RESTORATION PLAN

68th Street Dump Superfund Alternative Site Natural Resource Damage Assessment and Restoration, Baltimore County and City of Baltimore, Maryland

APRIL 2020

Prepared by:
68th Street Dump Natural Resource Trustees
U.S. Fish and Wildlife Service
National Oceanic and Atmospheric Administration
Maryland Department of Natural Resources

RESTORATION PLAN

68th STREET DUMP SUPERFUND ALTERNATIVE SITE

NATURAL RESOURCE DAMAGE ASSESSMENT AND RESTORATION

BALTIMORE COUNTY and CITY OF BALTIMORE, MD

APRIL 2020

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Abbreviations and Acronyms

BERA	Baseline Ecological Risk Assessment
BTAG	Biological Technical Assistance Group
CD	Consent Decree
CE	Categorical Exclusion
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act U.S.
EA	Environmental Assessment
EIS	Environmental Impact Statement
DOI	Department of the Interior
EPA	U.S. Environmental Protection Agency
FONSI	Finding Of No Significant Impact
ILU	Interim Lost Use
MA	Management Area
NEPA	National Environmental Policy Act
NRDA	Natural Resource Damage Assessment
NRDAR	Natural Resource Damage Assessment and Restoration
MDE	Maryland Department of the Environment
MDDNR	Maryland Department of Natural Resources
NOAA	National Oceanic and Atmospheric Administration
PCB	Polychlorinated Biphenyls
PAH	Polycyclic Aromatic Hydrocarbons
PEC	Probable Effects Concentration
QA/QC	Quality Assurance/Quality Control
RC PEIS	Restoration Center Programmatic Environmental Impact Statement for Habitat Restoration Activities Implemented throughout the Coastal United States
RDWP	Remedial Design Work Plan
RI	Remedial Investigation
RP	Restoration Plan
Service	U.S. Fish & Wildlife Service
SP	Settling Parties
SMP	Strategic Management Plan
TEC	Threshold Effects Concentration
The Site	68th Street Dump Superfund Alternative Site

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BALTIMORE COUNTY and CITY OF BALTIMORE, MD

1.0 INTRODUCTION

The U.S. Department of Interior (DOI), acting as the Natural Resource Trustee by and through the U.S. Fish & Wildlife Service (Service), the U. S. Department of Commerce, acting by and through the National Oceanic and Atmospheric Administration (NOAA), and the State of Maryland (represented by the Maryland Department of Natural Resources (MDDNR) and the Maryland Department of the Environment (MDE)), (collectively the "Natural Resource Trustees" or "Trustees") have prepared this Restoration Plan (RP) pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, (42 U.S.C. § 9601 *et seq.*) and the DOI CERCLA Natural Resource Damage Assessment (NRDA) regulations (43 C.F.R. Part 11). DOI will be serving as the lead administrative trustee for this case.

The 68th Street Dump Superfund Alternative Site (the Site) encompasses seven landfills spread over a 239-acre area in Rosedale, Baltimore County, MD. From the 1950s through the 1970s these landfills accepted a variety of industrial and commercial wastes containing hazardous materials that contaminated soil, sediment, groundwater, surface water, and adjacent wetlands, creeks, and rivers. Hazardous substances on site include a suite of volatile and semi-volatile organic compounds, polychlorinated biphenyls (PCBs), metals, pesticides, and dioxins.

In October 2017, the U.S. Environmental Protection Agency (EPA) announced a settlement with more than 40 parties to clean up hazardous waste contamination at the Site and restore natural resources injured by the contamination. The Consent Decree (CD) was signed and became effective on November 28, 2017. Under terms of the CD the Settling Parties (SP) are responsible to finance and perform a $51.5 million EPA-approved cleanup, perform additional onsite natural resources restoration work in conjunction with the remediation actions, and pay the state and federal natural resource trustees $490,000 for past and future costs related to natural resource damages. Defendants are also required to pay $630,000 for an off-site natural resource restoration project, which is the focus of this RP. The 12 parties that are responsible for performing the cleanup include: AAI Corporation; Acme Markets Inc.; AK Steel Corporation; Browning-Ferris, Inc.; Black & Decker (U.S.) Inc.; Brunswick Corporation; ConAgra Grocery Products Company, LLC; Crown Cork & Seal Company, Inc.; CSX Realty Development, LLC; CSX Transportation, Inc.; Exxon Mobil Corporation, and Illinois Tool Works Inc. Along with these 12 parties, the other remaining parties contributed about $18.8 million towards the settlement.

Each trustee is authorized to act on behalf of the public to assess and recover natural resource damages and to plan and implement actions to restore, rehabilitate, replace, or acquire the equivalent of the natural resources or services injured as a result of a hazardous substance release. The purpose of natural resource restoration is to restore natural resources and related services to the baseline conditions present prior to injuries resulting from hazardous substance releases, and compensate for interim losses which accrue pending the return to baseline by

implementing restoration actions that offset the harm caused. Section 111(i) of CERCLA requires trustees to develop a restoration plan and to solicit public comment on that plan prior to spending settlement or judgment funds for the implementation of restoration actions.

This RP describes and analyzes a number of alternatives considered by the Trustees for restoring natural resources that were injured from exposure to hazardous substances and were not compensated for by restoration at the Site as outlined in Section 1.3 Summary of Settlement. As noted in Section 1.3, the restoration actions that are integrated with the remedy will be covered by the Remedial Design Work Plan (RDWP) to be approved by the U.S. EPA, and will fulfill many of the injured resources on-site. Thus the focus of this RP addresses the additional actions not covered within the RDWP, and restoration actions occurring off-site. In addition, it identifies the preferred alternative and the Trustees' rationale for its selection. The Belt Woods Reforestation project, which would restore 109 acres of native hardwood forest within the greater 625 acre Belt Woods Natural Environment Area in Prince George's County, MD, is the preferred alternative of the Trustees. Public review and comments of the draft restoration plan were accepted for 30 days ending on March 2, 2020 and are included in this RP along with the Trustees responses.

1.1 Authority

This RP was prepared pursuant to the authority and responsibilities of federal and state Trustee under CERCLA; the Federal Water Pollution Control Act of 1972 as amended by the Clean Water Act of 1977 (33 U.S.C. § 1251 *et seq.*); Subpart G of the National Oil and Hazardous Substances Contingency Plan (40 C.F.R. §§ 300.600 - 300.615); the DOI CERCLA NRDA regulations (43 C.F.R. Part 11), and other applicable federal and state laws.

1.2 Site History/Description/Natural Resource Injuries

The Site is located near the town of Rosedale in Baltimore County, MD and covers a total area of approximately 240 acres (Figure 1). The site is composed primarily of wooded and open land that has been extensively modified by multiple landfilling operations that began in the late 1940s and continued until the late 1970s. These landfills accepted various types and quantities of industrial, commercial, and municipal wastes, including: solvents, paints, flammable liquids, fly ash, automobile tires, and 55-gallon drums containing heavy metal sludges produced by electroplating processes. Other operations at the site included dumping waste oils and other unidentified wastes into open lagoons, salvaging metal and cardboard containers, incinerating refuse, and spreading uncooled incinerator ash from the Baltimore City incinerator. Inspection reports noted numerous problems associated with the site, including inadequate cover of refuse, uncontrolled fires, nuisance odors, improper disposal of drums and other salvageable materials, and migration of oil and refuse into Herring Run and Moore's Run. In 1969, the Baltimore County Health Department obtained a court order to end landfill operations. Available information, however, indicates that as late as 1978, wastes from a metal finishing company in Pennsylvania may have been transported to the site.

There are six surface water bodies flowing through the site that facilitated the spread of hazardous waste and contamination on and offsite. Herring Run flows eastward through the site and empties into the headwaters of the Back River, a tributary to the Chesapeake Bay. Moore's Run and an unnamed stream flow eastward, Redhouse Run flows southward, and two unnamed streams flow northward through the site and empty into the on-site portions of the Herring Run. One of the unnamed streams originates from an on-site pond located in the northern portion of the site. Until remediation began, access to the site was unrestricted and trespassers common. Unauthorized burning and nuisance dumping also continued to occur at the site.

