FINAL

FLOODPLAIN, RIPARIAN, AND WETLANDS RESTORATION PLAN/ ENVIRONMENTAL ASSESSMENT

FOR

THE AMERICAN CYANAMID SUPERFUND SITE

BRIDGEWATER TOWNSHIP, SOMERSET COUNTY, NEW JERSEY

JULY 2023

Prepared by:

United States Fish and Wildlife Service
on behalf of the United States Department of the Interior,
National Oceanic and Atmospheric Administration on behalf of
United States Department of Commerce, and
the New Jersey Department of Environmental Protection
on behalf of the State of New Jersey

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1 Introduction

1.1 Background

This Final Floodplain, Riparian, and Wetlands Restoration Plan/Environmental Assessment (Final RP/EA) has been prepared by the United States Fish and Wildlife Service (Service), acting on behalf of the United States Department of the Interior (DOI), in coordination with its fellow natural resource trustees at the American Cyanamid Superfund Site (Site): the National Oceanic and Atmospheric Administration (NOAA) by and for the United States Department of Commerce, and the New Jersey Department of Environmental Protection (NJDEP) on behalf of the State of New Jersey (the Service, NOAA, and NJDEP, are referred to in this Final RP/EA individually as a "Trustee" and collectively as the "Trustees"). This document was prepared by the Trustees in accordance with requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Environmental Policy Act (NEPA), and other applicable Federal and state laws and regulations.

The purpose of the proposed restoration is to compensate the public for injuries and loss of natural resources due to the release of hazardous substances into areas at or near the Site, located in Bridgewater Township, Somerset County, New Jersey. This Final RP/EA describes proposed restoration projects, and provides the environmental review required by NEPA. This Final RP/EA focuses on environmental injuries that were not addressed by previous legal settlements that focused on compensation for in-river and groundwater environmental injuries. The current Final RP/EA was developed in consideration of a previous 2016 Final In-River Restoration Plan/Environmental Assessment[1], which was adopted to address and compensate for in-river injuries associated with the Site. The current Final RP/EA is intended to address and compensate for injuries to the remaining natural resources affected by hazardous substance releases at or near the Site. The current Final RP/EA is intended to address and compensate for injuries to the remaining natural resources affected by hazardous substance releases at or near the Site.

This Final RP/EA provides a description of the natural resources within floodplains, wetlands, and riparian areas at the Site property potentially injured as a result of hazardous substance releases at the Site. This document also contains descriptions of the remediation activities at the Site, the restoration alternatives considered by the Trustees to restore resources potentially injured at or near the Site, the Trustees' evaluations of those alternatives, and the basis for the Trustees' recommendation of the preferred alternative. The Draft RP/EA was released for public comment as required under CERCLA and NEPA. The CERCLA regulations set out certain requirements for what should be considered and included in restoration plans under CERCLA. Generally, Restoration Plans (RP) must contain sufficient information to allow meaningful public review. The NEPA regulations also require that certain items be included in

[1] Final In-River Restoration Plan/Environmental Assessment: https://pub-data.diver.orr.noaa.gov/admin-record/6831/Final_River_Restoration_Plan_Enviromental_Assessment_for_American_Cyanamid_Nov_2016.pdf

Environmental Assessments (EA). The required elements of each of these documents demonstrates the similarities among the two planning documents. When developing restoration plans under CERCLA, there must also be compliance with NEPA. The Draft RP/EA was put out for a 30-day public comment period and comments were incorporated in this Final RP/EA as appropriate.

The Natural Resource Damage Assessment and Restoration (NRDAR) planning process often involves two different types of restoration action: primary and compensatory. Primary restoration actions are designed to assist or accelerate the return of resources and services to their pre-injury or baseline levels. Compensatory restoration actions are intended to compensate for interim losses of natural resources and services, from the time of the initial injury through the return of the resources and their services to baseline levels (*i.e.*, the condition of the natural resources within the subject area prior to potential adverse impacts from releases of hazardous substances).

1.2 Proposed Action

The Trustees have identified a proposed action for restoration that is intended to compensate for the potential injury to and loss of natural resources resulting from the release of hazardous substances at the Site. This alternative entails the enhancement of wetlands and floodplain function, as well as restoration of riparian habitat adjacent to the Raritan River by improving flood resiliency, water retention, and the diversity of the plant assemblages at a property owned by Duke Farms, a center of the Doris Duke Foundation, in Hillsborough, New Jersey, located approximately 2.8 miles upstream of the Site. This alternative is the Trustees' proposed action subject to environmental review requirements under the National Environmental Policy Act (NEPA), which requires an opportunity for public comment on such actions. In accordance with NEPA, this Final RP/EA evaluates the potential environmental impacts of the Trustees' proposed action, any reasonable alternatives that might satisfy the purpose and need of the restoration action, and the No Action alternative.

1.3 Natural Resource Trustees and Authorities

1.3.1 Natural Resource Trustees

This Final RP/EA was prepared jointly by the Federal and State Trustees, acting pursuant to their respective authority and responsibilities under CERCLA, 42 U.S.C. §9601, *et seq*. (see discussion at Sec. 1.3.2 below); and as applicable, the Federal Water Pollution Control Act, 33 U.S.C. §1251, *et seq*. (also known as the Clean Water Act (CWA)), and other applicable Federal and State laws, including Subpart G of the National Oil and Hazardous Substances Contingency Plan (NCP), at 40 C.F.R. §§300.600 through 300.615, and DOI's CERCLA NRDA regulations at 43 C.F.R. Part 11.

