carolina, and New England. Winters in breeding range and south to Gulf Coast and Florida. Resident, local migrant, and breeder within the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Anacostia Park, Oxon Run Parkway, Oxon Cove Park, and the Fort Circle Parks area.

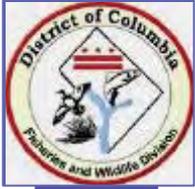
SPECIES ECOLOGY: The preferred habitat of this species includes forest, woodlands, forested floodplains and swamps. Scrub and parks are also used in winter and during migration. Most often found in coniferous and mixed forests. In the eastern U.S. south of the northern conifer zone, populations occur regularly in forested floodplains, and sometimes swamps. A component of dead trees is essential for nesting, so brown creepers tend to be associated with older forests. Brown Creepers feed on arthropods gleaned off the surface and in the crevices of tree bark. They feed primarily on the main trunk of trees, moving from bottom to top. They also consume some nuts and seeds. This species' critical habitat requirement for nesting is dead trees with loosely attached bark, under which it can conceal its nest. Clutch size varies from 4 to 7 eggs.

THREATS: Locally threatened by loss of forested wetlands and floodplain forest, forest fragmentation, and forest management practices that eliminate the dead tree component. Species is apparently area-sensitive, requiring large blocks of habitat.

CONSERVATION ACTION: Forests with a mix of tree species should be maintained where Brown Creeper populations reside. There is a need to protect or manage stands to have at least some trees or groves of trees over 100 years old, and to have dead trees with flaking bark for nest sites. Few bird species are as dependent on dead trees as Brown Creepers. Large dead trees in forested habitat should be allowed to stand at least until most of the bark is gone. More studies on population dynamics are needed for this species in the District.

SITE MAP: 2

REFERENCES: 1 – 5



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Brown Thrasher *Toxostoma rufum*

STATUS: Maryland BBS data from 1966 through 1989 show a highly significant average annual decline. Vulnerable in the District of Columbia.

RANGE: Breeds from southeastern Alberta, Manitoba, Ontario, and northern New England south to Gulf Coast and Florida. Winters in southern part of breeding range. Resident, local migrant, and breeder in the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Anacostia Park, Capitol Hill Parks, Oxon Run Parkway, Oxon Cove Park, and Fort Circle Parks area.

SPECIES ECOLOGY: Inhabits thickets and bushy areas in deciduous forest clearings and forest edge, shrubby areas and gardens; in migration and winter also in scrub. Feeds on insects and other invertebrates and small fruits, as well as some small amphibians and reptiles; forages on or near ground. Nests on ground under small bush or as high as about 4 m in tree, shrub, vine.

THREATS: Habitat loss, through the removal of hedgerows, may contribute to the decline. An additional potential threat may be decline in insects during the spring and summer months. Since Brown Thrashers feed primarily in suburban and agricultural habitats, such behavior may make them more vulnerable to the use of pesticides.

CONSERVATION ACTION: Habitat management efforts aimed at preserving open fields, hedgerows, and brushy areas, as well as regulations on the use of pesticides in urban areas would go a long way in maintaining healthy populations of this ubiquitous species. Continued monitoring of the population is needed within the District.

SITE MAP: 2, 6, 8

REFERENCES: 1 - 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Cerulean Warbler *Dendroica cerulean*

STATUS: Populations have shown significant declines across the range in the eastern United States, although the range has expanded, particularly in the northeast, perhaps in response to large-scale forest maturation. Status undetermined within the District of Columbia.

RANGE: Breeds from southeastern Minnesota, southern Ontario, and western New England south to Texas, Louisiana, and northern Gulf Coast states. Winters primarily on the eastern slopes of the northern Andes. Passage migrant and breeder within the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Oxon Run Parkway, Glover- Archbold Park, and the Fort Circle Parks area.

SPECIES ECOLOGY: Inhabits mature deciduous forests on both the breeding grounds in North America. Breeding areas in the Northeast are often in floodplains or other mesic conditions and are typified by large, mature trees and closed or semi-open forest canopies. Feeds primarily on bees, wasps, beetles, and caterpillars. The compact nest is built by the female on the lateral limbs of a tree and placed at a considerable distance from the bole of the tree, usually saddled on a large, lateral branch, attached perhaps to a small protruding twig. Clutch size ranges from 3 to 5 eggs.

THREATS: Habitat loss and fragmentation are the primary threats. Breeding populations in small forest tracts throughout the range are declining rapidly to extirpation. Patches of habitat below a certain size are simply not capable of supporting breeding birds.

CONSERVATION ACTION: Given the Cerulean Warbler's dependency on large tracts of appropriate forested habitat, preservation of such patches is critical. Forest management activities that are sensitive to the fragmentation of existing tracts would go a long way in the conservation of this species. Baseline studies on the population ecology of this species is needed within the District.

SITE MAP: 2, 5

REFERENCES: 1 - 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Chimney Swift *Chaetura pelagica*

STATUS: Significant downward trend in the United States and Canada from 1966-1996 as indicated by analysis of BBS routes. Secure within the District of Columbia.

RANGE: Breeds from southeastern Saskatchewan east to southern Quebec and Nova Scotia, and south to Gulf states. Winters in the South America. Passage migrant and breeder in the District of Columbia.

LOCAL HABITAT: Present in all major parks and urban centers of the District.

SPECIES ECOLOGY: Cosmopolitan; inhabits rural and urban environments having both an abundance of flying arthropods and suitable roosting/nesting sites. Nests principally in chimneys, but also on the interior walls of a variety of other anthropogenic structures including silos, barns, outhouses, uninhabited houses, boathouses, wells, and cisterns. Natural nest sites include the interior of hollow tree trunks and branches, Pileated Woodpecker cavities and rock shelters. Nest is a half-saucer shaped structure comprising straight twigs glued together with a saliva-like secretion and fastened to a vertical wall, usually in a dark, protected area of a building. Clutch size ranges from 3 to 5 eggs.

THREATS: The construction of homes without fireplaces and the screening, and demolition of buildings historically used for nesting/roosting can eliminate important habitat. The surface of metal flue pipe emplaced within newly-constructed chimneys is too smooth for swifts to cling to, resulting in the entrapment and death of birds. Potential for impact on prey availability through the use insecticides and pesticides

CONSERVATION ACTION: Management practices for Chimney Swifts include retaining chimneys as habitat and the construction of artificial nesting/roosting structures. Dark, vertical shafts having rough interior surfaces that facilitate roosting (e.g., chimneys, hollow trees) are essential for nesting and roosting. Chimneys with smooth surfaces (e.g., metal flue pipe) should be capped to prevent swift entrapment. Chimneys should be kept free of creosote as creosote build-up increases the likelihood of nest detachment from the chimney wall. This species readily adapts to anthropogenic structures for nesting and roosting; therefore likely to establish in new or historic localities with the construction of buildings that provide sunlight-excluding, vertical, rough-surfaced shafts. Determining trends in the use of chimney screening and the construction of new homes having chimneys with rough interior surfaces would be useful in assessing breeding habitat availability.

SITE MAP: 2, 5, 8

REFERENCES: 1 – 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Chuck-wills-widow
Caprimulgus carolinensis

www.ronausting.com/birds/chuckwillswidow.html

STATUS:

RANGE:

LOCAL HABITAT:

SPECIES ECOLOGY:

THREATS:

CONSERVATION ACTION:

SITE MAP:

REFERENCES:

Eliminated from Species of Greatest Conservation Need



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Wilson's Snipe *Gallinago delicata*

STATUS: Breeding Bird Survey (BBS) data from 1966 to 1992 show a non-significant increase throughout the United States. Status within the District of Columbia is undetermined.

RANGE: Breeds from Northern Alaska and Canada south to California, southwestern states, and New Jersey. Winters across much of the United States north to British Columbia and Virginia. Passage migrant through the District of Columbia.

LOCAL HABITAT: Kenilworth Park, Anacostia Park, and Oxon Cove Park.

SPECIES ECOLOGY: Inhabits wet, grassy, or marshy areas, from tundra to temperate lowlands and hilly regions. In winter and during migration, also found in wet meadows, flooded fields, bogs, swamps, moorlands, and marshy banks of rivers and lakes. Feeds on insects, particularly fly and beetle larvae, are the Common Snipe's most important food items, but it also eats earthworms, small crustaceans, snails and small quantities of plant material. The nest consists of a depression in the ground under concealing vegetation. Clutch size averages 4 eggs.

THREATS: Loss, degradation, and modification of emergent wetlands through development, alteration of hydrology, and invasive species infestation. Snipe avoid marshes with tall, dense vegetation, such as that found in cattail and *Phragmites* monocultures.

CONSERVATION ACTION: Restore and protect emergent wetlands with a focus on the control of cattails and the eradication of *Phragmites*.

SITE MAP: 3, 4, 7, 9

REFERENCES: 1 - 2



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Eastern Meadowlark *Sturnella magna*

STATUS: Populations of this species currently express some of the most consistent declines of any grassland bird in the United States. Breeding Bird Survey (BBS) data indicate a significant decline (averaging 2.53% per year) in North America, as well as the Eastern Region. Critically imperiled within the District of Columbia.

RANGE: Breeds from southeastern Canada south throughout eastern United States, west to Nebraska, Texas, and Arizona. Winters in most of breeding range. Resident, local migrant, and breeder in the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Anacostia Park, and Oxon Cove Park.

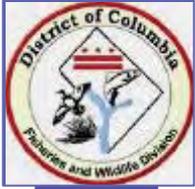
SPECIES ECOLOGY: Inhabits grasslands, savanna, open fields, pastures, cultivated lands, sometimes marshes. Tends to avoid recently burned grassland habitats. Eats mainly insects and other small invertebrates, also grain and seeds; forages on the ground. Nests on the ground in concealing herbage. The nest is a partly or completely domed cup nest composed of grasses, and, occasionally, of weed stems. Clutch sizes vary from 1-6 eggs.

THREATS: Primary threat is loss of appropriate habitat as farms and fields give way to development, revert to forests, or shift from pastures to row crops. Intensive management of hayfields and earlier and more frequent mowing affect nesting success. Also, the continued use of chemical fertilizers and pesticides disrupts habitat and food supply.

CONSERVATION ACTION: The future of the species depends on the continued presence of field, pasture, and meadow habitat, which are declining as habitat is lost and agricultural practices change. The species needs a minimum grassland size of 15-20 acres, with adjusted mowing schedules, and the implementation of more biological and integrated pest management.

SITE MAP: 4

REFERENCES: 1 - 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Eastern Towhee *Pipilo erythrophthalmus*

STATUS: Significant population declines have occurred in the last 30 years, particularly in the northeastern portion of the range. Apparently secure in the District of Columbia.

RANGE: Breeds from British Columbia east to Maine, and south to California, southwest Louisiana, Florida, and Guatemala. Winters south from southern British Columbia, Nebraska, and southern New England. Resident breeder in the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Anacostia Park, Oxon Run Parkway, Oxon Cove Park, and the Fort Circle Parks area.

SPECIES ECOLOGY: : Inhabits forest and swamp edges, regenerating clearcuts, open-canopied forests (particularly those with a well-developed understory), reclaimed strip mines, mid-late successional fields, riparian thickets, overgrown fencerows, shrub/small-tree thickets, and other brushy habitats. Typically forages on the ground in dense, low vegetative cover. Scratches among loose ground debris (e.g., leaf litter) to uncover seeds and invertebrates. Omnivorous; consumes a wide variety of seeds, fruits, invertebrates, and small vertebrates. Nest is typically constructed on the ground, concealed among dense, woody vegetation. Clutch size varies from 2 to 5 eggs.

THREATS: Population densities are lower in urbanized areas relative to forested areas due to reduction in suitable successional habitat. Maturation of successional habitats also results in lower population densities.

CONSERVATION ACTION: Since the species prefers open-canopied, shrubby areas, management practices should promote early- to mid-seral successional habitats. Monitoring should continue until populations stabilize or appropriate management practices are developed and implemented.

SITE MAP: 2, 6

REFERENCES: 1 – 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Field Sparrow *Spizella pusilla*

STATUS: North American Breeding Bird Survey (BBS) data indicate annual survey-wide decrease in the period 1966-1996, and a highly significant average annual decline of 3.6% in the Eastern region. Imperiled in the District of Columbia.

RANGE: Breeds from North Dakota east to central New England, and south to Georgia, Mississippi, Louisiana, central Texas, and western Colorado. Winters south to Gulf of Mexico and northeastern Mexico. Resident (breeder?) and local migrant within the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Anacostia Park, Capitol Hill Parks, Oxon Run Parkway, Oxon Cove Park, and the Fort Circle Parks area.

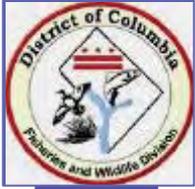
SPECIES ECOLOGY: Inhabits old fields, brushy hillsides, overgrown pastures, thorn scrub, deciduous forest edge, sparse second growth, fencerows. Optimal habitat was described as areas greater than 2 hectares containing dense, moderately tall grass, low to moderate shrub density with 50-75% of shrubs less than 1.5 meters tall, and shrub cover between 15-35 percent. Eats insects, also spiders and seeds; forages mainly on the ground. Early nests are on or near ground in weed clumps or grass tufts, while later nests may be higher in small thick shrubs. The nest is a cup-shaped structure, constructed of dry grasses, weeds, rootlets, and hairs. Clutch size ranges from 1 to 5 eggs.

THREATS: Current intensive agricultural practices and spreading urbanization continue to restrict, or eliminate nesting habitat of old weedy fields with shrubs or small trees.

CONSERVATION ACTION: Keys to management include providing shrub-dominated edge habitat adjacent to grassland or providing grassland with a shrub component (both of must which include dense grass and moderately high litter cover), and avoiding disturbances that completely eliminate woody vegetation.

SITE MAP: 4, 6

REFERENCES: 1 – 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



© Bob Steele

Grasshopper Sparrow *Ammodramus savannarum*

STATUS: BBS data from 1966 through 1989 indicate a highly significant average annual population decline in the Eastern Region. Status is undetermined within the District of Columbia.

RANGE: Breeds from British Columbia, Manitoba, and New Hampshire south to Florida, West Indies, and Mexico. Winters north to California, Texas, and North Carolina, and south through Central America to north Costa Rica, and in the Bahamas and Cuba. Passage migrant (breeder?) through the District of Columbia.

LOCAL HABITAT: Kenilworth Park and Oxon Cove Park.

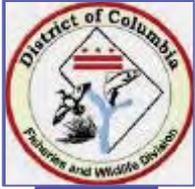
SPECIES ECOLOGY: Breeding Grasshopper Sparrows prefer grasslands of intermediate height that are often associated with clumped vegetation interspersed with patches of bare ground. Other habitat requirements include moderately deep litter and sparse coverage of woody vegetation. Feed on insects (especially grasshoppers), other small invertebrates, grain (especially of bristlegrass and panic grass), and seeds. Picks up food items from the ground surface. The nest is a shallow cup-shaped structure made of dried grasses lined with finer grasses, rootlets, or hair. Clutch size varies from 3 to 5 eggs.

THREATS: Populations declines have resulted in part from loss of habitat, especially the conversion of grassland to row-crop agriculture, urban sprawl, and reforestation, compounded by losses incurred as a result of mowing of habitat and subsequent increased predation.

CONSERVATION ACTION: The key to continued Grasshopper presence is management of grasslands to maintain woody vegetation at less than 3 ft. Suitable old fields and grasslands should not be cut until after the peak of the breeding season.

SITE MAP: 4

REFERENCES: 1 – 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Great Horned Owl *Bubo virginianus*

STATUS: Breeding Bird Survey data (1966-1989) show a stable population in the eastern region. Imperiled in the District of Columbia.

RANGE: Resident from Alaska and northern Canada eastward and southward throughout the Americas. Resident and breeder within the District of Columbia.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, Oxon Cove Park, and the Fort Circle Parks area.

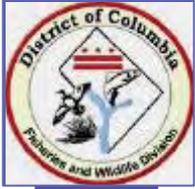
SPECIES ECOLOGY: Inhabits various forested habitats, moist or arid, deciduous or evergreen lowland forest to open temperate woodland, including second-growth forest, swamps, orchards, riverine forest, brushy hillsides, and desert. Opportunistic feeder; eats mainly mammals (commonly mouse to rabbit size) and small to large birds (including hawks and waterfowl). Nest sites in different areas include abandoned or usurped nests of other birds (e.g., hawk, crow) or squirrel, natural tree cavities, stumps, rocky ledges, caves, in barns, and on artificial platforms. Clutch size ranges from 1 to 2 eggs.

THREATS: Progressive habitat loss as woodlands are converted to agriculture and development.

CONSERVATION ACTION: Preservation of extensive woodlands and public education is important for the management of this species in the District. Further studies are needed.

SITE MAP: 2, 5

REFERENCES: 1 – 4



District of Columbia

Bird Fact Sheet

Species of Greatest Conservation Need



Hooded Merganser *Lophodytes cucullatus*

STATUS: Although Breeding Bird Survey (BBS) data from 1966-1999 show stable populations in the eastern region, the species has been found to be declining in North America. Status is undetermined within the District of Columbia.

RANGE: Breeds from southern Alaska south to Oregon and Oklahoma, and from Manitoba to Nova Scotia south to Arkansas and northern Alabama. Winters near coast from British Columbia south to California and from New Zealand south to Florida and Texas. Passage migrant through the District of Columbia.

LOCAL HABITAT: Kenilworth Park, Anacostia Park, and Oxon Cove Park.

SPECIES ECOLOGY: Inhabits swamps, rice, swamps, marshes, and estuaries; winters mostly in freshwater but also regularly in estuaries and sheltered bays. Small fish are the predominant food of this species, along with black-fingered mud crabs, crayfish, dragonfly nymphs, and catfish. The breeding habitat of Hooded Mergansers consists of wooded swamps, streams, ponds, and lakes. They prefer a natural tree cavity, but also use hollow log snags in banks, hollow tops of stumps, and Wood Duck boxes. Clutch size varies from 4 to 12 eggs.

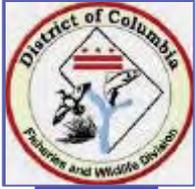
THREATS: Wetlands is currently believed to be the main threat to the future of this wide-ranging species. It is vulnerable to forestry practices that limit or eliminate potential nesting sites.

CONSERVATION ACTION: Perhaps the increase in Wood Duck boxes will benefit this species. Certainly the Hooded Merganser's status should be monitored within the District, and wetlands utilized by this species during migration should be protected.

SITE MAP:

REFERENCES: 1 – 4

Mammals of Greatest Conservation Need



District of Columbia

Mammal Fact Sheet

Eastern Small-Footed Myotis *Myotis leibii*



STATUS: Fairly widespread in southeastern Canada and eastern United States, but very spotted in distribution and rarely found in large numbers. Critically imperiled within the District of Columbia.

RANGE: Found from southern Ontario and northeastern United States to Maine south through Appalachian with isolated populations in Oklahoma, Arkansas, Missouri, and Kentucky.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: The small-footed myotis occur in mountainous regions at elevations ranging from 240-1125m. They prefer eastern deciduous and coniferous forests and can roost in buildings, rock bluffs and turnpike tunnels. Mating occurs in autumn and sperm is stored in the female until fertilization in the spring. Females give birth to a single young between late May and July. Little is known of their feeding habits although they appear to be insectivores. Favorite prey includes small insects such as flies, beetles, and moths.

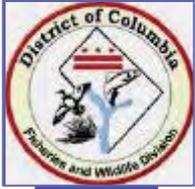
THREATS: This species is most vulnerable during hibernation. Destruction of roost and foraging habitat, and pollution or siltation of waterway, and declines in insect production are all additional potential threats to this species.

CONSERVATION ACTION: Public education on the nature and value of bats is urgently needed. Identification of foraging areas and protection from pesticides and other poisons must a priority. Status surveys are needed.

SITE MAP: 2

REFERENCES: 1 – 5

Species of Greatest Conservation Need



District of Columbia

Mammal Fact Sheet

Gray Fox

Urocyon cinereoargenteus



Species of Greatest Conservation Need

STATUS: Widespread healthy populations are present in most areas where the species occurs. Vulnerable within the District of Columbia.

RANGE: Extreme southern Canada throughout the United States, except in Montana, Idaho, Wyoming and most of Washington. It ranges into Mexico and Central America.

LOCAL HABITAT: Rock Creek National Park and the Fort Circle Parks area.

SPECIES ECOLOGY: Gray foxes prefer mixed woodlands and pastures; dens in hollow trees, logs, thickets, or underground burrows. Rough, hilly terrain near streams and lakes provide ideal habitat for the gray fox. They mate for life; breed from January through May; gestation 51-63 days; one litter per year; 3 -4 pups per litter; raised by both parents. They are omnivorous and will eat almost anything it comes across: mice, rats, grasshoppers, crickets, eggs, birds, acorns, berries, and apples.

THREATS: Major factors governing population of gray fox are food and cover. It is also subject to epizootics of rabies.

CONSERVATION ACTION: Additional surveys are needed to determine the distribution, habitat requirements, and life cycle of this species within the District. Adequate quality habitat should be maintained, and the population should be monitored.

SITE MAP: 1, 2, 6, 8

REFERENCES: 1 - 7



District of Columbia

Mammal Fact Sheet

Northern River Otter *Lutra canadensis*



Species of Greatest Conservation Need

STATUS: The river otter has a large range, but has been virtually eliminated through many parts of its range. Recent reintroductions and management efforts have improved the species' conservation status. Critically imperiled within the District of Columbia.

RANGE: All of the United States and Canada except the tundra and parts of the arid southwestern United States.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: The northern river otter primarily inhabits wooded shoreline areas of lakes, ponds, rivers and streams with waters rich in fish. They rarely frequent polluted waters or areas of high human population. Females mate in the spring shortly after giving birth to two to four young (or they might skip a year). The new litter of youngsters will not begin to develop until late in the fall. Their diet consists of fish, crayfish, frogs, clams, muskrats, turtles, birds, small rodents and young rabbits.

THREATS: Since this species rarely frequents polluted waters or areas of high human population density, human encroachment and pollution have made some habitats unsuitable.

CONSERVATION ACTION: Little is known of the relative abundance and distribution of this species within the District. Additional surveys are needed to determine the distribution, habitat requirements, and life cycle of this species within the District. Maintaining water quality and suitable habitat within the District's major rivers, streams, and wetlands would benefit this otter species.

SITE MAP: 1, 3, 7, 9,

REFERENCES: 1 - 4



District of Columbia

Mammal Fact Sheet

Species of Greatest Conservation Need



Southern Bog Lemming *Synaptomys cooperi*

STATUS: This species is patchily distributed throughout its geographical range. Populations are usually scared and scattered, and this is thought to be due to competition with meadow voles. Vulnerable within the District of Columbia.

RANGE: From New Brunswick and Nova Scotia south along the Atlantic Coast to Virginia and in the Appalachian Mountains to western North Carolina. It occurs westward to western Kansas, Nebraska, South Dakota, western Minnesota, and eastern Manitoba.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

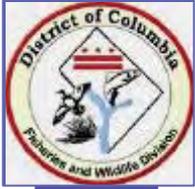
SPECIES ECOLOGY: Southern bog lemmings occurs mainly in sphagnum bogs, as its common name suggests, but it may also occur in grasslands, and in Canada it occurs in coniferous or deciduous forests. They typically breed from February to November. Several litters may be produced each year. Litter sizes range from one to eight, although three to four is the usual size. They eat mostly vegetation such as grasses, sedges, mosses, fruits, fungi, bark and roots, some invertebrates such as slugs and snails are also taken.

THREATS: Habitat destruction and the overgrowth of bogs.

CONSERVATION ACTION: Developing and maintaining brackish and freshwater marshes would benefit this species, as would maintaining early stages of ecological succession in grasslands. Additional surveys are needed to determine the distribution, habitat requirements, and life cycle of this species within the District.

SITE MAP: 1, 2, 3, 7, 9

REFERENCES: 1 - 4



District of Columbia

Mammal Fact Sheet

Southern Flying Squirrel *Glaucomys volans*



Species of Greatest Conservation Need

STATUS: The southern flying squirrel is common throughout most of its range within the United States. Secure within the District of Columbia.

RANGE: Occurs in Mexico and from the Gulf of Mexico through the eastern United States to the Great Lakes also in southern Ontario, southwestern Quebec and southern Nova Scotia. Resident in the District of Columbia.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

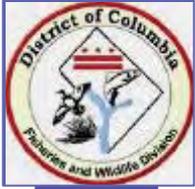
SPECIES ECOLOGY: Southern flying squirrels inhabit hardwood forests in eastern North America. Dead hollow trees are used as den sites. They usually have two litters a year, the first between April and early June, and the second between July and September. Litters contain 1 to 7 young. They eat a variety of different foods such as berries, fruits, acorns, and nuts as well as insects, nesting birds and eggs, and the flesh of dead animals.

THREATS: Loss and degradation of habitat are the main factors limiting populations and forest fragmentation has reduced habitat area. Populations are also limited by competition for food with grey squirrels.

CONSERVATION ACTION: Enhancing and maintaining appropriate hardwood habitat allows for the continued existence of healthy populations. Additional surveys are needed to determine the distribution, habitat requirements, and life cycle of this species within the District.

SITE MAP: 2

REFERENCES: 1 - 3



District of Columbia

Mammal Fact Sheet

Virginia Opossum *Didelphis Virginiana*



Species of Greatest Conservation Need

STATUS: The Virginia opossum is represented by many and/or large occurrences throughout most of its range. Secure within the District of Columbia.

RANGE: United States east of the Rocky Mountains, and along the coast west of the Rockies from British Columbia, Canada into Mexico and Central America as far south as Costa Rica.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, and Fort Circle Parks area.

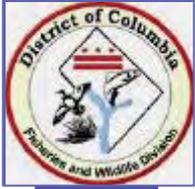
SPECIES ECOLOGY: The Virginia opossum is terrestrial and arboreal. It lives in virtually all areas, but prefers wooded land. They are solitary creatures and come together only to breed. Breeding season starts in late winter. Females will have two or three litters each year with up to 13 young per litter. They are opportunistic feeders, eating fruits, vegetables, insects, snails, slugs, worms, rats, mice, shrews, moles, amphibians, snakes, eggs, fish, crayfish, and carrion.

THREATS: Their greatest threats include cars, domesticated pets, and humans.

CONSERVATION ACTION: Additional surveys are needed to determine the distribution, habitat requirements, and life cycle of this species within the District.

SITE MAP: 1, 3, 7, 9

REFERENCES: 1 - 4



District of Columbia

Mammal Fact Sheet

Allegheny Woodrat *Neotoma magister*



Species of Greatest Conservation Need

STATUS: Populations in the northeastern United States have declined. Possibly extirpated within the District of Columbia.

RANGE: Southeastern New York southwest through much of Pennsylvania, extreme southern Ohio and Indiana, through western Maryland, all of West Virginia, most of Kentucky, and the western reaches of Virginia and North Carolina south through much of Tennessee, and into northern Alabama and most of northwestern Georgia.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: The preferred habitat for the Allegheny woodrat is rocky areas in deciduous forests but they are most often found in caves and rocky cliffs. They also are found in wooded bottomlands, swamps, and in outbuildings and abandoned structures. They breed from late winter to late summer. Females may have two to three litters per year, averaging two young in each litter. Their diet includes buds, leaves, stems, fruits, seeds, acorns and other nuts.

THREATS: Several factors may be contributing to the population decline, such as: 1) severe winter weather, 2) a decline in acorns due to defoliation of oak trees by gypsy moths which reduces winter food supply, 3) parasitic raccoon roundworm infection, 4) human disturbance and 5) habitat loss or alteration.

CONSERVATION ACTION: Additional surveys are needed to confirm presence and to subsequently determine the distribution, habitat requirements, and life cycle of this species within the District.

SITE MAP: 2, 6

REFERENCES: 1 - 5



District of Columbia

Mammal Fact Sheet

Species of Greatest Conservation Need



American Mink *Mustela vison*

STATUS: The American mink has a large range in North America, and despite local declines. It is secure in many areas, but critically imperiled with the District of Columbia.

RANGE: Found throughout the United States, appearing in parts of every state except Arizona and they are also present in most of Canada.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

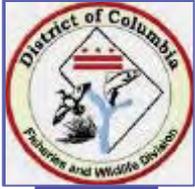
SPECIES ECOLOGY: Minks tend to frequent forested areas that are in close proximity to water. Streams, ponds, and lakes, with some sort of brushy or rocky cover nearby are considered optimal territory. The breeding season begins in late February, and mating occurs until early April. A single annual litter of four or five young is born around the first of May. They prey on mice, rabbits and other terrestrial animals they also eat fish, crayfish and other aquatic animals.

THREATS: The main threat within the District is destruction of habitat. The mink depends heavily on aquatic ecosystems. Stream channelization and erosion are major habitat threats that cause the declines in mink populations.

CONSERVATION ACTION: Creating, enhancing, and maintaining appropriate stream and wetland habitat. Additional surveys are needed to determine the distribution, habitat requirements, and life cycle of this species within the District.

SITE MAP: 1, 3, 7, 9

REFERENCES: 1 - 6



District of Columbia

Mammal Fact Sheet

Eastern Chipmunk *Tamias striatus*



Species of Greatest Conservation Need

STATUS: The eastern chipmunk is represented by many and/or large occurrences throughout most of its range. Secure within the District of Columbia.

RANGE: Southeastern Canada and northeastern U.S. east from North Dakota and east Oklahoma, and south to Mississippi, northwest South Carolina, and Virginia.

LOCAL HABITAT: Rock Creek National Park and the Fort Circle Parks area.

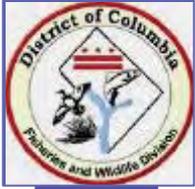
SPECIES ECOLOGY: Eastern chipmunks prefer deciduous woodlands, forest edges, and brushy areas. They can also be found in bushes and stonewalls in cemeteries as well as in and around suburban and rural homes with woodlot edges. They mate in early spring producing one litter per year of 3–5 young that are born in May. Their diets consist primarily of grains, nuts, berries, seeds, mushrooms, insects, and salamanders, but they also prey on young birds and their eggs.

THREATS: This species is may be negatively affected by forest fragmentation, possibly through increased rates of predation. The biggest threat in suburban areas is the house cat.

CONSERVATION ACTION: A comprehensive campaign to encourage owners to keep cat indoors would benefit this species within the District.

SITE MAP: 2, 6, 8

REFERENCES: 1 - 6



District of Columbia

Mammal Fact Sheet

Eastern Cottontail *Sylvilagus floridanus*



U.S. Fish and Wildlife

Species of Greatest Conservation Need

STATUS: The eastern cottontail is represented by many and/or large occurrences throughout most of its range. Secure within the District of Columbia.

RANGE: The eastern cottontail can be found in most of the eastern United States except for New England.

LOCAL HABITAT: Rock Creek National Park, Kenilworth Park, and Fort Circle Parks area.

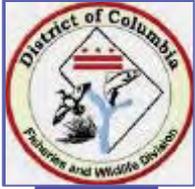
SPECIES ECOLOGY: The eastern cottontail prefers habitats that are between woody areas and open land. It can be found in bushy areas, fields, woodlands, swamps and thickets. It mates between February and September. The female gives birth about a month after mating and produces between one to nine young, but the average litter size is four to five young. It eats a variety of different plants including grasses, clover, fruits and vegetables. In the winter it eats the woody parts of plants like the twigs and the bark of brambles, birch, oak, dogwood and maple trees.

THREATS: Even though secure on a global and regional scale, this species is restricted to fairly small habitat areas within the District that are constantly under threat from ongoing urbanization.

CONSERVATION ACTION: Additional surveys are needed to determine the distribution, habitat requirements, and life cycle of this species to keep it abundant and common in the District. Adequate quality habitat should be ensured, and the population should be monitored.

SITE MAP: 4

REFERENCES: 1 - 3



District of Columbia

Mammal Fact Sheet

Species of Greatest Conservation Need



Eastern Red Bat *Lasiurus borealis*

STATUS: The eastern red bat is North America's most abundant "tree bat." Apparently secure within the District of Columbia.

RANGE: Widespread across much of North America from southern Canada, south through Central America to northern South America; absent only from the Rocky Mountains and southern Florida.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: Eastern red bats inhabit forests, roosting primarily beneath clusters of leaves during spring, summer and fall. They prefer forested areas, wooded hedgerows, and areas with large shade trees (e.g., city parks). They are rarely if ever observed in caves. Mating occurs in flight during the months of August and September. Young are born in late May through June with an average litter size between 2 - 4 pups. They consume predominantly moths.

THREATS: Even though secure on a global and regional scale, this species is restricted to fairly small habitat areas within the District that are constantly under threat from ongoing urbanization.

CONSERVATION ACTION: Additional surveys are needed to determine the distribution, habitat requirements, and life cycle of this species in the District. If the species is located, sites should be acquired or protected, high levels of habitat quality should be ensured, and the population should be monitored.

SITE MAP: 2, 8

REFERENCES: 1 - 5

Reptiles of Greatest Conservation Need



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Common Musk Turtle *Sternotherus odoratus*

STATUS: Apparently secure within the District of Columbia.

RANGE: New England to Southern Ontario to Southern Florida; west to Wisconsin and Texas.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

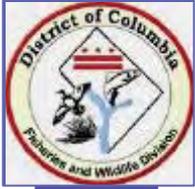
SPECIES ECOLOGY: The common musk turtle *aka* "sinkpot" prefers bodies of water such as lakes, ponds, and quiet streams. They are secretive and rarely bask, but can be found as far up as six feet in trees near the water. They nest February to June, depending on latitude and mate underwater. Musk turtles lay 1-9 off-white with stark white band, thick-shelled, elliptical eggs under rotting stumps or in a wall of a muskrat lodge. They consume mostly animal proteins when young, but as adults they tend to be omnivorous. Typical food choices are insects, crayfish, snails, fish, tadpoles, and nearly anything it can catch.

THREATS: Intensive development, nitrification, altered drainage, vegetative changes and pollution. Individuals are regularly injured or killed from fishing and from contact with boat propellers.

CONSERVATION ACTION: Appropriate management of suitable wetland complexes, and educating the public regarding turtle-safe boating practices would help in conserving this as yet common species. Further focused studies are needed to determine precise status and habitat use within the District.

SITE MAP: 1, 3, 7, 9

REFERENCES: 1 – 7



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Bog Turtle *Clemmys muhlenbergii*

STATUS: The US Fish & Wildlife Service has listed the northern population (New York and Massachusetts to Maryland and Delaware) as “Threatened” and the southern population (Virginia, North Carolina, South Carolina, Tennessee, Georgia) as “Threatened due to similarity of appearance.” Nearly half of the historic occurrences in Maryland have been extirpated. Presumed extirpated within the District of Columbia. Cryptic, hard to find even when present in good numbers; easily overlooked.

RANGE: New York to North Carolina and extremely northeastern Georgia.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

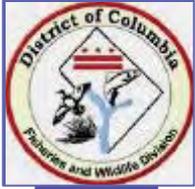
SPECIES ECOLOGY: Bog turtles prefer clear-cool, shallow, slow moving waters and inhabit marshy meadows, swamps, sphagnum bogs and pastures with soft, muddy bottoms. They breed late April to early June. They lay 2 to 5 (usually 2-3) eggs in June to July. The eggs are left unattended to develop and hatch. Their diet includes snails, worms, slugs, millipedes, plant seeds and carrion.

THREATS: Intensive development, nitrification, altered drainage, vegetative changes and pollution. Decline is due primarily to loss, degradation, and fragmentation of habitat, and excessive (and illegal) collecting for the pet trade.

CONSERVATION ACTION: This species would benefit from the acquisition and appropriate management of suitable wetland complexes. Selective cutting, burning (if possible), periodic mowing, and grazing may be appropriate management techniques for maintaining habitat. Establishing location and long-term studies of populations within the District is urgently needed.

SITE MAP: 1, 5, 10

REFERENCES: 1 – 5



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Corn Snake

Elaphe guttata guttata

STATUS: The status of corn snakes within the District of Columbia is undetermined.

RANGE: In North America they can be found from New Jersey west to Colorado and south to the Florida Keys and from Nebraska to Central Mexico.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

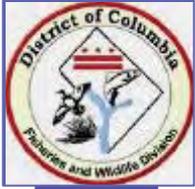
SPECIES ECOLOGY: Corn snakes prefer wooded areas, wood lots, rocky slopes, deciduous forests, and pine barrens. It is semi-arboreal (tree climbing), but spends much of its time underground, resting in or prowling through rodent burrows or other subterranean passageways. It breeds in the spring. Eight to twenty eggs are laid in late May or early June with the eggs hatching in August or September. It feeds on small mammals, birds, frogs, and lizards.

THREATS: Corn snakes are often mistaken for copperheads and sometimes killed because of this. Sometimes they are captured in the wild to be sold as pets. However, there are many snake breeders, so wild capturing does not pose a serious threat to this species.

CONSERVATION ACTION: Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 6

REFERENCES: 1 - 5



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Eastern Box Turtle *Terrapene carolina*

STATUS: Large range in eastern North America; locally abundant in most parts of its range, but declining in some areas. Vulnerable within the District of Columbia.

RANGE: Northeast Massachusetts to Georgia, west to Michigan, Illinois, and Tennessee.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

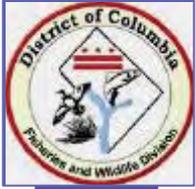
SPECIES ECOLOGY: Box turtles favor open woodlands, wetland areas, and meadows. They prefer moist environments and spend most of their time buried in leaves and dirt. In hot, dry weather they can be found enter water, mud, and damp ground. They nest May to July and lay 3-8 eggs (elliptical in shape and about 3.5 cm long) in loose soil about 7 cm deep. They are omnivores and eat everything from grass, leaves, crustaceans, berries, mushrooms, earthworms, insects, slugs, snails, amphibians, lizards, and fish.

THREATS: Recent declines are a result of habitat loss and fragmentation and over-collecting for the pet trade.

CONSERVATION ACTION: Establishing locations and long-term studies of populations within the District is urgently needed.

SITE MAP: 2, 4, 5, 6, 7, 8

REFERENCES: 1 - 6



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Eastern Garter Snake *Thamnophis sirtalis*

STATUS: Apparently secure within the District of Columbia.

RANGE: Ranges over much of North America, from southern Canada to southern California, central Utah, Chihuahua, Texas, Gulf Coast, and southern Florida. Resident within the District of Columbia.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

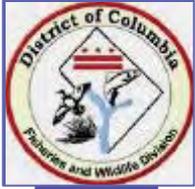
SPECIES ECOLOGY: The eastern garter snake can be found in wet woodlands, meadows, marshes and along drainage ditches and streams. It is diurnal usually hunting and living in moist habitats. They can tolerate very cold weather but will hibernate during the winter. During this period, garter snakes will come together in large numbers to hibernate. They breed in the spring and the young are born alive in late summer or autumn. There may be 10-70 or more in a litter. They feed on frogs, toads, salamanders, earthworms, mice, minnows, bird eggs, and carrion.

THREATS: Little is known about the threats facing this rather widespread and adaptable species within the District of Columbia.

CONSERVATION ACTION: Due to the rather generalist ecology of this widespread species, many management activities could potentially benefit the snake. Basic monitoring of local populations is needed with the District of Columbia.

SITE MAP: 4, 5, 7, 8

REFERENCES: 1 - 4



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Eastern Hognose Snake *Heterodon platirhinos*

STATUS: Possibly extirpated within the District of Columbia.

RANGE: From southern Pennsylvania to Florida, west to the prairie lands of Texas to southern Iowa and Wisconsin.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: The Eastern hognose snake prefers sandy areas, but can be found in fields, open grassy areas adjacent woods, and open pine, mixed pine-hardwood, and hardwood forests. It breeds in the spring. The eastern hognose snake is oviparous and lays 10 - 30 eggs in sandy areas. Its prey consists of frogs, toads and insects.

THREATS: Little is known about the threats facing this species within the District of Columbia.

CONSERVATION ACTION: Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 2, 4, 8

REFERENCES: 1 - 3



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Eastern Mud Turtle *Kinosternon subrubrum*

STATUS: Apparently secure within the District of Columbia.

RANGE: Found as far north as Long Island down to south Florida and around the Gulf coast to eastern parts of Texas.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

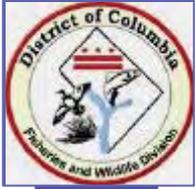
SPECIES ECOLOGY: The mud turtle is semi-aquatic and spends time on land and water environments. Shallow waterways such as streams and marshes serve as ideal environments as does ponds, rivers, and lakes. It has a distinct tolerance to brackish water. Mud turtles are even found in temporary wetlands, burrowing into the mud when the wetland dries. Adults mate in spring, and in June the females lay between one and six elliptical eggs in holes dug in sandy soil or among disintegrating plants. Mud turtles feed on a wide variety of aquatic organisms and probably also eat aquatic plants.

THREATS: Main threats are loss of habitat (largely a result of water pollution and wetland drainage), and migrating individuals killed by vehicular traffic.

CONSERVATION ACTION: Recommended habitat management activities include elimination of barriers that hinder migration between ponds and nest or hibernation sites, placement of "turtle crossing" signs to warn motorists of the turtle's presence in key areas, and maintenance of open areas for nesting. Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 1, 3

REFERENCES: 1 - 5



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Spotted Turtle *Chrysemys guttata*

STATUS: The spotted turtle is locally common in many portions of its overall range, but apparently declining in some areas. Critically imperiled within the District of Columbia.

RANGE: The range extends from southern Maine and extreme southern Ontario west to Illinois and south to northern Florida. Isolated colonies can be found in southern Quebec, southern Ontario, central Illinois, central Georgia and north-central Florida.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

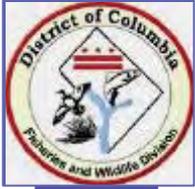
SPECIES ECOLOGY: Spotted turtles prefer marshy meadows, bogs, swamps, ponds, ditches and other small bodies of still water. They need clean, shallow, slow-moving water with muddy or mucky bottoms with some aquatic vegetation. Courtship begins in March to May, and in June females deposit up to 8 (typically 3-5) flexible-shelled, elliptical eggs. Their diets consist of larval amphibians, slugs, snails, crayfish, insects, worms, and carrion.

THREATS: Primary threats to this species are habitat fragmentation and alteration, grazing, draining and filling of wetlands, road mortality, collecting, artificial control of water levels, and pollution. The small wetlands favored by this species are often not protected by wetland conservation laws.

CONSERVATION ACTION: Wetland restoration and landscape level planning can increase the connections among suitable habitat patches for this species; this could help improve the security of existing populations. Preventing the invasion of non-native plants (e.g., purple loosestrife) and eradicating them from spotted turtle habitat is essential. Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 1, 3

REFERENCES: 1 - 4



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Eastern Ribbon Snake *Thamnophis sauritus*

STATUS: Apparently secure within the District of Columbia.

RANGE: East of the Mississippi River, from Michigan, southern Ontario, and southern Maine south to the Florida Keys and southeastern Louisiana. Resident within the District of Columbia.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

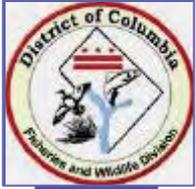
SPECIES ECOLOGY: The eastern ribbon snake is a semi-aquatic snake that prefers wet meadows, marshes, bogs, ponds, weedy lake shorelines, swamps, and shallow-meandering streams. It likes to bask in bush and when startled it will glide swiftly across the water's surface. Mating takes place in the spring with 3 - 26 young born live in July and August. It feeds on frogs, salamanders, and small fish.

THREATS: Little is known about the threats facing this species within the District of Columbia.

CONSERVATION ACTION: Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 1, 3, 4, 5

REFERENCES: 1 - 3



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Eastern Worm Snake *Carphophis amoenus* *amoenus*

STATUS: Apparently secure within the District of Columbia.

RANGE: Southern New England southward through the Carolinas to northern Georgia, and westward to southern Ohio and northeastern Mississippi. Resident within the District of Columbia.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

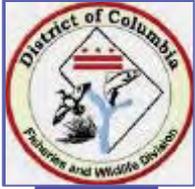
SPECIES ECOLOGY: The eastern worm snake prefers moist forest and hillsides near streams. They will hide under rocks or debris, rotting logs, or burrow underground. The worm snakes breeds in the spring and fall and lay one to eight eggs in early summer. Their diets consist of earthworms and soft-bodied insects.

THREATS: Little is known about the threats facing this species within the District of Columbia.

CONSERVATION ACTION: Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 4, 6

REFERENCES: 1 - 6



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Eastern Fence Lizard *Sceloporus undulatus*

STATUS: Possibly extirpated within the District of Columbia.

RANGE: Ranges from New York to Florida, west to Utah and Arizona, north to South Dakota and central Indiana, south to Gulf Coast and Zacatecas.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

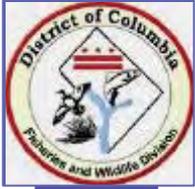
SPECIES ECOLOGY: Fence lizards prefer rocky, wooded areas, dry hillsides, and sunny, open woodlots. They are most common along forest edges and often inhabit rotting logs or stumps. Mating occurs in April or May. Five to 15 eggs are laid in soil and rotting logs and under surface debris in June, July, or early August. Fence lizards mainly eat spiders, but also consume grasshoppers, beetles, caterpillars and snails.

THREATS: Very little data exists on this species within the District of Columbia.

CONSERVATION ACTION: Establishing location and long-term studies of populations within the District is urgently needed.

SITE MAP: 4, 6

REFERENCES: 1 - 5



District of Columbia

Reptiles Fact Sheet

Five-lined Skink *Eumeces fasciatus*



Species of Greatest Conservation Need

STATUS: Apparently secure within the District of Columbia.

RANGE: Found from southern New Mexico to northern Florida, west to east Texas, north to Kansas, Wisconsin and Southern Ontario.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

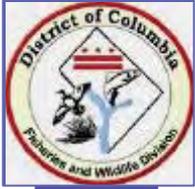
SPECIES ECOLOGY: Five-lined skinks prefer humid woodlands with decaying leaf litter, stumps and logs. They like open hardwood forest, forest edges, and cutover woodlands. Mating takes place in the spring, and the female lays from 4 - 14 eggs in late spring or early summer. Their diets consist of crickets, grasshoppers, beetles, earthworms, snails, slugs, isopods, caterpillars, other lizards, and small mice.

THREATS: Little is known about the threats facing this species within the District of Columbia.

CONSERVATION ACTION: Basic monitoring of local populations is needed with the District of Columbia.

SITE MAP: 2

REFERENCES: 1 - 4



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Northern Black Racer *Coluber constrictor* *constrictor*

STATUS: Apparently secure within the District of Columbia.

RANGE: Found in the eastern part of North America from Canada to Florida.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

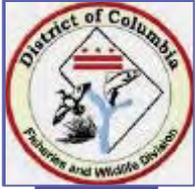
SPECIES ECOLOGY: The northern black racer can be found in a variety of habitats including forests, open areas, and edges of forests near open fields. It is most commonly found in open land, such as meadows, fields, and farmland. It has no known association with waterways. This snake mates in May and June and female lays 10-20 eggs in late June or July. It feeds primarily on small rodents, frogs, and young snakes, and is a valuable destroyer of pests.

THREATS: Little is known about the threats facing this rather widespread and adaptable species within the District of Columbia.

CONSERVATION ACTION: Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 4, 6

REFERENCES: 1 - 5



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Northern Brown Snake *Storeria dekayi*

STATUS: Apparently secure within the District of Columbia.

RANGE: From southern Quebec and New England southward to North Carolina, and westward to Ohio and eastern Kentucky.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: Northern brown snakes can be found in dense forest to open grassland. They are most common in and around abandoned buildings and development, but can also be found in empty lots, under trash, logs, and rocks. Most northern brown snakes are commonly seen near aquatic environments. They breed in spring and give birth to 3-20 living young at a time. They feed on slugs, earthworms, slugs, snails, soft-bodied insects and larger specimens will eat frogs and tadpoles.

THREATS: Little is known about the threats facing this rather widespread and adaptable species within the District of Columbia.

CONSERVATION ACTION: Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 2, 5, 6, 8

REFERENCES: 1 - 5



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Northern Copperhead *Agkistrodon contortrix*

STATUS: The northern copperhead has no special status federally. It is critically imperiled within the District of Columbia.

RANGE: From Mexico north into the central United States and in the east from the tip of Florida to the New England states.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: Northern copperheads prefer terrestrial and semi-aquatic habitats that have rocky areas with debris-covered slopes or rock outcrops. They also can be found in wood piles, sawdust piles, rock piles and brush piles. Mating can occur in the late spring or early fall, but females can store sperm for long periods of time. Thus, several males may successfully mate with a single female resulting in multiple paternities within a single litter. Young snakes are usually born in September and October. Copperheads are carnivores surviving on a diet of mice, lizards, birds, amphibians, insects, and small snakes.

THREATS: Little is known about the threats facing this species within the District of Columbia.

CONSERVATION ACTION: Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 2, 5

REFERENCES: 1 - 4



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Eastern Painted Turtle *Chrysemys picta picta*

STATUS: This species is represented by many and/or large occurrences throughout much of its large range. Very abundant in suitable habitat in most areas. Secure within the District of Columbia.

RANGE: Found across the entire North American continent, occurring from southern Canada to northern Mexico and from the northwestern to the southeastern United States.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

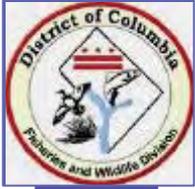
SPECIES ECOLOGY: The eastern painted turtle is found in slow-moving, shallow water (streams, marshes, ponds, lakes, or creeks) containing soft bottom, suitable basking sites, and aquatic vegetation. It may colonize seasonally-flooded areas near permanent water. Mating occurs at the bottom of the body of water and egg-laying takes place during June and July. Painted Turtles lay a clutch containing between 4 to 20 eggs in open areas that are exposed to the sun for much of the day. In general, it eats insects, crayfish, mollusks, and aquatic vegetation.

THREATS: Localized threats from habitat degradation, road mortality, and human associated increase in predators (e.g., raccoons) are causes for concern.

CONSERVATION ACTION: Recommended habitat management activities include placement of "turtle crossing" signs to warn motorists of the turtles' presence in key areas. Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 1, 2, 3

REFERENCES: 1 - 5



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Northern Ringneck Snake *Diadophis punctatus edwardsii*

STATUS: Apparently secure within the District of Columbia.

RANGE: Occurs throughout eastern and central North America. The range extends from Nova Scotia and southern Quebec and Ontario to south-central Mexico, covering the entire eastern seaboard except for areas along the gulf coasts of south Texas and northeast Mexico. The range extends laterally to the Pacific coast except for large areas in drier regions of the western United States and Mexico.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

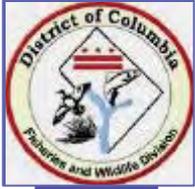
SPECIES ECOLOGY: The preferred habitat for the northern ringneck snake consists of rocky ledges near rivers in shady or heavily wooded damp areas. It usually hides under logs, rocks, leaf litter, or matted plants. Mating occurs in spring or fall (delayed fertilization is possible) and eggs are laid in June or early July. Females lay eggs about 3-10 eggs laid at one time. This snake's diet consists of small salamanders, lizards, and frogs, as well as earthworms and juvenile snakes of other species.

THREATS: Little is known about the threats facing this rather widespread and adaptable species within the District of Columbia.

CONSERVATION ACTION: Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 2

REFERENCES: 1 - 4



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Queen Snake *Regina septemvittata*

STATUS: Critically imperiled within the District of Columbia.

RANGE: Pennsylvania west to southeastern Wisconsin, south through much of the eastern United States to the Gulf Coast.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: Queen snakes have a very specific habitat. They are found in or near shallow, clear spring-fed streams with moderate to fast currents and rocky bottoms. They can also be found in canals or ponds. Mating can take place during the fall or spring; Females produce 5-23 young (on average 6-20 young) born in August or early September. They feed almost exclusively on freshly molted crayfish.

THREATS: Habitat loss, especially due to urban encroachment, is the most significant threat to this species in the United States. Their extremely specialized habitat requirements restrict them to certain areas, with large gaps of unfavorable habitat in between populations. Water pollution is another potential limiting factor, since increased runoff and siltation in many streams have resulted in die-off of crayfish prey. They are susceptible to mercury toxicity through eating mercury-contaminated crayfish and other pollutants are able to pass directly through their highly permeable skin.

CONSERVATION ACTION: Effective management of appropriate habitat is the urgent conservation requirement for this species. Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 1, 2

REFERENCES: 1 - 5



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Eastern Redbelly Turtle *Pseudemys rubriventris* (*Chrysemys rubriventris*)

AKA: Northern Red-bellied Turtle
Plymouth Red-bellied Turtle

STATUS: The Plymouth Red-bellied Turtle, a population of the Eastern Redbelly Turtles (sometimes known as *Pseudemys rubriventris bangsi*), is on the U.S. Endangered Species List. Apparently secure within the District of Columbia.

RANGE: Mid-Atlantic coastal plain from southern New Jersey to northeastern North Carolina, and west in the Potomac River.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

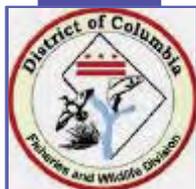
SPECIES ECOLOGY: The redbelly turtle prefers relatively large, deep creeks; rivers, ponds, lakes and marshes with ample basking sites. This species tolerates brackish water conditions, but is usually a freshwater turtle. It nests June to July and lays 8-20 elliptical eggs. It feeds on a variety of aquatic animals and plants, but fish are not normally part of the diet.

THREATS: Limited habitat from industrial uses, urbanization, drainage and/or filling of wetlands and pollution.

CONSERVATION ACTION: This species would benefit from appropriate management of suitable wetland complexes. Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 1, 3

REFERENCES: 1 - 4



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Rough Green Snake *Opheodrys aestivus*

STATUS: The population trend for the rough green snake is probably relatively stable overall, with local declines associated with habitat loss. Apparently secure within the District of Columbia.

RANGE: Southern New Jersey west to Eastern Kansas, south to Florida Keys west through Texas into Eastern Mexico.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

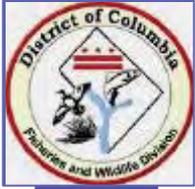
SPECIES ECOLOGY: The rough green snake can be found in areas of thick, green vegetation. Small trees, bushes, briar patches, and tangles of vines are their favorite areas. They are attracted to lush green vegetation overhanging streams, but can also be found in gardens and are able to maintain their populations in developed areas as long as adequate greenery is left in backyards and parks. The rough green snake lays up to a dozen eggs in rotting logs or stumps during June or July. The eggs hatch in late summer. They mainly consume grasshoppers, crickets, caterpillars, spiders, small frogs, and snails or slugs.

THREATS: Clearing of wooded wetlands and wooded borders of aquatic habitats is a potential threat, as is pesticide application in such habitats.

CONSERVATION ACTION: The protection of several large tracts of optimal habitat well dispersed throughout its range is the management requirement for this species. Discourage application of pesticides in or near wooded wetlands should be discouraged.

SITE MAP: 2, 4, 5

REFERENCES: 1 - 3



District of Columbia

Reptiles Fact Sheet

Species of Greatest Conservation Need



Northern Scarlet Snake *Cemophora coccinea copei*

STATUS: Possibly extirpated within the District of Columbia.

RANGE: Extreme southern Delaware to the Florida panhandle, west to Louisiana, eastern Oklahoma and extreme eastern Texas.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: The scarlet snake prefers a hardwood habitat mixed or pine forest and adjacent open areas with sandy or loamy well-drained soils. It may occasionally be found under rotting logs or stones or unearthed by plows. They lay 3-8 elongated leathery eggs in June that hatch in late summer. Eggs of other reptiles appear to be their preferred food.

THREATS: Little is known about the threats facing this species within the District of Columbia.

CONSERVATION ACTION: Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 2

REFERENCES: 1 - 4



District of Columbia

Reptiles Fact Sheet

Timber Rattlesnake *Crotalus horridus*



Species of Greatest Conservation Need

STATUS: This species has a large range in the eastern United States, but occurrence is spotty in most regions. It is declining or extirpated in all northeastern states. Possibly extirpated within the District of Columbia.

RANGE: Most of eastern half of the United States from southern New Hampshire south through the Appalachian Mountains to northern Georgia and west to southwestern Wisconsin and northeastern Texas.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: Timber rattlesnakes inhabit deciduous forests in rocky terrain. They occupy heavily vegetated, rock outcrops on partially forested hillsides. Mating occurs in the spring and fall and females give birth to 4-14 (average 9) young every three to five years. Young are born during late August to mid-September. Rattlesnakes eat mice, rats, squirrels, rabbits, bats and other small mammals.

THREATS: Development, illegal collecting, and disturbance by recreational users are the most common threats as is timber rattlers low rate of reproduction. Limited appropriate habitat and altered habitat by human activities also threatened this species.

CONSERVATION ACTION: There is an urgent need for population surveys for this species within the District to identify existing den sites, assess population size, reproductive success and any threats to existing habitat.

SITE MAP: 2

REFERENCES: 1 - 4



District of Columbia

Reptiles Fact Sheet

Wood Turtle *Clemmys insculpta*



STATUS: The wood turtle is apparently declining throughout its range, but survey data are scanty. Possibly extirpated within the District of Columbia.

RANGE: Original North American range extends from Nova Scotia to eastern Minnesota, south to northeastern Iowa, east to Virginia and north to New York.

LOCAL HABITAT: Further monitoring needed to determine current range within the District of Columbia.

SPECIES ECOLOGY: The wood turtle prefers lowland hardwood forests and open meadows associated with moderate to fast current streams and rivers with sand or gravel substrates. They are freshwater turtles that can use clear streams, rivers and woodland ponds that are relatively remote. They mate in spring and fall, in or out of water. A clutch of 4 to 17 white, smooth eggs laid in June will hatch in September. Wood turtles are omnivores that eat insects, mollusks, carrion, worms, blackberries, dandelions, mullen sorrel, strawberries, sedges, grasses, filamentous algae, and mushrooms.

THREATS: Threats include heavy bank erosion, increased small mammal populations (nest predators), water pollution, and vehicular traffic. Formerly reduced by biological supply houses and pet trade industries.

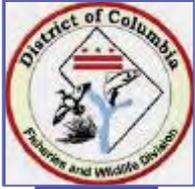
CONSERVATION ACTION: May benefit from watershed management aimed at reducing erosion and sedimentation. Habitat improvement is probably best aimed at nesting, basking, and hibernating sites. Basic monitoring of local populations is needed within the District of Columbia.

SITE MAP: 1, 2, 3,

REFERENCES: 1 - 5

Species of Greatest Conservation Need

Fish of Greatest Conservation Need



District of Columbia

Fish Fact Sheet

Species of Greatest Conservation Need



American Shad *Alosa sapidissima*

STATUS: Population abundance is severely reduced from historic levels, but is rebounding.

RANGE: From Newfoundland and Gulf of St. Lawrence to South Carolina, with a natural landlocked population in New York.

LOCAL HABITAT: Potomac River, Anacostia River, Rock Creek.

SPECIES ECOLOGY: American Shad are offshore anadromous fish of the eastern Atlantic Ocean. They ascend to coastal rivers during spawning season. Hatched larvae are found in rivers during the summer; by autumn they enter the sea and remain there until maturity. They feed on plankton, mainly copepods and mysids, occasionally on small fishes.

THREATS: Overfishing; habitat destruction; lack of quality spawning and nursery habitat.