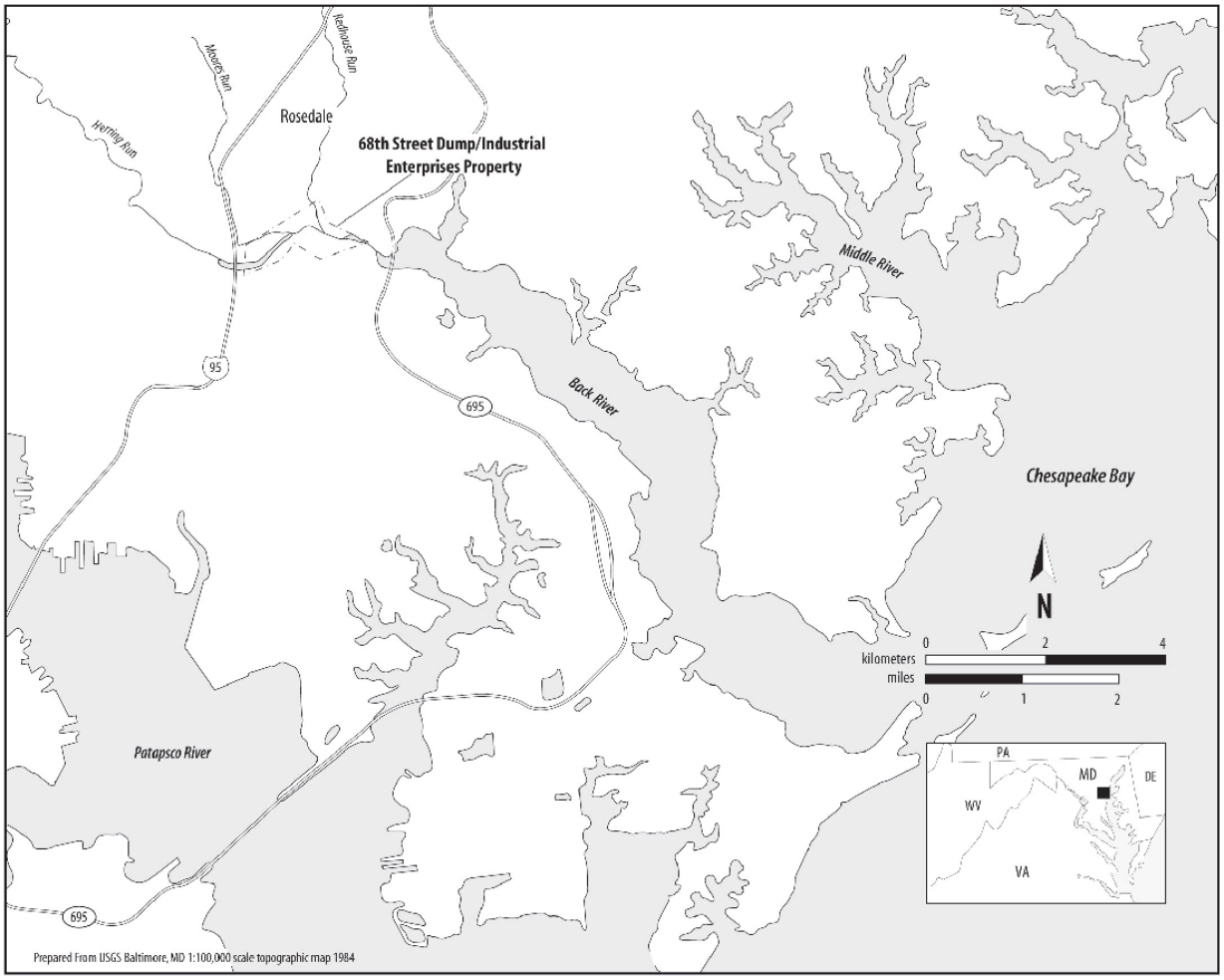

Figure 1. Location of the 68th Street Dump Superfund Alternative Site in Baltimore County, MD.

EPA has identified five areas that are sources of hazardous waste contamination (Figure 2).
Source Area 1 – Covers about 68 acres north of Herring Run and contains the original landfill and the Colgate Pay Dump. Approximately 23 wetland acres were filled including prior tributaries to Herring Run. Herring Run was diverted to the south of its original flow from these activities. Wastes dumped on site consist of construction debris, pesticides, rodenticides, industrial wastes (alkaline solids and caustic soda), and numerous drums and/or drum contents (EPA 2003). Substances released included trivalent and hexavalent chromium, copper, lead, kepone, arsenic, polycyclic aromatic hydrocarbons (PAHs), PCBs, tin, mercury, paint waste, tar pitch, oil-laden soils etc.
Source Area 2 – The Horseshoe Landfill covers about 15 acres in the north-central section of the site. Types of wastes deposited there are unknown. An unnamed tributary crosses the landfill and feeds into ponds and wetlands surrounded by the landfill.
Source Area 3 – Island Area Landfill covers about 6 acres and is located west of the island surrounded by Herring Run in the central portion of the site; received industrial wastewater treatment sludge, paint sludge, incinerator ash, waste oils and solvents. An emergency response due to a solvent fire in 1985 removed about 40 drums.

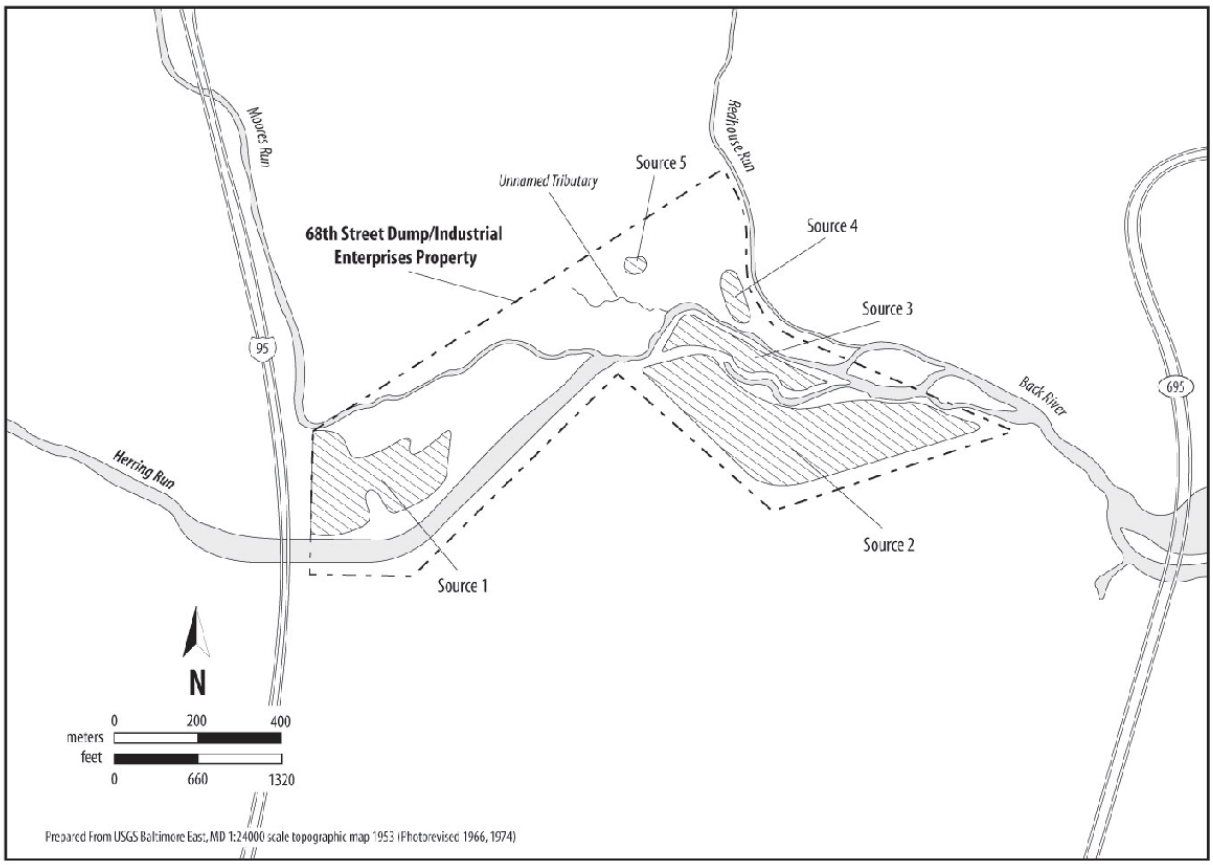

Figure 2. Location of the five hazardous waste source areas within the 68th Street Dump Superfund Alternative Site in Baltimore County, MD.

Source Area 4 – Redhouse Run Landfill covers about 4 acres and is on the northeast portion of the landfill. During a 1984 removal action 10 drums were removed from the landfill.
Source Area 5 – the Industrial Enterprises and "unclaimed" landfill (about 60 acres).

Contaminant releases from these source areas occur via streambank erosion, shallow groundwater discharge, and directly from soil and sediments into biota and habitats of concern to Trustees. Historically, direct placement and surface run-off were much more prevalent.

EPA investigations at the Source Areas resulted in the identification of specific Management Areas (MA) to facilitate cleanup and remediation efforts (Figure 3). The upland MAs include areas A, B, D, and E. *Management Area A* (MA-A), located furthest downstream on the south side of Herring Run, is mostly wooded and surrounded by wetlands to the west, north, and northeast. MA-A did not receive waste disposal in a landfill, but does have surface debris and a "tire pond". This pond forms during the wet season as a vernal pool of varying depth and extent; *Management Area B* (MA-B) located just upstream of MA-A on the south side of Herring Run has wetlands to the east, north, and northwest. One wetland bisects the upland into two sections. Contaminated soil and contact with groundwater, including leachate discharge, were determined by EPA to pose an exposure risk to human health and the environment;

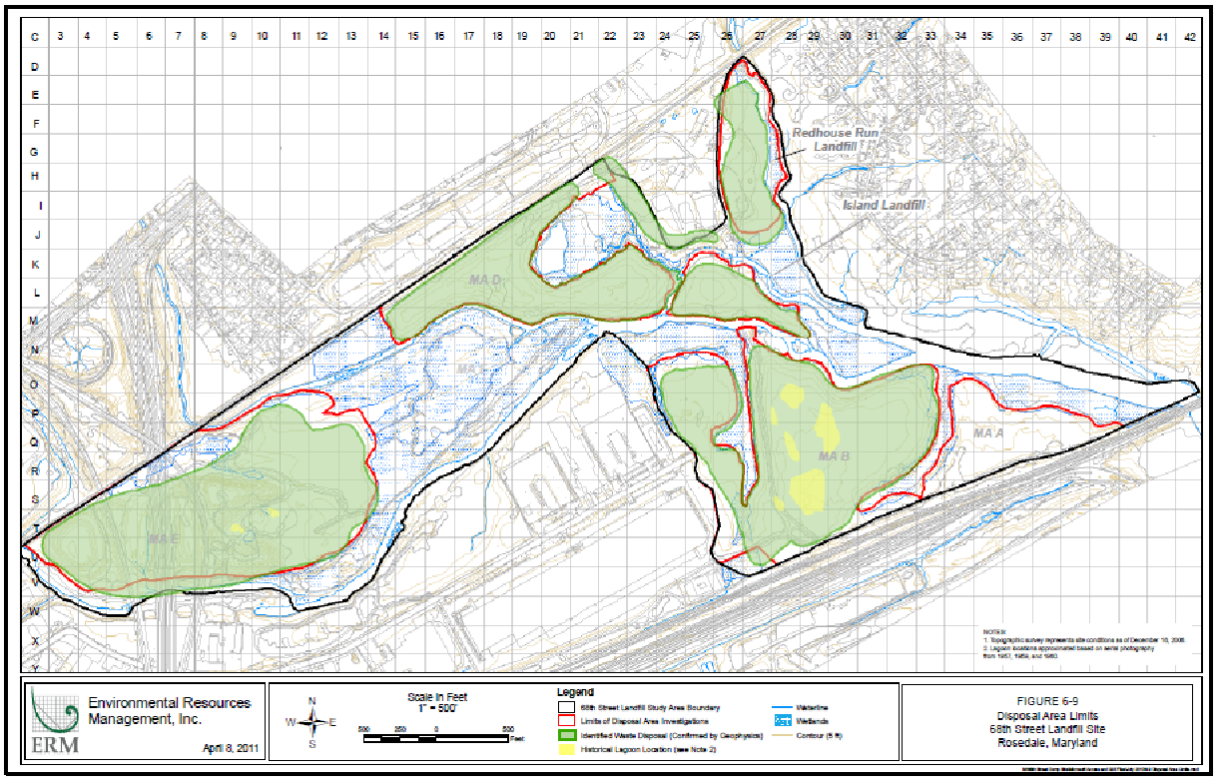

Figure 3. Map of the 68th Street Dump Superfund Alternative Site Management Areas. Baltimore County, MD.

