DAMAGE ASSESSMENT AND RESTORATION PLAN/ENVIRONMENTAL COMPLIANCE ANALYSIS FOR THE JANUARY 2011 POTOMAC ELECTRIC POWER COMPANY POTOMAC RIVER SUBSTATION OIL SPILL IN ALEXANDRIA, VIRGINIA

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PREPARED BY:

U.S. Fish and Wildlife Service
National Park Service
District of Columbia Department of Energy and Environment

DAMAGE ASSESSMENT AND RESTORATION PLAN/ENVIRONMENTAL COMPLIANCE ANALYSIS FOR THE JANUARY 2011 POTOMAC ELECTRIC POWER COMPANY POTOMAC RIVER SUBSTATION OIL SPILL IN ALEXANDRIA, VIRGINIA

Executive Summary:

On January 23, 2011, a pipe break at the Potomac Electric Power Company (Pepco) Potomac River Substation in Alexandria, Virginia, resulted in the discharge of 17,000 gallons of petroleum hydrocarbon mineral oil used for electrical insulation. An underground secondary containment reservoir overflowed, resulting in a discharge of approximately 4,500 gallons of oil into the Potomac River, causing injury to natural resources, including birds, fish, and benthic habitat. The resulting oil sheen was reported from the Washington Sailing Marina to National Harbor, a distance of 3.5 miles, and closed a portion of the Mount Vernon Trail, located within the George Washington Memorial Parkway (GWMP), a unit of the National Park Service (NPS). This discharge is referred to as the Pepco Potomac River Substation Oil Spill, hereinafter referred to as the Pepco Potomac Spill.

This Damage Assessment and Restoration Plan/Environmental Compliance Analysis (DARP/ECA) has been prepared by the natural resource trustees to restore natural resources and resource services injured or lost due to the discharge of oil from the Pepco Potomac River Substation and spill response activities. This DARP/ECA is intended to inform the public about the natural resource injuries caused by the Pepco Potomac Spill and restoration alternatives that could compensate for those injuries.

This document was prepared in accordance with the Oil Pollution Act (OPA, 33 U.S.C. §§ 2701, *et seq.*), the OPA Natural Resource Damage Assessment (NRDAR) regulations (15 C.F.R. Part 990), the System Unit Resource Protection Act (SURPA, 54 U.S.C. §§ 100721-100725), and other applicable laws and regulations.

The natural resource trustees that manage or control the natural resources and their services affected by the Pepco Potomac Spill include the United States Department of Commerce (DOC), acting through the National Oceanic and Atmospheric Administration (NOAA); the United States Department of the Interior (DOI), acting through the NPS and the United States Fish and Wildlife Service (USFWS); and the District of Columbia (DC), acting through its Department of Energy and Environment (DOEE) (collectively referred to as the "Trustees"). NOAA, although a trustee, has deferred formal participation in the DARP/ECA but will participate in an advisory-only role.

Using existing information and applicable literature sources, the Trustees evaluated the nature and extent of injuries to natural resources and their services. The injuries evaluated included those to benthic macroinvertebrate communities, fish communities, and migratory birds in the Potomac River and adjacent shoreline areas, and lost human use of natural resources (e.g., lost recreational use of a park trail). The Trustees identified and evaluated potential alternatives that would restore or replace natural resources and/or their services to compensate for the losses from the Pepco Potomac Spill.

Injuries and Restoration Alternatives

Oil from the Pepco Potomac Spill injured fish and wildlife and their habitats, and other natural resources in and around the Potomac River. Closure of the Mount Vernon Trail in GWMP and public sites along the Potomac River resulted in lost visitor use.

The Trustees evaluated a range of restoration alternatives comprised of primary and/or compensatory restoration that address specific injuries associated with the Pepco Potomac Spill that may compensate the public for the injury to natural resources and the loss of resource services pending restoration. Primary restoration actions directly restore the natural resources and services to pre-spill conditions on an accelerated timeframe compared to natural recovery. Compensatory restoration actions provide resource services to compensate the public for losses pending recovery of resources injured by the Pepco Potomac Spill. The Trustees have identified preferred restoration alternatives designed to address the resource injuries:

- Water quality improvement from the operation and maintenance of a stormwater outfall trash cage.
- Restoring and/or enhancing the ecological integrity, function, and composition of shorelines, wetlands, riparian buffers, and associated uplands along the Potomac River and its watershed.

Document Summary

This DARP/ECA presents information about the Pepco Potomac Spill, the natural resource damage assessment and restoration, spill response, legal authorities, and public participation. Information about the estimates of exposure and/or injury to natural resources and their services caused by the Pepco Potomac Spill, the Trustees' identified restoration alternatives, analysis of the restoration alternatives under OPA selection criteria and the Trustees' preferred restoration alternatives and associated environmental compliance analyses are also presented. Consistent with federal laws, the DOI evaluated the preferred restoration alternatives for compliance with other applicable laws. These environmental compliance analyses are included as appendices to this DARP/ECA.

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Abbreviations and Acronyms

AWRA	American Water Resources Association
CrossTrans Oil	CrossTrans Electric Insulating Oil
DARP	Damage Assessment and Restoration Plan
DC	District of Columbia
DOC	United States Department of Commerce
DOEE	DC Department of Energy and Environment (previously named DC District Department of the Environment)
DOI	United States Department of the Interior
ECA	Environmental Compliance Analysis
FDEP	Florida Department of Environmental Protection
GWMP	George Washington Memorial Parkway (a National Park)
km	kilometer
NEPA	National Environmental Policy Act (42 U.S.C. §§ 4321, *et seq.*)
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRDAR	Natural Resource Damage Assessment and Restoration
OAGDC	Office of the Attorney General for the District of Columbia
OPA	Oil Pollution Act (33 U.S.C. §§ 2701, *et seq.*)
Pepco	Potomac Electric Power Company
SURPA	System Unit Resource Protection Act (54 U.S.C. §§ 100721-100725)
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service

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1.0 INTRODUCTION

This Damage Assessment and Restoration Plan/Environmental Compliance Analysis (DARP/ECA) has been prepared by state and federal natural resource trustees with authority to restore natural resources and resource services injured or lost as a result of the discharge of 4,500 gallons of mineral oil into the Potomac River from the Pepco Potomac River Substation on January 23, 2011, hereinafter referred to as the Pepco Potomac Spill. This document is part of the Restoration Planning for the Pepco Potomac Spill under the Oil Pollution Act (OPA). It provides details to the public regarding the natural resource damage assessment undertaken by the Trustees, including a description of the natural resource injuries and preferred restoration alternatives to address the injuries caused by the Pepco Potomac Spill. The purpose of restoration is to return injured natural resources and the services they provided to the condition that would have existed had the Pepco Potomac Spill not occurred.

1.1 Natural Resource Damage Assessment and Restoration under the Oil Pollution Act

The primary goal of natural resource damage assessment and restoration (NRDAR) under OPA is to restore and/or replace natural resources and their services to compensate for the loss of, destruction of, or injury to natural resources and their services resulting from a discharge of oil. Under OPA, each party responsible for a vessel or facility from which oil is discharged is liable for removal costs and for damages for injury to, destruction of, loss of, or loss of use of, natural resources, including the reasonable cost of assessing the injury.

Under the OPA NRDAR regulations (15 C.F.R. Part 990), trustees may conduct a NRDAR to determine whether natural resources have been injured as a result of a discharge of oil and plan restoration to address those injuries and loss of services. Natural resources under the jurisdiction of natural resource trustees include those that belong to, are managed by, or are otherwise controlled by, for example, the United States or any State (33 U.S.C. § 2701(20)). Services include the functions performed by natural resources for the benefit of another natural resource or the public (15 C.F.R. § 990.30). For example, wetland soils provide services by supporting healthy vegetation and diverse plant communities that in turn provide animals with foraging opportunities, nesting or denning areas, and protective cover. Examples of human use services provided by natural resources include recreation opportunities for fishing, boating, and wildlife viewing and appreciation.