CONSERVATION ACTION: Stock enhancement; cooperation with the Atlantic States Marine Fisheries Commission on stock management. Enhanced monitoring.

SITE MAP: 1, 11

REFERENCES: 1 - 3



District of Columbia

Invertebrate Fact Sheet

Species of Greatest Conservation Need



Greenside Darter *Etheostoma blennioides*

STATUS: Extremely low population abundance; current population trend unknown.

RANGE: Found throughout most of the eastern United States from the Ozark Mountains in Arkansas to New York State.

LOCAL HABITAT: Rock Creek

SPECIES ECOLOGY: Greenside darters need clear, rocky streams and rivers with riffles, runs, and usually vegetation. Spawning occurs late March to early May. A single female produces between 404-1,832 eggs. Greenside darters consume insects and snails.

THREATS: Especially sensitive to temperature and particularly intolerant to warm water temperatures. Other threats include anthropogenic changes in rivers and pollution from pesticides, industrial, agricultural and urban waste. Lack of suitable, quality habitat.

CONSERVATION ACTION: Stream restoration and water quality improvement. Enhanced monitoring.

SITE MAP: 1

REFERENCES: 1 - 4



District of Columbia

Fish Fact Sheet

Species of Greatest Conservation Need



Silverjaw Minnow *Ericymba buccata*

STATUS: Low population abundance; current population trend unknown.

RANGE: Occurs within much of the eastern United States and within the mid-Atlantic region in western and northern Virginia and in mainland Maryland (but not its eastern portion).

LOCAL HABITAT: Potomac River.

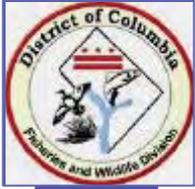
SPECIES ECOLOGY: The silverjaw minnow inhabits shallow sandy riffles and raceways of creeks and small to medium rivers. They prefer the riffles of small to medium rivers. The silverjaw minnow spawns in March through June with peak period in April. They school while spawning. Their diet includes cladocerans, copepods, and ostracods and midge larvae (chironomids) at night.

THREATS: Lack of suitable, quality habitat.

CONSERVATION ACTION: Stream restoration and water quality improvement. Enhanced monitoring.

SITE MAP: 1

REFERENCES: 1 - 3



District of Columbia

Fish Fact Sheet

Species of Greatest Conservation Need



Warmouth *Lepomis gulosus*

STATUS: Low population abundance; current population trend unknown.

RANGE: From Maryland, southern Michigan, and southern Wisconsin south to Florida, west to Texas and New Mexico.

LOCAL HABITAT: Potomac River.

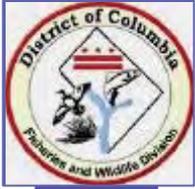
SPECIES ECOLOGY: Warmouths inhabit pools and low gradient creeks, streams, rivers, and lakes with extensive submerged vegetation and a mud or detritus bottom. Spawning occurs mid-spring through summer. Males build the nest. It feeds on small fishes, crayfishes, and aquatic insects.

THREATS: Lack of submerged aquatic vegetation (SAV) due to siltation; lack of suitable, quality habitat.

CONSERVATION ACTION: : SAV enhancement and water quality improvement. Enhanced monitoring.

SITE MAP: 1, 7, 11

REFERENCES: 1 - 3



District of Columbia

Fish Fact Sheet

Alewife

Alosa pseudoharengus



Species of Greatest Conservation Need

STATUS: Low population abundance; current population appears stable.

RANGE: Newfoundland and Gulf of St. Lawrence to South Carolina. There is a natural landlocked population in New York.

LOCAL HABITAT: Potomac River, Anacostia River, Rock Creek.

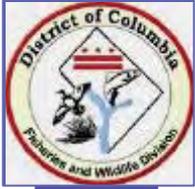
SPECIES ECOLOGY: Alewives are "anadromous" fish that, much like salmon and shad, mature in salt water but spawn in fresh water. They form schools in large numbers in the spring. Found in rivers, estuaries and coastal waters. They feed on diatoms, copepods, insects, and fish eggs.

THREATS: Lack of suitable, quality spawning and juvenile habitat.

CONSERVATION ACTION: Fish passage barrier removal and mitigation. Stream restoration and water quality improvement. Stock enhancement; cooperation with the Atlantic States Marine Fisheries Commission on stock management. Enhanced monitoring.

SITE MAP: 1, 11

REFERENCES: 1 -4



District of Columbia

Fish Fact Sheet

Species of Greatest Conservation Need



Blueback Herring *Alosa aestivalis*

STATUS: Low population abundance; current population appears stable.

RANGE: Newfoundland and Gulf of St. Lawrence to South Carolina. There is a natural landlocked population in New York.

LOCAL HABITAT: Potomac River, Anacostia River, and Rock Creek.

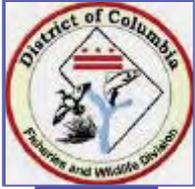
SPECIES ECOLOGY: Blueback herring are offshore anadromous fish of the eastern Atlantic Ocean; it ascends to coastal rivers during spawning season. It usually spawns later in the spring than the alewife, when water temperatures are a bit warmer. Spent fish move back to the sea after spawning. Young fish usually move to sea when about 1 month old and 1 1/2 to 2 inches long. They feed on plankton, various small floating animals, small fish fry, and fish eggs.

THREATS: Lack of suitable, quality spawning and juvenile habitat.

CONSERVATION ACTION: Fish passage barrier removal and mitigation. Stream restoration and water quality improvement. Stock enhancement; cooperation with the Atlantic States Marine Fisheries Commission on stock management. Enhanced monitoring.

SITE MAP: 1, 11

REFERENCES: 1-3



District of Columbia

Fish Fact Sheet

Species of Greatest Conservation Need



Atlantic Sturgeon *Acipenser oxyrinchus*

STATUS: Federal Status – Threatened. Extirpated from the District of Columbia.

RANGE: Occurs along the Atlantic coast and in estuaries from Labrador to Florida and west to the Mississippi delta.

LOCAL HABITAT: Potomac River.

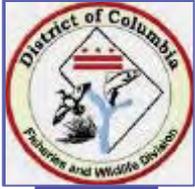
SPECIES ECOLOGY: Atlantic sturgeons are anadromous fish. They spend most of their life in brackish or salt water and migrates into freshwater to spawn. Atlantic sturgeons are found in rivers and oceanic waters. They are bottom dwellers and prefer deep waters and soft substrate. Their diet consists of worms, snails, shellfish, crustaceans, and small fish, as well as large amounts of mud and debris.

THREATS: Lack of suitable, quality spawning habitat.

CONSERVATION ACTION: Stock enhancement; cooperation with the Atlantic States Marine Fisheries Commission on stock management.

SITE MAP: 1

REFERENCES: 1 - 4



District of Columbia

Fish Fact Sheet

American Eel *Anguilla rostrata*



STATUS: Low population abundance; current population trend unknown.

RANGE: Fresh and coastal waters throughout eastern North America to northern South America, including the Caribbean.

LOCAL HABITAT: Potomac River, Anacostia River, Rock Creek.

SPECIES ECOLOGY: American eels occupy inshore waters, estuaries, rivers, creeks, lakes, and ponds. They prefer areas with soft bottom such as mud or sand and vegetation or other shelter in which they can hide. They are catadromous fish that spend the majority of their life in fresh and brackish water, but spawn in marine waters, specifically the Sargasso Sea. Their diet includes insects, snails, small fish, clams, and crabs.

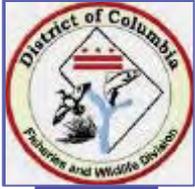
THREATS: Overharvest of adults and juveniles worldwide; lack of quality habitat.

CONSERVATION ACTION: Fish passage barrier removal and mitigation. Stream restoration and water quality improvement. Enhanced monitoring.

SITE MAP: 1, 7, 9, 11

REFERENCES: 1-3

Species of Greatest Conservation Need



District of Columbia

Fish Fact Sheet

Species of Greatest Conservation Need



Longnose Gar *Lepisosteus osseus*

STATUS:

RANGE: Found throughout the Atlantic and Gulf coastal plains south into northern Mexico as well as the Great Lakes and Mississippi River.

LOCAL HABITAT: Potomac River and Anacostia River.

SPECIES ECOLOGY: The longnose gar can be found in medium-sized streams to large rivers, marshes swamps lakes reservoirs, and estuaries. They inhabit warm, shallow areas where they ambush prey. Gar spawn in the spring by attaching their eggs in shallow water where the eggs attach to vegetation. Longnose gar provide no parental care. Their diets consist primarily of fish, that may be up to one-third the length of their own bodies.

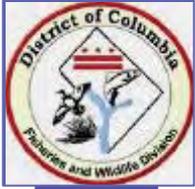
THREATS:

CONSERVATION ACTION:

SITE MAP:

REFERENCES: 1 - 4

Eliminated from Species of Greatest Conservation Need



District of Columbia

Fish Fact Sheet

Species of Greatest Conservation Need



Central Stoneroller *Campostoma anomalum*

STATUS: Low population abundance; current population trend unknown.

RANGE: Widely distributed through central and eastern streams of the United States and also widespread in the southern Great Lakes and upper and middle Mississippi basins, the western Gulf slope and the central Atlantic slope.

LOCAL HABITAT: Rock Creek.

SPECIES ECOLOGY: The central stoneroller is found in rocky riffles, runs and pools of streams with clear cool water. Spawning typically occurs April to May with each female laying 150-4,800 eggs. Its diet includes algae and detritus.

THREATS: Lack of suitable, quality habitat.

CONSERVATION ACTION: Stream restoration and water quality improvement. Enhanced monitoring.

SITE MAP: 1

REFERENCES: 1 - 4



District of Columbia

Fish Fact Sheet

Species of Greatest Conservation Need



Bowfin *Amia calva*

STATUS: Extremely low population abundance; current population trend unknown.

RANGE: Found throughout most of the eastern half of the United States and in southeastern Canada.

LOCAL HABITAT: Potomac River.

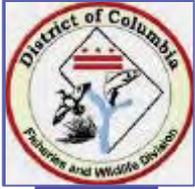
SPECIES ECOLOGY: Bowfins prefer dense vegetation and clear water in a variety of swampy habitats such as ditches, channels, borrow pits, pools and sluggish creeks and rivers. Spawning generally occurs during the spring. Males prepare a nesting area and one or more females lay eggs at night. The male bowfin guards the eggs and protects the young. A voracious and opportunist feeder, it subsists on fishes including other sport fishes, frogs, crayfish, insects, and shrimps.

THREATS: Lack of submerged aquatic vegetation (SAV) due to siltation; lack of suitable, quality habitat.

CONSERVATION ACTION: Stream restoration and water quality improvement. Enhanced monitoring.

SITE MAP: 1, 11

REFERENCES: 1 - 4



District of Columbia

Fish Fact Sheet

Hickory Shad *Alosa mediocris*



STATUS: Population abundance is severely reduced from historic levels, but is rebounding.

RANGE: From Maine to northeast Florida.

LOCAL HABITAT: Potomac River, Anacostia River, and Rock Creek.

SPECIES ECOLOGY: Hickory shad are anadromous and spend the majority of their life at sea and only enter fresh water in the spring to spawn. They spawn in rivers and tributaries along the coast. Their diet includes anchovy, silverside, insects and small pelagic crustaceans.

THREATS: Overharvest; habitat destruction; lack of quality spawning and nursery habitat.

CONSERVATION ACTION: Stock enhancement; cooperation with the Atlantic States Marine Fisheries Commission on stock management. Enhanced monitoring.

SITE MAP: 1, 11

REFERENCES: 1 - 3

Species of Greatest Conservation Need



District of Columbia

Fish Fact Sheet

Species of Greatest Conservation Need



Northern Hogsucker *Hypentelium nigricans*

STATUS:

RANGE: Found over the eastern half of the United States and southern Canada, from central Minnesota eastward through the Great Lakes region to New York, and down the Mississippi River watershed to the Gulf of Mexico.

LOCAL HABITAT:

SPECIES ECOLOGY: The northern hogsucker prefers clean creeks and rivers with medium to swift currents with gravel or rocky bottom. It is intolerant of pollution, siltation, and channelization. Spawning may occur from late March through early May. Parents do not care for their eggs. Its diet consists of insect larvae, micro-crustaceans, fish eggs, small mollusks, and algae.

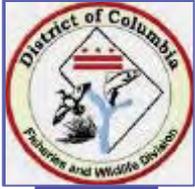
THREATS:

CONSERVATION ACTION:

SITE MAP:

REFERENCES: 1-3

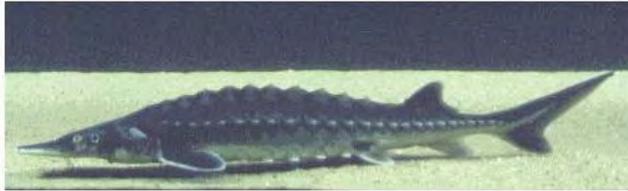
Eliminated from Species of Greatest Conservation Need



District of Columbia

Fish Fact Sheet

Species of Greatest Conservation Need



Shortnose Sturgeon *Acipenser brevirostrum*

STATUS: Federal Status - Endangered

RANGE: Can be found in coastal rivers from the Saint John River in Canada to the St. Johns River in Florida.

LOCAL HABITAT: Potomac River.

SPECIES ECOLOGY: The shortnose sturgeon is an anadromous bony fish that spends much of its life in slow-moving tidal rivers or in near-shore marine waters, then returns upstream to fresh waters to spawn. They consume mostly benthic organisms such as aquatic worms and insects or crustaceans.

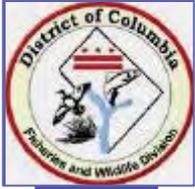
THREATS: Overfishing, pollution, and damming have decimated indigenous populations of the fish.

CONSERVATION ACTION: Stock enhancement; cooperation with the Atlantic States Marine Fisheries Commission on stock management.

SITE MAP: 1

REFERENCES: 1 - 4

Invertebrates of Greatest Conservation Need



District of Columbia

Invertebrate Fact Sheet

Class Maxillopoda Copepods

Species of Greatest Conservation Need

1. *Acanthocyclops columbiensis*
2. *Acanthocyclops villosipes*
3. *Attheyella (Canthocamptus) illinoisensis*
4. *Attheyella (Mrazekiella) illinoisensis*
5. *Attheyella (Mrazekiella) obatogamensis*
6. *Bryocamptus hutchinsoni*
7. *Bryocamptus minutus*
8. *Bryocamptus nivalis*
9. *Bryocamptus zchokkei*
10. *Diacyclops harryi*
11. *Diacyclops nearcticus*
12. *Eucyclops agilis*
13. *Macrocyclus albidus*
14. *Fimbriatus chiltoni*
15. Spiny-foot copepod

STATUS: Data gaps; more information forthcoming.

RANGE: Data gaps; more information forthcoming.

LOCAL HABITAT: Data gaps; more information forthcoming.

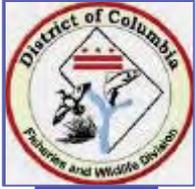
SPECIES ECOLOGY: Data gaps; more information forthcoming.

THREATS: Data gaps; more information forthcoming.

CONSERVATION ACTION: Data gaps; more information forthcoming.

SITE MAP:

REFERENCES:



District of Columbia

Invertebrate Fact Sheet

Class Malacostraca Amphipods

Species of Greatest Conservation Need

1. Alewife floater (*Anodonta implicata*)
2. Brook floater (*Alasmidonta varicose*)
3. Dwarf wedgemussel (*Alasmidonta heterodon*)
4. Eastern pondmussel (*Ligumia nausta*)
5. Green floater (*Lasmigona subviridus*)
6. Tidewater mucket (*Leptodea ochracea*)
7. Triangle floater (*Alamidonta undulate*)
8. Yellow lampmussell (*Lampsilis cariosa*)

STATUS: Data gaps; more information forthcoming.

RANGE: Data gaps; more information forthcoming.

LOCAL HABITAT: Data gaps; more information forthcoming.

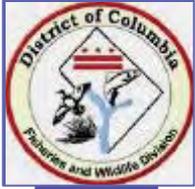
SPECIES ECOLOGY: Data gaps; more information forthcoming.

THREATS: Data gaps; more information forthcoming.

CONSERVATION ACTION: Data gaps; more information forthcoming.

SITE MAP:

REFERENCES:



District of Columbia

Invertebrate Fact Sheet

Class Bivalva Bivalves and Clams

1. Hay's Spring Amphipod (*Stygobromus hayi*)
2. Kenk's Amphipod (*Stygobromus kenki*)
3. Pizzini's Cave Amphipod (*Stygobromus pizzinii*)
4. Potomac Groundwater Amphipod (*Stygobromus tenuis potomacus*)
5. Rock Creek Amphipod

STATUS: Data gap; more information forthcoming.

RANGE: Data gap; more information forthcoming.

LOCAL HABITAT: Data gap; more information forthcoming.

SPECIES ECOLOGY: Data gap; more information forthcoming.

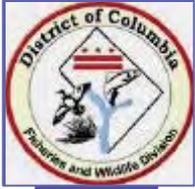
THREATS: Data gap; more information forthcoming.

CONSERVATION ACTION: Data gap; more information forthcoming.

SITE MAP:

REFERENCES:

Species of Greatest Conservation Need



District of Columbia

Invertebrate Fact Sheet

Class Gastropoda Snails

Species of Greatest Conservation Need

1. Appalachian Spring Snail (*Fontigens bottimeri*)

STATUS: Data gaps; more information forthcoming.

RANGE: Data gaps; more information forthcoming.

LOCAL HABITAT: Data gaps; more information forthcoming.

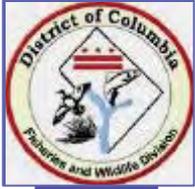
SPECIES ECOLOGY: Data gaps; more information forthcoming.

THREATS: Data gaps; more information forthcoming.

CONSERVATION ACTION: Data gaps; more information forthcoming.

SITE MAP:

REFERENCES:



District of Columbia

Invertebrate Fact Sheet

Class Insecta Butterflies

Species of Greatest Conservation Need

1. Appalachian grizzled skipper (*Pyrgus wyandot*)
2. Crossline skipper (*Polites origenes*)
3. Eastern comma (*Polygonia comma*)
4. Edward's hairstreak (*Satyrium edwardsii*)
5. Frosted elfin (*Callophyrus irus*)
6. Great spangled fritillary (*Speyeria cybele*)
7. Grey petaltail (*Tachopteryx thoreyi*)
8. Imported (White) Cabbage (*Pieris rapae*)
9. Little glassywing (*Pomperius verna*)
10. Monarch (*Danaus plexippus*)
11. Mottled duskywing (*Erynnis martialias*)
12. Question mark (*Polygonia interrogationis*)
13. Red admiral (*Vanessa atalanta*)
14. Regal fritillary (*Speyeria idalia*)
15. Variegated fritillary (*Euptoieta Claudia*)

STATUS: Data gaps; more information forthcoming.

RANGE: Data gaps; more information forthcoming.

LOCAL HABITAT: Data gaps; more information forthcoming.

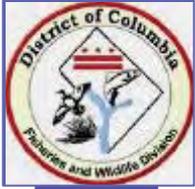
SPECIES ECOLOGY: Data gaps; more information forthcoming.

THREATS: Data gaps; more information forthcoming.

CONSERVATION ACTION: Data gaps; more information forthcoming.

SITE MAP:

REFERENCES:



District of Columbia

Invertebrate Fact Sheet

Class Insecta

Dragonflies and Damselflies

1. Emerald spreadwing (*Lestes dryas*)
2. Fine-lined emerald (*Samatochlora filosa*)
3. Lily pad fork tail damselfly (*Ischnura kellicotti willamsonii*)
4. Mocha emerald dragonfly (*Samatochlora linearis*)
5. Sedge sprite (*Nehalennia irene*)
6. Sphagnum sprite (*Nehalennia gracilis*)
7. Tiger spiketail (*Cordulegaster erronea*)
8. Unicorn clubtail dragonfly (*Arigomphus villosipes*)

STATUS: Data gaps; more information forthcoming.

RANGE: Data gaps; more information forthcoming.

LOCAL HABITAT: Data gaps; more information forthcoming.

SPECIES ECOLOGY: Data gaps; more information forthcoming.

THREATS: Data gaps; more information forthcoming.

CONSERVATION ACTION: Data gaps; more information forthcoming.

SITE MAP:

REFERENCES:

Species of Greatest Conservation Need

Chapter 7 – Public Outreach and Participation

The District of Columbia enjoys an ethnically diverse population of about 561,000 residents living on a land base of sixty-nine square miles. Developed land comprises 80%, forest or parkland is 7%, and surface water is 13%. It is a totally urban landscape with a wealth of opportunities and needs for public service, education, and outreach. Despite being urban a variety of aquatic and wildlife resources abounds in our rivers, creeks, streams and on our minimal land base.

About The Branch

Established in 1986 as an Aquatic Resources Education Program, the program has advanced to a branch with multiple components to reach the local citizens of the District of Columbia.

The Aquatic Resources Education Branch provides a variety of educational and outreach opportunities to schools, community groups, and associations regardless of physical or mental giftedness. Age-appropriate curricula and activities have been designed to reach various target audiences. Additionally, each summer an eight-week hands-on angler education clinic program is provided for youth, teens, and senior citizens. Annual work plans highlight accomplishments and five-year work plans are created to anticipate requests for public services.

The overall mission of the DC Fisheries and Wildlife Division is to provide great customer satisfaction for the public by ensuring aquatic and wildlife education and outreach services are honestly, accurately and informatively represented to prevent environmental health disasters. An underlying principle of all activities will be to collaborate and form partnerships with federal and local governmental agencies, environmental groups, community groups, public schools, and other interested parties to improve the aquatic and wildlife resources status in the District of Columbia. Education and outreach strategies will include involvement with schools to empower urban youth to make better natural resources decisions. The key will be to involve residents and partners not only in education, but also informing and involving them in existing and future recreational aquatic and wildlife opportunities.

Branch Mission

The Branch is dedicated to fostering a better understanding and appreciation of our local aquatic and wildlife resources by providing quality programs through education, conservation and outreach activities.

Existing Programs

The Branch currently offers several educational, outreach, and recreational programs for its residents. They are the following:

School-based Activities

General Fisheries Introduction

- Information on fisheries management, the aquatic environment, and aquatic biota
- Focus on our three major urban waterways
- Provides insight about fish biologists and fish managers

Aquatic Ecology

- Concentrates on the importance of water
- Types of water, aquatic ecosystems
- Aquatic organisms (both flora and fauna)
- Pollution and conservation

Chesapeake Bay

- Chesapeake Bay's relationship to the Anacostia and Potomac Rivers
- Provides a vocabulary builder
- Explains how habitats transition from one area to another

Fish Biology

- Biology and behavior of fish
- Emphasis on local fish species
- Biological terms, fish anatomy, and fish locomotion

Water as an Environment

- Water and humans place in the water cycle
- Fundamentals of water quality
- Pollution
- Facts about water use

Wetlands

- Defines wetlands
- Functions of a wetland
- Identifies local wetlands and wetland areas
- Specialized plants of wetland habitats

Introduction to Urban Wildlife

- Teaches about local wildlife
- Habitats and benefits of wildlife

Birds of DC

- Teaches about birds in the District
- Effects of urban environment on birds

Living with Wildlife

- Effect of urban ecosystem on wildlife

- How people and wildlife co-exist

Staff persons also provide services for

- Career Day Presentations
- Science Fair Judging

Outreach Activities

- Educator Workshops
- Capital Geographic Newsletter
- Tackle Tribute Newsletter
- Kids Fishing Booklet
- Fishing Clinics

Existing Goals

The Aquatic Resources Branch has transformed itself by making use of public involvement opportunities. Educational programs offer a variety of free public services ranging from written literature about the local natural resources, fishing clinics, and in-school programs to Internet access to educational activities to educator workshops. These successes have been some of the primary forces for this transformation. Technological advances coupled with effective and customer-friendly public services will ensure the residents and visitors to our nation's capital continue to enjoy the natural resource treasures that are managed, conserved, protected, and sustained for the benefit of a diverse urban population.

Equally important, the Aquatic Resources Branch must address the communications aspects of the division, to ensure the universal availability of basic resource and administrative services, make communications services accessible internally and externally, and inform consumers about our programs and management activities. The key will be to continue to involve residents and partners not only in education, but also informing and involving them in recreational aquatic and wildlife opportunities available in the District. In support of this mission, the Aquatic Resources Education Branch has four general goals for the next 5 years. They are:

- Enhance the District of Columbia youths' knowledge and understanding of urban aquatic and wildlife resources
- Provide practical angling skills training to District residents
- Provide practical wildlife skills training to District teachers
- Increase public awareness concerning the Aquatic Resources Education Center

WAP Goal

Provide wildlife education and outreach to residents of the District

The DC Fisheries and Wildlife Division is committed to supporting and promoting the highest quality of public education and outreach services for residents and visitors as it pertains to our local aquatic and wildlife resources. It is our mission to provide great customer satisfaction for the public by ensuring aquatic and wildlife education and outreach services are honestly, accurately, and informatively represented to prevent environmental health disasters. An underlying principle of all efforts will be to improve the aquatic and wildlife resources status in the District of Columbia. Education and outreach strategies will include involvement of schools to empower urban youth to make better natural resource decisions. The key to success will be to involve residents and partners not only in education, but also informing and involving them in recreational aquatic and wildlife opportunities.

Key Objectives and Strategies for the WAP Goal:

Objective 1. Enhance District youths' knowledge and understanding of urban aquatic and wildlife resources.

Strategies

1. Administer wildlife educational outreach programs in the District's public and private schools.
2. Teach wildlife resources education principles to supplement and strengthen teachers' needs.
3. Teach wildlife resources education principles specific to the District of Columbia
4. Work with teachers to encourage and develop life skills for students

Measures

- o Increase middle school and high school program participation.
- o Enhance and create new aquatic and wildlife resources education curricula.
- o Increase communications with science and mathematics teachers.
- o Provide training and professional development for all aquatic and wildlife education staff persons, such as web page design, building budget skills, effective delivery of aquatic and wildlife education programs, presenting effective workshops, and fishing techniques and skills.

Objective 2. Provide practical wildlife skills training to District teachers.

Strategies

1. Develop annual workshops on wildlife principles for teachers
2. Involve District teachers in outdoor, interactive and hands-on wildlife activities

3. Relate wildlife education activities to critical learning and developmental skills

Measures

- o Acquire educational tools to implement a full wildlife education program.
- o Provide training and professional development for teachers and develop and implement an evaluation tool to measure success of teacher or educator trainings.
- o Increase communications with science and mathematics teachers to determine what critical skills needs to be addressed.

Objective 3. Increase public awareness concerning the WAP efforts within the District of Columbia.

Strategies

1. Provide community-based wildlife educational programs
2. Promote resident and community involvement in wildlife skills and outreach opportunities
3. Work effectively to increase public knowledge of local wildlife resources

Measures

- o Increase outreach efforts to non-school based organizations to attract a larger segment of the public sector.
- o Provide outdoor skills training, workshops and other types of interactive and hands-on activities for individuals of these organizations.
- o Increase communications with religious groups, senior citizens, garden clubs, youth organizations, daycare, and other such similar organizations to inform them of wildlife resources and outdoor wildlife learning opportunities.

Chapter 8 – Monitoring, Review and Revision

The following chapter describes the District's plan for monitoring the species and conservation actions identified in this WAP and subsequently reviewing and revising the WAP, as required by Elements #5 and #6.

The primary goals of the monitoring projects are to:

- o Determine the status and trend of species of greatest conservation need
- o Measure the success of the conservation actions
- o Adapt conservation actions to new information and changing conditions
- o Build a central database of wildlife information

Monitoring allows conservation agencies and organizations to measure changes in:

- o Species status, trend, distribution, and response to conservation actions
- o Habitat locations and condition
- o Threats
- o Implementation priorities
- o Information and conditions

Approach to Monitoring

To assess changes in species populations and habitats, monitoring projects target multiple levels on local, regional and national scales. The levels include:

1. Species of greatest conservation need
2. Priority habitats
3. Conservation actions

The purpose of this multi-level approach is to be able to measure not only the status of the species, but also the status of the habitat and the effectiveness of the conservation actions. The species level is detailed in the first section of this chapter. The second section details the plan for monitoring conservation actions.

Monitoring Species of Greatest Conservation Need

The District's plan involves a three-tiered approach to monitoring species of greatest conservation need:

1. Coordinate existing projects
2. Expand existing projects
3. Develop new projects

The role of coordinating and overseeing the monitoring process during the implementation phase of the WAP belongs to the DC Fisheries and Wildlife Division. However, a major strategy of the monitoring plan is to work in partnership with other monitoring agencies and organizations and to coordinate existing monitoring projects. Currently, many existing monitoring projects are being implemented by national, local and nongovernmental agencies and organizations, as well as by universities and the general public. The WAP will absorb and incorporate existing monitoring projects into one comprehensive and strategic conservation plan.

For example, much of the land in the District is managed by the National Park Service (NPS), which conducts monitoring projects using established monitoring protocols. Several of their standard monitoring protocols will be useful for other areas in the District that are not managed by NPS. Thus, a strategy of the District's monitoring plan is to implement NPS monitoring efforts District-wide.

It is very important for the District to include these existing projects in its effort to monitor wildlife. There is no current central coordination of the data and often these efforts are conducted too infrequently to be effective due to irregular or insufficient funding. Therefore, a product of this WAP will be a central database with meaningful data on species status and trends that will help the District design the best possible conservation actions for those species and their habitats. In cases where the existing projects have restraints or resource gaps, this WAP serves to fill those gaps and ensure that the monitoring projects are efficient and successful.

Where possible, this chapter includes plans to:

- o Coordinate existing monitoring projects to prevent redundancy,
- o Expand existing monitoring projects to cover the entire District,
- o Tailor existing monitoring projects to target the species of greatest conservation need, and
- o Implement existing monitoring projects in a timeframe under which the effectiveness of the conservation actions can be measured at appropriate intervals.

For species of greatest conservation need that are not covered under any of the existing projects, new monitoring projects are proposed that target those species. Other projects may target common habitats rather than individual species. Regardless, the projects listed in this monitoring plan are grouped by wildlife taxa and generally follow standard monitoring protocols for each taxon.

The District's monitoring plan will incorporate and centralize the credible data already being produced by existing monitoring projects. Coordinating existing efforts saves limited resources and enhances those important efforts that have already been made. Standardized techniques will be used when they are compatible for local conditions. On a national level, the following monitoring programs provide guidelines and recommendations that this WAP will consider:

- o *US Geological Survey Status and Trends Program*—This program coordinates states' monitoring needs, standardizes protocols, and develops mechanisms to monitor the status and trends of biological resources.
- o *Coordinated Bird Monitoring Group of the International Association of Fish and Wildlife Agencies*—This is a report used to motivate discussion among North American Bird Conservation Initiative partners on coordinating bird monitoring.

Monitoring Need

Inventory of existing monitoring actions and plans

- o What is being monitored?
- o Who is monitoring?
- o What is not being monitoring?
- o What methods can be used to inventory?
- o What are the standard monitoring protocols?

Monitoring Projects

The following section details the projects for species-level monitoring. It is organized by taxa: birds, mammals, reptiles, amphibians, fish, and invertebrates.

Birds

There are 35 birds on the District's list of species of greatest conservation need, representing the largest percentage of species on the list after invertebrates. They are also some of the most studied and monitored species in the District. Therefore, there are many standard protocols and efforts already underway that have been established for years. Monitoring projects for other species taxa should be developed using lessons learned from the experience of the bird projects.

National Projects

Threatened and Endangered Species Monitoring (<http://www.fws.gov/endangered>)

USGS—The Patuxent Wildlife Research Center runs a Monitoring Avian Productivity and Survivorship (MAPS) station near the District (<http://www.pwrc.usgs.gov/>). The MAPS program was established by the Institute for Bird Populations and monitors the productivity and survivorship of breeding birds (<http://www.birdpop.org/>). This WAP will facilitate coordination of the surrounding region to integrate data on species of greatest conservation need and their habitats. The District will start a partnership among agencies and organizations, such as the Patuxent Wildlife Research Center, the DC Fisheries and Wildlife Division, and the Smithsonian Institution that are already conducting monitoring programs in the nearby area.

National Park Service (NPS)—There are various bird monitoring efforts occurring on the Parks within the District.

National Capital Parks—East (NACE) conducted a survey of grassland and ground nesting birds in Anacostia, Fort Circle Parks, and Oxon Cove in 2005. This survey collected data regarding species names, GPS mapping of bird species occurrences during the nesting, wintering, and migration seasons, abundance, life cycle information, and management recommendations. The number of visits varied depending on the season.

NACE issued a permit to the Smithsonian Institute to establish a MAPS banding site at Fort Dupont. The District will coordinate with this program and open more MAPS stations across the District that would strategically capture species of greatest conservation need and their habitats.

Rock Creek Park and Glover Archbold Park each have a Breeding Bird Census Area. These areas were established in 1959 by the National Audubon Society and are monitored by volunteers several times per breeding season. Breeding birds are identified by singing males or by observation. Territories are delineated and mapped. The purpose of the survey is to record population levels in homogenous habitat to determine average population numbers in the region. Neotropical migrants are also recorded in these surveys.

Rock Creek Park also conducts annual surveys on the creek and its tributaries of breeding waterfowl and the survivorship of their young. Mostly mallards and wood duck are recorded.



Wildlife biologists conducting point counts on the bird survey

Regional Projects

US Shorebird Conservation Plan (Brown et al. 2001)

North American Waterbird Conservation Plan (Kushlan et al. 2002)

North American Waterfowl Management Plan (NAWMP 2004)

Atlantic Coast Joint Venture Strategic Plan (ACJV 2004)

Partners in Flight North American Landbird Conservation Plan (Rich et al. 2001)

Partners in Flight Bird Conservation Plan for the Mid-Atlantic Piedmont (PIF 2003)

Partners in Flight Bird Conservation Plan for the Mid-Atlantic Coastal Plain (PIF 1999)

Local Projects

DC Fisheries and Wildlife Division—The Wildlife Research Branch of the DC Fisheries and Wildlife Division conducts several bird monitoring surveys around the District.

Weekly point counts at Kingman Island. Currently, these population studies provide presence and absence data regarding the status of bird species on Kingman Island. DC Fisheries and Wildlife staff plans to expand the amount of area covered by these counts.

Winter shorebird and waterbird counts. Each winter, the Wildlife Research Branch staff conducts point counts of shorebirds and waterbirds along the Anacostia River. This study monitors the status of birds that migrate to and spend the winter within the District. As part of the WAP, the Division plans to expand these counts to include a larger portion of the river, as well as the Potomac River. Since the start of this study, none of the species of greatest conservation have been seen very often on these counts, but a goal of this WAP to increase the numbers of some of those species in these areas, such as the Sora.



Wildlife biologist removing a white-eyed vireo from a mist nest during training in bird banding, an important research tool for birds.

MAPS bird banding program. The Wildlife Research Branch staff plans to establish a MAPS site in 2006 to begin monitoring the productivity and survivability of resident bird species in selected areas around the District.

Nongovernmental Projects

Natural Heritage Program (NHP)—The state NHPs inventory, catalog and help conserve rare state species.

Breeding Bird Survey (BBS)—The BBS has been coordinated by the USGS since 1966 and is conducted by volunteers from the general public. It is a yearly effort to monitor the status and trends of bird species that breed within the District and across the country. Some of the most threatened species of greatest conservation need are breeders and the BBS is a source for long-term data on these species. BBS routes and data can be used to monitor the District's species of greatest conservation need (<http://www.pwrc.usgs.gov/bbs>).

C&O Canal Midwinter Count— The C&O Midwinter Count is coordinated by the DC Audubon Society and is conducted by volunteers from the general public.

Anacostia Watershed Society (AWS)—AWS conducts surveys of resident Canada Goose populations at several times throughout the year. The count is conducted by volunteers.

Academic Projects

College of William and Mary—proposed partners for the creation of an historical bird database

Standard monitoring protocol resources

Conway, Courtney J. 2004. *Standardized North American marsh bird monitoring protocols*. USGS, Arizona Cooperative Fish and Wildlife Research Unit.

DeSante, D.F. and K.M. Burton. *MAPS Manual: Instructions for the establishment and operation of stations as part of the Monitoring Avian Productivity and Survivorship program*. The Institute for Bird Populations. Point Reyes Station, CA.

Howe, Marshall, Jon Bart, Stephen Brown, Chris Elphick, Robert Gill, Brian Harrington, Catherine Hickey, Guy Morrison, Susan Skagen, and Nils Warnock, eds. 2000. *A comprehensive monitoring program for North American shorebirds*. Manomet Center for Conservation Sciences. <http://www.manomet.org/usscp/files.htm>

Bibby, C. J., N. D. Burgess, and D. A. Hill. 1992. *Bird census techniques*. Academic, London.

IAFWA (International Association of Fish and Wildlife Agencies). 2004. *Monitoring avian conservation: Rationale, design, and coordination*. The Coordinated Bird Monitoring Working Group.

Steincamp, M., B. Peterjohn, V. Byrd, H. Carter, and R. Lowe. 2003 (Draft). *Breeding season survey techniques for seabirds and colonial waterbirds throughout North America*. Waterbird Monitoring Partnership of the Waterbird for the Americas Initiative, US Geological Survey, Patuxent Wildlife Research Center.

Mammals

National Projects

Threatened and Endangered Species Monitoring (<http://www.fws.gov/endangered>)

National Park Service (NPS)

Rock Creek Park conducts annual road kill surveys of all animals killed on roads in or adjacent to the park since 1982. The WAP will fund this effort to be conducted on a more regular basis.

Rock Creek Park conducts annual deer monitoring, including spotlight counts, road kill recording, and vegetation browse impact using exclosures and long-term vegetation plots.

Nongovernmental Projects

Natural Heritage Program (NHP) — see birds.

North American Bat Conservation Partnership (NABCP)— NABCP developed a “Strategic Plan” to remedy the insufficient knowledge of factors influencing North American bat populations and insufficient data on population status and trends, habitat requirements, and ecosystem roles that greatly impede focused and comprehensive recommendations for management. They seek to change the fact that land management practices are being implemented throughout the continent with little or no documentation of their effectiveness in mitigating damage or enhancing habitats for bats. In an effort to fill these knowledge gaps, biologists are now using a wide range of new technologies to investigate species distributions, population trends, and habitat requirements. To ensure the accuracy and utility of this new information, there is an urgent need to verify and standardize technologies and techniques (<http://www.batcon.org/nabcp/newsite/>).

Standard monitoring protocol resources

Wilson, D.E., F.R. Cole, J.D. Nichols, R. Rudran, M.S. Foster. (eds.) *Measuring and monitoring biological diversity: standard methods for mammals*. 1996. Smithsonian Institution Press, Washington, DC.

Reptiles

National Projects

Threatened and Endangered Species Monitoring
(<http://www.fws.gov/endangered>)

Nongovernmental Projects

Natural Heritage Program (NHP) — see birds.

Multi-sector Projects

Partners in Amphibian and Reptile Conservation (Parc) — Parc is a multisector conservation partnership of government agencies, conservation groups, universities, and industry. Their mission is to conserve herpetofauna and their habitats via public/private partnerships. Parc keeps a database of ecology and habitat requirements of herpetofauna so that information is accessible. Parc reviews, synthesizes, and publishes standardized data collection techniques to assure consistency in determining regional population trends, reporting declines or recoveries of species (<http://www.parcplace.org/>).



Turtles basking along C&O Canal

Academic Projects

Richmond University—existing reptile and amphibian monitoring program

Standard monitoring protocol resources

Amphibian and Reptile Monitoring Initiative (ARMI). USGS Patuxent Wildlife Research Center. <http://armi.usgs.gov/index.asp>

Southeast Amphibian and Reptile Monitoring Initiative (SE ARMI). Florida Integrated Science Center. Gainesville, FL. <http://cars.er.usgs.gov/armi>

ASIH (American Society of Ichthyologists and Herpetologists). 2004. *Guidelines for use of live amphibians and reptiles in field and laboratory research*, 2nd edition. Revised by the Herpetological Animal Care and Use Committee (HACC). Retrieved from http://www.asih.org/pubs/ASIH_HACC_Final.PDF, April 18, 2005.

Amphibians

National Projects

Threatened and Endangered Species Monitoring (<http://www.fws.gov/endangered>)

National Park Service (NPS)

Annual monitoring of vernal pools occurs at Rock Creek Park by USGS personnel with assistance from park staff, as part of the Amphibian Research and Monitoring Initiative (ARMI). Egg mass counts are conducted three times per season and calling surveys are conducted. This type of monitoring is also being done on the lower C&O Canal. ARMI is a national program of amphibian monitoring, research and conservation composed of Interior Department agencies. The USGS coordinates and leads the cooperative effort to study amphibian populations, measure and monitor environmental characteristics, and conduct research into potential causes of decline (<http://armi.usgs.gov/>).

As part of ARMI, streamside salamanders in Rock Creek National Park are also monitored annually by USGS.

Nongovernmental Projects

Natural Heritage Program (NHP) — see birds.

Multi-sector Projects

Partners in Amphibian and Reptile Conservation (Parc) — see reptiles.

Academic Projects

Howard University—existing amphibian monitoring program

Richmond University—existing reptile and amphibian monitoring program

Standard monitoring protocol resources

Amphibian and Reptile Monitoring Initiative (ARMI). USGS Patuxent Wildlife Research Center. <http://armi.usgs.gov/>.

Dodd, C. Kenneth. 2003. *Monitoring amphibians in Great Smoky Mountains National Park*. USGS Circular 1258.

Heyer, W.R., M.A. Donnelly, R.W. McDiarmid, L.C. Hayek, and M.S. Foster (eds.) 1994. *Measuring and monitoring biological diversity: standard methods for amphibians*. Smithsonian Institution Press, Washington, DC.

North American Amphibian Monitoring Program (NAAMP). USGS Patuxent Wildlife Research Center. <http://www.pwrc.usgs.gov/NAAMP/protocol>

Southeast Amphibian and Reptile Monitoring Initiative (SE ARMI). Florida Integrated Science Center. Gainesville, FL. <http://cars.er.usgs.gov/armi>

ASIH (American Society of Ichthyologists and Herpetologists). 2004. *Guidelines for use of live amphibians and reptiles in field and laboratory research*, 2nd edition. Revised by the Herpetological Animal Care and Use Committee (HACC). Retrieved from http://www.asih.org/pubs/ASIH_HACC_Final.PDF, April 18, 2005.

Mitchell, J. C. 1997. *Amphibian monitoring protocols for Virginia*. Virginia Department of Game and Inland Fisheries, Richmond, Virginia.

Jung, R. E. 2002a. *Streamside salamander inventory and monitoring, Northeast Refuges and Parks*. Patuxent Wildlife Research Center, U.S. Geological Survey, Laurel, Maryland.

Jung, R. E. 2002b. *Wood frog and spotted salamander egg mass counts and percent vernal pools occupied by amphibian species on DOI lands in the northeastern United States*. Patuxent Wildlife Research Center, U.S. Geological Survey, Laurel, Maryland.

Fish

National Projects

Threatened and Endangered Species Monitoring (<http://www.fws.gov/endangered>)

Nongovernmental Projects

Natural Heritage Program (NHP) — see birds.

Local Projects

DC Fisheries and Wildlife Division— The Fisheries Research Branch staff is conducting several monitoring programs for the District's fish species in greatest conservation need. The Branch monitors migratory and resident fish and assessing water quality conditions and the state of aquatic habitats. Current monitoring projects include:

- Anadromous and resident fish surveys
- Ichthyoplankton studies to determine the spawning success of both anadromous and resident fish species
- Research to determine age and growth rate of fish
- Monitoring and evaluation to assess and improve fish habitat
- Monitoring to assess the yearly trends of the extent, density, and species composition of submerged aquatic vegetation

This data is used to determine and project growth trends and identify the conservation needs of the District's fish species. The data guides the Division in determining the most effective conservation actions for the 12 fish species of greatest conservation need for the District's WAP.

Standard monitoring protocol resources

AFS (American Fisheries Society), AIFRB (American Institute of Fishery Research Biologists), and ASIH (American Society of Ichthyologists and Herpetologists). 2004. Guidelines for the use of fishes in research. Revised by the Use of Fishes in Research Committee. Retrieved from http://www.fisheries.org/html/Public_Affairs/Sound_Science/Guidelines2004.shtml, April 18, 2005.

Nielsen, L.A. and D.L. Johnson (eds.). 1983. *Fisheries Techniques*. American Fisheries Society, Bethesda, Maryland.

Karr, J.R. 1981. *Assessment of biotic integrity using fish communities*. Fisheries 6:21-27.

Karr, J.R., K.D. Fausch, P.L. Angermeier, P.R. Yant, and I.J. Schlosser. 1986. *Assessing biotic integrity in running waters: a method and its rationale*. Illinois Natural History Survey, Champaign, IL.

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Invertebrates

The number of invertebrate species of greatest conservation need represented in this WAP is probably lower than it would actually be. Due to gaps in invertebrate monitoring within the District, the status of many invertebrate populations is unknown. The number given in this WAP represents the number of species of greatest conservation need given current knowledge. One of the first steps in conserving invertebrate species of greatest conservation need within the District is to do a comprehensive inventory of all invertebrates to determine which species are in need. Invertebrate surveys and research is a strategy of the District's WAP. Still, given current knowledge, there are 51 invertebrate species of greatest conservation need, giving invertebrates the highest percentage of species of greatest conservation need than any other wildlife taxa.

National Projects

Threatened and Endangered Species Monitoring (<http://www.fws.gov/endangered>)

National Park Service (NPS)—There are various invertebrate monitoring efforts occurring on the Parks within the District.

National Capital Parks—East (NACE) conducted a survey of dragonflies and damselflies of the Aquatic Gardens, Kenilworth Marsh, Kingman Lake/ Marsh, National Arboretum, and the Anacostia River from New York Avenue south to Benning Bridge in 2000. The survey was a baseline study by which future improvements in aquatic habitat may be measured or monitored and provides insights as to what invertebrate changes can be expected within the wetland habitats of the survey area if water quality is returned to a more healthy condition.

NACE keeps a list of pollinators of native plant species in an effort to address the issue of invasive/ alien plant species.

NACE conducted a reptile and amphibian survey at Kenilworth Aquatic Gardens in 2002.

NACE has a survey of butterflies of the north-eastern sites of NACE (Fort Circle sites, Suitland Parkway, Greenbelt Park, and the Baltimore-Washington Parkway) planned for 2006 and 2007. The surveys will look at modern-day occurrence and status of butterflies in these areas and include a species list, notes on distribution, relative abundance, flight periods, habitat and host plant notation, GPS mapping, and management recommendations. Visits will occur at periods timed to maximize species diversity.

Hay's Spring Amphipod (*Syngobromus hayi*) Project

The Hay's Spring amphipod is a federally endangered species that is endemic to the springs of Rock Creek Park. There is little known about the biology, population dynamics, or ecological community of this amphipod. Indeed, subterranean species are difficult to monitor since they appear seasonally and sporadically in seeps and springs or may not appear even during high water flows. It spends its life in a shallow groundwater zone, moving in water that percolates among sand grains and gravel until it is flushed out by large volumes of water into a spring. Therefore, universities, the US Fish and Wildlife

Service, and the MD Department of Natural Resources (MD DNR) provide assistance to Rock Creek Park in terms of developing monitoring question and gathering and analyzing data for the Hay's Spring Amphipod (Pavek 2002).

Kenk's Amphipod (Stygobromus kenki) Project

Kenk's amphipod is a species of greatest conservation need that is endemic to the springs of Rock Creek. One of the highest conservation priorities for this species is to learn more about it. A two-year study by an American University professor will be conducted in Rock Creek Park to determine the status of Kenk's Amphipod. The study will also monitor other groundwater invertebrates as well as spring outflows, which is a priority habitat of this WAP. The method is a direct sampling of the fauna that should reduce sampling error. MD DNR, with funds from the US Fish and Wildlife Service, will monitor the status of Kenk's Amphipod by conducting surveys outside of national parks (Pavek 2002).

Nongovernmental Project

Natural Heritage Program (NHP) — see birds.

Academic Projects

American University—see Kenk's Amphipod monitoring project

Standard monitoring protocol resources

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Monitoring Conservation Actions

The second level to the District's approach to monitoring is to monitor conservation actions. In order to facilitate Required Element # 6, the review and revision of the WAP,

there must be a protocol and procedure for monitoring the conservation actions proposed in this WAP. This section:

- Sets project level performance indicators and criteria to measure the success of the conservation actions, and
- Develops corresponding adaptive management techniques.

Performance Indicators and Criteria

- Did the action occur?
 - Reporting of projects to supervisors
- Was the action cost-effective?
 - Time/money guidelines from the International Association of Fish and Wildlife Agencies
 - Develop a cost accounting system
- Was the action effective?
 - Use of indicator species
 - Use of project tracking database
 - Survey of biologists and resource managers
- Were the targets met?
 - Assign measurable goals to conservation actions
 - Evaluation of projects by supervisors
- Were all interested stakeholders involved?
 - Federal, state, local, private, nongovernmental
- Was the public invited to participate?
- Were there any consequences?
- What was public opinion of the action?

Multi-level Monitoring

The District followed the multi-level approach to monitoring conservation actions as developed by the US Forest Service (USFS). The USFS makes distinctions among the levels of monitoring that guides the questions asked during the monitoring process and guides the development of goals for the monitoring program. The levels include:

Implementation Monitoring—This is a simple record of progress toward a specific goal, and whether they were implemented as planned (<http://www.for.gov.bc.ca/hfp/frep/about/types.htm>). For example, did a park spray for invasive species?

Effectiveness Monitoring—This determines whether the conservation action was effective (<http://www.for.gov.bc.ca/hfp/frep/about/types.htm>). For example, did spraying a specific amount of invasive species remove or significantly reduce the threat of invasive species in the park or the District?

Validation Monitoring—This monitors the link between cause and effect to validate the development of the management decision (<http://www.for.gov.bc.ca/hfp/frep/about/types.htm>). For example, is spraying invasive species an effective strategy for targeting the threat of invasive species? Is there a better way to reduce invasive species? Is there a more cost effective way to reduce invasive species?

Specific Examples from the District's WAP

Example #1: Using a land exchange to prevent habitat loss

Possible performance indicator for the action—

- How much land was saved due to a land exchange? (*implementation monitoring*)
- Did the land exchange prevent habitat loss of grasslands and managed meadows? (*effectiveness monitoring*)
- Are land exchanges an effective action for habitat loss, or is there a more cost-effective strategy? (*validation monitoring*)

Example #2: Increasing enforcement to stop dumping

Possible performance indicator for the action—

- Did increased enforcement decrease dumping? (*implementation monitoring*)
- Did it protect early successional/ shrub-scrub/ edge habitats from dumping? (*effectiveness monitoring*)
- Is there a more effective way to prevent dumping? (*validation monitoring*)

More examples:

- What is the status of the District stormwater control plan? How has it impacted rivers and streams?
- Did surveys help fill research and prioritization gaps for invertebrate species?
- Did involvement in the planning process result in smart growth?
- Did implementation of best management practices reduce stormwater erosion in hardwood forests?
- Did preserving groundwater recharge areas reduce changes to hydrologic regimes in tidal mudflats?
- Did stream bank restoration help reduce erosion in ponds and pools?
- Did designating areas as “critical” limit the impact of the change in land use of forested wetlands/ riparian woodlands/ floodplains?

- Did educational outreach reduce poaching from vernal pools?
- Was a goose management plan approved to address the threat of overbrowsing of emergent tidal wetlands?
- Was the Exotic Plants Management Team implemented District-wide?
- Is pollution still a threat to emergent non-tidal wetlands?
- What are the results of the monitoring project for parasites and pathogens in urban landscapes?
- Was the introduction of submerged aquatic vegetation to new sites successful? What are the sites?

Another tool for monitoring conservation actions is receiving feedback from conservation planning organizations. The Nature Conservancy and Defenders of Wildlife were participants in the development phase of the WAP and will be very active in the implementation phase as well. Both groups have a great deal of experience in conservation planning and have very valuable expertise to bring to this monitoring program.

Coordination among the neighboring states of Maryland and Virginia will also be a strategy of this monitoring program. Since the District shares many species of greatest conservation need, priority habitats, and threats with the surrounding region, strategic conservation planning includes being consistent with and communicating with the region. Exchanging monitoring data and success stories, as well as methods is a strategy of the District's WAP.

Adaptive Management of Conservation Actions

- Based on performance indicators and criteria, how should conservation actions be changed?
- Based on the monitoring of status and trends of species, habitats and threats, how should conservation actions be changed?
- Are the conservation actions meeting the goals of the District's WAP?
- Communication among Working Group partners; data exchange regarding project success, recommendations, needs, priorities
- Establishment of a database that assesses success data, needs, priorities

Review and Revision

The DC Fisheries and Wildlife Division, with the continued help of the Working Group, will review and revise the WAP, as required by Element #6. The Working Group will establish a very detailed schedule, which will include annual, biannual, as well as third, fourth and fifth year reviews and evaluations of the strategy. A comprehensive revision

of the WAP will occur every five years. The review and revision process will occur using the following timeline:

- o Within the first year of the implementation phase of the WAP—the Working Group will set short and long term measurable goals and timetables for each conservation action that allow for adaptive management and application of performance indicators.
- o Biannually after goals and timetables have been set—goals will be reviewed to evaluate whether the goals have been achieved based on the timetable and determine if any new goals or adjustment need to be made based on new information.
- o Years three and six after implementation—conservation actions will be reviewed and evaluated to determine if that conservation action is still needed and to establish new conservation actions based on new data and information.
- o Years four and eight after implementation—the current top five threats and strategies will be reviewed and evaluated to determine if any changes or reprioritizations are needed based on new information and conditions.
- o Years five and ten after implementation—the entire WAP will undergo a comprehensive review and evaluation. In addition to the reviews in the other years of the goals, conservation actions, strategies and threats, the comprehensive review will reevaluate and update the District's list of species of greatest conservation need, priority habitats and maps, threats, and tables based on the most current information available.