1.3.2 CERCLA

Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), certain Federal and State government agencies, and Indian tribes, are authorized to act on behalf of the public to assess and recover natural resource damages, and to plan and implement actions to restore, replace, or acquire the equivalent of resources or resource services injured or lost as a result of a release of a hazardous substance (42 U.S.C §§ 9601-9675 (2016); 43 C.F.R. Pt. 11 (2016)). Upon determination of the amount of the award of a natural resource damage claim, the authorized officials shall prepare a Restoration Plan that will list a reasonable number of possible alternatives for the restoration or rehabilitation of the injured natural resources to a condition where they can provide the level of services available at baseline, or the replacement and/or acquisition of equivalent natural resources capable of providing such services. An alternative shall be selected, describing the actions required to implement that alternative; give the rationale for selecting that alternative; and the compensable value of the services lost to the public associated with the selected alternative. The plan shall be made available for public review by any identified potentially responsible party, other natural resource trustees, other affected Federal or State agencies or Indian tribes, and any other interested members of the public for a period of no less than 30 calendar days. Reasonable extensions may be granted as appropriate.

1.3.3 NEPA

The Federal Trustees must comply with the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321 *et seq*., and its regulations, 40 C.F.R. §§ 1500-1508 *et seq*., when planning restoration actions. NEPA is generally applicable to any major Federal action that involves Federal funding, work performed by the Federal government, or permits issued by a Federal agency. NEPA and its implementing regulations outline the responsibilities of Federal agencies under NEPA, including preparing environmental documentation.

DOI, through the Service, is acting as the lead Federal agency for NEPA compliance for this Final RP/EA, and NOAA is participating as a cooperating Federal agency pursuant to NEPA (40 C.F.R. § 1501.8). NOAA may adopt the Final RP/EA, as appropriate, in accordance with 40 C.F.R. § 1506.3 and agency-specific NEPA procedures.

1.4 Site Overview and Summary of Hazardous Substance Release

From 1915 through 1999, the Site was used for coal tar distillation and manufacturing of various products including pharmaceuticals, rubber chemicals, dyes, resins, and acids. An estimated 800,000 tons of waste materials, including chemical wastes, were placed within impoundments at the Site. Unlined impoundments were used for treatment and storage of waste and wastewater until 1979, when an incinerator was put into operation for disposal of newly produced waste. The

435-acre American Cyanamid Superfund Site is located along the Raritan River in Bridgewater Township, Somerset County, New Jersey (Figure 1).