The OPA NRDAR process consists of three phases:

1) Preassessment
2) Restoration Planning
3) Restoration Implementation

By undertaking a NRDAR, the trustees consider the extent of injuries to natural resources, including services provided by the injured resource, while determining the appropriate ways of restoring the injured resources and compensating for these injuries. Trustees use the information obtained during the preassessment to inform the restoration planning, including the development of a restoration plan for the "restoration, rehabilitation, replacement, or acquisition of the equivalent of the natural resources under their trusteeship." The trustees may seek damages for

these injuries, including the reasonable costs of the assessment (33 U.S.C. § 2702(b)(2)(A)).

Trustee technical representatives evaluated categories of injuries and extent of injury and service losses for the Pepco Potomac Spill. They also identified and evaluated potential restoration projects and project types to address injuries and compensate for the service losses due to the Pepco Potomac Spill.

The injuries from the Pepco Potomac Spill are divided into two broad categories: ecological and human use. Under the ecological injury category, sub-categories of evaluation include:

- Toxicity of oil in the water column to aquatic and wildlife receptors;
- Oiling of fish and wildlife;
- Oiling of the sediment resulting in smothering of benthic organisms;
- Toxicity of oil mixed in sediment to benthic and wildlife receptors.

1.2 Natural Resource Trustees and Authorities

The natural resource trustees that manage or control the natural resources and their services affected by the Pepco Potomac Spill include the United States Department of Commerce (DOC), acting through the National Oceanic and Atmospheric Administration (NOAA); the United States Department of the Interior (DOI), acting through the National Park System (NPS) and the United States Fish and Wildlife Service (USFWS); and the District of Columbia (DC), acting through its Department of Energy and Environment (DOEE) (collectively referred to as the "Trustees"). Each of these agencies is a designated Natural Resource Trustee pursuant to the OPA (33 U.S.C. §2706), and the National Oil and Hazardous Substances Pollution Contingency Plan (40 C.F.R. §§300.600 and 300.605). As a designated Trustee, each agency is authorized to act on behalf of the public to assess and recover natural resource damages and to develop and implement actions to restore natural resources and resource services injured or lost as the result of a discharge of oil. NOAA, although a trustee, has deferred formal participation in the DARP but will participate in an advisory-only role.

This DARP/ECA was prepared jointly by the Trustees in accordance with the OPA (33 U.S.C. § 2701, *et seq*.), the OPA NRDAR regulations (15 C.F.R. Part 990), and the System Unit Resource Protection Act (SURPA, 54 U.S.C. §§ 100721-100725). Consistent with federal law, DOI evaluated the preferred alternatives for compliance with other applicable laws.

These environmental compliance evaluations are included in the Appendices. For the Pepco Potomac Spill, other applicable laws and regulations regarding natural resources damage assessment and restoration planning include:

- National Environmental Policy Act (NEPA, 42 U.S.C. §4321 *et seq*.)
- Endangered Species Act (16 U.S.C. § 1531, *et seq*.)
- National Historic Preservation Act (16 U.S.C. § 470, *et seq*.)

1.3 Overview of the Pepco Potomac Spill

On January 23, 2011, a pipe break at the Potomac River Substation in Alexandria, Virginia, owned by Pepco, LLC, resulted in the discharge of 17,000 gallons of CrossTrans Electric Insulating Oil (CrossTrans Oil) from the No. 9 transformer. An underground secondary containment reservoir overflowed, resulting in a discharge of approximately 4,500 gallons of oil into the Potomac River (Pepco, 2011). CrossTrans Oil is a petroleum hydrocarbon mineral oil, classified as an American Petroleum Institute Group V base oil used for electrical insulation. A clear liquid, CrossTrans Oil does not easily volatilize to the atmosphere, is mostly insoluble in water, and is characterized as a light-phase oil with low levels of toxic constituents (Cross Oil Refining and Marketing, Inc., October 2006).

Due to the oil's properties, the material spread quickly with river currents, sheer force of wind, and gravity. The resulting oil sheen was reported from the Washington Sailing Marina to National Harbor, a distance of 3.5 miles (Figure 1-1). Eleven subsequent discharges of accumulated storm water occurred from the site between February 1 and June 23, 2011, from an "oil reclamation pit into the storm drain with a visible sheen" (OAGDC, 2014).

Spill response began on January 23, 2011, when the Alexandria Fire Department responded to the Pepco River Power Station, 1400 N. Royal St., due to a report of oil in the Potomac River. The fire department placed containment booms in the river to retard the advancing oil plume. Pepco employees notified the United States Coast Guard (USCG) of the spill at 12:40 p.m. The USCG Sector Baltimore's Incident Management Division personnel arrived on scene at approximately 2:00 p.m. and conducted a shoreline assessment of the area. Triumvirate Environmental and Clean Harbors were hired by Pepco to contain and dispose of the oil. USCG Sector Baltimore contacted the NOAA Scientific Support Coordinator in the early evening on Tuesday, January 25, 2011. The USCG reported that mineral oil was not dispersing and requested information from NOAA about toxicity concerns, if any, and the rate of dispersion (NOAA, 2011). Spill response operations continued until February 1, 2011. A portion of the Mount Vernon Trail in the GWMP along the Virginia shoreline was closed for 10 days following the Pepco Potomac Spill to accommodate response activities, which resulted in lost recreational use of the trail.

Results of the Trustee injury evaluation indicate that injury to the benthic invertebrate community occurred along the shoreline adjacent to the Pepco Potomac River Substation. In addition, three bird mortalities were observed and two oiled birds were recovered or observed as oiled during surveys following the spill (Pepco, 2011).

1.4 Summary of the Settlement

The proposed settlement agreement was documented in a draft Settlement Agreement, notice of which was published in the Federal Register for public review and comment simultaneously with the release of the Draft DARP. The Settlement Agreement was finalized after public review. Under the settlement, Pepco agreed to pay $429,791.00 to resolve its potential natural resource damages liabilities arising from the Pepco Potomac Spill.