Management Area D (MA-D) is located upstream of MA-A and MA-B, on the north side of Herring Run near "horseshoe pond" in the north-central section of the study area. The interior is thickly vegetated and there are steep slopes along the western and southern stream banks of Moores Run. Contaminant concentrations are at levels that cause risk and leachate discharges to Moores Run, Herring Run, and "horseshoe pond" are also potentially posing risk to receptors; *Management Area E* (MA-E), located furthest upstream and bounded by Herring Run, Moores Run and the CSX rail line. Interstate-95 (I-95) transects the western section of the area. The area is mostly wooded with high topographic relief due to past construction of I-95. Several trails enable off-road vehicles and pedestrian access to this area. Vehicles access this area by fording Herring Run. The Area contains several wetlands, drainage swales, and shallow water-filled depressions (vernal pools); *Management Area F* (MA-F) consists of about 118 acres of contiguous, environmentally sensitive (i.e., protected by local, state or federal regulations) low-lying areas including Herring Run, Moores Run, Redhouse Run, unnamed tributaries, wetlands, floodplains, and required buffers to development. MA-F also includes the Island Landfill (6 acres) and Redhouse Run Landfill (9 acres). Vegetation includes wetland species (including invasive *Phragmites spp.*), trees, and scrub brush.

Contaminants of Concern. EPA's Remedial Investigation (RI) of the Site outlined the collected and measured contaminant concentrations in sediment, surface water, groundwater, shallow soils, deep soils and waste, including soil-gas. Debris in wetlands included tires, abandoned vehicles, drums in various states of decay, construction and demolition debris, steel and

automobile parts, and residential refuse. Surface water had elevated concentrations of antimony, arsenic, barium, iron, and manganese. Surface water concentrations of metals were elevated above upstream concentrations and free product from leachate seeps contained oil-like material, organics and metals. Surface water pond samples were elevated for both PAHs and metals.

Sediment concentrations of PAHs, PCBs and metals were elevated within MA-F. Maximum PAH concentrations were found in wetland sediments east of Horseshoe Landfill in MA-D and near the product seep in MA-B.

Benthic invertebrate toxicity tests from 8 locations on-site and fish tissue analyses (seven samples on-site) were also conducted. Bioassays using 28-day tests on the amphipod, *Hyalella azteca,* were conducted on sediments in MA-F. Negative effects on growth rates occurred from sediments collected from Redhouse Run near the landfill and from the most downstream location on Herring Run, near MA-A and the railroad bridge. Amphipods from these 2 locations had average dry weight concentrations per amphipod that were 26% and 31% lower than the laboratory control group. Percent survival was not significantly lower than the control group. Bioavailability tests and bioaccumulation tests for soils, soil invertebrates, and plants from seven locations on site were also conducted. Results of these tests are not reported here as part of the scope of this RP.

Concentrations in sediment were compared to the Threshold Effects Concentration (TEC) and Probable Effects Concentration (PEC) metals benchmarks for the Baseline Ecological Risk Assessment (BERA) (MacDonald et al. 2000). Historical concentrations of cadmium, chromium, copper, lead, nickel, and zinc were elevated compared to the PEC screening benchmarks and indicated the potential for risk. Data from more recent sampling were screened separately from the older data and indicated that nickel and zinc exceeded the PEC benchmarks. Low molecular weight PAHs exceeded the TEC/ Biological Technical Assistance Group (BTAG) screening concentrations in 16 of 25 samples. High molecular weight PAHs exceeded BTAG screening concentrations in 23 of 26 samples.

Wetland soils (historical and current) were screened against the same benchmarks as sediment. Lead, copper, nickel, zinc, chromium, cadmium, mercury, and arsenic exceeded their respective PEC benchmark in 10 – 75% of samples. Aroclor 1232, 1254, and 1260 exceeding PEC screening benchmarks were measured in wetland soil. Low molecular weight PAHs exceeded TEC/BTAG screening concentration in 25 of 28 samples and high molecular weight PAHs exceeded screening concentrations in all 28 samples in wetland soils.

Alpha chlordane exceeded its PEC benchmark in historical sediment and alpha and gamma chlordane exceeded their PEC benchmarks in more recently sampled sediment. In wetland soil, alpha and gamma chlordane, p,p' DDE, p,p'-DDT, and dieldrin exceeded their PEC benchmarks. Sediments in Horseshoe Pond were elevated in PAHs and metals and pose a risk to benthic invertebrates.

Natural Resource Injuries. Natural resource trusteeship, as established in Subpart G of the National Contingency Plan, 40 C.F.R. §§ 600.300 and 600.305, is shared and encompasses all natural resources owned, managed, belonging to, or held in trust by the State of Maryland, DOI, or NOAA, including but not limited to resident and migratory birds, game species, other wildlife,

benthos and fish, together with their supporting habitat, as well as sediment, surface and groundwater. The Trustees have determined that injuries to the following natural resources have been caused by hazardous substance releases and related contamination to: sediment, surface water, groundwater, and biological resources. Biological resources have incurred injury (43 C.F.R. §11.62(f)(1)(i)) in that contaminant concentrations are sufficient to cause death, physiological malfunction, and other adverse effects to biological resources exposed to contaminated environmental media within the Site. In addition, necessary remedial actions will likely result in additional loss or diminution of ecological services provided to trust resources, which is also consider a compensable natural resource injury. For example, EPA's Record of Decision specifies that 69 acres of upland habitat involving most Management Areas will be capped with 2 feet of soil. Existing forest and vegetation will be removed, and the area replanted with trees after the cover is installed. These riparian forested areas are serving a multitude of benefits including: improving water quality by reductions in the amount of sediment, nutrients, and other pollutants, providing wildlife habitat, controlling runoff and stream erosion, nutrient cycling, thermal regulation, and providing more flight initiation distance habitat. The area of tree removal for capping at the Site is significant and these contiguous stands of riparian forests provide wildlife corridors and include vernal pools which are critical habitat for amphibians and reptiles.

1.3 Summary of Settlement

A CD between the SP, the U.S. of America, and the State of Maryland was formalized on November 28, 2017. The CD assigned responsibilities for performance of remediation and on-site restoration work to members of the SP group and also included payment of $630,000 from the SP to the joint federal and state trustees for offsite restoration of injured natural resources (as addressed in this RP), with one-half ($315,000) due within one year of the entry date, and the balance of $315,000 due with two years of the entry date. An additional $82,170 will be provided if there is a decision to use 9 acres for remediation purposes in area MA-A, to fund additional restoration. The settlement also provided $240,000 in past response and assessment costs and $250,000 for trustee future oversight costs.

Under Appendix E of the CD some of the remedial activities to be implemented by the SP were directed to provide restoration benefits to injured resources. Appendix E states the SP will conduct upland habitat and reforestation plantings, complete stream channel enhancements and reconnect the floodplain at Red House Run, conduct wetland enhancements, establish a program and infrastructure to manage trash in waterways at The Site, create onsite vernal pools, and conduct invasive species control. Details of this work is provided in a Remedial Design Work Plan (RDWP) developed by the SP and to be approved by the Trustees detailing what, how, and when work is to be completed. Specific elements of the RDWP include 69 acres of uplands will be reforested and planted in native grasses and forbes; instream structures will be placed in Red House Red for channel stabilization and to increase channel complexity for anadromous fish; and seven acres of wetlands in MA-B will be enhanced for the collection and treatment of leachate to improve water quality within adjacent tidal creeks. In addition, five floating trash collection bins or racks will be constructed upstream where The Site boundary intercepts Herring Run, Moores Run and Redhouse Run, and 2 unnamed outfalls. Trash will be collected monthly for 20 years before a third party assumes collection responsibility. The creation of 0.5 acres of vernal pools in various locations onsite will provide new habitat for reptiles and amphibians free from fish

predation. Finally, growth of 12 acres of non-native invasive common reed (*Phragmites australis*) will be controlled utilizing a combination of herbicides, mechanical removal, and/or hydrologic control. The RDWP for these elements is complete and work is scheduled to begin in spring of year 2020 (Geosyntec 2018).

1.4 Purpose of Restoration

Restoration is undertaken to return natural resources and the services provided by those natural resources to baseline condition or the condition they would have been in had they not been injured by exposure to hazardous wastes at the Site, and to compensate the public for the loss of those natural resources over time. Restoration actions are often needed because the injured natural resources may not have the capacity to re-establish their functions within an ecosystem in a timely manner without human intervention. In addition to the cost of restoring resources to baseline condition, CERCLA authorizes trustees to recover compensation for interim lost use (ILU) or losses to public use and benefits of these natural resources between the date of injury and the date when restoration has been completed. ILU funds are used for additional restoration actions, including acquisition, rehabilitation, and/or replacement of natural resources (42 U.S.C. § 9607 (f)(l)).

1.5 Environmental Compliance

Actions undertaken by a federal trustee to restore natural resources or services under CERCLA are subject to the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 *et seq.*) and the regulations guiding its implementation at 40 C.F.R. Parts 1500 through 1517, and other federal laws including the Endangered Species Act and Section 106 of the National Historic Preservation Act. The Service is acting as the lead federal agency for NEPA compliance for this RP and NOAA is a cooperating agency.

NEPA and its implementing regulations outline the responsibilities of federal agencies when preparing environmental documentation. In general, federal agencies contemplating implementation of a major federal action must produce an Environmental Impact Statement (EIS) if the action is expected to have significant impacts on the quality of the human environment. When it is uncertain whether the proposed action is likely to have significant impacts, federal agencies prepare an Environmental Assessment((EA) to evaluate the need for an EIS. If the EA demonstrates that the proposed action will not significantly impact the quality of the human environment, the agencies issue a Finding of No Significant Impact (FONSI), which satisfies the requirements of NEPA. Thus, no EIS is required if a FONSI is issued.