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US Fish and Wildlife Service

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US Geological Survey

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World Wildlife Fund

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Appendix 1 – Scoring Process for Candidate Species of Greatest Conservation Need

District of Columbia – Birds

Species	Habitat	DC SGCN	ES	AN	NPS	MD	VVA	G Rank (G1 – G3)	BBS	PIF PA#10	PIF SCI	NAWCP	NAWMP	Total
Acadian Flycatcher	Forest interior					X			breeder	X	X			4
American Bittern	FW Wetland	X			X	X	X					X		4
American Black Duck	FW & SW Marsh					X	X		breeder				X	4
American Kestrel	Generalist, will breed in urban areas								breeder					2
American Redstart	Forest interior					X			breeder					2
American Woodcock	Early Successional	X			X	X	X			X				4
Bald Eagle	Coastal Wetland	X	T			X	X		breeder		X			5
Barn Owl	Grassland					X	X			X				3
Black-crowned Night-Heron	Small stream/Marsh	X			X	X	X		breeder			X		5
Bobolink		X			X	X								2
Broad-winged Hawk	Forest interior	X			X	X			breeder	X				4
Brown Creeper	Forest interior					X	X		breeder					4
Brown Thrasher	Early Successional					X	X		breeder		X			4
Canada Warbler	Forest interior					X	X				X			3

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Species	Habitat	DC SGCN	ES	AN	NPS	MD	VA	G Rank (G1 - G3)	BBS	PIF PA#10	PIF SCI	NAWCP	NAWMP	Total
Cerulean Warbler	Forest interior	X			X	X	X		probably breeder	X	X			6
Chimney Swift	Urban								breeder	X				2
Chuck-wills-widow														
Common Nighthawk	Urban & Edge					X			probably breeder					2
Common Snipe		Dan Murphy												1
Eastern Meadowlark	Grassland	X			X	X	X		breeder	X				5
Eastern Screech-Owl	Generalist/Forest, mature wetland								probably breeder	X				2
Eastern Towhee	Early Successional	X				X	X		breeder	X	X			5
Field Sparrow	Early Successional					X	X		probably breeder	X				4
Grasshopper Sparrow	Grassland	X			X	X	X		probably breeder	X	X			6
Great Blue Heron	Wetland					X				X		X		3
Great Horned Owl	Generalist/Forest, mature wetland	X			X				breeder					2
Green Heron	Wetland						X			X		X		3
Hairy Woodpecker	Forest interior					X			breeder					2
Hooded Merganser														

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Habitat	DC SGCN	ES	AN	NPS	MD	VA	G Rank (G1 - G3)	BBS	PIF PA#10	PIF SCI	NAWCP	NAWMP	Total
Hooded Warbler	Forest interior	X			X	X			probably breeder		X			4
Indigo Bunting														
Kentucky Warbler	Forest interior	X			X	X	X		probably breeder	X	X			6
Least Bittern	FW Marsh	X			X	X	X		breeder			X		5
Least Tern	FW Marsh		E			X			breeder			X		4
Lesser Black-backed Gull		X			X									1
Louisiana Waterthrush	Forest interior/small stream	X			X	X	X			X	X			5
Marsh Wren	FW Marsh	X			X	X	X		breeder					4
Northern Bobwhite	Early Successional	X			X	X			breeder	X				4
Northern Parula	Forest interior					X	X		probably breeder	X				4
Ovenbird	Forest interior	X			X	X	X		breeder					4
Pileated Woodpecker	Forest interior					X			breeder					2
Prothonotary Warbler	Forest interior	X				X	X		breeder	X	X			5
Red-bellied Woodpecker	Woodland, Urban								breeder		X			2
Red-eyed Vireo	Forest interior					X			breeder					2
Red-shouldered Hawk	Forest interior					X			breeder	X	X			4

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Habitat	DC SGCN	ES	AN	NPS	MD	V	A	G Rank (G1 - G3)	BBS	PIF PA#10	PIF SCI	NAWCP	NAWMP	Total
Royal Tern	FW Marsh					X	X						X		3
Scarlet Tanager	Forest interior					X	X			breeder	X				4
Semipalmated Sandpiper		X			X										1
Sora Rail		X			X										1
Veery	Forest interior					X				breeder	X				3
Virginia Rail		X			X										1
Whip-poor-will	Woodland	X			X	X	X				X				4
White-eyed Vireo	Early Successional	X			X	X				probably breeder	X				4
White-rumped Sandpiper		X			X										1
Willow Flycatcher	Early Successional					X	X			probably breeder					4
Wood Duck		Dan Murphy													
Wood Thrush	Forest interior	X			X	X	X			breeder	X	X			6
Worm-eating Warbler	Forest interior	X			X	X	X			probably breeder	X	X			6
Yellow-billed Cuckoo	Generalist/developed shrubs & woodlands, but only small patches needed						X			probably breeder					2
Yellow-breasted Chat	Early Successional					X	X			probably					3

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Habitat	DC SGCN	ES	AN	NPS	MD	VA	G Rank (G1 - G3)	BBS	PIF PA#10	PIF SCI	NAWCP	NAWMP	Total
									breeder					
Yellow-throated Vireo	Forest interior	X		X	X	X			probably breeder		X			5
Yellow-throated Warbler	Forest interior & woodland				X				probably breeder					2

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

District of Columbia – Mammals

Species	Habitat	DC SGCN	NPS	ESA	MD	VA	G Rank (G1-G3)
Allegheny Woodrat	Generalist/Forest, shrub, woodland	X			X	X	
American Mink	Wetland	X	X				
Eastern Chipmunk	Forest, Edge, log	X	X				
Eastern Cottontail	Grassland, Edge, Log	X	X				
Eastern Red Bat	Forest, snag	X	X		X		
Eastern Small-footed Myotis	Forest interior	X				X	X
Gray Fox	Generalist/Forest, Early Successional	X	X				
Northern River Otter	Marsh	X	X				
Southern Bog Lemming	Generalist, Marsh, Forest	X			X	X	
Southern Flying Squirrel	Generalist/Marsh, forest/hollow tree	X	X				
Virginia Opossum	Generalist/hollow tree	X	X				

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

District of Columbia – Herptiles

Species	Habitat	DC SGCN	ESA	MDVA	NPS	G Rank (G1- G3)	Rock Creek
Amphibians							
American Toad	Marsh/Wetland	X			X		
Bullfrog	Marsh/Wetland	X			X		
Dusky Salamander	Marsh/Wetland	X		X			X
Fowler's Toad	Marsh/Wetland	X			X		
Jefferson Salamander	Marsh/Wetland	X		X	X		
Marbled Salamander	Marsh/Wetland	X			X		maybe
Mud Salamander	Marsh/Wetland	X		X	X		
Northern Cricket Frog	Marsh/Wetland	X			X		
Northern Two-lined Salamander	Marsh/Wetland	X			X		
Pickeral Frog	C&O?						
Red Salamander	Marsh/Wetland	X					X
Redback Salamander	Marsh/Wetland	X			X		
Red-spotted Newt Salamander	Marsh/Wetland	X			X		
Spring Peeper	Marsh/Wetland	X			X		

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Habitat	DC SGCN	ESA	MD	VA	NPS	G Rank (G1- G3)	Rock Creek
Spotted Salamander	Marsh/Wetland	X				X		X
Upland Chorus Frog	Marsh/Wetland	X				X		
Wood Frog	Marsh/Wetland	X						X
Reptiles								
Bog Turtle	Marsh/Wetland	X	T(S/A), T	X	X		X	
Common Musk Turtle	Marsh/Wetland	X				X		
Corn Snake	Edge	X				X		
Eastern Box Turtle	Marsh/Wetland/ Forest/Grassland	X		X	X	X		X
Eastern Fence Lizard	Grassland, Edge	X				X		
Eastern Garter Snake	Wetland	X				X		
Eastern Hognose Snake	Marsh/Wetland/ Forest/Grassland	X		X	X			
Eastern Mud Turtle	Marsh/Wetland	X				X		
Eastern Painted Turtle	Wetland	X				X		
Eastern Ribbon Snake	Wetland	X		X	X			
Eastern Worm Snake	Edge, Grassland, Moisture	X				X		
Five-lined Skink	Forest interior	X						

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Habitat	DC SGCN	ESA	MD	V	A	NPS	G Rank (G1- G3)	Rock Creek
Northern Black Racer	Grassland, Edge	X					X		
Northern Brown Snake	Wetland	X					X		
Northern Copperhead Snake	Forest interior	X					X		
Northern Ringneck Snake	Forest interior, moisture	X					X		
Queen Snake	Wetland	X		X	X		X		
Redbelly Turtle	Marsh/Wetland	X					X		
Rough Green Snake	Generalist/Forest, grassland, marsh, hollow log	X					X		X
Scarlet Snake	Generalist, hollow log	X		X	X				
Spotted Turtle	Marsh/Wetland	X		X	X		X		
Timber Rattlesnake	Forest, Wetland	X		X	X				
Wood Turtle	Marsh/Wetland	X		X	X				

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

District of Columbia – Fish

Species	Habitat	DC SGCN	ESA	MD	VA	ASMFC	AFS	G Rank (G1-G3)
Alewife	Wetland	X						
American eel	Wetland	X						
American shad	River/Stream	X		X				
Atlantic sturgeon	River	X	X	X	X	X		X
Blueback herring	River/Stream	X						
Bowfin	River	X		X				
Central stoneroller	Stream	X						
Greenside darter	Stream	X		X				
Hickory shad	River/Stream	X		X				
Longnose gar	River	X		X				
Northern hogsucker	River/Stream	X		X				
Silverjaw Minnow	River/Stream	X		X				
Warmouth	River	X		X				

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

District of Columbia – Invertebrates

Species	Habitat	DC SGCN	ESA	MD	VA	NPS	G Rank (G1-G3)	Total
A Copepod <i>Acanthocyclops Columbiensis</i>		X				X		1
A Copepod <i>Acanthocyclops Villosipes</i>		X				X		1
A Copepod <i>Attheyella (Canthocamptus) Illinosensis</i>		X				X		1
A Copepod <i>Attheyella (Mrazekiella) Illinosensis</i>		X				X		1
A Copepod <i>Attheyella (Mrazekiella) Obatogamensis</i>		X				X		1
A Copepod <i>Bryocamptus Hutchinsoni</i>		X				X		1
A Copepod <i>Bryocamptus Minutus</i>		X				X		1
A Copepod <i>Bryocamptus Nivalis</i>		X				X		1
A Copepod <i>Bryocamptus Zschokkei</i>		X				X		1
A Copepod <i>Diacyclops Harryi</i>		X				X		1
A Copepod <i>Diacyclops Nearcticus</i>		X				X		1
A Copepod <i>Eucyclops Agilis</i>		X				X		1
A Copepod <i>Macrocyclus Albidus</i>		X				X		1
A Copepod <i>Paracyclops Fimbriatus Chiltoni</i>		X				X		1
Alewife Floater		X		X	X			2
Appalachian grizzled skipper		X			X		X	2

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Habitat	DC SGCN	ESA	MD	VA	NPS	G Rank (G1-G3)	Total
Appalachian Spring Snail		X				X		1
Brook Floater		X		X	X		X	3
Crossline Skipper Butterfly		X				X		1
Dwarf Wedgemussel		X		X	X		X	3
Eastern Comma Butterfly		X				X		1
Eastern Pondmussel		X		X	X			2
Edward's Hairstreak		X				X		1
Emerald Spreadwing		X						2
Fine-lined Emerald		X						2
Frosted Elfin		X						3
Great Spangled Fritillary Butterfly		X				X		1
Green Floater		X						3
Grey Petaltail		X				X		3
Hay's Spring Amphipod		X				X		2
Imported Cabbage Butterfly		X				X		1
Kink's Amphipod		X	Considered					1
Lilypad Forktail Damselfly		X				X		1

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Habitat	DC SGCN	ESA	MD	VA	NPS	G Rank (G1-G3)	Total
Little Glassywing Butterfly		X				X		1
Mocha Emerald Dragonfly		X				X		1
Monarch Butterfly		X				X		1
Mottled Duskywing		X		X	X		X	3
Pizzini's Cave Amphipod		X		X	X	X	X	4
Potomac Groundwater Amphipod		X				X		1
Question Mark Butterfly		X				X		1
Red Admiral Butterfly		X				X		1
Regal Fritillary		X		X	X		X	3
Rock Creek Groundwater Amphipod		X			X		X	2
Sedge Sprite		X		X	X			2
Sphagnum Sprite		X		X	X			2
Spiny-foot Copepod		X				X		1
Tidewater Mucket		X		X	X			2
Tiger Spiketail		X		X		X		2
Triangle Floater		X		X	X			2
Unicorn Clubtail Dragonfly		X					X	1

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Habitat	DC SGCN	ESA	MD	VA	NPS	G Rank (G1-G3)	Total
Variegated Fritillary Butterfly		X				X		1
Yellow Lampmussel		X		X	X		X	3

Appendix 2 – Species Grouped by Habitat

Rivers and Streams

Species	Species Type	Priority	Habitat
Acadian Flycatcher	Bird		Hardwood Forest, forested wetland, woodland streams (PIF)
American Black Duck	Bird		Emergent Wetlands (PIF), River, Forested Wetlands, SAV
Bald Eagle	Bird	5	Wetland, Forest, Tidal mudflat
Black-crowned Night-Heron	Bird	5	NACE regional headquarters, River, Tidal & non-tidal, Urban, Tidal mudflats, Forested Wetlands
Great Horned Owl	Bird	2	Generalist/Forest, mature wetland
Louisiana Waterthrush	Bird		Hardwood Forest, forested wetland, woodland streams (PIF)
Wood Duck	Bird		River, Forested Wetland (Dan)
Alewife	Fish	1	River/Stream
American eel	Fish	1	Rivers & stream, Emergent tidal wetlands, Tidal mudflats, SAV
American shad	Fish	2	River
Atlantic sturgeon	Fish	6	River
Blueback herring	Fish	1	River/Stream
Bowfin	Fish	2	River
Central stoneroller	Fish	1	Stream
Greenside darter	Fish	2	Stream
Hickory shad	Fish	2	River/Stream
Silverjaw Minnow	Fish	2	River/Stream
Warmouth	Fish	2	River, Emergent tidal wetlands
American Toad	Amphibian	1	C&O (mile post 3), River, Vernal Pool, Hardwood forest, Forested Wetlands
Bullfrog	Amphibian		River, Tidal mudflat

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Species Type	Priority	Habitat
American Mink	Mammal		River, Emergent tidal wetlands, tidal mudflats
Gray Fox	Mammal	1	Hardwood forest, Early successional, River, Urban
Northern River Otter	Mammal		River, Emergent tidal wetlands, tidal mudflats
Southern Bog Lemming	Mammal	2	Hardwood forest, River, Emergent tidal wetland, Tidal mudflat
Virginia Opossum	Mammal		River, Emergent tidal wetlands, tidal mudflats
Bog Turtle	Reptile		Bog, River, Tidal mudflat
Common Musk Turtle	Reptile		River, Tidal mudflat
Eastern Mud Turtle	Reptile		River, Tidal mudflat
Eastern Painted Turtle	Reptile		Rivers, streams, ponds, marshes
Redbelly Turtle	Reptile		Wetland
Spotted Turtle	Reptile		Wetland
Wood Turtle	Reptile	2	Forest, Stream, hollow log
Alewife Floater	Invertebrate		River
Brook Floater	Invertebrate		River
Dwarf Wedgemussel	Invertebrate		River
Emerald Spreadwing	Invertebrate		Wetland
Fine-lined Emerald	Invertebrate		Wetland
Gray Petaltail	Invertebrate		Wetland
Lilypad Forktail Damselfly	Invertebrate		Lilypads
Regal Fritillary Butterfly	Invertebrate		Wetland, grassland
Sedge Sprite	Invertebrate		Wetland
Sphagnum Sprite	Invertebrate		Wetland
Spiny-foot Copepod	Invertebrate		Water
Tidewater Mucket	Invertebrate		Wetland

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Species Type	Priority	Habitat
Tiger Spiketail Dragonfly	Invertebrate		RCP Springs & seeps, River
Triangle Floater	Invertebrate		Wetland
Unicorn Clubtail Dragonfly	Invertebrate		Rivers & streams
Yellow Lampmussel	Invertebrate		River
A Copepod <i>Acanthocyclops Columbiensis</i>	Invertebrate		
A Copepod <i>Acanthocyclops Villosipes</i>	Invertebrate		
A Copepod <i>Attheyella (Canthocamptus) Illinoisensis</i>	Invertebrate		
A Copepod <i>Attheyella (Mrazekiella) Illinoisensis</i>	Invertebrate		
A Copepod <i>Attheyella (Mrazekiella) Obatogamensis</i>	Invertebrate		
A Copepod <i>Bryocamptus Hutchinsoni</i>	Invertebrate		
A Copepod <i>Bryocamptus Minutus</i>	Invertebrate		
A Copepod <i>Bryocamptus Nivalis</i>	Invertebrate		
A Copepod <i>Bryocamptus Zschokkei</i>	Invertebrate		
A Copepod <i>Diaicyclops Harryi</i>	Invertebrate		
A Copepod <i>Diaicyclops Narciticus</i>	Invertebrate		
A Copepod <i>Eucyclops Agilis</i>	Invertebrate		
A Copepod <i>Macrocyclus Albidus</i>	Invertebrate		
A Copepod <i>Paracyclops Fimbriatus Chiltoni</i>	Invertebrate		

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Hardwood Forests

Species	Species Type	Priority	Habitat
Acadian Flycatcher	Bird	4	Hardwood Forest, forested wetland, woodland streams (PIF)
American Woodcock	Bird	4	Early Successional Shrub/Forest (PIF piedmont), Forested wetlands
Bald Eagle	Bird	5	Wetland, Forest, Tidal mudflat
Broad-winged Hawk	Bird	4	Forest interior
Brown Creeper	Bird	4	Forest interior
Brown Thrasher	Bird		Hardwood Forest, Early successional/Shrub, Urban (PIF)
Cerulean Warbler	Bird	6	Hardwood Forest, forested wetland (PIF)
Chimney Swift	Bird	2	Forested wetlands, Urban, Hardwood Forest (PIF)
Eastern Towhee	Bird		Hardwood Forest, Early successional/Shrub, Urban (PIF)
Great Horned Owl	Bird	2	Generalist/Forest, mature wetland
Hooded Warbler	Bird	4	Forest interior
Kentucky Warbler	Bird	6	Hardwood Forest, forested wetland (PIF)
Louisiana Waterthrush	Bird	5	Hardwood Forest, forested wetland, woodland streams (PIF)
Ovenbird	Bird	4	Hardwood Forest, Early Successional
Prothonotary Warbler	Bird	5	Hardwood Forest, forested wetland (PIF)
Red-shouldered Hawk	Bird	4	Hardwood Forest, forested wetland (PIF), Urban
Scarlet Tanager	Bird	4	Hardwood Forest (PIF)
Wood Thrush	Bird	6	Hardwood Forest, forested wetland (PIF)
Worm-eating Warbler	Bird	6	Hardwood Forest (PIF), near water
Yellow-throated Vireo	Bird	5	Hardwood Forest, forested wetland (PIF)

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Species Type	Priority	Habitat
Allegheny Woodrat	Mammal	2	Hardwood forest, Early successional
Eastern Chipmunk	Mammal	1	Hardwood forest, Early successional, log, Urban
Eastern Red Bat	Mammal	2	Hardwood forest, snag, Urban
Eastern Small-footed Myotis	Mammal	2	Forest interior
Southern Bog Lemming	Mammal	2	Hardwood forest, River, Emergent tidal wetland, Tidal mudflat
Gray Fox	Mammal	1	Hardwood forest, Early successional, River, Urban
Southern Flying Squirrel	Mammal	1	Generalist/Marsh, forest/requires a hollow tree
Eastern Box Turtle	Reptile	4	RCP Hardwood forest, Early successional, Forested wetlands, Grasslands, Urban
Eastern Hognose Snake	Reptile	2	Hardwood forest, Grasslands, Urban
Eastern Painted Turtle	Reptile	2	Forest and wetland, needs a hollow log
Five-lined Skink	Reptile		Forest interior
Northern Copperhead Snake	Reptile	1	Forest interior
Northern Ringneck Snake	Reptile	1	Forest interior, moisture
Rough Green Snake	Reptile	2	Hardwood forest, Grassland, hollow log or tree
Timber Rattlesnake	Reptile	2	Forest and wetland
Wood Turtle	Reptile	2	Forest, Stream, hollow log
American Toad	Amphibian	1	C&O (mile post 3), River, Vernal Pool, Hardwood forest, Forested Wetlands
Fowler's Toad	Amphibian	1	C&O (mile post 3), Vernal pool, Hardwood forest, Forested wetlands
Northern Spring Peeper	Amphibian	1	RCP, C&O, Vernal pools, springs & seeps, Hardwood forest, Forested wetlands

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Species Type	Priority	Habitat
Pickereel Frog	Amphibian	Ken	C&O (mile post 3), Vernal pool, Hardwood forest
Spotted Salamander	Amphibian	2	RCP, C&O Vernal pool, Hardwood forest, Forested wetlands
Wood Frog	Amphibian	1	RCP, C&O Vernal pool, Hardwood forest
Appalachian grizzled skipper	Invertebrate	2	Grassland, Hardwood forest
Frosted Elfin	Invertebrate	3	Hardwood forest, Early successional, Grassland
Mottled Duskywing	Invertebrate	3	Hardwood forest, Early successional, Grassland

Emergent Non-tidal Wetlands

Species	Species Type	Priority	Habitat
American Bittern	Bird		Emergent Wetlands
American Black Duck	Bird		Emergent Wetlands (PIF), River, Forested Wetlands, SAV
Black-crowned Night-Heron	Bird	5	NACE regional headquarters, River, Tidal & non-tidal, Urban, Tidal mudflats, Forested Wetlands
Wilson's Snipe	Bird		Tidal & non-tidal wetlands, Tidal mudflats, Grasslands
Least Bittern	Bird	5	Emergent Non-tidal Wetlands
Marsh Wren	Bird		Emergent Non-tidal Wetlands
Sora	Bird		Tidal & non-tidal wetlands
Virginia Rail	Bird		Tidal & non-tidal wetlands
American Mink	Mammal		
N. River Otter	Mammal		
S. Bog Lemming	Mammal		
Virginia Opossum	Mammal		
American Toad	Amphibian		

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Species Type	Priority	Habitat
Bullfrog	Amphibian		
Fowler's Toad	Amphibian		
Marbled Salamander	Amphibian		
Mud Salamander	Amphibian		
N. Cricket Frog	Amphibian		
N. Dusky Salamander	Amphibian		
N. Spring Peeper	Amphibian		
N. Two-lined Salamander	Amphibian		
N. Red Salamander	Amphibian		
Pickeral Frog	Amphibian		
Redback Salamander	Amphibian		
Red-spotted Newt	Amphibian		
Spotted Salamander	Amphibian		
Upland Chorus Frog	Amphibian		
Wood Frog	Amphibian		
Queen Snake	Reptile		
Common Musk Turtle	Reptile		
E. Box Turtle	Reptile		
E. Mud Turtle	Reptile		
E. Painted Turtle	Reptile		
Redbelly Turtle	Reptile		
Spotted Turtle	Reptile		
Wood Turtle	Reptile		

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Species Type	Priority	Habitat
Lilypad Forktail	Invertebrate		
Damselfly	Invertebrate		
Mocha Emerald Dragonfly	Invertebrate		
Tiger Spiketail Dragonfly	Invertebrate		
Unicorn Clubtail Dragonfly	Invertebrate		

Grasslands / Managed Meadows

Species	Species Type	Priority	Habitat
Bobolink	Bird		Grassland
Wilson's Snipe	Bird		Tidal & non-tidal wetlands, Tidal mudflats, Grasslands
Eastern Meadowlark	Bird		Grassland
Field Sparrow	Bird	4	Early Successional/ Shrub (PIF), weedy fields
Grasshopper Sparrow	Bird		Grassland
Northern Bobwhite	Bird	4	Early Successional, Grassland (PIF)
Eastern Cottontail	Mammal		Grassland, log
Eastern Box Turtle	Reptile	4	RCP Hardwood forest, Early successional, Forested wetlands, Grasslands, Urban
Eastern Fence Lizard	Reptile		Grassland, Edge
Eastern Hognose Snake	Reptile	2	Hardwood forest, Grasslands, Urban
Eastern Worm Snake	Reptile	1	Grassland, Edge
Northern Black Racer Snake	Reptile		Grassland, Edge
Rough Green Snake	Reptile	2	Hardwood forest, Grassland, hollow log or tree
Appalachian grizzled skipper	Invertebrate		Grassland, Hardwood forest
Crossline Skipper Butterfly	Invertebrate		Grassland
Edward's Hairstreak	Invertebrate		Open habitats, sand barrens

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Species Type	Priority	Habitat
Frosted Elfyn	Invertebrate		Hardwood forest, Early successional, Grassland
Great Spangled Fritillary Butterfly	Invertebrate		Open meadow
Imported Cabbage Butterfly	Invertebrate		Grassland
Monarch Butterfly	Invertebrate		Grassland
Mottled Duskywing	Invertebrate		Hardwood forest, Early successional, Grassland
Regal Fritillary Butterfly	Invertebrate		Wetland, grassland
Variegated Fritillary Butterfly	Invertebrate		Grassland

Forested Wetlands / Riparian Woodlands / Floodplains

Species	Species Type	Priority	Habitat
Acadian Flycatcher	Bird		Hardwood Forest, forested wetland, woodland streams (PIF)
American Black Duck	Bird		Emergent Wetlands (PIF), River, Forested Wetlands, SAV
American Woodcock	Bird	4	Early Successional Shrub, Forest (PIF piedmont), Forested wetlands
Black-crowned Night Heron	Bird		NACE regional headquarters, River, Tidal & non-tidal, Urban, Tidal mudflats, Forested Wetlands
Cerulean Warbler	Bird		Hardwood Forest, forested wetland (PIF)
Chimney Swift	Bird	2	Forested wetlands, Urban, Hardwood Forest (PIF)
Kentucky Warbler	Bird		Hardwood Forest, forested wetland (PIF)
Louisiana Waterthrush	Bird		Hardwood Forest, forested wetland, woodland streams (PIF)
Prothonotary Warbler	Bird		Hardwood Forest, forested wetland (PIF)
Red-shouldered Hawk	Bird		Hardwood Forest, forested wetland (PIF), Urban

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Species Type	Priority	Habitat
Wood Duck	Bird		River, Forested Wetland (Dan)
Yellow-throated Vireo	Bird		Hardwood Forest, forested wetland (PIF)
American Toad	Amphibian		C&O (mile post 3), River, Vernal Pool, Hardwood forest, Forested Wetlands
Fowler's Toad	Amphibian		C&O (mile post 3), Vernal pool, Hardwood forest, Forested wetlands
Marbled Salamander	Amphibian		Vernal pool, Forested wetlands
N. Spring Peeper	Amphibian		RCP, C&O, Vernal pools, springs & seeps, Hardwood forest, Forested wetlands
Spotted Salamander	Amphibian		RCP, C&O Vernal pool, Hardwood forest, Forested wetlands
Eastern Box Turtle	Reptile	4	RCP Hardwood forest, Early successional, Forested wetlands, Grasslands, Urban
Eastern Comma Butterfly	Invertebrate		Woods near water, marsh
Mocha Emerald Dragonfly	Invertebrate		Forested streams, ponds
Red Admiral Butterfly	Invertebrate		Moist woods, yards, parks, marshes

Early Successional / Shrub-scrub / Edge

Species	Species Type	Priority	Habitat
American Woodcock	Bird	4	Early Successional Shrub, Forest (PIF piedmont), Forested wetlands
Brown Thrasher	Bird	4	Hardwood Forest, Early successional/Shrub, Urban (PIF)
Eastern Towhee	Bird	5	Hardwood Forest, Early successional/Shrub, Urban (PIF)
Field Sparrow	Bird	4	Early Successional/ Shrub (PIF), weedy fields
Northern Bobwhite	Bird	4	Early Successional/ Grassland (PIF)
Ovenbird	Bird	4	Hardwood Forest, Early Successional

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Species Type	Priority	Habitat
White-eyed Vireo	Bird	4	Early Successional/ Shrub (PIF)
Allegheny Woodrat	Mammal	2	Hardwood forest, Early successional
Eastern Chipmunk	Mammal	1	Hardwood forest, Early successional, log, Urban
Gray Fox	Mammal	1	Hardwood forest, Early successional, River, Urban
Corn Snake	Reptile	1	Edge
Eastern Box Turtle	Reptile	4	RCP Hardwood forest, Early successional, Forested wetlands, Grasslands, Urban
Eastern Fence Lizard	Reptile	1	Grassland, Edge
Eastern Worm Snake	Reptile	1	Grassland, Edge
Northern Black Racer Snake	Reptile	1	Grassland, Edge
Frosted Elfyn	Invertebrate	3	Hardwood forest, Early successional, Grassland
Little Glassywing Butterfly	Invertebrate	1	Moist wood edges
Mottled Duskywing	Invertebrate	3	Hardwood forest, Early successional, Grassland
Question Mark Butterfly	Invertebrate	1	Woods with open areas, city parks, suburbs

Emergent Tidal Wetlands

Species	Species Type	Priority	Habitat
American Bittern	Bird		Emergent Wetlands
American Black Duck	Bird		Emergent Wetlands (PIF), River, Forested Wetlands, SAV
Black-crowned Night-Heron	Bird	5	NACE regional headquarters, River, Tidal & non-tidal, Urban, Tidal mudflats, Forested Wetlands
Wilson's Snipe	Bird		Tidal & non-tidal wetlands, Tidal mudflats, Grasslands
Sora	Bird		Tidal & non-tidal wetlands
Virginia Rail	Bird		Tidal & non-tidal wetlands
American Mink	Mammal		River, Emergent tidal wetlands, tidal mudflats
Northern River Otter	Mammal		River, Emergent tidal wetlands, tidal mudflats
Southern Bog Lemming	Mammal	2	Hardwood forest, River, Emergent tidal wetland, Tidal mudflat
Virginia Opossum	Mammal		River, Emergent tidal wetlands, tidal mudflats
American eel	Fish	1	Rivers & stream, Emergent tidal wetlands, Tidal mudflats, SAV
Warmouth	Fish		River, Emergent tidal wetlands

Urban Landscape

Species	Species Type	Priority	Habitat
Black-crowned Night-Heron	Bird	5	NACE regional headquarters, River, Tidal & non-tidal, Urban, Tidal mudflats, Forested Wetlands
Brown Thrasher	Bird		Hardwood Forest, Early successional/Shrub, Urban (PIF)
Chimney Swift	Bird	2	Forested wetlands, Urban, Hardwood Forest (PIF)
Eastern Towhee	Bird		Hardwood Forest, Early successional/Shrub, Urban (PIF)
Red-shouldered Hawk	Bird		Hardwood Forest, forested wetland (PIF), Urban

DISTRICT OF COLUMBIA'S WILDLIFE ACTION PLAN

Species	Species Type	Priority	Habitat
Eastern Red Bat	Mammal	2	Hardwood forest, snag, Urban
Eastern Chipmunk	Mammal	1	Hardwood forest, Early successional, log, Urban
Gray Fox	Mammal		Hardwood forest, Early successional, River, Urban
Eastern Box Turtle	Reptile	4	RCP Hardwood forest, Early successional, Forested wetlands, Grasslands, Urban
Eastern Hognose Snake	Reptile	2	Hardwood forest, Grasslands, Urban

Tidal Mudflats

Species	Species Type	Priority	Habitat
Bald Eagle	Bird	5	Wetland, Forest, Tidal mudflat
Black-crowned Night-Heron	Bird	5	NACE regional headquarters, River, Tidal & non-tidal, Urban, Tidal mudflats, Forested Wetlands
Wilson's Snipe	Bird		Tidal & non-tidal wetlands, Tidal mudflats, Grasslands
American Mink	Mammal		River, Emergent tidal wetlands, Tidal mudflats
Northern River Otter	Mammal		River, Emergent tidal wetlands, tidal mudflats
Southern Bog Lemming	Mammal	2	Hardwood forest, River, Emergent tidal wetland, Tidal mudflat
Virginia Opossum	Mammal		River, Emergent tidal wetlands, tidal mudflats
Bullfrog	Amphibian		River, Tidal mudflat
Bog Turtle	Fish		Bog, River, Tidal mudflat
Common Musk Turtle	Reptile		River, Tidal mudflat
American eel	Fish	1	Rivers & stream, Emergent tidal wetlands, Tidal mudflats, SAV

Springs and Seeps

Species	Species Type	Priority	Habitat
Mud Salamander	Amphibian		Springs & seeps
N. Dusky Salamander	Amphibian		RCP
N. Red Salamander	Amphibian		RCP
Northern Spring Peeper	Amphibian	1	RCP, C&O, Vernal pools, springs & seeps, Hardwood forest, Forested wetlands
Hay's Spring Amphipod	Invertebrate		RCP
Kenk's Amphipod	Invertebrate		RCP
Lilypad Forktail Danselfly	Invertebrate		Lilypads, Ponds & pools, Springs & seeps
Pizzini's Cave Amphipod	Invertebrate		Springs & seeps
Potomac Groundwater Amphipod	Invertebrate		Springs & seeps
Tiger Spiketail Dragonfly	Invertebrate		RCP Springs & seeps, River

Submerged Aquatic Vegetation

Species	Species Type	Priority	Habitat
American Black Duck	Bird		Emergent Wetlands (PIF), River, Forested Wetlands, SAV
Alewife	Fish	1	Juvenile, Rivers & Streams
American eel	Fish	1	Rivers & stream, Emergent tidal wetlands, Tidal mudflats, SAV
American shad	Fish	2	Juvenile, Rivers & Streams
Blueback herring	Fish	1	Juvenile, Rivers & Streams
Bowfin	Fish	2	Forage, Rivers & Streams
Hickory shad	Fish	2	Juvenile, Rivers & Streams
Warmouth	Fish	2	Forage, Rivers & Streams

Vernal Pools

Species	Species Type	Priority	Habitat
American Toad	Amphibian	1	C&O (mile post 3), River, Vernal Pool, Hardwood forest, Forested Wetlands
Fowler's Toad	Amphibian	1	C&O (mile post 3), Vernal pool, Hardwood forest, Forested wetlands
Marbled Salamander	Amphibian		Vernal pool, Forested wetlands
Northern Spring Peeper	Amphibian	1	RCP, C&O, Vernal pools, springs & seeps, Hardwood forest, Forested wetlands
Pickrel Frog	Amphibian	Ken	C&O (mile post 3), Vernal pool, Hardwood forest
Spotted Salamander	Amphibian	2	RCP, C&O Vernal pool, Hardwood forest, Forested wetlands
Wood Frog	Amphibian	1	RCP, C&O Vernal pool, Hardwood forest

Ponds and Pools

Species	Species Type	Priority	Habitat
Black-crowned Night Heron	Bird		NACE regional headquarters, River, Tidal & non-tidal, Urban, Tidal mudflats, Forested Wetlands
Appalachian Spring Snail	Invertebrate		Pond
Eastern Pondmussel	Invertebrate		Pond
Green Floater	Invertebrate		Pond
Lilypad Forktail Damselfly	Invertebrate		Lilypads, Ponds & pools, Springs & seeps
Mocha Emerald Dragonfly	Invertebrate		Forested streams, ponds

Appendix 3 – Threat Ranking to Habitats

Rivers and Streams

Threats to Rivers and Streams	Potomac	Anacostia	Rock Creek	Oxon Run	Hickey Run	Fort Dupont	Pope's Branch	Associated Tributaries	
Sedimentation	M	H	H	H	H	H	H	H	3
Pollution	M	H	H	M	H	M	H	M	2.5
Invasive/ Alien Species	H	H	M	L	H	H	L	M	2.3
Stormwater Runoff	M	H	H	H	H	H	H	H	3
Over-harvest	M	L	M	L	L	L	L	L	1.3
Migration Barriers	M	H	H		H	H	M	M	1.4
Piped Streams/ Channelization	L	H	H	H	H	H		H	2.4
Recreational Boating/ Aquatic Sports	M	M	L	L	N		L	L	1
Hardened Shorelines	M	H	M	M	H		L	M	1.9
Poaching	M	M	M	M	L	L	L	L	1.6
Changes to Hydrologic Regimes	H	H	H	H	H	H	H	H	3
Erosion	M	H	H	H	H	H	H	H	2.9

Hardwood Forests

Threats to Hardwood Forests	Archbold-Glover Park	Rock Creek NP	National Arboretum	All Fort Circle Sites	Kenilworth Park	Oxon Run	Shepherd Parkway	Lincoln Wetlands	
Invasives/Alien Sp.	H	H	H	H	H	H	H	H	3
Over-browsing	H	H	M	M	L	L	L	L	1.8
Recreation	H	H	H	H	M	L	M	L	2.3
Dumping	M	M	L	H	H	M	M	M	2.1
Poaching	L	L		L					.4
Storm-water Erosion	M	M	M	H	L	L	H	M	2
Erosion	L	L		L					.4
Parasites / Pathogens	M	M	M	M	L	L	L	L	1.5
Air Pollution	L		M	L	L	L	L	L	1
Fragmentation	H	H	H	H	M	M	H	L	2.5
Contaminants	L	M		M	L			M	1
Noise Pollution	M	M	M	M	M	M	M	L	1.9
Habitat Loss	H	H	L	M	L	L	L	L	1.6

Emerged Non-tidal Wetlands

Threats to Emergent Non-tidal Wetlands									
Sedimentation	L	H	M	H	M	M	M	M	2.1
Pollution	H	H	M	M	H	M	L	L	2.1
Invasives / Alien Sp.	H	H	H	H	H	M	H	H	2.9
Stormwater Runoff	L	H	M	M	M	M	L	M	1.9
Parasites / Pathogens			L		L	M			.5
Over-grazing /-browsing			L	L	M	M			.8
Hardened Shorelines			M		L	L			.5
Habitat Loss	H	H	L	H	M	L	M	M	2.1
Poaching	L	L		L					.4
Changes to Hydrologic Regimes	H	H	M	L	M	M	M	M	2.1
Erosion	L	H	M	M	M	M	M	M	2

Grasslands / Managed Meadows

Threats to Grasslands / Managed Meadows										
	Oxon Cove									
	Poplar Point									
	Anacosta Park									
	National Arboretum									
	Military Road (RCNP)									
	Oxon Run Parkway									
	Langston Golf Course									
	East Potomac Island									
	Veteran's Hospital									
Invasives/Alien Sp.	H	H	H	H	H	H	H	H	L	2.4
Over-browsing	M	L	L		L	L	L			.8
Recreation (trails?)	L	L	H		H	L	H	H		1.7
Dumping	L	L	L		H	M	L			1
Poaching	L	L	L		M	L	L			.8
Habitat Loss	M	H	H	M	M	H	H			2
Roads / Utility Corridors (trails?)	L	H	H		M	L	L	L		1.3
Parasites / Pathogens					L					.1
Air Pollution	L	L	L		L	L	L	H		1
Fragmentation	M	H	H		M	M	M	L		1.7
Contaminants	H	H	L		M		M	L		1.3
Noise Pollution	M	M	M		L	L	L	H		1.3
Light Pollution					L			L		.2
Park Facilities / Operations/ Maintenance	L	L	L	M	H	M	H	H		1.8
Change in Land Use / Ownership	L	H	H		H	L	L	L		1.4

Forested Wetlands / Riparian Woodlands / Floodplains

Threats to Forested Wetlands / Riparian Woodlands / Floodplains											
Invasive/ Alien Species	H	H	H	H	H	H	H	H	H	H	3
Over-browsing	M	M	L	L	M	L	L	M	M	L	1.5
Recreation	L	L		L	L	M	M	H	H	H	1.6
Dumping	L	L	L	L	L	L	L	M	M	L	1.2
Poaching	L	L	L	L	L	L	L	M	M	L	1.2
Private Property Encroachment	H	M	H	L	M	L	L	H	M	L	2
Roads / Utility Corridors	M	M	L	M	M	L	L	M	M	L	1.6
Habitat Loss			M		M	H	H	H	H		1.6
Storm-water Erosion	M	M	H	M	M	M	M	H	H	L	2.2
Parasites / Pathogens	L	L	L	L	L	L	L	H	L	H	1.4
Air Pollution	L	L	L	L	L	L	L	H	L	H	1.4
Fragmentation	H	M	M	M	M	M	M	H	H	H	2.4
Contaminants	H	L	M	L	L	L	M	M	M	L	1.5
Noise Pollution	M	M	L	M	M	M	M	M	M	M	1.9
Light Pollution	M	M		M			M	M	M	M	1.3
Park Facilities / Operations / Maintenance	M	M	L	M	L	L	M	M	M	L	1.5
Change in Land Use / Ownership	M	M	M	L	L	H	H	M	M	L	1.9
Sedimentation			M		L	L	M	L	L		.9
Changes to Hydrologic Regimes	M	M	M	M	L	L	L	H	H	M	1.8

Early Successional / Shrub-scrub / Edge

Threats to Early Successional / Shrub-scrub / Edge	Kingman Island	National Arboretm	Poplar Point	Kenilworth Park	Fort Dupont	Fort Lincoln	Anacostia Park	Right of Ways	
Invasives/Alien Sp.	H	M	H	H	H	H	H	H	2.9
Over-browsing	L	M	L	L	L	L		M	1.1
Dumping	M	L	M	M	H	H	M	M	2.1
Poaching	L	L	L	L	L	L	L	L	1
Habitat Loss	M		H	H	M	L	H		1.8
Development	M	L	H	H	M	L	H	L	2
Erosion	L	L	L	L	L	L	L	L	1
Parasites / Pathogens	M	H	L	L	L	L	L	L	1.4
Fragmentation	H	M	M	M	M	M	M	M	2.1
Contaminants	M	L	H	H	L	L	L	L	1.6
Noise Pollution	L	L	H	M	M	M	M	M	1.9
Light Pollution		M						M	.5

Emergent Tidal Wetlands

Threats to Emergent Tidal Wetlands	Anacostia	Kingman Island	TR Island	Kenilworth Park	
Sedimentation	H	H	L	H	2.8
Pollution	H	H	M	H	2.7
Invasives / Alien Sp.	H	H	L	H	2.5
Stormwater Runoff	M	M	L	M	1.8
Parasites / Pathogens	M	H	L	M	1.5
Over-grazing /-browsing	M	H	M	H	2
Migration Barriers					
Hardened Shorelines	M	M	L	M	1.3
Habitat Loss	M	M	L	M	1.8
Poaching	L	L	L	L	.7
Changes to Hydrologic Regimes	M	M	M	M	1.5
Erosion	M	M	L	M	1.3

Tidal Mudflats

Threats to Tidal Mudflats	Threats to Tidal Mudflats					
	Anacostia Park	Kenilworth Park	Kingman Island	Oxon Cove	TR Island	
Sedimentation	M	H	H	M	M	2.6
Pollution	H	H	H	M	M	2.6
Invasives / Alien Sp.(corbula?)	H	H	H	M	H	2.8
Stormwater Runoff	M	M	M	M	L	2.2
Changes to Hydrologic Regimes	M	M	M	L	L	2
Erosion	M	M	M	M	L	1.8

Springs and Seeps

Threats to Springs and Seeps	Arboretum	Rock Creek Park	McAtee Wetlands	
Invasive/ alien species	H	L		M
Over-browsing				
Recreation/ boating				
Dumping		L		L
Poaching		L		L
Stormwater Erosion		M		M
Erosion		L		L
Parasites/ Pathogens		L		L

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Threats to Springs and Seeps	Arboretum	Rock Creek Park	McAtee Wetlands	
Air Pollution				
Fragmentation		L		L
Contaminants		H		H
Noise pollution				
Habitat loss		L		L
Development				
Light pollution				
Roads/ Utility corridors		L		L
Park facilities/ Operations/ Management	L	L		L
Change in land use/ ownership				
Sedimentation		H		H
Pollution		M		M
Over-harvesting				
Migration barriers				
Piped streams/ channelization				
Hardened shorelines				
Changes to hydrologic regimes	L	H		M
Private property encroachment				

Submerged Aquatic Vegetation

Threats to Submerged Aquatic Vegetation										
		Anacostia R.	TR Island Channel	Kenilworth Park	Tidal Basin	Potomac- N of 3 sisters	Potomac- 3 sisters to Haines	Potomac-Haines to Woodrow Wilson	Washington Channel	C&O Canal
Sedimentation	H	M		H	M	H	H	L	M	2.1
Pollution	H	H		H	L	M	H	M	M	2.1
Invasives / Alien Sp.	H	M		H	M	M	H	M	H	2.2
Stormwater Runoff	H	H	H	M	M	M	H	M	M	2.4
Parasites / Pathogens		M		M	M	M	M	M	M	1.6
Over-grazing /-browsing	M	M		M		L	L	M	M	1.3
Habitat Loss	H	M	H	M	H	H	H	M	M	2.6
Changes to Hydrologic Regimes		M		M	M	M	M	M	M	1.6
Recreational Boating / Aquatic Sports		L		L		L	M	H	L	1

Ponds and Pools

Threats to Ponds and Pools										
	McMillan Reservior									
	Kenilworth Park									
	National Arboretum									
	Soldiers & Airmans Home									
	Lincoln Wetlands									
	Rock Creek Cemetery									
	Del Carla Reservoir									
	Langston Golf Course									
	Tidal Basin									
	Georgetown Reservoir									
	Constitution Gardens									
Sedimentation	M	M	M		M	L	M	M	M	1.5
Pollution	M	M	M		M	L	M	M	M	1.8
Invasives / Alien Sp.	L	H	M		H	L	H	L	L	1.5
Stormwater Runoff	L	M	M	M	M		H	L		1.6
Parasites / Pathogens	L	M	L	L	L	L	L	L	L	1.1
Over-grazing /-browsing	L	M	M	L	L	L	M	L	L	1.4
Poaching		L			L		L		L	.4
Changes to Hydrologic Regimes		M	M	M	M	L	M	L	M	1.5
Erosion	M	M	M		M	L	M	M	M	1.6

Appendix 4—Key Meetings in the Development of the WAP

Key meetings

- I. Foundation meeting in Nebraska
- II. Meeting with National Heritage Program (NHP)
- III. Internal meetings of DC Fisheries and Wildlife
- IV. Working Group meetings—federal and non-governmental partners
- V. Geographic Information Systems (GIS) Mapping Meetings
- VI. Public review meetings
- VII. Mid-Atlantic and New England Bird Conservation Workshop

Key Meetings

1) Foundation meeting in Nebraska

- Nov. 2004
- o Coordination among CWCS coordinators and partner agencies and organizations
 - o Approach
 - o Advice and ideas

2) Meeting with National Heritage Program (NHP)

- Sep. 16, 2004
- o Obtained list of species occurring in DC which would serve as a base for our Master List
- December 14, 2004
- o Created consistency in format with MD Department of Natural Resources

3) Internal meetings of DC Fisheries and Wildlife

- a) August 11, 2004
 - o Updated Fisheries and Wildlife staff on the foundation meeting in Nebraska & next steps
- b) August 17, 2004
- c) August 31, 2004
 - o Discussed grant writing
 - o Discussed the possibility of hiring a contractor
 - o Discussed updating the District's information on the Teaming With Wildlife website
- d) September 7, 2004
 - o Discussed the status of writing grant
 - o Identified staff, costs, partners
- e) October 20, 2004
 - o Identified partners and planned Working Group meeting
 - o Developed timetable for major drafts & completion
 - o Developed timetable for meeting with NGOs
- f) December 15, 2004
 - o Planned next Working Group meeting

- o Review Master species list & species of greatest conservation need list
- g) Jan. 14, 2005
 - o Developed format for fact sheets
 - o Revised list of species of greatest conservation need
 - o Revised outline
 - o Set agenda for the Working Group meeting
- h) May 11, 2005
 - o Discussed public involvement strategies
- i) May 19, 2005
 - o Delegated responsibilities internally
 - o Planned the next Working Group meeting
- j) June 8, 2005
 - o Reviewed drafts from other states in order to create consistency
- k) July 6, 2005
 - o Reviewed draft, identified gaps, and delegated tasks
 - o Reviewed format of fact sheets for species and habitats
- l) July 18, 2005
 - o Discussed creating a summary habitat chart
 - o Discussed monitoring, review and revision chapters
- m) July 20, 2005
 - o Discussed monitoring, review and revision chapters
- n) July 27, 2005
 - o Organized first public review meeting

4) Working Group meetings—federal and non-governmental partners

- a) Oct. 12, 2004
 - o Described CWCS to federal partners
 - o Discussed species selection criteria and prioritization process
- b) Nov. 2, 2004
 - o Developed process for creating Master List
 - o Developed species selection criteria and prioritization process
- c) Nov. 30, 2004
 - o Revised list of species in greatest conservation need
- d) Jan. 11, 2005
 - o Discussed IAFWA involvement
 - o Divided species of greatest conservation need into habitats
 - o Identified the Smithsonian Institution as a potential partner
 - o Reviewed drafts of other states to assure consistency
- e) Feb. 8, 2005
 - o Discussed fact sheets
 - o Discussed GIS maps
- f) March 1, 2005
 - o Identified the Nature Conservancy, the National Arboretum, and Defenders of Wildlife as new partners
 - o Identified habitat types and locations
- g) March 22, 2005

- o Discussed NAAT requirements
 - o Discussed format of listing threats
 - h) April 5, 2005
 - o Reviewed threat charts
 - i) April 19, 2005
 - o Reviewed threat charts
 - j) May 3, 2005
 - o Brainstormed existing conservation actions
 - k) May 17, 2005
 - o Reviewed threat charts
 - o Brainstormed existing conservation actions
 - l) May 31, 2005
 - o Reviewed summary threat charts
 - m) June 14, 2005
 - o Brainstormed existing conservation actions
 - o Brainstormed potential new conservation actions
 - n) June 28, 2005
 - o Discussed how to select and prioritize threats
 - o) July 12, 2005
 - o Discussed how to select and prioritize threats
 - o Delegated tasks regarding exploring existing conservation actions
 - p) July 26, 2005
 - o Reviewed GIS maps
 - o Discussed the first public review meeting
 - o Revisited species list
 - q) August 23, 2005
 - o Discussed existing conservation actions
 - r) September 6, 2005
 - o Discussed status and trend of species of greatest conservation need
 - o Reviewed species fact sheets
- 5) Geographic Information Systems (GIS) Mapping Meetings**
- 6) Public review meetings**
- a) July 30, 2005
 - o Described the CWCS to the public
 - o Solicited comments on the species list and conservation actions
 - b) August 31, 2005
 - o Described the CWCS to the public
 - o Solicited comments on the species list and conservation actions
- 7) Mid-Atlantic & New England Bird Conservation Workshop**
- a) Dec. 7-9, 2004
 - o Met with CWCS Coordinator of IAFWA
 - o Met CWCS writers from other states in the region
 - o Coordinated regional effort

Appendix 5 – References for Species Fact Sheets

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TITLE 16. CONSERVATION
CHAPTER 5A. PROTECTION AND CONSERVATION OF WILDLIFE
BALD AND GOLDEN EAGLE PROTECTION ACT

§ 668. Bald and golden eagles Page 1 of 4

§ 668a. Taking and using of the bald and golden eagle for scientific, exhibition, and religious purposes Page 2 of 4

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§ 668. Bald and golden eagles

(a) Prohibited acts; criminal penalties. Whoever, within the United States or any place subject to the jurisdiction thereof, without being permitted to do so as hereinafter provided, shall knowingly, or with wanton disregard for the consequences of his act take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or in any manner, any bald eagle commonly known as the American eagle, or any golden eagle, alive or dead, or any part, nest, or egg thereof of the foregoing eagles, or whoever violates any permit or regulation issued pursuant to this Act, shall be fined not more than \$ 5,000 or imprisoned not more than one year or both: Provided, That in the case of a second or subsequent conviction for a violation of this section committed after the date of the enactment of this proviso [Oct. 23, 1972], such person shall be fined not more than \$ 10,000 or imprisoned not more than two years, or both: Provided further, That the commission of each taking or other act prohibited by this section with respect to a bald or golden eagle shall constitute a separate violation of this section: Provided further, That one-half of any such fine, but not exceed \$ 2,500, shall be paid to the person or persons giving information which leads to conviction: Provided further, That nothing herein shall be construed to prohibit possession or transportation of any bald eagle, alive or dead, or any part, nest, or egg thereof, lawfully taken prior to June 8, 1940, and that nothing herein shall be construed to prohibit possession or transportation of any golden eagle, alive or dead, or any part, nest, or egg thereof, lawfully taken prior to the addition to this Act of the provisions relating to preservation of the golden eagle.

(b) Civil penalties. Whoever, within the United States or any place subject to the jurisdiction thereof, without being permitted to do so as provided in this Act, shall take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or in any manner, any bald eagle, commonly known as the American eagle, or any golden eagle, alive or dead, or any part, next, or egg thereof of the foregoing eagles, or whoever violates any permit

or regulation issued pursuant to this Act, may be assessed a civil penalty by the Secretary of not more than \$ 5,000 for each such violation. Each violation shall be a separate offense. No penalty shall be assessed unless such person is given notice and opportunity for a hearing with respect to such violation. In determining the amount of the penalty, the gravity of the violation, and the demonstrated good faith of the person charged shall be considered by the Secretary. For good cause shown, the Secretary may remit or mitigate any such penalty. Upon any failure to pay the penalty assessed under this section, the Secretary may request the Attorney General to institute a civil action in a district court of the United States for any district in which such person is found or resides or transacts business to collect the penalty and such court shall have jurisdiction to hear and decide any such action. In hearing any such action, the court must sustain the Secretary's action if supported by substantial evidence.

(c) Cancellation of grazing agreements. The head of any Federal agency who has issued a lease, license, permit, or other agreement authorizing the grazing of domestic livestock on Federal lands to any person who is convicted of a violation of this Act or of any permit or regulation issued hereunder may immediately cancel each such lease, license, permit, or other agreement. The United States shall not be liable for the payment of any compensation, reimbursement, or damages in connection with the cancellation of any lease, license, permit, or other agreement pursuant to this section.

HISTORY: (June 8, 1940, ch 278, § 1, 54 Stat. 250; June 25, 1959, P.L. 86-70, § 14, 73 Stat. 143; Oct. 24, 1962, P.L. 87-884, 76 Stat. 1246; Oct. 23, 1972, P.L. 92-535, § 1, 86 Stat. 1064.)

§ 668a. Taking and using of the bald and golden eagle for scientific, exhibition, and religious purposes

Whenever, after investigation, the Secretary of the Interior shall determine that it is compatible with the preservation of the bald eagle or the golden eagle to permit the taking, possession, and transportation of specimens thereof for the scientific or exhibition purposes of public museums, scientific societies, and zoological parks, or for the religious purposes of Indian tribes, or that it is necessary to permit the taking of such eagles for the protection of wildlife or of agricultural or other interests in any particular locality, he may authorize the taking of such eagles pursuant to regulations which he is hereby authorized to prescribe: Provided, That on request of the Governor of any State, the Secretary of the Interior shall authorize the taking of golden eagles for the purpose of seasonally protecting domesticated flocks and herds in such State, in accordance with regulations established under the provisions of this section, in such part or parts of such State and for such periods as the Secretary determines to be necessary to protect such interest: Provided further, That bald eagles may not be taken for any purpose unless, prior to such taking, a permit to do so is procured from the Secretary of the Interior: Provided further, That the Secretary of the Interior, pursuant to such regulations as he may prescribe, may permit the taking, possession, and transportation of golden eagles for the purposes of falconry, except that only golden eagles which would be taken because of depredations on livestock or wildlife may be taken for purposes of falconry: Provided further, That the Secretary of the Interior, pursuant to such regulations as he may prescribe, may permit the taking of golden eagle nests which interfere with resource

development or recovery operations.

HISTORY: (June 8, 1940, ch 278, § 2, 54 Stat. 251; Oct. 24, 1962, P.L. 87-884, 76 Stat. 1246; Oct. 23, 1972, P.L. 92-535, § 2, 86 Stat. 1065; Nov. 8, 1978, P.L. 95-616, § 9, 92 Stat. 3114.)

§ 668b. Enforcement provisions

(a) Arrest; search; issuance and execution of warrants and process. Any employee of the Department of the Interior authorized by the Secretary of the Interior to enforce the provisions of this Act may, without warrant, arrest any person committing in his presence or view a violation of this Act or of any permit or regulation issued hereunder and take such person immediately for examination or trial before an officer or court of competent jurisdiction; may execute any warrant or other process issued by an officer or court of competent jurisdiction for the enforcement of the provisions of this Act; and may, with or without a warrant, as authorized by law, search any place. The Secretary of the Interior is authorized to enter into cooperative agreements with State fish and wildlife agencies or other appropriate State authorities to facilitate enforcement of this Act, and by said agreements to delegate such enforcement authority to State law enforcement personnel as he deems appropriate for effective enforcement of this Act. Any judge of any court established under the laws of the United States, and any United States commissioner [magistrate judge] may, within his respective jurisdiction, upon proper oath or affirmation showing probable cause, issue warrants in all such cases.

(b) Forfeiture. All bald or golden eagles, or parts, nests, or eggs thereof, taken, possessed, sold, purchased, bartered, offered for sale, purchase, or barter, transported, exported, or imported contrary to the provisions of this Act, or of any permit or regulation issued hereunder, and all guns, traps, nets, and other equipment, vessels, vehicles, aircraft, and other means of transportation used to aid in the taking, possessing, selling, purchasing, bartering, offering for sale, purchase, or barter, transporting, exporting, or importing of any bird, or part, nest, or egg thereof, in violation of this Act or of any permit or regulation issued hereunder shall be subject to forfeiture to the United States.

(c) Customs laws applied. All provisions of law relating to the seizure, forfeiture, and condemnation of a vessel for violation of the customs laws, the disposition of such vessel or the proceeds from the sale thereof, and the remission or mitigation of such forfeitures, shall apply to the seizures and forfeitures incurred, or alleged to have been incurred, under the provisions of this Act, insofar as such provisions of law are applicable and not inconsistent with the provisions of this Act: Provided, That all powers, rights, and duties conferred or imposed by the customs laws upon any officer or employee of the Treasury Department shall, for the purposes of this Act, be exercised or performed by the Secretary of the Interior or by such persons as he may designate.

HISTORY: (June 8, 1940, ch 278, § 3, 54 Stat. 251; Oct. 23, 1972, P.L. 92-535, § 3, 86 Stat. 1065.)

§ 668c. Definitions

As used in this Act "whoever" includes also associations, partnerships, and corporations; "take" includes also pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb; "transport" includes also ship, convey, carry, or transport by any means whatever, and deliver or receive or cause to be delivered or received for such shipment, conveyance, carriage, or transportation.

HISTORY: (June 8, 1940, ch 278, § 4, 54 Stat. 251; Oct. 23, 1972, P.L. 92-535, § 4, 86 Stat. 1065.)

§ 668d. Availability of appropriations for Migratory Bird Treaty Act

Moneys now or hereafter available to the Secretary of the Interior for the administration and enforcement of the aforesaid Migratory Bird Treaty Act of July 3, 1918, shall be equally available for the administration and enforcement of this Act.

HISTORY: (June 8, 1940, ch 278, § 5, 54 Stat. 251.)

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TITLE 18—CRIMES AND CRIMINAL PROCEDURE**CHAPTER 3—ANIMALS, BIRDS, FISH, AND PLANTS**

Release date: 2004-08-06

- § 42. Importation or shipment of injurious mammals, birds, fish (including mollusks and crustacea), amphibia, and reptiles; permits, specimens for museums; regulations
- § 43. Animal enterprise terrorism

CHAPTER 53—CONTROL OF ILLEGALLY TAKEN FISH AND WILDLIFE

Release date: 2004-04-30

- § 3371. Definitions
- § 3372. Prohibited acts
- § 3373. Penalties and sanctions
- § 3374. Forfeiture
- § 3375. Enforcement
- § 3376. Administration
- § 3377. Exceptions
- § 3378. Miscellaneous provisions

§ 42. Importation or shipment of injurious mammals, birds, fish (including mollusks and crustacea), amphibia, and reptiles; permits, specimens for museums; regulations

(a)

(1) The importation into the United States, any territory of the United States, the District of Columbia, the Commonwealth of Puerto Rico, or any possession of the United States, or any shipment between the continental United States, the District of Columbia, Hawaii, the Commonwealth of Puerto Rico, or any possession of the United States, of the mongoose of the species *Herpestes auropunctatus*; of the species of so-called "flying foxes" or fruit bats of the genus *Pteropus*; of the zebra mussel of the species *Dreissena polymorpha*; and such other species of wild mammals, wild birds, fish (including mollusks and crustacea), amphibians, reptiles, brown tree snakes, or the offspring or eggs of any of the foregoing which the Secretary of the Interior may prescribe by regulation to be injurious to human beings, to the interests of agriculture, horticulture, forestry, or to wildlife or the wildlife resources of the United States, is hereby prohibited. All such prohibited mammals, birds, fish (including mollusks and crustacea), amphibians, and reptiles, and the eggs or offspring therefrom, shall be promptly exported or destroyed at the expense of the importer or consignee. Nothing in this section shall be construed to repeal or modify any provision of the Public Health Service Act or Federal Food, Drug, and Cosmetic Act. Also, this section shall not authorize any action with respect to the importation of any plant pest as defined in the Federal Plant Pest Act, insofar as such importation is subject to regulation under that Act.

(2) As used in this subsection, the term "wild" relates to any creatures that, whether or not raised in

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captivity, normally are found in a wild state; and the terms "wildlife" and "wildlife resources" include those resources that comprise wild mammals, wild birds, fish (including mollusks and crustacea), and all other classes of wild creatures whatsoever, and all types of aquatic and land vegetation upon which such wildlife resources are dependent.

(3) Notwithstanding the foregoing, the Secretary of the Interior, when he finds that there has been a proper showing of responsibility and continued protection of the public interest and health, shall permit the importation for zoological, educational, medical, and scientific purposes of any mammals, birds, fish (including mollusks and crustacea), amphibia, and reptiles, or the offspring or eggs thereof, where such importation would be prohibited otherwise by or pursuant to this Act, and this Act shall not restrict importations by Federal agencies for their own use.

(4) Nothing in this subsection shall restrict the importation of dead natural-history specimens for museums or for scientific collections, or the importation of domesticated canaries, parrots (including all other species of psittacine birds), or such other cage birds as the Secretary of the Interior may designate.

(5) The Secretary of the Treasury and the Secretary of the Interior shall enforce the provisions of this subsection, including any regulations issued hereunder, and, if requested by the Secretary of the Interior, the Secretary of the Treasury may require the furnishing of an appropriate bond when desirable to insure compliance with such provisions.

(b) Whoever violates this section, or any regulation issued pursuant thereto, shall be fined under this title or imprisoned not more than six months, or both.

(c) The Secretary of the Interior within one hundred and eighty days of the enactment of the Lacey Act Amendments of 1981 shall prescribe such requirements and issue such permits as he may deem necessary for the transportation of wild animals and birds under humane and healthful conditions, and it shall be unlawful for any person, including any importer, knowingly to cause or permit any wild animal or bird to be transported to the United States, or any Territory or district thereof, under inhumane or unhealthful conditions or in violation of such requirements. In any criminal prosecution for violation of this subsection and in any administrative proceeding for the suspension of the issuance of further permits—

(1) the condition of any vessel or conveyance, or the enclosures in which wild animals or birds are confined therein, upon its arrival in the United States, or any Territory or district thereof, shall constitute relevant evidence in determining whether the provisions of this subsection have been violated; and

(2) the presence in such vessel or conveyance at such time of a substantial ratio of dead, crippled, diseased, or starving wild animals or birds shall be deemed prima facie evidence of the violation of the provisions of this subsection.

§ 43. Animal enterprise terrorism

(a) Offense.— Whoever—

(1) travels in interstate or foreign commerce, or uses or causes to be used the mail or any facility in interstate or foreign commerce for the purpose of causing physical disruption to the functioning of an animal enterprise; and

(2) intentionally damages or causes the loss of any property (including animals or records) used by the animal enterprise, or conspires to do so,

shall be punished as provided for in subsection (b).

(b) Penalties.—

(1) Economic damage.— Any person who, in the course of a violation of subsection (a), causes economic damage not exceeding \$10,000 to an animal enterprise shall be fined under this title or imprisoned not more than 6 months, or both.

(2) Major economic damage.— Any person who, in the course of a violation of subsection (a), causes economic damage exceeding \$10,000 to an animal enterprise shall be fined under this title or imprisoned not more than 3 years, or both.

(3) Serious bodily injury.— Any person who, in the course of a violation of subsection (a), causes serious bodily injury to another individual shall be fined under this title or imprisoned not more than 20 years, or

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both.