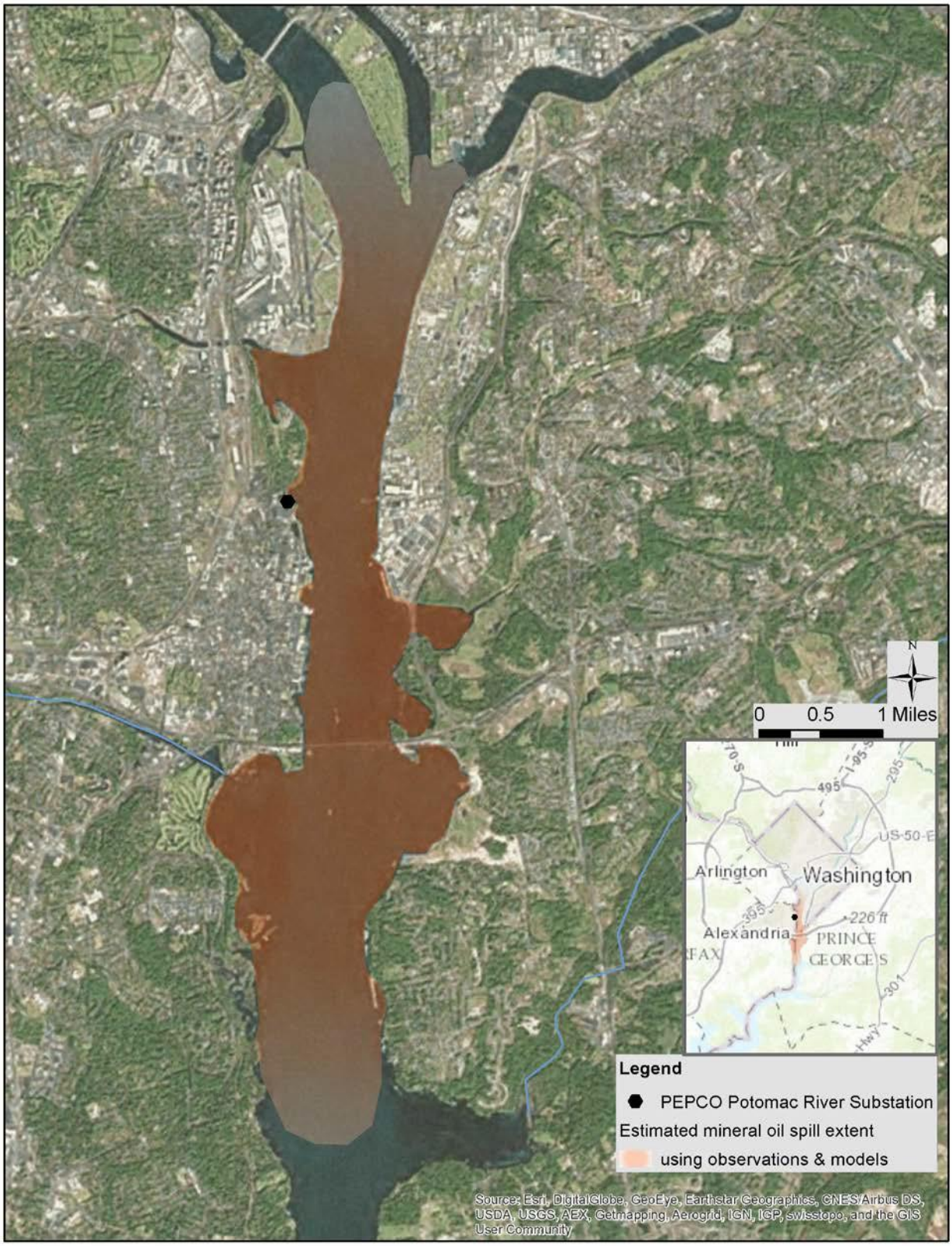

Figure 1-1. Location and Extent of the Pepco Potomac Spill on January 23, 2011 in Alexandria, Virginia. (Spill limit is estimated from incident spill reports.)

Of this amount, the Trustees propose to use $326,553.00 to fund the preferred restoration alternatives identified in Section 3.3. The Trustees will use $50,000.00 for administrative costs associated with restoration planning, implementation, and monitoring. The remaining settlement funds are to reimburse each Trustee for the reasonable costs of the natural resource damage assessment for the Pepco Potomac Spill.

1.5 Organization of the Damage Assessment and Restoration Plan

Chapter 2 provides the Trustees' assessment of injury to and loss of use of natural resources. The Trustees' assessment used validated data from the response, DOEE, and other sources to determine the nature and extent of injuries to natural resources and service losses. Although additional assessment work may have assisted in confirming the extent of injuries to natural resources and natural resource services, the Trustees decided to move towards the goal of restoration.

Chapter 3 describes the restoration alternatives the Trustees considered to return the resources injured by the Pepco Potomac Spill to their pre-spill condition and to compensate for the interim loss pending restoration. The Trustees identified a reasonable range of restoration alternatives, evaluated those alternatives, and selected preferred restoration alternatives using the criteria set forth in 15 C.F.R. § 990.54.

As a part of this process, the Trustees considered the extent to which the restoration alternatives would provide benefits to more than one natural resource and/or service. Overall, the Trustees are proposing to implement the most affordable and practicable alternatives that are expected to provide the restoration benefits required by these criteria.

1.6 Public Participation

Public review of the Draft DARP is an integral component of restoration planning (15 C.F.R. § 990.55). Through the public review process, the Trustees sought public comment on the natural resource damage assessment conducted by the Trustees, the restoration alternatives considered, and the Trustees' preferred restoration alternatives to restore injured natural resources or replace lost resource services.

The notice of availability of the Draft DARP and the opportunity for the public to provide comments was referenced in a Federal Register Notice of Availability (DOJ (Department of Justice), 2018) and a notice of availability was published in the Arlington Connection newspaper. The Draft DARP was open for public comment for 30 days from the date of publication in the Federal Register, November 9, 2018 through December 10, 2018.

The Trustees reviewed and considered comments received during the public comment period prior to finalizing the DARP. Only one comment was received. That comment stated full support for the proposed restoration alternatives. As restoration progresses, the Trustees may amend the DARP/ECA if significant changes are made to the type, scope, or impact of a project. In the event of a significant modification to the DARP/ECA, the Trustees will provide the public with another opportunity to comment on that particular amendment.

The Trustees have maintained records documenting the information considered and actions taken during the Pepco Potomac Spill NRDAR process. These records are available online at https://parkplanning.nps.gov/PepcoPotomacSpill. Physical copies of the records are also available for review by interested members of the public; however, arrangements must be made in advance to review or obtain copies of these records by contacting the GWMP Natural Resource Office at (703) 289-2500. Access to and copying of these records is subject to all applicable laws and policies relating to copying fees and the reproduction or use of any material that is copyrighted.

2.0 INJURY ASSESSMENT AND QUANTIFICATION

2.1 Mineral Oil Dielectric Fluid Toxicity Profile

The product discharged from Pepco's Potomac River Substation was tradename CrossTrans Oil consisting of hydrotreated light napthenic petroleum distillates, a non-conductive highly refined petroleum distillate used in transformer cooling and regulated under OPA. Also known as mineral oil dielectric fluid or transformer oil, the classification "dielectric fluid" is applied to fluids meeting the required properties for use as electrical insulators in high voltage applications. Their main purpose is to prevent or rapidly suppress electric discharges.

The toxicological effects of mineral oil were evaluated through multiple studies in the late 1980s and throughout the 1990s (FDEP, 2016). These studies are the basis for the findings and recommendations included in Material Safety Data Sheets. A hydrocarbon, mineral oil is an aspiration hazard and has produced skin masses in animal studies and caused allergic skin reactions (Cross Oil Refining and Marketing, Inc., 2006). It is insoluble in water and manufacturers recommend it be "kept out of surface waters and any water courses or sewers entering or leading to surface waters." As with all refined oils, the water repellency and insulative properties crucial to birds from their feathers are compromised upon contact and subsequent saturation with mineral oil.

2.2 Assessment Strategy

The goal of an injury assessment is to determine the nature and extent of injuries to natural resources and to quantify the resulting resource and service losses, providing a basis for evaluating the need for, type of, and scale of restoration actions. The Trustees reviewed data collected from spill response agencies to document natural resource injuries and recovery. The Trustees also reviewed restoration alternatives. The scale (or size) of the restoration action should be that which provides the value to adequately offset the natural resource losses. The process of determining the size of restoration is called restoration scaling.

2.3 Quantification of Injury

The Trustees assessed two broad categories of injury: ecological and human use. For ecological injuries, the Trustees evaluated the extent that natural resources were exposed, either directly or indirectly to the oil that was discharged, and determined the spatial and temporal extent of the exposure. The potential ecological injuries and service losses evaluated by the Trustees included those to aquatic and benthic organisms (e.g., benthic macroinvertebrate and fish communities) in the Potomac River and adjacent shoreline areas, as well as to higher trophic level organisms

(e.g., birds). Human use loss assessment focused on recreational losses including damage or closure of public access sites (e.g., lost use of the Mount Vernon Trail).