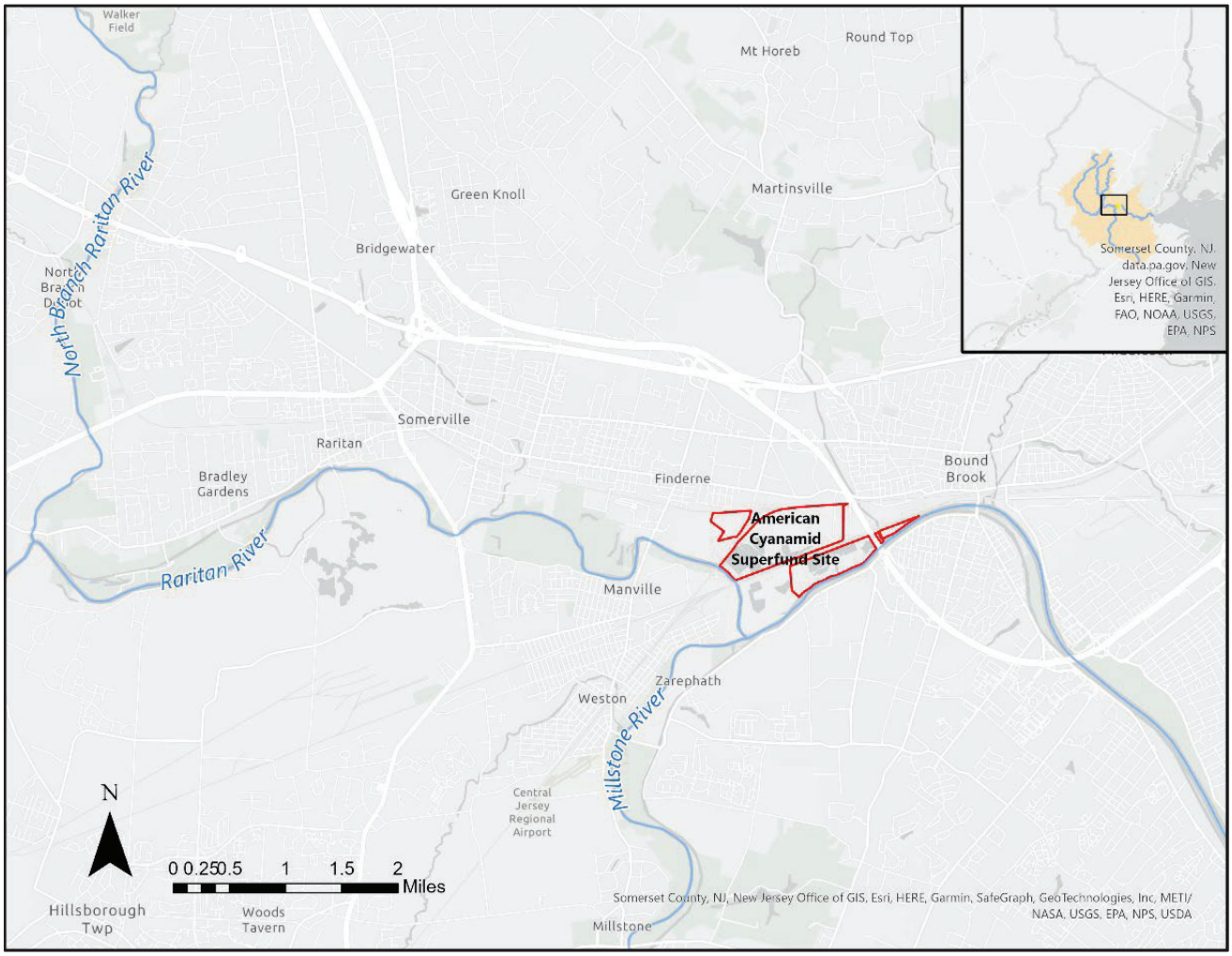

Figure 1. Geographic location of the American Cyanamid Superfund Site.

Some of the impoundments located in the floodplain may have released contaminants of concern (COCs) to the Raritan River during extreme flood stages. Groundwater under the area contains Site-related volatile organic compounds, semi-volatile organic compounds (SVOCs), and metals.

Cuckels Brook, which traverses the Site and flows into the Raritan River, was used as a conduit for untreated liquid waste from the early 1900s through the 1930s. A dispersant weir was constructed in the Raritan River adjacent to the facility in 1938 to increase the mixing of the plant's untreated effluent into the river. A liquid waste treatment system, which included neutralization and settling prior to discharge into Cuckels Brook and the Raritan River, began operation in 1940. In response to complaints regarding odor, color, and impacts to fish, several

enhancements to the waste treatment system, including activated-sludge treatment and activated-carbon wastewater treatment, were implemented from the 1950s through the 1970s. Dye manufacture ceased in 1982, and the Site was placed on the National Priority List (NPL) in 1983. Direct discharge to the Raritan River ended in 1985 and all manufacturing at the American Cyanamid facility ceased in 1999.

The primary COCs are metals and SVOCs, including polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). A 2005 Baseline Ecological Risk Assessment for the Site summarized previous data and evaluated ecological exposure to, and risk of adverse ecological effects from, Site-related COCs. Concentrations of metals in Raritan River sediment and surface water exceeded levels considered protective of ecological receptors. Concentrations of mercury, chromium, arsenic, lead, PCBs, and benzyl 2-ethylhexyl phthalate in Cuckels Brook sediment exceeded screening levels. Portions of Cuckels Brook were considered impaired based on benthic macroinvertebrate survey data. Chronic effects were observed in Cuckels Brook sediment bioassays, but the bioassay results from Raritan River sediments did not indicate any impairments. Site-related COCs have likely contributed to the general degradation of the Raritan River and associated riparian areas.