(4) Death.— Any person who, in the course of a violation of subsection (a), causes the death of an individual shall be fined under this title and imprisoned for life or for any term of years.

(c) Restitution.— An order of restitution under section 3663 or 3663A of this title with respect to a violation of this section may also include restitution—

(1) for the reasonable cost of repeating any experimentation that was interrupted or invalidated as a result of the offense;

(2) the loss of food production or farm income reasonably attributable to the offense; and

(3) for any other economic damage resulting from the offense.

(d) Definitions.— As used in this section—

(1) the term “animal enterprise” means—

(A) a commercial or academic enterprise that uses animals for food or fiber production, agriculture, research, or testing;

(B) a zoo, aquarium, circus, rodeo, or lawful competitive animal event; or

(C) any fair or similar event intended to advance agricultural arts and sciences;

(2) the term “physical disruption” does not include any lawful disruption that results from lawful public, governmental, or animal enterprise employee reaction to the disclosure of information about an animal enterprise;

(3) the term “economic damage” means the replacement costs of lost or damaged property or records, the costs of repeating an interrupted or invalidated experiment, or the loss of profits; and

(4) the term “serious bodily injury” has the meaning given that term in section 1365 of this title.

(e) Non-Preemption.— Nothing in this section preempts any State law.

§ 3371. Definitions

For the purposes of this chapter:

(a) The term “fish or wildlife” means any wild animal, whether alive or dead, including without limitation any wild mammal, bird, reptile, amphibian, fish, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, whether or not bred, hatched, or born in captivity, and includes any part, product, egg, or offspring thereof.

(b) The term “import” means to land on, bring into, or introduce into, any place subject to the jurisdiction of the United States, whether or not such landing, bringing, or introduction constitutes an importation within the meaning of the customs laws of the United States.

(c) The term “Indian tribal law” means any regulation of, or other rule of conduct enforceable by, any Indian tribe, band, or group but only to the extent that the regulation or rule applies within Indian country as defined in section 1151 of title 18.

(d) The terms “law,” “treaty,” “regulation,” and “Indian tribal law” mean laws, treaties, regulations or Indian tribal laws which regulate the taking, possession, importation, exportation, transportation, or sale of fish or wildlife or plants.

(e) The term “person” includes any individual, partnership, association, corporation, trust, or any officer, employee, agent, department, or instrumentality of the Federal Government or of any State or political subdivision thereof, or any other entity subject to the jurisdiction of the United States.

(f) The terms “plant” and “plants” mean any wild member of the plant kingdom, including roots, seeds, and other parts thereof (but excluding common food crops and cultivars) which is indigenous to any State and which is either

(A) listed on an appendix to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, or

(B) listed pursuant to any State law that provides for the conservation of species threatened with extinction.

(g) The term “Secretary” means, except as otherwise provided in this chapter, the Secretary of the Interior or the Secretary of Commerce, as program responsibilities are vested pursuant to the provisions of

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Reorganization Plan Numbered 4 of 1970 (84 Stat. 2090); except that with respect to the provisions of this chapter which pertain to the importation or exportation of plants the term means the Secretary of Agriculture.

(h) The term "State" means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, Northern Mariana Islands, American Samoa, and any other territory, commonwealth, or possession of the United States.

(i) The term "taken" means captured, killed, or collected.

(j) The term "transport" means to move, convey, carry, or ship by any means, or to deliver or receive for the purpose of movement, conveyance, carriage, or shipment.

§ 3372. Prohibited acts

(a) Offenses other than marking offenses

It is unlawful for any person—

(1) to import, export, transport, sell, receive, acquire, or purchase any fish or wildlife or plant taken, possessed, transported, or sold in violation of any law, treaty, or regulation of the United States or in violation of any Indian tribal law;

(2) to import, export, transport, sell, receive, acquire, or purchase in interstate or foreign commerce—

(A) any fish or wildlife taken, possessed, transported, or sold in violation of any law or regulation of any State or in violation of any foreign law, or

(B) any plant taken, possessed, transported, or sold in violation of any law or regulation of any State;

(3) within the special maritime and territorial jurisdiction of the United States (as defined in section 7 of title 18)—

(A) to possess any fish or wildlife taken, possessed, transported, or sold in violation of any law or regulation of any State or in violation of any foreign law or Indian tribal law, or

(B) to possess any plant taken, possessed, transported, or sold in violation of any law or regulation of any State;

(4) to attempt to commit any act described in paragraphs (1) through (4).

(b) Marking offenses

It is unlawful for any person to import, export, or transport in interstate commerce any container or package containing any fish or wildlife unless the container or package has previously been plainly marked, labeled, or tagged in accordance with the regulations issued pursuant to paragraph (2) of section 3376 (a) of this title.

(c) Sale and purchase of guiding and outfitting services and invalid licenses and permits

(1) Sale

It is deemed to be a sale of fish or wildlife in violation of this chapter for a person for money or other consideration to offer or provide—

(A) guiding, outfitting, or other services; or

(B) a hunting or fishing license or permit;

for the illegal taking, acquiring, receiving, transporting, or possessing of fish or wildlife.

(2) Purchase

It is deemed to be a purchase of fish or wildlife in violation of this chapter for a person to obtain for money or other consideration—

(A) guiding, outfitting, or other services; or

(B) a hunting or fishing license or permit;

for the illegal taking, acquiring, receiving, transporting, or possessing of fish or wildlife.

(d) False labeling offenses

It is unlawful for any person to make or submit any false record, account, or label for, or any false identification of, any fish, wildlife, or plant which has been, or is intended to be—

(1) imported, exported, transported, sold, purchased, or received from any foreign country; or

(2) transported in interstate or foreign commerce.

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§ 3373. Penalties and sanctions

(a) Civil penalties

(1) Any person who engages in conduct prohibited by any provision of this chapter (other than subsections (b) and (d) of section 3372 of this title) and in the exercise of due care should know that the fish or wildlife or plants were taken, possessed, transported, or sold in violation of, or in a manner unlawful under, any underlying law, treaty, or regulation, and any person who knowingly violates section 3372 (d) of this title, may be assessed a civil penalty by the Secretary of not more than \$10,000 for each such violation: Provided, That when the violation involves fish or wildlife or plants with a market value of less than \$350, and involves only the transportation, acquisition, or receipt of fish or wildlife or plants taken or possessed in violation of any law, treaty, or regulation of the United States, any Indian tribal law, any foreign law, or any law or regulation of any State, the penalty assessed shall not exceed the maximum provided for violation of said law, treaty, or regulation, or \$10,000, whichever is less.

(2) Any person who violates section 3372 (b) of this title may be assessed a civil penalty by the Secretary of not more than \$250.

(3) For purposes of paragraphs (1) and (2), any reference to a provision of this chapter or to a section of this chapter shall be treated as including any regulation issued to carry out any such provision or section.

(4) No civil penalty may be assessed under this subsection unless the person accused of the violation is given notice and opportunity for a hearing with respect to the violation. Each violation shall be a separate offense and the offense shall be deemed to have been committed not only in the district where the violation first occurred, but also in any district in which a person may have taken or been in possession of the said fish or wildlife or plants.

(5) Any civil penalty assessed under this subsection may be remitted or mitigated by the Secretary.

(6) In determining the amount of any penalty assessed pursuant to paragraphs (1) and (2), the Secretary shall take into account the nature, circumstances, extent, and gravity of the prohibited act committed, and with respect to the violator, the degree of culpability, ability to pay, and such other matters as justice may require.

(b) Hearings

Hearings held during proceedings for the assessment of civil penalties shall be conducted in accordance with section 554 of title 5. The administrative law judge may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, or documents, and may administer oaths. Witnesses summoned shall be paid the same fees and mileage that are paid to witnesses in the courts of the United States. In case of contumacy or refusal to obey a subpoena issued pursuant to this paragraph and served upon any person, the district court of the United States for any district in which such person is found, resides, or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the administrative law judge or to appear and produce documents before the administrative law judge, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

(c) Review of civil penalty

Any person against whom a civil penalty is assessed under this section may obtain review thereof in the appropriate District Court of the United States by filing a complaint in such court within 30 days after the date of such order and by simultaneously serving a copy of the complaint by certified mail on the Secretary, the Attorney General, and the appropriate United States attorney. The Secretary shall promptly file in such court a certified copy of the record upon which such violation was found or such penalty imposed, as provided in section 2112 of title 28. If any person fails to pay an assessment of a civil penalty after it has become a final and unappealable order or after the appropriate court has entered final judgment in favor of the Secretary, the Secretary may request the Attorney General of the United States to institute a civil action in an appropriate district court of the United States to collect the penalty, and such court shall have jurisdiction to hear and decide any such action. In hearing such action, the court shall have authority to review the violation and the assessment of the civil penalty de novo.

(d) Criminal penalties

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(1) Any person who—

(A) knowingly imports or exports any fish or wildlife or plants in violation of any provision of this chapter (other than subsections (b) and (d) of section 3372 of this title), or

(B) violates any provision of this chapter (other than subsections (b) and (d) of section 3372 of this title) by knowingly engaging in conduct that involves the sale or purchase of, the offer of sale or purchase of, or the intent to sell or purchase, fish or wildlife or plants with a market value in excess of \$350,

knowing that the fish or wildlife or plants were taken, possessed, transported, or sold in violation of, or in a manner unlawful under, any underlying law, treaty or regulation, shall be fined not more than \$20,000, or imprisoned for not more than five years, or both. Each violation shall be a separate offense and the offense shall be deemed to have been committed not only in the district where the violation first occurred, but also in any district in which the defendant may have taken or been in possession of the said fish or wildlife or plants.

(2) Any person who knowingly engages in conduct prohibited by any provision of this chapter (other than subsections (b) and (d) of section 3372 of this title) and in the exercise of due care should know that the fish or wildlife or plants were taken, possessed, transported, or sold in violation of, or in a manner unlawful under, any underlying law, treaty or regulation shall be fined not more than \$10,000, or imprisoned for not more than one year, or both. Each violation shall be a separate offense and the offense shall be deemed to have been committed not only in the district where the violation first occurred, but also in any district in which the defendant may have taken or been in possession of the said fish or wildlife or plants.

(3) Any person who knowingly violates section 3372 (d) of this title—

(A) shall be fined under title 18 or imprisoned for not more than 5 years, or both, if the offense involves—

(i) the importation or exportation of fish or wildlife or plants; or

(ii) the sale or purchase, offer of sale or purchase, or commission of an act with intent to sell or purchase fish or wildlife or plants with a market value greater than \$350; and

(B) shall be fined under title 18 or imprisoned for not more than 1 year, or both, if the offense does not involve conduct described in subparagraph (A).

(e) Permit sanctions

The Secretary may also suspend, modify, or cancel any Federal hunting or fishing license, permit, or stamp, or any license or permit authorizing a person to import or export fish or wildlife or plants (other than a permit or license issued pursuant to the Magnuson-Stevens Fishery Conservation and Management Act [16 U.S.C. 1801 et seq.]), or to operate a quarantine station or rescue center for imported wildlife or plants, issued to any person who is convicted of a criminal violation of any provision of this chapter or any regulation issued hereunder. The Secretary shall not be liable for the payments of any compensation, reimbursement, or damages in connection with the modification, suspension, or revocation of any licenses, permits, stamps, or other agreements pursuant to this section.

§ 3374. Forfeiture

(a) In general

(1) All fish or wildlife or plants imported, exported, transported, sold, received, acquired, or purchased contrary to the provisions of section 3372 of this title (other than section 3372 (b) of this title), or any regulation issued pursuant thereto, shall be subject to forfeiture to the United States notwithstanding any culpability requirements for civil penalty assessment or criminal prosecution included in section 3373 of this title.

(2) All vessels, vehicles, aircraft, and other equipment used to aid in the importing, exporting, transporting, selling, receiving, acquiring, or purchasing of fish or wildlife or plants in a criminal violation of this chapter for which a felony conviction is obtained shall be subject to forfeiture to the United States if

(A) the owner of such vessel, vehicle, aircraft, or equipment was at the time of the alleged illegal act

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Lacey Act

a consenting party or privy thereto or in the exercise of due care should have known that such vessel, vehicle, aircraft, or equipment would be used in a criminal violation of this chapter, and

(B) the violation involved the sale or purchase of, the offer of sale or purchase of, or the intent to sell or purchase, fish or wildlife or plants.

(b) Application of customs laws

All provisions of law relating to the seizure, forfeiture, and condemnation of property for violation of the customs laws, the disposition of such property or the proceeds from the sale thereof, and the remission or mitigation of such forfeiture, shall apply to the seizures and forfeitures incurred, or alleged to have been incurred, under the provisions of this chapter, insofar as such provisions of law are applicable and not inconsistent with the provisions of this chapter, except that all powers, rights, and duties conferred or imposed by the customs laws upon any officer or employee of the Treasury Department may, for the purposes of this chapter, also be exercised or performed by the Secretary or by such persons as he may designate: Provided, That any warrant for search or seizure shall be issued in accordance with rule 41 of the Federal Rules of Criminal Procedure.

(c) Storage cost

Any person convicted of an offense, or assessed a civil penalty, under section 3373 of this title shall be liable for the costs incurred in the storage, care, and maintenance of any fish or wildlife or plant seized in connection with the violation concerned.

§ 3375. Enforcement

(a) In general

The provisions of this chapter and any regulations issued pursuant thereto shall be enforced by the Secretary, the Secretary of Transportation, or the Secretary of the Treasury. Such Secretary may utilize by agreement, with or without reimbursement, the personnel, services, and facilities of any other Federal agency or any State agency or Indian tribe for purposes of enforcing this chapter.

(b) Powers

Any person authorized under subsection (a) of this section to enforce this chapter may carry firearms; may, when enforcing this chapter, make an arrest without a warrant, in accordance with any guidelines which may be issued by the Attorney General, for any offense under the laws of the United States committed in the person's presence, or for the commission of any felony under the laws of the United States, if the person has reasonable grounds to believe that the person to be arrested has committed or is committing a felony; may search and seize, with or without a warrant, in accordance with any guidelines which may be issued by the Attorney General; [1] Provided, That an arrest for a felony violation of this chapter that is not committed in the presence or view of any such person and that involves only the transportation, acquisition, receipt, purchase, or sale of fish or wildlife or plants taken or possessed in violation of any law or regulation of any State shall require a warrant; may make an arrest without a warrant for a misdemeanor violation of this chapter if he has reasonable grounds to believe that the person to be arrested is committing a violation in his presence or view; and may execute and serve any subpoena, arrest warrant, search warrant issued in accordance with rule 41 of the Federal Rules of Criminal Procedure, or other warrant of civil or criminal process issued by any officer or court of competent jurisdiction for enforcement of this chapter. Any person so authorized, in coordination with the Secretary of the Treasury, may detain for inspection and inspect any vessel, vehicle, aircraft, or other conveyance or any package, crate, or other container, including its contents, upon the arrival of such conveyance or container in the United States or the customs waters of the United States from any point outside the United States or such customs waters, or, if such conveyance or container is being used for exportation purposes, prior to departure from the United States or the customs waters of the United States. Such person may also inspect and demand the production of any documents and permits required by the country of natal origin, birth, or reexport of the fish or wildlife. Any fish, wildlife, plant, property, or item seized shall be held by any person authorized by the Secretary pending disposition of civil or criminal proceedings, or the institution of an action in rem for forfeiture of such fish, wildlife, plants, property, or item pursuant to section 3374 of this title; except that the Secretary may, in lieu of holding such fish,

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wildlife, plant, property, or item, permit the owner or consignee to post a bond or other surety satisfactory to the Secretary.

(c) Jurisdiction of district courts

The several district courts of the United States, including the courts enumerated in section 460 of title 28, shall have jurisdiction over any actions arising under this chapter. The venue provisions of title 18 and title 28 shall apply to any actions arising under this chapter. The judges of the district courts of the United States and the United States magistrate judges may, within their respective jurisdictions, upon proper oath or affirmation showing probable cause, issue such warrants or other process as may be required for enforcement of this chapter and any regulations issued thereunder.

(d) Rewards and incidental expenses

Beginning in fiscal year 1983, the Secretary or the Secretary of the Treasury shall pay, from sums received as penalties, fines, or forfeitures of property for any violation of this chapter or any regulation issued hereunder

(1) a reward to any person who furnishes information which leads to an arrest, a criminal conviction, civil penalty assessment, or forfeiture of property for any violation of this chapter or any regulation issued hereunder. The amount of the reward, if any, is to be designated by the Secretary or the Secretary of the Treasury, as appropriate. Any officer or employee of the United States or any State or local government who furnishes information or renders service in the performance of his official duties is ineligible for payment under this subsection, and

(2) the reasonable and necessary costs incurred by any person in providing temporary care for any fish, wildlife, or plant pending the disposition of any civil or criminal proceeding alleging a violation of this chapter with respect to that fish, wildlife, or plant.

§ 3376. Administration

(a) Regulations

(1) The Secretary, after consultation with the Secretary of the Treasury, is authorized to issue such regulations, except as provided in paragraph (2), as may be necessary to carry out the provisions of section 3373 and section 3374 of this title.

(2) The Secretaries of the Interior and Commerce shall jointly promulgate specific regulations to implement the provisions of section 3372 (b) of this title for the marking and labeling of containers or packages containing fish or wildlife. These regulations shall be in accordance with existing commercial practices.

(b) Contract authority

Beginning in fiscal year 1983, to the extent and in the amounts provided in advance in appropriations Act, the Secretary may enter into such contracts, leases, cooperative agreements, or other transactions with any Federal or State agency, Indian tribe, public or private institution, or other person, as may be necessary to carry out the purposes of this chapter.

§ 3377. Exceptions

(a) Activities regulated by plan under Magnuson-Stevens Fishery Conservation and Management Act

The provisions of paragraph (1) of section 3372 (a) of this title shall not apply to any activity regulated by a fishery management plan in effect under the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.).

(b) Activities regulated by Tuna Convention Acts; harvesting of highly migratory species taken on high seas
The provisions of paragraphs (1), (2)(A), and (3)(A) of section 3372 (a) of this title shall not apply to—

(1) any activity regulated by the Tuna Conventions Act of 1950 (16 U.S.C. 951–961) or the Atlantic Tunas Convention Act of 1975 (16 U.S.C. 971–971 (h)); or

(2) any activity involving the harvesting of highly migratory species (as defined in paragraph (14) of

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16 USC 3371-3378
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section 3 of the Magnuson-Stevens Fishery Conservation and Management Act [16 U.S.C. 1802 (14)]) taken on the high seas (as defined in paragraph (13) of such section 3) if such species are taken in violation of the laws of a foreign nation and the United States does not recognize the jurisdiction of the foreign nation over such species.

(c) Interstate shipment or transshipment through Indian country of fish, wildlife, or plants for legal purposes. The provisions of paragraph (2) of section 3372 (a) of this title shall not apply to the interstate shipment or transshipment through Indian country as defined in section 1151 of title 18 or a State of any fish or wildlife or plant legally taken if the shipment is en route to a State in which the fish or wildlife or plant may be legally possessed.

§ 3378. Miscellaneous provisions

(a) Effect on powers of States

Nothing in this chapter shall be construed to prevent the several States or Indian tribes from making or enforcing laws or regulations not inconsistent with the provisions of this chapter.

(b) Repeals

The following provisions of law are repealed:

- (1) The Act of May 20, 1926 (commonly known as the Black Bass Act; 16 U.S.C. 851–856).
- (2) Section 667e of this title and sections 43 and 44 of title 18 (commonly known as provisions of the Lacey Act).
- (3) Sections 3054 and 3112 of title 18.

(c) Disclaimers

Nothing in this chapter shall be construed as—

- (1) repealing, superseding, or modifying any provision of Federal law other than those specified in subsection (b) of this section;
- (2) repealing, superseding, or modifying any right, privilege, or immunity granted, reserved, or established pursuant to treaty, statute, or executive order pertaining to any Indian tribe, band, or community; or
- (3) enlarging or diminishing the authority of any State or Indian tribe to regulate the activities of persons within Indian reservations.

(d) Travel and transportation expenses

The Secretary of the Interior is authorized to pay from agency appropriations the travel expense of newly appointed special agents of the United States Fish and Wildlife Service and the transportation expense of household goods and personal effects from place of residence at time of selection to first duty station to the extent authorized by section 5724 of title 5 for all such special agents appointed after January 1, 1977.

(e) Interior appropriations budget proposal

The Secretary shall identify the funds utilized to enforce this chapter and any regulations thereto as a specific appropriations item in the Department of the Interior appropriations budget proposal to the Congress.

MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

Public Law 94-265

As amended through October 11, 1996

AN ACT

**To provide for the conservation and management of the fisheries,
and for other purposes.**

J.Feder version (12/19/96)

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Numbers in boldface indicate the number of the Public Law that amended the following provision. Boldface comments marked with asterisks were inserted by the editors.

*Bracketed material with an asterisk is text that is added, or replaces underlined language, and will be effective on the date the Agreement between the United States and the Union of Soviet Socialist Republics on the Maritime Boundary enters into force for the United States. See P.L. 102-251

SEC. 2. FINDINGS, PURPOSES, AND POLICY

16 U.S.C. 1801

(a) **FINDINGS.**--The Congress finds and declares the following:

(1) The fish off the coasts of the United States, the highly migratory species of the high seas, the species which dwell on or in the Continental Shelf appertaining to the United States, and the anadromous species which spawn in United States rivers or estuaries, constitute valuable and renewable natural resources. These fishery resources contribute to the food supply, economy, and health of the Nation and provide recreational opportunities.

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(2) Certain stocks of fish have declined to the point where their survival is threatened, and other stocks of fish have been so substantially reduced in number that they could become similarly threatened as a consequence of (A) increased fishing pressure, (B) the inadequacy of fishery resource conservation and management practices and controls, or (C) direct and indirect habitat losses which have resulted in a diminished capacity to support existing fishing levels.

(3) Commercial and recreational fishing constitutes a major source of employment and contributes significantly to the economy of the Nation. Many coastal areas are dependent upon fishing and related activities, and their economies have been badly damaged by the overfishing of fishery resources at an ever-increasing rate over the past decade. The activities of massive foreign fishing fleets in waters adjacent to such coastal areas have contributed to such damage, interfered with domestic fishing efforts, and caused destruction of the fishing gear of United States fishermen.

(4) International fishery agreements have not been effective in preventing or terminating the overfishing of these valuable fishery resources. There is danger that irreversible effects from overfishing will take place before an effective international agreement on fishery management jurisdiction can be negotiated, signed, ratified, and implemented.

(5) Fishery resources are finite but renewable. If placed under sound management before overfishing has caused irreversible effects, the fisheries can be conserved and maintained so as to provide optimum yields on a continuing basis.

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(6) A national program for the conservation and management of the fishery resources of the United States is necessary to prevent overfishing, to rebuild overfished stocks, to insure conservation, to facilitate long-term protection of essential fish habitats, and to realize the full potential of the Nation's fishery resources.

95-354

(7) A national program for the development of fisheries which are underutilized or not utilized by the United States fishing industry, including bottom fish off Alaska, is necessary to assure that our citizens benefit from the employment, food supply, and revenue which could be generated thereby.

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(8) The collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States.

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(9) One of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats. Habitat considerations should receive increased attention for the conservation and management of fishery resources of the United States.

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(10) Pacific Insular Areas contain unique historical, cultural, legal, political, and geographical circumstances which make fisheries resources important in sustaining their economic growth.

(b) PURPOSES.--It is therefore declared to be the purposes of the Congress in this Act--

99-659, 101-627, 102-251

(1) to take immediate action to conserve and manage the fishery resources found off the coasts of the United States, and the anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species and Continental Shelf fishery resources[, and fishery resources in the special areas]*;

(2) to support and encourage the implementation and enforcement of international fishery agreements for the conservation and management of highly migratory species, and to encourage the negotiation and implementation of additional such agreements as necessary;

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(3) to promote domestic commercial and recreational fishing under sound conservation and management principles, including the promotion of catch and release programs in recreational fishing;

(4) to provide for the preparation and implementation, in accordance with national standards, of fishery management plans which will achieve and maintain, on a continuing basis, the optimum yield from each fishery;

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(5) to establish Regional Fishery Management Councils to exercise sound judgment in the stewardship of fishery resources through the preparation, monitoring, and revision of such plans under circumstances (A) which will enable the States, the fishing industry, consumer and environmental organizations, and other interested persons to participate in, and advise on, the establishment and administration of such plans, and (B) which take into account the social and economic needs of the States;

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(6) to encourage the development by the United States fishing industry of fisheries which are currently underutilized or not utilized by United States fishermen, including bottom fish off Alaska, and to that end, to ensure that optimum yield determinations promote such development in a non-wasteful manner; and

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(7) to promote the protection of essential fish habitat in the review of projects conducted under Federal permits, licenses, or other authorities that affect or have the potential to affect such habitat.

(c) **POLICY.**--It is further declared to be the policy of the Congress in this Act--

(1) to maintain without change the existing territorial or other ocean jurisdiction of the United States for all purposes other than the conservation and management of fishery resources, as provided for in this Act;

(2) to authorize no impediment to, or interference with, recognized legitimate uses of the high seas, except as necessary for the conservation and management of fishery resources, as provided for in this Act;

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(3) to assure that the national fishery conservation and management program utilizes, and is based upon, the best scientific information available; involves, and is responsive to the needs of, interested and affected States and citizens; considers efficiency; draws upon Federal, State, and academic capabilities in carrying out research, administration, management, and enforcement; considers the effects of fishing on immature fish and encourages development of practical measures that minimize bycatch and avoid unnecessary waste of fish; and is workable and effective;

(4) to permit foreign fishing consistent with the provisions of this Act;

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(5) to support and encourage active United States efforts to obtain internationally acceptable agreements which provide for effective conservation and management of fishery resources, and to secure agreements to regulate fishing by vessels or persons beyond the exclusive economic zones of any nation;

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(6) to foster and maintain the diversity of fisheries in the United States; and

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(7) to ensure that the fishery resources adjacent to a Pacific Insular Area, including resident or migratory stocks within the exclusive economic zone adjacent to such areas, be explored, developed, conserved, and managed for the benefit of the people of such area and of the United States.

As used in this Act, unless the context otherwise requires--

(1) The term "anadromous species" means species of fish which spawn in fresh or estuarine waters of the United States and which migrate to ocean waters.

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(2) The term "bycatch" means fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch and release fishery management program.

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(3) The term "charter fishing" means fishing from a vessel carrying a passenger for hire (as defined in section 2101(21a) of title 46, United States Code) who is engaged in recreational fishing.

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(4) The term "commercial fishing" means fishing in which the fish harvested, either in whole or in part, are intended to enter commerce or enter commerce through sale, barter or trade.

(5) The term "conservation and management" refers to all of the rules, regulations, conditions, methods, and other measures (A) which are required to rebuild, restore, or maintain, and which are useful in rebuilding, restoring, or maintaining, any fishery resource and the marine environment; and (B) which are designed to assure that--

- (i) a supply of food and other products may be taken, and that recreational benefits may be obtained, on a continuing basis;
- (ii) irreversible or long-term adverse effects on fishery resources and the marine environment are avoided; and
- (iii) there will be a multiplicity of options available with respect to future uses of these resources.

(6) The term "Continental Shelf" means the seabed and subsoil of the submarine areas adjacent to the coast, but outside the area of the territorial sea, of the United States, to a depth of 200 meters or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of such areas.

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(7) The term "Continental Shelf fishery resources" means the following:

CNIDARIA

- Bamboo Coral--*Acanella* spp.;
- Black Coral--*Antipathes* spp.;
- Gold Coral--*Callogorgia* spp.;

Precious Red Coral--*Corallium* spp.;
Bamboo Coral--*Keratoisis* spp.; and
Gold Coral--*Parazoanthus* spp.

CRUSTACEA

Tanner Crab--*Chionoecetes tanneri*;
Tanner Crab--*Chionoecetes opilio*;
Tanner Crab--*Chionoecetes angulatus*;
Tanner Crab--*Chionoecetes bairdi*;
King Crab--*Paralithodes camtschatica*;
King Crab--*Paralithodes platypus*;
King Crab--*Paralithodes brevipes*;
Lobster--*Homarus americanus*;
Dungeness Crab--*Cancer magister*;
California King Crab--*Paralithodes californiensis*;
California King Crab--*Paralithodes rathbuni*;
Golden King Crab--*Lithodes aequispinus*;
Northern Stone Crab--*Lithodes maja*;
Stone Crab--*Menippe mercenaria*; and
Deep-sea Red Crab--*Chaceon quinquedens*.

MOLLUSKS

Red Abalone--*Haliotis rufescens*;
Pink Abalone--*Haliotis corrugata*;
Japanese Abalone--*Haliotis kamtschatkana*;
Queen Conch--*Strombus gigas*;
Surf Clam--*Spisula solidissima*; and
Ocean Quahog--*Arctica islandica*.

SPONGES

Glove Sponge--*Spongia cheiris*;
Sheepswool Sponge--*Hippiospongia lachne*;
Grass Sponge--*Spongia graminea*; and
Yellow Sponge--*Spongia barbera*.

If the Secretary determines, after consultation with the Secretary of State, that living organisms of any other sedentary species are, at the harvestable stage, either--

(A) immobile on or under the seabed, or

(B) unable to move except in constant physical contact with the seabed or subsoil, of the Continental Shelf which appertains to the United States, and publishes notices of such determination in the Federal Register, such sedentary species shall be considered to be added to the foregoing list and included in such term for purposes of this Act.

(8) The term "Council" means any Regional Fishery Management Council established under section 302.

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(9) The term "economic discards" means fish which are the target of a fishery, but which are not retained because they are of an undesirable size, sex, or quality, or for other economic reasons.

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(10) The term "essential fish habitat" means those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.

99-659

(11) The term "exclusive economic zone" means the zone established by Proclamation Numbered 5030, dated March 10, 1983. For purposes of applying this Act, the inner boundary of that zone is a line coterminous with the seaward boundary of each of the coastal States.

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(12) The term "fish" means finfish, mollusks, crustaceans, and all other forms of marine animal and plant life other than marine mammals and birds.

(13) The term "fishery" means--

(A) one or more stocks of fish which can be treated as a unit for purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational, and economic characteristics; and

(B) any fishing for such stocks.

(14) The term "fishery resource" means any fishery, any stock of fish, any species of fish, and any habitat of fish.

(15) The term "fishing" means--

(A) the catching, taking, or harvesting of fish;

(B) the attempted catching, taking, or harvesting of fish; (C) any other activity which can reasonably be expected to result in the catching, taking, or harvesting of fish; or

(D) any operations at sea in support of, or in preparation for, any activity described in subparagraphs (A) through (C).

Such term does not include any scientific research activity which is conducted by a scientific research vessel.

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(16) The term "fishing community" means a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community.

16 U.S.C. 1802
M-S Act § 3

(17) The term "fishing vessel" means any vessel, boat, ship, or other craft which is used for, equipped to be used for, or of a type which is normally used for--

(A) fishing; or

(B) aiding or assisting one or more vessels at sea in the performance of any activity relating to fishing, including, but not limited to, preparation, supply, storage, refrigeration, transportation, or processing.

(18) The term "foreign fishing" means fishing by a vessel other than a vessel of the United States.

(19) The term "high seas" means all waters beyond the territorial sea of the United States and beyond any foreign nation's territorial sea, to the extent that such sea is recognized by the United States.

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(20) The term "highly migratory species" means tuna species, marlin (*Tetrapturus* spp. and *Makaira* spp.), oceanic sharks, sailfishes (*Istiophorus* spp.), and swordfish (*Xiphias gladius*).

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(21) The term "individual fishing quota" means a Federal permit under a limited access system to harvest a quantity of fish, expressed by a unit or units representing a percentage of the total allowable catch of a fishery that may be received or held for exclusive use by a person. Such term does not include community development quotas as described in section 305(i).

(22) The term "international fishery agreement" means any bilateral or multilateral treaty, convention, or agreement which relates to fishing and to which the United States is a party.

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(23) The term "large-scale driftnet fishing" means a method of fishing in which a gillnet composed of a panel or panels of webbing, or a series of such gillnets, with a total length of two and one-half kilometers or more is placed in the water and allowed to drift with the currents and winds for the purpose of entangling fish in the webbing.

(24) The term "Marine Fisheries Commission" means the Atlantic States Marine Fisheries Commission, the Gulf States Marine Fisheries Commission, or the Pacific Marine Fisheries Commission.

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(25) The term "migratory range" means the maximum area at a given time of the year within which fish of an anadromous species or stock thereof can be expected to be found, as determined on the basis of scale pattern analysis, tagging studies, or other reliable scientific information, except that the term does not include any part of such area which is in the waters of a foreign nation.

(26) The term "national standards" means the national standards for fishery conservation and

management set forth in section 301.

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(27) The term "observer" means any person required or authorized to be carried on a vessel for conservation and management purposes by regulations or permits under this Act.

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(28) The term "optimum", with respect to the yield from a fishery, means the amount of fish which--

(A) will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems;

(B) is prescribed as such on the basis of the maximum sustainable yield from the fishery, as reduced by any relevant economic, social, or ecological factor; and

(C) in the case of an overfished fishery, provides for rebuilding to a level consistent with producing the maximum sustainable yield in such fishery.

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(29) The terms "overfishing" and "overfished" mean a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis.

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(30) The term "Pacific Insular Area" means American Samoa, Guam, the Northern Mariana Islands, Baker Island, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Island, Wake Island, or Palmyra Atoll, as applicable, and includes all islands and reefs appurtenant to such island, reef, or atoll.

(31) The term "person" means any individual (whether or not a citizen or national of the United States), any corporation, partnership, association, or other entity (whether or not organized or existing under the laws of any State), and any Federal, State, local, or foreign government or any entity of any such government.

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(32) The term "recreational fishing" means fishing for sport or pleasure.

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(33) The term "regulatory discards" means fish harvested in a fishery which fishermen are required by regulation to discard whenever caught, or are required by regulation to retain but not sell.

(34) The term "Secretary" means the Secretary of Commerce or his designee.

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(35) The term "special areas" means the areas referred to as eastern special areas in Article

3(1) of the Agreement between the United States of America and the Union of Soviet Socialist Republics on the Maritime Boundary, signed June 1, 1990. In particular, the term refers to those areas east of the maritime boundary, as defined in that Agreement, that lie within 200 nautical miles of the baselines from which the breadth of the territorial sea of Russia is measured but beyond 200 nautical miles of the baselines from which the breadth of the territorial sea of the United States is measured.¹

(36) The term "State" means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, American Samoa, the Virgin Islands, Guam, and any other Commonwealth, territory, or possession of the United States.

(37) The term "stock of fish" means a species, subspecies, geographical grouping, or other category of fish capable of management as a unit.

(38) The term "treaty" means any international fishery agreement which is a treaty within the meaning of section 2 of article II of the Constitution.

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(39) The term "tuna species" means the following:

- Albacore Tuna--*Thunnus alalunga*;
- Bigeye Tuna--*Thunnus obesus*;
- Bluefin Tuna--*Thunnus thynnus*;
- Skipjack Tuna--*Katsuwonus pelamis*; and
- Yellowfin Tuna--*Thunnus albacares*.

(40) The term "United States", when used in a geographical context, means all the States thereof.

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(41) The term "United States fish processors" means facilities located within the United States for, and vessels of the United States used or equipped for, the processing of fish for commercial use or consumption.

95-354, 104-297

(42) The term "United States harvested fish" means fish caught, taken, or harvested by vessels of the United States within any fishery regulated under this Act.

¹ Section 102(10) of Public Law 104-297 appears to codify the definition of "special areas" at paragraph 36 after the definition of "State." Section 405(a) of Public Law 104-297 appears to add a redundant definition of "special areas" and create numerous numbering conflicts in the definitions. The editors assume Congress intends to add one definition of "special areas" in alphabetical order.

97-453, 100-239

(43) The term "vessel of the United States" means--

(A) any vessel documented under chapter 121 of title 46, United States Code;

(B) any vessel numbered in accordance with chapter 123 of title 46, United States Code, and measuring less than 5 net tons;

(C) any vessel numbered in accordance with chapter 123 of title 46, United States Code, and used exclusively for pleasure; or

(D) any vessel not equipped with propulsion machinery of any kind and used exclusively for pleasure.

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(44) The term "vessel subject to the jurisdiction of the United States" has the same meaning such term has in section 3(c) of the Maritime Drug Law Enforcement Act (46 U.S.C. App. 1903(c)).

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(45) The term "waters of a foreign nation" means any part of the territorial sea or exclusive economic zone (or the equivalent) of a foreign nation, to the extent such territorial sea or exclusive economic zone is recognized by the United States.

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SEC. 4. AUTHORIZATION OF APPROPRIATIONS

16 U.S.C. 1803

There are authorized to be appropriated to the Secretary for the purposes of carrying out the provisions of this Act, not to exceed the following sums:

- (1) \$147,000,000 for fiscal year 1996;
- (2) \$151,000,000 for fiscal year 1997;
- (3) \$155,000,000 for fiscal year 1998; and
- (4) \$159,000,000 for fiscal year 1999.

**TITLE I -- UNITED STATES RIGHTS AND AUTHORITY REGARDING
FISH AND FISHERY RESOURCES**

**SEC. 101. UNITED STATES SOVEREIGN RIGHTS TO
FISH AND FISHERY MANAGEMENT AUTHORITY**

16 U.S.C. 1811

99-659, 102-251

(a) **IN THE EXCLUSIVE ECONOMIC ZONE.**--Except as provided in section 102, the United States claims, and will exercise in the manner provided for in this Act, sovereign rights and exclusive fishery management authority over all fish, and all Continental Shelf

fishery resources, within the exclusive economic zone [and special areas]*.

99-659, 101-627, 102-251

(b) BEYOND THE EXCLUSIVE ECONOMIC ZONE.--The United States claims, and will exercise in the manner provided for in this Act, exclusive fishery management authority over the following:

- (1) All anadromous species throughout the migratory range of each such species beyond the exclusive economic zone; except that that management authority does not extend to any such species during the time they are found within any waters of a foreign nation.
- (2) All Continental Shelf fishery resources beyond the exclusive economic zone.
- [(3) All fishery resources in the special areas.]*

SEC. 102. HIGHLY MIGRATORY SPECIES

16 U.S.C. 1812

99-659, 101-627, 104-297

The United States shall cooperate directly or through appropriate international organizations with those nations involved in fisheries for highly migratory species with a view to ensuring conservation and shall promote the achievement of optimum yield of such species throughout their range, both within and beyond the exclusive economic zone.

TITLE II -- FOREIGN FISHING AND INTERNATIONAL FISHERY AGREEMENTS

SEC. 201. FOREIGN FISHING

16 U.S.C. 1821

95-354, 99-659, 102-251, 104-297

(a) IN GENERAL.--After February 28, 1977, no foreign fishing is authorized within the exclusive economic zone, [within the special areas,]* or for anadromous species or Continental Shelf fishery resources beyond the exclusive economic zone [such zone or areas]*, unless such foreign fishing--

- (1) is authorized under subsections (b) or (c) or section 204(e), or under a permit issued under section 204(d);
- (2) is not prohibited by subsection (f); and
- (3) is conducted under, and in accordance with, a valid and applicable permit issued pursuant to section 204.

(b) EXISTING INTERNATIONAL FISHERY AGREEMENTS.--Foreign fishing described in subsection (a) may be conducted pursuant to an international fishery agreement (subject to the provisions of section 202(b) or (c)), if such agreement--

- (1) was in effect on the date of enactment of this Act; and
- (2) has not expired, been renegotiated, or otherwise ceased to be of force and effect with

respect to the United States.

(c) GOVERNING INTERNATIONAL FISHERY AGREEMENTS.--Foreign fishing described in subsection (a) may be conducted pursuant to an international fishery agreement (other than a treaty) which meets the requirements of this subsection if such agreement becomes effective after application of section 203. Any such international fishery agreement shall hereafter in this Act be referred to as a "governing international fishery agreement". Each governing international fishery agreement shall acknowledge the exclusive fishery management authority of the United States, as set forth in this Act. It is the sense of the Congress that each such agreement shall include a binding commitment, on the part of such foreign nation and its fishing vessels, to comply with the following terms and conditions:

(1) The foreign nation, and the owner or operator of any fishing vessel fishing pursuant to such agreement, will abide by all regulations promulgated by the Secretary pursuant to this Act, including any regulations promulgated to implement any applicable fishery management plan or any preliminary fishery management plan.

97-453, 104-297 (2) The foreign nation, and the owner or operator of any fishing vessel fishing pursuant to such agreement, will abide by the requirement that--

(A) any officer authorized to enforce the provisions of this Act (as provided for in section 311) be permitted--

(i) to board, and search or inspect, any such vessel at any time,

(ii) to make arrests and seizures provided for in section 311(b) whenever such officer has reasonable cause to believe, as a result of such a search or inspection, that any such vessel or any person has committed an act prohibited by section 307, and

(iii) to examine and make notations on the permit issued pursuant to section 204 for such vessel;

(B) the permit issued for any such vessel pursuant to section 204 be prominently displayed in the wheelhouse of such vessel;

(C) transponders, or such other appropriate position-fixing and identification equipment as the Secretary of the department in which the Coast Guard is operating determines to be appropriate, be installed and maintained in working order on each such vessel;

(D) United States observers required under subsection (h) be permitted to be stationed aboard any such vessel and that all of the costs incurred incident to such stationing, including the costs of data editing and entry and observer monitoring, be paid for, in accordance with such subsection, by the owner or operator of the vessel;

(E) any fees required under section 204(b)(10) be paid in advance;

(F) agents be appointed and maintained within the United States who are authorized to receive and respond to any legal process issued in the United States with respect to such owner or operator; and

(G) responsibility be assumed, in accordance with any requirements prescribed by the Secretary, for the reimbursement of United States citizens for any loss of, or damage to, their fishing vessels, fishing gear, or catch which is caused by any fishing vessel of that nation;

and will abide by any other monitoring, compliance, or enforcement requirement related to fishery conservation and management which is included in such agreement.

95-354

(3) The foreign nation and the owners or operators of all of the fishing vessels of such nation shall not, in any year, harvest an amount of fish which exceeds such nation's allocation of the total allowable level of foreign fishing, as determined under subsection (e).

97-453

(4) The foreign nation will-- (A) apply, pursuant to section 204, for any required permits;

(B) deliver promptly to the owner or operator of the appropriate fishing vessel any permit which is issued under that section for such vessel;

(C) abide by, and take appropriate steps under its own laws to assure that all such owners and operators comply with, section 204(a) and the applicable conditions and restrictions established under section 204(b)(7); and

(D) take, or refrain from taking, as appropriate, actions of the kind referred to in subsection (e)(1) in order to receive favorable allocations under such subsection.

96-561, 101-267

(d) TOTAL ALLOWABLE LEVEL OF FOREIGN FISHING.--The total allowable level of foreign fishing, if any, with respect to any fishery subject to the exclusive fishery management authority of the United States, shall be that portion of the optimum yield of such fishery which will not be harvested by vessels of the United States, as determined in accordance with this Act.

(e) ALLOCATION OF ALLOWABLE LEVEL.--

96-61, 96-561, 97-453, 97-623, 98-623, 99-659, 102-251 (1) (A) The Secretary of State, in cooperation with the Secretary, may make allocations to foreign nations from the total allowable level of foreign fishing which is permitted with respect to each fishery subject to the exclusive fishery management authority of the United States.

(B) From the determinations made under subparagraph (A), the Secretary of State shall compute the aggregate of all of the fishery allocations made to each foreign nation.

(C) The Secretary of State shall initially release to each foreign nation for harvesting up to 50 percent of the allocations aggregate computed for such nation under subparagraph (B), and such release of allocation shall be apportioned by the Secretary of State, in cooperation with the Secretary, among the individual fishery allocations determined for that nation under subparagraph (A). The basis on which each apportionment is made under this subparagraph shall be stated in writing by the Secretary of State.

(D) After the initial release of fishery allocations under subparagraph (C) to a foreign nation, any subsequent release of an allocation for any fishery to such nation shall only be made--

(i) after the lapse of such period of time as may be sufficient for purposes of making the determination required under clause (ii); and

(ii) if the Secretary of State and the Secretary, after taking into account the size of the allocation for such fishery and the length and timing of the fishing season, determine in writing that such nation is complying with the purposes and intent of this paragraph with respect to such fishery.

If the foreign nation is not determined under clause (ii) to be in such compliance, the Secretary of State shall reduce, in a manner and quantity he considers to be appropriate (I) the remainder of such allocation, or (II) if all of such allocation has been released, the next allocation of such fishery, if any, made to such nation.

(E) The determinations required to be made under subparagraphs (A) and (D)(ii), and the apportionments required to be made under subparagraph (C), with respect to a foreign nation shall be based on--

(i) whether, and to what extent, such nation imposes tariff barriers or nontariff barriers on the importation, or otherwise restricts the market access, of both United States fish and fishery products, particularly fish and fishery products for which the foreign nation has requested an allocation;

(ii) whether, and to what extent, such nation is cooperating with the United States in both the advancement of existing and new opportunities for fisheries exports from the United States through the purchase of fishery products from United States processors, and the advancement of fisheries trade through the purchase of fish and fishery products from United States fishermen, particularly fish and fishery products for which the foreign nation has requested an allocation;

(iii) whether, and to what extent, such nation and the fishing fleets of such nation have cooperated with the United States in the enforcement of United States fishing regulations;

(iv) whether, and to what extent, such nation requires the fish harvested from the exclusive economic zone [or special areas]* for its domestic consumption;

(v) whether, and to what extent, such nation otherwise contributes to, or fosters the growth of, a sound and economic United States fishing industry, including minimizing gear conflicts with fishing operations of United States fishermen, and transferring harvesting or processing technology which will benefit the United States fishing industry;

(vi) whether, and to what extent, the fishing vessels of such nation have traditionally engaged in fishing in such fishery;

(vii) whether, and to what extent, such nation is cooperating with the United States in, and making substantial contributions to, fishery research and the identification of fishery resources; and

(viii) such other matters as the Secretary of State, in cooperation with the Secretary, deems appropriate.

96-61, 96-118

(2) (A) For the purposes of this paragraph--

(i) The term "certification" means a certification made by the Secretary that nationals of a foreign country, directly or indirectly, are conducting fishing operations or engaging in trade or taking which diminishes the effectiveness of the International Convention for the Regulation of Whaling. A certification under this section shall

also be deemed a certification for the purposes of section 8(a) of the Fishermen's Protective Act of 1967 (22 U.S.C. 1978(a)).

(ii) The term "remedial period" means the 365-day period beginning on the date on which a certification is issued with respect to a foreign country.

(B) If the Secretary issues a certification with respect to any foreign country, then each allocation under paragraph (1) that--

(i) is in effect for that foreign country on the date of issuance; or

(ii) is not in effect on such date but would, without regard to this paragraph, be made to the foreign country within the remedial period;

shall be reduced by the Secretary of State, in consultation with the Secretary, by not less than 50 percent.

(C) The following apply for purposes of administering subparagraph (B) with respect to any foreign country:

(i) If on the date of certification, the foreign country has harvested a portion, but not all, of the quantity of fish specified under any allocation, the reduction under subparagraph (B) for that allocation shall be applied with respect to the quantity not harvested as of such date.

(ii) If the Secretary notified the Secretary of State that it is not likely that the certification of the foreign country will be terminated under section 8(d) of the Fishermen's Protective Act of 1967 before the close of the period for which an allocation is applicable or before the close of the remedial period (whichever close first occurs) the Secretary of State, in consultation with the Secretary, shall reallocate any portion of any reduction made under subparagraph (B) among one or more foreign countries for which no certification is in effect.

(iii) If the certification is terminated under such section 8(d) during the remedial period, the Secretary of State shall return to the foreign country that portion of any allocation reduced under subparagraph (B) that was not reallocated under clause (ii); unless the harvesting of the fish covered by the allocation is otherwise prohibited under this Act.

(iv) The Secretary may refund or credit, by reason of reduction of any allocation under this paragraph, any fee paid under section 204.

(D) If the certification of a foreign country is not terminated under section 8(d) of the Fishermen's Protective Act of 1967 before the close of the last day of the remedial period, the Secretary of State--

(i) with respect to any allocation made to that country and in effect (as reduced under subparagraph (B)) on such last day, shall rescind, effective on and after the day after such last day, any unharvested portion of such allocation; and

(ii) may not thereafter make any allocation to that country under paragraph (1) until the certification is terminated.

95-354

(f) **RECIPROCITY.**--Foreign fishing shall not be authorized for the fishing vessels of any foreign nation unless such nation satisfies the Secretary and the Secretary of State that such

nation extends substantially the same fishing privileges to fishing vessels of the United States, if any, as the United States extends to foreign fishing vessels.

95-354

(g) PRELIMINARY FISHERY MANAGEMENT PLANS.--The Secretary, when notified by the Secretary of State that any foreign nation has submitted an application under section 204(b), shall prepare a preliminary fishery management plan for any fishery covered by such application if the Secretary determines that no fishery management plan for that fishery will be prepared and implemented, pursuant to title III, before March 1, 1977. To the extent practicable, each such plan--

(1) shall contain a preliminary description of the fishery and a preliminary determination as to--

(A) the optimum yield from such fishery;

(B) when appropriate, the capacity and extent to which United States fish processors will process that portion of such optimum yield that will be harvested by vessels of the United States; and

(C) the total allowable level of foreign fishing with respect to such fishery;

(2) shall require each foreign fishing vessel engaged or wishing to engage in such fishery to obtain a permit from the Secretary;

(3) shall require the submission of pertinent data to the Secretary, with respect to such fishery, as described in section 303(a)(5); and

(4) may, to the extent necessary to prevent irreversible effects from overfishing, with respect to such fishery, contain conservation and management measures applicable to foreign fishing which--

(A) are determined to be necessary and appropriate for the conservation and management of such fishery,

(B) are consistent with the national standards, the other provisions of this Act, and other applicable law, and

(C) are described in section 303(b)(2), (3), (4), (5), and (7).

Each preliminary fishery management plan shall be in effect with respect to foreign fishing for which permits have been issued until a fishery management plan is prepared and implemented, pursuant to title III, with respect to such fishery. The Secretary may, in accordance with section 553 of title 5, United States Code, also prepare and promulgate interim regulations with respect to any such preliminary plan. Such regulations shall be in effect until regulations implementing the applicable fishery management plan are promulgated pursuant to section 305.

(h) FULL OBSERVER COVERAGE PROGRAM.--

96-561, 99-569, 102-251

(1) (A) Except as provided in paragraph (2), the Secretary shall establish a program under which a United States observer will be stationed aboard each foreign fishing vessel while that vessel is engaged in fishing within the exclusive economic zone [or special areas]*.

(B) The Secretary shall by regulation prescribe minimum health and safety standards that shall be maintained aboard each foreign fishing vessel with regard to the facilities provided for the quartering of, and the carrying out of observer functions by, United States observers.

99-659, 104-297

(2) The requirement in paragraph (1) that a United States observer be placed aboard each foreign fishing vessel may be waived by the Secretary if he finds that--

(A) in a situation where a fleet of harvesting vessels transfers its catch taken within the exclusive economic zone [or special areas]* to another vessel, aboard which is a United States observer, the stationing of United States observers on only a portion of the harvesting vessel fleet will provide a representative sampling of the by-catch of the fleet that is sufficient for purposes of determining whether the requirements of the applicable management plans for the by-catch species are being complied with;

(B) in a situation where the foreign fishing vessel is operating under a Pacific Insular Area fishing agreement, the Governor of the applicable Pacific Insular Area, in consultation with the Western Pacific Council, has established an observer coverage program that is at least equal in effectiveness to the program established by the Secretary;

(C) the time during which a foreign fishing vessel will engage in fishing within the exclusive economic zone [or special areas]* will be of such short duration that the placing of a United States observer aboard the vessel would be impractical; or

(D) for reasons beyond the control of the Secretary, an observer is not available.

97-453

(3) Observers, while stationed aboard foreign fishing vessels, shall carry out such scientific, compliance monitoring, and other functions as the Secretary deems necessary or appropriate to carry out the purposes of this Act; and shall cooperate in carrying out such other scientific programs relating to the conservation and management of living resources as the Secretary deems appropriate.

(4) In addition to any fee imposed under section 204(b)(10) of this Act and section 10(e) of the Fishermen's Protective Act of 1967 (22 U.S.C. 1980(e)) with respect to foreign fishing for any year after 1980, the Secretary shall impose, with respect to each foreign fishing vessel for which a permit is issued under such section 204, a surcharge in an amount sufficient to cover all the costs of providing a United States observer aboard that vessel. The failure to pay any surcharge imposed under this paragraph shall be treated by the Secretary as a failure to pay the permit fee for such vessel under section 204(b)(10). All surcharges collected by the Secretary under this paragraph shall be deposited in the Foreign Fishing Observer Fund established by paragraph (5).

(5) There is established in the Treasury of the United States the Foreign Fishing Observer Fund. The Fund shall be available to the Secretary as a revolving fund for the purpose of carrying out this subsection. The Fund shall consist of the surcharges deposited into it as required under paragraph (4). All payments made by the Secretary to carry out this subsection shall be paid from the Fund, only to the extent and in the amounts provided for in advance in appropriation Acts. Sums in the Fund which are not currently needed for the

purposes of this subsection shall be kept on deposit or invested in obligations of, or guaranteed by, the United States.

97-453

(6) If at any time the requirement set forth in paragraph (1) cannot be met because of insufficient appropriations, the Secretary shall, in implementing a supplementary observer program:

(A) certify as observers, for the purposes of this subsection, individuals who are citizens or nationals of the United States and who have the requisite education or experience to carry out the functions referred to in paragraph (3);

(B) establish standards of conduct for certified observers equivalent to those applicable to Federal personnel;

(C) establish a reasonable schedule of fees that certified observers or their agents shall be paid by the owners and operators of foreign fishing vessels for observer services; and

(D) monitor the performance of observers to ensure that it meets the purposes of this Act.

97-453, 99-659, 102-251, 104-297

(i) RECREATIONAL FISHING.--Notwithstanding any other provision of this title, foreign fishing vessels which are not operated for profit may engage in recreational fishing within the exclusive economic zone, [special areas,]* and the waters within the boundaries of a State subject to obtaining such permits, paying such reasonable fees, and complying with such conditions and restrictions as the Secretary and the Governor of the State (or his designee) shall impose as being necessary or appropriate to insure that the fishing activity of such foreign vessels within such zone, [areas,]* or waters, respectively, is consistent with all applicable Federal and State laws and any applicable fishery management plan implemented under section 304. The Secretary shall consult with the Secretary of State and the Secretary of the Department in which the Coast Guard is operating in formulating the conditions and restrictions to be applied by the Secretary under the authority of this subsection.

SEC. 202. INTERNATIONAL FISHERY AGREEMENTS

16 U.S.C. 1822

(a) NEGOTIATIONS.--The Secretary of State--

(1) shall renegotiate treaties as provided for in subsection (b);

(2) shall negotiate governing international fishery agreements described in section 201(c);

(3) may negotiate boundary agreements as provided for in subsection (d);

(4) shall, upon the request of and in cooperation with the Secretary, initiate and conduct negotiations for the purpose of entering into international fishery agreements--

(A) which allow fishing vessels of the United States equitable access to fish over which foreign nations assert exclusive fishery management authority, and

(B) which provide for the conservation and management of anadromous species and highly migratory species; and

(5) may enter into such other negotiations, not prohibited by subsection (c), as may be necessary and appropriate to further the purposes, policy, and provisions of this Act.

99-659, 102-251

(b) TREATY RENEGOTIATION.--The Secretary of State, in cooperation with the Secretary, shall initiate, promptly after the date of enactment of this Act, the renegotiation of any treaty which pertains to fishing within the exclusive economic zone (or within the area that will constitute such zone after February 28, 1977) [or special areas]*, or for anadromous species or Continental Shelf fishery resources beyond such zone or area[s]*, and which is in any manner inconsistent with the purposes, policy, or provisions of this Act, in order to conform such treaty to such purposes, policy, and provisions. It is the sense of Congress that the United States shall withdraw from any such treaty, in accordance with its provisions, if such treaty is not so renegotiated within a reasonable period of time after such date of enactment.

99-659, 102-251, 104-297

(c) INTERNATIONAL FISHERY AGREEMENTS.--No international fishery agreement (other than a treaty) which pertains to foreign fishing within the exclusive economic zone (or within the area that will constitute such zone after February 28, 1977) [or special areas,]* or for anadromous species or Continental Shelf fishery resources beyond such zone or area[s]*--

(1) which is in effect on June 1, 1976, may thereafter be renewed, extended, or amended;
or

(2) may be entered into after May 31, 1976;
by the United States unless it is in accordance with the provisions of section 201(c) or section 204(e).

99-659

(d) BOUNDARY NEGOTIATIONS.--The Secretary of State, in cooperation with the Secretary, may initiate and conduct negotiations with any adjacent or opposite foreign nation to establish the boundaries of the exclusive economic zone of the United States in relation to any such nation.

101-627

(e) HIGHLY MIGRATORY SPECIES AGREEMENTS.--

(1) EVALUATION.--The Secretary of State, in cooperation with the Secretary, shall evaluate the effectiveness of each existing international fishery agreement which pertains to fishing for highly migratory species. Such evaluation shall consider whether the agreement provides for--

(A) the collection and analysis of necessary information for effectively managing the fishery, including but not limited to information about the number of vessels involved, the type and quantity of fishing gear used, the species of fish involved and their location, the catch and bycatch levels in the fishery, and the present and probable future condition of any stock of fish involved;

(B) the establishment of measures applicable to the fishery which are necessary and appropriate for the conservation and management of the fishery resource involved;

(C) equitable arrangements which provide fishing vessels of the United States with (i) access to the highly migratory species that are the subject of the agreement and (ii) a

portion of the allowable catch that reflects the traditional participation by such vessels in the fishery;

(D) effective enforcement of conservation and management measures and access arrangements throughout the area of jurisdiction; and

(E) sufficient and dependable funding to implement the provisions of the agreement, based on reasonable assessments of the benefits derived by participating nations.

(2) ACCESS NEGOTIATIONS.--The Secretary of State, in cooperation with the Secretary, shall initiate negotiations with respect to obtaining access for vessels of the United States fishing for tuna species within the exclusive economic zones of other nations on reasonable terms and conditions.

(3) REPORTS.--The Secretary of State shall report to the Congress--

(A) within 12 months after the date of enactment of this subsection, on the results of the evaluation required under paragraph (1), together with recommendations for addressing any inadequacies identified; and

(B) within six months after such date of enactment, on the results of the access negotiations required under paragraph (2).

(4) NEGOTIATION.--The Secretary of State, in consultation with the Secretary, shall undertake such negotiations with respect to international fishery agreements on highly migratory species as are necessary to correct inadequacies identified as a result of the evaluation conducted under paragraph (1).

(5) SOUTH PACIFIC TUNA TREATY.--It is the sense of the Congress that the United States Government shall, at the earliest opportunity, begin negotiations for the purpose of extending the Treaty on Fisheries Between the Governments of Certain Pacific Island States and the Government of the United States of America, signed at Port Moresby, Papua New Guinea, April 2, 1987, and it[s] Annexes, Schedules, and implementing agreements for an additional term of 10 years on terms and conditions at least as favorable to vessels of the United States and the United States Government.