Alternatively, federal agencies may identify categories of actions which do not individually or cumulatively have a significant effect on the human environment (40 C.F.R. § 1508.4). Actions falling into those categories are exempt from the requirement to prepare an EA or an EIS. As described in greater detail in section 3.3, the federal Trustee agencies have determined that the preferred restoration actions in this RP fall into one or more such categories that may result in the exercise of a Categorical Exclusion (CE). Proposed restoration activities not covered by a CE will be covered by the impact analysis within the NOAA Programmatic EIS. The Trustees completed NEPA evaluations and the results of those evaluations are included in the appendices of this RP.

1.6 Coordination and Scoping

The Trustees, EPA and SPs worked together cooperatively to address both remediation and natural resource damages at the Site. This cooperative approach is consistent with CERCLA regulations and is intended to provide the opportunity for settlement of damage claims without litigation and to provide efficient restoration of injured resources. The Trustees also coordinated with federal, state, and non-profit members of the natural resource management and restoration community to find projects appropriate for potential restoration.

1.7 Public Review/Participation

In accordance with DOI CERCLA NRDA regulations and NEPA, federal and state trustees notified the public and any federal, state, and local government agencies that may have had an interest in the activities analyzed in this RP. The Draft Restoration Plan was open for public comment and review for 30 days from the date of publication until March 2, 2020. Requests for comments were noticed in the Baltimore Sun, 501 N. Calvert Street, P.O. Box 1377, Baltimore, MD 21278 and online at www.baltimoresun.com. An electronic version of the Restoration Plan was also posted on the Service's Virginia Field Office website: https://www.fws.gov/northeast/virginiafield/environmentalcontaminants/nrdar.html. Interested individuals, organizations, and agencies were instructed to submit comments by writing or emailing:

Susan Lingenfelser, U.S. Fish and Wildlife Service
Virginia Ecological Services Field Office
Email: susan_lingenfelser@fws.gov
Attn. 68th St Dump

Comments that were received during the 30 day public comment period for this document, and Trustee responses to those comments, are presented in this final version of this report (Appendix B).

Trustees have maintained records documenting the information considered and actions taken during this NRDAR process. These records and copies of this RP are available on the 68th Street Dump NRDAR website and by contacting program officials at the USFWS Virginia Field Office, 6669 Short Lane, Gloucester, VA 23061.

Access to and copying of these records is subject to all applicable laws and policies, including, laws and policies relating to copying fees and the reproduction or use of any material that is copyrighted.

2.0 PROPOSED RESTORATION ALTERNATIVES

2.1 Selection Criteria and Evaluation

DOI CERCLA NRDA regulations provide ten factors for Trustees to consider when evaluating restoration alternatives (43 C.F.R. § 11.82(d)).

1. ***Technical Feasibility:*** Whether the alternative is feasibly possible utilizing accepted engineering design standards and construction methods, and existing technology.
2. ***Costs Benefit Comparison:*** Whether the expected benefits of the alternative equals or preferably exceeds monetary and environmental costs.
3. ***Cost Effectiveness:*** Whether project costs, including design, implementation, and long term maintenance and monitoring, effectively benefit and/or restore the injured natural resources and services lost.
4. ***Results of Any Actual or Planned Response Actions:*** The contribution of any action to restoring the injured resource will be considered including direct, indirect, and cumulative results.
5. ***Potential Adverse Impacts:*** Whether a restoration alternative may harm natural resources and the environment during planning, implementation, or the project's life span including long-term and indirect impacts to the injured resources or other resources will be evaluated. Alternatives that avoid or minimize adverse impacts to the environment and natural resources are preferred.
6. ***Natural Recovery Period:*** Consideration of the time required for injured resources to recover if no action is taken.
7. ***Ability of Resources to Recovery With or Without Alternatives:*** Whether taking no action would be more successful and beneficial to restoring injured resources than an alternative requiring an undertaking. The ability of a restoration project to provide resources and services of the same type and quality that were lost. Projects that restore, rehabilitate, replace, or acquire the equivalent of the same type of resources and services injured by the contamination are preferred to projects that benefit similar, but different resources or services.
8. ***Adverse Effects to Public Health and Safety:*** Whether an alternative will pose unacceptable risks to public health and safety.
9. ***Consistency with relevant Federal, State, and tribal policies.***
10. ***Compliance with applicable Federal, State, and tribal laws.***

The Trustees considered these 10 factors from the NRDA regulations in the initial screening and evaluation of potential restoration projects. Based on these factors, the particular requirements of this case, and the Trustee goals for restoration, the Trustees developed the following criteria to further evaluate the proposed alternatives in this plan. The criteria are not ranked in order of priority:

1. **Relation to Injury:** The extent to which an alternative will compensate for the injured resources and resource service losses, in this case migratory birds. Whether a restoration alternative will provide benefits that address multiple resource injuries or service losses, or that provide ancillary benefits to other resources or resource uses will also be evaluated. An alternative that provides multiple resource and service benefits is favored. Extent to which the alternative benefits more than one resource and/or service.
2. **Cost Effectiveness:** The cost to complete the alternative and any leveraging of funds to increase the magnitude or benefit of the project in relation to the dollars invested.
3. **Technical Feasibility and Likelihood of Success**. The degree to which the proposed actions are accepted, practicable and reasonable with known outcomes; and the required investment to produce those outcomes is known or well understood.
4. **Adverse Impacts:** The potential for adverse impacts to the environment, public health, and safety. Extent the alternative prevents future or avoids collateral injury as a result of implementation.

2.2 Alternatives Considered, But Not Further Evaluated

Alternatives considered and eliminated from further evaluation in the RP included onsite habitat restoration within the 68th St Dump Site and the purchase of mitigation bank credits. These restoration activities were identified in the Consent Decree through a Restoration Statement of Work and have been through a public comment period. The restoration activities are being integrated into the design, construction, operation, and monitoring requirements of the remedy as specified by the Record of Decision for the Site.

2.3 Restoration Alternatives Considered

The Trustees considered the uncertainty of the injury measured during a logistically challenging assessment and potential continued hazardous substance releases at the Site. Potential restoration projects were selected and evaluated by their ability to restore, rehabilitate, replace, and/or acquire the equivalent of natural resources injured (known, potential, and unknown). The following subsections present restoration alternatives with a description of work to be performed, costs, and expected outcomes.

2.3.1 Alternative A: No Action/Natural Recovery

An alternative considering natural recovery with minimal management actions, based upon the "No Action-Natural Recovery" determination made in 43 C.F.R. § 11.73(a)(1) of this part, shall be one of the possible alternatives considered. If the Trustee selected this alternative, the site would be allowed to recover, or to be developed, without any interference by the Trustee. The Trustee would do no additional restoration to compensate for the losses in natural resources and services caused by site contamination.

2.3.2 Alternative B: Belt Woods Forest Restoration

Belt Woods Natural Environment Area is a 625-acre natural area managed by the Maryland Park Service in Prince George's County (Figure 4). This area contains a designated National Natural Landmark of one of the last stands of old-growth hardwoods on the Atlantic Coastal Plain. The

old growth oaks and tulip poplar include 200-year old trees over 140 feet tall. Prominent understory trees include flowering dogwood, spicebush, sweet haw and ironwood (MDDNR 2018).

Nearly all of the acreage in Belt Woods is designated as a Maryland State Wildland, providing additional protections to support the preservation of its wilderness nature within an urbanizing landscape. The area provides important nesting habitat for an exceptional population of migratory songbirds, such as wood thrush, red-eyed vireo and Kentucky warbler.

The proposed work at Belt Woods involves the increase of high quality forest cover and the removal of invasive plant species. This effort will provide direct benefits to aquatic biota (long term) by expanding and enhancing a large block of contiguous mature forest that includes wetlands and tributaries that drain into streams that feed into the Patuxent River. This forest will provide shade and native insects and detritus to the streams on the site. This alternative includes assessment of natural resources and planning, control of non-native invasive species, release thinning in a decades old reforestation site, removal of debilitated structures and reforestation, quality assurance and quality control (QA/QC) with long term monitoring and maintenance, and will be consistent with the goals of the MDDNR Strategic Management Plan (SMP) for Belt Woods. The SMP includes conservation and management to maintain the property in its natural state with an emphasis on scientific study, educational programs and natural resource management/restoration activities. Public access will be permitted, but will be limited to passive uses.

Inventory and assessment of natural resources will be conducted to determine forest condition and presence and magnitude of non-native invasive species such as multiflora rose (*Rosa multiflora*), Japanese honeysuckle (*Lonicera japonica*), Oriental bittersweet (*Celastrus orbiculatus*), and others, as well as invasive tree species including Callery pear (*Pyrus calleryana*) and Tree of Heaven (*Ailanthus altissima*). The resulting database will be utilized in the development and implementation of a prioritized action plan for control and removal of non-native plant species that are negatively affecting the park's natural resources. Initial invasive plant removal efforts will be conducted in areas where these plants are adversely affecting rare, threatened, and endangered species habitat. Removal and control techniques may include a combination of mechanical/physical removal, as well as the application of herbicides where appropriate. Herbicide use would be restricted to activities conducted in accordance with approved application methods and best management practices (BMPs) designed to prevent exposure to non-target areas and organisms.

Release thinning will occur on approximately 106 acres of formerly open fields that were reforested in the 1990s. Since that time less desirable sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubra*) and loblolly pine (*Pinus taeda*), as well as non-native invasive species such as Callery Pear (*Pyrus calleryana*) and Tree of Heaven (*Ailanthus altissima*), have become established. These common species are fast growing and compete for nutrients, water and light with the trees planted during the 1990s reforestation effort, negatively affecting the former's growth. Thinning will reduce competition and assist in the continued restoration of the forest in this tract. In addition, non-native species will be reduced using a combination of mechanical/physical removal, as well as the application of herbicides. Herbicide use would be

restricted to activities conducted in accordance with approved application methods and best BMPs designed to prevent exposure to non-target areas and organisms. Removal of invasive trees, herbaceous plants and vines will enhance the quality of the forest and the property's biodiversity. While a lot of the invasives are in former agricultural fields, some have invaded the mature woods on the property. Oriental bittersweet, honeysuckle, english ivy and porcelainberry are just a few of the vines that are affecting mature trees at Belt Woods. Over time, if these vines continue to flourish as they reach the canopy, it becomes more likely that the mature trees will begin to lose branches and eventually fall due to the weight of vines and associated foliage. Removal of invasive tree species like Callery pear and Tree of Heaven will reduce competition and enhance the overall quality and sustainability of the existing forest, ultimately improving the riparian areas adjacent to the headwater streams that feed the Western Branch and ultimately the Patuxent River. Eliminating or greatly reducing the invasives will improve the health of the forest, thereby improving the health of the streams and wetlands on the site.