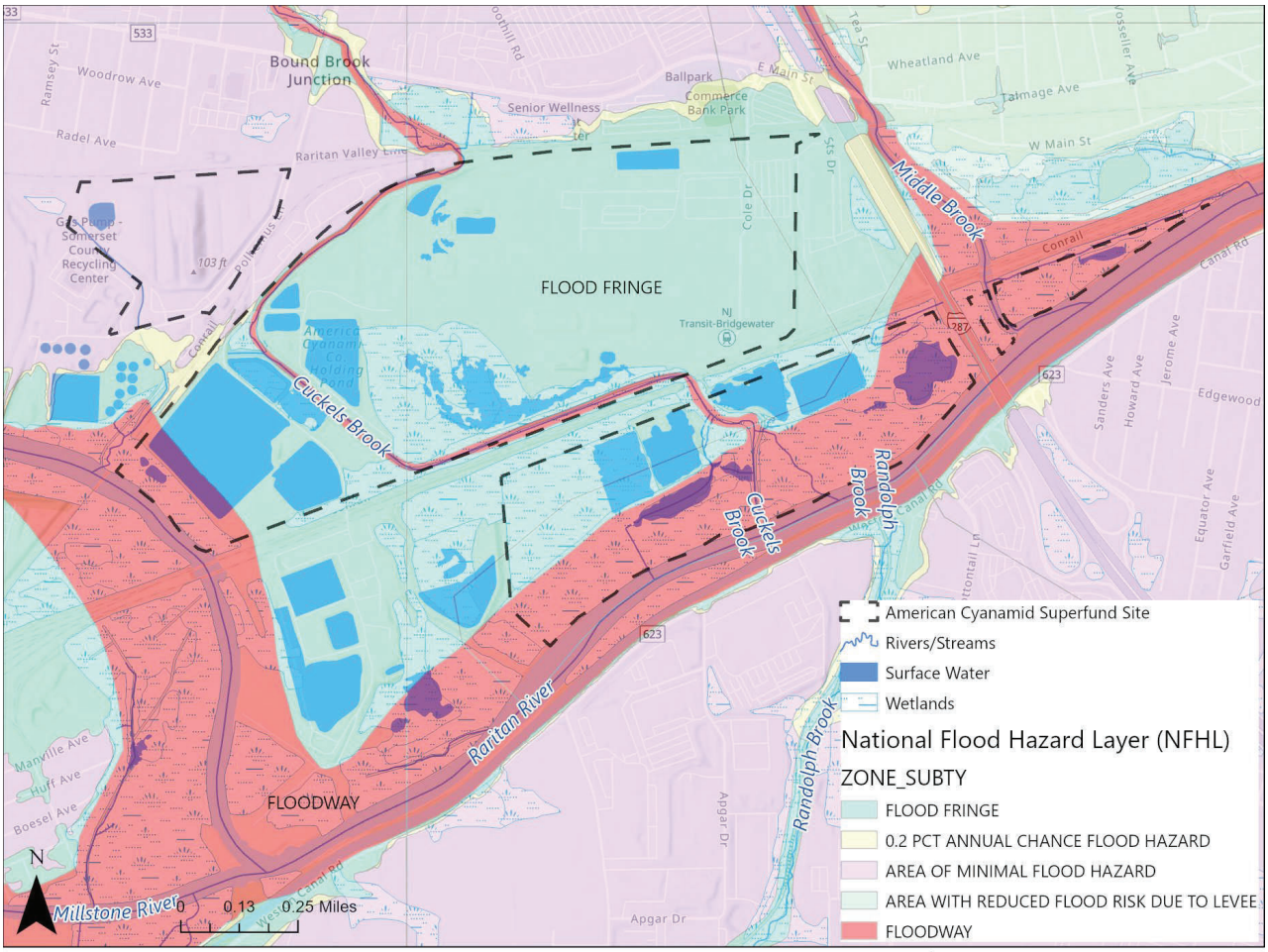

Figure 2. Map of the American Cyanamid Superfund Site and locations of potentially impacted surface water, wetlands, rivers/streams, and flood hazard areas.

The focal areas of this Final RP/EA are the sensitive habitats on the Site including the floodplains, riparian areas, and wetlands of the Raritan River, Cuckels Brook, and related tributaries adjacent to and downstream of the Site (Figure 2). The floodplains, riparian areas, and wetlands adjacent to the Site provide important habitat for various species of macroinvertebrates, amphibians, reptiles, birds, fish, and mammals.

More specifically, the Site and adjacent habitats provide breeding, overwintering, and/or migratory habitat to migratory birds. Insectivorous and piscivorous bird species, in particular, are likely to have been directly impacted by the hazardous substances released at the Site due to contaminant concentrations in their food sources. Some federally-protected species, such as the Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) often use forested and riparian habitats for summer roosting, foraging, and rearing young. Likewise, the bog turtle (*Glyptemys muhlenbergii*) may have historically occupied the Site or adjacent habitats and so may have been impacted by the release. State-listed species that may have been impacted by the release of hazardous substances at the Site includes but is not limited to: the bald eagle

(*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*), pied-billed grebe (*Podilymbus podiceps*), American bittern (*Botaurus lentiginosus*), black-crowned night heron (*Nycticorax nycticorax*), osprey (*Pandion haliaetus*), red-headed woodpecker (*Melanerpes erythrocephalus*), American kestrel (*Falco sparverius*), and eastern box turtle (*Terrapene carolina carolina*) .

1.5 Summary of Remedial Actions

The U.S. Environmental Protection Agency (EPA) issued a Record of Decision (ROD) for Operable Unit (OU) 6 ("the Hill Property") in July 1996, and that OU was removed from the NPL in December 1998, reducing the size of the Site from 575-acres to 435-acres.

In September 2012, the EPA issued a ROD for the remediation of OU4, (the "Site-wide Remedy") which incorporates remediation of Impoundments 3, 4, 5, 13, 17, and 24 and addresses soils, groundwater, and the contents of six of the impoundments. The OU4 remedy includes *in-situ* solidification/stabilization of the principal threat wastes and tarry substances in Impoundments 3, 4, and 5, the relocation and consolidation of any materials posing unacceptable risk in Impoundments 13, 17, and 24, *in-situ* solidification/stabilization and/or installation of engineered capping systems to address Site soils, and the collection and treatment of impacted groundwater. Groundwater extraction and treatment initially occurred in the 1980s and relied on off-Site treatment at a municipal treatment works. An interim groundwater removal system, including a collection trench, containment wall, and on-Site treatment system, was constructed in 2012 to address the impacted groundwater and benzene seeps along the banks of the Raritan River in the vicinity of Impoundments 1 and 2. The Site-wide groundwater extraction and treatment system was further designed, constructed, and substantially completed in 2018 and has been fully operational since March 2019, with all impacted groundwater being treated in a treatment facility located on-Site.

In September 2018, EPA issued a ROD for OU8, which addresses Impoundments 1 and 2. The principal threat waste in these two impoundments will be removed and treated or destroyed off-site. Soil or clay impacted by this waste at concentrations above the remediation goals will be treated, stabilized, and capped with an engineered protective cover on-Site.

1.6 Summary of Natural Resource Injuries

The injury assessment process can involve both injury evaluation and resource and service loss quantification. Natural resource injury assessment activities focused on evidence that the releases of hazardous substances from the Site have likely adversely impacted and continue to impact natural resources, including migratory birds, macroinvertebrates, amphibians, and mammals and the habitats that support them as well as human use losses. Assessment activities were restricted to areas within the wetland and floodplain habitat at the Site.

Impacts from Site-related COCs have likely caused past injury to 99 acres of wetland and floodplain habitat at the Site. Site-related COCs in sediment and tissue, primarily metals and semi-volatile organic compounds including PAHs and PCBs, exceeded concentrations considered protective of ecological receptors. The extent of potential injuries was estimated based on the spatial extent of wetland and floodplain habitat, the type and nature of the COCs, and the length of time over which COCs were released to habitats of concern. These parameters were used to conduct an analysis of a reasonable worst-case scenario of injury at the Site.