99-659

(f) NONRECOGNITION.--It is the sense of the Congress that the United States Government shall not recognize the claim of any foreign nation to an exclusive economic zone (or the equivalent) beyond such nation's territorial sea, to the extent that such sea is recognized by the United States, if such nation--

(1) fails to consider and take into account traditional fishing activity of fishing vessels of the United States;

(2) fails to recognize and accept that highly migratory species are to be managed by applicable international fishery agreements, whether or not such nation is a party to any such agreement; or

(3) imposes on fishing vessels of the United States any conditions or restrictions which are unrelated to fishery conservation and management.

102-251

(g) FISHERY AGREEMENT WITH UNION OF SOVIET SOCIALIST REPUBLICS.--

(1) The Secretary of State, in consultation with the Secretary, is authorized to negotiate and conclude a fishery agreement with Russia of a duration of no more than 3 years, pursuant to which--

(A) Russia will give United States fishing vessels the opportunity to conduct traditional fisheries within the waters claimed by the United States prior to the conclusion of the Agreement between the United States of America and the Union of Soviet Socialist Republics on the Maritime Boundary, signed June 1, 1990, west of the maritime boundary, including the western special area described in Article 3(2) of the Agreement;

(B) the United States will give fishing vessels of Russia the opportunity to conduct traditional fisheries within waters claimed by the Union of Soviet Socialist Republics prior to the conclusion of the Agreement referred to in subparagraph (A), east of the maritime boundary, including the eastern special areas described in Article 3(1) of the Agreement;

(C) catch data shall be made available to the government of the country exercising fisheries jurisdiction over the waters in which the catch occurred; and

(D) each country shall have the right to place observers on board vessels of the other country and to board and inspect such vessels.

(2) Vessels operating under a fishery agreement negotiated and concluded pursuant to paragraph (1) shall be subject to regulations and permit requirements of the country in whose waters the fisheries are conducted only to the extent such regulations and permit requirements are specified in that agreement.

(3) The Secretary of Commerce may promulgate such regulations, in accordance with section 553 of title 5, United States Code, as may be necessary to carry out the provisions of any fishery agreement negotiated and concluded pursuant to paragraph (1).

104-297

(h) BYCATCH REDUCTION AGREEMENTS.--

(1) The Secretary of State, in cooperation with the Secretary, shall seek to secure an international agreement to establish standards and measures for bycatch reduction that are comparable to the standards and measures applicable to United States fishermen for such purposes in any fishery regulated pursuant to this Act for which the Secretary, in consultation with the Secretary of State, determines that such an international agreement is necessary and appropriate.

(2) An international agreement negotiated under this subsection shall be--

(A) consistent with the policies and purposes of this Act; and

(B) subject to approval by Congress under section 203.

(3) Not later than January 1, 1997, and annually thereafter, the Secretary, in consultation with the Secretary of State, shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Resources of the House of Representatives a report describing actions taken under this subsection.

**SEC. 203. CONGRESSIONAL OVERSIGHT OF
INTERNATIONAL FISHERY AGREEMENTS**

16 U.S.C. 1823

104-297

(a) **IN GENERAL.**--No governing international fishery agreement, bycatch reduction agreement, or Pacific Insular Area fishery agreement shall become effective with respect to the United States before the close of the first 120 calendar days (excluding any days in a period for which the Congress is adjourned sine die) after the date on which the President transmits to the House of Representatives and to the Senate a document setting forth the text of such governing international fishery agreement, bycatch reduction agreement, or Pacific Insular Area fishery agreement. A copy of the document shall be delivered to each House of Congress on the same day and shall be delivered to the Clerk of the House of Representatives, if the House is not in session, and to the Secretary of the Senate, if the Senate is not in session.

(b) **REFERRAL TO COMMITTEES.**--Any document described in subsection (a) shall be immediately referred in the House of Representatives to the Committee on Merchant Marine and Fisheries, and in the Senate to the Committees on Commerce and Foreign Relations.

(c) **CONGRESSIONAL PROCEDURES.**--

(1) **RULES OF THE HOUSE OF REPRESENTATIVES AND SENATE.**-- The provisions of this section are enacted by the Congress--

(A) as an exercise of the rulemaking power of the House of Representatives and the Senate, respectively, and they are deemed a part of the rules of each House, respectively, but applicable only with respect to the procedure to be followed in that House in the case of fishery agreement resolutions described in paragraph (2), and they supersede other rules only to the extent that they are inconsistent therewith; and

(B) with full recognition of the constitutional right of either House to change the rules (so far as they relate to the procedure of that House) at any time, and in the same manner and to the same extent as in the case of any other rule of that House.

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(2) **DEFINITION.**--For purposes of this subsection, the term "fishery agreement resolution" refers to a joint resolution of either House of Congress--

(A) the effect of which is to prohibit the entering into force and effect of any governing international fishery agreement, bycatch reduction agreement, or Pacific Insular Area fishery agreement the text of which is transmitted to the Congress pursuant to subsection (a); and

(B) which is reported from the Committee on Merchant Marine and Fisheries of the House of Representatives or the Committee on Commerce or the Committee on Foreign Relations of the Senate, not later than 45 days after the date on which the document described in subsection (a) relating to that agreement is transmitted to the Congress.

(3) **PLACEMENT ON CALENDAR.**--Any fishery agreement resolution upon being reported shall immediately be placed on the appropriate calendar.

(4) FLOOR CONSIDERATION IN THE HOUSE.--

(A) A motion in the House of Representatives to proceed to the consideration of any fishery agreement resolution shall be highly privileged and not debatable. An amendment to the motion shall not be in order, nor shall it be in order to move to reconsider the vote by which the motion is agreed to or disagreed to.

(B) Debate in the House of Representatives on any fishery agreement resolution shall be limited to not more than 10 hours, which shall be divided equally between those favoring and those opposing the resolution. A motion further to limit debate shall not be debatable. It shall not be in order to move to recommit any fishery agreement resolution or to move to reconsider the vote by which any fishery agreement resolution is agreed to or disagreed to.

(C) Motions to postpone, made in the House of Representatives with respect to the consideration of any fishery agreement resolution, and motions to proceed to the consideration of other business, shall be decided without debate.

(D) All appeals from the decisions of the Chair relating to the application of the Rules of the House of Representatives to the procedure relating to any fishery agreement resolution shall be decided without debate.

(E) Except to the extent specifically provided in the preceding provisions of this subsection, consideration of any fishery agreement resolution shall be governed by the Rules of the House of Representatives applicable to other bills and resolutions in similar circumstances.

(5) FLOOR CONSIDERATION IN THE SENATE.--

(A) A motion in the Senate to proceed to the consideration of any fishery agreement resolution shall be privileged and not debatable. An amendment to the motion shall not be in order, nor shall it be in order to move to reconsider the vote by which the motion is agreed to or disagreed to.

(B) Debate in the Senate on any fishery agreement resolution and on all debatable motions and appeals in connection therewith shall be limited to not more than 10 hours. The time shall be equally divided between, and controlled by, the majority leader and the minority leader or their designees.

(C) Debate in the Senate on any debatable motion or appeal in connection with any fishery agreement resolution shall be limited to not more than 1 hour, to be equally divided between, and controlled by, the mover of the motion or appeal and the manager of the resolution, except that if the manager of the resolution is in favor of any such motion or appeal, the time in opposition thereto shall be controlled by the minority leader or his designee. The majority leader and the minority leader, or either of them, may allot additional time to any Senator during the consideration of any debatable motion or appeal, from time under their control with respect to the applicable fishery agreement resolution.

(D) A motion in the Senate to further limit debate is not debatable. A motion to recommit any fishery agreement resolution is not in order.

99-659, 102-251

(a) **IN GENERAL.**--After February 28, 1977, no foreign fishing vessel shall engage in fishing within the exclusive economic zone [or special areas]*, or for anadromous species or Continental Shelf fishery resources beyond such zone or area[s]*, unless such vessel has on board a valid permit issued under this section for such vessel.

(b) APPLICATIONS AND PERMITS UNDER GOVERNING INTERNATIONAL FISHERY AGREEMENTS.--

99-659

(1) **ELIGIBILITY.**--Each foreign nation with which the United States has entered into a governing international fishery agreement shall submit an application to the Secretary of State each year for a permit for each of its fishing vessels that wishes to engage in fishing described in subsection (a). No permit issued under this section may be valid for longer than a year; and section 558(c) of title 5, United States Code, does not apply to the renewal of any such permit.

(2) **FORMS.**--The Secretary, in consultation with the Secretary of State and the Secretary of the department in which the Coast Guard is operating, shall prescribe the forms for permit applications submitted under this subsection and for permits issued pursuant to any such application.

95-354, 97-453, 99-659

(3) **CONTENTS.**--Any application made under this subsection shall specify--

(A) the name and official number or other identification of each fishing vessel for which a permit is sought, together with the name and address of the owner thereof;

(B) the tonnage, hold capacity, speed, processing equipment, type and quantity of fishing gear, and such other pertinent information with respect to characteristics of each such vessel as the Secretary may require;

(C) each fishery in which each such vessel wishes to fish;

(D) the estimated amount of tonnage of fish which will be caught, taken, or harvested in each such fishery by each such vessel during the time the permit is in force;

(E) the amount or tonnage of United States harvested fish, if any, which each such vessel proposes to receive at sea from vessels of the United States;

(F) the ocean area in which, and the season or period during which, such fishing will be conducted; and

(G) all applicable vessel safety standards imposed by the foreign country, and shall include written certification that the vessel is in compliance with those standards; and shall include any other pertinent information and material which the Secretary may require.

95-354, 96-470, 97-453, 99-659

(4) **TRANSMITTAL FOR ACTION.**--Upon receipt of any application which complies with the requirements of paragraph (3), the Secretary of State shall publish a notice of receipt of the application in the Federal Register. Any such notice shall summarize the contents of the applications from each nation included therein with respect to the matters

described in paragraph (3). The Secretary of State shall promptly transmit--

- (A) such application, together with his comments and recommendations thereon, to the Secretary;
- (B) a copy of the application to the Secretary of the department in which the Coast Guard is operating; and
- (C) a copy or a summary of the application to the appropriate Council.

97-453

(5) **ACTION BY COUNCIL.**--After receiving a copy or summary of an application under paragraph (4)(C), the Council may prepare and submit to the Secretary such written comments on the application as it deems appropriate. Such comments shall be submitted within 45 days after the date on which the application is received by the Council and may include recommendations with respect to approval of the application and, if approval is recommended, with respect to appropriate conditions and restrictions thereon. Any interested person may submit comments to such Council with respect to any such application. The Council shall consider any such comments in formulating its submission to the Secretary.

95-453, 99-659

(6) **APPROVAL.**--

(A) After receipt of any application transmitted under paragraph (4)(A), the Secretary shall consult with the Secretary of State and, with respect to enforcement, with the Secretary of the department in which the Coast Guard is operating. The Secretary, after taking into consideration the views and recommendations of such Secretaries, and any comments submitted by any Council under paragraph (5), may approve, subject to subparagraph (B), the application, if he determines that the fishing described in the application will meet the requirements of this Act, or he may disapprove all or any portion of the application.

(B) (i) In the case of any application which specifies that one or more foreign fishing vessels propose to receive at sea United States harvested fish from vessels of the United States, the Secretary may approve the application unless the Secretary determines, on the basis of the views, recommendations, and comments referred to in subparagraph (A) and other pertinent information, that United States fish processors have adequate capacity, and will utilize such capacity, to process all United States harvested fish from the fishery concerned.

(ii) The amount or tonnage of United States harvested fish which may be received at sea during any year by foreign fishing vessels under permits approved under this paragraph may not exceed that portion of the optimum yield of the fishery concerned which will not be utilized by United States fish processors.

(iii) In deciding whether to approve any application under this subparagraph, the Secretary may take into account, with respect to the foreign nation concerned, such other matters as the Secretary deems appropriate.

95-354, 104-297

(7) **ESTABLISHMENT OF CONDITIONS AND RESTRICTIONS.**--The Secretary shall establish conditions and restrictions which shall be included in each permit

issued pursuant to any application approved under paragraph (6) or subsection (d) and which must be complied with by the owner or operator of the fishing vessel for which the permit is issued. Such conditions and restrictions shall include the following:

(A) All of the requirements of any applicable fishery management plan, or preliminary fishery management plan, and any applicable Federal or State fishing regulations.

(B) The requirement that no permit may be used by any vessel other than the fishing vessel for which it is issued.

(C) The requirements described in section 201(c)(1), (2), and (3).

(D) If the permit is issued other than pursuant to an application approved under paragraph (6)(B) or subsection (d), the restriction that the foreign fishing vessel may not receive at sea United States harvested fish from vessels of the United States.

(E) If the permit is issued pursuant to an application approved under paragraph (6)(B), the maximum amount or tonnage of United States harvested fish which may be received at sea from vessels of the United States.

(F) Any other condition and restriction related to fishery conservation and management which the Secretary prescribes as necessary and appropriate.

96-470

(8) NOTICE OF APPROVAL.--The Secretary shall promptly transmit a copy of each application approved under paragraph (6) and the conditions and restrictions established under paragraph (7) to--

(A) the Secretary of State for transmittal to the foreign nation involved;

(B) the Secretary of the department in which the Coast Guard is operating; and

(C) any Council which has authority over any fishery specified in such application.

(9) DISAPPROVAL OF APPLICATIONS.--If the Secretary does not approve any application submitted by a foreign nation under this subsection, he shall promptly inform the Secretary of State of the disapproval and his reasons therefore. The Secretary of State shall notify such foreign nation of the disapproval and the reasons therefor. Such foreign nation, after taking into consideration the reasons for disapproval, may submit a revised application under this subsection.

96-561, 99-272, 101-627

(10) FEES.--

(A) Fees shall be paid to the Secretary by the owner or operator of any foreign fishing vessel for which a permit has been issued pursuant to this section. The Secretary, in consultation with the Secretary of State, shall establish a schedule of reasonable fees that shall apply nondiscriminatorily to each foreign nation.

(B) Amounts collected by the Secretary under this paragraph shall be deposited in the general fund of the Treasury.

(11) ISSUANCE OF PERMITS.--If a foreign nation notifies the Secretary of State of its acceptance of the conditions and restrictions established by the Secretary under paragraph (7), the Secretary of State shall promptly transmit such notification to the Secretary. Upon payment of the applicable fees established pursuant to paragraph (10), the Secretary shall thereupon issue to such foreign nation, through the Secretary of State, permits for the appropriate fishing vessels of that nation. Each permit shall contain a statement of all

conditions and restrictions established under paragraph (7) which apply to the fishing vessel for which the permit is issued.

(c) REGISTRATION PERMITS.--The Secretary of State, in cooperation with the Secretary, shall issue annually a registration permit for each fishing vessel of a foreign nation which is a party to an international fishery agreement under which foreign fishing is authorized by section 201(b) and which wishes to engage in fishing described in subsection (a). Each such permit shall set forth the terms and conditions contained in the agreement that apply with respect to such fishing, and shall include the additional requirement that the owner or operator of the fishing vessel for which the permit is issued shall prominently display such permit in the wheelhouse of such vessel and show it, upon request, to any officer authorized to enforce the provisions of this Act (as provided for in section 311). The Secretary of State, after consultation with the Secretary and the Secretary of the department in which the Coast Guard is operating, shall prescribe the form and manner in which applications for registration permits may be made, and the forms of such permits. The Secretary of State may establish, require the payment of, and collect fees for registration permits; except that the level of such fees shall not exceed the administrative costs incurred by him in issuing such permits.

104-297

(d) TRANSSHIPMENT PERMITS-

(1) AUTHORITY TO ISSUE PERMITS.--The Secretary may issue a transshipment permit under this subsection which authorizes a vessel other than a vessel of the United States to engage in fishing consisting solely of transporting fish or fish products at sea from a point within the exclusive economic zone or, with the concurrence of a State, within the boundaries of that State, to a point outside the United States to any person who--

- (A) submits an application which is approved by the Secretary under paragraph (3);
- and
- (B) pays a fee imposed under paragraph (7).

(2) TRANSMITTAL.--Upon receipt of an application for a permit under this subsection, the Secretary shall promptly transmit copies of the application to the Secretary of State, Secretary of the department in which the Coast Guard is operating, any appropriate Council, and any affected State.

(3) APPROVAL OF APPLICATION.--The Secretary may approve, in consultation with the appropriate Council or Marine Fisheries Commission, an application for a permit under this section if the Secretary determines that--

- (A) the transportation of fish or fish products to be conducted under the permit, as described in the application, will be in the interest of the United States and will meet the applicable requirements of this Act;
- (B) the applicant will comply with the requirements described in section 201(c)(2) with respect to activities authorized by any permit issued pursuant to the application;
- (C) the applicant has established any bonds or financial assurances that may be required by the Secretary; and
- (D) no owner or operator of a vessel of the United States which has adequate capacity

to perform the transportation for which the application is submitted has indicated to the Secretary an interest in performing the transportation at fair and reasonable rates.

(4) WHOLE OR PARTIAL APPROVAL.--The Secretary may approve all or any portion of an application under paragraph (3).

(5) FAILURE TO APPROVE APPLICATION.--If the Secretary does not approve any portion of an application submitted under paragraph (1), the Secretary shall promptly inform the applicant and specify the reasons therefor.

(6) CONDITIONS AND RESTRICTIONS.--The Secretary shall establish and include in each permit under this subsection conditions and restrictions, including those conditions and restrictions set forth in subsection (b)(7), which shall be complied with by the owner and operator of the vessel for which the permit is issued.

(7) FEES.--The Secretary shall collect a fee for each permit issued under this subsection, in an amount adequate to recover the costs incurred by the United States in issuing the permit, except that the Secretary shall waive the fee for the permit if the foreign nation under which the vessel is registered does not collect a fee from a vessel of the United States engaged in similar activities in the waters of such foreign nation.

104-297

(e) PACIFIC INSULAR AREAS.--

(1) NEGOTIATION OF PACIFIC INSULAR AREA FISHERY AGREEMENTS.--The Secretary of State, with the concurrence of the Secretary and in consultation with any appropriate Council, may negotiate and enter into a Pacific Insular Area fishery agreement to authorize foreign fishing within the exclusive economic zone adjacent to a Pacific Insular Area--

(A) in the case of American Samoa, Guam, or the Northern Mariana Islands, at the request and with the concurrence of, and in consultation with, the Governor of the Pacific Insular Area to which such agreement applies; and

(B) in the case of a Pacific Insular Area other than American Samoa, Guam, or the Northern Mariana Islands, at the request of the Western Pacific Council.

(2) AGREEMENT TERMS AND CONDITIONS.--A Pacific Insular Area fishery agreement--

(A) shall not be considered to supersede any governing international fishery agreement currently in effect under this Act, but shall provide an alternative basis for the conduct of foreign fishing within the exclusive economic zone adjacent to Pacific Insular Areas;

(B) shall be negotiated and implemented consistent only with the governing international fishery agreement provisions of this title specifically made applicable in this subsection;

(C) may not be negotiated with a nation that is in violation of a governing international fishery agreement in effect under this Act;

(D) shall not be entered into if it is determined by the Governor of the applicable Pacific Insular Area with respect to agreements initiated under paragraph (1)(A), or the Western Pacific Council with respect to agreements initiated under paragraph (1)(B), that such an agreement will adversely affect the fishing activities of the indigenous people of such Pacific Insular Area;

(E) shall be valid for a period not to exceed three years and shall only become effective according to the procedures in section 203; and

(F) shall require the foreign nation and its fishing vessels to comply with the requirements of paragraphs (1), (2), (3) and (4)(A) of section 201(c), section 201(d), and section 201(h).

(3) PERMITS FOR FOREIGN FISHING.--

(A) Application for permits for foreign fishing authorized under a Pacific Insular Areas fishing agreement shall be made, considered and approved or disapproved in accordance with paragraphs (3), (4), (5), (6), (7) (A) and (B), (8), and (9) of subsection (b), and shall include any conditions and restrictions established by the Secretary in consultation with the Secretary of State, the Secretary of the department in which the Coast Guard is operating, the Governor of the applicable Pacific Insular Area, and the appropriate Council.

(B) If a foreign nation notifies the Secretary of State of its acceptance of the requirements of this paragraph, paragraph (2)(F), and paragraph (5), including any conditions and restrictions established under subparagraph (A), the Secretary of State shall promptly transmit such notification to the Secretary. Upon receipt of any payment required under a Pacific Insular Area fishing agreement, the Secretary shall thereupon issue to such foreign nation, through the Secretary of State, permits for the appropriate fishing vessels of that nation. Each permit shall contain a statement of all of the requirements, conditions, and restrictions established under this subsection which apply to the fishing vessel for which the permit is issued.

(4) MARINE CONSERVATION PLANS.--

(A) Prior to entering into a Pacific Insular Area fishery agreement, the Western Pacific Council and the appropriate Governor shall develop a 3-year marine conservation plan detailing uses for funds to be collected by the Secretary pursuant to such agreement.

Such plan shall be consistent with any applicable fishery management plan, identify conservation and management objectives (including criteria for determining when such objectives have been met), and prioritize planned marine conservation projects.

Conservation and management objectives shall include, but not be limited to--

(i) establishment of Pacific Insular Area observer programs, approved by the Secretary in consultation with the Western Pacific Council, that provide observer coverage for foreign fishing under Pacific Insular Area fishery agreements that is at least equal in effectiveness to the program established by the Secretary under section 201(h);

(ii) conduct of marine and fisheries research, including development of systems for information collection, analysis, evaluation, and reporting;

(iii) conservation, education, and enforcement activities related to marine and coastal management, such as living marine resource assessments, habitat monitoring

and coastal studies;

(iv) grants to the University of Hawaii for technical assistance projects by the Pacific Island Network, such as education and training in the development and implementation of sustainable marine resources development projects, scientific research, and conservation strategies; and

(v) western Pacific community-based demonstration projects under section 112(b) of the Sustainable Fisheries Act² and other coastal improvement projects to foster and promote the management, conservation, and economic enhancement of the Pacific Insular Areas.

(B) In the case of American Samoa, Guam, and the Northern Mariana Islands, the appropriate Governor, with the concurrence of the Western Pacific Council, shall develop the marine conservation plan described in subparagraph (A) and submit such plan to the Secretary for approval. In the case of other Pacific Insular Areas, the Western Pacific Council shall develop and submit the marine conservation plan described in subparagraph (A) to the Secretary for approval.

(C) If a Governor or the Western Pacific Council intends to request that the Secretary of State renew a Pacific Insular Area fishery agreement, a subsequent 3-year plan shall be submitted to the Secretary for approval by the end of the second year of the existing 3-year plan.

(5) RECIPROCAL CONDITIONS.--Except as expressly provided otherwise in this subsection, a Pacific Insular Area fishing agreement may include terms similar to the terms applicable to United States fishing vessels for access to similar fisheries in waters subject to the fisheries jurisdiction of another nation.

(6) USE OF PAYMENTS BY AMERICAN SAMOA, GUAM, NORTHERN MARIANA ISLANDS.--Any payments received by the Secretary under a Pacific Insular Area fishery agreement for American Samoa, Guam, or the Northern Mariana Islands shall be deposited into the United States Treasury and then covered over to the Treasury of the Pacific Insular Area for which those funds were collected. Amounts deposited in the Treasury of a Pacific Insular Area shall be available, without appropriation or fiscal year limitation, to the Governor of the Pacific Insular Area--

(A) to carry out the purposes of this subsection;

(B) to compensate (i) the Western Pacific Council for mutually agreed upon administrative costs incurred relating to any Pacific Insular Area fishery agreement for such Pacific Insular Area, and (ii) the Secretary of State for mutually agreed upon travel

² The editors assume this reference should be to section 111(b) of the Sustainable Fisheries Act (P.L. 104-297). See the note about Demonstration Projects after section 305 of the Magnuson-Stevens Act.

expenses for no more than 2 Federal representatives incurred as a direct result of complying with paragraph (1)(A); and

(C) to implement a marine conservation plan developed and approved under paragraph (4).

(7) WESTERN PACIFIC SUSTAINABLE FISHERIES FUND.--There is established in the United States Treasury a Western Pacific Sustainable Fisheries Fund into which any payments received by the Secretary under a Pacific Insular Area fishery agreement for any Pacific Insular Area other than American Samoa, Guam, or the Northern Mariana Islands shall be deposited. The Western Pacific Sustainable Fisheries Fund shall be made available, without appropriation or fiscal year limitation, to the Secretary, who shall provide such funds only to--

(A) the Western Pacific Council for the purpose of carrying out the provisions of this subsection, including implementation of a marine conservation plan approved under paragraph (4);

(B) the Secretary of State for mutually agreed upon travel expenses for no more than 2 Federal representatives incurred as a direct result of complying with paragraph (1)(B); and

(C) the Western Pacific Council to meet conservation and management objectives in the State of Hawaii if monies remain in the Western Pacific Sustainable Fisheries Fund after the funding requirements of subparagraphs (A) and (B) have been satisfied. Amounts deposited in such fund shall not diminish funding received by the Western Pacific Council for the purpose of carrying out other responsibilities under this Act.

(8) USE OF FINES AND PENALTIES.--In the case of violations occurring within the exclusive economic zone off American Samoa, Guam, or the Northern Mariana Islands, amounts received by the Secretary which are attributable to fines or penalties imposed under this Act, including such sums collected from the forfeiture and disposition or sale of property seized subject to its authority, after payment of direct costs of the enforcement action to all entities involved in such action, shall be deposited into the Treasury of the Pacific Insular Area adjacent to the exclusive economic zone in which the violation occurred, to be used for fisheries enforcement and for implementation of a marine conservation plan under paragraph (4).

104-297, sec. 105(e)

Note: ATLANTIC HERRING TRANSSHIPMENT--Within 30 days of receiving an application, the Secretary shall, under section 204(d) of the Magnuson Fishery Conservation and Management Act, as amended by this Act [Public Law 104-297], issue permits to up to fourteen Canadian transport vessels that are not equipped for fish harvesting or processing, for the transshipment, within the boundaries of the State of Maine or within the portion of the exclusive economic zone east of the line 69 degrees 30 minutes west and within 12 nautical miles from the seaward boundary of that State, of Atlantic herring harvested by United States fishermen within the area described and used solely in sardine processing. In issuing a permit pursuant to this subsection, the Secretary shall provide a waiver under section 201(h)(2)(C) of the Magnuson Fishery Conservation and Management Act, as amended by this Act: *Provided*, That such

vessels comply with Federal or State monitoring and reporting requirements for the Atlantic herring fishery, including the stationing of United States observers aboard such vessels, if necessary.

SEC. 205. IMPORT PROHIBITIONS

16 U.S.C. 1825

101-627

(a) DETERMINATIONS BY SECRETARY OF STATE.-- If the Secretary of State determines that--

(1) he has been unable, within a reasonable period of time, to conclude with any foreign nation an international fishery agreement allowing fishing vessels of the United States equitable access to fisheries over which that nation asserts exclusive fishery management authority, including fisheries for tuna species, as recognized by the United States, in accordance with fishing activities of such vessels, if any, and under terms not more restrictive than those established under sections 201(c) and (d) and 204(b)(7) and (10), because such nation has (A) refused to commence negotiations, or (B) failed to negotiate in good faith;

(2) any foreign nation is not allowing fishing vessels of the United States to engage in fishing for tuna species in accordance with an applicable international fishery agreement, whether or not such nation is a party thereto;

(3) any foreign nation is not complying with its obligations under any existing international fishery agreement concerning fishing by fishing vessels of the United States in any fishery over which that nation asserts exclusive fishery management authority; or

(4) any fishing vessel of the United States, while fishing in waters beyond any foreign nation's territorial sea, to the extent that such sea is recognized by the United States, is seized by any foreign nation--

(A) in violation of an applicable international fishery agreement;

(B) without authorization under an agreement between the United States and such nation; or

(C) as a consequence of a claim of jurisdiction which is not recognized by the United States;

he shall certify such determination to the Secretary of the Treasury.

(b) PROHIBITIONS.--Upon receipt of any certification from the Secretary of State under subsection (a), the Secretary of the Treasury shall immediately take such action as may be necessary and appropriate to prohibit the importation into the United States--

(1) of all fish and fish products from the fishery involved, if any; and

(2) upon recommendation of the Secretary of State, such other fish or fish products, from any fishery of the foreign nation concerned, which the Secretary of State finds to be appropriate to carry out the purposes of this section.

(c) REMOVAL OF PROHIBITION.--If the Secretary of State finds that the reasons for

the imposition of any import prohibition under this section no longer prevail, the Secretary of State shall notify the Secretary of the Treasury, who shall promptly remove such import prohibition.

(d) DEFINITIONS.--As used in this section--

- (1) The term "fish" includes any highly migratory species.
- (2) The term "fish products" means any article which is produced from or composed of (in whole or in part) any fish.

101-267

SEC. 206. LARGE-SCALE DRIFTNET FISHING

16 U.S.C. 1826

(a) SHORT TITLE.--This section incorporates and expands upon provisions of the Driftnet Impact Monitoring, Assessment, and Control Act of 1987 and may be cited as the "Driftnet Act Amendments of 1990".

(b) FINDINGS.--The Congress finds that--

- (1) the continued widespread use of large-scale driftnets beyond the exclusive economic zone of any nation is a destructive fishing practice that poses a threat to living marine resources of the world's oceans, including but not limited to the North and South Pacific Ocean and the Bering Sea;
- (2) the use of large-scale driftnets is expanding into new regions of the world's oceans, including the Atlantic Ocean and Caribbean Sea;
- (3) there is a pressing need for detailed and reliable information on the number of seabirds, sea turtles, nontarget fish, and marine mammals that become entangled and die in actively fished large-scale driftnets and in large-scale driftnets that are lost, abandoned, or discarded;
- (4) increased efforts, including reliable observer data and enforcement mechanisms, are needed to monitor, assess, control, and reduce the adverse impact of large-scale driftnet fishing on living marine resources;
- (5) the nations of the world have agreed in the United Nations, through General Assembly Resolution Numbered 44-225, approved December 22, 1989, by the General Assembly, that a moratorium should be imposed by June 30, 1992, on the use of large-scale driftnets beyond the exclusive economic zone of any nation;
- (6) the nations of the South Pacific have agreed to a moratorium on the use of large-scale driftnets in the South Pacific through the Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific, which was agreed to in Wellington, New Zealand, on November 29, 1989; and

(7) increasing population pressures and new knowledge of the importance of living marine resources to the health of the global ecosystem demand that greater responsibility be exercised by persons fishing or developing new fisheries beyond the exclusive economic zone of any nation.

(c) POLICY.--It is declared to be the policy of the Congress in this section that the United States should--

(1) implement the moratorium called for by the United Nations General Assembly in Resolution Numbered 44-225;

(2) support the Tarawa Declaration and the Wellington Convention for the Prohibition of Fishing with Long Driftnets in the South Pacific; and

(3) secure a permanent ban on the use of destructive fishing practices, and in particular large-scale driftnets, by persons or vessels fishing beyond the exclusive economic zone of any nation.

(d) INTERNATIONAL AGREEMENTS.--The Secretary, through the Secretary of State and the Secretary of the department in which the Coast Guard is operating, shall seek to secure international agreements to implement immediately the findings, policy, and provisions of this section, and in particular an international ban on large-scale driftnet fishing. The Secretary, through the Secretary of State, shall include, in any agreement which addresses the taking of living marine resources of the United States, provisions to ensure that--

(1) each large-scale driftnet fishing vessel of a foreign nation that is party to the agreement, including vessels that may operate independently to develop new fishing areas, which operate beyond the exclusive economic zone of any nation, is included in such agreement;

(2) each large-scale driftnet fishing vessel of a foreign nation that is party to the agreement, which operates beyond the exclusive economic zone of any nation, is equipped with satellite transmitters which provide real-time position information accessible to the United States;

(3) statistically reliable monitoring by the United States is carried out, through the use of on-board observers or through dedicated platforms provided by foreign nations that are parties to the agreement, of all target and nontarget fish species, marine mammals, sea turtles, and sea birds entangled or killed by large-scale driftnets used by fishing vessels of foreign nations that are parties to the agreement;

(4) officials of the United States have the right to board and inspect for violations of the agreement any large-scale driftnet fishing vessels operating under the flag of a foreign nation that is party to the agreement at any time while such vessel is operating in designated areas beyond the exclusive economic zone of any nation;

(5) all catch landed or transshipped at sea by large-scale driftnet fishing vessels of a

foreign nation that is a party to the agreement, and which are operated beyond the exclusive economic zone of any nation, is reliably monitored and documented;

(6) time and area restrictions are imposed on the use of large-scale driftnets in order to prevent interception of anadromous species;

(7) all large-scale driftnets used are constructed, insofar as feasible, with biodegradable materials which break into segments that do not represent a threat to living marine resources;

(8) all large-scale driftnets are marked at appropriate intervals in a manner that conclusively identifies the vessel and flag nation responsible for each such driftnet;

(9) the taking of nontarget fish species, marine mammals, sea turtles, seabirds, and endangered species or other species protected by international agreements to which the United States is a party is minimized and does not pose a threat to existing fisheries or the long-term health of living marine resources; and

(10) definitive steps are agreed upon to ensure that parties to the agreement comply with the spirit of other international agreements and resolutions concerning the use of large-scale driftnets beyond the exclusive economic zone of any nation.

104-297

(e) **REPORT.**--Not later than January 1, 1991, and every year thereafter until the purposes of this section are met, the Secretary, after consultation with the Secretary of State and the Secretary of the department in which the Coast Guard is operating, shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Merchant Marine and Fisheries of the House of Representatives a report--

(1) describing the steps taken to carry out the provisions of this section, particularly subsection (c);

(2) evaluating the progress of those efforts, the impacts on living marine resources, including available observer data, and specifying plans for further action;

(3) containing a list and description of any new fisheries developed by nations that conduct, or authorize their nationals to conduct, large-scale driftnet fishing beyond the exclusive economic zone of any nation; and

(4) containing a list of the nations that conduct, or authorize their nationals to conduct, large-scale driftnet fishing beyond the exclusive economic zone of any nation in a manner that diminishes the effectiveness of or is inconsistent with any international agreement governing large-scale driftnet fishing to which the United States is a party or otherwise subscribes.

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(f) **CERTIFICATION.**--If at any time the Secretary, in consultation with the Secretary of

State and the Secretary of the department in which the Coast Guard is operating, identifies any nation that warrants inclusion in the list described under subsection (e)(4), the Secretary shall certify that fact to the President. Such certification shall be deemed to be a certification for the purposes of section 8(a) of the Fishermen's Protective Act of 1967 (22 U.S.C. 1978(a)).

(g) EFFECT ON SOVEREIGN RIGHTS.--This section shall not serve or be construed to expand or diminish the sovereign rights of the United States, as stated by Presidential Proclamation Numbered 5030, dated March 10, 1983, and reflected in this Act or other existing law.

(h) DEFINITION.--As used in this section, the term "living marine resources" includes fish, marine mammals, sea turtles, and seabirds and other waterfowl.

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16 U.S.C. 1826a

**SEC. 206a. DENIAL OF PORT PRIVILEGES AND SANCTIONS
FOR HIGH SEAS LARGE-SCALE DRIFTNET FISHING**

(a) DENIAL OF PORT PRIVILEGES.--

(1) PUBLICATION OF LIST.--Not later than 30 days after November 2, 1992, and periodically thereafter, the Secretary of Commerce, in consultation with the Secretary of State, shall publish a list of nations whose nationals or vessels conduct large-scale driftnet fishing beyond the exclusive economic zone of any nation.

(2) DENIAL OF PORT PRIVILEGES.--The Secretary of the Treasury shall, in accordance with recognized principles of international law--

(A) withhold or revoke the clearance required by section 91 of the Appendix to Title 46 for any large-scale driftnet fishing vessel that is documented under the laws of the United States or of a nation included on a list published under paragraph (1); and

(B) deny entry of that vessel to any place in the United States and to the navigable waters of the United States.

(3) NOTIFICATION OF NATION.--Before the publication of a list of nations under paragraph (1), the Secretary of State shall notify each nation included on that list regarding--

(A) the effect of that publication on port privileges of vessels of that nation under paragraph (1); and

(B) any sanctions or requirements, under this Act or any other law, that may be imposed on that nation if nationals or vessels of that nation continue to conduct large-scale driftnet fishing beyond the exclusive economic zone of any nation after December 31, 1992.

(b) SANCTIONS.--

(1) IDENTIFICATIONS.--

(A) INITIAL IDENTIFICATIONS.--Not later than January 10, 1993, the Secretary of Commerce shall--

- (i) identify each nation whose nationals or vessels are conducting large-scale driftnet fishing beyond the exclusive economic zone of any nation; and
- (ii) notify the President and that nation of the identification under clause (i).

(B) ADDITIONAL IDENTIFICATIONS.--At any time after January 10, 1993, whenever the Secretary of Commerce has reason to believe that the nationals or vessels of any nation are conducting large-scale driftnet fishing beyond the exclusive economic zone of any nation, the Secretary of Commerce shall--

- (i) identify that nation; and
- (ii) notify the President and that nation of the identification under clause (i).

(2) CONSULTATIONS.--Not later than 30 days after a nation is identified under paragraph (1)(B), the President shall enter consultations with the government of that nation for the purpose of obtaining an agreement that will effect the immediate termination of large-scale driftnet fishing by the nationals or vessels of that nation beyond the exclusive economic zone of any nation.

(3) PROHIBITION ON IMPORTS OF FISH AND FISH PRODUCTS AND SPORT FISHING EQUIPMENT.--

(A) PROHIBITION.--The President--

- (i) upon receipt of notification of the identification of a nation under paragraph (1)(A); or
 - (ii) if the consultations with the government of a nation under paragraph (2) are not satisfactorily concluded within 90 days,
- shall direct the Secretary of the Treasury to prohibit the importation into the United States of fish and fish products and sport fishing equipment (as that term is defined in section 4162 of Title 26) from that nation.

(B) IMPLEMENTATION OF PROHIBITION.--With respect to an import prohibition directed under subparagraph (A), the Secretary of the Treasury shall implement such prohibition not later than the date that is 45 days after the date on which the Secretary has received the direction from the President.

(C) PUBLIC NOTICE OF PROHIBITION.--Before the effective date of any import prohibition under this paragraph, the Secretary of the Treasury shall provide public notice of the impending prohibition.

(4) ADDITIONAL ECONOMIC SANCTIONS.--

(A) DETERMINATION OF EFFECTIVENESS OF SANCTIONS.--Not later than six months after the date the Secretary of Commerce identifies a nation under paragraph (1), the Secretary shall determine whether--

- (i) any prohibition established under paragraph (3) is insufficient to cause that nation to terminate large-scale driftnet fishing conducted by its nationals and vessels

beyond the exclusive economic zone of any nation; or
(ii) that nation has retaliated against the United States as a result of that prohibition.

(B) CERTIFICATION.--The Secretary of Commerce shall certify to the President each affirmative determination under subparagraph (A) with respect to a nation.

(C) EFFECT OF CERTIFICATION.--Certification by the Secretary of Commerce under subparagraph (B) is deemed to be a certification under section 1978(a) of Title 22, as amended by this Act.

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SEC. 206b. DURATION OF DENIAL OF PORT PRIVILEGES AND SANCTIONS

18 U.S.C. 1826b

Any denial of port privileges or sanction under section 206a of this Act with respect to a nation shall remain in effect until such time as the Secretary of Commerce certifies to the President and the Congress that such nation has terminated large-scale driftnet fishing by its nationals and vessels beyond the exclusive economic zone of any nation.

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SEC. 206c. DEFINITIONS

16 U.S.C. 1826c

In sections 206a to 206c of this title, the following definitions apply:

(1) FISH AND FISH PRODUCTS.--The term "fish and fish products" means any aquatic species (including marine mammals and plants) and all products thereof exported from a nation, whether or not taken by fishing vessels of that nation or packed, processed, or otherwise prepared for export in that nation or within the jurisdiction thereof.

(2) LARGE-SCALE DRIFTNET FISHING.--

(A) IN GENERAL.--Except as provided in subparagraph (B), the term "large-scale driftnet fishing" means a method of fishing in which a gillnet composed of a panel or panels of webbing, or a series of such gillnets, with a total length of two and one-half kilometers or more is placed in the water and allowed to drift with the currents and winds for the purpose of entangling fish in the webbing.

(B) EXCEPTION.--Until January 1, 1994, the term "large-scale driftnet fishing" does not include the use in the northeast Atlantic Ocean of gillnets with a total length not to exceed five kilometers if the use is in accordance with regulations adopted by the European Community pursuant to the October 28, 1991, decision by the Council of Fisheries Ministers of the Community.

(3) LARGE-SCALE DRIFTNET FISHING VESSEL.--The term "large-scale driftnet fishing vessel means any vessel which is--

(A) used for, equipped to be used for, or of a type which is normally used for large-scale driftnet fishing; or

(B) used for aiding or assisting one or more vessels at sea in the performance of large-scale driftnet fishing, including preparation, supply, storage, refrigeration, transportation, or processing.

TITLE III -- NATIONAL FISHERY MANAGEMENT PROGRAM

SEC. 301. NATIONAL STANDARDS FOR FISHERY CONSERVATION AND MANAGEMENT

16 U.S.C. 1851

(a) IN GENERAL.--Any fishery management plan prepared, and any regulation promulgated to implement any such plan, pursuant to this title shall be consistent with the following national standards for fishery conservation and management:

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(1) Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

(2) Conservation and management measures shall be based upon the best scientific information available.

(3) To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

(4) Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

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(5) Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

(6) Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

(7) Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

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(8) Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

104-297

(9) Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

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(10) Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

97-453

(b) **GUIDELINES.**-- The Secretary shall establish advisory guidelines (which shall not have the force and effect of law), based on the national standards, to assist in the development of fishery management plans.

SEC. 302. REGIONAL FISHERY MANAGEMENT COUNCILS

16 U.S.C. 1852

97-453, 101-627, 104-297

(a) **ESTABLISHMENT.**--(1) There shall be established, within 120 days after the date of the enactment of this Act, eight Regional Fishery Management Councils, as follows:

(A) **NEW ENGLAND COUNCIL.**--The New England Fishery Management Council shall consist of the States of Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut and shall have authority over the fisheries in the Atlantic Ocean seaward of such States (except as provided in paragraph (3)). The New England Council shall have 17 voting members, including 11 appointed by the Secretary in accordance with subsection (b)(2) (at least one of whom shall be appointed from each such State).

(B) **MID-ATLANTIC COUNCIL.**--The Mid-Atlantic Fishery Management Council shall consist of the States of New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, and North Carolina and shall have authority over the fisheries in the Atlantic Ocean seaward of such States (except North Carolina, and as provided in paragraph (3)). The Mid-Atlantic Council shall have 21 voting members, including 13 appointed by the Secretary in accordance with subsection (b)(2) (at least one of whom shall be appointed from each such State).

(C) SOUTH ATLANTIC COUNCIL.--The South Atlantic Fishery Management Council shall consist of the States of North Carolina, South Carolina, Georgia, and Florida and shall have authority over the fisheries in the Atlantic Ocean seaward of such States (except as provided in paragraph (3)). The South Atlantic Council shall have 13 voting members, including 8 appointed by the Secretary in accordance with subsection (b)(2) (at least one of whom shall be appointed from each such State).

(D) CARIBBEAN COUNCIL.--The Caribbean Fishery Management Council shall consist of the Virgin Islands and the Commonwealth of Puerto Rico and shall have authority over the fisheries in the Caribbean Sea and Atlantic Ocean seaward of such States (except as provided in paragraph (3)). The Caribbean Council shall have 7 voting members, including 4 appointed by the Secretary in accordance with subsection (b)(2) (at least one of whom shall be appointed from each such State).

(E) GULF COUNCIL.--The Gulf of Mexico Fishery Management Council shall consist of the States of Texas, Louisiana, Mississippi, Alabama, and Florida and shall have authority over the fisheries in the Gulf of Mexico seaward of such States (except as provided in paragraph (3)). The Gulf Council shall have 17 voting members, including 11 appointed by the Secretary in accordance with subsection (b)(2) (at least one of whom shall be appointed from each such State).

(F) PACIFIC COUNCIL.--The Pacific Fishery Management Council shall consist of the States of California, Oregon, Washington, and Idaho and shall have authority over the fisheries in the Pacific Ocean seaward of such States. The Pacific Council shall have 14 voting members, including 8 appointed by the Secretary in accordance with subsection (b)(2) (at least one of whom shall be appointed from each such State), and including one appointed from an Indian tribe with Federally recognized fishing rights from California, Oregon, Washington, or Idaho in accordance with subsection (b)(5).

(G) NORTH PACIFIC COUNCIL.--The North Pacific Fishery Management Council shall consist of the States of Alaska, Washington, and Oregon and shall have authority over the fisheries in the Arctic Ocean, Bering Sea, and Pacific Ocean seaward of Alaska. The North Pacific Council shall have 11 voting members, including 7 appointed by the Secretary in accordance with subsection (b)(2) (5 of whom shall be appointed from the State of Alaska and 2 of whom shall be appointed from the State of Washington).

(H) WESTERN PACIFIC COUNCIL.--The Western Pacific Fishery Management Council shall consist of the States of Hawaii, American Samoa, Guam, and the Northern Mariana Islands and shall have authority over the fisheries in the Pacific Ocean seaward of such States and of the Commonwealths, territories, and possessions of the United States in the Pacific Ocean area. The Western Pacific Council shall have 13 voting members, including 8 appointed by the Secretary in accordance with subsection (b)(2) (at least one of whom shall be appointed from each of the following States: Hawaii, American Samoa, Guam, and the Northern Mariana Islands).

(2) Each Council shall reflect the expertise and interest of the several constituent States in the ocean area over which such Council is granted authority.

(3) The Secretary shall have authority over any highly migratory species fishery that is within the geographical area of authority of more than one of the following Councils: New England Council, Mid-Atlantic Council, South Atlantic Council, Gulf Council, and Caribbean Council.

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(b) VOTING MEMBERS.--

(1) The voting members of each Council shall be:

(A) The principal State official with marine fishery management responsibility and expertise in each constituent State, who is designated as such by the Governor of the State, so long as the official continues to hold such position, or the designee of such official.

(B) The regional director of the National Marine Fisheries Service for the geographic area concerned, or his designee, except that if two such directors are within such geographical area, the Secretary shall designate which of such directors shall be the voting member.

(C) The members required to be appointed by the Secretary in accordance with paragraphs (2) and (5).

(2) (A) The members of each Council required to be appointed by the Secretary must be individuals who, by reason of their occupational or other experience, scientific expertise, or training, are knowledgeable regarding the conservation and management, or the commercial or recreational harvest, of the fishery resources of the geographical area concerned. Within nine months after the date of enactment of the Fishery Conservation Amendments of 1990, the Secretary shall, by regulation, prescribe criteria for determining whether an individual satisfies the requirements of this subparagraph.

(B) The Secretary, in making appointments under this section, shall, to the extent practicable, ensure a fair and balanced apportionment, on a rotating or other basis, of the active participants (or their representatives) in the commercial and recreational fisheries under the jurisdiction of the Council. On January 31, 1991, and each year thereafter, the Secretary shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Merchant Marine and Fisheries of the House of Representatives a report on the actions taken by the Secretary to ensure that such fair and balanced apportionment is achieved. The report shall--

(i) list the fisheries under the jurisdiction of each Council, outlining for each fishery the type and quantity of fish harvested, fishing and processing methods employed, the number of participants, the duration and range of the fishery, and other distinguishing characteristics;

(ii) assess the membership of each Council in terms of the apportionment of the active participants in each such fishery; and

(iii) state the Secretary's plans and schedule for actions to achieve a fair and

balanced apportionment on the Council for the active participants in any such fishery.

(C) The Secretary shall appoint the members of each Council from a list of individuals submitted by the Governor of each applicable constituent State. A Governor may not submit the names of individuals to the Secretary for appointment unless the Governor has determined that each such individual is qualified under the requirements of subparagraph (A) and unless the Governor has, to the extent practicable, first consulted with representatives of the commercial and recreational fishing interests of the State regarding those individuals. Each such list shall include the names and pertinent biographical data of not less than three individuals for each applicable vacancy and shall be accompanied by a statement by the Governor explaining how each such individual meets the requirements of subparagraph (A). The Secretary shall review each list submitted by a Governor to ascertain if the individuals on the list are qualified for the vacancy on the basis of such requirements. If the Secretary determines that any individual is not qualified, the Secretary shall notify the appropriate Governor of that determination. The Governor shall then submit a revised list or resubmit the original list with an additional explanation of the qualifications of the individual in question. An individual is not eligible for appointment by the Secretary until that individual complies with the applicable financial disclosure requirements under subsection (k).

(D) Whenever the Secretary makes an appointment to a Council, the Secretary shall make a public announcement of such appointment not less than 45 days before the first day on which the individual is to take office as a member of the Council.

(3) Each voting member appointed to a Council by the Secretary in accordance with paragraphs (2) and (5) shall serve for a term of 3 years; except that the Secretary may designate a shorter term if necessary to provide for balanced expiration to terms of office. No member appointed after January 1, 1986, may serve more than three consecutive terms. Any term in which an individual was appointed to replace a member who left office during the term shall not be counted in determining the number of consecutive terms served by that Council member.

(4) Successors to the voting members of any Council shall be appointed in the same manner as the original voting members. Any individual appointed to fill a vacancy occurring prior to the expiration of any term of office shall be appointed for the remainder of that term.

(5) (A) The Secretary shall appoint to the Pacific Council one representative of an Indian tribe with Federally recognized fishing rights from California, Oregon, Washington, or Idaho from a list of not less than 3 individuals submitted by the tribal governments. The Secretary, in consultation with the Secretary of the Interior and tribal governments, shall establish by regulation the procedure for submitting a list under this subparagraph.

(B) Representation shall be rotated among the tribes taking into consideration--

- (i) the qualifications of the individuals on the list referred to in subparagraph (A),
- (ii) the various rights of the Indian tribes involved and judicial cases that set forth

how those rights are to be exercised, and

(iii) the geographic area in which the tribe of the representative is located.

(C) A vacancy occurring prior to the expiration of any term shall be filled in the same manner as set out in subparagraphs (A) and (B), except that the Secretary may use the list from which the vacating representative was chosen.

(6) The Secretary may remove for cause any member of a Council required to be appointed by the Secretary in accordance with paragraphs (2) or (5) if--

(A) the Council concerned first recommends removal by not less than two-thirds of the members who are voting members and submits such removal recommendation to the Secretary in writing together with a statement of the basis for the recommendation; or

(B) the member is found by the Secretary, after notice and an opportunity for a hearing in accordance with section 554 of title 5, United States Code, to have committed an act prohibited by section 307(1)(O).

(c) NONVOTING MEMBERS.--

(1) The nonvoting members of each Council shall be:

(A) The regional or area director of the United States Fish and Wildlife Service for the geographical area concerned, or his designee.

(B) The commander of the Coast Guard district for the geographical area concerned, or his designee; except that, if two Coast Guard districts are within such geographical area, the commander designated for such purpose by the commandant of the Coast Guard.

(C) The Executive Director of the Marine Fisheries Commission for the geographical area concerned, if any, or his designee.

(D) One representative of the Department of State designated for such purpose by the Secretary of State, or his designee.

(2) The Pacific Council shall have one additional nonvoting member who shall be appointed by, and serve at the pleasure of, the Governor of Alaska.

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(d) COMPENSATION AND EXPENSES.--The voting members of each Council who are required to be appointed by the Secretary and who are not employed by the Federal Government or any State or local government, shall receive compensation at the daily rate for GS-15, step 7 of the General Schedule, when engaged in the actual performance of duties for such Council. The voting members of each Council, any nonvoting member described in subsection (c)(1)(C), and the nonvoting member appointed pursuant to subsection (c)(2) shall be reimbursed for actual expenses incurred in the performance of such duties, and other nonvoting members and Council staff members may be reimbursed for actual expenses.

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(e) TRANSACTION OF BUSINESS.-- (1) A majority of the voting members of any Council shall constitute a quorum, but one or more such members designated by the Council may hold hearings. All decisions of any Council shall be by majority vote of the voting members present and voting.

(2) The voting members of each Council shall select a Chairman for such Council from among the voting members.

(3) Each Council shall meet at appropriate times and places in any of the constituent States of the Council at the call of the Chairman or upon the request of a majority of its voting members.

(4) If any voting member of a Council disagrees with respect to any matter which is transmitted to the Secretary by such Council, such member may submit a statement to the Secretary setting forth the reasons for such disagreement. The regional director of the National Marine Fisheries Service serving on the Council, or the regional director's designee, shall submit such a statement, which shall be made available to the public upon request, if the regional director disagrees with any such matter.

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(5) At the request of any voting member of a Council, the Council shall hold a roll call vote on any matter before the Council. The official minutes and other appropriate records of any Council meeting shall identify all roll call votes held, the name of each voting member present during each roll call vote, and how each member voted on each roll call vote.

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(f) STAFF AND ADMINISTRATION.--

(1) Each Council may appoint, and assign duties to, an executive director and such other full- and part-time administrative employees as the Secretary determines are necessary to the performance of its functions.

(2) Upon the request of any Council, and after consultation with the Secretary, the head of any Federal agency is authorized to detail to such Council, on a reimbursable basis, any of the personnel of such agency, to assist such Council in the performance of its functions under this Act.

(3) The Secretary shall provide to each Council such administrative and technical support services as are necessary for the effective functioning of such Council.

(4) The Administrator of General Services shall furnish each Council with such offices, equipment, supplies, and services as he is authorized to furnish to any other agency or instrumentality of the United States.

(5) The Secretary and the Secretary of State shall furnish each Council with relevant information concerning foreign fishing and international fishery agreements.

(6) Each Council shall determine its organization, and prescribe its practices and procedures for carrying out its functions under this Act, in accordance with such uniform standards as are prescribed by the Secretary. The procedures of a Council, and of its scientific and statistical committee and advisory panels established under subsection (g), must be consistent with the procedural guidelines set forth in subsection [j](2). Each Council shall publish and make available to the public a statement of its organization,

practices, and procedures.

- (7) The Secretary shall pay--
 - (A) the compensation and expenses provided for in subsection (d);
 - (B) appropriate compensation to employees appointed under paragraph (1);
 - (C) the amounts required for reimbursement of other Federal agencies under paragraphs (2) and (4);
 - (D) the actual expenses of the members of the committees and panels established under subsection (g); and
 - (E) such other costs as the Secretary determines are necessary to the performance of the functions of the Councils.

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(g) COMMITTEES AND PANELS.--

(1) Each Council shall establish and maintain, and appoint the members of, a scientific and statistical committee to assist it in the development, collection, and evaluation of such statistical, biological, economic, social, and other scientific information as is relevant to such Council's development and amendment of any fishery management plan.

(2) Each Council shall establish such other advisory panels as are necessary or appropriate to assist it in carrying out its functions under this Act.

(3) (A) Each Council shall establish and maintain a fishing industry advisory committee which shall provide information and recommendations on, and assist in the development of, fishery management plans and amendments to such plans.

(B) Appointments to a committee established under subparagraph (A) shall be made by each Council in such a manner as to provide fair representation to commercial fishing interests in the geographical area of authority of the Council.

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(4) The Secretary shall establish advisory panels to assist in the collection and evaluation of information relevant to the development of any fishery management plan or plan amendment for a fishery to which subsection (a)(3) applies. Each advisory panel shall participate in all aspects of the development of the plan or amendment; be balanced in its representation of commercial, recreational, and other interests; and consist of not less than 7 individuals who are knowledgeable about the fishery for which the plan or amendment is developed, selected from among--

(A) members of advisory committees and species working groups appointed under Acts implementing relevant international fishery agreements pertaining to highly migratory species; and

(B) other interested persons.

(5) Decisions and recommendations made by committees and panels established under this subsection shall be considered to be advisory in nature.

95-354, 97-453, 101-627

(h) FUNCTIONS.--Each Council shall, in accordance with the provisions of this Act--

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(1) for each fishery under its authority that requires conservation and management, prepare and submit to the Secretary (A) a fishery management plan, and (B) amendments to each such plan that are necessary from time to time (and promptly whenever changes in conservation and management measures in another fishery substantially affect the fishery for which such plan was developed);

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(2) prepare comments on any application for foreign fishing transmitted to it under section 204(b)(4)(C) or section 204(d), and any fishery management plan or amendment transmitted to it under section 304(c)(4);

(3) conduct public hearings, at appropriate times and in appropriate locations in the geographical area concerned, so as to allow all interested persons an opportunity to be heard in the development of fishery management plans and amendments to such plans, and with respect to the administration and implementation of the provisions of this Act (and for purposes of this paragraph, the term "geographical area concerned" may include an area under the authority of another Council if the fish in the fishery concerned migrate into, or occur in, that area or if the matters being heard affect fishermen of that area; but not unless such other Council is first consulted regarding the conduct of such hearings within its area);

(4) submit to the Secretary such periodic reports as the Council deems appropriate, and any other relevant report which may be requested by the Secretary;

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(5) review on a continuing basis, and revise as appropriate, the assessments and specifications made pursuant to section 303(a)(3) and (4) with respect to the optimum yield from, the capacity and extent to which United States fish processors will process United States harvested fish from, and the total allowable level of foreign fishing in, each fishery (except as provided in section subsection (a)(3)) within its geographical area of authority; and

(6) conduct any other activities which are required by, or provided for in, this Act or which are necessary and appropriate to the foregoing functions.

97-453, 99-659, 101-627

(i) PROCEDURAL MATTERS.--

(1) The Federal Advisory Committee Act (5 U.S.C. App. 2) shall not apply to the Councils or to the scientific and statistical committees or advisory panels established under subsection (g).

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(2) The following guidelines apply with respect to the conduct of business at meetings of a Council, and of the scientific and statistical committee and advisory panels established

under subsection (g).

(A) Unless closed in accordance with paragraph (3), each regular meeting and each emergency meeting shall be open to the public.

(B) Emergency meetings shall be held at the call of the chairman or equivalent presiding officer.

(C) Timely public notice of each regular meeting and each emergency meeting, including the time, place, and agenda of the meeting, shall be published in local newspapers in the major fishing ports of the region (and in other major fishing ports having a direct interest in the affected fishery) and such notice may be given by such other means as will result in wide publicity. Timely notice of each regular meeting shall also be published in the Federal Register. The published agenda of the meeting may not be modified to include additional matters for Council action without public notice or within 14 days prior to the meeting date, unless such modification is to address an emergency action under section 305(c), in which case public notice shall be given immediately.

(D) Interested persons shall be permitted to present oral or written statements regarding the matters on the agenda at meetings. All written information submitted to a Council by an interested person shall include a statement of the source and date of such information. Any oral or written statement shall include a brief description of the background and interests of the person in the subject of the oral or written statement.

(E) Detailed minutes of each meeting of the Council, except for any closed session, shall be kept and shall contain a record of the persons present, a complete and accurate description of matters discussed and conclusions reached, and copies of all statements filed. The Chairman shall certify the accuracy of the minutes of each such meeting and submit a copy thereof to the Secretary. The minutes shall be made available to any court of competent jurisdiction.

(F) Subject to the procedures established under paragraph (4), and the guidelines prescribed by the Secretary under section 402(b), relating to confidentiality, the administrative record, including minutes required under subparagraph (E), of each meeting, and records or other documents which were made available to or prepared for or by the Council, committee, or panel incident to the meeting, shall be available for public inspection and copying at a single location in the offices of the Council or the Secretary, as appropriate.