Removal of debilitated structures and reforestation will occur on approximately three acres that will be restored to a natural forested condition. This effort includes the demolition of 2878 square feet of deteriorated dwellings and small outbuildings over 2 sites, as well as removing trash and debris. Coordination with the Maryland Historical Trust will ensure that there will be no adverse effects on historic or cultural resources. Once the site is clear of all structures, tanks, utilities, and trash, the open areas will be reforested with native trees and shrubs which will facilitate canopy closure and enhance the continuity of the forest in the park.

Site preparation prior to reforestation will include removal of competing vegetation and invasive plants. Native hardwood seedlings of local genotype will be planted approximately 12 feet apart and protected from deer browsing by tree shelters and/or cages with appropriate measures to prevent bird entrapment. If needed, mulching or seeding with a temporary cover crop will be used to prevent soil erosion, and discourage undesirable weed establishment and growth, until the new trees become established.

QA/QC monitoring and maintenance would continue for 15 years to assure planting, thinning, and invasive species control efforts are effective and produce long term and continued benefits to injured natural resources. This includes annual surveys of treatment areas, response to new and returning colonies of invasive plants, additional as needed thinning, protection of rare, threatened, and endangered species habitat, and updates to the prioritized action plan and associated database. Cost of the Belt Woods Forest Restoration project is estimated at $600,000 and will create and maintain high quality habitat for migratory birds and forest interior mammals, reptiles, and amphibians.

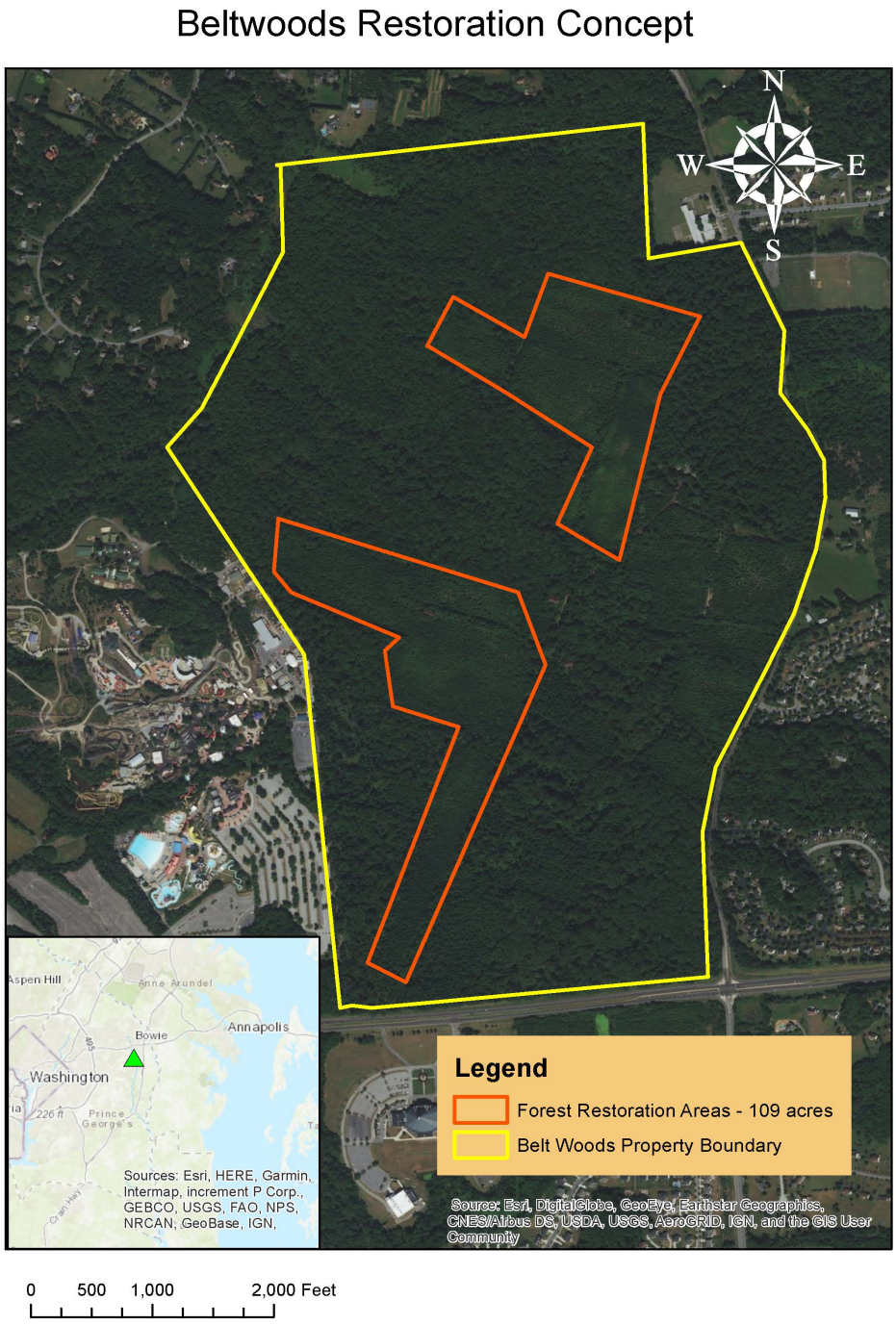

Figure 4. Location of the Belt Woods Forest Restoration Project within the Belt Woods Natural Environmental Area in Prince George's County, MD.

2.3.3 Alternative C: Urban Reforestation within the City of Baltimore

This alternative involves planting trees along streets and avenues within the urbanized areas of Baltimore where the tree canopy was missing or fragmented. A program would be established to accept applications from home owners, perform evaluations, select areas and distribute trees after locations had been identified, prioritized, and permissions obtained. The goal would be to distribute between 40,000-60,000 trees within the most needed neighborhoods and city streets of Baltimore. Cost is estimated at $600,000 and would provide some additional habitat for city dwelling resident birds. QA/QC monitoring and maintenance would continue for 15 years to assure planting, thinning, and invasive species control efforts are effective and produce long term and continued benefits.

2.4 Evaluation of Restoration Alternatives

The following subsections discuss the evaluations of each alternative relative to the selection criteria in section 2.1.

2.4.1 Evaluation of Alternative A: No Action/Natural Recovery

Relation to Injury: Under this alternative, some natural resources at the Site may recover naturally. But, the Trustee would do no additional work to ensure that the natural resources recovered to baseline or to compensate the public for lost resource services.
Cost Effectiveness: No funds would be expended under this alternative.
Technical Feasibility and Likelihood of Success: Interim losses due to injury at the Site would not be restored.
Adverse Impacts: There would be no adverse impacts from this alternative.

2.4.2 Evaluation of Alternative B: Belt Woods Forest Restoration

Relation to Injury: This alternative meets the Trustees' criteria for relation to injured resources. This type of habitat is severely limited in the watershed as there has been much degradation due to human impact over the years. Habitat for migratory birds and other wildlife will be created and/or restored.
Cost Effectiveness: This alternative appears cost effective due to the in-kind match from the state of Maryland for land and management of the site into perpetuity.
Technical Feasibility and Likelihood of Success: The techniques and methods proposed are proven to be feasible and successful.
Adverse Impacts: The restoration of the natural resources located in the area described in this alternative will result in minor impacts that are temporary biologically. The primary impacts will come from the use of herbicides and site preparation activities to remove/control existing invasive plants, dilapidated buildings, and tree thinning. The Trustees determined that this restoration alternative would not individually or cumulatively have a significant impact on the human environment. The majority of impacts to injured resources and resource service losses will be mainly beneficial with this alternative.

2.4.3 Alternative C: Urban Reforestation within the City of Baltimore

Relation to Injury: This alternative does not fully meet the Trustees' criteria for relation to injured resources. The Baltimore tree planting proposal would not provide contiguous acres of

forest. Also, habitat for a different suite of species (urban) than the majority of those injured would be created under Alternative C.
Cost Effectiveness: This alternative does not appear cost effective due to the singular plantings throughout the city and the difficulty of long term monitoring/management and high administrative costs of implementing the program.
Technical Feasibility and Likelihood of Success: The alternative is technically feasible but success would go undetermined because of the high cost of monitoring that was excluded from the alternative. Success is questionable given the created habitat would be highly fragmented within a highly impacted urban area.
Adverse Impacts: None anticipated.

3.0 PREFERRED RESTORATION ALTERNATIVE

The Trustees selected Alternative B: Belt Woods Reforestation as the preferred restoration alternative. This alternative meets all of the selection criteria and best meets the Trustees' goals and objectives to bring migratory birds and other wildlife closer to baseline conditions and to compensate for interim losses.

The Trustees may evaluate and select additional individual projects if the preferred projects become unavailable or additional funds remain. Such projects would be required to meet CERCLA and NEPA requirements.

3.1 Implementation Budget

Alternative B: The cost to implement Belt Woods Reforestation is estimated at $600,000. This includes implementation and 15 years of monitoring and maintenance. Site use contribution and commitment to long-term conservation and stewardship by the Maryland DNR is value added and not reflected in the overall project costs.

3.2 Restoration Goals and Performance Criteria

Monitoring is necessary to determine if species of interest are occupying habitat enhancement areas, and if forested habitat is sufficiently restored to meet restoration goals and objectives. A project-specific monitoring plan will be developed to evaluate the long-term impacts of planned restoration actions within Belt Woods. A monitoring plan would include project specific performance standards and criteria, some of which have already been identified (below), appropriate to proposed restoration actions, guidelines for implementing corrective actions, and a schedule for the frequency and duration of monitoring. Restoration goals will be guided by performance criteria, or measures that assess the progress of restoration sites. In this way, the Trustees will be able to determine which project attributes are not on target, and what actions and course corrections are needed to achieve restoration goals. Monitoring information may also be used by the Trustees as an outreach tool to illustrate to the public continued progress over time (quantitatively and qualitatively). Although the Trustees are currently completing final restoration planning actions, preliminary ideas for monitoring approaches and restoration goals have been developed and are described below.