Habitat Equivalency Analyses (HEAs) were performed by the Trustees to support development of a proposed settlement relating to natural resource damages and to identify the required scope and type of restoration activities that would appropriately compensate the public for natural resource injuries potentially resulting from releases of hazardous substances from the Site. The HEA inputs and outputs directed the scope of restoration and will ultimately guide the implementation of the restoration. The inputs for the HEAs were based on data collected by or on behalf of the EPA at the Site including concentrations of COCs in sediment and tissue samples acquired for the purposes of conducting a baseline risk assessment at the Site. Service losses were calculated for soils/sediment, birds, and mammals based on measured concentrations of contaminants and toxicity thresholds in the literature. For each potentially affected resource category, the Trustees determined whether an injury has occurred or is likely to occur, identified the nature of the injury, and identified a pathway linking the injury to releases at or from the Site.

The injury assessment and restoration planning occurred simultaneously, utilizing a restoration-based approach. Under such an approach, the focus of the assessment is on quantifying the injuries and/or losses in natural resources and ecological services in ways that facilitate the identification of restoration projects that will compensate the public with the same level, type, and quality of resources and ecological services that were lost. This restoration-based assessment approach is consistent with the CERCLA NRDA regulations, which allow restoration planning to be included as part of the Assessment Plan Phase, where sufficient data are available to support their concurrent development (43 C.F.R. §11.31).

HEAs for wetland and floodplain habitat at the Site were developed using estimates of ecological service losses (ESLs) and expected ecological uplift from the restoration of forested floodplain habitat.

HEAs were based on the following:

1) The areal extent and types of habitat potentially injured by releases of hazardous substances related to the Site including metals, PAHs, and PCBs;

2) The duration and trajectory of past and expected future injury to wetlands, floodplains, and biota, given changes in concentrations of COCs through time and the selected remedies for different areas of the Site;

3) Estimates of the severity of injury, derived from contaminant concentrations measured in wetland and floodplain soils/sediments and biota at the Site, in comparison to literature-based effects thresholds; and

4) The expected types, benefits, time of initiation and completion, and service trajectories of the proposed restoration.

These factors were incorporated into separate HEAs for individual wetland and floodplain parcels at the Site that were greater than two acres in size each. The results of each analysis were then summed to derive an overall number of acres required to provide compensatory restoration.

1.7 Purpose and Need for Restoration

The purpose of the proposed restoration action is to compensate the public for potential injury and losses to natural resources in the floodplains, riparian areas, and wetlands of the Raritan River, Cuckels Brook, and Middle Brook (Figure 2) caused by the release of hazardous substances related to the Site.

To meet this purpose, the Trustees have evaluated proposed restoration alternatives that are intended to compensate for losses of natural resources, and the services provided by those resources, that have occurred in the past and will continue into the future.

1.8 Summary of Previous Settlements

To date, there have been two (2) NRDAR settlements associated with the Site:

1) **In-River Injury Settlement (2017):** The United States, on behalf of DOI and DOC, and the State of New Jersey, settled potential in-river injury claims at the Site with Wyeth Holdings LLC in 2017. Practices at the Site, including waste storage and disposal impoundment, released hazardous substances to the surface water and sediment of the Raritan River and its tributaries. Wyeth Holdings LLC, in cooperation with the Trustees, completed two compensatory restoration projects to resolve a portion of its potential liability at the Site: the Weston Mill Dam Removal and the design for Island Farm Weir fish passage improvement. A Final RP/EA describing in-river injuries and proposed restoration projects was published in 2016 (discussed above in Section 1.1), and a Consent Decree[2] addressing these injuries was filed on February 1, 2017.

2) **Groundwater Injury Settlement (2020):** In 2020, the State of New Jersey and Wyeth Holdings LLC entered into a natural resource damages settlement for alleged injuries to groundwater arising from discharges at or from the Site. Components of the settlement

[2] Natural Resources Consent Decree for In-River Injuries: https://pub-data.diver.orr.noaa.gov/admin-record/6831/American%20Cyanamid%20CD%20signed%20by%20judge.pdf

included Wyeth Holdings LLC agreeing to make the following payments: $2,799,264.00 to the non-profit New Jersey Conservation Foundation for the purpose of acquisition, preservation, and the placement of a Deed of Conservation Restriction on agreed upon parcels; $1,438,608.00 to NJDEP's Office of Natural Resource Restoration (ONRR) for natural resource restoration projects in the state of New Jersey; $18,000.00 to NJDEP's ONRR for assessment costs, oversight costs, attorneys' fees, consultants' and experts' fees; and $10,000.00 to the NJDEP's ONRR for future oversight costs associated with ONRR's administration of the terms of the settlement agreement after its effective date. The proposed settlement agreement was published and made available for public comment in the New Jersey Register in May 2020, and a final settlement agreement was signed and made effective on September 3, 2020.

These two settlements did not address all potential liability for natural resource damages at the Site, including potential injuries to floodplain, riparian, and wetland habitats. Accordingly, this Final RP/EA is intended to address the Trustees' remaining injury claims associated with releases from the Site.

1.9 Responsible Party Involvement

The potentially responsible party (PRP) has engaged with the Trustees in considering restoration project opportunities that are intended to compensate the public for the injuries to the floodplains, riparian areas, and wetlands associated with the release of hazardous substances related to the Site. The PRP has proposed to fund, design, and construct a restoration project, approved and ultimately selected by the Trustees. The PRP has coordinated with the Trustees and provided information to support the damage assessment process, restoration scoping, and evaluation of proposed alternatives.