(3) (A) Each Council, scientific and statistical committee, and advisory panel--

(i) shall close any meeting, or portion thereof, that concerns matters or information that bears a national security classification; and

(ii) may close any meeting, or portion thereof, that concerns matters or information that pertains to national security, employment matters, or briefings on litigation in which the Council is interested; and

(B) If any meeting or portion is closed, the Council concerned shall notify local newspapers in the major fishing ports within its region (and in other major, affected fishing ports), including in that notification the time and place of the meeting. This subparagraph does not require notification regarding any brief closure of a portion of a meeting in order to discuss employment or other internal administrative matters. Subparagraphs (D) and (F) of paragraph (2) shall not apply to any meeting or portion thereof that is so closed.

(4) Each Council shall establish appropriate procedures applicable to it and to its committee and advisory panels for ensuring confidentiality of the statistics that may be submitted to it by Federal or State authorities, and may be voluntarily submitted to it by private persons; including, but not limited to, procedures for the restriction of Council employee access and the prevention of conflicts of interest; except that such procedures, in the case of statistics submitted to the Council by a State or by the Secretary under section 402(b), must be consistent with the laws and regulations of that State, or with the procedures of the Secretary, as the case may be, concerning the confidentiality of the statistics.

(5) Each Council shall specify those procedures that are necessary or appropriate to ensure that the committees and advisory panels established under subsection (g) are involved, on a continuing basis, in the development and amendment of fishery management plans.

(6) At any time when a Council determines it appropriate to consider new information from a State or Federal agency or from a Council advisory body, the Council shall give comparable consideration to new information offered at that time by interested members of the public. Interested parties shall have a reasonable opportunity to respond to new data or information before the Council takes final action on conservation and management measures.

99-659, 104-297

(j) DISCLOSURE OF FINANCIAL INTEREST AND RECUSAL.--

104-297

(1) For the purposes of this subsection--

(A) the term "affected individual" means an individual who--

(i) is nominated by the Governor of a State for appointment as a voting member of a Council in accordance with subsection (b)(2); or

(ii) is a voting member of a Council appointed--

(I) under subsection (b)(2); or

(II) under subsection (b)(5) who is not subject to disclosure and recusal requirements under the laws of an Indian tribal government; and

(B) the term "designated official" means a person with expertise in Federal conflict-of-interest requirements who is designated by the Secretary, in consultation with the Council, to attend Council meetings and make determinations under paragraph (7)(B).

(2) Each affected individual must disclose any financial interest held by--

(A) that individual;
(B) the spouse, minor child, or partner of that individual; and
(C) any organization (other than the Council) in which that individual is serving as an officer, director, trustee, partner, or employee;
in any harvesting, processing, or marketing activity that is being, or will be, undertaken within any fishery over which the Council concerned has jurisdiction.

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(3) The disclosure required under paragraph (2) shall be made--
(A) in the case of an affected individual referred to in paragraph (1)(A)(i), before appointment by the Secretary; and
(B) in the case of an affected individual referred to in paragraph (1)(A)(ii), within 45 days of taking office.

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(4) An affected individual referred to in paragraph (1)(A)(ii) must update his or her disclosure form at any time any such financial interest is acquired, or substantially changed, by any person referred to in paragraph (2)(A), (B), or (C).

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(5) The financial interest disclosures required by this subsection shall--
(A) be made on such forms, in accordance with such procedures, and at such times, as the Secretary shall by regulation prescribe;
(B) be kept on file, and made available for public inspection at reasonable hours, at the Council offices; and
(C) be kept on file by the Secretary for use in reviewing determinations under paragraph 7(B) and made available for public inspection at reasonable hours.

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(6) The participation by an affected individual referred to in paragraph (1)(A)(ii) in an action by a Council during any time in which that individual is not in compliance with the regulations prescribed under paragraph (5) may not be treated as cause for the invalidation of that action.

104-297

(7) (A) After the effective date of regulations promulgated under subparagraph (F) of this paragraph, an affected individual required to disclose a financial interest under paragraph (2) shall not vote on a Council decision which would have a significant and predictable effect on such financial interest. A Council decision shall be considered to have a significant and predictable effect on a financial interest if there is a close causal link between the Council decision and an expected and substantially disproportionate benefit to the financial interest of the affected individual relative to the financial interests of other participants in the same gear type or sector of the fishery. An affected individual who may not vote may participate in Council deliberations relating to the decision after notifying the Council of the voting recusal and identifying the financial interest that would be affected.

(B) At the request of an affected individual, or upon the initiative of the appropriate designated official, the designated official shall make a determination for the record whether a Council decision would have a significant and predictable effect on a financial interest.

(C) Any Council member may submit a written request to the Secretary to review any determination by the designated official under subparagraph (B) within 10 days of such determination. Such review shall be completed within 30 days of receipt of the request.

(D) Any affected individual who does not vote in a Council decision in accordance with this subsection may state for the record how he or she would have voted on such decision if he or she had voted.

(E) If the Council makes a decision before the Secretary has reviewed a determination under subparagraph (C), the eventual ruling may not be treated as cause for the invalidation or reconsideration by the Secretary of such decision.

(F) The Secretary, in consultation with the Councils and by not later than one year from the date of enactment of the Sustainable Fisheries Act, shall promulgate regulations which prohibit an affected individual from voting in accordance with subparagraph (A), and which allow for the making of determinations under subparagraphs (B) and (C).

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(8) Section 208 of title 18, United States Code, does not apply to an affected individual referred to in paragraph (1)(A)(ii) during any time in which that individual is in compliance with the regulations prescribed under paragraph (5).

SEC. 303. CONTENTS OF FISHERY MANAGEMENT PLANS

16 U.S.C. 1853

95-354, 99-659, 101-627, 104-297

(a) REQUIRED PROVISIONS.--Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, shall--

(1) contain the conservation and management measures, applicable to foreign fishing and fishing by vessels of the United States, which are--

(A) necessary and appropriate for the conservation and management of the fishery to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery;

(B) described in this subsection or subsection (b), or both; and

(C) consistent with the national standards, the other provisions of this Act, regulations implementing recommendations by international organizations in which the United States participates (including but not limited to closed areas, quotas, and size limits), and any other applicable law;

(2) contain a description of the fishery, including, but not limited to, the number of vessels involved, the type and quantity of fishing gear used, the species of fish involved and their location, the cost likely to be incurred in management, actual and potential revenues from the fishery, any recreational interest in the fishery, and the nature and extent of foreign fishing and Indian treaty fishing rights, if any;

(3) assess and specify the present and probable future condition of, and the maximum sustainable yield and optimum yield from, the fishery, and include a summary of the information utilized in making such specification;

(4) assess and specify-- (A) the capacity and the extent to which fishing vessels of the United States, on an annual basis, will harvest the optimum yield specified under paragraph (3),

(B) the portion of such optimum yield which, on an annual basis, will not be harvested by fishing vessels of the United States and can be made available for foreign fishing, and

(C) the capacity and extent to which United States fish processors, on an annual basis, will process that portion of such optimum yield that will be harvested by fishing vessels of the United States;

(5) specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, and charter fishing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors;

(6) consider and provide for temporary adjustments, after consultation with the Coast Guard and persons utilizing the fishery, regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting the safe conduct of the fishery; except that the adjustment shall not adversely affect conservation efforts in other fisheries or discriminate among participants in the affected fishery;

(7) describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A), minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat;

(8) in the case of a fishery management plan that, after January 1, 1991, is submitted to the Secretary for review under section 304(a) (including any plan for which an amendment is submitted to the Secretary for such review) or is prepared by the Secretary, assess and specify the nature and extent of scientific data which is needed for effective implementation of the plan;

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and describe the likely effects, if any, of the conservation and management measures on--

(A) participants in the fisheries and fishing communities affected by the plan or amendment; and

(B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those

participants;

(10) specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;

(11) establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority--

- (A) minimize bycatch; and
- (B) minimize the mortality of bycatch which cannot be avoided;

(12) assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish;

(13) include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors; and

(14) to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery.

97-453, 99-659, 101-627, 102-251, 104-297

(b) DISCRETIONARY PROVISIONS.--Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, may--

(1) require a permit to be obtained from, and fees to be paid to, the Secretary, with respect to--

- (A) any fishing vessel of the United States fishing, or wishing to fish, in the exclusive economic zone [or special areas,]* or for anadromous species or Continental Shelf fishery resources beyond such zone [or areas]*;
- (B) the operator of any such vessel; or
- (C) any United States fish processor who first receives fish that are subject to the plan;

(2) designate zones where, and periods when, fishing shall be limited, or shall not be permitted, or shall be permitted only by specified types of fishing vessels or with specified types and quantities of fishing gear;

- (3) establish specified limitations which are necessary and appropriate for the conservation and management of the fishery on the--
- (A) catch of fish (based on area, species, size, number, weight, sex, bycatch, total biomass, or other factors);
 - (B) sale of fish caught during commercial, recreational, or charter fishing, consistent with any applicable Federal and State safety and quality requirements; and
 - (C) transshipment or transportation of fish or fish products under permits issued pursuant to section 204;
- (4) prohibit, limit, condition, or require the use of specified types and quantities of fishing gear, fishing vessels, or equipment for such vessels, including devices which may be required to facilitate enforcement of the provisions of this Act;
- (5) incorporate (consistent with the national standards, the other provisions of this Act, and any other applicable law) the relevant fishery conservation and management measures of the coastal States nearest to the fishery;
- (6) establish a limited access system for the fishery in order to achieve optimum yield if, in developing such system, the Council and the Secretary take into account--
- (A) present participation in the fishery,
 - (B) historical fishing practices in, and dependence on, the fishery,
 - (C) the economics of the fishery,
 - (D) the capability of fishing vessels used in the fishery to engage in other fisheries,
 - (E) the cultural and social framework relevant to the fishery and any affected fishing communities, and
 - (F) any other relevant considerations;
- (7) require fish processors who first receive fish that are subject to the plan to submit data (other than economic data) which are necessary for the conservation and management of the fishery;
- (8) require that one or more observers be carried on board a vessel of the United States engaged in fishing for species that are subject to the plan, for the purpose of collecting data necessary for the conservation and management of the fishery; except that such a vessel shall not be required to carry an observer on board if the facilities of the vessel for the quartering of an observer, or for carrying out observer functions, are so inadequate or unsafe that the health or safety of the observer or the safe operation of the vessel would be jeopardized;
- (9) assess and specify the effect which the conservation and management measures of the plan will have on the stocks of naturally spawning anadromous fish in the region;
- (10) include, consistent with the other provisions of this Act, conservation and management measures that provide harvest incentives for participants within each gear group to employ fishing practices that result in lower levels of bycatch or in lower levels of the mortality of bycatch;

(11) reserve a portion of the allowable biological catch of the fishery for use in scientific research; and

(12) prescribe such other measures, requirements, or conditions and restrictions as are determined to be necessary and appropriate for the conservation and management of the fishery.

97-453, 104-297

(c) PROPOSED REGULATIONS.--Proposed regulations which the Council deems necessary or appropriate for the purposes of--

(1) implementing a fishery management plan or plan amendment shall be submitted to the Secretary simultaneously with the plan or amendment under section 304; and

(2) making modifications to regulations implementing a fishery management plan or plan amendment may be submitted to the Secretary at any time after the plan or amendment is approved under section 304.

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(d) INDIVIDUAL FISHING QUOTAS.--

(1) (A) A Council may not submit and the Secretary may not approve or implement before October 1, 2000, any fishery management plan, plan amendment, or regulation under this Act which creates a new individual fishing quota program.

(B) Any fishery management plan, plan amendment, or regulation approved by the Secretary on or after January 4, 1995, which creates any new individual fishing quota program shall be repealed and immediately returned by the Secretary to the appropriate Council and shall not be resubmitted, reapproved, or implemented during the moratorium set forth in subparagraph (A).

(2) (A) No provision of law shall be construed to limit the authority of a Council to submit and the Secretary to approve the termination or limitation, without compensation to holders of any limited access system permits, of a fishery management plan, plan amendment, or regulation that provides for a limited access system, including an individual fishing quota program.

(B) This subsection shall not be construed to prohibit a Council from submitting, or the Secretary from approving and implementing, amendments to the North Pacific halibut and sablefish, South Atlantic wreckfish, or Mid-Atlantic surf clam and ocean (including mahogany) quahog individual fishing quota programs.

(3) An individual fishing quota or other limited access system authorization--

(A) shall be considered a permit for the purposes of sections 307, 308, and 309;

(B) may be revoked or limited at any time in accordance with this Act;

(C) shall not confer any right of compensation to the holder of such individual fishing quota or other such limited access system authorization if it is revoked or limited; and

(D) shall not create, or be construed to create, any right, title, or interest in or to any fish before the fish is harvested.

(4) (A) A Council may submit, and the Secretary may approve and implement, a program

which reserves up to 25 percent of any fees collected from a fishery under section 304(d)(2) to be used, pursuant to section 1104A(a)(7) of the Merchant Marine Act, 1936 (46 U.S.C. App. 1274(a)(7)), to issue obligations that aid in financing the--

- (i) purchase of individual fishing quotas in that fishery by fishermen who fish from small vessels; and
- (ii) first-time purchase of individual fishing quotas in that fishery by entry level fishermen.

(B) A Council making a submission under subparagraph (A) shall recommend criteria, consistent with the provisions of this Act, that a fisherman must meet to qualify for guarantees under clauses (i) and (ii) of subparagraph (A) and the portion of funds to be allocated for guarantees under each clause.

(5) In submitting and approving any new individual fishing quota program on or after October 1, 2000, the Councils and the Secretary shall consider the report of the National Academy of Sciences required under section 108(f) of the Sustainable Fisheries Act, and any recommendations contained in such report, and shall ensure that any such program--

(A) establishes procedures and requirements for the review and revision of the terms of any such program (including any revisions that may be necessary once a national policy with respect to individual fishing quota programs is implemented), and, if appropriate, for the renewal, reallocation, or reissuance of individual fishing quotas;

(B) provides for the effective enforcement and management of any such program, including adequate observer coverage, and for fees under section 304(d)(2) to recover actual costs directly related to such enforcement and management; and

(C) provides for a fair and equitable initial allocation of individual fishing quotas, prevents any person from acquiring an excessive share of the individual fishing quotas issued, and considers the allocation of a portion of the annual harvest in the fishery for entry-level fishermen, small vessel owners, and crew members who do not hold or qualify for individual fishing quotas.

104-297, sec. 108(b), M-S Act § 303 note

IMPLEMENTATION.--Not later than 24 months after the date of enactment of this Act [P.L. 104-297], each Regional Fishery Management Council shall submit to the Secretary of Commerce amendments to each fishery management plan under its authority to comply with the amendments made in subsection (a) of this section [i.e., the P.L. 104-297 revisions to § 303(a)(1), (5), (7), and (9), and the addition of § 303(a)(10)-(14)].

104-297, sec. 108(i), M-S Act § 303 note

EXISTING QUOTA PLANS.--Nothing in this Act [P.L.104-297] or the amendments made by this Act shall be construed to require a reallocation of individual fishing quotas under any individual fishing quota program approved by the Secretary before January 4, 1995.

SEC. 304. ACTION BY THE SECRETARY
104-297

16 U.S.C. 1854

(a) REVIEW OF PLANS.--

- (1) Upon transmittal by the Council to the Secretary of a fishery management plan or plan amendment, the Secretary shall--
- (A) immediately commence a review of the plan or amendment to determine whether it is consistent with the national standards, the other provisions of this Act, and any other applicable law; and
 - (B) immediately publish in the Federal Register a notice stating that the plan or amendment is available and that written information, views, or comments of interested persons on the plan or amendment may be submitted to the Secretary during the 60-day period beginning on the date the notice is published.
- (2) In undertaking the review required under paragraph (1), the Secretary shall--
- (A) take into account the information, views, and comments received from interested persons;
 - (B) consult with the Secretary of State with respect to foreign fishing; and
 - (C) consult with the Secretary of the department in which the Coast Guard is operating with respect to enforcement at sea and to fishery access adjustments referred to in section 303(a)(6).
- (3) The Secretary shall approve, disapprove, or partially approve a plan or amendment within 30 days of the end of the comment period under paragraph (1) by written notice to the Council. A notice of disapproval or partial approval shall specify--
- (A) the applicable law with which the plan or amendment is inconsistent;
 - (B) the nature of such inconsistencies; and
 - (C) recommendations concerning the actions that could be taken by the Council to conform such plan or amendment to the requirements of applicable law.
- If the Secretary does not notify a Council within 30 days of the end of the comment period of the approval, disapproval, or partial approval of a plan or amendment, then such plan or amendment shall take effect as if approved.
- (4) If the Secretary disapproves or partially approves a plan or amendment, the Council may submit a revised plan or amendment to the Secretary for review under this subsection.
- (5) For purposes of this subsection and subsection (b), the term “immediately” means on or before the 5th day after the day on which a Council transmits to the Secretary a fishery management plan, plan amendment, or proposed regulation that the Council characterizes as final.

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(b) REVIEW OF REGULATIONS.--

- (1) Upon transmittal by the Council to the Secretary of proposed regulations prepared under section 303(c), the Secretary shall immediately initiate an evaluation of the proposed regulations to determine whether they are consistent with the fishery management plan, plan amendment, this Act and other applicable law. Within 15 days of initiating such evaluation the Secretary shall make a determination and--
- (A) if that determination is affirmative, the Secretary shall publish such regulations in the Federal Register, with such technical changes as may be necessary for clarity and an explanation of those changes, for a public comment period of 15 to 60 days; or

(B) if that determination is negative, the Secretary shall notify the Council in writing of the inconsistencies and provide recommendations on revisions that would make the proposed regulations consistent with the fishery management plan, plan amendment, this Act, and other applicable law.

(2) Upon receiving a notification under paragraph (1)(B), the Council may revise the proposed regulations and submit them to the Secretary for reevaluation under paragraph (1).

(3) The Secretary shall promulgate final regulations within 30 days after the end of the comment period under paragraph (1)(A). The Secretary shall consult with the Council before making any revisions to the proposed regulations, and must publish in the Federal Register an explanation of any differences between the proposed and final regulations.

97-453, 99-659, 104-297

(c) PREPARATION AND REVIEW OF SECRETARIAL PLANS.--

(1) The Secretary may prepare a fishery management plan, with respect to any fishery, or any amendment to any such plan, in accordance with the national standards, the other provisions of this Act, and any other applicable law, if--

(A) the appropriate Council fails to develop and submit to the Secretary, after a reasonable period of time, a fishery management plan for such fishery, or any necessary amendment to such a plan, if such fishery requires conservation and management;

(B) the Secretary disapproves or partially disapproves any such plan or amendment, or disapproves a revised plan or amendment, and the Council involved fails to submit a revised or further revised plan or amendment; or

(C) the Secretary is given authority to prepare such plan or amendment under this section.

In preparing any such plan or amendment, the Secretary shall consult with the Secretary of State with respect to foreign fishing and with the Secretary of the department in which the Coast Guard is operating with respect to enforcement at sea. The Secretary shall also prepare such proposed regulations as he deems necessary or appropriate to carry out each plan or amendment prepared by him under this paragraph.

(2) In preparing any plan or amendment under this subsection, the Secretary shall--

(A) conduct public hearings, at appropriate times and locations in the geographical areas concerned, so as to allow interested persons an opportunity to be heard in the preparation and amendment of the plan and any regulations implementing the plan; and

(B) consult with the Secretary of State with respect to foreign fishing and with the Secretary of the department in which the Coast Guard is operating with respect to enforcement at sea.

(3) Notwithstanding paragraph (1) for a fishery under the authority of a Council, the Secretary may not include in any fishery management plan, or any amendment to any such plan, prepared by him, a provision establishing a limited access system, including any individual fishing quota program unless such system is first approved by a majority of the voting members, present and voting, of each appropriate Council.

(4) Whenever the Secretary prepares a fishery management plan or plan amendment under this section, the Secretary shall immediately--

(A) for a plan or amendment for a fishery under the authority of a Council, submit such plan or amendment to the appropriate Council for consideration and comment; and

(B) publish in the Federal Register a notice stating that the plan or amendment is available and that written information, views, or comments of interested persons on the plan or amendment may be submitted to the Secretary during the 60-day period beginning on the date the notice is published.

(5) Whenever a plan or amendment is submitted under paragraph (4)(A), the appropriate Council must submit its comments and recommendations, if any, regarding the plan or amendment to the Secretary before the close of the 60-day period referred to in paragraph (4)(B). After the close of such 60-day period, the Secretary, after taking into account any such comments and recommendations, as well as any views, information, or comments submitted under paragraph (4)(B), may adopt such plan or amendment.

(6) The Secretary may propose regulations in the Federal Register to implement any plan or amendment prepared by the Secretary. In the case of a plan or amendment to which paragraph (4)(A) applies, such regulations shall be submitted to the Council with such plan or amendment. The comment period on proposed regulations shall be 60 days, except that the Secretary may shorten the comment period on minor revisions to existing regulations.

(7) The Secretary shall promulgate final regulations within 30 days after the end of the comment period under paragraph (6). The Secretary must publish in the Federal Register an explanation of any substantive differences between the proposed and final rules. All final regulations must be consistent with the fishery management plan, with the national standards and other provisions of this Act, and with any other applicable law.

97-453, 104-297

(d) ESTABLISHMENT OF FEES.--

(1) The Secretary shall by regulation establish the level of any fees which are authorized to be charged pursuant to section 303(b)(1). The Secretary may enter into a cooperative agreement with the States concerned under which the States administer the permit system and the agreement may provide that all or part of the fees collected under the system shall accrue to the States. The level of fees charged under this subsection shall not exceed the administrative costs incurred in issuing the permits.

(2)(A) Notwithstanding paragraph (1), the Secretary is authorized and shall collect a fee to recover the actual costs directly related to the management and enforcement of any--

(i) individual fishing quota program; and

(ii) community development quota program that allocates a percentage of the total allowable catch of a fishery to such program.

(B) Such fee shall not exceed 3 percent of the ex-vessel value of fish harvested under any such program, and shall be collected at either the time of the landing, filing of a landing report, or sale of such fish during a fishing season or in the last quarter of the

calendar year in which the fish is harvested.

(C) (i) Fees collected under this paragraph shall be in addition to any other fees charged under this Act and shall be deposited in the Limited Access System Administration Fund established under section 305(h)(5)(B), except that the portion of any such fees reserved under section 303(d)(4)(A) shall be deposited in the Treasury and available, subject to annual appropriations, to cover the costs of new direct loan obligations and new loan guarantee commitments as required by section 504(b)(1) of the Federal Credit Reform Act (2 U.S.C. 661c(b)(1)).

(ii) Upon application by a State, the Secretary shall transfer to such State up to 33 percent of any fee collected pursuant to subparagraph (A) under a community development quota program and deposited in the Limited Access System Administration Fund in order to reimburse such State for actual costs directly incurred in the management and enforcement of such program.

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(e) REBUILDING OVERFISHED FISHERIES.--

(1) The Secretary shall report annually to the Congress and the Councils on the status of fisheries within each Council's geographical area of authority and identify those fisheries that are overfished or are approaching a condition of being overfished. For those fisheries managed under a fishery management plan or international agreement, the status shall be determined using the criteria for overfishing specified in such plan or agreement. A fishery shall be classified as approaching a condition of being overfished if, based on trends in fishing effort, fishery resource size, and other appropriate factors, the Secretary estimates that the fishery will become overfished within two years.

(2) If the Secretary determines at any time that a fishery is overfished, the Secretary shall immediately notify the appropriate Council and request that action be taken to end overfishing in the fishery and to implement conservation and management measures to rebuild affected stocks of fish. The Secretary shall publish each notice under this paragraph in the Federal Register.

(3) Within one year of an identification under paragraph (1) or notification under paragraphs (2) or (7), the appropriate Council (or the Secretary, for fisheries under section 302(a)(3)) shall prepare a fishery management plan, plan amendment, or proposed regulations for the fishery to which the identification or notice applies--

- (A) to end overfishing in the fishery and to rebuild affected stocks of fish; or
- (B) to prevent overfishing from occurring in the fishery whenever such fishery is identified as approaching an overfished condition.

(4) For a fishery that is overfished, any fishery management plan, amendment, or proposed regulations prepared pursuant to paragraph (3) or paragraph (5) for such fishery shall--

- (A) specify a time period for ending overfishing and rebuilding the fishery that shall--
 - (i) be as short as possible, taking into account the status and biology of any overfished stocks of fish, the needs of fishing communities, recommendations by

international organizations in which the United States participates, and the interaction of the overfished stock of fish within the marine ecosystem; and

(ii) not exceed 10 years, except in cases where the biology of the stock of fish, other environmental conditions, or management measures under an international agreement in which the United States participates dictate otherwise;

(B) allocate both overfishing restrictions and recovery benefits fairly and equitably among sectors of the fishery; and

(C) for fisheries managed under an international agreement, reflect traditional participation in the fishery, relative to other nations, by fishermen of the United States.

(5) If, within the one-year period beginning on the date of identification or notification that a fishery is overfished, the Council does not submit to the Secretary a fishery management plan, plan amendment, or proposed regulations required by paragraph (3)(A), the Secretary shall prepare a fishery management plan or plan amendment and any accompanying regulations to stop overfishing and rebuild affected stocks of fish within 9 months under subsection (c).

(6) During the development of a fishery management plan, a plan amendment, or proposed regulations required by this subsection, the Council may request the Secretary to implement interim measures to reduce overfishing under section 305(c) until such measures can be replaced by such plan, amendment, or regulations. Such measures, if otherwise in compliance with the provisions of this Act, may be implemented even though they are not sufficient by themselves to stop overfishing of a fishery.

(7) The Secretary shall review any fishery management plan, plan amendment, or regulations required by this subsection at routine intervals that may not exceed two years. If the Secretary finds as a result of the review that such plan, amendment, or regulations have not resulted in adequate progress toward ending overfishing and rebuilding affected fish stocks, the Secretary shall--

(A) in the case of a fishery to which section 302(a)(3) applies, immediately make revisions necessary to achieve adequate progress; or

(B) for all other fisheries, immediately notify the appropriate Council. Such notification shall recommend further conservation and management measures which the Council should consider under paragraph (3) to achieve adequate progress.

101-627, 104-297

(f) FISHERIES UNDER AUTHORITY OF MORE THAN ONE COUNCIL.--

(1) Except as provided in paragraph (3)³, if any fishery extends beyond the geographical area of authority of any one Council, the Secretary may--

(A) designate which Council shall prepare the fishery management plan for such fishery and any amendment to such plan; or

(B) may require that the plan and amendment be prepared jointly by the Councils concerned.

No jointly prepared plan or amendment may be submitted to the Secretary unless it is

³ Former paragraph (3) now appears at section 301(a)(3) and section 304(g).

approved by a majority of the voting members, present and voting, of each Council concerned.

(2) The Secretary shall establish the boundaries between the geographical areas of authority of adjacent Councils.

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(g) ATLANTIC HIGHLY MIGRATORY SPECIES.--

(1) PREPARATION AND IMPLEMENTATION OF PLAN OR PLAN AMENDMENT.--The Secretary shall prepare a fishery management plan or plan amendment under subsection (c) with respect to any highly migratory species fishery to which section 302(a)(3) applies. In preparing and implementing any such plan or amendment, the Secretary shall--

(A) consult with and consider the comments and views of affected Councils, commissioners and advisory groups appointed under Acts implementing relevant international fishery agreements pertaining to highly migratory species, and the advisory panel established under section 302(g);

(B) establish an advisory panel under section 302(g) for each fishery management plan to be prepared under this paragraph;

(C) evaluate the likely effects, if any, of conservation and management measures on participants in the affected fisheries and minimize, to the extent practicable, any disadvantage to United States fishermen in relation to foreign competitors;

(D) with respect to a highly migratory species for which the United States is authorized to harvest an allocation, quota, or at a fishing mortality level under a relevant international fishery agreement, provide fishing vessels of the United States with a reasonable opportunity to harvest such allocation, quota, or at such fishing mortality level;

(E) review, on a continuing basis (and promptly whenever a recommendation pertaining to fishing for highly migratory species has been made under a relevant international fishery agreement), and revise as appropriate, the conservation and management measures included in the plan;

(F) diligently pursue, through international entities (such as the International Commission for the Conservation of Atlantic Tunas), comparable international fishery management measures with respect to fishing for highly migratory species; and

(G) ensure that conservation and management measures under this subsection--

(i) promote international conservation of the affected fishery;

(ii) take into consideration traditional fishing patterns of fishing vessels of the United States and the operating requirements of the fisheries;

(iii) are fair and equitable in allocating fishing privileges among United States fishermen and do not have economic allocation as the sole purpose; and

(iv) promote, to the extent practicable, implementation of scientific research programs that include the tagging and release of Atlantic highly migratory species.

(2) CERTAIN FISH EXCLUDED FROM "BYCATCH" DEFINITION.--Notwithstanding section 3(2), fish harvested in a commercial fishery managed by the

16 U.S.C. 1854
M-S Act § 304

Secretary under this subsection or the Atlantic Tunas Convention Act of 1975 (16 U.S.C. 971d) that are not regulatory discards and that are tagged and released alive under a scientific tagging and release program established by the Secretary shall not be considered bycatch for purposes of this Act.

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(h) REPEAL OR REVOCATION OF A FISHERY MANAGEMENT PLAN.--The Secretary may repeal or revoke a fishery management plan for a fishery under the authority of a Council only if the Council approves the repeal or revocation by a three-quarters majority of the voting members of the Council.

101-627, sec. 108(k), M-S Act § 304 note

Interim Management of Highly Migratory Species Fisheries.--Notwithstanding the amendments made by subsections (a) and (g) [of section 108 of Pub. L. 101-627], any fishery management plan or amendment which--

- (1) addresses a highly migratory species fishery to which section 304(f)(3) of the Magnuson Fishery Conservation and Management Act (as amended by this Act [101-627]) applies,
 - (2) was prepared by one or more Regional Fishery Management Councils, and
 - (3) was in force and effect on January 1, 1990,
- shall remain in force and effect until superseded by a fishery management plan prepared by the Secretary, and regulations implementing that plan.

104-297, sec. 109(d), M-S Act § 304 note

DELAY OF FEES.--Notwithstanding any other provision of law, the Secretary shall not begin the collection of fees under section 304(d)(2) of the Magnuson Fishery Conservation and Management Act, as amended by this Act [104-297], in the surf clam and ocean (including mahogany) quahog fishery or in the wreckfish fishery until after January 1, 2000.

104-297, sec. 109(h), M-S Act § 304 note

COMPREHENSIVE MANAGEMENT SYSTEM FOR ATLANTIC PELAGIC LONGLINE FISHERY.--(1) The Secretary of Commerce shall--

- (A) establish an advisory panel under section 302(g)(4) of the Magnuson Fishery Conservation and Management Act, as amended by this Act, for pelagic longline fishing vessels that participate in fisheries for Atlantic highly migratory species;
- (B) conduct surveys and workshops with affected fishery participants to provide information and identify options for future management programs;
- (C) to the extent practicable and necessary for the evaluation of options for a comprehensive management system, recover vessel production records; and
- (D) complete by January 1, 1998, a comprehensive study on the feasibility of implementing a comprehensive management system for pelagic longline fishing vessels that participate in fisheries for Atlantic highly migratory species, including, but not limited to, individual fishing quota programs and other limited access systems.

(2) Based on the study under paragraph (1)(D) and consistent with the requirements of the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.), in cooperation with affected participants in the fishery, the United States Commissioners on the International Commission for the Conservation of Atlantic Tunas, and the advisory panel established under paragraph (1)(A), the Secretary of Commerce may, after October 1, 1998, implement a comprehensive management system pursuant to section 304 of such Act (16 U.S.C. 1854) for pelagic longline fishing vessels that participate in fisheries for Atlantic highly migratory species. Such a system may not implement an individual fishing quota program until after October 1, 2000.

104-297, sec. 109(j), M-S Act 304 note

AMERICAN LOBSTER FISHERY.--Section 304(h) of the Magnuson Fishery Conservation and Management Act, as amended by this Act [Public Law 104-297], shall not apply to the American Lobster Fishery Management Plan.

SEC. 305. OTHER REQUIREMENTS AND AUTHORITY

16 U.S.C. 1855

104-297

(a) GEAR EVALUATION AND NOTIFICATION OF ENTRY.--

(1) Not later than 18 months after the date of enactment of the Sustainable Fisheries Act, the Secretary shall publish in the Federal Register, after notice and an opportunity for public comment, a list of all fisheries--

- (A) under the authority of each Council and all fishing gear used in such fisheries, based on information submitted by the Councils under section 303(a); and
- (B) to which section 302(a)(3) applies and all fishing gear used in such fisheries.

(2) The Secretary shall include with such list guidelines for determining when fishing gear or a fishery is sufficiently different from those listed as to require notification under paragraph (3).

(3) Effective 180 days after the publication of such list, no person or vessel may employ fishing gear or engage in a fishery not included on such list without giving 90 days advance written notice to the appropriate Council, or the Secretary with respect to a fishery to which section 302(a)(3) applies. A signed return receipt shall serve as adequate evidence of such notice and as the date upon which the 90-day period begins.

(4) A Council may submit to the Secretary any proposed changes to such list or such guidelines the Council deems appropriate. The Secretary shall publish a revised list, after notice and an opportunity for public comment, upon receiving any such proposed changes from a Council.

(5) A Council may request the Secretary to promulgate emergency regulations under subsection (c) to prohibit any persons or vessels from using an unlisted fishing gear or engaging in an unlisted fishery if the appropriate Council, or the Secretary for fisheries to which section 302(a)(3) applies, determines that such unlisted gear or unlisted fishery would compromise the effectiveness of conservation and management efforts under this Act.

(6) Nothing in this subsection shall be construed to permit a person or vessel to engage in fishing or employ fishing gear when such fishing or gear is prohibited or restricted by regulation under a fishery management plan or plan amendment, or under other applicable law.

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(b) FISH HABITAT.--

(1) (A) The Secretary shall, within 6 months of the date of enactment of the Sustainable Fisheries Act, establish by regulation guidelines to assist the Councils in the description and identification of essential fish habitat in fishery management plans (including adverse impacts on such habitat) and in the consideration of actions to ensure the conservation and enhancement of such habitat. The Secretary shall set forth a schedule for the amendment of fishery management plans to include the identification of essential fish habitat and for the review and updating of such identifications based on new scientific evidence or other relevant information.

(B) The Secretary, in consultation with participants in the fishery, shall provide each Council with recommendations and information regarding each fishery under that Council's authority to assist it in the identification of essential fish habitat, the adverse impacts on that habitat, and the actions that should be considered to ensure the conservation and enhancement of that habitat.

(C) The Secretary shall review programs administered by the Department of Commerce and ensure that any relevant programs further the conservation and enhancement of essential fish habitat.

(D) The Secretary shall coordinate with and provide information to other Federal agencies to further the conservation and enhancement of essential fish habitat.

(2) Each Federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act.

(3) Each Council--

(A) may comment on and make recommendations to the Secretary and any Federal or State agency concerning any activity authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by any Federal or State agency that, in the view of the Council, may affect the habitat, including essential fish habitat, of a fishery resource under its authority; and

(B) shall comment on and make recommendations to the Secretary and any Federal or State agency concerning any such activity that, in the view of the Council, is likely to substantially affect the habitat, including essential fish habitat, of an anadromous fishery resource under its authority.

(4) (A) If the Secretary receives information from a Council or Federal or State agency or determines from other sources that an action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by any State or Federal agency would adversely affect any essential fish habitat identified under this Act, the Secretary shall recommend to such agency measures that can be taken by such agency to conserve such habitat.

(B) Within 30 days after receiving a recommendation under subparagraph (A), a Federal agency shall provide a detailed response in writing to any Council commenting under paragraph (3) and the Secretary regarding the matter. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on such habitat. In the case of a response that is inconsistent with

the recommendations of the Secretary, the Federal agency shall explain its reasons for not following the recommendations.

97-453, 101-627, 104-297

(c) EMERGENCY ACTIONS AND INTERIM MEASURES.--

(1) If the Secretary finds that an emergency or overfishing exists or that interim measures are needed to reduce overfishing for any fishery, he may promulgate emergency⁴ regulations or interim measures necessary to address the emergency or overfishing, without regard to whether a fishery management plan exists for such fishery.

(2) If a Council finds that an emergency or overfishing exists or that interim measures are needed to reduce overfishing for any fishery within its jurisdiction, whether or not a fishery management plan exists for such fishery--

(A) the Secretary shall promulgate emergency⁴ regulations or interim measures under paragraph (1) to address the emergency or overfishing if the Council, by unanimous vote of the members who are voting members, requests the taking of such actions; and

(B) the Secretary may promulgate emergency⁴ regulations or interim measures under paragraph (1) to address the emergency or overfishing if the Council, by less than a unanimous vote, requests the taking of such action.

(3) Any emergency regulation or interim measure which changes any existing fishery management plan or amendment shall be treated as an amendment to such plan for the period in which such regulation is in effect. Any emergency regulation or interim measure promulgated under this subsection--

(A) shall be published in the Federal Register together with the reasons therefor;

(B) shall, except as provided in subparagraph (C), remain in effect for not more than 180 days after the date of publication, and may be extended by publication in the Federal Register for one additional period of not more than 180 days, provided the public has had an opportunity to comment on the emergency regulation or interim measure, and, in the case of a Council recommendation for emergency regulations or interim measures, the Council is actively preparing a fishery management plan, plan amendment, or proposed regulations to address the emergency or overfishing on a permanent basis;

(C) that responds to a public health emergency or an oil spill may remain in effect until the circumstances that created the emergency no longer exist, *Provided*, That the public has an opportunity to comment after the regulation is published, and, in the case of a public health emergency, the Secretary of Health and Human Services concurs with the Secretary's action; and

(D) may be terminated by the Secretary at an earlier date by publication in the Federal Register of a notice of termination, except for emergency regulations or interim measures⁵ promulgated under paragraph (2) in which case such early termination may be

⁴ Section 110(b)(2) of Public Law 104-297 appears to insert "or overfishing" after "emergency" each place it appears in section 305(c)(1) and (2). The editors assume Congress did not intend to insert "or overfishing" between the words "emergency" and "regulations".

⁵ Section 110(b)(3)(A) of Public Law 104-297 says to insert "or interim measure" after "emergency regulation" (singular) each place it appears in section 305(c)(3) of the Magnuson Act. The editors assume Congress also intended "or

made only upon the agreement of the Secretary and the Council concerned.

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(d) RESPONSIBILITY OF THE SECRETARY.--The Secretary shall have general responsibility to carry out any fishery management plan or amendment approved or prepared by him, in accordance with the provisions of this Act. The Secretary may promulgate such regulations, in accordance with section 553 of title 5, United States Code, as may be necessary to discharge such responsibility or to carry out any other provision of this Act.

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(e) EFFECT OF CERTAIN LAWS ON CERTAIN TIME REQUIREMENTS.--The Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.), the Regulatory Flexibility Act (5 U.S.C. 601 et seq.), and Executive Order Numbered 12866, dated September 30, 1993, shall be complied with within the time limitations specified in subsections (a), (b), and (c) of section 304 as they apply to the functions of the Secretary under such provisions.

101-627

(f) JUDICIAL REVIEW.--

(1) Regulations promulgated by the Secretary under this Act and actions described in paragraph (2) shall be subject to judicial review to the extent authorized by, and in accordance with, chapter 7 of title 5, United States Code, if a petition for such review is filed within 30 days after the date on which the regulations are promulgated or the action is published in the Federal Register, as applicable; except that--

(A) section 705 of such title is not applicable, and

(B) the appropriate court shall only set aside any such regulation or action on a ground specified in section 706(2)(A), (B), (C), or (D) of such title.

(2) The actions referred to in paragraph (1) are actions that are taken by the Secretary under regulations which implement a fishery management plan, including but not limited to actions that establish the date of closure of a fishery to commercial or recreational fishing.

(3) (A) Notwithstanding any other provision of law, the Secretary shall file a response to any petition filed in accordance with paragraph (1), not later than 45 days after the date the Secretary is served with that petition, except that the appropriate court may extend the period for filing such a response upon a showing by the Secretary of good cause for that extension.

(B) A response of the Secretary under this paragraph shall include a copy of the administrative record for the regulations that are the subject of the petition.

(4) Upon a motion by the person who files a petition under this subsection, the appropriate court shall assign the matter for hearing at the earliest possible date and shall expedite the matter in every possible way.

interim measures" (plural) be inserted after "emergency regulations" (plural).

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(g) NEGOTIATED CONSERVATION AND MANAGEMENT MEASURES.--

(1)(A) In accordance with regulations promulgated by the Secretary pursuant to this paragraph, a Council may establish a fishery negotiation panel to assist in the development of specific conservation and management measures for a fishery under its authority. The Secretary may establish a fishery negotiation panel to assist in the development of specific conservation and management measures required for a fishery under section 304(e)(5), for a fishery for which the Secretary has authority under section 304(g), or for any other fishery with the approval of the appropriate Council.

(B) No later than 180 days after the date of enactment of the Sustainable Fisheries Act, the Secretary shall promulgate regulations establishing procedures, developed in cooperation with the Administrative Conference of the United States, for the establishment and operation of fishery negotiation panels. Such procedures shall be comparable to the procedures for negotiated rulemaking established by subchapter III of chapter 5 of title 5, United States Code.

(2) If a negotiation panel submits a report, such report shall specify all the areas where consensus was reached by the panel, including, if appropriate, proposed conservation and management measures, as well as any other information submitted by members of the negotiation panel. Upon receipt, the Secretary shall publish such report in the Federal Register for public comment.

(3) Nothing in this subsection shall be construed to require either a Council or the Secretary, whichever is appropriate, to use all or any portion of a report from a negotiation panel established under this subsection in the development of specific conservation and management measures for the fishery for which the panel was established.

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(h) CENTRAL REGISTRY SYSTEM FOR LIMITED ACCESS SYSTEM PERMITS.--

(1) Within 6 months after the date of enactment of the Sustainable Fisheries Act, the Secretary shall establish an exclusive central registry system (which may be administered on a regional basis) for limited access system permits established under section 303(b)(6) or other Federal law, including individual fishing quotas, which shall provide for the registration of title to, and interests in, such permits, as well as for procedures for changes in the registration of title to such permits upon the occurrence of involuntary transfers, judicial or nonjudicial foreclosure of interests, enforcement of judgments thereon, and related matters deemed appropriate by the Secretary. Such registry system shall--

(A) provide a mechanism for filing notice of a nonjudicial foreclosure or enforcement of a judgment by which the holder of a senior security interest acquires or conveys ownership of a permit, and in the event of a nonjudicial foreclosure, by which the interests of the holders of junior security interests are released when the permit is transferred;

(B) provide for public access to the information filed under such system, notwithstanding section 402(b); and

(C) provide such notice and other requirements of applicable law that the Secretary

deems necessary for an effective registry system.

(2) The Secretary shall promulgate such regulations as may be necessary to carry out this subsection, after consulting with the Councils and providing an opportunity for public comment. The Secretary is authorized to contract with non-Federal entities to administer the central registry system.

(3) To be effective and perfected against any person except the transferor, its heirs and devisees, and persons having actual notice thereof, all security interests, and all sales and other transfers of permits described in paragraph (1), shall be registered in compliance with the regulations promulgated under paragraph (2). Such registration shall constitute the exclusive means of perfection of title to, and security interests in, such permits, except for Federal tax liens thereon, which shall be perfected exclusively in accordance with the Internal Revenue Code of 1986 (26 U.S.C. 1 et seq.). The Secretary shall notify both the buyer and seller of a permit if a lien has been filed by the Secretary of the Treasury against the permit before collecting any transfer fee under paragraph (5) of this subsection.

(4) The priority of security interests shall be determined in order of filing, the first filed having the highest priority. A validly-filed security interest shall remain valid and perfected notwithstanding a change in residence or place of business of the owner of record. For the purposes of this subsection, "security interest" shall include security interests, assignments, liens and other encumbrances of whatever kind.

(5) (A) Notwithstanding section 304(d)(1), the Secretary shall collect a reasonable fee of not more than one-half of one percent of the value of a limited access system permit upon registration of the title to such permit with the central registry system and upon the transfer of such registered title. Any such fee collected shall be deposited in the Limited Access System Administration Fund established under subparagraph (B).

(B) There is established in the Treasury a Limited Access System Administration Fund. The Fund shall be available, without appropriation or fiscal year limitation, only to the Secretary for the purposes of--

- (i) administering the central registry system; and
- (ii) administering and implementing this Act in the fishery in which the fees were collected. Sums in the Fund that are not currently needed for these purposes shall be kept on deposit or invested in obligations of, or guaranteed by, the United States.

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(i) ALASKA AND WESTERN PACIFIC COMMUNITY DEVELOPMENT PROGRAMS.--

(1) (A) The North Pacific Council and the Secretary shall establish a western Alaska community development quota program under which a percentage of the total allowable catch of any Bering Sea fishery is allocated to the program.

(B) To be eligible to participate in the western Alaska community development quota program under subparagraph (A) a community shall--

- (i) be located within 50 nautical miles from the baseline from which the breadth of

the territorial sea is measured along the Bering Sea coast from the Bering Strait to the western most of the Aleutian Islands, or on an island within the Bering Sea;

(ii) not be located on the Gulf of Alaska coast of the north Pacific Ocean;

(iii) meet criteria developed by the Governor of Alaska, approved by the Secretary, and published in the Federal Register;

(iv) be certified by the Secretary of the Interior pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.) to be a Native village;

(v) consist of residents who conduct more than one-half of their current commercial or subsistence fishing effort in the waters of the Bering Sea or waters surrounding the Aleutian Islands; and

(vi) not have previously developed harvesting or processing capability sufficient to support substantial participation in the groundfish fisheries in the Bering Sea, unless the community can show that the benefits from an approved Community Development Plan would be the only way for the community to realize a return from previous investments.

(C) (i) Prior to October 1, 2001, the North Pacific Council may not submit to the Secretary any fishery management plan, plan amendment, or regulation that allocates to the western Alaska community development quota program a percentage of the total allowable catch of any Bering Sea fishery for which, prior to October 1, 1995, the Council had not approved a percentage of the total allowable catch for allocation to such community development quota program. The expiration of any plan, amendment, or regulation that meets the requirements of clause (ii) prior to October 1, 2001, shall not be construed to prohibit the Council from submitting a revision or extension of such plan, amendment, or regulation to the Secretary if such revision or extension complies with the other requirements of this paragraph.

(ii) With respect to a fishery management plan, plan amendment, or regulation for a Bering Sea fishery that--

(I) allocates to the western Alaska community development quota program a percentage of the total allowable catch of such fishery; and

(II) was approved by the North Pacific Council prior to October 1, 1995; the Secretary shall, except as provided in clause (iii) and after approval of such plan, amendment, or regulation under section 304, allocate to the program the percentage of the total allowable catch described in such plan, amendment, or regulation. Prior to October 1, 2001, the percentage submitted by the Council and approved by the Secretary for any such plan, amendment, or regulation shall be no greater than the percentage approved by the Council for such fishery prior to October 1, 1995.

(iii) The Secretary shall phase in the percentage for community development

quotas approved in 1995 by the North Pacific Council for the Bering Sea crab fisheries as follows:

(I) 3.5 percent of the total allowable catch of each such fishery for 1998 shall be allocated to the western Alaska community development quota program;

(II) 5 percent of the total allowable catch of each such fishery for 1999 shall be allocated to the western Alaska community development quota program; and

(III) 7.5 percent of the total allowable catch of each such fishery for 2000 and thereafter shall be allocated to the western Alaska community development quota program, unless the North Pacific Council submits and the Secretary approves a percentage that is no greater than 7.5 percent of the total allowable catch of each such fishery for 2001 or the North Pacific Council submits and the Secretary approves any other percentage on or after October 1, 2001.

(D) This paragraph shall not be construed to require the North Pacific Council to resubmit, or the Secretary to reapprove, any fishery management plan or plan amendment approved by the North Pacific Council prior to October 1, 1995, that includes a community development quota program, or any regulations to implement such plan or amendment.

(2) (A) The Western Pacific Council and the Secretary may establish a western Pacific community development program for any fishery under the authority of such Council in order to provide access to such fishery for western Pacific communities that participate in the program.

(B) To be eligible to participate in the western Pacific community development program, a community shall--

(i) be located within the Western Pacific Regional Fishery Management Area;

(ii) meet criteria developed by the Western Pacific Council, approved by the Secretary and published in the Federal Register;

(iii) consist of community residents who are descended from the aboriginal people indigenous to the area who conducted commercial or subsistence fishing using traditional fishing practices in the waters of the Western Pacific region;

(iv) not have previously developed harvesting or processing capability sufficient to support substantial participation in fisheries in the Western Pacific Regional Fishery Management Area; and

(v) develop and submit a Community Development Plan to the Western Pacific Council and the Secretary.

(C) In developing the criteria for eligible communities under subparagraph (B)(ii), the Western Pacific Council shall base such criteria on traditional fishing practices in or dependence on the fishery, the cultural and social framework relevant to the fishery, and economic barriers to access to the fishery.

(D) For the purposes of this subsection "Western Pacific Regional Fishery Management Area" means the area under the jurisdiction of the Western Pacific Council, or an island within such area.

(E) Notwithstanding any other provision of this Act, the Western Pacific Council shall take into account traditional indigenous fishing practices in preparing any fishery management plan.

(3) The Secretary shall deduct from any fees collected from a community development quota program under section 304(d)(2) the costs incurred by participants in the program for observer and reporting requirements which are in addition to observer and reporting requirements of other participants in the fishery in which the allocation to such program has been made.

(4) After the date of enactment of the Sustainable Fisheries Act, the North Pacific Council and Western Pacific Council may not submit to the Secretary a community development quota program that is not in compliance with this subsection.

104-297, sec. 110(e), M-S Act § 305 note

REGISTRY TRANSITION.--Security interests on permits described under section 305(h)(1) of the Magnuson Fishery Conservation and Management Act, as amended by this Act [104-297], that are effective and perfected by otherwise applicable law on the date of the final regulations implementing section 305(h) shall remain effective and perfected if, within 120 days after such date, the secured party submits evidence satisfactory to the Secretary of Commerce and in compliance with such regulations of the perfection of such security.

104-297, sec. 111(b), M-S Act § 305 note

WESTERN PACIFIC DEMONSTRATION PROJECTS.--

(1) The Secretary of Commerce and the Secretary of the Interior are authorized to make direct grants to eligible western Pacific communities, as recommended by the Western Pacific Fishery Management Council, for the purpose of establishing not less than three and not more than five fishery demonstration projects to foster and promote traditional indigenous fishing practices. The total amount of grants awarded under this subsection shall not exceed \$500,000 in each fiscal year.

(2) Demonstration projects funded pursuant to this subsection shall foster and promote the involvement of western Pacific communities in western Pacific fisheries and may--

- (A) identify and apply traditional indigenous fishing practices;
- (B) develop or enhance western Pacific community-based fishing opportunities; and
- (C) involve research, community education, or the acquisition of materials and equipment necessary to carry out any such demonstration project.

(3)(A) The Western Pacific Fishery Management Council, in consultation with the Secretary of Commerce, shall establish an advisory panel under section 302(g) of the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1852(g)) to evaluate, determine the relative merits of, and annually rank applications for such grants. The panel shall consist of not more than 8 individuals who are knowledgeable or experienced in traditional indigenous fishery practices of western Pacific communities and who are not members or employees of the Western Pacific Fishery Management Council.

(B) If the Secretary of Commerce or the Secretary of the Interior awards a grant for a demonstration project not in accordance with the rank given to such project by the advisory panel, the Secretary shall provide a detailed written explanation of the reasons therefor.

(4) The Western Pacific Fishery Management Council shall, with the assistance of such advisory panel, submit an annual report to the Congress assessing the status and progress of demonstration projects carried out under this subsection.

(5) Appropriate Federal agencies may provide technical assistance to western Pacific community-based entities to assist in carrying out demonstration projects under this subsection.

(6) For the purposes of this subsection, “western Pacific community” shall mean a community eligible to participate under section 305(i)(2)(B) of the Magnuson Fishery Conservation and Management Act, as amended by this Act.

SEC. 306. STATE JURISDICTION

16 U.S.C. 1856

97-453, 98-623

(a) IN GENERAL.--

(1) Except as provided in subsection (b), nothing in this Act shall be construed as extending or diminishing the jurisdiction or authority of any State within its boundaries.

(2) For the purposes of this Act, except as provided in subsection (b), the jurisdiction and authority of a State shall extend

(A) to any pocket of waters that is adjacent to the State and totally enclosed by lines delimiting the territorial sea of the United States pursuant to the Geneva Convention on the Territorial Sea and Contiguous Zone or any successor convention to which the United States is a party;

(B) with respect to the body of water commonly known as Nantucket Sound, to the pocket of water west of the seventieth meridian west of Greenwich; and

(C) to the waters of southeastern Alaska (for the purpose of regulating fishing for other than any species of crab) that are--

(i) north of the line representing the international boundary at Dixon Entrance and the westward extension of that line; east of 138 degrees west longitude; and not more than three nautical miles seaward from the coast, from the lines extending from headland to headland across all bays, inlets, straits, passes, sounds, and entrances, and from any island or group of islands, including the islands of the Alexander Archipelago (except Forrester Island); or

(ii) between the islands referred to in clause (i) (except Forrester Island) and the mainland.

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(3) A State may regulate a fishing vessel outside the boundaries of the State in the following circumstances:

(A) The fishing vessel is registered under the law of that State, and (i) there is no fishery management plan or other applicable Federal fishing regulations for the fishery in which the vessel is operating; or (ii) the State's laws and regulations are consistent with the fishery management plan and applicable Federal fishing regulations for the fishery in which the vessel is operating.

(B) The fishery management plan for the fishery in which the fishing vessel is operating delegates management of the fishery to a State and the State's laws and regulations are consistent with such fishery management plan. If at any time the

Secretary determines that a State law or regulation applicable to a fishing vessel under this circumstance is not consistent with the fishery management plan, the Secretary shall promptly notify the State and the appropriate Council of such determination and provide an opportunity for the State to correct any inconsistencies identified in the notification. If, after notice and opportunity for corrective action, the State does not correct the inconsistencies identified by the Secretary, the authority granted to the State under this subparagraph shall not apply until the Secretary and the appropriate Council find that the State has corrected the inconsistencies. For a fishery for which there was a fishery management plan in place on August 1, 1996 that did not delegate management of the fishery to a State as of that date, the authority provided by this subparagraph applies only if the Council approves the delegation of management of the fishery to the State by a three-quarters majority vote of the voting members of the Council.

(C) The fishing vessel is not registered under the law of the State of Alaska and is operating in a fishery in the exclusive economic zone off Alaska for which there was no fishery management plan in place on August 1, 1996, and the Secretary and the North Pacific Council find that there is a legitimate interest of the State of Alaska in the conservation and management of such fishery. The authority provided under this subparagraph shall terminate when a fishery management plan under this Act is approved and implemented for such fishery.

99-659, 104-297

(b) EXCEPTION.--

(1) If the Secretary finds, after notice and an opportunity for a hearing in accordance with section 554 of title 5, United States Code, that--

(A) the fishing in a fishery, which is covered by a fishery management plan implemented under this Act, is engaged in predominately within the exclusive economic zone and beyond such zone; and

(B) any State has taken any action, or omitted to take any action, the results of which will substantially and adversely affect the carrying out of such fishery management plan; the Secretary shall promptly notify such State and the appropriate Council of such finding and of his intention to regulate the applicable fishery within the boundaries of such State (other than its internal waters), pursuant to such fishery management plan and the regulations promulgated to implement such plan.

(2) If the Secretary, pursuant to this subsection, assumes responsibility for the regulation of any fishery, the State involved may at any time thereafter apply to the Secretary for reinstatement of its authority over such fishery. If the Secretary finds that the reasons for which he assumed such regulation no longer prevail, he shall promptly terminate such regulation.

(3) If the State involved requests that a hearing be held pursuant to paragraph (1), the Secretary shall conduct such hearing prior to taking any action under paragraph (1).

97-191, 101-627, 104-297

(c) EXCEPTION REGARDING FOREIGN FISH PROCESSING IN INTERNAL

WATERS.--

(1) A foreign fishing vessel may engage in fish processing within the internal waters of a State if, and only if--

(A) the vessel is qualified for purposes of this paragraph pursuant to paragraph (4)(C) or has received a permit under section 204(d);

(B) the owner or operator of the vessel applies to the Governor of the State for, and (subject to paragraph (2)) is granted, permission for the vessel to engage in such processing and the application specifies the species to be processed; and

(C) the owner or operator of the vessel submits reports on the tonnage of fish received from vessels of the United States and the locations from which such fish were harvested, in accordance with such procedures as the Secretary by regulation shall prescribe.

(2) The Governor of a State may not grant permission for a foreign fishing vessel to engage in fish processing under paragraph (1)--

(A) for a fishery which occurs in the waters of more than one State or in the exclusive economic zone, except after--

(i) consulting with the appropriate Council and Marine Fisheries Commission, and

(ii) considering any comments received from the Governor of any other State where the fishery occurs; and

(B) if the Governor determines that fish processors within the State have adequate capacity, and will utilize such capacity, to process all of the United States harvested fish from the fishery concerned that are landed in the State.

(3) Nothing in this subsection may be construed as relieving a foreign fishing vessel from the duty to comply with all applicable Federal and State laws while operating within the internal waters of a State incident to permission obtained under paragraph (1)(B).

(4) For purposes of this subsection--

(A) The term "fish processing" includes, in addition to processing, the performance of any other activity relating to fishing, including, but not limited to, preparation, supply, storage, refrigeration, or transportation.

(B) The phrase "internal waters of a State" means all waters within the boundaries of a State except those seaward of the baseline from which the territorial sea is measured.

(C) A foreign fishing vessel shall be treated as qualified for purposes of paragraph (1) if the foreign nation under which it is flagged will be a party to (i) a governing international fishery agreement or (ii) a treaty described in section 201(b) of this Act (16 U.S.C. 1821(b)) during the time the vessel will engage in the fish processing for which permission is sought under paragraph (1)(B).

104-297, sec. 112(d), M-S Act § 306 note

INTERIM AUTHORITY FOR DUNGENESS CRAB.--

(1) Subject to the provisions of this subsection and notwithstanding section 306(a) of the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1856(a)), the States of Washington, Oregon, and California may each enforce State laws and regulations governing fish harvesting and processing against any vessel operating in the exclusive economic zone off each respective State in a fishery for Dungeness crab (*Cancer magister*) for which there is no fishery management plan implemented under the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.).

(2) Any law or regulation promulgated under this subsection shall apply equally to vessels operating

in the exclusive economic zone and adjacent State waters and shall be limited to--

- (A) establishment of season opening and closing dates, including presoak dates for crab pots;
- (B) setting of minimum sizes and crab meat recovery rates;
- (C) restrictions on the retention of crab of a certain sex; and
- (D) closure of areas or pot limitations to meet the harvest requirements arising under the jurisdiction of United States v. Washington, subproceeding 89-3.

(3) With respect to the States of Washington, Oregon, and California--

- (A) any State law limiting entry to a fishery subject to regulation under this subsection may not be enforced against a vessel that is operating in the exclusive economic zone off that State and is not registered under the law of that State, if the vessel is otherwise legally fishing in the exclusive economic zone, except that State laws regulating landings may be enforced; and
- (B) no vessel may harvest or process fish which is subject to regulation under this subsection unless under an appropriate State permit or pursuant to a Federal court order.