Annual monitoring will begin approximately one year following completion of the project

and continue for a period of 15 years. Monitoring will consist of quantitative monitoring of plant survival and presence of invasive plants. Qualitative photo monitoring will also be conducted regularly at fixed photo station locations. Restoration goals for the 15 year monitoring period include no less than 80% plant survival achieved; and no more than 20% non-native vegetation established. Project goals for tree growth and mortality will be monitored and invasive species controlled for a minimum of 15 years or until the tree canopy provides sufficient shade to inhibit light dependent (full sun) invasive plant growth.

3.3 Environmental Consequences under NEPA

Categorical Exclusions

Under NEPA federal agencies must evaluate the potential environmental impacts of proposed federal actions on the quality of the human environment. As noted in section 1.5 above, NEPA applies to restoration actions undertaken by federal trustees, except where a categorical exclusion (CE) or other exception to NEPA applies. Federal agencies may identify categories of actions which do not individually or cumulatively have a significant effect on the human environment (e.g., actions with limited degree, geographic extent, and duration). Actions falling into those categories are exempt from the requirement to prepare an EIS.

DOI has established regulations for the implementation of NEPA, including actions that are categorically excluded (36 CFR 220.6). This includes habitat restoration and improvement actions, and NRDA restoration plans prepared under OPA and CERCLA, as described in DOI Department Manual 6, Section 516, Chapter 8.5 (516 DM 8.5). NOAA has similar guidelines found in its Companion Manual to NOAA Administrative Order 216-6A, Policy and Procedures for Compliance with the National Environmental Policy Act and Related Authorities. The applicable NOAA categorical exclusions include habitat restoration actions, including restoration actions under CERCLA and OPA, and are found in the Companion Manual's "List of NOAA's Categorical Exclusions."

The federal Trustee agencies have determined that the majority of the activities associated with the preferred restoration alternative in this RP qualify for one or more of their respective agency CEs and would not have individual or cumulative significant effects on the human environment. NOAA and DOI documents identifying and adopting the appropriate CEs for these actions are appended to this RP.

NOAA Restoration Center Programmatic Environmental Impact Statement

The Trustees have determined that the use of herbicides to control invasive plant species as a component of the preferred restoration alternative does not fall within NOAA or DOI categorical exclusion categories due to the potential for environmental exposure to toxic materials. Therefore, these activities required further analyses on the environmental consequences upon the affected area, herein, the 106 acres proposed for tree thinning and the remainder of the Belt Woods tract to be included in a prioritized action plan for the control and removal of non-native plant species that are negatively affecting the park's natural resources.

Belt Woods Natural Area is primarily forested uplands located approximately 15 miles east of Chesapeake Bay. Invasive plants known to occur at Belt Woods include Callery Pear, Tree of Heaven, Oriental Bittersweet, Japanese Honeysuckle, English Ivy, Multiflora Rose, Autumn Olive, Japanese Barberry, and Leatherleaf Mahonia. Thinning operations and lands included in the prioritized action plan involve reducing the occurrence of non-native species using a combination of mechanical/physical removal, as well as the application of herbicides, where appropriate. Initial invasive plant removal efforts will be conducted in areas where these plants are adversely affecting rare, threatened, and endangered species habitat. Given the proximity of Belt Woods to tributaries to the Chesapeake Bay, the presence of non-tidal wetlands and blue-line streams, and other environmentally sensitive areas throughout Belt Woods, it is anticipated that herbicide formulations such as glyphosate and triclopyr labeled for aquatic use (e.g., Rodeo and Garlon 3A, respectively) will be utilized.

For the proposed herbicide use associated with the Belt Woods Reforestation alternative, the federal Trustees satisfied their NEPA compliance obligations by applying the impacts analysis and conclusions drawn in another, previously published NEPA document— the NOAA Restoration Center *Programmatic Environmental Impact Statement for Habitat Restoration Activities Implemented throughout the Coastal United States* (RC PEIS) (NOAA 2015). The RC PEIS provides a program-level environmental analysis of a variety of habitat restoration activities throughout the coastal and marine environment of the United States. Specifically, it evaluates typical impacts related to a wide variety of common habitat restoration activities undertaken frequently by NOAA. These analyses may be incorporated by reference in subsequent NEPA documents where applicable.

The RC PEIS is available at the following link:

https://www.fisheries.noaa.gov/resource/document/restoration-center-programmatic-environmental-impact-statement

Sections 2.2.2.4.1 (Alternatives – Invasive Species Control) and 4.5.2.4.1 (Environmental Consequences – Invasive Species Control) of the RC PEIS describe the use of herbicides and the environmental consequences of using herbicides for the control of invasive plant species, and approved application methods and best management practices designed to prevent exposure to non-target areas and organisms. Those discussions are incorporated here by reference and the impacts analysis is summarized below.

The RC PEIS concludes that, "*herbicide use for the control of invasive plants could cause direct, short-term, moderate, adverse impacts to* ***geology and soils, water, air, threatened and endangered species,*** *and* ***land use and recreation****. These impacts would result from the potential for lethal effects on soil biota and the short-term loss of shading and habitat for prey species provided by the invasive plant. The potential impacts to birds, aquatic organisms, and terrestrial organisms will be mitigated by the use of the least toxic herbicides, surfactants, and spray pattern indicators available, but sub-lethal impacts are possible. These include impacts to reproduction, survival to adulthood, and disrupted food webs (NMFS 2005). Potential impacts to non-target plant species are reduced when proper application methods are prescribed, but*

rainfall and wind may cause herbicides to leach into the surrounding soil or be transported to non-invasive plants, causing unintentional damage."

Section 4.5.2.4.1 of the RC PEIS states that, "*Appropriate herbicide application methods should reduce the risk of such herbicide drift. Suggested methods include backpack spraying, cut stump, and hack-and-squirt; however, other methods may be used as the site or target species dictates. These methods also greatly reduce the chance of exposing surface waters and their ecological communities to these chemicals due to the high level of applicator control. Methods that do not require surfactants would be used when possible. If necessary, surfactants would be limited to products determined to be the least toxic to the terrestrial, aquatic, and marine/estuarine organisms found in the immediate area. Herbicide tracers (i.e., spray pattern indicators) should be used whenever possible to track herbicide application progress. The use of herbicide tracers will reduce the possibility of over-application, and thus would result in direct, short-term beneficial impacts to the affected area; adverse effects are the same as would be expected from herbicide application, as described above. A project area may be treated several times per year, often for multiple years, to control regrowth of the invasive plant. Where feasible, the area will be regularly monitored for regrowth of the target or new invasive species. Generally, use of herbicides in project areas would be conducted according to established protocols for the locality, as determined by a licensed herbicide applicator. Such protocols would include information and guidelines for appropriate chemical to be used, timing, amounts, application methods, and safety procedures relevant to the herbicide application."*

The RC PEIS also concludes that, "*long-term moderate to major beneficial impacts to* ***geology and soils, water resources, coastal and marine resources,*** *and* ***EFH*** *and* ***threatened and endangered species*** *would result as non-native species are replaced by diverse native plant and animal communities.*"

The information and evaluation contained in sections 2.2.2.4.1 and 4.5.2.4.1 of the RC PEIS are incorporated by reference herein. For this RP, the Trustees have made the determination that the RC PEIS fully covers the scope and environmental impacts of the proposed herbicide use activities for the preferred restoration alternative. The RC PEIS concludes that the anticipated impacts from herbicide use would not be significant, and the Trustees adopt that conclusion and the analysis in this case. Moreover, there are no site-specific considerations, sensitivities, unique habitat, or resources associated with the proposed action that warrant additional NEPA analyses beyond what is provided in the RC PEIS. Therefore, a separate NEPA analysis and decision document is not needed for these activities. The Trustees' final determination is documented in a NEPA "Inclusion Analysis" appended to this RP.

3.4 Compliance with other Laws

Endangered Species Act (16 U.S.C. § 1531, *et seq*.)

The Endangered Species Act of 1973 (ESA) requires federal agencies to list, conserve, and recover endangered and threatened species and to conserve the ecosystems upon which these species depend. The ESA directs all federal agencies to utilize their authorities to further these purposes. Under the ESA, the Department of Commerce (through NOAA) and the DOI

(through the Service) are responsible for preparing, maintaining, and publishing lists of federally endangered and threatened species. Section 7 of the ESA requires that federal agencies consult with these departments to minimize the effects of federal actions on federally-listed endangered and threatened species. Section 7 coordination with the Service and National Marine Fisheries Service (NMFS) will be completed prior to project implementation.

National Historic Preservation Act (54 U.S.C. § 300101, *et seq.*)
The purpose of the National Historic Preservation Act is to protect and preserve historical and archaeological sites in the United States. This act created the National Register of Historic Places and the list of National Historic Landmarks. Through the process, called Section 106 Review, federal agencies are required to evaluate the impact of federally funded or permitted projects on historic property. Section 106 consultation will be completed prior to project implementation.

Migratory Bird Treaty Act (16 U.S.C. § 703, *et seq.*)
The Migratory Bird Treaty Act (MBTA) provides for the protection of migratory birds. Specifically, the MBTA provides that it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the Interior. The Belt Woods reforestation project is expected to have beneficial effects on migratory birds and their supporting habitat.

Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
This Executive Order requires each federal agency to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations. EPA and the Council on Environmental Quality (CEQ) have emphasized the importance of incorporating environmental justice review in the analyses conducted by federal agencies under NEPA and of developing mitigation measures that avoid disproportionate environmental effects on minority and low-income populations. The Trustees have concluded that there are no low-income or ethnic minority communities that would be adversely affected by the proposed restoration actions.

4.0 CONCLUSION

The 68th Street Dump Superfund Alternative Site resulted in potential injuries to migratory birds and other natural resources over 239 acres or more. The objective of any restoration action under CERCLA is to restore or replace natural resources and the services such resources provide to the benefit of the American public. To meet that objective, the benefits of a restoration project must be associated with the natural resource injured and/or lost due to the toxicity of the contamination from the Site.

The preferred restoration alternative selected by the Trustee in this RP is native hardwood forest restoration within the greater 625 acre Belt Woods National Natural Landmark in Prince George's County, MD. The site is owned and managed by the Maryland DNR Park Service.

The project will be beneficial to multiple wildlife species, provide ecological benefits to migratory birds, reduce forest fragmentation and improve forest condition, and help maintain one of the last stands of old-growth hardwoods on the Atlantic Coastal Plain.