1.10 Coordination and Public Involvement

1.10.1 Summary of Public Involvement

The Trustees prepared this Final RP/EA to provide the public with information on the floodplain, riparian, and wetland natural resource injuries and service losses determined in connection with the Site, the restoration objectives that have guided the Trustees in developing this plan, the restoration alternatives that were considered, the process used by the Trustees to identify the Preferred Alternative, and the rationale for its selection.

Public review of the Draft RP/EA is an integral and important part of the restoration planning process and is consistent with all applicable State and Federal laws and regulations, including the guidance for restoration planning found within 43 C.F.R. Part 11.93. The Draft RP/EA was released for a 30-day public comment period that began on May 21, 2023 and ended on June 22, 2023. The Trustees addressed public comments and documented responses to those comments as part of this Final RP/EA. A summary response to comments can be found in Appendix A.

1.10.2 Administrative Record

The Trustees have maintained records documenting the information considered and actions taken by the Trustees during this restoration planning process. These records collectively comprise the Trustees' administrative record supporting this Final RP/EA. These records may be accessed electronically at the American Cyanamid NRDA Case Documents Page on NOAA's Data Integration Visualization Exploration and Reporting tool[3]:

These records are also available for review at the office of:

Reyhan Mehran
Regional Resource Coordinator
NOAA Assessment Restoration Division
26 Federal Plaza, 2nd Floor, Room 2-130
New York, NY 10278
206-915-4139 voice
Reyhan.Mehran@noaa.gov

2 Restoration Planning: Alternatives Development

A key aspect of restoration planning is to identify proposed restoration alternatives that are appropriate to restore, rehabilitate, replace, or acquire the equivalent of the natural resources and their services injured or lost as a result of releases of hazardous substances. For this Site, the Trustees determined that cleanup actions undertaken and pending completion at the Site are sufficient to return natural resources in the vicinity of the Site to baseline conditions, or conditions that existed at the Site prior to the release of hazardous substances, within a reasonable period of time. Therefore, the Trustees' recent restoration planning in connection with the Site has focused primarily on restoration alternatives that are intended to compensate the public for potential interim injuries incurred to natural resources, pending their return to baseline conditions (or the conditions that would have existed had the release of hazardous substances not occurred). As part of the restoration planning process, the Trustees identified restoration alternatives that addressed injuries to floodplains, riparian areas, wetlands, and associated biota.

2.1 Restoration Goals and Objectives

The goal of the Trustees is to propose a restoration alternative that is appropriate for restoring, rehabilitating, replacing and/or acquiring the equivalent of the natural resources, and the services those natural resources provide, that have been potentially injured as a result of release of

[3] American Cyanamid NRDA Case Documents Page: https://www.diver.orr.noaa.gov/web/guest/diver-admin-record?diverWorkspaceSiteId=6831

hazardous substances related to the Site. This Final RP/EA outlines the proposed restoration alternatives considered by the Trustees, including those that were eventually eliminated.

2.2 Criteria for Identifying and Selecting Alternatives

In accordance with NRDAR regulations (43 CFR Part 11), and NEPA guidance and regulations, the Trustees identified and evaluated multiple restoration alternatives to compensate for natural resource injuries, including a "no action" alternative. The Trustees considered the following criteria to evaluate the restoration alternatives:

2.2.1 Primary Evaluation Criteria

To ensure the appropriateness and acceptability of restoration options addressing ecological loss, the Trustees used the following primary criteria to evaluate each restoration alternative, as established in 43 CFR § 11.82:

1. **Technical Feasibility**. Proposed action can be successfully accomplished with available technology and management skills in an acceptable period of time.

2. **Cost/Benefit**: The relationship of the expected costs of the proposed actions to the expected benefits from the restoration, rehabilitation, replacement, and/or acquisition of equivalent resources.

3. **Cost Effectiveness**: When two or more activities provide the same or a similar level of benefits, the least costly activity providing that level of benefits will be selected. 40 C.F.R. § 11.14(j).

4. **Response Action Results**: The results of any actual or planned response actions.

5. **Additional Injury**: Potential for additional injury resulting from the proposed actions, including long-term and indirect impacts, to the injured resources or other resources.

6. **Recovery Period**: Consideration of the time required for injured resources to recover if no action is taken.

7. **Recovery Ability**: Ability of the resources to recover with or without alternative actions.

8. **Public Health and Safety**: Potential effects of the action on human health and safety.

9. **Policy Consistency**: Consistency with relevant Federal, state, and tribal policies.

10. **Regulatory Compliance**: Compliance with applicable Federal, state, and tribal laws.

2.2.2 Secondary Evaluation Criteria

In addition to the primary criteria, NRDAR regulations allow Trustee discretion to use additional (secondary) evaluation criteria, as appropriate. The following secondary criteria were considered when evaluating the proposed alternatives:

11. **Relationship to Injury**: Nexus, location, scale of benefits, as they relate to the injury.

12. **Site Ownership/Availability**: Site ownership as it relates to the feasibility of implementation and long-term stewardship of the project.

13. **Contiguous Acreage**: Availability of contiguous acres for restoration at the proposed project site.

14. **Species/Habitat Benefits**: Benefits to species of concern/sensitive habitats.

15. **Independent Funding**: Likelihood of restoration project being completed with independent funding sources.

16. **Recreational Access**: Potential for public use and improved recreational access.

17. **Stewardship Capacity**: Capacity of landowner to perform long-term stewardship and increase likelihood of perpetual benefits.

18. **Climate Resilience**: Potential for mitigation of climate change impacts and improved storm/flood resilience.