The results of the injury evaluation indicate that injury to the benthic invertebrate community occurred along the shoreline adjacent to the Pepco Potomac River Substation, in an area less than one acre. Injury occurred as the result of exposure and/or smothering related to the oil that mixed with the sediment following the Pepco Potomac Spill. This injury resulted in ecological service losses such as altered benthic invertebrate community and reduction in prey resources for higher trophic level organisms for approximately one year following the discharge. In addition, several individual migratory birds were impacted by the spill: three bird mortalities were observed and two oiled birds were recovered or observed as oiled during surveys conducted after the spill (Pepco, 2011). Additionally, a portion of the Mount Vernon Trail in the GWMP along the Virginia shoreline near the Pepco Potomac River Substation was closed for 10 days following the Spill during response activities.

The NRDAR concluded:

- Surface soil, surface water, pore water, and sediment samples collected for laboratory analysis indicated mineral oil contamination and the presence of certain metals and pyrogenic polycyclic aromatic hydrocarbons.
- Detected concentrations of contaminants of potential concern in sediment, surface water, and pore water, collected in December 2011, were elevated compared to regional screening criteria in some locations downstream from the outfall;
- Sediment chemistry data and benthic macroinvertebrate community metrics indicated ecological risks to benthic macroinvertebrate community directly adjacent to and approximately 700 feet downstream of the outfall where the spill occurred.
- The waterside assessment did not suggest the need for any future remedial actions to address current or future foreseeable risks. One additional benthic macroinvertebrate sampling event was recommended to confirm the assessment results.

The Trustees believe that the magnitude of the injuries and lost recreational use caused by the Pepco Potomac Spill has been sufficiently quantified to determine appropriate restoration.

3.0 RESTORATION ALTERNATIVES

This section describes the restoration alternatives the Trustees developed and considered to return the resources and services injured by the Pepco Potomac Spill to their baseline condition and to compensate the public for the interim losses.

As described above, the goal of NRDAR is to restore the natural resources and their services injured as a result of the discharge of oil. OPA recommends that this goal be achieved by returning injured natural resources to their baseline condition (that existed prior to the spill) and by compensating for any interim losses of natural resources and services that occur during the period of recovery to baseline or pre-spill condition.

In accordance with OPA NRDAR regulations, the Trustees developed restoration alternatives and selected preferred restoration alternatives to address the resource injuries and service losses resulting from the Pepco Potomac Spill. To develop restoration alternatives, the Trustees must consider both primary and compensatory restoration options (15 C.F.R. § 990.53). Restoration actions work to directly restore injured natural resources and services to baseline on an accelerated time frame. These actions are intended to compensate the public for the loss of natural resources and services during the interim time period between the injury occurrence and the eventual recovery of the resource or service.

As part of the effort to develop restoration alternatives, the Trustees consulted the Potomac Basin Comprehensive Water Resources Plan (AWRA, 2011) which states the Potomac River (main stem and North Branch) is approximately 405 miles (652 kilometers (km)) long, with a drainage area of about 14,700 square miles (38,000 km^2). The scale of the preferred restoration alternatives associated with the proposed settlement are too small to be significant to this watershed scale. However, consistency with the goals and objectives of the Natural Resource Management and Stormwater Management elements of the City of Arlington's Comprehensive Plan (Arlington, 2014) and Arlington's Natural Heritage Resource Inventory Technical Report (Zell, 2011) were considered in the alternatives included in this restoration plan.

3.1 Evaluation Criteria for Selecting Preferred Restoration Alternative(s)

OPA NRDAR regulations require the Trustees to consider six criteria when evaluating restoration alternatives and selecting the preferred restoration alternative(s) (15 C.F.R. §990.54). For the Pepco Potomac Spill, the Trustees used the criteria, listed below, to evaluate all restoration alternatives and select two preferred alternatives. The criteria are not ranked in order of priority:

1. **Project cost and cost effectiveness:** The Trustees consider the cost of an alternative, including design, implementation, and long-term maintenance and monitoring, relative to benefits of a project to the injured natural resources and services lost.
2. **Project goals and objectives:** The Trustees consider the extent to which each alternative is expected to meet the Trustees' goals and objectives in returning the injured natural resources and services to baseline and/or compensating for interim losses. The Trustees consider the ability of a restoration alternative to provide resources and services of the same type and quality that were lost. Alternatives that restore, rehabilitate, replace, enhance, or acquire the equivalent of the same type of resources and services injured by the Pepco Potomac Spill are preferred to alternatives that benefit similar, but different resources or services.
3. **The likelihood of project success:** The Trustees consider the technical feasibility of each alternative in achieving the restoration goals and the risk of failure or uncertainty that the goals can be met and sustained. The Trustees will generally not support an alternative which utilizes techniques that are unproven or that are designed primarily to test or demonstrate unproven technology.

4. **Avoidance of adverse impact:** The Trustees consider whether a restoration alternative may harm natural resources and the environment. An alternative that avoids or minimizes adverse impacts to the environment and natural resources are preferred.
5. **Multiple resource and service benefits:** The Trustees consider whether a restoration alternative will provide benefits that address multiple resource injuries or service losses, or will provide ancillary benefits to other resources or resource uses. An alternative that provides multiple resource and service benefits is preferred.
6. **Public health and safety:** The Trustees consider whether an alternative will pose unacceptable risks to public health and safety.

3.2 Restoration Alternatives Considered

The following subsections discuss possible alternatives for restoration, provide an evaluation of each alternative as compared to the restoration evaluation criteria discussed above, and describe the preferred alternatives selected by the Trustees for implementation. Additionally, the Trustees looked for alternatives that were in geographic proximity to the natural resource injury and lost service. Table 3-1, located at the end of this chapter, summarizes the results of the Trustees' evaluation.

3.2.1 Alternative A: No Action/Natural Recovery

OPA requires the Trustees to evaluate an alternative in which no actions are taken by a State or Federal agency to restore the lost use or natural resources in the Potomac River area affected by the Pepco Potomac Spill. Under natural recovery, the Trustees would take no direct action to compensate for interim losses, pending recovery, associated with the injured natural resources and lost use at GWMP. The Trustees would allow natural processes to occur, which could result in interim losses of natural resources not being restored. If the Trustees selected this alternative, the public would not be compensated for the losses in natural resources and services caused by the Pepco Potomac Spill. A No Action alternative is not appropriate for the Pepco Potomac Spill and the Trustees reject this alternative. The OPA establishes Trustee authority to seek compensation for interim losses, and technically feasible restoration approaches are available to compensate for these losses associated with the Pepco Potomac Spill.

3.2.2 Alternative B: Water Quality Improvement: Trash Cage Project at Outfall #999

Alternative B involves the operation and maintenance of a trash interceptor ("trash cage") and collection system located within the stormwater collection system, in Washington, DC (Figure 3-1), within Rock Creek Park (a unit of NPS not within GWMP) on the Anacostia River, a tributary to the Potomac River. The under- street box culvert located here is the termination spill-point for a network of city storm pipes and drains along street curbs and elsewhere that extend over approximately 660 acres of urbanization. Consequently, a large volume of water-borne litter, trash, and street debris flows through this outfall. The operation of the trash cage will make a material impact toward improving the quality of downstream waterways, including the Potomac River.