List of Preparers

U.S. Fish and Wildlife Service, Virginia Ecological Services Field Office. Gloucester, VA

U.S. Fish and Wildlife Service, Chesapeake Bay Field Office. Annapolis, MD

Office of the Solicitor, U.S. Department of the Interior. Washington, DC

National Oceanic and Atmospheric Administration - Northeast Region, Annapolis Field Office, Annapolis, MD

Maryland Department of the Environment, Baltimore, Maryland

Maryland Department of Natural Resources, Maryland Park Service, Annapolis, Maryland

U.S. Department of the Interior Office of Restoration and Damage Assessment, Restoration Support Unit, Denver, CO

References

Consent Decree 2017. 68th Street Superfund Alternative Site. Civil Action No 17-CV-2909-RDB.

EPA 2003. HRS Documentation Record EPA ID Nos: 68th Street Dump (MDD980918387)

Geosyntec Consultants 2018. Remedial Design Work Plan For Natural Resource Damage Projects. 68th Street Dump Superfund Site, Rosedale, Maryland. Document #MD18142

MacDonald, DD, CG Ingersoll and TA Berger 2000. Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems. Archives of Environmental Contamination and Toxicology 39:20-31.

MDDNR 2018. http://dnr.maryland.gov/publiclands/pages/southern/beltwoods.aspx (accessed July 5, 2018).

MDDNR 2018. Draft Strategic Management Plan For Belt Woods State Wildland.

NOAA 2015. Final Programmatic Environmental Impact Statement for habitat restoration activities implemented throughout the coastal United States, National Oceanic and Atmospheric Administration, NOAA Restoration Center. June 2015.

APPENDIX A – NEPA Inclusion Analysis

NOAA Restoration Center NEPA Inclusion Analysis

Award Number

I. IDENTIFYING PROJECT INFORMATION

Project Name	Project State
68th Street Dump Superfund Alternative Site - Final Restoration Plan	MD

Project Proponent / Applicant	Project Contact
USWFS, NOAA, MDDNR, MDE - "Trustees"	Rich Takacs, NOAA Restoration Center

II. OTHER FEDERAL PARTNERS AND LEVEL OF NEPA ANALYSIS

Has another Federal agency completed NEPA?	☐ *Yes*	☒ *No*	USFWS is the lead NEPA agency and is also using this Inclusion Analysis for NEPA compliance
Is NOAA the lead federal agency for this NEPA analysis?	☐ *Yes*	☒ *No*	

III. PROJECT DESCRIPTION / SCOPE OF ACTIVITIES FOR ANALYSIS

Please check one of the following conditions:

☐ *I am analyzing impacts of project planning and design activities, in order to gather all required project information*

☒ *I have all information needed to complete the final analysis of impacts for the entire project*

Has a NEPA review been conducted for prior project activities?		*Date of NEPA completion for prior phase*
	☐ *Yes*	N/A
	☒ *No*	

Describe the full scope of the project, including historic/ geographic/ ecological context, the type of restoration, and how it will be conducted.

The proposed project will restore natural resources injured from exposure to hazardous substances from the 68th Street Dump Superfund Alternative Site. The Belt Woods forest restoration project includes assessment of natural resources and planning, control of non-native invasive species, release thinning in a decades old reforestation site, removal of debilitated structures and reforestation, quality assurance and quality control (QA/QC) with long term monitoring and maintenance; and will be consistent with the goals of the MDDNR Strategic Management Plan (SMP) for Belt Woods. The SMP includes conservation and management to maintain the property in its natural state with an emphasis on scientific study, educational programs and natural resource management/restoration activities. Public access will be permitted, but will be limited to passive uses. The Belt Woods Natural Environment Area is a 625-acre natural area managed by the Maryland Park Service in Prince George's County, Maryland. The Belt Woods reforestation project would restore 109 acres of native hardwood forest within the greater 625-acre Belt Woods Natural Environment Area. The project will be beneficial to multiple wildlife species, provide ecological benefits to migratory birds, reduce forest fragmentation and improve forest condition, and help maintain one of the last stands of old-growth hardwoods on the Atlantic Coastal Plain.

Describe the proposed action (i.e. the portion of the project that NOAA is funding/approving).

The proposed action entails the application of herbicides to remove competing and non-native plant species as part of restoration activities associated with the Belt Wood reforestation project. Herbicide use (and mechanical/physical removal) on non-native species will be conducted as part of release thinning efforts on approximately 106 acres of previously reforested fields, and on 3 acres for site preparation prior to reforestation planting efforts. Herbicide use will be restricted to activities conducted in accordance with approved application methods and best management practices to prevent exposure to non-target areas and organisms. Thinning and removal of invasive plants will reduce competition and assist in the continued restoration of the forest in this tract. Post-restoration maintenance efforts may also include application of herbicides for invasive species control. Given the proximity of Belt Woods to tributaries to the Chesapeake Bay, the presence of non-tidal wetlands and blue-line streams, and other environmentally sensitive areas throughout Belt Woods, it is anticipated that herbicide formulations such as glyphosate and triclopyr labeled for aquatic use (e.g., Rodeo and Garlon 3A, respectively) will be utilized.

Check the types of activities being conducted in this project:

Technical Assistance		
☐ Implementation and Effectiveness Monitoring	☐ Environmental Education Classes, Programs, Centers, Partnerships and Materials; Training Programs	☐ Fish and Wildlife Monitoring
☐ Planning, Feasibility Studies, Design Engineering, and Permitting		
Riverine and Coastal Habitat Restoration		
☐ Beach and Dune Restoration		

NEPA Inclusion Analysis

☐ Debris Removal	☐ Bank Restoration and Erosion Reduction	☐ Water Conservation and Stream Diversion
☐ Dam and Culvert Removal & Replacement	☐ Coral Reef Restoration	☐ Levee & Culvert Removal, Modification, Set-back
☐ Technical and Nature-like Fishways	☐ Shellfish Reef Restoration	☐ Fringing Marsh and Shoreline Stabilization
☒ Invasive Species Control	☐ Artificial Reef Restoration	☐ Sediment Removal
☐ Prescribed Burns/Forest Management	☐ Road Upgrading/Decommissioning; Trail Restoration	☐ Sediment/Materials Placement
☐ Species Enhancement	☐ Signage and Access Management	☐ Wetland Planting
☐ Channel Restoration	☐ SAV Restoration	
	☐ Marine Algae Restoration	
Conservation Transactions		
☐ Land Acquisition	☐ Water Transactions	☐ Restoration/Conservation Banking

IV. PROJECT IMPACT ANALYSIS

Core Questions

*1. Are the **activities** to be carried out under this project fully described in Section 2.2 of the NOAA RC PEIS?*	☒ *Yes*	☐ *No*
*2. Are the specific **impacts** that are likely to result from this project fully described in Section 4.5.2 of the NOAA RC PEIS?*	☒ *Yes*	☐ *No*
3. Does the level of adverse impact for the project exceed that described in Table 11 of the NOAA RC PEIS for any resource, including significant adverse impact?	☐ *Yes*	☒ *No*

4. Describe the project impacts to resources (including beneficial impacts) and any mitigating measures being implemented.

Herbicide use for the control of invasive plants could cause direct, short-term, moderate, adverse impacts to geology and soils, water, air, threatened and endangered species, and land use and recreation. These impacts would result from the potential for lethal effects on soil biota and the short-term loss of shading and habitat for prey species provided by the invasive plant. The potential impacts to birds, aquatic organisms, and terrestrial organisms will be mitigated by the use of the least toxic herbicides, surfactants, and spray pattern indicators available, but sub-lethal impacts are possible. To further minimize adverse impacts, use of herbicides in project areas would be conducted according to established protocols for the locality, as determined by a licensed herbicide applicator. Such protocols would include information and guidelines for appropriate chemical to be used, timing, amounts, application methods, and safety procedures relevant to the herbicide application. Long-term moderate to major beneficial impacts to geology and soils, water resources, coastal and marine resources, and EFH and threatened and endangered species would result as non-native species are replaced by diverse native plant and animal communities.

5. Describe any potential cumulative impacts that may result from past, present or reasonably foreseeable future actions (beneficial or adverse).

Cumulative project impacts would not be significant or occur at a regional scale, and are consistent with those described in the RC PEIS. Overall, any adverse impacts are likely to be short-term and localized, and only minor to moderate when they do occur. Because the overall project is restoring natural habitat structure and function, it should lead to overall longer-term minor to moderate beneficial impacts on the resources (geology and soils, water resources, coastal and marine resources and EFH, and threatened and endangered species) of the Belt Woods reforestation project area.

6. Describe the public outreach and/or opportunities for public comment that have taken place to this point. Are any future opportunities for public input anticipated?

The Trustees have maintained records documenting the information considered and actions taken during the 68th Street Site NRDA process. These records are available to the public on the 68th Street Dump NRDAR website and at the USFWS Virginia Field Office. A Draft Restoration Plan and draft Inclusion Analysis, was made available to the public for review and comment. All comments on the Draft Restoration Plan were addressed prior to finalization and approval of the Final Restoration Plan. After the public comment period it was determined that no substantive changes were needed to the Restoration Plan and Inclusion Analysis; therefore, NOAA will not be preparing any further NEPA analysis or seeking a FONSI or ROD for the proposed restoration actions.

7. Have any public comments raised issues of scientific/environmental controversy? Please describe.

There have been no public comments to date identifying issues of scientific and environmental controversy. All comments on the Draft Restoration Plan and Inclusion Analysis were addressed prior to finalization and approval of the Final Restoration Plan.

8. Describe the most common positive and negative public comments on issues other than scientific controversy described above in Question 7.

Two public comments were received on the Draft Restoration Plan which are addressed and summarized in the Final Restoration Plan (Appendix B). Comments were generally related to reconsideration of Alternative C--Urban Reforestation within the City of Baltimore, and consideration of restoration within the area where the contamination occurred rather than farther afield. There

NEPA Inclusion Analysis

Core Questions (continued)
were no public comments on the draft Inclusion Analysis and no substantive changes made to the Restoration Plan following the public review period.

V. NEPA DETERMINATION

☒ The action is completely covered by the impact analysis within the NOAA RC Programmatic EIS (PEIS). The project and its potential impacts may be limited through terms or conditions placed on the recipient of NOAA funds. It requires no further environmental review. An EIS Inclusion Document will be prepared.