19. **Environmental Justice (EJ)**: Benefit to disadvantaged communities and potential to support Environmental Justice.[4]

2.3 Restoration Alternatives

2.3.1 Alternative A: No Action

NEPA requires the Trustees to consider a "no action" alternative (40 C.F.R. §1502.14(d)), and the CERCLA regulations require consideration of the natural recovery alternative (43 C.F.R. §11.82(c)(2)). These alternatives are the same and will be referred to as either the No Action Alternative or Alternative A throughout this Final RP/EA. Under the No Action Alternative, the Trustees would not undertake compensatory restoration actions and there would be no direct impacts to the ecological and socioeconomic environment since no restoration, rehabilitation, replacement, or acquisition actions would occur. If the No Action Alternative were to be

[4] Environmental Justice, including characterization of communities with EJ concerns and potential beneficial impacts to those communities, is discussed in greater detail in Sections 3 and 4.

selected, there would be no restoration or replacement of the lost floodplain, riparian, and wetland resources and their services, and the public would not be made whole for those past injuries resulting from releases from the Site.

2.3.2 Alternative B: Duke Farms Forested Floodplain Restoration

Alternative B involves the creation of vernal pools, native tree and shrub planting, deer fence installation, the control of invasive species, and long-term monitoring and maintenance at property owned and managed by the Duke Farms, a center of the Doris Duke Foundation, a not-for-profit charitable corporation organized pursuant to the laws of the State of New York (Figure 3). This alternative encompasses the reestablishment of 112 acres of intermittently flooded palustrine forested and scrub-shrub floodplain habitat (Cowardin *et al*. 1979) adjacent to the Raritan River, approximately 2.8 miles upstream of the Site. Alternative B is intended to restore the overall hydrology and function of wetlands and floodplains by improving flood resiliency and water retention due to restored water table capacity and increased water uptake from installed trees and shrubs.

Alternative B Property Background

Duke Farms, a center of the Doris Duke Foundation, is a 2,740-acre private preserve in Hillsborough, Somerset County, New Jersey dedicated to environmental stewardship and providing educational and recreational opportunities to the public. It is the former estate of electric power and tobacco tycoon James Buchanan Duke who willed the property to his daughter, Doris Duke, upon his death in 1925. Doris Duke oversaw the management of the property for environmental benefit up until her death in 1993, after which she entrusted, by endowment, that the property serve to protect wildlife and be used for agriculture, horticulture, and research (Duke University Libraries 2022).

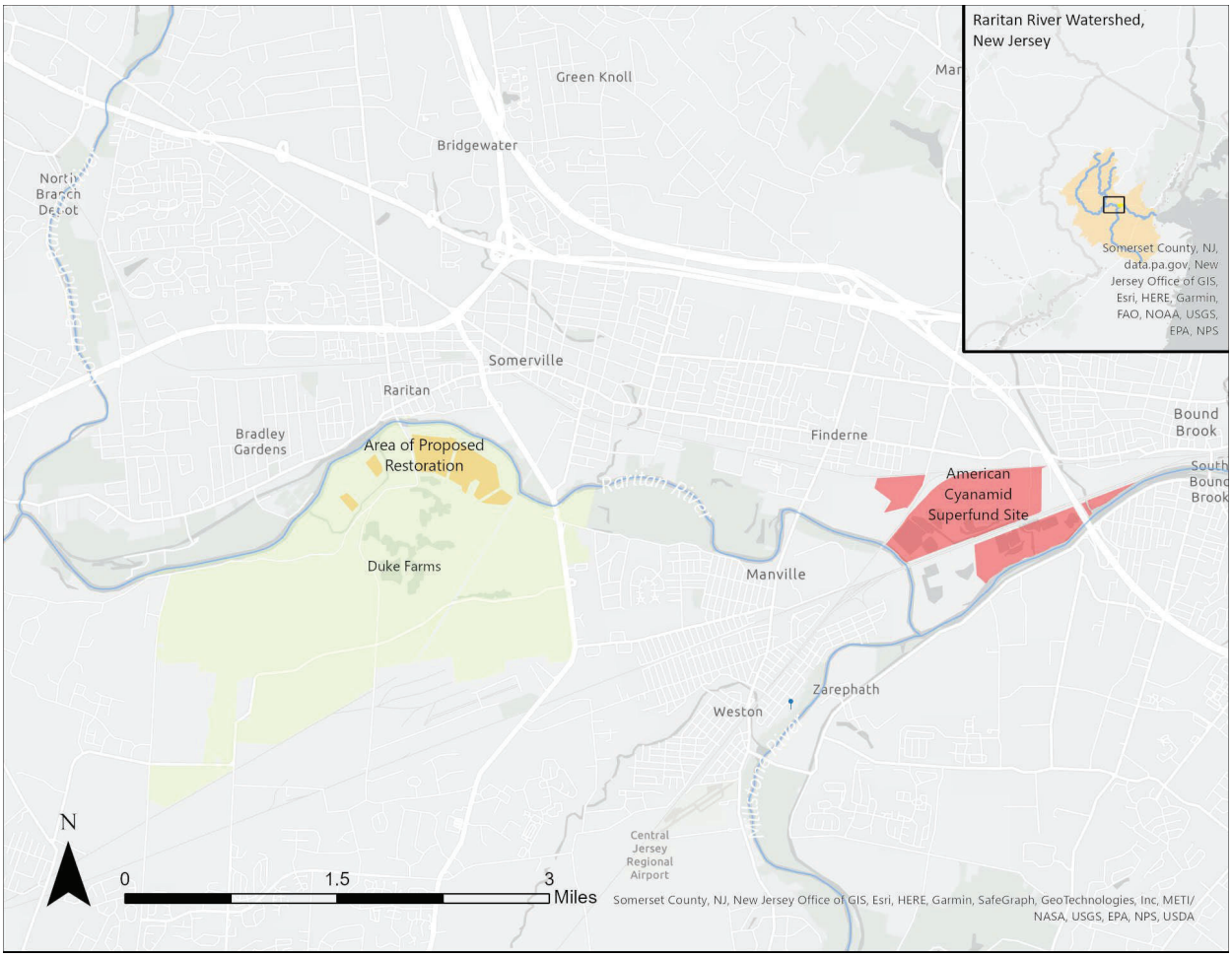

Figure 3. Proximity of preferred restoration alternative to the American Cyanamid Superfund Site.