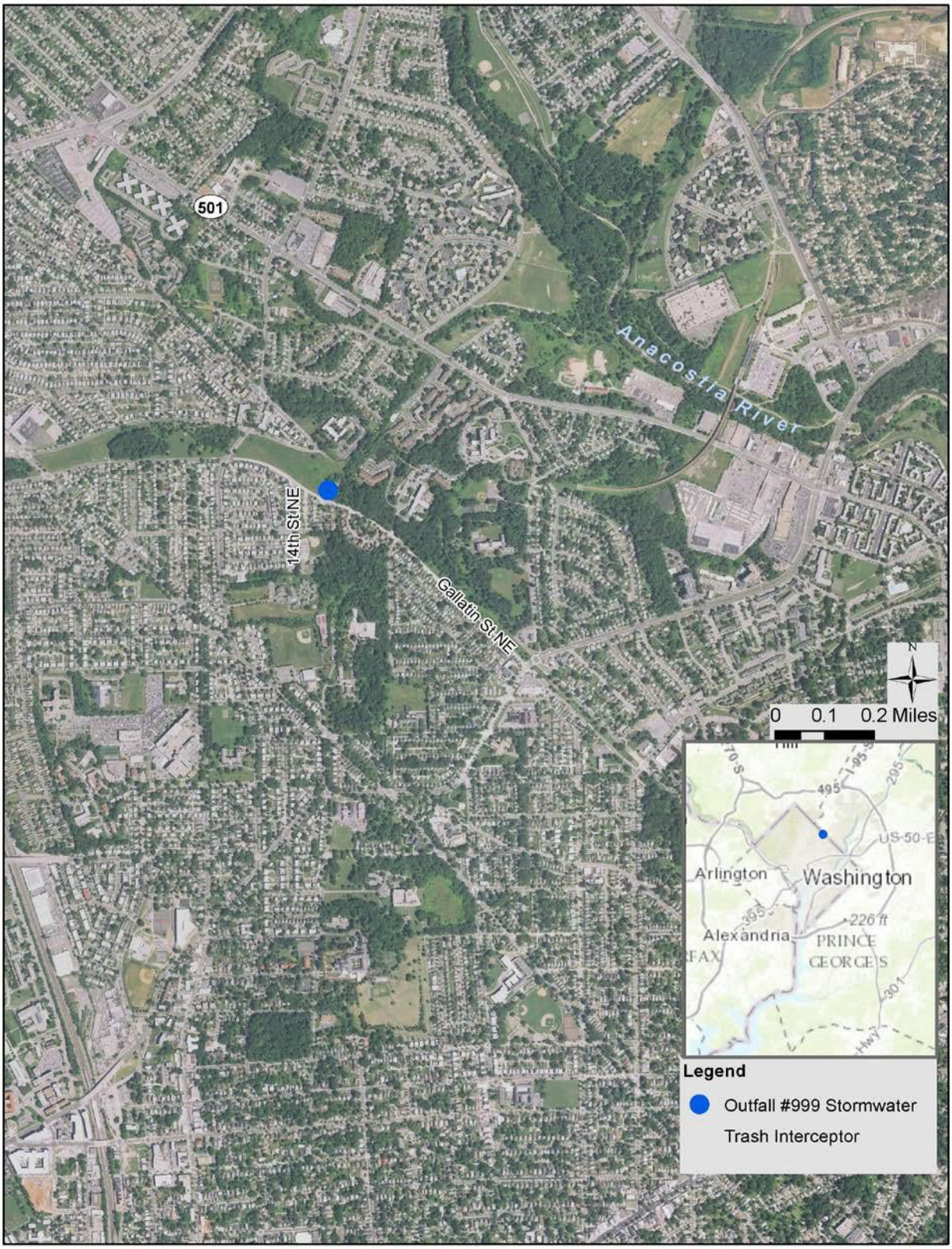

Figure 3-1. Location of Outfall #999 Stormwater Trash Cage, Washington, DC.

Calculations for the site predict thousands of cubic feet of trash will be intercepted annually from this high volume trash site. Collecting this trash at the outfall, before it enters the network of open-air tributaries, prevents the trash from being deposited in and along the creeks and rivers downstream. In contrast, removal of "dissipated" trash from the waterways by means of traditional, labor-intensive, manual collection efforts, costs tens of thousands of dollars per year. The vast geographic spread of this dissipation and the high cost of collection mean that much of the trash is never collected once it enters the surface water and ends at the bottom of or along the shores of the Anacostia River, the Potomac River, the Chesapeake Bay, and the Atlantic Ocean.

The trash cage consists of two screened cages mounted across the downstream culvert openings of the stormwater outfall (Figure 3-2). When positioned in front of the culvert, these rectangular cages are open on the upstream side that faces the culvert opening, allowing water and the trash it carries to flow into the cages. The remaining sides are screened, acting as a sieve or filter, which permits the passage of water through the screening while retaining litter and debris that is carried in with the water. The screening is progressive in nature, utilizing a smaller mesh near the bottoms of the cages to capture smaller items and larger mesh near the top that allows higher volume flow while capturing larger items such as plastic bags, vehicle tires, and even floating logs.

Figure 3-2. Outfall #999 Stormwater Trash Cage (as built), Washington, DC (Living Classrooms, 2019).

The system has been designed for maximum safety and ease of servicing. It is comprised of innovative mechanics, durable materials, and energy efficient components. Utilizing motors powered by solar-charged batteries, the cages are conveniently raised to street level for emptying. At their apex, the vertical guide rails that track the cages are curved such that they overhang a service driveway above the culvert on which a pickup truck or similar hauling vehicle will be situated. The rails cause the cages to tilt slightly toward the vehicle bed so that contents of the cages can be emptied easily into the vehicle.

Construction of the trash cage was completed in August 2018 under the authority and oversight of DOEE, pursuant to a prior settlement agreement between the District of Columbia and Pepco, LLC (D.C. Superior Court, 2014). Current funding for the project includes construction and initial operation and maintenance for a three-year period post-construction (Living Classrooms of the National Capitol Region, 2015). Rock Creek Park issued a special use permit and environmental compliance analysis categorical exclusion for its construction and operation and for maintenance of the trash cage for a three-year period post-construction. NPS completed an environmental compliance analysis categorical exclusion for construction and operation of the project in July 2016 (see Appendix A). Alternative B would enable the trash cage to be in operation for up to an additional three years, providing additional ecological benefits to the Anacostia River and downstream waterways. All appropriate and applicable analyses and permits would need to be conducted and acquired prior to the Trustees' implementing Alternative B. The Trustees selected this Alternative as a preferred restoration alternative.

3.2.3 Alternative C: Habitat Restoration and Enhancement: Boundary Channel Restoration Project

Alternative C involves the removal of invasive species and replanting of native plant species at the Boundary Channel area within GWMP. The Potomac River Boundary Channel Restoration Project (Boundary Channel) is located on the west side of the Potomac River adjacent to the Pentagon just north of Roaches Run Waterfowl Sanctuary (Figure 3-3). The 100-foot-wide channel connects the Potomac River and Pentagon Lagoon between Columbia Island and Arlington, Virginia. The Boundary Channel includes submerged bottom, shoreline, riparian forests, and uplands. The last extensive planting effort with the Beautification Program and Edward J. Stone Jr. occurred in the late 1960s, but did not involve the riparian zone along the Boundary Channel. Since that time, the Boundary Channel property has undergone undesirable changes from the establishment of invasive non-native species, such as Bush honeysuckle (Lonicera mackii), which is allowing various vines including Porcelain berry (Ampelopsis brevipedunculate), Japanese honeysuckle (Lonicera japonica) and Oriental bittersweet (Celastrus orbiculatus), to grow into the tree canopy, damaging and killing trees in the existing riparian buffer. The upland habitat consists mainly of a monoculture mat of Ampelopsis and other invasive vines. This Alternative will remove non-native invasive plants from both sides of the entire length of shoreline and adjacent uplands. Cleared areas will then be replanted with native shrubs, grasses, and flowers beneficial to wildlife (Figure 3-4). The Trustees estimate that 11,000 linear feet of improved shoreline, 4 acres of riparian forested/shrub habitat and 7 acres of upland grassland meadow/shrub habitat will be restored through this project. This would improve water quality by filtering runoff, and increase community food web processes that support nutrient cycling and aquatic productivity in the Potomac River. This Alternative will also allow restoration to the area that is appropriate to the cultural landscape and historic district and provide access to the Boundary Channel from the

Figure 3-3. Location of Potomac River Boundary Channel Restoration Project, Arlington, Virginia.