(4) The authority provided under this subsection to regulate the Dungeness crab fishery shall terminate on October 1, 1999, or when a fishery management plan is implemented under the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.) for such fishery, whichever date is earlier.

(5) Nothing in this subsection shall reduce the authority of any State, as such authority existed on July 1, 1996, to regulate fishing, fish processing, or landing of fish.

(6)(A) It is the sense of Congress that the Pacific Fishery Management Council, at the earliest practicable date, should develop and submit to the Secretary fishery management plans for shellfish fisheries conducted in the geographic area of authority of the Council, especially Dungeness crab, which are not subject to a fishery management plan on the date of enactment of this Act.

(B) Not later than December 1, 1997, the Pacific Fishery Management Council shall provide a report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Resources of the House of Representatives describing the progress in developing the fishery management plans referred to in subparagraph (A) and any impediments to such progress.

SEC. 307. PROHIBITED ACTS

16 U.S.C. 1857

It is unlawful--

99-659, 101-224, 101-627, 102-251, 104-297

(1) for any person--

(A) to violate any provision of this Act or any regulation or permit issued pursuant to this Act;

(B) to use any fishing vessel to engage in fishing after the revocation, or during the period of suspension, of an applicable permit issued pursuant to this Act;

(C) to violate any provision of, or regulation under, an applicable governing international fishery agreement entered into pursuant to section 201(c);

(D) to refuse to permit any officer authorized to enforce the provisions of this Act (as provided for in section 311) to board a fishing vessel subject to such person's control for the purposes of conducting any search or inspection in connection with the enforcement of this Act or any regulation, permit, or agreement referred to in subparagraph (A) or (C);

(E) to forcibly assault, resist, oppose, impede, intimidate, or interfere with any such authorized officer in the conduct of any search or inspection described in subparagraph (D);

(F) to resist a lawful arrest for any act prohibited by this section;

(G) to ship, transport, offer for sale, sell, purchase, import, export, or have custody, control, or possession of, any fish taken or retained in violation of this Act or any regulation, permit, or agreement referred to in subparagraph (A) or (C);

(H) to interfere with, delay, or prevent, by any means, the apprehension or arrest of another person, knowing that such other person has committed any act prohibited by this section;

(I) to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United States fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act;

(J) to ship, transport, offer for sale, sell, or purchase, in interstate or foreign commerce, any whole live lobster of the species *Homarus americanus*, that--

(i) is smaller than the minimum possession size in effect at the time under the American Lobster Fishery Management Plan, as implemented by regulations published in part 649 of title 50, Code of Federal Regulations, or any successor to that plan implemented under this title, or in the absence of any such plan, is smaller than the minimum possession size in effect at the time under a coastal fishery management plan for American lobster adopted by the Atlantic States Marine Fisheries Commission under the Atlantic Coastal Fisheries Cooperative Management Act (16 U.S.C. 5101 et seq.);

(ii) is bearing eggs attached to its abdominal appendages; or

(iii) bears evidence of the forcible removal of extruded eggs from its abdominal appendages;

(K) to to [sic] steal or attempt to steal or to negligently and without authorization remove, damage, or tamper with--

(i) fishing gear owned by another person, which is located in the exclusive economic zone [or special areas]*, or

(ii) fish contained in such fishing gear;

(L) to forcibly assault, resist, oppose, impede, intimidate, sexually harass, bribe, or interfere with any observer on a vessel under this Act, or any data collector employed by the National Marine Fisheries Service or under contract to any person to carry out responsibilities under this Act;

(M) to engage in large-scale driftnet fishing that is subject to the jurisdiction of the United States, including use of a fishing vessel of the United States to engage in such fishing

beyond the exclusive economic zone of any nation;

(N) to strip pollock of its roe and discard the flesh of the pollock; or

(O) to knowingly and willfully fail to disclose, or to falsely disclose, any financial interest as required under section 302(j), or to knowingly vote on a Council decision in violation of section 302(j)(7)(A).

97-191, 97-453, 102-251, 104-297

(2) for any vessel other than a vessel of the United States, and for the owner or operator of any vessel other than a vessel of the United States, to engage--

(A) in fishing within the boundaries of any State, except--

(i) recreational fishing permitted under section 201(i);

(ii) fish processing permitted under section 306(c); or

(iii) transshipment at sea of fish or fish products within the boundaries of any State in accordance with a permit approved under section 204(d);

(B) in fishing, except recreational fishing permitted under section 201(i), within the exclusive economic zone, or for any anadromous species or Continental Shelf fishery resources beyond such zone [or areas]*, unless such fishing is authorized by, and conducted in accordance with, a valid and applicable permit issued pursuant to section 204(b), (c) or (d); or

(C) except as permitted under section 306(c), in fish processing (as defined in paragraph (4)(A) of such section) within the internal waters of a State (as defined in paragraph (4)(B) of such section);

95-354, 101-627, 102-251, 104-297, 104-297

(3) for any vessel of the United States, and for the owner or operator of any vessel of the United States, to transfer at sea directly or indirectly, or attempt to so transfer at sea, any United States harvested fish to any foreign fishing vessel, while such foreign vessel is within the exclusive economic zone or within the boundaries of any State except to the extent that the foreign fishing vessel has been permitted under section 204(d) or section 306(c) to receive such fish;

100-629, 102-251, 104-297

(4) for any fishing vessel other than a vessel of the United States to operate, and for the owner or operator of a fishing vessel other than a vessel of the United States to operate such vessel, in the exclusive economic zone or within the boundaries of any State [or special areas]*, if--

(A) all fishing gear on the vessel is not stored below deck or in an area where it is not normally used, and not readily available, for fishing; or

(B) all fishing gear on the vessel which is not so stored is not secured and covered so as to render it unusable for fishing;

unless such vessel is authorized to engage in fishing in the area in which the vessel is operating;

and

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(5) for any vessel of the United States, and for the owner or operator of any vessel of the United States, to engage in fishing in the waters of a foreign nation in a manner that violates an international fishery agreement between that nation and the United States that has been subject to Congressional oversight in the manner described in section 203, or any regulations issued to implement such an agreement; except that the binding provisions of such agreement and implementing regulations shall have been published in the Federal Register prior to such violation.

SEC. 308. CIVIL PENALTIES AND PERMIT SANCTIONS

16 U.S.C. 1858

101-627, 104-297

(a) ASSESSMENT OF PENALTY.--Any person who is found by the Secretary, after notice and an opportunity for a hearing in accordance with section 554 of title 5, United States Code, to have committed an act prohibited by section 307 shall be liable to the United States for a civil penalty. The amount of the civil penalty shall not exceed \$100,000 for each violation. Each day of a continuing violation shall constitute a separate offense. The amount of such civil penalty shall be assessed by the Secretary, or his designee, by written notice. In determining the amount of such penalty, the Secretary shall take into account the nature, circumstances, extent, and gravity of the prohibited acts committed and, with respect to the violator, the degree of culpability, any history of prior offenses, and such other matters as justice may require. In assessing such penalty the Secretary may also consider any information provided by the violator relating to the ability of the violator to pay, *Provided*, That the information is served on the Secretary at least 30 days prior to an administrative hearing.

99-659, 104-297

(b) REVIEW OF CIVIL PENALTY.--Any person against whom a civil penalty is assessed under subsection (a) or against whom a permit sanction is imposed under subsection (g) (other than a permit suspension for nonpayment of penalty or fine) may obtain review thereof in the United States district court for the appropriate district by filing a complaint against the Secretary in such court within 30 days from the date of such order. The Secretary shall promptly file in such court a certified copy of the record upon which such violation was found or such penalty imposed, as provided in section 2112 of title 28, United States Code. The findings and order of the Secretary shall be set aside by such court if they are not found to be supported by substantial evidence, as provided in section 706(2) of title 5, United States Code.

(c) ACTION UPON FAILURE TO PAY ASSESSMENT.--If any person fails to pay an assessment of a civil penalty after it has become a final and unappealable order, or after the appropriate court has entered final judgment in favor of the Secretary, the Secretary shall refer the matter to the Attorney General of the United States, who shall recover the amount assessed in any appropriate district court of the United States. In such action, the validity and appropriateness of the final order imposing the civil penalty shall not be subject to review.

99-659

(d) **IN REM JURISDICTION.**--A fishing vessel (including its fishing gear, furniture, appurtenances, stores, and cargo) used in the commission of an act prohibited by section 307 shall be liable in rem for any civil penalty assessed for such violation under section 308 and may be proceeded against in any district court of the United States having jurisdiction thereof. Such penalty shall constitute a maritime lien on such vessel which may be recovered in an action in rem in the district court of the United States having jurisdiction over the vessel.

99-659

(e) **COMPROMISE OR OTHER ACTION BY SECRETARY.**--The Secretary may compromise, modify, or remit, with or without conditions, any civil penalty which is subject to imposition or which has been imposed under this section.

97-453, 99-659

(f) **SUBPOENAS.**--For the purposes of conducting any hearing under this section, the Secretary may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and may administer oaths. Witnesses summoned shall be paid the same fees and mileage that are paid to witnesses in the courts of the United States. In case of contempt or refusal to obey a subpoena served upon any person pursuant to this subsection, the district court of the United States for any district in which such person is found, resides, or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the Secretary or to appear and produce documents before the Secretary, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

101-627, 104-297

(g) **PERMIT SANCTIONS.**--

(1) In any case in which (A) a vessel has been used in the commission of an act prohibited under section 307, (B) the owner or operator of a vessel or any other person who has been issued or has applied for a permit under this Act has acted in violation of section 307, (C) any amount in settlement of a civil forfeiture imposed on a vessel or other property, or any civil penalty or criminal fine imposed on a vessel or owner or operator of a vessel or any other person who has been issued or has applied for a permit under any marine resource law enforced by the Secretary has not been paid and is overdue, or (D) any payment required for observer services provided to or contracted by an owner or operator who has been issued a permit or applied for a permit under any marine resource law administered by the Secretary has not been paid and is overdue, the Secretary may--

- (i) revoke any permit issued with respect to such vessel or person, with or without prejudice to the issuance of subsequent permits;
- (ii) suspend such permit for a period of time considered by the Secretary to be appropriate;
- (iii) deny such permit; or
- (iv) impose additional conditions and restrictions on any permit issued to or applied for by such vessel or person under this Act and, with respect to foreign fishing vessels, on the approved application of the foreign nation involved and on any permit

issued under that application.

- (2) In imposing a sanction under this subsection, the Secretary shall take into account--
- (A) the nature, circumstances, extent, and gravity of the prohibited acts for which the sanction is imposed; and
 - (B) with respect to the violator, the degree of culpability, any history of prior offenses, and such other matters as justice may require.

(3) Transfer of ownership of a vessel, by sale or otherwise, shall not extinguish any permit sanction that is in effect or is pending at the time of transfer of ownership. Before executing the transfer of ownership of a vessel, by sale or otherwise, the owner shall disclose in writing to the prospective transferee the existence of any permit sanction that will be in effect or pending with respect to the vessel at the time of the transfer.

(4) In the case of any permit that is suspended under this subsection for nonpayment of a civil penalty or criminal fine, the Secretary shall reinstate the permit upon payment of the penalty or fine and interest thereon at the prevailing rate.

(5) No sanctions shall be imposed under this subsection unless there has been prior opportunity for a hearing on the facts underlying the violation for which the sanction is imposed, either in conjunction with a civil penalty proceeding under this section or otherwise.

SEC. 309. CRIMINAL OFFENSES

16 U.S.C. 1859

99-659, 100-66, 101-627

- (a) **OFFENSES.**--A person is guilty of an offense if he commits any act prohibited by--
- (1) section 307(1)(D), (E), (F), (H), (I), or (L); or
 - (2) section 307(2).

97-453, 101-627

(b) **PUNISHMENT.**--Any offense described in subsection (a)(1) is punishable by a fine of not more than \$100,000, or imprisonment for not more than 6 months, or both; except that if in the commission of any such offense the person uses a dangerous weapon, engages in conduct that causes bodily injury to any observer described in section 307(1)(L) or any officer authorized to enforce the provisions of this Act (as provided for in section 311), or places any such observer or officer in fear of imminent bodily injury, the offense is punishable by a fine of not more than \$200,000, or imprisonment for not more than 10 years, or both. Any offense described in subsection (a)(2) is punishable by a fine of not more than \$200,000.

(c) **JURISDICTION.**--There is Federal jurisdiction over any offense described in this section.

SEC. 310. CIVIL FORFEITURES

16 U.S.C. 1860

97-453

(a) **IN GENERAL.**--Any fishing vessel (including its fishing gear, furniture, appurtenances, stores, and cargo) used, and any fish (or the fair market value thereof) taken or retained, in any manner, in connection with or as a result of the commission of any act prohibited by section 307 (other than any act for which the issuance of a citation under section 311(c) is sufficient sanction) shall be subject to forfeiture to the United States. All or part of such vessel may, and all such fish (or the fair market value thereof) shall, be forfeited to the United States pursuant to a civil proceeding under this section.

(b) **JURISDICTION OF DISTRICT COURTS.**--Any district court of the United States which has jurisdiction under section 311(d) shall have jurisdiction, upon application by the Attorney General on behalf of the United States, to order any forfeiture authorized under subsection (a) and any action provided for under subsection (d).

99-659

(c) **JUDGMENT.**--If a judgment is entered for the United States in a civil forfeiture proceeding under this section, the Attorney General may seize any property or other interest declared forfeited to the United States, which has not previously been seized pursuant to this Act or for which security has not previously been obtained under subsection (d). The provisions of the customs laws relating to--

- (1) the seizure, forfeiture, and condemnation of property for violation of the customs law;
- (2) the disposition of such property or the proceeds from the sale thereof; and
- (3) the remission or mitigation of any such forfeiture; shall apply to seizures and forfeitures incurred, or alleged to have been incurred, under the provisions of this Act, unless such provisions are inconsistent with the purposes, policy, and provisions of this Act.

99-659

(d) **PROCEDURE.**--

(1) Any officer authorized to serve any process in rem which is issued by a court having jurisdiction under section 311(d) shall--

- (A) stay the execution of such process; or
- (B) discharge any fish seized pursuant to such process; upon the receipt of a satisfactory bond or other security from any person claiming such property. Such bond or other security shall be conditioned upon such person (i) delivering such property to the appropriate court upon order thereof, without any impairment of its value, or (ii) paying the monetary value of such property pursuant to an order of such court. Judgment shall be recoverable on such bond or other security against both the principal and any sureties in the event that any condition thereof is breached, as determined by such court. Nothing in this paragraph may be construed to require the Secretary, except in the Secretary's discretion or pursuant to the order of a court under section 311(d), to release on bond any seized fish or other property or the proceeds from the sale thereof.

(2) Any fish seized pursuant to this Act may be sold, subject to the approval and direction of the appropriate court, for not less than the fair market value thereof. The proceeds of any

such sale shall be deposited with such court pending the disposition of the matter involved.

101-627, 104-297

(e) REBUTTABLE PRESUMPTION.--

(1) For purposes of this section, it shall be a rebuttable presumption that all fish found on board a fishing vessel which is seized in connection with an act prohibited by section 307 were taken and retained in violation of this Act.

(2) For purposes of this Act, it shall be a rebuttable presumption that any fish of a species which spawns in fresh or estuarine waters and migrates to ocean waters that is found on board a vessel is of United States origin if the vessel is within the migratory range of the species during that part of the year to which the migratory range applies.

(3) For purposes of this Act, it shall be a rebuttable presumption that any vessel that is shoreward of the outer boundary of the exclusive economic zone of the United States or beyond the exclusive economic zone of any nation, and that has gear on board that is capable of use for large-scale driftnet fishing, is engaged in such fishing.

SEC. 311. ENFORCEMENT

16 U.S.C. 1861

96-470, 97-453

(a) RESPONSIBILITY.--The provisions of this Act shall be enforced by the Secretary and the Secretary of the department in which the Coast Guard is operating. Such Secretaries may, by agreement, on a reimbursable basis or otherwise, utilize the personnel, services, equipment (including aircraft and vessels), and facilities of any other Federal agency, including all elements of the Department of Defense, and of any State agency, in the performance of such duties.

97-453, 102-251

(b) POWERS OF AUTHORIZED OFFICERS.--

(1) Any officer who is authorized (by the Secretary, the Secretary of the department in which the Coast Guard is operating, or the head of any Federal or State agency which has entered into an agreement with such Secretaries under subsection (a)) to enforce the provisions of this Act may--

(A) with or without a warrant or other process--

(i) arrest any person, if he has reasonable cause to believe that such person has committed an act prohibited by section 307;

(ii) board, and search or inspect, any fishing vessel which is subject to the provisions of this Act;

(iii) seize any fishing vessel (together with its fishing gear, furniture, appurtenances, stores, and cargo) used or employed in, or with respect to which it reasonably appears that such vessel was used or employed in, the violation of any provision of this Act;

(iv) seize any fish (wherever found) taken or retained in violation of any provision of this Act; and

(v) seize any other evidence related to any violation of any provision of this Act;

- (B) execute any warrant or other process issued by any court of competent jurisdiction; and
- (C) exercise any other lawful authority.

(2) Subject to the direction of the Secretary, a person charged with law enforcement responsibilities by the Secretary who is performing a duty related to enforcement of a law regarding fisheries or other marine resources may make an arrest without a warrant for an offense against the United States committed in his presence, or for a felony cognizable under the laws of the United States, if he has reasonable grounds to believe that the person to be arrested has committed or is committing a felony. The arrest authority described in the preceding sentence may be conferred upon an officer or employee of a State agency, subject to such conditions and restrictions as are set forth by agreement between the State agency, the Secretary, and, with respect to enforcement operations within the exclusive economic zone [or special areas]*, the Secretary of the department in which the Coast Guard is operating.

(c) **ISSUANCE OF CITATIONS.**--If any officer authorized to enforce the provisions of this Act (as provided for in this section) finds that a fishing vessel is operating or has been operated in violation of any provision of this Act, such officer may, in accordance with regulations issued jointly by the Secretary and the Secretary of the department in which the Coast Guard is operating, issue a citation to the owner or operator of such vessel in lieu of proceeding under subsection (b). If a permit has been issued pursuant to this Act for such vessel, such officer shall note the issuance of any citation under this subsection, including the date thereof and the reason therefor, on the permit. The Secretary shall maintain a record of all citations issued pursuant to this subsection.

104-297

(d) **JURISDICTION OF COURTS.**--The district courts of the United States shall have exclusive jurisdiction over any case or controversy arising under the provisions of this Act. In the case of Guam or any possession of the United States in the Pacific Ocean, the appropriate court is the United States District Court for the District of Guam, except that in the case of American Samoa, the appropriate court is the United States District Court for the District of Hawaii, and except that in the case of the Northern Mariana Islands, the appropriate court is the United States District Court for the District of the Northern Mariana Islands. Any such court may, at any time--

- (1) enter restraining orders or prohibitions;
- (2) issue warrants, process in rem, or other process;
- (3) prescribe and accept satisfactory bonds or other security; and
- (4) take such other actions as are in the interest of justice.

99-659, 101-627, 104-297

(e) **PAYMENT OF STORAGE, CARE, AND OTHER COSTS.**--

(1) Notwithstanding any other provision of law, the Secretary or the Secretary of the Treasury may pay from sums received as fines, penalties, and forfeitures of property for violations of any provisions of this Act or of any other marine resource law enforced by the Secretary, including the Lacey Act Amendments of 1981 (16 U.S.C. 3371 et seq.)--

(A) the reasonable and necessary costs incurred in providing temporary storage, care, and maintenance of seized fish or other property pending disposition of any civil or criminal proceeding alleging a violation of any provision of this Act or any other marine resource law enforced by the Secretary with respect to that fish or other property;

(B) a reward of not less than 20 percent of the penalty collected or \$20,000, whichever is the lesser amount, to any person who furnishes information which leads to an arrest, conviction, civil penalty assessment, or forfeiture of property for any violation of any provision of this Act or any other fishery resource law enforced by the Secretary;

(C) any expenses directly related to investigations and civil or criminal enforcement proceedings, including any necessary expenses for equipment, training, travel, witnesses, and contracting services directly related to such investigations or proceedings;

(D) any valid liens or mortgages against any property that has been forfeited;

(E) claims of parties in interest to property disposed of under section 612(b) of the Tariff Act of 1930 (19 U.S.C. 1612(b)), as made applicable by section 310(c) of this Act or by any other marine resource law enforced by the Secretary, to seizures made by the Secretary, in amounts determined by the Secretary to be applicable to such claims at the time of seizure; and

(F) reimbursement to any Federal or State agency, including the Coast Guard, for services performed, or personnel, equipment, or facilities utilized, under any agreement with the Secretary entered into pursuant to subsection (a), or any similar agreement authorized by law.

(2) Any person found in an administrative or judicial proceeding to have violated this Act or any other marine resource law enforced by the Secretary shall be liable for the cost incurred in the sale, storage, care, and maintenance of any fish or other property lawfully seized in connection with the violation.

102-567

(f) ENFORCEMENT OF NORTHEAST MULTISPECIES FISHERY MANAGEMENT PLAN.--

(1) ENFORCEMENT AGREEMENTS.--Beginning not later than October 1, 1993, the Secretary shall, if requested by the Governor of a State represented on the New England Fishery Management Council, enter into an agreement under subsection (a), with each of the States represented on such Council, that authorizes the marine law enforcement agency of such State to perform duties of the Secretary relating to enforcement of the Northeast Multispecies Fishery Management Plan.

(2) REIMBURSEMENT.--An agreement with a State under this subsection shall provide, subject to the availability of appropriations, for reimbursement of the State for expenses incurred in detection and prosecution of violations of any fishery management plan approved by the Secretary.

(3) COAST GUARD ENFORCEMENT WORKING GROUP.--

(A) ESTABLISHMENT.--The Commander of the First Coast Guard District shall establish an informal fisheries enforcement working group to improve the overall

compliance with and effectiveness of the regulations issued under the Northeast Multispecies Fishery Management Plan.

(B) MEMBERSHIP.--The working group shall consist of members selected by the Commander, and shall include--

- (i) individuals who are representatives of various fishing ports located in the States represented on the New England Fishery Management Council;
- (ii) captains of fishing vessels that operate in waters under the jurisdiction of that Council; and
- (iii) other individuals the Commander considers appropriate.

(C) NON-FEDERAL STATUS OF WORKING GROUP MEMBERS.--An individual shall not receive any compensation for, and shall not be considered to be a Federal employee based on, membership in the working group.

(D) MEETINGS.--The working group shall meet, at the call of the Commander, at least four times each year. The meetings shall be held at various major fishing ports in States represented on the New England Fishery Management Council, as specified by the Commander.

(4) USE OF FINES AND PENALTIES.--Amounts available to the Secretary under this Act which are attributable to fines and penalties imposed for violations of the Northeast Multispecies Fishery Management Plan shall be used by the Secretary pursuant to this section to enforce that Plan.

104-297

(g) ENFORCEMENT IN THE PACIFIC INSULAR AREAS.--The Secretary, in consultation with the Governors of the Pacific Insular Areas and the Western Pacific Council, shall to the extent practicable support cooperative enforcement agreements between Federal and Pacific Insular Area authorities.

99-659, 104-297

(h) DEFINITIONS⁶ .--For purposes of this section--

(1) The term "provisions of this Act" includes (A) any regulation or permit issued pursuant to this Act, and (B) any provision of, or regulation issued pursuant to, any international fishery agreement under which foreign fishing is authorized by section 201(b) or (c), or section 204(d), with respect to fishing subject to the exclusive fishery management authority of the United States.

(2) The term "violation of any provision of this Act" includes (A) the commission of any act prohibited by section 307, and (B) the violation of any regulation, permit, or agreement

⁶ Section 115(e) of Public Law 104-297 "amends" § 311(i) of the Magnuson-Stevens Act by: (1) inserting "201(b) or (c), or section 204(d)," and (2) striking "201(b), (c),". Since § 311 does not include a subsection (i), the editors assume Congress intended to revise subsection (h). Since the words "201(b), (c)," do not appear in § 311(h), the editors assume Congress intended to strike the words "201(b) or (c),".

referred to in paragraph (1).

104-297

SEC. 312. TRANSITION TO SUSTAINABLE FISHERIES⁷

16 U.S.C. 1861a

(a) FISHERIES DISASTER RELIEF.--

(1) At the discretion of the Secretary or at the request of the Governor of an affected State or a fishing community, the Secretary shall determine whether there is a commercial fishery failure due to a fishery resource disaster as a result of--

- (A) natural causes;
- (B) man-made causes beyond the control of fishery managers to mitigate through conservation and management measures; or
- (C) undetermined causes.

(2) Upon the determination under paragraph (1) that there is a commercial fishery failure, the Secretary is authorized to make sums available to be used by the affected State, fishing community, or by the Secretary in cooperation with the affected State or fishing community for assessing the economic and social effects of the commercial fishery failure, or any activity that the Secretary determines is appropriate to restore the fishery or prevent a similar failure in the future and to assist a fishing community affected by such failure. Before making funds available for an activity authorized under this section, the Secretary shall make a determination that such activity will not expand the size or scope of the commercial fishery failure in that fishery or into other fisheries or other geographic regions.

(3) The Federal share of the cost of any activity carried out under the authority of this subsection shall not exceed 75 percent of the cost of that activity.

(4) There are authorized to be appropriated to the Secretary such sums as are necessary for each of the fiscal years 1996, 1997, 1998, and 1999.

(b) FISHING CAPACITY REDUCTION PROGRAM.--

(1) The Secretary, at the request of the appropriate Council for fisheries under the

⁷ Sections 116, 203, 204, 205, and 206 of Public Law 104-297 "amend" sections of the Magnuson-Stevens Act that do not exist (specifically, sections 312, 402, 403, 404, and 405). The editors assume Congress intended to "add" new sections.

authority of such Council, or the Governor of a State for fisheries under State authority, may conduct a fishing capacity reduction program (referred to in this section as the 'program') in a fishery if the Secretary determines that the program--

(A) is necessary to prevent or end overfishing, rebuild stocks of fish, or achieve measurable and significant improvements in the conservation and management of the fishery;

(B) is consistent with the Federal or State fishery management plan or program in effect for such fishery, as appropriate, and that the fishery management plan--

(i) will prevent the replacement of fishing capacity removed by the program through a moratorium on new entrants, restrictions on vessel upgrades, and other effort control measures, taking into account the full potential fishing capacity of the fleet; and

(ii) establishes a specified or target total allowable catch or other measures that trigger closure of the fishery or adjustments to reduce catch; and

(C) is cost-effective and capable of repaying any debt obligation incurred under section 1111 of title XI of the Merchant Marine Act, 1936.

(2) The objective of the program shall be to obtain the maximum sustained reduction in fishing capacity at the least cost and in a minimum period of time. To achieve that objective, the Secretary is authorized to pay--

(A) the owner of a fishing vessel, if such vessel is (i) scrapped, or (ii) through the Secretary of the department in which the Coast Guard is operating, subjected to title restrictions that permanently prohibit and effectively prevent its use in fishing, and if the permit authorizing the participation of the vessel in the fishery is surrendered for permanent revocation and the owner relinquishes any claim associated with the vessel and permit that could qualify such owner for any present or future limited access system permit in the fishery for which the program is established; or

(B) the holder of a permit authorizing participation in the fishery, if such permit is surrendered for permanent revocation, and such holder relinquishes any claim associated with the permit and vessel used to harvest fishery resources under the permit that could qualify such holder for any present or future limited access system permit in the fishery for which the program was established.

(3) Participation in the program shall be voluntary, but the Secretary shall ensure compliance by all who do participate.

(4) The Secretary shall consult, as appropriate, with Councils, Federal agencies, State and regional authorities, affected fishing communities, participants in the fishery, conservation organizations, and other interested parties throughout the development and implementation of any program under this section.

(c) PROGRAM FUNDING.--

(1) The program may be funded by any combination of amounts--

(A) available under clause (iv) of section 2(b)(1)(A) of the Act of August 11, 1939 (15 U.S.C. 713c-3(b)(1)(A)); the Saltonstall-Kennedy Act);

(B) appropriated for the purposes of this section;

(C) provided by an industry fee system established under subsection (d) and in accordance with section 1111 of title XI of the Merchant Marine Act, 1936; or

(D) provided from any State or other public sources or private or non-profit organizations.

(2) All funds for the program, including any fees established under subsection (d), shall be paid into the fishing capacity reduction fund established under section 1111 of title XI of the Merchant Marine Act, 1936.

(d) INDUSTRY FEE SYSTEM.--

(1) (A) If an industry fee system is necessary to fund the program, the Secretary, at the request of the appropriate Council, may conduct a referendum on such system. Prior to the referendum, the Secretary, in consultation with the Council, shall--

(i) identify, to the extent practicable, and notify all permit or vessel owners who would be affected by the program; and

(ii) make available to such owners information about the industry fee system describing the schedule, procedures, and eligibility requirements for the referendum, the proposed program, and the amount and duration and any other terms and conditions of the proposed fee system.

(B) The industry fee system shall be considered approved if the referendum votes which are cast in favor of the proposed system constitute a two-thirds majority of the participants voting.

(2) Notwithstanding section 304(d) and consistent with an approved industry fee system, the Secretary is authorized to establish such a system to fund the program and repay debt obligations incurred pursuant to section 1111 of title XI of the Merchant Marine Act, 1936. The fees for a program established under this section shall--

(A) be determined by the Secretary and adjusted from time to time as the Secretary considers necessary to ensure the availability of sufficient funds to repay such debt obligations;

(B) not exceed 5 percent of the ex-vessel value of all fish harvested from the fishery for which the program is established;

(C) be deducted by the first ex-vessel fish purchaser from the proceeds otherwise payable to the seller and accounted for and forwarded by such fish purchasers to the Secretary in such manner as the Secretary may establish; and

(D) be in effect only until such time as the debt obligation has been fully paid.

(e) IMPLEMENTATION PLAN.--

(1) The Secretary, in consultation with the appropriate Council or State and other interested parties, shall prepare and publish in the Federal Register for a 60-day public comment period an implementation plan, including proposed regulations, for each program. The implementation plan shall--

(A) define criteria for determining types and numbers of vessels which are eligible for participation in the program taking into account characteristics of the fishery, the requirements of applicable fishery management plans, the needs of fishing communities, and the need to minimize program costs; and

(B) establish procedures for program participation (such as submission of owner bid under an auction system or fair market-value assessment) including any terms and conditions for participation which the Secretary deems to be reasonably necessary to meet the goals of the program.

(2) During the 60-day public comment period--

(A) the Secretary shall conduct a public hearing in each State affected by the program; and

(B) the appropriate Council or State shall submit its comments and recommendations, if any, regarding the plan and regulations.

(3) Within 45 days after the close of the public comment period, the Secretary, in consultation with the appropriate Council or State, shall analyze the public comment received and publish in the Federal Register a final implementation plan for the program and regulations for its implementation. The Secretary may not adopt a final implementation plan involving industry fees or debt obligation unless an industry fee system has been approved by a referendum under this section.

101-627

SEC. 313. NORTH PACIFIC FISHERIES CONSERVATION

16 U.S.C. 1862

104-297

(a) **IN GENERAL.**--The North Pacific Council may prepare, in consultation with the Secretary, a fisheries research plan for all fisheries under the Council's jurisdiction except salmon fisheries which--

(1) requires that observers be stationed on fishing vessels engaged in the catching, taking, or harvesting of fish and on United States fish processors fishing for or processing species under the jurisdiction of the Council, including the Northern Pacific halibut fishery, for the purpose of collecting data necessary for the conservation, management, and scientific understanding of any fisheries under the Council's jurisdiction; and

(2) establishes a system of fees to pay for the costs of implementing the plan.

102-582

(b) **STANDARDS.**--

(1) Any plan or plan amendment prepared under this section shall be reasonably calculated to--

(A) gather reliable data, by stationing observers on all or a statistically reliable sample of the fishing vessels and United States fish processors included in the plan, necessary for the conservation, management, and scientific understanding of the fisheries covered by the plan;

(B) be fair and equitable to all vessels and processors;

(C) be consistent with applicable provisions of law; and

(D) take into consideration the operating requirements of the fisheries and the safety of observers and fishermen.

(2) Any system of fees established under this section shall--

(A) provide that the total amount of fees collected under this section not exceed the combined cost of (i) stationing observers on board fishing vessels and United States fish processors, (ii) the actual cost of inputting collected data, and (iii) assessments necessary for a risk-sharing pool implemented under subsection (e) of this section, less any amount received for such purpose from another source or from an existing surplus in the North Pacific Fishery Observer Fund established in subsection (d) of this section;

(B) be fair and equitable to all participants in the fisheries under the jurisdiction of the Council, including the Northern Pacific halibut fishery;

(C) provide that fees collected not be used to pay any costs of administrative overhead or other costs not directly incurred in carrying out the plan;

(D) not be used to offset amounts authorized under other provisions of law;

(E) be expressed as a percentage, not to exceed 2 percent, of the unprocessed ex-vessel value of the fish and shellfish harvested under the jurisdiction of the Council, including the Northern Pacific halibut fishery;

(F) be assessed against all fishing vessels and United States fish processors, including those not required to carry an observer under the plan, participating in fisheries under the jurisdiction of the Council, including the Northern Pacific halibut fishery;

(G) provide that fees collected will be deposited in the North Pacific Fishery Observer Fund established under subsection (d) of this section;

(H) provide that fees collected will only be used for implementing the plan established under this section; and

(I) meet the requirements of section 9701(b) of title 31, United States Code.

(c) ACTION BY SECRETARY.--

(1) Within 60 days after receiving a plan or plan amendment from the North Pacific Council under this section, the Secretary shall review such plan or plan amendment and either (A) remand such plan or plan amendment to the Council with comments if it does not meet the requirements of this section, or (B) publish in the Federal Register proposed regulations for implementing such plan or plan amendment.

(2) During the 60-day public comment period, the Secretary shall conduct a public hearing in each State represented on the Council for the purpose of receiving public comments on the proposed regulations.

(3) Within 45 days of the close of the public comment period, the Secretary, in consultation with the Council, shall analyze the public comment received and publish final regulations for implementing such plan.

(4) If the Secretary remands a plan or plan amendment to the Council for failure to meet the requirements of this section, the Council may resubmit such plan or plan amendment at any time after taking action the Council believes will address the defects identified by the Secretary. Any plan or plan amendment resubmitted to the Secretary will be treated as an

original plan submitted to the Secretary under paragraph (1) of this subsection.

(d) FISHERY OBSERVER FUND.--There is established in the Treasury a North Pacific Fishery Observer Fund. The Fund shall be available, without appropriation or fiscal year limitation, only to the Secretary for the purpose of carrying out the provisions of this section, subject to the restrictions in subsection (b)(2) of this section. The Fund shall consist of all monies deposited into it in accordance with this section. Sums in the Fund that are not currently needed for the purposes of this section shall be kept on deposit or invested in obligations of, or guaranteed by, the United States.

(e) SPECIAL PROVISIONS REGARDING OBSERVERS.--

(1) The Secretary shall review--

(A) the feasibility of establishing a risk sharing pool through a reasonable fee, subject to the limitations of subsection (b)(2)(E) of this section, to provide coverage for vessels and owners against liability from civil suits by observers, and

(B) the availability of comprehensive commercial insurance for vessel and owner liability against civil suits by observers.

(2) If the Secretary determines that a risk sharing pool is feasible, the Secretary shall establish such a pool, subject to the provisions of subsection (b)(2) of this section, unless the Secretary determines that--

(A) comprehensive commercial insurance is available for all fishing vessels and United States fish processors required to have observers under the provisions of this section, and

(B) such comprehensive commercial insurance will provide a greater measure of coverage at a lower cost to each participant.

104-297

(f) BYCATCH REDUCTION.--In implementing section 303(a)(11) and this section, the North Pacific Council shall submit conservation and management measures to lower, on an annual basis for a period of not less than four years, the total amount of economic discards occurring in the fisheries under its jurisdiction.

104-297

(g) BYCATCH REDUCTION INCENTIVES.--

(1) Notwithstanding section 304(d), the North Pacific Council may submit, and the Secretary may approve, consistent with the provisions of this Act, a system of fines in a fishery to provide incentives to reduce bycatch and bycatch rates; except that such fines shall not exceed \$25,000 per vessel per season. Any fines collected shall be deposited in the North Pacific Fishery Observer Fund, and may be made available by the Secretary to offset costs related to the reduction of bycatch in the fishery from which such fines were derived, including conservation and management measures and research, and to the State of Alaska to offset costs incurred by the State in the fishery from which such penalties were derived or in fisheries in which the State is directly involved in management or enforcement and which are directly affected by the fishery from which such penalties were derived.

(2) (A) Notwithstanding section 303(d), and in addition to the authority provided in section 303(b)(10), the North Pacific Council may submit, and the Secretary may approve, conservation and management measures which provide allocations of regulatory discards to individual fishing vessels as an incentive to reduce per vessel bycatch and bycatch rates in a fishery, *Provided, That--*

(i) such allocations may not be transferred for monetary consideration and are made only on an annual basis; and

(ii) any such conservation and management measures will meet the requirements of subsection (h) and will result in an actual reduction in regulatory discards in the fishery.

(B) The North Pacific Council may submit restrictions in addition to the restriction imposed by clause (i) of subparagraph (A) on the transferability of any such allocations, and the Secretary may approve such recommendation.

104-297

(h) CATCH MEASUREMENT.--

(1) By June 1, 1997 the North Pacific Council shall submit, and the Secretary may approve, consistent with the other provisions of this Act, conservation and management measures to ensure total catch measurement in each fishery under the jurisdiction of such Council. Such measures shall ensure the accurate enumeration, at a minimum, of target species, economic discards, and regulatory discards.

(2) To the extent the measures submitted under paragraph (1) do not require United States fish processors and fish processing vessels (as defined in chapter 21 of title 46, United States Code) to weigh fish, the North Pacific Council and the Secretary shall submit a plan to the Congress by January 1, 1998, to allow for weighing, including recommendations to assist such processors and processing vessels in acquiring necessary equipment, unless the Council determines that such weighing is not necessary to meet the requirements of this subsection.

104-297

(i) FULL RETENTION AND UTILIZATION.--

(1) The North Pacific Council shall submit to the Secretary by October 1, 1998 a report on the advisability of requiring the full retention by fishing vessels and full utilization by United States fish processors of economic discards in fisheries under its jurisdiction if such economic discards, or the mortality of such economic discards, cannot be avoided. The report shall address the projected impacts of such requirements on participants in the fishery and describe any full retention and full utilization requirements that have been implemented.

(2) The report shall address the advisability of measures to minimize processing waste, including standards setting minimum percentages which must be processed for human consumption. For the purpose of the report, 'processing waste' means that portion of any fish which is processed and which could be used for human consumption or other commercial use, but which is not so used.

102-567

**SEC. 314. NORTHWEST ATLANTIC OCEAN FISHERIES
REINVESTMENT PROGRAM.--**

16 U.S.C. 1863

104-297

(a) PROGRAM.--(1) Not later than October 1, 1993, the Secretary shall establish a Northwest Atlantic Ocean Fisheries Reinvestment Program for the purposes of--

(A) promoting development of commercial fisheries and markets for underutilized species of the northwest Atlantic Ocean;

(B) developing alternative fishing opportunities for participants in the New England groundfish fishery;

(C) providing technical support and assistance to United States fishermen and fish processors to improve the value-added processing of underutilized species and to make participation in fisheries for underutilized species of the northwest Atlantic Ocean economically viable;

(D) creating new economic opportunities through the improved processing and expanded use of fish waste; and

(E) helping to restore overfished New England groundfish stocks through aquaculture or hatchery programs.

(2) CONSULTATION.--In establishing and implementing the Northwest [sic] Fisheries Reinvestment Program, the Secretary shall consult with representatives of the commercial fishing industry, the seafood processing industry, and the academic community (including the National Sea Grant Program).

(3) ACTIVITIES UNDER PROGRAM.--Subject to the availability of appropriations, the Secretary shall award contracts, grants and other financial assistance to United States citizens to carry out the purposes of subsection (1), under the terms and conditions provided in section 2(c) of the Act of August 11, 1939 (15 U.S.C. 713(c)-3(c); commonly referred to as the "Saltonstall-Kennedy Act"), except that, in making awards under this section for projects involving participation in fisheries for underutilized species, the Secretary shall give the highest priority to a person who owns or operates a fishing vessel permitted under this Act to participate in the New England groundfish fishery who agrees to surrender that permit to the Secretary during the duration of the contract, grant or other assistance.

(4) AUTHORIZATION OF APPROPRIATIONS.--There are authorized to be appropriated \$5,000,000 for each of fiscal years 1993 through 1999 to carry out the purposes of this section. For fiscal year 1993 no more than \$1,000,000, and for fiscal year 1994 no more than \$2,000,000, of such funds may be provided from monies made available under section 2(b) of the Act of August 11, 1939 (15 U.S.C. 713c-3(b)).

(b) ASSISTANCE OF OTHER AGENCIES.--The Secretary shall actively seek the assistance of other Federal agencies in the development of fisheries for underutilized species of the northwest Atlantic Ocean, including, to the extent permitted by other applicable laws, assistance from the Secretary of Agriculture in including such underutilized species as agricultural commodities in the programs of the Foreign Agricultural Service for which amounts

are authorized under the Food, Agriculture, Conservation, and Trade Act of 1990 (Public Law 101-624; 104 Stat. 3359).

(c) MANAGEMENT PLANS FOR UNDERUTILIZED SPECIES.--The New England Fishery Management Council, in consultation with other appropriate Councils, shall develop fishery management plans as soon as possible for any underutilized species of the northwest Atlantic Ocean that is not covered under such a plan, in order to prevent overfishing of that species.

(d) UNDERUTILIZED SPECIES DEFINED.--For purposes of this section, the term "underutilized species of the northwest Atlantic Ocean" means any fish species of the northwest Atlantic Ocean that is identified, by the Director of the Northeast Fisheries Center of the National Marine Fisheries Service, as an underutilized species.

TITLE IV -- FISHERY MONITORING AND RESEARCH

104-297

SEC. 401. REGISTRATION AND INFORMATION MANAGEMENT

16 U.S.C. 1881

(a) STANDARDIZED FISHING VESSEL REGISTRATION AND INFORMATION MANAGEMENT SYSTEM.--The Secretary shall, in cooperation with the Secretary of the department in which the Coast Guard is operating, the States, the Councils, and Marine Fisheries Commissions, develop recommendations for implementation of a standardized fishing vessel registration and information management system on a regional basis. The recommendations shall be developed after consultation with interested governmental and nongovernmental parties and shall--

- (1) be designed to standardize the requirements of vessel registration and information collection systems required by this Act, the Marine Mammal Protection Act (16 U.S.C. 1361 et seq.), and any other marine resource law implemented by the Secretary, and, with the permission of a State, any marine resource law implemented by such State;
- (2) integrate information collection programs under existing fishery management plans into a non-duplicative information collection and management system;
- (3) avoid duplication of existing State, tribal, or Federal systems and shall utilize, to the maximum extent practicable, information collected from existing systems;
- (4) provide for implementation of the system through cooperative agreements with appropriate State, regional, or tribal entities and Marine Fisheries Commissions;
- (5) provide for funding (subject to appropriations) to assist appropriate State, regional, or tribal entities and Marine Fisheries Commissions in implementation;
- (6) establish standardized units of measurement, nomenclature, and formats for the collection and submission of information;
- (7) minimize the paperwork required for vessels registered under the system;
- (8) include all species of fish within the geographic areas of authority of the Councils and all fishing vessels including charter fishing vessels, but excluding recreational fishing

vessels;

(9) require United States fish processors, and fish dealers and other first ex-vessel purchasers of fish that are subject to the proposed system, to submit information (other than economic information) which may be necessary to meet the goals of the proposed system; and

(10) include procedures necessary to ensure--

(A) the confidentiality of information collected under this section in accordance with section 402(b); and

(B) the timely release or availability to the public of information collected under this section consistent with section 402(b).

(b) FISHING VESSEL REGISTRATION.--The proposed registration system should, at a minimum, obtain the following information for each fishing vessel--

(1) the name and official number or other identification, together with the name and address of the owner or operator or both;

(2) gross tonnage, vessel capacity, type and quantity of fishing gear, mode of operation (catcher, catcher processor, or other), and such other pertinent information with respect to vessel characteristics as the Secretary may require; and

(3) identification (by species, gear type, geographic area of operations, and season) of the fisheries in which the fishing vessel participates.

(c) FISHERY INFORMATION.--The proposed information management system should, at a minimum, provide basic fisheries performance information for each fishery, including--

(1) the number of vessels participating in the fishery including charter fishing vessels;

(2) the time period in which the fishery occurs;

(3) the approximate geographic location or official reporting area where the fishery occurs;

(4) a description of fishing gear used in the fishery, including the amount and type of such gear and the appropriate unit of fishing effort; and

(5) other information required under subsection 303(a)(5) or requested by the Council under section 402.

(d) USE OF REGISTRATION.--Any registration recommended under this section shall not be considered a permit for the purposes of this Act, and the Secretary may not propose to revoke, suspend, deny, or impose any other conditions or restrictions on any such registration or the use of such registration under this Act.

(e) PUBLIC COMMENT.--Within one year after the date of enactment of the Sustainable Fisheries Act, the Secretary shall publish in the Federal Register for a 60-day public comment period a proposal that would provide for implementation of a standardized fishing vessel registration and information collection system that meets the requirements of subsections (a) through (c). The proposal shall include--

(1) a description of the arrangements of the Secretary for consultation and cooperation with the department in which the Coast Guard is operating, the States, the Councils, Marine Fisheries Commissions, the fishing industry and other interested parties; and

(2) any proposed regulations or legislation necessary to implement the proposal.

(f) CONGRESSIONAL TRANSMITTAL.--Within 60 days after the end of the comment period and after consideration of comments received under subsection (e), the Secretary shall transmit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Resources of the House of Representatives a recommended proposal for implementation of a national fishing vessel registration system that includes--

- (1) any modifications made after comment and consultation;
- (2) a proposed implementation schedule, including a schedule for the proposed cooperative agreements required under subsection (a)(4); and
- (3) recommendations for any such additional legislation as the Secretary considers necessary or desirable to implement the proposed system.

(g) REPORT TO CONGRESS.--Within 15 months after the date of enactment of the Sustainable Fisheries Act, the Secretary shall report to Congress on the need to include recreational fishing vessels into a national fishing vessel registration and information collection system. In preparing its report, the Secretary shall cooperate with the Secretary of the department in which the Coast Guard is operating, the States, the Councils, and Marine Fisheries Commissions, and consult with governmental and nongovernmental parties

104-297

SEC. 402. INFORMATION COLLECTION⁷

16 U.S.C. 1881a

(a) COUNCIL REQUESTS.--If a Council determines that additional information (other than information that would disclose proprietary or confidential commercial or financial information regarding fishing operations or fish processing operations) would be beneficial for developing, implementing, or revising a fishery management plan or for determining whether a fishery is in need of management, the Council may request that the Secretary implement an information collection program for the fishery which would provide the types of information (other than information that would disclose proprietary or confidential commercial or financial information regarding fishing operations or fish processing operations) specified by the Council. The Secretary shall undertake such an information collection program if he determines that the need is justified, and shall promulgate regulations to implement the program within 60 days after such determination is made. If the Secretary determines that the need for an information collection program is not justified, the Secretary shall inform the Council of the reasons for such determination in writing. The determinations of the Secretary under this subsection regarding a Council request shall be made within a reasonable period of time after receipt of that request.

(b) CONFIDENTIALITY OF INFORMATION.--

(1) Any information submitted to the Secretary by any person in compliance with any requirement under this Act shall be confidential and shall not be disclosed, except--

- (A) to Federal employees and Council employees who are responsible for fishery management plan development and monitoring;
- (B) to State or Marine Fisheries Commission employees pursuant to an agreement with the Secretary that prevents public disclosure of the identity or business of any

person;

(C) when required by court order;

(D) when such information is used to verify catch under an individual fishing quota program;

(E) that observer information collected in fisheries under the authority of the North Pacific Council may be released to the public as specified in a fishery management plan or regulation for weekly summary bycatch information identified by vessel, and for haul-specific bycatch information without vessel identification; or

(F) when the Secretary has obtained written authorization from the person submitting such information to release such information to persons for reasons not otherwise provided for in this subsection, and such release does not violate other requirements of this Act.

(2) The Secretary shall, by regulation, prescribe such procedures as may be necessary to preserve the confidentiality of information submitted in compliance with any requirement or regulation under this Act, except that the Secretary may release or make public any such information in any aggregate or summary form which does not directly or indirectly disclose the identity or business of any person who submits such information. Nothing in this subsection shall be interpreted or construed to prevent the use for conservation and management purposes by the Secretary, or with the approval of the Secretary, the Council, of any information submitted in compliance with any requirement or regulation under this Act or the use, release, or publication of bycatch information pursuant to paragraph (1)(E).

(c) RESTRICTION ON USE OF CERTAIN INFORMATION.--

(1) The Secretary shall promulgate regulations to restrict the use, in civil enforcement or criminal proceedings under this Act, the Marine Mammal Protection Act of 1972 (16 U.S.C. 1361 et seq.), and the Endangered Species Act (16 U.S.C. 1531 et seq.), of information collected by voluntary fishery data collectors, including sea samplers, while aboard any vessel for conservation and management purposes if the presence of such a fishery data collector aboard is not required by any of such Acts or regulations thereunder.

(2) The Secretary may not require the submission of a Federal or State income tax return or statement as a prerequisite for issuance of a permit until such time as the Secretary has promulgated regulations to ensure the confidentiality of information contained in such return or statement, to limit the information submitted to that necessary to achieve a demonstrated conservation and management purpose, and to provide appropriate penalties for violation of such regulations.

(d) CONTRACTING AUTHORITY.--Notwithstanding any other provision of law, the Secretary may provide a grant, contract, or other financial assistance on a sole-source basis to a State, Council, or Marine Fisheries Commission for the purpose of carrying out information collection or other programs if--

(1) the recipient of such a grant, contract, or other financial assistance is specified by statute to be, or has customarily been, such State, Council, or Marine Fisheries Commission; or

(2) the Secretary has entered into a cooperative agreement with such State, Council, or

Marine Fisheries Commission.

(e) RESOURCE ASSESSMENTS.--

(1) The Secretary may use the private sector to provide vessels, equipment, and services necessary to survey the fishery resources of the United States when the arrangement will yield statistically reliable results.

(2) The Secretary, in consultation with the appropriate Council and the fishing industry--

(A) may structure competitive solicitations under paragraph (1) so as to compensate a contractor for a fishery resources survey by allowing the contractor to retain for sale fish harvested during the survey voyage;

(B) in the case of a survey during which the quantity or quality of fish harvested is not expected to be adequately compensatory, may structure those solicitations so as to provide that compensation by permitting the contractor to harvest on a subsequent voyage and retain for sale a portion of the allowable catch of the surveyed fishery; and

(C) may permit fish harvested during such survey to count toward a vessel's catch history under a fishery management plan if such survey was conducted in a manner that precluded a vessel's participation in a fishery that counted under the plan for purposes of determining catch history.

(3) The Secretary shall undertake efforts to expand annual fishery resource assessments in all regions of the Nation.

104-297

SEC. 403. OBSERVERS⁷

16 U.S.C. 1881b

(a) GUIDELINES FOR CARRYING OBSERVERS.--Within one year after the date of enactment of the Sustainable Fisheries Act, the Secretary shall promulgate regulations, after notice and opportunity for public comment, for fishing vessels that carry observers. The regulations shall include guidelines for determining--

(1) when a vessel is not required to carry an observer on board because the facilities of such vessel for the quartering of an observer, or for carrying out observer functions, are so inadequate or unsafe that the health or safety of the observer or the safe operation of the vessel would be jeopardized; and

(2) actions which vessel owners or operators may reasonably be required to take to render such facilities adequate and safe.

(b) TRAINING.--The Secretary, in cooperation with the appropriate States and the National Sea Grant College Program, shall--

(1) establish programs to ensure that each observer receives adequate training in collecting and analyzing the information necessary for the conservation and management purposes of the fishery to which such observer is assigned;

(2) require that an observer demonstrate competence in fisheries science and statistical analysis at a level sufficient to enable such person to fulfill the responsibilities of the position;

(3) ensure that an observer has received adequate training in basic vessel safety; and

(4) make use of university and any appropriate private nonprofit organization training facilities and resources, where possible, in carrying out this subsection.

(c) **OBSERVER STATUS.**--An observer on a vessel and under contract to carry out responsibilities under this Act or the Marine Mammal Protection Act of 1972 (16 U.S.C. 1361 et seq.) shall be deemed to be a Federal employee for the purpose of compensation under the Federal Employee Compensation Act (5 U.S.C. 8101 et seq.).

104-297

SEC. 404 FISHERIES RESEARCH⁷

16 U.S.C. 1881c

(a) **IN GENERAL.**--The Secretary shall initiate and maintain, in cooperation with the Councils, a comprehensive program of fishery research to carry out and further the purposes, policy, and provisions of this Act. Such program shall be designed to acquire knowledge and information, including statistics, on fishery conservation and management and on the economics and social characteristics of the fisheries.

(b) **STRATEGIC PLAN.**--Within one year after the date of enactment of the Sustainable Fisheries Act, and at least every 3 years thereafter, the Secretary shall develop and publish in the Federal Register a strategic plan for fisheries research for the 5 years immediately following such publication. The plan shall--

- (1) identify and describe a comprehensive program with a limited number of priority objectives for research in each of the areas specified in subsection (c);
- (2) indicate goals and timetables for the program described in paragraph (1);
- (3) provide a role for commercial fishermen in such research, including involvement in field testing;
- (4) provide for collection and dissemination, in a timely manner, of complete and accurate information concerning fishing activities, catch, effort, stock assessments, and other research conducted under this section; and
- (5) be developed in cooperation with the Councils and affected States, and provide for coordination with the Councils, affected States, and other research entities.

(c) **AREAS OF RESEARCH.**--Areas of research are as follows:

- (1) Research to support fishery conservation and management, including but not limited to, biological research concerning the abundance and life history parameters of stocks of fish, the interdependence of fisheries or stocks of fish, the identification of essential fish habitat, the impact of pollution on fish populations, the impact of wetland and estuarine degradation, and other factors affecting the abundance and availability of fish.
- (2) Conservation engineering research, including the study of fish behavior and the development and testing of new gear technology and fishing techniques to minimize bycatch and any adverse effects on essential fish habitat and promote efficient harvest of target species.
- (3) Research on the fisheries, including the social, cultural, and economic relationships among fishing vessel owners, crew, United States fish processors, associated shoreside labor,

seafood markets and fishing communities.

(4) Information management research, including the development of a fishery information base and an information management system under section 401 that will permit the full use of information in the support of effective fishery conservation and management.

(d) PUBLIC NOTICE.--In developing the plan required under subsection (a), the Secretary shall consult with relevant Federal, State, and international agencies, scientific and technical experts, and other interested persons, public and private, and shall publish a proposed plan in the Federal Register for the purpose of receiving public comment on the plan. The Secretary shall ensure that affected commercial fishermen are actively involved in the development of the portion of the plan pertaining to conservation engineering research. Upon final publication in the Federal Register, the plan shall be submitted by the Secretary to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Resources of the House of Representatives.

104-297

SEC. 405. INCIDENTAL HARVEST RESEARCH⁷

16 U.S.C. 1881d

(a) COLLECTION OF INFORMATION.--Within nine months after the date of enactment of the Sustainable Fisheries Act, the Secretary shall, after consultation with the Gulf Council and South Atlantic Council, conclude the collection of information in the program to assess the impact on fishery resources of incidental harvest by the shrimp trawl fishery within the authority of such Councils. Within the same time period, the Secretary shall make available to the public aggregated summaries of information collected prior to June 30, 1994 under such program.

(b) IDENTIFICATION OF STOCK.--The program concluded pursuant to subsection (a) shall provide for the identification of stocks of fish which are subject to significant incidental harvest in the course of normal shrimp trawl fishing activity.

(c) COLLECTION AND ASSESSMENT OF SPECIFIC STOCK INFORMATION.--For stocks of fish identified pursuant to subsection (b), with priority given to stocks which (based upon the best available scientific information) are considered to be overfished, the Secretary shall conduct--

(1) a program to collect and evaluate information on the nature and extent (including the spatial and temporal distribution) of incidental mortality of such stocks as a direct result of shrimp trawl fishing activities;

(2) an assessment of the status and condition of such stocks, including collection of information which would allow the estimation of life history parameters with sufficient accuracy and precision to support sound scientific evaluation of the effects of various management alternatives on the status of such stocks; and

(3) a program of information collection and evaluation for such stocks on the magnitude and distribution of fishing mortality and fishing effort by sources of fishing mortality other than shrimp trawl fishing activity.

(d) BYCATCH REDUCTION PROGRAM.--Not later than 12 months after the enactment of the Sustainable Fisheries Act, the Secretary shall, in cooperation with affected interests, and based upon the best scientific information available, complete a program to--

- (1) develop technological devices and other changes in fishing operations necessary and appropriate to minimize the incidental mortality of bycatch in the course of shrimp trawl activity to the extent practicable, taking into account the level of bycatch mortality in the fishery on November 28, 1990;
- (2) evaluate the ecological impacts and the benefits and costs of such devices and changes in fishing operations; and
- (3) assess whether it is practicable to utilize bycatch which is not avoidable.

(e) REPORT TO CONGRESS.--The Secretary shall, within one year of completing the programs required by this section, submit a detailed report on the results of such programs to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Resources of the House of Representatives.

(f) IMPLEMENTATION CRITERIA.--To the extent practicable, any conservation and management measure implemented under this Act to reduce the incidental mortality of bycatch in the course of shrimp trawl fishing shall be consistent with--

- (1) measures applicable to fishing throughout the range in United States waters of the bycatch species concerned; and
- (2) the need to avoid any serious adverse environmental impacts on such bycatch species or the ecology of the affected area.

104-297

SEC. 406 FISHERIES SYSTEMS RESEARCH

16 U.S.C. 1882

(a) ESTABLISHMENT OF PANEL.--Not later than 180 days after the date of enactment of the Sustainable Fisheries Act, the Secretary shall establish an advisory panel under this Act to develop recommendations to expand the application of ecosystem principles in fishery conservation and management activities.

(b) PANEL MEMBERSHIP.--The advisory panel shall consist of not more than 20 individuals and include--

- (1) individuals with expertise in the structures, functions, and physical and biological characteristics of ecosystems; and
- (2) representatives from the Councils, States, fishing industry, conservation organizations, or others with expertise in the management of marine resources.

(c) RECOMMENDATIONS.--Prior to selecting advisory panel members, the Secretary shall, with respect to panel members described in subsection (b)(1), solicit recommendations from the National Academy of Sciences.

(d) REPORT.--Within 2 years after the date of enactment of this Act, the Secretary shall submit to the Congress a completed report of the panel established under this section, which shall include--

(1) an analysis of the extent to which ecosystem principles are being applied in fishery conservation and management activities, including research activities;

(2) proposed actions by the Secretary and by the Congress that should be undertaken to expand the application of ecosystem principles in fishery conservation and management; and

(3) such other information as may be appropriate.

(e) PROCEDURAL MATTER.--The advisory panel established under this section shall be deemed an advisory panel under section 302(g).

