DEPARTMENT OF THE ARMY
CHIEF OF ENGINEERS
2600 ARMY PENTAGON
WASHINGTON, DC 20310-2600

DAEN

DEC 19 2018

SUBJECT: Anacostia Watershed Restoration, Prince George's County, Maryland

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my interim report on aquatic ecosystem restoration in the Anacostia River watershed in Prince George's County, Maryland. It is accompanied by the reports of the Baltimore District Engineer and North Atlantic Division Engineer. These reports are an interim response to a resolution by the Committee on Public Works and Transportation of the House of Representatives, adopted 8 September 1988. The resolution requests a review of "the report of the Chief of Engineers on the Anacostia River and Tributaries, District of Columbia and Maryland, published as House Document No. 202, 81st Congress, 1st Session, with a view to determining if further improvements for flood control, navigation, erosion, sedimentation, water quality and other related water resources needs are advisable at this time." Pre-construction engineering and design activities for the project, if funded, will continue under the authority provided by the resolution cited above.

2. The Anacostia River watershed, a subwatershed of the Chesapeake Bay, spans approximately 176 square miles, and is located entirely within the Washington D.C. metropolitan area. The portion within Prince George's County and the focus of the project is approximately 86 square miles, accounting for almost one half of the total Anacostia River watershed. The Anacostia River flows through Maryland and then the District of Columbia into the Potomac River, which is an American Heritage River that ultimately drains to the Chesapeake Bay. Aquatic ecosystems in the Anacostia River watershed have been substantially degraded as a result of anthropogenic alterations to the natural landscape. The U.S. Army Corps of Engineers (Corps) has a long history of work in this watershed, beginning in the 1800s with navigation and flood risk management projects. More recently, attention has shifted toward ecosystem restoration opportunities. By incorporating new science and technology, habitat can be restored in areas where these Corps projects were constructed without impacting their authorized purpose.

3. The significance of this ecosystem, as a subwatershed of the Chesapeake Bay, is widely recognized, including nationally by the Chesapeake Bay Protection and Restoration Executive Order (EO 13508) and 2014 Chesapeake Bay Watershed Agreement, and regionally by the Anacostia Restoration Plan. The stream reaches included in this study historically provided critical spawning and nursery habitat for anadromous fish, including alewife herring (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), American shad (*Alosa sapidissima*), and hickory shad (*Alosa mediocris*). River herring (alewife and blueback herring), shad, and the American eel are fish species of interest in the U.S. Fish and Wildlife Service's Northeast Region and are specifically identified as target species for the fish passage outcome of the 2014 Chesapeake Bay Watershed Agreement. Findings of the *2012 Benchmark Stock Assessment for River Herring* concluded that the overall coast-wide population of river herring stocks on the

Atlantic coast is depleted to near historic lows. In May 2015, partially to prevent an endangered species listing, NOAA Fisheries released the River Herring Conservation Plan with the goal of increasing river herring populations.

4. The reporting officers recommend authorizing a plan to restore aquatic ecosystem structure and function to six reaches of the Northwest and Northeast Branches of the Anacostia River in Prince George's County. In total, the recommended plan for aquatic ecosystem restoration will restore approximately 7 miles (32 acres) of aquatic habitat, restore approximately 4 miles of fish passage through the removal of blockages, and connect approximately 14 miles (64 acres) of restored habitat in the Northwest and Northeast Branches. The fish blockages removed will provide anadromous fish species of concern with substantially greater access to their historical range; thereby contributing to increases in the populations of these species. Access within the Northwest Branch for anadromous fish will be restored from 21% to 83% of historic range, with access in the Northeast Branch restored from 10% to 90% of historic range. Furthermore, the recommended plan restores aquatic habitat in four streams where a flood risk management project was constructed by the Corps in the 1970s. The recommended plan is the National Ecosystem Restoration (NER) Plan. Implementation of the recommended plan will have substantial beneficial impact on the biological integrity, habitat diversity, and resiliency of the Anacostia River watershed.

5. Based on October 2018 (FY19) price levels, the estimated project first cost of the NER Plan is $34,110,000, which includes 10-years of monitoring and adaptive management an estimated cost of $680,000 for monitoring and $450,000 for adaptive management. The plan was developed to adequately address the uncertainties inherent in a large environmental restoration project and to ensure the overall performance of the project. In accordance with the cost sharing provisions of Section 103(c) of the Water Resources Development Act (WRDA) of 1986, as amended (33 U.S.C 2213(c)), ecosystem restoration features are cost shared at a rate of 65 percent federal and 35 percent non-federal. The federal share of the project first cost is estimated at $22,170,000 and the non-federal share is estimated at $11,940,000, which includes the cost of lands, easements, rights-of-way, relocations, and dredged or excavated material disposal areas (LERRD) estimated at $1,260,000. Prince George's County is the non-federal cost sharing sponsor for the recommended plan. The non-federal sponsor will receive credit for the costs of LERRD toward the non-federal share. The sponsor would be responsible for the operation, maintenance, repair, replacement, and rehabilitation of the project after construction, at an average annual cost estimated at $22,000.