☐ The action analyzed here has unknown impacts. At this time, funding will be limited to those portions of the action and impacts analyzed in the PEIS. These limitations will be described in terms or conditions placed on the recipient of NOAA funds. If all remaining activities and impacts are later determined to be described in the PEIS, this analysis will be documented in the program record and the applicant may then proceed with the project. If all remaining activities and impacts are later determined to not be described in the PEIS, further NEPA review will be required; see below.

☐ The action or its impacts are not covered by the analysis within the PEIS. It will require preparation of an individual EA, a supplemental EIS, adoption of another agency's EA or EIS, or will be covered by a Categorical Exclusion.

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Date Signed _____

APPENDIX B – Public Comments and Trustees Responses

Written comments were received from 2 commenters during the public review period. The comments and Trustees responses are summarized below.

COMMENT: A commenter asked the Trustees to reconsider and reevaluate Alternative C: Urban Reforestation within the City of Baltimore. The commenter stated that by partnering with the green network associated with Baltimore, settlement funds could be spent purchasing trees rather than on the operational side of the effort. Also mentioned was the capacity for an existing restoration plan in the City of Baltimore; that capacity equates to hundreds of trees planted each year by volunteers, the involvement of several non-profit organizations, the Druid Hill Park nursery, 4700 acres of parkland, and the city's Forestry Division planting 2000 trees each.

RESPONSE: This information does not change the Trustees evaluation of Alternative C in that the alternative does not fully meet the evaluation criteria for relation to injury and likelihood of success. Namely, Alternative C: Urban Reforestation within the City of Baltimore does not provide contiguous acres of forest, the project would serve urban resident birds more so than the neotropical migratory species injured by the contamination, and plantings would be fragmented among many sites. Fragmentation would provide less benefit than the preferred alternative and increase efforts to implement, document, and maintain the project's success even with the use of green network volunteers. The Trustees concluded that the preferred alternative would best restore and rehabilitate natural resources injured from the contamination, namely migratory birds and aquatic biota, when compared to the other alternatives presented. The Trustees evaluation recognized that natural resources were also being restored within the city of Baltimore at the site of where the injury occurred.

The preferred alternative possesses a high degree of relation to the injury having been recognized as having the highest density of breeding migratory birds on the east coast and supporting many migratory bird species that are in decline. Since urban bird species are not threatened to the degree neotropical migratory species are, the Trustees prioritized non-urbanized habitat restoration over urbanized sites. Matching contributions by the Maryland Department of Natural Resources in the form of competent and professional project implementation, monitoring, management, and land protection best met the cost effectiveness criteria over other alternatives. The likelihood of success of the preferred alternative is high given a Strategic Management Plan exists, the site is protected into perpetuity, and is in a relatively natural undeveloped state in comparison to sites within surrounding sub-watersheds. Overall, the Trustees evaluation concluded the Belt Woods project would produce superior uplift over other alternatives involving natural resources injured from the 68th Street Dump.

COMMENT: A commenter expressed concern about why the preferred restoration project was located in a different county and watershed from where the contamination occurred, that conducting restoration 40 miles from the contamination was not truly mitigating the resource injury within Herring Run watershed, that natural resources would not be restored where the injury occurred, and that local residents would not be compensated for the injury. They requested the Trustees reconsider and prioritize restoration options within the impacted Herring Run watershed.

RESPONSE: In their evaluation of the alternatives, the Trustees recognized that natural resources were already being restored within the Herring Run watershed where the injury occurred as described in the Consent Decree formalized on November 28, 2017 by the settling parties. In addition to remediation, onsite restoration included 69 acres of uplands being reforested and planted in native grasses and forbes; instream structures placed in Redhouse Run for channel stabilization and to increase channel complexity for anadromous fish; and seven acres of wetlands enhanced for the collection and treatment of leachate to improve water quality within adjacent tidal creeks. In addition, five floating trash collection racks constructed upstream where the site boundary intercepts Herring Run, Moores Run and Redhouse Run, and 2 unnamed outfalls will remove garbage entrained in runoff from the Herring Run watershed. The creation of 0.5 acres of vernal pools in various locations will provide new habitat for reptiles and amphibians free from fish predation. Finally, 12 acres of non-native invasive common reed (*Phragmites australis*) will be controlled. With this on-site restoration within the Herring Run watershed being completed by others, any additional restoration by the Trustees required examination off-site of where the contamination occurred.

In determining the preferred alternative, the Trustees utilized evaluation criteria as described in Section 2.1 of the Draft Restoration Plan. These included:

1. **Relation to Injury:** The extent to which an alternative will compensate for the injured resources and resource service losses, in this case migratory birds and aquatic biota. Whether a restoration alternative will provide benefits that address multiple resource injuries or service losses, or that provide ancillary benefits to other resources or resource uses will also be evaluated. An alternative that provides multiple resource and service benefits is favored. Extent to which the alternative benefits more than one resource and/or service.
2. **Cost Effectiveness:** The cost to complete the alternative and any leveraging of funds to increase the magnitude or benefit of the project in relation to the dollars invested.
3. **Technical Feasibility and Likelihood of Success**. The degree to which the proposed actions are accepted, practicable and reasonable with known outcomes; and the required investment to produce those outcomes is known or well understood.
4. **Adverse Impacts:** The potential for adverse impacts to the environment, public health, and safety. Extent the alternative prevents future or avoids collateral injury as a result of implementation.

The primary injury in this case was to migratory birds and aquatic biota. Given the degree of urbanization near the 68th Street Dump site, and biology and life history of the injured resources, the Trustees considered off-site restoration from a regional perspective to be most appropriate, recognizing that injury to these resources extended well beyond the heavily urbanized Herring Run watershed, adjacent watersheds, and the site where contamination originated.

Section 2.4.2 of the Draft Restoration Plan explains that the Trustees determined that the preferred alternative contained desirable aspects that additional work within the Herring Run watershed could not provide.

The Belt Woods site possesses a high degree of relation to the injury being recognized as having the highest density of breeding migratory birds on the east coast and supporting many

migratory bird species that are in decline. Since urban bird species are not threatened to the degree neotropical migratory species are, the Trustees prioritized non-urbanized habitat restoration over urbanized sites. Matching contributions by the Maryland Department of Natural Resources in the form of competent and professional project implementation, monitoring, management, and land protection best met the cost effectiveness criteria over other alternatives. The likelihood of success of the preferred alternative is high given a Strategic Management Plan for Belt Woods exists, the site is protected into perpetuity, and is in a relatively natural undeveloped state in comparison to sites within surrounding sub-watersheds. Overall, the Trustees evaluation concluded the Belt Woods project would produce superior uplift over other alternatives involving natural resources injured from the 68th Street Dump.

END OF COMMENTS and RESPONSES

APPENDIX C - USFWS Environmental Action Statement

UNITED STATES FISH & WILDLIFE SERVICE

ENVIRONMENTAL ACTION STATEMENT

Within the spirit and intent of the Council of Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA) and other statutes, orders and policies that protect fish and wildlife resources, I have established the following administrative record and have determined that the action of the *Restoration Plan, 68th Street Dump Superfund Alternative Site Natural Resource Damage Assessment and Restoration, Baltimore County and the City of Baltimore, Maryland:*

_X_ is a categorical exclusion as provided by 516 DM 6 Appendix 1 and 516 DM 6, Appendix 1. No further documentation will therefore be made.

___ is found not to have significant environmental effects as determined by the attached Environmental Assessment and Finding of No Significant Impact.

___ is found to have significant effects, and therefore further consideration of this action will require a notice of intent to be published in the Federal Register announcing the decision to prepare an EIS.

___ is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.

___ is an emergency action within the context of 40 CFR 1506.11. Only those actions necessary to control the immediate impacts of the emergency will be taken. Other related actions remain subject to NEPA review.

Other supporting documents (list):

Restoration Plan, 68th Street Dump Superfund Alternative Site
Natural Resource Damage Assessment and Restoration, Baltimore County and the City of Baltimore, Maryland

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION APPROVAL OF THE FINAL NATURAL RESOURCES DAMAGE ASSESSMENT AND RESTORATION PLAN FOR THE 68TH STREET DUMP SUPERFUND ALTERNATIVE SITE

In accordance with the Memorandum of Agreement, as amended, among the United States Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and the Maryland Department of Natural Resources, NOAA indicates by signature below their agreement to concur, in its entirety, with this Final Natural Resources Damage Assessment and Restoration Plan for the 68th Street Dump Superfund Alternative Site on behalf of their agency.

Approved:

Christopher Doley

Digitally signed by DOLEY.CHRISTOPHER.D.1365844042
Date: 2020.06.18 08:51:40 -04'00'

Christopher Doley
Division Chief
NOAA Restoration Center
U.S. Department of Commerce

Date

68th Street Dump Superfund Alternative Site

Natural Resource Damage Assessment and Restoration

Final Restoration Plan

The signature below confirms the approval of the Maryland Department of Natural Resources, acting in its capacity as a Trustee for natural resources, of the final Restoration Plan (RP) for the above-referenced site.

_____ 5/1/20_____

Philip R. Hager Date
Assistant Secretary, Land Resources
Maryland Department of Natural Resources
580 Taylor Ave. C-4
Annapolis, MD 21401

This document may be executed in multiple counterparts, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument. Signatures, including notary signatures, provided by electronic means including, by way of example and not of limitation, facsimile, Adobe, PDF, and sent by electronic mail, or via an electronic signature program, shall be deemed to be original.

68th Street Dump Superfund Alternative Site

Natural Resource Damage Assessment and Restoration

Final Restoration Plan/Environmental Assessment

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

The Authorized Official for the 68th Street Dump Superfund Alternative Site is the Regional Director for the U.S. Fish and Wildlife Service's North Atlantic-Appalachian Region. By the signatures below, the Final Restoration Plan/Environmental Assessment (RP/EA) is hereby approved.

Approved:

WENDI WEBER Digitally signed by WENDI WEBER Date: 2020.05.28 11:25:32 -04'00'

Wendi Weber Date
North Atlantic-Appalachian Region
U.S. Fish and Wildlife Service

Concurred:

4/30/2020

Mark Barash Date
Office of the Solicitor
North Atlantic-Appalachian Region

END OF DOCUMENT