104-297

SEC. 407 GULF OF MEXICO RED SNAPPER RESEARCH

16 U.S.C. 1883

(a) INDEPENDENT PEER REVIEW.--

(1) Within 30 days of the date of enactment of the Sustainable Fisheries Act, the Secretary shall initiate an independent peer review to evaluate--

(A) the accuracy and adequacy of fishery statistics used by the Secretary for the red snapper fishery in the Gulf of Mexico to account for all commercial, recreational, and charter fishing harvests and fishing effort on the stock;

(B) the appropriateness of the scientific methods, information, and models used by the Secretary to assess the status and trends of the Gulf of Mexico red snapper stock and as the basis for the fishery management plan for the Gulf of Mexico red snapper fishery;

(C) the appropriateness and adequacy of the management measures in the fishery management plan for red snapper in the Gulf of Mexico for conserving and managing the red snapper fishery under this Act; and

(D) the costs and benefits of all reasonable alternatives to an individual fishing quota program for the red snapper fishery in the Gulf of Mexico.

(2) The Secretary shall ensure that commercial, recreational, and charter fishermen in the red snapper fishery in the Gulf of Mexico are provided an opportunity to--

(A) participate in the peer review under this subsection; and

(B) provide information to the Secretary concerning the review of fishery statistics under this subsection without being subject to penalty under this Act or other applicable law for any past violation of a requirement to report such information to the Secretary.

(3) The Secretary shall submit a detailed written report on the findings of the peer review conducted under this subsection to the Gulf Council no later than one year after the date of enactment of the Sustainable Fisheries Act.

(b) PROHIBITION.--In addition to the restrictions under section 303(d)(1)(A), the Gulf Council may not, prior to October 1, 2000, undertake or continue the preparation of any fishery

management plan, plan amendment or regulation under this Act for the Gulf of Mexico commercial red snapper fishery that creates an individual fishing quota program or that authorizes the consolidation of licenses, permits, or endorsements that result in different trip limits for vessels in the same class.

(c) REFERENDUM.--

(1) On or after October 1, 2000, the Gulf Council may prepare and submit a fishery management plan, plan amendment, or regulation for the Gulf of Mexico commercial red snapper fishery that creates an individual fishing quota program or that authorizes the consolidation of licenses, permits, or endorsements that result in different trip limits for vessels in the same class, only if the preparation of such plan, amendment, or regulation is approved in a referendum conducted under paragraph (2) and only if the submission to the Secretary of such plan, amendment, or regulation is approved in a subsequent referendum conducted under paragraph (2).

(2) The Secretary, at the request of the Gulf Council, shall conduct referendums under this subsection. Only a person who held an annual vessel permit with a red snapper endorsement for such permit on September 1, 1996 (or any person to whom such permit with such endorsement was transferred after such date) and vessel captains who harvested red snapper in a commercial fishery using such endorsement in each red snapper fishing season occurring between January 1, 1993, and such date may vote in a referendum under this subsection. The referendum shall be decided by a majority of the votes cast. The Secretary shall develop a formula to weigh votes based on the proportional harvest under each such permit and endorsement and by each such captain in the fishery between January 1, 1993, and September 1, 1996. Prior to each referendum, the Secretary, in consultation with the Council, shall--

(A) identify and notify all such persons holding permits with red snapper endorsements and all such vessel captains; and

(B) make available to all such persons and vessel captains information about the schedule, procedures, and eligibility requirements for the referendum and the proposed individual fishing quota program.

(d) CATCH LIMITS.--Any fishery management plan, plan amendment, or regulation submitted by the Gulf Council for the red snapper fishery after the date of enactment of the Sustainable Fisheries Act shall contain conservation and management measures that--

(1) establish separate quotas for recreational fishing (which, for the purposes of this subsection shall include charter fishing) and commercial fishing that, when reached, result in a prohibition on the retention of fish caught during recreational fishing and commercial fishing, respectively, for the remainder of the fishing year; and

(2) ensure that such quotas reflect allocations among such sectors and do not reflect any harvests in excess of such allocations.

Appendix

Mandates to Prepare Reports, Make Recommendations, or Conduct Studies

104-297, sec. 108(f), M-S Act § 303 note

INDIVIDUAL FISHING QUOTA REPORT.--

(1) Not later than October 1, 1998, the National Academy of Sciences, in consultation with the Secretary of Commerce and the Regional Fishery Management Councils, shall submit to the Congress a comprehensive final report on individual fishing quotas, which shall include recommendations to implement a national policy with respect to individual fishing quotas. The report shall address all aspects of such quotas, including an analysis of--

- (A) the effects of limiting or prohibiting the transferability of such quotas;
- (B) mechanisms to prevent foreign control of the harvest of United States fisheries under individual fishing quota programs, including mechanisms to prohibit persons who are not eligible to be deemed a citizen of the United States for the purpose of operating a vessel in the coastwise trade under section 2(a) and section 2(c) of the Shipping Act, 1916 (46 U.S.C. 802 (a) and (c)) from holding individual fishing quotas;
- (C) the impact of limiting the duration of individual fishing quota programs;
- (D) the impact of authorizing Federal permits to process a quantity of fish that correspond to individual fishing quotas, and of the value created for recipients of any such permits, including a comparison of such value to the value of the corresponding individual fishing quotas;
- (E) mechanisms to provide for diversity and to minimize adverse social and economic impacts on fishing communities, other fisheries affected by the displacement of vessels, and any impacts associated with the shifting of capital value from fishing vessels to individual fishing quotas, as well as the use of capital construction funds to purchase individual fishing quotas;
- (F) mechanisms to provide for effective monitoring and enforcement, including the inspection of fish harvested and incentives to reduce bycatch, and in particular economic discards;
- (G) threshold criteria for determining whether a fishery may be considered for individual fishing quota management, including criteria related to the geographical range, population dynamics and condition of a fish stock, the socioeconomic characteristics of a fishery (including participants' involvement in multiple fisheries in the region), and participation by commercial, charter, and recreational fishing sectors in the fishery;
- (H) mechanisms to ensure that vessel owners, vessel masters, crew members, and United States fish processors are treated fairly and equitably in initial allocations, to require persons holding individual fishing quotas to be on board the vessel using such quotas, and to facilitate new entry under individual fishing quota programs;
- (I) potential social and economic costs and benefits to the nation, individual fishing quota recipients, and any recipients of Federal permits described in subparagraph (D) under individual fishing quota programs, including from capital gains revenue, the allocation of such quotas or permits through Federal auctions, annual fees and transfer fees at various levels, or other measures;
- (J) the value created for recipients of individual fishing quotas, including a comparison of such value to the value of the fish harvested under such quotas and to the value of permits created by other types of limited access systems, and the effects of creating such value on fishery management and conservation; and
- (K) such other matters as the National Academy of Sciences deems appropriate.

(2) The report shall include a detailed analysis of individual fishing quota programs already implemented in the United States, including the impacts: of any limits on transferability, on past and present participants, on fishing communities, on the rate and total amount of bycatch (including economic and regulatory discards) in the fishery, on the safety of life and vessels in the fishery, on any excess harvesting or processing capacity in the fishery, on any gear conflicts in the fishery, on product quality from the fishery, on the effectiveness of enforcement in the fishery, on the size and composition of fishing vessel fleets, on the economic value created by individual fishing quotas for initial recipients and non-recipients, on conservation of the fishery resource, on fishermen who rely on participation in several

fisheries, on the success in meeting any fishery management plan goals, and the fairness and effectiveness of the methods used for allocating quotas and controlling transferability. The report shall also include any information about individual fishing quota programs in other countries that may be useful.

(3) The report shall identify and analyze alternative conservation and management measures, including other limited access systems such as individual transferable effort systems, that could accomplish the same objectives as individual fishing quota programs, as well as characteristics that are unique to individual fishing quota programs.

(4) The Secretary of Commerce shall, in consultation with the National Academy of Sciences, the Councils, the fishing industry, affected States, conservation organizations and other interested persons, establish two individual fishing quota review groups to assist in the preparation of the report, which shall represent:

(A) Alaska, Hawaii, and the other Pacific coastal States; and

(B) Atlantic coastal States and the Gulf of Mexico coastal States. The Secretary shall, to the extent practicable, achieve a balanced representation of viewpoints among the individuals on each review group. The review groups shall be deemed to be advisory panels under section 302(g) of the Magnuson Fishery Conservation and Management Act, as amended by this Act.

(5) The Secretary of Commerce, in consultation with the National Academy of Sciences and the Councils, shall conduct public hearings in each Council region to obtain comments on individual fishing quotas for use by the National Academy of Sciences in preparing the report required by this subsection. The National Academy of Sciences shall submit a draft report to the Secretary of Commerce by January 1, 1998. The Secretary of Commerce shall publish in the Federal Register a notice and opportunity for public comment on the draft of the report, or any revision thereof. A detailed summary of comments received and views presented at the hearings, including any dissenting views, shall be included by the National Academy of Sciences in the final report.

104-297, sec. 108(h), M-S Act § 305 note

COMMUNITY DEVELOPMENT QUOTA REPORT.--Not later than October 1, 1998, the National Academy of Sciences, in consultation with the Secretary, the North Pacific and Western Pacific Councils, communities and organizations participating in the program, participants in affected fisheries, and the affected States, shall submit to the Secretary of Commerce and Congress a comprehensive report on the performance and effectiveness of the community development quota programs under the authority of the North Pacific and Western Pacific Councils. The report shall--

(1) evaluate the extent to which such programs have met the objective of providing communities with the means to develop ongoing commercial fishing activities;

(2) evaluate the manner and extent to which such programs have resulted in the communities and residents--

(A) receiving employment opportunities in commercial fishing and processing; and

(B) obtaining the capital necessary to invest in commercial fishing, fish processing, and commercial fishing support projects (including infrastructure to support commercial fishing);

(3) evaluate the social and economic conditions in the participating communities and the extent to which alternative private sector employment opportunities exist;

(4) evaluate the economic impacts on participants in the affected fisheries, taking into account the condition of the fishery resource, the market, and other relevant factors;

(5) recommend a proposed schedule for accomplishing the developmental purposes of community development quotas; and

(6) address such other matters as the National Academy of Sciences deems appropriate.

104-297, sec. 116(b), M-S Act § 312 note

STUDY OF FEDERAL INVESTMENT.--The Secretary of Commerce shall establish a task force comprised of interested parties to study and report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Resources of the House of Representatives within 2

years of the date of enactment of this Act on the role of the Federal Government in--

- (1) subsidizing the expansion and contraction of fishing capacity in fishing fleets managed under the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.); and
- (2) otherwise influencing the aggregate capital investments in fisheries.

104-297, sec. 208, M-S Act § 404 note

STUDY OF CONTRIBUTION OF BYCATCH TO CHARITABLE ORGANIZATIONS.

(a) **STUDY.**--The Secretary of Commerce shall conduct a study of the contribution of bycatch to charitable organizations by commercial fishermen. The study shall include determinations of--

- (1) the amount of bycatch that is contributed each year to charitable organizations by commercial fishermen;
- (2) the economic benefits to commercial fishermen from those contributions; and
- (3) the impact on fisheries of the availability of those benefits.

(b) **REPORT.** Not later than 1 year after the date of enactment of this Act, the Secretary of Commerce shall submit to the Congress a report containing determinations made in the study under subsection (a).

(c) **BYCATCH DEFINED.**--In this section the term `bycatch' has the meaning given that term in section 3 of the Magnuson Fishery Conservation and Management Act, as amended by section 102 of this Act.

104-297, sec. 104(g) [uncodified]

RUSSIAN FISHING IN THE BERING SEA.--No later than September 30, 1997, the North Pacific Fishery Management Council, in consultation with the North Pacific and Bering Sea Advisory Body, shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Resources of the House of Representatives a report describing the institutional structures in Russia pertaining to stock assessment, management, and enforcement for fishery harvests in the Bering Sea, and recommendations for improving coordination between the United States and Russia for managing and conserving Bering Sea fishery resources of mutual concern.

104-297, sec. 108(g) [uncodified]

NORTH PACIFIC LOAN PROGRAM.--

(1) By not later than October 1, 1997 the North Pacific Fishery Management Council shall recommend to the Secretary of Commerce a program which uses the full amount of fees authorized to be used under section 303(d)(4) of the Magnuson Fishery Conservation and Management Act, as amended by this Act, in the halibut and sablefish fisheries off Alaska to guarantee obligations in accordance with such section.

(2)(A) For the purposes of this subsection, the phrase `fishermen who fish from small vessels' in section 303(d)(4)(A)(i) of such Act shall mean fishermen wishing to purchase individual fishing quotas for use from Category B, Category C, or Category D vessels, as defined in part 676.20(c) of title 50, Code of Federal Regulations (as revised as of October 1, 1995), whose aggregate ownership of individual fishing quotas will not exceed the equivalent of a total of 50,000 pounds of halibut and sablefish harvested in the fishing year in which a guarantee application is made if the guarantee is approved, who will participate aboard the fishing vessel in the harvest of fish caught under such quotas, who have at least 150 days of experience working as part of the harvesting crew in any United States commercial fishery, and who do not own in whole or in part any Category A or Category B vessel, as defined in such part and title of the Code of Federal Regulations.

(B) For the purposes of this subsection, the phrase "entry level fishermen" in section 303(d)(4)(A)(ii) of such Act shall mean fishermen who do not own any individual fishing quotas, who wish to obtain the equivalent of not more than a total of 8,000 pounds of halibut and sablefish harvested in the fishing year in which a guarantee application is made, and who will participate aboard the fishing vessel in the harvest of fish caught under such quotas.

104-297, sec. 209 [uncodified]

STUDY OF IDENTIFICATION METHODS FOR HARVEST STOCKS.

(a) IN GENERAL.--The Secretary of Commerce shall conduct a study to determine the best possible method of identifying various Atlantic and Pacific salmon and steelhead stocks in the ocean at time of harvest. The study shall include an assessment of--

- (1) coded wire tags;
- (2) fin clipping; and
- (3) other identification methods.

(b) REPORT.--The Secretary shall report the results of the study, together with any recommendations for legislation deemed necessary based on the study, within 6 months after the date of enactment of this Act to the Committee on Resources of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

104-297, sec. 210 [uncodified]

REVIEW OF NORTHEAST FISHERY STOCK ASSESSMENTS.

The National Academy of Sciences, in consultation with regionally recognized fishery experts, shall conduct a peer review of Canadian and United States stock assessments, information collection methodologies, biological assumptions and projections, and other relevant scientific information used as the basis for conservation and management in the Northeast multispecies fishery. The National Academy of Sciences shall submit the results of such review to the Congress and the Secretary of Commerce no later than March 1, 1997.

[J.Feder version 12/19/96]

Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service

Migratory Bird Treaty Act of 1918

[Migratory Bird Treaty Act of 1918](#) (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755) as amended by: Chapter 634; June 20, 1936; 49 Stat. 1556; P.L. 86-732; September 8, 1960; 74 Stat. 866; P.L. 90-578; October 17, 1968; 82 Stat. 1118; P.L. 91-135; December 5, 1969; 83 Stat. 282; P.L. 93-300; June 1, 1974; 88 Stat. 190; P.L. 95-616; November 8, 1978; 92 Stat. 3111; P.L. 99-645; November 10, 1986; 100 Stat. 3590 and P.L. 105-312; October 30, 1998; 112 Stat. 2956

The original 1918 statute implemented the 1916 Convention between the U.S. and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the U.S. and Mexico, the U.S. and Japan, and the U.S. and the Soviet Union (now Russia).

Specific provisions in the statute include:

- Establishment of a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." (16 U.S.C. 703)

This prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and the Russia.

- Authority for the Secretary of the Interior to determine, periodically, when, consistent with the Conventions, "hunting, taking, capture, killing, possession, sale, purchase, shipment, transportation, carriage, or export of any . . . bird, or any part, nest or egg" could be undertaken and to adopt regulations for this purpose. These determinations are to be made based on "due regard to the zones of temperature and to the distribution, abundance, economic value, breeding habits, and times of migratory flight." (16 U.S.C. 704)
- A decree that domestic interstate and international transportation of migratory birds which are taken in violation of this law is unlawful, as well as importation of any migratory birds which are taken in violation of Canadian laws. (16 U.S.C. 705)
- Authority for Interior officials to enforce the provisions of this law, including seizure of birds illegally taken which can be forfeited to the U.S. and disposed of as directed by the

courts. (16 U.S.C. 706)

- Establishment of fines for violation of this law, including misdemeanor charges. (16 U.S.C. 707)
- Authority for States to enact and implement laws or regulations to allow for greater protection of migratory birds, provided that such laws are consistent with the respective Conventions and that open seasons do not extend beyond those established at the national level. (16 U.S.C. 708)
- A repeal of all laws inconsistent with the provisions of this Act. (16 U.S.C. 710)
- Authority for the continued breeding and sale of migratory game birds on farms and preserves for the purpose of increasing the food supply. (16 U.S.C. 711)

The 1936 statute implemented the Convention between the U.S. and Mexico for the Protection of Migratory Birds and Game Mammals. Migratory bird import and export restrictions between Mexico and the U.S. were also authorized, and in issuing any regulations to implement this section, the Secretary of Agriculture was required to consider U.S. laws forbidding importation of certain mammals injurious to agricultural and horticultural interests. Monies for the Secretary of Agriculture to implement these provisions were also authorized.

The 1960 statute (P.L. 86-732) amended the MBTA by altering earlier penalty provisions. The new provisions stipulated that violations of this Act would constitute a misdemeanor and conviction would result in a fine of not more than \$500 or imprisonment of not more than six months. Activities aimed at selling migratory birds in violation of this law would be subject to fine of not more than \$2000 and imprisonment could not exceed two years. Guilty offenses would constitute a felony. Equipment used for sale purchases was authorized to be seized and held, by the Secretary of the Interior, pending prosecution, and, upon conviction, be treated as a penalty.

Section 10 of the 1969 amendments to the Lacey Act (P.L. 91-135) repealed the provisions of the MBTA prohibiting the shipment of wild game mammals or parts to and from the U.S. or Mexico unless permitted by the Secretary of the Interior. The definition of "wildlife" under these amendments does not include migratory birds, however, which are protected under the MBTA.

The 1974 statute (P.L. 93-300) amended the MBTA to include the provisions of the 1972 Convention between the U.S. and Japan for the Protection of Migratory Birds and Birds in Danger of Extinction. This law also amended the title of the MBTA to read: "An Act to give effect to the conventions between the U.S. and other nations for the protection of migratory birds, birds in danger of extinction, game mammals, and their environment."

Section 3(h) of the Fish and Wildlife Improvement Act of 1978 (P.L. 95-616) amended the MBTA to authorize forfeiture to the U.S. of birds and their parts illegally taken, for disposal by the Secretary of the Interior as he deems appropriate. These amendments also authorized the Secretary to issue regulations to permit Alaskan natives to take migratory birds for their subsistence needs during established seasons. The Secretary was required to consider the related migratory bird conventions with Great Britain, Mexico, Japan, and the Soviet Union in establishing these regulations and to establish seasons to provide for the preservation and maintenance of migratory bird stocks.

Public Law 95-616 also ratified a treaty with the Soviet Union specifying that both nations will take measures to protect identified ecosystems of special importance to migratory birds against pollution, detrimental alterations, and other environmental degradations. (See entry for the Convention Between the United States of America and the Union of Soviet Socialist Republics Concerning the Conservation of Migratory Birds and Their Environment; T.I.A.S. 9073; signed on November 19, 1976, and approved by the Senate on July 12, 1978; 92 Stat. 3110.)

Public Law 99-645, the 1986 Emergency Wetlands Resources Act, amended the Act to require that felony violations under the MBTA must be "knowingly" committed.

P.L. 105-312, Migratory Bird Treaty Reform Act of 1998, amended the law to make it unlawful to take migratory game birds by the aid of bait if the person knows or reasonably should know that the area is baited. This provision eliminates the "strict liability" standard that was used to enforce Federal baiting regulations and replaces it with a "know or should have known" standard. These amendments also make it unlawful to place or direct the placement of bait on or adjacent to an area for the purpose of taking or attempting to take migratory game birds, and makes these violations punishable under title 18 United States Code, (with fines up to \$100,000 for individuals and \$200,000 for organizations), imprisonment for not more than 1 year, or both. The new amendments require the Secretary of Interior to submit to the Senate Committee on Environment and Public Works and the House Committee on Resources a report analyzing the effect of these amendments and the practice of baiting on migratory bird conservation and law enforcement. The report to Congress is due no later than five years after enactment of the new law.

P.L. 105-312 also amends the law to allow the fine for misdemeanor convictions under the Migratory Bird Treaty Act to be up to \$15,000 rather than \$5000.

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NATIONAL BALD EAGLE MANAGEMENT GUIDELINES

U.S. Fish and Wildlife Service

May 2007

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INTRODUCTION

The bald eagle (*Haliaeetus leucocephalus*) is protected by the Bald and Golden Eagle Protection Act (Eagle Act) and the Migratory Bird Treaty Act (MBTA). The MBTA and the Eagle Act protect bald eagles from a variety of harmful actions and impacts. The U.S. Fish and Wildlife Service (Service) developed these National Bald Eagle Management Guidelines to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provisions of the Eagle Act may apply to their activities. A variety of human activities can potentially interfere with bald eagles, affecting their ability to forage, nest, roost, breed, or raise young. The Guidelines are intended to help people minimize such impacts to bald eagles, particularly where they may constitute “disturbance,” which is prohibited by the Eagle Act.

The Guidelines are intended to:

- (1) Publicize the provisions of the Eagle Act that continue to protect bald eagles, in order to reduce the possibility that people will violate the law,
- (2) Advise landowners, land managers and the general public of the potential for various human activities to disturb bald eagles, and
- (3) Encourage additional nonbinding land management practices that benefit bald eagles (see Additional Recommendations section).

While the Guidelines include general recommendations for land management practices that will benefit bald eagles, the document is intended primarily as a tool for landowners and planners who seek information and recommendations regarding how to avoid disturbing bald eagles. Many States and some tribal entities have developed state-specific management plans, regulations, and/or guidance for landowners and land managers to protect and enhance bald eagle habitat, and we encourage the continued development and use of these planning tools to benefit bald eagles.

Adherence to the Guidelines herein will benefit individuals, agencies, organizations, and companies by helping them avoid violations of the law. However, the Guidelines themselves are not law. Rather, they are recommendations based on several decades of behavioral observations, science, and conservation measures to avoid or minimize adverse impacts to bald eagles.

The U.S. Fish and Wildlife Service strongly encourages adherence to these guidelines to ensure that bald and golden eagle populations will continue to be sustained. The Service realizes there may be impacts to some birds even if all reasonable measures are taken to avoid such impacts. Although it is not possible to absolve individuals and entities from liability under the Eagle Act or the MBTA, the Service exercises enforcement discretion to focus on those individuals, companies, or agencies that take migratory birds without regard for the consequences of their actions and the law, especially when conservation measures, such as these Guidelines, are available, but have not been implemented. The Service will prioritize its enforcement efforts to focus on those individuals or entities who take bald eagles or their parts, eggs, or nests without implementing appropriate measures recommended by the Guidelines.

The Service intends to pursue the development of regulations that would authorize, under limited circumstances, the use of permits if “take” of an eagle is anticipated but unavoidable. Additionally, if the bald eagle is delisted, the Service intends to provide a regulatory mechanism to honor existing (take) authorizations under the Endangered Species Act (ESA).

During the interim period until the Service completes a rulemaking for permits under the Eagle Act, the Service does not intend to refer for prosecution the incidental “take” of any bald eagle under the MBTA or Eagle Act, if such take is in full compliance with the terms and conditions of an incidental take statement issued to the action agency or applicant under the authority of section 7(b)(4) of the ESA or a permit issued under the authority of section 10(a)(1)(B) of the ESA.

The Guidelines are applicable throughout the United States, including Alaska. The primary purpose of these Guidelines is to provide information that will minimize or prevent violations only of *Federal* laws governing bald eagles. In addition to Federal laws, many states and some smaller jurisdictions and tribes have additional laws and regulations protecting bald eagles. In some cases those laws and regulations may be more protective (restrictive) than these Federal guidelines. If you are planning activities that may affect bald eagles, we therefore recommend that you contact both your nearest U.S. Fish and Wildlife Service Field Office (see the contact information on p.16) and your state wildlife agency for assistance.

LEGAL PROTECTIONS FOR THE BALD EAGLE

The Bald and Golden Eagle Protection Act

The Eagle Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald eagles, including their parts, nests, or eggs. The Act provides criminal and civil penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” “Disturb” means:

"Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle=s return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

A violation of the Act can result in a criminal fine of \$100,000 (\$200,000 for organizations), imprisonment for one year, or both, for a first offense. Penalties increase substantially for additional offenses, and a second violation of this Act is a felony.

The Migratory Bird Treaty Act

The MBTA (16 U.S.C. 703-712), prohibits the taking of any migratory bird or any part, nest, or egg, except as permitted by regulation. The MBTA was enacted in 1918; a 1972 agreement supplementing one of the bilateral treaties underlying the MBTA had the effect of expanding the scope of the Act to cover bald eagles and other raptors. Implementing regulations define “take” under the MBTA as “pursue, hunt, shoot, wound, kill, trap, capture, possess, or collect.”

Copies of the Eagle Act and the MBTA are available at: <http://permits.fws.gov/ltr/ltr.shtml>.

State laws and regulations

Most states have their own regulations and/or guidelines for bald eagle management. Some states may continue to list the bald eagle as endangered, threatened, or of special concern. If you plan activities that may affect bald eagles, we urge you to familiarize yourself with the regulations and/or guidelines that apply to bald eagles in your state. Your adherence to the Guidelines herein does not ensure that you are in compliance with state laws and regulations because state regulations can be more specific and/or restrictive than these Guidelines.

NATURAL HISTORY OF THE BALD EAGLE

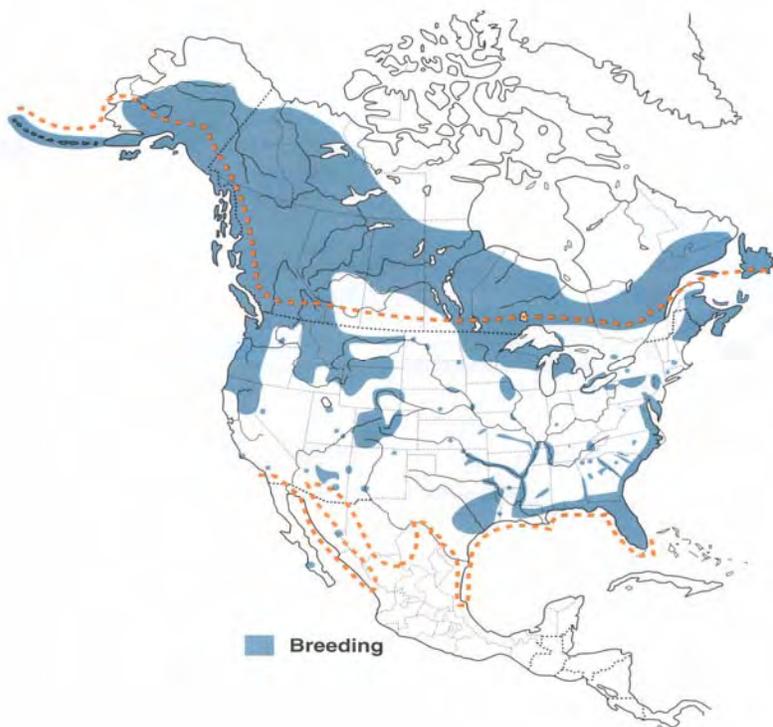
Bald eagles are a North American species that historically occurred throughout the contiguous United States and Alaska. After severely declining in the lower 48 States between the 1870s and the 1970s, bald eagles have rebounded and re-established breeding territories in each of the lower 48 states. The largest North American breeding populations are in Alaska and Canada, but there are also significant bald eagle populations in Florida, the Pacific Northwest, the Greater Yellowstone area, the Great Lakes states, and the Chesapeake Bay region. Bald eagle distribution varies seasonally. Bald eagles that nest in southern latitudes frequently move northward in late spring and early summer, often summering as far north as Canada. Most eagles that breed at northern latitudes migrate southward during winter, or to coastal areas where waters remain unfrozen. Migrants frequently concentrate in large numbers at sites where food is abundant and they often roost together communally. In some cases, concentration areas are used year-round: in summer by southern eagles and in winter by northern eagles.

Juvenile bald eagles have mottled brown and white plumage, gradually acquiring their dark brown body and distinctive white head and tail as they mature. Bald eagles generally attain adult plumage by 5 years of age. Most are capable of breeding at 4 or 5 years of age, but in healthy populations they may not start breeding until much older. Bald eagles may live 15 to 25 years in the wild. Adults weigh 8 to 14 pounds (occasionally reaching 16 pounds in Alaska) and have wingspans of 5 to 8 feet. Those in the northern range are larger than those in the south, and females are larger than males.

Where do bald eagles nest?

Breeding bald eagles occupy “territories,” areas they will typically defend against intrusion by other eagles. In addition to the active nest, a territory may include one or more alternate nests (nests built or maintained by the eagles but not used for nesting in a given year). The Eagle Act prohibits removal or destruction of both active and alternate bald eagle nests. Bald eagles exhibit high nest site fidelity and nesting territories are often used year after year. Some territories are known to have been used continually for over half a century.

Bald eagles generally nest near coastlines, rivers, large lakes or streams that support an adequate food supply. They often nest in mature or old-growth trees; snags (dead trees); cliffs; rock promontories; rarely on the ground; and with increasing frequency on human-made structures such as power poles and communication towers. In forested areas, bald eagles often select the tallest trees with limbs strong enough to support a nest that can weigh more than 1,000 pounds. Nest sites typically include at least one perch with a clear view of the water where the eagles usually forage. Shoreline trees or snags located in reservoirs provide the visibility and accessibility needed to locate aquatic prey. Eagle nests are constructed with large sticks, and may be lined with moss, grass, plant stalks, lichens, seaweed, or sod. Nests are usually about 4-6 feet in diameter and 3 feet deep, although larger nests exist.



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The range of breeding bald eagles in 2000 (shaded areas). This map shows only the larger concentrations of nests; eagles have continued to expand into additional nesting territories in many states. The dotted line represents the bald eagle’s wintering range.

When do bald eagles nest?

Nesting activity begins several months before egg-laying. Egg-laying dates vary throughout the U.S., ranging from October in Florida, to late April or even early May in the northern United States. Incubation typically lasts 33-35 days, but can be as long as 40 days. Eaglets make their first unsteady flights about 10 to 12 weeks after hatching, and fledge (leave their nests) within a few days after that first flight. However, young birds usually remain in the vicinity of the nest for several weeks after fledging because they are almost completely dependent on their parents for food until they disperse from the nesting territory approximately 6 weeks later.

The bald eagle breeding season tends to be longer in the southern U.S., and re-nesting following an unsuccessful first nesting attempt is more common there as well. The following table shows the timing of bald eagle breeding seasons in different regions of the country. The table represents the range of time within which the majority of nesting activities occur in each region and does not apply to any specific nesting pair. Because the timing of nesting activities may vary within a given region, you should contact the nearest U.S. Fish and Wildlife Service Field Office (see page 16) and/or your state wildlife conservation agency for more specific information on nesting chronology in your area.

Chronology of typical reproductive activities of bald eagles in the United States.

Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.
SOUTHEASTERN U.S. (FL, GA, SC, NC, AL, MS, LA, TN, KY, AR, eastern 2 of TX)											
Nest Building											
		Egg Laying/Incubation									
				Hatching/Rearing Young							
					Fledging Young						
CHESAPEAKE BAY REGION (NC, VA, MD, DE, southern 2 of NJ, eastern 2 of PA, panhandle of WV)											
				Nest Building							
					Egg Laying/Incubation						
						Hatching/Rearing Young					
								Fledging Young			
NORTHERN U.S. (ME, NH, MA, RI, CT, NY, northern 2 of NJ, western 2 of PA, OH, WV exc. panhandle, IN, IL, MI, WI, MN, IA, MO, ND, SD, NB, KS, CO, UT)											
				Nest Building							
					Egg Laying/Incubation						
						Hatching/Rearing Young					
								Fledging Young			
PACIFIC REGION (WA, OR, CA, ID, MT, WY, NV)											
				Nest Building							
					Egg Laying/Incubation						
						Hatching/Rearing Young					
								Fledging Young			
SOUTHWESTERN U.S. (AZ, NM, OK panhandle, western 2 of TX)											
				Nest Building							
					Egg Laying/Incubation						
						Hatching/Rearing Young					
								Fledging Young			
ALASKA											
					Nest Building						
							Egg Laying/Incubation				
								Hatching/Rearing Young			
Ing Young										Fledg-	
Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.

How many chicks do bald eagles raise?

The number of eagle eggs laid will vary from 1-3, with 1-2 eggs being the most common. Only one eagle egg is laid per day, although not always on successive days. Hatching of young occurs on different days with the result that chicks in the same nest are sometimes of unequal size. The overall national fledging rate is approximately one chick per nest, annually, which results in a healthy expanding population.

What do bald eagles eat?

Bald eagles are opportunistic feeders. Fish comprise much of their diet, but they also eat waterfowl, shorebirds/colonial waterbirds, small mammals, turtles, and carrion. Because they are visual hunters, eagles typically locate their prey from a conspicuous perch, or soaring flight, then swoop down and strike. Wintering bald eagles often congregate in large numbers along streams to feed on spawning salmon or other fish species, and often gather in large numbers in areas below reservoirs, especially hydropower dams, where fish are abundant. Wintering eagles also take birds from rafts of ducks at reservoirs and rivers, and congregate on melting ice shelves to scavenge dead fish from the current or the soft melting ice. Bald eagles will also feed on carcasses along roads, in landfills, and at feedlots.

During the breeding season, adults carry prey to the nest to feed the young. Adults feed their chicks by tearing off pieces of food and holding them to the beaks of the eaglets. After fledging, immature eagles are slow to develop hunting skills, and must learn to locate reliable food sources and master feeding techniques. Young eagles will congregate together, often feeding upon easily acquired food such as carrion and fish found in abundance at the mouths of streams and shallow bays and at landfills.

The impact of human activity on nesting bald eagles

During the breeding season, bald eagles are sensitive to a variety of human activities. However, not all bald eagle pairs react to human activities in the same way. Some pairs nest successfully just dozens of yards from human activity, while others abandon nest sites in response to activities much farther away. This variability may be related to a number of factors, including visibility, duration, noise levels, extent of the area affected by the activity, prior experiences with humans, and tolerance of the individual nesting pair. The relative sensitivity of bald eagles during various stages of the breeding season is outlined in the following table.

Nesting Bald Eagle Sensitivity to Human Activities

Phase	Activity	Sensitivity to Human Activity	Comments
I	Courtship and Nest Building	Most sensitive period; likely to respond negatively	Most critical time period. Disturbance is manifested in nest abandonment. Bald eagles in newly established territories are more prone to abandon nest sites.
II	Egg laying	Very sensitive period	Human activity of even limited duration may cause nest desertion and abandonment of territory for the breeding season.
III	Incubation and early nestling period (up to 4 weeks)	Very sensitive period	Adults are less likely to abandon the nest near and after hatching. However, flushed adults leave eggs and young unattended; eggs are susceptible to cooling, loss of moisture, overheating, and predation; young are vulnerable to elements.
IV	Nestling period, 4 to 8 weeks	Moderately sensitive period	Likelihood of nest abandonment and vulnerability of the nestlings to elements somewhat decreases. However, nestlings may miss feedings, affecting their survival.
V	Nestlings 8 weeks through fledging	Very sensitive period	Gaining flight capability, nestlings 8 weeks and older may flush from the nest prematurely due to disruption and die.

If agitated by human activities, eagles may inadequately construct or repair their nest, may expend energy defending the nest rather than tending to their young, or may abandon the nest altogether. Activities that cause prolonged absences of adults from their nests can jeopardize eggs or young. Depending on weather conditions, eggs may overheat or cool too much and fail to hatch. Unattended eggs and nestlings are subject to predation. Young nestlings are particularly vulnerable because they rely on their parents to provide warmth or shade, without which they may die as a result of hypothermia or heat stress. If food delivery schedules are interrupted, the young may not develop healthy plumage, which can affect their survival. In addition, adults startled while incubating or brooding young may damage eggs or injure their young as they abruptly leave the nest. Older nestlings no longer require constant attention from the adults, but they may be startled by loud or intrusive human activities and prematurely jump from the nest before they are able to fly or care for themselves. Once fledged, juveniles range up to ¼ mile from the nest site, often to a site with minimal human activity. During this period, until about six weeks after departure from the nest, the juveniles still depend on the adults to feed them.

The impact of human activity on foraging and roosting bald eagles

Disruption, destruction, or obstruction of roosting and foraging areas can also negatively affect bald eagles. Disruptive activities in or near eagle foraging areas can interfere with feeding, reducing chances of survival. Interference with feeding can also result in reduced productivity (number of young successfully fledged). Migrating and wintering bald eagles often congregate at specific sites for purposes of feeding and sheltering. Bald eagles rely on established roost sites because of their proximity to sufficient food sources. Roost sites are usually in mature trees where the eagles are somewhat sheltered from the wind and weather. Human activities near or within communal roost sites may prevent eagles

from feeding or taking shelter, especially if there are not other undisturbed and productive feeding and roosting sites available. Activities that permanently alter communal roost sites and important foraging areas can altogether eliminate the elements that are essential for feeding and sheltering eagles.

Where a human activity agitates or bothers roosting or foraging bald eagles to the degree that causes injury or substantially interferes with breeding, feeding, or sheltering behavior and causes, or is likely to cause, a loss of productivity or nest abandonment, the conduct of the activity constitutes a violation of the Eagle Act's prohibition against disturbing eagles. The circumstances that might result in such an outcome are difficult to predict without detailed site-specific information. If your activities may disturb roosting or foraging bald eagles, you should contact your local Fish and Wildlife Service Field Office (see page 16) for advice and recommendations for how to avoid such disturbance.

RECOMMENDATIONS FOR AVOIDING DISTURBANCE AT NEST SITES

In developing these Guidelines, we relied on existing state and regional bald eagle guidelines, scientific literature on bald eagle disturbance, and recommendations of state and Federal biologists who monitor the impacts of human activity on eagles. Despite these resources, uncertainties remain regarding the effects of many activities on eagles and how eagles in different situations may or may not respond to certain human activities. The Service recognizes this uncertainty and views the collection of better biological data on the response of eagles to disturbance as a high priority. To the extent that resources allow, the Service will continue to collect data on responses of bald eagles to human activities conducted according to the recommendations within these Guidelines to ensure that adequate protection from disturbance is being afforded, and to identify circumstances where the Guidelines might be modified. These data will be used to make future adjustments to the Guidelines.

To avoid disturbing nesting bald eagles, we recommend (1) keeping a distance between the activity and the nest (distance buffers), (2) maintaining preferably forested (or natural) areas between the activity and around nest trees (landscape buffers), and (3) avoiding certain activities during the breeding season. The buffer areas serve to minimize visual and auditory impacts associated with human activities near nest sites. Ideally, buffers would be large enough to protect existing nest trees and provide for alternative or replacement nest trees.

The size and shape of effective buffers vary depending on the topography and other ecological characteristics surrounding the nest site. In open areas where there are little or no forested or topographical buffers, such as in many western states, distance alone must serve as the buffer. Consequently, in open areas, the distance between the activity and the nest may need to be larger than the distances recommended under Categories A and B of these guidelines (pg. 12) if no landscape buffers are present. The height of the nest above the ground may also ameliorate effects of human activities; eagles at higher nests may be less prone to disturbance.

In addition to the physical features of the landscape and nest site, the appropriate size for the distance buffer may vary according to the historical tolerances of eagles to human activities in particular localities, and may also depend on the location of the nest in relation

to feeding and roosting areas used by the eagles. Increased competition for nest sites may lead bald eagles to nest closer to human activity (and other eagles).

Seasonal restrictions can prevent the potential impacts of many shorter-term, obtrusive activities that do not entail landscape alterations (e.g. fireworks, outdoor concerts). In proximity to the nest, these kinds of activities should be conducted only outside the breeding season. For activities that entail both short-term, obtrusive characteristics and more permanent impacts (e.g., building construction), we recommend a combination of both approaches: retaining a landscape buffer *and* observing seasonal restrictions.

For assistance in determining the appropriate size and configuration of buffers or the timing of activities in the vicinity of a bald eagle nest, we encourage you to contact the nearest U.S. Fish and Wildlife Service Field Office (see page 16).

Existing Uses

Eagles are unlikely to be disturbed by routine use of roads, homes, and other facilities where such use pre-dates the eagles' successful nesting activity in a given area. Therefore, in most cases *ongoing* existing uses may proceed with the same intensity with little risk of disturbing bald eagles. However, some *intermittent, occasional, or irregular* uses that pre-date eagle nesting in an area may disturb bald eagles. For example: a pair of eagles may begin nesting in an area and subsequently be disturbed by activities associated with an annual outdoor flea market, even though the flea market has been held annually at the same location. In such situations, human activity should be adjusted or relocated to minimize potential impacts on the nesting pair.

ACTIVITY-SPECIFIC GUIDELINES

The following section provides the Service's management recommendations for avoiding bald eagle disturbance as a result of new or intermittent activities proposed in the vicinity of bald eagle nests. Activities are separated into 8 categories (A – H) based on the nature and magnitude of impacts to bald eagles that usually result from the type of activity. Activities with similar or comparable impacts are grouped together.

In most cases, impacts will vary based on the visibility of the activity from the eagle nest and the degree to which similar activities are already occurring in proximity to the nest site. Visibility is a factor because, in general, eagles are more prone to disturbance when an activity occurs in full view. For this reason, we recommend that people locate activities farther from the nest structure in areas with open vistas, in contrast to areas where the view is shielded by rolling topography, trees, or other screening factors. The recommendations also take into account the existence of similar activities in the area because the continued presence of nesting bald eagles in the vicinity of the existing activities indicates that the eagles in that area can tolerate a greater degree of human activity than we can generally expect from eagles in areas that experience fewer human impacts. To illustrate how these factors affect the likelihood of disturbing eagles, we have incorporated the recommendations for some activities into a table (categories A and B).

First, determine which category your activity falls into (between categories A – H). If the activity you plan to undertake is not specifically addressed in these guidelines, follow the recommendations for the most similar activity represented.

If your activity is under A or B, our recommendations are in table form. The vertical axis shows the degree of visibility of the activity from the nest. The horizontal axis (header row) represents the degree to which similar activities are ongoing in the vicinity of the nest. Locate the row that best describes how visible your activity will be from the eagle nest. Then, choose the column that best describes the degree to which similar activities are ongoing in the vicinity of the eagle nest. The box where the column and row come together contains our management recommendations for how far you should locate your activity from the nest to avoid disturbing the eagles. The numerical distances shown in the tables are the closest the activity should be conducted relative to the nest. In some cases we have included additional recommendations (other than recommended *distance* from the nest) you should follow to help ensure that your activity will not disturb the eagles.

Alternate nests

For activities that entail permanent landscape alterations that may result in bald eagle disturbance, these recommendations apply to both active and alternate bald eagle nests. Disturbance becomes an issue with regard to alternate nests if eagles return for breeding purposes and react to land use changes that occurred while the nest was inactive. The likelihood that an alternate nest will again become active decreases the longer it goes unused. If you plan activities in the vicinity of an alternate bald eagle nest and have information to show that the nest has not been active during the preceding 5 breeding seasons, the recommendations provided in these guidelines for avoiding disturbance around the nest site may no longer be warranted. The nest itself remains protected by other provisions of the Eagle Act, however, and may not be destroyed.

If special circumstances exist that make it unlikely an inactive nest will be reused before 5 years of disuse have passed, and you believe that the probability of reuse is low enough to warrant disregarding the recommendations for avoiding disturbance, you should be prepared to provide all the reasons for your conclusion, including information regarding past use of the nest site. Without sufficient documentation, you should continue to follow these guidelines when conducting activities around the nest site. If we are able to determine that it is unlikely the nest will be reused, we may advise you that the recommendations provided in these guidelines for avoiding disturbance are no longer necessary around that nest site.

This guidance is intended to minimize disturbance, as defined by Federal regulation. In addition to Federal laws, most states and some tribes and smaller jurisdictions have additional laws and regulations protecting bald eagles. In some cases those laws and regulations may be more protective (restrictive) than these Federal guidelines.

Temporary Impacts

For activities that have temporary impacts, such as the use of loud machinery, fireworks displays, or summer boating activities, we recommend seasonal restrictions. These types of activities can generally be carried out outside of the breeding season without causing disturbance. The recommended restrictions for these types of activities can be lifted for alternate nests within a particular territory, including nests that were attended during the current breeding season but not used to raise young, after eggs laid in another nest within the territory have hatched (depending on the distance between the alternate nest and the active nest).

In general, activities should be kept as far away from nest trees as possible; loud and disruptive activities should be conducted when eagles are not nesting; and activity between the nest and the nearest foraging area should be minimized. If the activity you plan to undertake is not specifically addressed in these guidelines, follow the recommendations for the most similar activity addressed, or contact your local U.S. Fish and Wildlife Service Field Office for additional guidance.

If you believe that special circumstances apply to your situation that increase or diminish the likelihood of bald eagle disturbance, or if it is not possible to adhere to the guidelines, you should contact your local Service Field Office for further guidance.

Category A:

- Building construction, 1 or 2 story, with project footprint of ½ acre or less.
- Construction of roads, trails, canals, power lines, and other linear utilities.
- Agriculture and aquaculture – new or expanded operations.
- Alteration of shorelines or wetlands.
- Installation of docks or moorings.
- Water impoundment.

Category B:

- Building construction, 3 or more stories.
- Building construction, 1 or 2 story, with project footprint of more than ½ acre.
- Installation or expansion of marinas with a capacity of 6 or more boats.
- Mining and associated activities.
- Oil and natural gas drilling and refining and associated activities.

	<i>If there is no similar activity within 1 mile of the nest</i>	<i>If there is similar activity closer than 1 mile from the nest</i>
<i>If the activity will be visible from the nest</i>	660 feet. Landscape buffers are recommended.	660 feet, or as close as existing tolerated activity of similar scope. Landscape buffers are recommended.
<i>If the activity will not be visible from the nest</i>	Category A: 330 feet. Clearing, external construction, and landscaping between 330 feet and 660 feet should be done outside breeding season. Category B: 660 feet.	330 feet, or as close as existing tolerated activity of similar scope. Clearing, external construction and landscaping within 660 feet should be done outside breeding season.

The numerical distances shown in the table are the closest the activity should be conducted relative to the nest.

Category C. Timber Operations and Forestry Practices

- Avoid clear cutting or removal of overstory trees within 330 feet of the nest at any time.
- Avoid timber harvesting operations, including road construction and chain saw and yarding operations, during the breeding season within 660 feet of the nest. The distance may be decreased to 330 feet around alternate nests within a particular territory, including nests that were attended during the current breeding season but not used to raise young, after eggs laid in another nest within the territory have hatched.
- Selective thinning and other silviculture management practices designed to conserve or enhance habitat, including prescribed burning close to the nest tree, should be undertaken outside the breeding season. Precautions such as raking leaves and woody debris from around the nest tree should be taken to prevent crown fire or fire climbing the nest tree. If it is determined that a burn during the breeding season would be beneficial, then, to ensure that no take or disturbance will occur, these activities should be conducted only when neither adult eagles nor young are present at the nest tree (i.e., at the beginning of, or end of, the breeding season, either before the particular nest is active or after the young have fledged from that nest). Appropriate Federal and state biologists should be consulted before any prescribed burning is conducted during the breeding season.
- Avoid construction of log transfer facilities and in-water log storage areas within 330 feet of the nest.

Category D. Off-road vehicle use (including snowmobiles). No buffer is necessary around nest sites outside the breeding season. During the breeding season, do not operate off-road vehicles within 330 feet of the nest. In open areas, where there is increased visibility and exposure to noise, this distance should be extended to 660 feet.

Category E. Motorized Watercraft use (including jet skis/personal watercraft). No buffer is necessary around nest sites outside the breeding season. During the breeding season, within 330 feet of the nest, (1) do not operate jet skis (personal watercraft), and (2) avoid concentrations of noisy vessels (e.g., commercial fishing boats and tour boats), except where eagles have demonstrated tolerance for such activity. Other motorized boat traffic passing within 330 feet of the nest should attempt to minimize trips and avoid stopping in the area where feasible, particularly where eagles are unaccustomed to boat traffic. Buffers for airboats should be larger than 330 feet due to the increased noise they generate, combined with their speed, maneuverability, and visibility.

Category F. Non-motorized recreation and human entry (e.g., hiking, camping, fishing, hunting, birdwatching, kayaking, canoeing). No buffer is necessary around nest sites outside the breeding season. If the activity will be visible or highly audible from the nest, maintain a 330-foot buffer during the breeding season, particularly where eagles are unaccustomed to such activity.

Category G. Helicopters and fixed-wing aircraft.

Except for authorized biologists trained in survey techniques, avoid operating aircraft within 1,000 feet of the nest during the breeding season, except where eagles have demonstrated tolerance for such activity.

Category H. Blasting and other loud, intermittent noises.

Avoid blasting and other activities that produce extremely loud noises within 1/2 mile of active nests, unless greater tolerance to the activity (or similar activity) has been demonstrated by the eagles in the nesting area. This recommendation applies to the use of fireworks classified by the Federal Department of Transportation as Class B explosives, which includes the larger fireworks that are intended for licensed public display.

RECOMMENDATIONS FOR AVOIDING DISTURBANCE AT FORAGING AREAS AND COMMUNAL ROOST SITES

1. Minimize potentially disruptive activities and development in the eagles' direct flight path between their nest and roost sites and important foraging areas.
2. Locate long-term and permanent water-dependent facilities, such as boat ramps and marinas, away from important eagle foraging areas.
3. Avoid recreational and commercial boating and fishing near critical eagle foraging areas during peak feeding times (usually early to mid-morning and late afternoon), except where eagles have demonstrated tolerance to such activity.
4. Do not use explosives within ½ mile (or within 1 mile in open areas) of communal roosts when eagles are congregating, without prior coordination with the U.S. Fish and Wildlife Service and your state wildlife agency.
5. Locate aircraft corridors no closer than 1,000 feet vertical or horizontal distance from communal roost sites.

ADDITIONAL RECOMMENDATIONS TO BENEFIT BALD EAGLES

The following are additional management practices that landowners and planners can exercise for added benefit to bald eagles.

1. Protect and preserve potential roost and nest sites by retaining mature trees and old growth stands, particularly within ½ mile from water.
2. Where nests are blown from trees during storms or are otherwise destroyed by the elements, continue to protect the site in the absence of the nest for up to three (3) complete breeding seasons. Many eagles will rebuild the nest and reoccupy the site.
3. To avoid collisions, site wind turbines, communication towers, and high voltage transmission power lines away from nests, foraging areas, and communal roost sites.
4. Employ industry-accepted best management practices to prevent birds from colliding with or being electrocuted by utility lines, towers, and poles. If possible, bury utility lines in important eagle areas.
5. Where bald eagles are likely to nest in human-made structures (e.g., cell phone towers) and such use could impede operation or maintenance of the structures or jeopardize the safety of the eagles, equip the structures with either (1) devices engineered to discourage bald eagles from building nests, or (2) nesting platforms that will safely accommodate bald eagle nests without interfering with structure performance.
6. Immediately cover carcasses of euthanized animals at landfills to protect eagles from being poisoned.
7. Do not intentionally feed bald eagles. Artificially feeding bald eagles can disrupt their essential behavioral patterns and put them at increased risk from power lines, collision with windows and cars, and other mortality factors.
8. Use pesticides, herbicides, fertilizers, and other chemicals only in accordance with Federal and state laws.
9. Monitor and minimize dispersal of contaminants associated with hazardous waste sites (legal or illegal), permitted releases, and runoff from agricultural areas, especially within watersheds where eagles have shown poor reproduction or where bioaccumulating contaminants have been documented. These factors present a risk of contamination to eagles and their food sources.

CONTACTS

The following U.S. Fish and Wildlife Service Field Offices provide technical assistance on bald eagle management:

<u>Alabama</u>	Daphne	(251) 441-5181	<u>New Hampshire</u>	Concord	(603) 223-2541
<u>Alaska</u>	Anchorage	(907) 271-2888	<u>New Jersey</u>	Pleasantville	(609) 646-9310
	Fairbanks	(907) 456-0203	<u>New Mexico</u>	Albuquerque	(505) 346-2525
	Juneau	(907) 780-1160	<u>New York</u>	Cortland	(607) 753-9334
<u>Arizona</u>	Phoenix	(602) 242-0210		Long Island	(631) 776-1401
<u>Arkansas</u>	Conway	(501) 513-4470	<u>North Carolina</u>	Raleigh	(919) 856-4520
<u>California</u>	Arcata	(707) 822-7201		Asheville	(828) 258-3939
	Barstow	(760) 255-8852	<u>North Dakota</u>	Bismarck	(701) 250-4481
	Carlsbad	(760) 431-9440	<u>Ohio</u>	Reynoldsburg	(614) 469-6923
	Red Bluff	(530) 527-3043	<u>Oklahoma</u>	Tulsa	(918) 581-7458
	Sacramento	(916) 414-6000	<u>Oregon</u>	Bend	(541) 383-7146
	Stockton	(209) 946-6400		Klamath Falls	(541) 885-8481
	Ventura	(805) 644-1766		La Grande	(541) 962-8584
	Yreka	(530) 842-5763		Newport	(541) 867-4558
<u>Colorado</u>	Lakewood	(303) 275-2370		Portland	(503) 231-6179
	Grand Junction	(970) 243-2778		Roseburg	(541) 957-3474
<u>Connecticut</u>	(See New Hampshire)		<u>Pennsylvania</u>	State College	(814) 234-4090
<u>Delaware</u>	(See Maryland)		<u>Rhode Island</u>	(See New Hampshire)	
<u>Florida</u>	Panama City	(850) 769-0552	<u>South Carolina</u>	Charleston	(843) 727-4707
	Vero Beach	(772) 562-3909	<u>South Dakota</u>	Pierre	(605) 224-8693
	Jacksonville	(904) 232-2580	<u>Tennessee</u>	Cookeville	(931) 528-6481
<u>Georgia</u>	Athens	(706) 613-9493	<u>Texas</u>	Clear Lake	(281) 286-8282
	Brunswick	(912) 265-9336	<u>Utah</u>	West Valley City	(801) 975-3330
	Columbus	(706) 544-6428	<u>Vermont</u>	(See New Hampshire)	
<u>Idaho</u>	Boise	(208) 378-5243	<u>Virginia</u>	Gloucester	(804) 693-6694
	Chubbuck	(208) 237-6975	<u>Washington</u>	Lacey	(306) 753-9440
<u>Illinois/Iowa</u>	Rock Island	(309) 757-5800		Spokane	(509) 891-6839
<u>Indiana</u>	Bloomington	(812) 334-4261		Wenatchee	(509) 665-3508
<u>Kansas</u>	Manhattan	(785) 539-3474	<u>West Virginia</u>	Elkins	(304) 636-6586
<u>Kentucky</u>	Frankfort	(502) 695-0468	<u>Wisconsin</u>	New Franken	(920) 866-1725
<u>Louisiana</u>	Lafayette	(337) 291-3100	<u>Wyoming</u>	Cheyenne	(307) 772-2374
<u>Maine</u>	Old Town	(207) 827-5938		Cody	(307) 578-5939
<u>Maryland</u>	Annapolis	(410) 573-4573			
<u>Massachusetts</u>	(See New Hampshire)				
<u>Michigan</u>	East Lansing	(517) 351-2555			
<u>Minnesota</u>	Bloomington	(612) 725-3548			
<u>Mississippi</u>	Jackson	(601) 965-4900			
<u>Missouri</u>	Columbia	(573) 234-2132			
<u>Montana</u>	Helena	(405) 449-5225			
<u>Nebraska</u>	Grand Island	(308) 382-6468			
<u>Nevada</u>	Las Vegas	(702) 515-5230			
	Reno	(775) 861-6300			

<p><u>National Office</u> U.S. Fish and Wildlife Service Division of Migratory Bird Management 4401 North Fairfax Drive, MBSP-4107 Arlington, VA 22203-1610 (703) 358-1714 http://www.fws.gov/migratorybirds</p>
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State Agencies

To contact a state wildlife agency, visit the Association of Fish & Wildlife Agencies' website at http://www.fishwildlife.org/where_us.html

GLOSSARY

The definitions below apply to these National Bald Eagle Management Guidelines:

Communal roost sites – Areas where bald eagles gather and perch overnight – and sometimes during the day in the event of inclement weather. Communal roost sites are usually in large trees (live or dead) that are relatively sheltered from wind and are generally in close proximity to foraging areas. These roosts may also serve a social purpose for pair bond formation and communication among eagles. Many roost sites are used year after year.

Disturb – To agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

In addition to immediate impacts, this definition also covers impacts that result from human-caused alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle=s return, such alterations agitate or bother an eagle to a degree that injures an eagle or substantially interferes with normal breeding, feeding, or sheltering habits and causes, or is likely to cause, a loss of productivity or nest abandonment.

Fledge – To leave the nest and begin flying. For bald eagles, this normally occurs at 10-12 weeks of age.

Fledgling – A juvenile bald eagle that has taken the first flight from the nest but is not yet independent.

Foraging area – An area where eagles feed, typically near open water such as rivers, lakes, reservoirs, and bays where fish and waterfowl are abundant, or in areas with little or no water (i.e., rangelands, barren land, tundra, suburban areas, etc.) where other prey species (e.g., rabbit, rodents) or carrion (such as at landfills) are abundant.

Landscape buffer – A natural or human-made landscape feature that screens eagles from human activity (e.g., strip of trees, hill, cliff, berm, sound wall).

Nest – A structure built, maintained, or used by bald eagles for the purpose of reproduction. An **active** nest is a nest that is attended (built, maintained or used) by a pair of bald eagles during a given breeding season, whether or not eggs are laid. An **alternate** nest is a nest that is not used for breeding by eagles during a given breeding season.

Nest abandonment – Nest abandonment occurs when adult eagles desert or stop attending a nest and do not subsequently return and successfully raise young in that nest for the duration of a breeding season. Nest abandonment can be caused by altering habitat near a nest, even if the alteration occurs prior to the breeding season. Whether the eagles migrate during the non-breeding season, or remain in the area throughout the non-breeding season, nest abandonment can occur at any point between the time the eagles return to the nesting site for the breeding season and the time when all progeny from the breeding season have

dispersed.

Project footprint – The area of land (and water) that will be permanently altered for a development project, including access roads.

Similar scope – In the vicinity of a bald eagle nest, an existing activity is of similar scope to a new activity where the types of impacts to bald eagles are similar in nature, and the impacts of the existing activity are of the same or greater magnitude than the impacts of the potential new activity. Examples: (1) An existing single-story home 200 feet from a nest is similar in scope to an additional single-story home 200 feet from the nest; (2) An existing multi-story, multi-family dwelling 150 feet from a nest has impacts of a greater magnitude than a potential new single-family home 200 feet from the nest; (3) One existing single-family home 200 feet from the nest has impacts of a lesser magnitude than three single-family homes 200 feet from the nest; (4) an existing single-family home 200 feet from a communal roost has impacts of a lesser magnitude than a single-family home 300 feet from the roost but 40 feet from the eagles' foraging area. The existing activities in examples (1) and (2) are of similar scope, while the existing activities in example (3) and (4) are not.

Vegetative buffer – An area surrounding a bald eagle nest that is wholly or largely covered by forest, vegetation, or other natural ecological characteristics, and separates the nest from human activities.

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