Figure 3-4. Location of Upland and Riparian Enhancement Areas. Potomac River Boundary Channel Restoration Project, Arlington, Virginia.

Potomac River. This Alternative includes monitoring and maintenance for a period of three years as discussed in Section 3.4.

Enhancement of habitat in the Boundary Channel Area is technically feasible and is cost effective. The property is currently owned and managed by the NPS. The Trustees selected this Alternative as a preferred restoration alternative. NPS completed an environmental compliance analysis categorical exclusion for the project in May 2019 (see Appendix B).

3.2.4 Alternative D: Human Use Projects

This alternative involved projects designed to enhance visitor experience at GWMP. The park offers a wide range of recreation opportunities including hiking, bicycling, canoeing/kayaking, picnicking, and wildlife viewing. Projects under this category would enhance visitor experience in one or more of the following ways: installing interpretive wayside exhibits, visitor service additions such as picnic tables, benches, trash cans, and new or improved access points for recreational activities.

Although this alternative would have compensated the public for the lost recreation that occurred as a result of the closed Mount Vernon Trail, Alternatives B and C provide greater benefit to multiple resources and resource services. The Trustees reject this alternative.

3.2.5 Alternative E: Restore Dyke Marsh Wetlands

Alternative E involves supplementing an existing plan to create or restore vegetated wetlands in order to offset the injuries to riparian and riverine habitat, benthic organisms, fish and migratory birds. The NPS and U.S. Army Corps of Engineers (USACE) are cooperating on the restoration of Dyke Marsh, which is located in GWMP. NPS and USACE received funding for this project from the Disaster Relief Appropriations Act (P.L. 113-2) for construction of a breakwater and restoration of wetlands. The costs for the project are highly uncertain at this point, and it is unknown how many acres of wetlands will be restored. This alternative would utilize recovered NRDAR funds to leverage additional restoration of Dyke Marsh, or for additional monitoring and adaptive management of the NPS/USACE restoration in the future.

Additional information about Dyke Marsh can be found at http://parkplanning.nps.gov/DykeMarsh (NEPA Environmental Impact Statement), or the USACE project page at http://www.nab.usace.army.mil/Missions/Civil-Works/Dyke-Marsh-Restoration/.

The Dyke Marsh Environmental Impact Statement has been finalized and the NPS has funding for this project, including monitoring and adaptive management. The cost per acre of restoring the wetlands at Dyke Marsh is significantly higher than the cost of enhancement of the Boundary Channel area under Alternative C, making this alternative less cost effective. While it is possible that there could be a shortfall in funds for the Dyke Marsh restoration, the additional uplift in services that Alternative E would provide is not plainly evident. Therefore, the Trustees reject this alternative.

3.3 Preferred Restoration Alternatives

The Trustees selected Alternatives B and C as the preferred restoration alternatives for the Pepco Potomac Spill. Alternatives B and C best met the goals and objectives established in the selection and evaluation criteria and benefits were closely linked with the injuries from the spill either in kind, or geographically, or both. The selected projects are cost efficient and ready to be implemented. Alternative B is expected to result in a measurable reduction in trash and litter within the Anacostia and Potomac Rivers, and Alternative C is expected to provide 11 acres of enhanced vegetated habitat associated with the Potomac River and the Mount Vernon Trail.

3.4 Monitoring and Performance Criteria for the Preferred Alternatives

Under Alternative B, the Trustees will have a status report developed annually on the operation and maintenance of the Trash Cage Project. The report shall include a summary of expenses, the remaining balance of funds, the number of days the trash cage operated, the number of days it was out of service due to maintenance, and an estimate of the volume of trash removed from the waterway. The annual status report will be made available to the public upon agreement of all Trustees on the case website https://parkplanning.nps.gov/PepcoPotomacSpill. The project will be considered complete when all funds allocated for the project are spent and a final report is submitted and approved by the Trustees.

For Alternative C, beginning the following growing season after the initial planting, NPS or their representative will perform qualitative monitoring of the Boundary Channel restoration periodically to ensure undesirable species do not recolonize the site and that newly established native plants survive adverse events like drought, vandalism, herbivory, and unauthorized mowing and cutting for a period of 5 years. In the event that there is plant failure, and/or removal of invasive species is needed, the NPS will submit plans and requests to the Trustee Council for replanting funds, which are included in the proposed settlement. The goal of the project is to achieve a survival rate of 80% among planted native plants after 3 years and no more than 5% cover of undesirable invasive species each year after project completion. Invasive plants are defined by lists maintained by the Virginia Department of Conservation and Recreation Natural Heritage Program.

NPS will prepare an annual status report for the Trustees on the implementation and monitoring of the Boundary Channel restoration project, including a summary of expenses and remaining balance of funds for the project. The annual status reports will be made available to the public on the case website upon agreement of all Trustees. The project will be considered complete when all funds allocated for the project are spent.

Data collection, management, analysis, and reporting will follow the NPS National Capital Region Inventory and Monitoring Network data management plan where applicable, which can be found at: http://science.nature.nps.gov/im/datamgmt/assets/docs/DMPlans/NCRN_DMP_1-1.pdf.

Table 3-1. Evaluation of Restoration Alternatives According to the Trustees' Restoration Evaluation Criteria.

Restoration Alternatives A-E

Alternative	Project	Evaluation Criteria
A	No Action/ Natural Recovery	**1. Cost effectiveness:** Not applicable. **2. Meet goals and objectives:** Fail. Does not offset injuries caused by the oil spill. **3. Likelihood of success:** Fail. Interim losses due to oil spill not restored. **4. Avoids adverse impact:** Not applicable. **5. Multiple resource/service benefits:** Fail. Benefits no resources. **6. Public health and safety:** Not applicable.
B	Operation and maintenance of Stormwater Outfall Trash Cage	**1. Cost effectiveness:** Pass. Economical method of trash collection and water quality improvement. Provides community benefits (employment and job training) via non-government partner. **2. Meet goals and objectives:** Pass. Offsets water quality losses and is cost effective relative to the resource injury and settlement funds. Additionally, helps to improve human use by improving the viewshed of the Anacostia and Potomac Rivers. **3. Likelihood of success:** Pass. Method success demonstrated at other sites. Uses accepted engineering and construction techniques and practices. Construction permits received and construction is planned for Fall 2018. **4. Avoids adverse impacts:** Pass. No adverse impacts from the ongoing operation of the trash cage project are foreseen. **5. Multiple resource/service benefits:** Pass. Benefits water quality, wildlife, human health and aesthetics. **6. Public health and safety:** Pass. Evaluated by District of Columbia Department of Energy and Environment. Poses no unacceptable risks to public health and safety.
C	Potomac River Boundary Channel Restoration	**1. Cost effectiveness:** Pass. Cost effective relative to the resource injury and expected benefit **2. Meet goals and objectives:** Pass. Offsets water quality and biological food web losses, and also improves the viewshed of the Mount Vernon Trail. **3. Likelihood of success:** Pass. Proven methods. NPS to monitor and maintain. **4. Avoids adverse impacts:** Pass. Temporary impact. Enhances riparian buffer and biological food web source. **5. Multiple resource/service benefits:** Pass. Benefits water quality, wildlife, and human use. Also provides a benefit to the cultural and historic resources of the area. **6. Public health and safety:** Pass. Adds no unacceptable risks to public health and safety.

Table 3-1 Continued. Evaluation of Restoration Alternatives According to the Trustees' Restoration Evaluation Criteria.