6. Based on a 2.875-percent discount rate and a 50-year period of analysis, the total equivalent average annual costs of the project are estimated to be $1,330,000. All project costs are allocated to the authorized purpose of aquatic ecosystem restoration and are justified by an increase in physical habitat stability and diversity (measured using a physical habitat index) and the return of anadromous fish to their historical spawning habitat. Cost effectiveness and incremental cost analysis techniques were used to evaluate the alternative plans to ensure that an efficient ecosystem restoration plan was recommended. The cost of the recommended restoration features is justified by producing 38 average annual stream habitat units. This

includes 32 acres of stream that will be directly restored and reconnected with 64 acres of previously restored streams on the Northwest and Northeast Branches of the Anacostia River. The plan would restore the habitat in the most cost-effective manner. The average annual cost per habitat unit for the restoration and connected restoration is $35,000, with an average annual cost per acre of $14,000.

7. The recommended plan was developed in coordination and consultation with federal, state, and local agencies. Risk and uncertainty were addressed during the study by completing a cost risk analysis and including sensitivity analyses as appropriate to evaluate potential impacts of assumptions in the economics and hydraulic modeling.

8. In accordance with the Corps Engineering Circular (EC 1165-2-217) on review of decision documents, all technical, engineering and scientific work underwent an open, dynamic and rigorous review process to ensure technical quality. This included District Quality Control review, Agency Technical Review, Major Subordinate Command review, and a Corps Headquarters policy and legal review. The requirement to perform Independent External Peer Review was waived by HQUSACE. All comments from the above referenced reviews have been addressed and incorporated into the final document.

9. Washington level review indicates the plan recommended by the reporting officers is technically sound, environmentally and socially acceptable, and on the basis of Congressional directives, economically justified. The plan complies with all essential elements of the U.S. Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies. The recommended plan complies with other administration and legislative policies and guidelines. The views of interested parties, including federal, state, and local agencies, have been considered. State and agency comments received during review of the draft Chief's Report, final report and environmental assessment were addressed.

10. I concur with the findings, conclusions, and recommendations of the reporting officers. Accordingly, I recommend that the plan for ecosystem restoration in the Anacostia River watershed, Prince George's County, Maryland, be authorized in accordance with the reporting officers' recommended plan at an estimated cost of $34,110,000 with such modifications as in the discretion of the Chief of Engineers may be advisable. My recommendation is subject to cost sharing, financing, and other applicable requirements of federal and state laws and policies, including Section 103 of WRDA 1986, as amended (33 U.S.C. 2213). Accordingly, the non-federal sponsor must agree with the following requirements prior to project implementation.

a. Provide, during design and construction, funds necessary to make its total contribution for ecosystem restoration equal to 35 percent of the total project cost;

b. Provide all lands, easements, and rights-of-way, including those required for relocations, the borrowing of material, and the disposal of dredged or excavated material; perform or ensure the performance of all relocations; and construct all improvements required on lands, easements,

and rights-of-way to enable the disposal of dredged or excavated material as determined by the Federal Government to be required or to be necessary for the construction, operation, and maintenance of the project, all in compliance with applicable provisions of the Uniform Relocation and Assistance and Real Property Acquisition Policies act of 1970, as amended (42 U.S.C. 4601-4655) and the regulations contained in 49 C.F.R. Part 24.;

c. Prevent obstructions or encroachments on the project (including prescribing and enforcing regulations to prevent such obstructions or encroachments) such as any new developments on project lands, easements, and rights-of-way or the addition of facilities which might reduce the outputs produced by the project, hinder operation and maintenance of the project, or interfere with the project's proper function;

d. Operate, maintain, repair, rehabilitate, and replace the project at no cost to the Federal Government, in a manner compatible with the project's authorized purposes and in accordance with applicable federal and state laws and regulations and any specific directions prescribed by the Federal Government;

e. Hold and save the United States free from all damages arising from the construction, operation, maintenance, repair, rehabilitation, and replacement of the project and any betterments, except for damages due to the fault or negligence of the United States or its contractors;

f. Perform, or ensure performance of, any investigations for hazardous substances that are determined necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC 9601-9675, that may exist in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be necessary for the construction or operation and maintenance of the project;

g. Assume, as between the Federal Government and the non-federal sponsor, complete financial responsibility for all necessary cleanup and response costs of any hazardous substances regulated under CERCLA that are located in, on, or under lands, easements, or rights-of-way that the Federal Government determines to be necessary for the construction, operations, maintenance, repair, rehabilitation, or replacement of the project;

h. Agree, as between the Federal Government and the non-federal sponsor, that the non-federal sponsor shall be considered the operator of the project for the purpose of CERCLA liability, and to the maximum extent practicable, operate, maintain, repair, rehabilitate, and replace the project in a manner that will not cause liability to arise under CERCLA;

i. Not use the project or lands, easements, and rights-of-way required for the project as a wetlands bank or mitigation credit for any other project.

11. The recommendations contained herein reflect the information available at this time and current departmental policies governing formulation of individual projects. These

recommendations do not reflect program and budgeting priorities inherent in the formulation of the national civil works construction program nor the perspective of higher review levels within the executive branch. Consequently, the recommendations may be modified before they are transmitted to the Congress as proposals for authorization and implementation funding. However, prior to transmittal to the Congress, Prince George's County (the non-federal sponsor), the State of Maryland, interested federal agencies, and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.

AN IMPORTANT PROJECT TO RESTORE THE ANACOSTIA WATERSHED!

TODD T. SEMONITE
Lieutenant General, USA
Chief of Engineers