Restoration Alternatives A-E

D	Human Use Projects	**1. Cost effectiveness:** Pass. Projects would enhance visitor experience with relatively low costs. **2. Meet goals and objectives:** Partial Pass. May offset human use losses, but not ecological injuries. **3. Likelihood of success:** Pass. **4. Avoids adverse impacts:** Possible, depending on the suite of potential projects. **5. Multiple resource/service benefits:** Fail. Does not benefit multiple resources and service benefits. **6. Effect on public health and safety:** Pass. Adds no unacceptable risks to public health and safety.
E	Restore Dyke Marsh Wetlands	**1. Cost effectiveness:** Fail. Restoration costs per acre at this site are high. **2. Meet goals and objectives:** Fail. Project was planned and funded prior to injury. Unclear how settlement funds would provide additional uplift or offsets to injured resources. **3. Likelihood of success:** Unknown. Project follows proven methods for wetland restoration and NPS is to monitor and maintain the wetlands; however, it is unknown how the settlement funds could be utilized within this project to determine success. **4. Avoids adverse impacts:** Pass. Restores historic wetlands. **5. Multiple resource/service benefits:** Pass. Benefits water quality, wildlife, and human use. **6. Effect on public health and safety:** Pass. Adds no unacceptable risks to public health and safety.

4.0 CONCLUSION

The January 23, 2011, Pepco Potomac Spill resulted in injuries to natural resources such as benthic invertebrates, fish, and birds in and around the Potomac River, and the lost recreational use from the closure of the Mount Vernon Trail in GWMP. The objective of any restoration action under the OPA NRDAR process is to restore or replace natural resources and the services such resources provide to the public from discharges of oil. To meet that objective, the benefits of a restoration project must be related, or have an appropriate nexus to the natural resource injuries and losses due to the discharge of mineral oil from the Pepco Potomac Substation.

The two preferred restoration alternatives selected by the Trustees in this DARP/ECA are the Trash Cage Project at Outfall #999 and the Boundary Channel Restoration Project. The Trash Cage Project is geographically proximate to the injury and will benefit birds, fish, and water quality by removing trash from the stormwater system and preventing it from polluting the Anacostia and Potomac Rivers by extending the operation and maintenance of the trash cage by three years. The Boundary Channel Restoration Project is located nearby, along the Potomac River within the GWMP, and has an ecological and geographical relationship to the injured resources and lost services. The removal of invasive species and replanting of native shrubs, grasses, and flowers beneficial to wildlife will provide ecological benefits to birds as well as improve water quality to the Potomac River and recreational use of the Mount Vernon Trail.

Table 4-1 represents the implementation costs for the preferred restoration alternatives and the resources compensated by each alternative.

Table 4-1. Preferred Restoration Alternatives for the Pepco Potomac Spill on January 23, 2011 in Arlington, Virginia.

Injury Categories: Natural Resources and Recreational Human Use

Resource	Project	Allocation
Water Quality Improvement	Operation and maintenance of a stormwater outfall trash cage and collection system located at the intersection of Gallatin Street and 14th Street NE in Arlington, Virginia.	$170,032
Riparian and Upland Habitat Enhancement Water Quality Improvement Human Use	Potomac River Boundary Channel Restoration	$156,500
	TOTAL	**$326,532**

5.0 REFERENCES

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Damage Assessment and Restoration Plan/ Environmental Compliance Analysis for the Pepco Potomac River Substation Oil Spill in Alexandria, Virginia

The signature below confirms the approval of the District of Columbia, acting in its capacity as a Trustee for natural resources, of the Damage Assessment and Restoration Plan (DARP)/Environmental Compliance Analysis for the Pepco Potomac River Substation Oil Spill. The DARP/ECA identifies the Trustees preferred alternatives for restoration projects for restoration of natural resources and resource services injured or lost due to the discharge of oil from the Pepco Potomac River Substation and spill response activities.

Approved:

Tommy Wells
Director
Department of Energy and Environment
Trustee Representative
District of Columbia

Damage Assessment and Restoration Plan/ Environmental Compliance Analysis for the Pepco Potomac River Substation Oil Spill in Alexandria, Virginia

In accordance with U.S. Department of the Interior (Department) policy regarding documentation for natural resource damage assessment and restoration projects (521 DM 3), the Authorized Official for the Department must demonstrate approval of draft and final Restoration Plans and their associated environmental compliance documentation, with concurrence from the Department's Office of the Solicitor.

The Department's Authorized Official for the Pepco Potomac River Substation Oil Spill is the Deputy Associate Director, Natural Resource Stewardship and Science, National Park Service.

The signature below confirms the Department's approval of the Damage Assessment and Restoration Plan (DARP)/Environmental Compliance Analysis for the Pepco Potomac River Substation Oil Spill. The DARP/ECA identifies the Trustees preferred alternatives for restoration projects for restoration of natural resources and resource services injured or lost due to the discharge of oil from the Pepco Potomac River Substation and spill response activities.

Approved:

1/9/20

Guy Adema Date
Deputy Associate Director
Natural Resource Stewardship and Science
National Park Service

Concurred:

Genette Gaffney Date
Attorney Advisor
Environmental Restoration Branch
Office of the Solicitor

Damage Assessment and Restoration Plan/ Environmental Compliance Analysis for the Pepco Potomac River Substation Oil Spill in Alexandria, Virginia

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The signature below confirms the Department's approval of the Damage Assessment and Restoration Plan (DARP)/Environmental Compliance Analysis for the Pepco Potomac River Substation Oil Spill. The DARP/ECA identifies the Trustees preferred alternatives for restoration projects for restoration of natural resources and resource services injured or lost due to the discharge of oil from the Pepco Potomac River Substation and spill response activities.

Approved:

Guy Adema Date
Deputy Associate Director
Natural Resource Stewardship and Science
National Park Service

Concurred:

8/2/19
Genette Gaffney Date
Attorney Advisor
Environmental Restoration Branch
Office of the Solicitor

APPENDICES

APPENDIX A

Environmental Compliance Analysis

Alternative B: Water Quality Improvement:

Trash Cage Project at Outfall #999

Categorical Exclusion Form

Project: Installation and Maintenance of a Stream Trash Interceptor PEPC Project Number: 62437
Description of Action (Project Description):

The National Park Service is proposing to issue a Special Use Permit to the District of Columbia Department of Energy and Environment (DDEE) for the installation and maintenance of a trash intercepting cage system on a tributary of the Anacostia River. The trash interceptor cage system is located at Outfall 999 at 14th Street, NE and Gallatin Street, NE, a major stormwater outfall in the District of Columbia. This outfall is located on land administered by Rock Creek Park that is part of the Civil War Defenses of Washington. The tributary in the outfall drains Fort Totten Park and Civil War Defenses of Washington park land, as well as large areas of Northeast Washington, DC. Plans for the project are attached to this PEPC file.

The trash cage system is designed to capture the substantial debris and street trash that enters the storm sewer system and is washed through the outfall during rain and storm events. Once the trash interceptor cage system is in place, trained crews will routinely empty and remove the trash that is collected in the cages.

DDEE is overseeing this project. The Potomac Electric Power Company ("PEPCO") is providing $600,000 to fund the design, fabrication, installation and initial operation of the trash cage system (for three years) as a Special Environmental Project in connection with the settlement of an enforcement action, District of Columbia v. PEPCO, taken on behalf of DOEE under the District's Water Pollution Control Act. The trash cage project is being implemented by Living Classrooms of the National Capital Region, a subsidiary of Living Classrooms Foundation, Inc., ("Living Classrooms") pursuant to a contract with PEPCO.

Site alterations include: • Removal and cutting back of vines, trees, and overgrowth, including invasive plant species that have penetrated and damaged the fencing atop the culvert wall. • Grading to establish a level driveway area adjacent to the top of the culvert for trash collection and service vehicles. • Grading to establish an entry ramp to transition from street level to the driveway area (21 inch drop). • Installation of a recessed curb (also called a "curb ramp" or " curb cut") on Gallatin Street to allow service vehicles to enter the site from the street. • Installation of a locking drop gate at the entry ramp (adjacent to the sidewalk) to prevent entry/parking by unauthorized vehicles. • Grading to create a sloped border bank between the sidewalk and the driveway area, to be sodded and/or planted with native shrubs. • Installation of new chain link fencing along the culvert top (replacing the existing, rusted fencing). • Installation of bollards at the end of the driveway area as a safety barrier for vehicles. • Installation of asphalt paving on the entry ramp and service vehicle driveway with a perforated underdrain buried along the culvert headwall to improve drainage. • Installation of a bioretention basin to the left of the culvert on the down gradient side of the asphalt driveway to capture runoff. • Placement of imbricated boulders of 2 ' x 3' x 4' minimum dimension backed with biodegradable coir matting and live stakes near the outside bottom of both culvert sidewalls to retard and halt severe soil erosion which is currently occurring here. • Planting of native plants, perimeter shrubs, and grasses. • Installation of a solar panel mast and lockable battery enclosure adjacent to the driveway area, surrounded by a small security fence for protection. • Installation of camera and web-based transmission hardware for remote monitoring (if determined to be feasible).
At the end of the permit period, DEE will either restore the area to its pre-project condition or better, or request an extension of the permit period for continued operation ofthe trash interceptor.

Project Locations:

Location

County: District of Columbia State: DC

Mitigation(s):

- No mitigations identified.

CE Citation: C.18 Construction of minor structures, including small improved parking lots, in previously disturbed or developed areas.

Explanation:

The trash trap itself will be constructed fully within the existing concrete stream outfall. Additional infrastructure includes a solar panel as well as ground matting where vehicles will enter the site to remove the trash.

Decision: I find that the action fits within the categorical exclusion above. Therefore, I am categorically excluding the described project from further NEPA analysis. No extraordinary circumstances apply.

Superintendent: _____ Date: July 8, 2016

Extraordinary Circumstances:

If implemented, would the proposal...	Yes/No	Notes
A. Have significant impacts on public health or safety?	No	
B. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas?	No	
C. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA section 102(2)(E))?	No	
D. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?	No	
E. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?	No	
F. Have a direct relationship to other actions with individually insignificant, but cumulatively significant, environmental effects?	No	
G. Have significant impacts on properties listed or eligible for listing on the National Register of Historic Places, as determined by either the bureau or office?	No	
H. Have significant impacts on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?	No	
I. Violate a federal, state, local or tribal law or requirement imposed for the protection of the environment?	No	
J. Have a disproportionately high and adverse effect on low income or minority populations (EO 12898)?	No	
K. Limit access to and ceremonial use of Indian sacred sites on federal lands by Indian religious practitioners or adversely affect the physical integrity of such sacred sites (EO 130007)?	No	
L. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?	No	This project will remove non-native, invasive plants from the project area.

APPENDIX B

Environmental Compliance Analysis

Alternative C: Habitat Restoration and Enhancement:

Boundary Channel Restoration Project

Categorical Exclusion Form

Project: Vegetative Restoration of Boundary Channel Shorelines in Virginia and Washington D.C PEPC Project Number: 73678

Description of Action (Project Description):

The National Park Service (NPS) George Washington Memorial Parkway (GWMP) proposes to undertake vegetative restoration of Boundary Channel in Arlington, Virginia and Washington, DC. This project is the restoration component associated with the Pepco Potomac River Substation Oil Spill Damage Assessment and Restoration Plan (DARI)) (see PEPC 79591). Boundary Channel is a 100-foot wide waterway located on the west side of the Potomac River adjacent to the Pentagon between Columbia Island and Virginia. The project involves the removal of several invasive/non-native species along 11,000 feet of shoreline and adjacent uplands that are threatening existing native trees and is associated with the PEPCO settlement. Treated areas will be planted with native shrubs, grasses, and flowers beneficial to wildlife and representative of the historical and cultural landscape. The removal of several acres of exotic species will decrease stress from exotic species on adjacent natural and cultural landscapes, improve water quality by filtering runoff and increasing community food web processes that support nutrient cycling and aquatic productivity.

This project has been divided into eight project units: four in Virginia and four in Washington D.C. The four units in Virginia consist of a 4.5 acre narrow strip of wooded native and exotic vegetation between the GWMP southbound lanes and Boundary Channel. Exotic species from the "BC Exotic Removal list" will be removed and approved native vegetation will be planted as needed. There are not any exotic vegetative monocultures of considerable size on the Virginia shoreline and work will consist of thinning the woodlands. In certain places the turf grass can be expanded up to 10 feet due to vegetation encroachment into the turf over the past few decades.

The four units in Washington D.C consist of nearly 10 acres of monoculture exotic species that will be removed and replaced with historical mow lines and vegetation appropriate to the cultural landscape. Due to the damage and extent of exotic species on the DC shoreline, much of the area cannot have only exotics selectively removed and instead must be completely cleared of vegetation. Any woody native vegetation with less than 6 [11] DBH will be removed unless specifically identified to be kept alive by GWMP staff. All native woody vegetation larger than 6" DBH will be kept unless it is significantly deformed or prohibits/significantly increases the work to remove exotic vegetation. To avoid accidental removql of desirable vegetation, GWMP staff will mark trees that shall not be removed.

Plantings will generally adhere to those species featured in cultural landscape reports or historic planting plans. Additionally, three native planting species not presently in the landscape, but native to the area, are proposed due to their resistance from browsing by native fauna, prevalence in adjacent natural landscape, and food source for native pollinators.

Project Locations:

Location 1

County: Arlington State: VA

Location 2

County: District of Columbia State: DC

Mitigation(s):

- All disturbed areas (outside of those planned for invasive removal) shall be restored to conditions equal to or better than before the start of the project.
- In the event archeological resources are discovered during the project, work will immediately halt and GWMP Cultural Resources Management notified so the site/find can be examined prior to resuming work.
- Only invasive exotic material is to be removed that is contrary to intentions of the 1932 Planting Plan. Replanting in the future shall observe the 1932 Plan.
- Please run a site-specific IPaC search https://ecos.fws.gov/ipac/, Virginia Fish and Wildlife Information System https://vafwis.dgif.virginia.gov/fwis/index.asp, and eagle nest locator http://www.ccbbirds.org/what-we-do/research/species-of-concern/virginia-eagles/nest-locator/search for each site. (Or applicable D.C. system).
- Park staff must be notified of implementation prior to commencement of project activities.
- Please complete the project close-out form and return to the Environmental Protection Specialist within two weeks of completion of the reviewed activity.

CE Citation: E.2 Restoration of noncontroversial native species into suitable habitats within their historic range and elimination of exotic species.

Decision: I find that the action fits within the categorical exclusion above. Therefore, I am categorically excluding the described project from further NEPA analysis. No extraordinary circumstances apply.

Signature  Superintendent: Date: 5-9-19

Charles Cuvelier

Extraordinary Circumstances:

If implemented, would the proposal...	Yes/No	Notes
A. Have significant impacts on public health or safety?	No	
B. Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas?	No	
C. Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA section 102(2)(E))?	No	
D. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?	No	
E. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?	No	
F. Have a direct relationship to other actions with individually insignificant, but cumulatively significant, environmental effects?	No	
G. Have significant impacts on properties listed or eligible for listingon the National Register of Historic Places, as determined by either the bureau or office?	No	
H. Have significant impacts on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?	No	
I. Violate a federal, state, local or tribal law or requirement imposed for the protection of the environment?	No	
. Have a disproportionately high and adverse effect on low income or minority populations (EO 12898)?	No	
K. Limit access to and ceremonial use of Indian sacred sites on federal lands by Indian religious practitioners or adversely affect the physical integrity of such sacred sites (EO 130007)?	No	
L. Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?	No	

END OF DOCUMENT