The property selected for the proposed restoration in Alternative B is situated on the south bank of the Raritan River and consists of managed and restored native grasslands, meadows, nine manmade lakes, wetlands, forests, and agricultural land. This proposed restoration area is in the floodplain directly adjacent to the Raritan River and consists of former agricultural fields that were farmed up until about 2008. The United States Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) holds a permanent Wetland Reserve Program Easement on the property that includes the area of the proposed restoration. As stated above, this property is located approximately 2.8 miles upstream of the Site (Figure 3).

Duke Farms hosts approximately 150,000 visitors per year, serving as a destination for people from local communities, as well as from all over the State of New Jersey and beyond. There are more than 18 miles of walking trails on the Duke Farms property, some of which bisect or run adjacent to the area of the proposed restoration for Alternative B. This part of the trails system is directly accessible from Raritan Borough by way of crossing over the Raritan River on the

Nevius Street Bridge. This access would offer an opportunity for the public to directly experience the evolution of the proposed restoration associated with Alternative B and to observe the wildlife that the project will benefit.

Alternative B Property Ecological History

Historically, like most floodplains of the Piedmont Eco-region, the proposed restoration project area for Alternative B was forested wetlands prior to clearing for agricultural production by European settlers sometime in the late 19th or early 20th century (USDA-NRCS 2021; White *et al.* 1990). With soils suitable for crop production, floodplains like those of the Alternative B project site often had tile drainage systems and ditches installed to lower water tables enough for successful crop production. Historical modifications to the landscape likely included plowing and smoothing of surfaces and eliminating natural micro- and macro-topographic features. These alterations resulted not only in farming success but a decline in suitability of habitat for native wetland flora and fauna (De Steven and Lowrance 2011). Soil and hydrology alteration in combination with high pressure from white-tailed deer (*Odocoileus virginianus*) results in vegetative communities dominated by introduced invasive cover (Mattingly and Orrock 2013) and limited native forest species recruitment (Kelly 2019).

Alternative B Property Conditions

The area of the proposed restoration for Alternative B includes agricultural fields that were taken out of use by 2008 (Figure 4). Shortly after this time, the USDA-NRCS easement acquisition facilitated the implementation of certain practices throughout parts of the site to improve hydrology, including tile drainage decommissioning, berm and woody debris installation to manipulate water flow, and ditch plugging. These efforts were effective in improving floodplain hydrology in the areas in which they were installed.

Figure 4. Existing conditions at the site of Alternative B consist largely of non-native herbaceous plants, trees, and shrubs.

The vegetative communities have been left to naturalize and certain areas have received occasional mowing, resulting in a mosaic of habitats in variable stages of succession composed of grasses, forbs, and woody plants. Dominant vegetation at the Alternative B project site is consistent with post-agricultural habitats in New Jersey and includes many invasive species that are tolerant of poor soil conditions and able to quickly dominate disturbed environments, including but not limited to reed canary grass (*Phalaris arundinacea*), Japanese stiltgrass (*Microstegium vimineum*), small carpetgrass (*Arthraxon hispidus*), common mugwort (*Artemisia vulgaris*), lesser celandine (*Ranunculus ficaria*), Callery pear (*Pyrus calleryana*), honey locust (*Gleditsia triacanthos*), multiflora rose (*Rosa multiflora*), autumn olive (*Elaeagnus umbellata*), false indigo (*Amorpha fruticosa*), buckthorn (*Rhamnus cathartica*), and Japanese barberry (*Berberis thunbergii*).

Indigenous grasses and forbs that exist on the Alternative B project site include Indiangrass (*Sorghastrum nutans*), little blue stem (*Schizachyrium scoparium*), switchgrass (*Panicum virgatum*), big bluestem (*Andropogon gerardii*), milkweeds (*Asclepias*), goldenrods (*Solidago*), stinging nettle (*Urtica dioica*), swamp rose mallow (*Hibiscus moscheutos*), as well as sparse native tree saplings including ash (*Fraxinus*), pin oak (*Quercus palustris*), and American sycamore (*Platanus occidentalis*).

The Alternative B project site and adjacent areas provide habitat to a variety of wildlife species including many migratory birds, mammals, and herpetofauna. A bald eagle (*Haliaeetus leucocephalus*) pair has nested nearby since at least 2004.

Alternative B Activities Associated with Restoration

The Alternative B proposed restoration site (Figure 5) will be geophysically surveyed to determine the presence of any functioning tile drainage that remained after the initial effort to restore hydrology in early 2010s and will be decommissioned and/or removed if found. In 2022, piezometers were installed in each field to measure seasonal water table depth to determine suitability of species by wetland indicator status. Activities that will occur in support of the restoration at the Alternative B project site include planning, feasibility studies, engineering and design, and permitting.

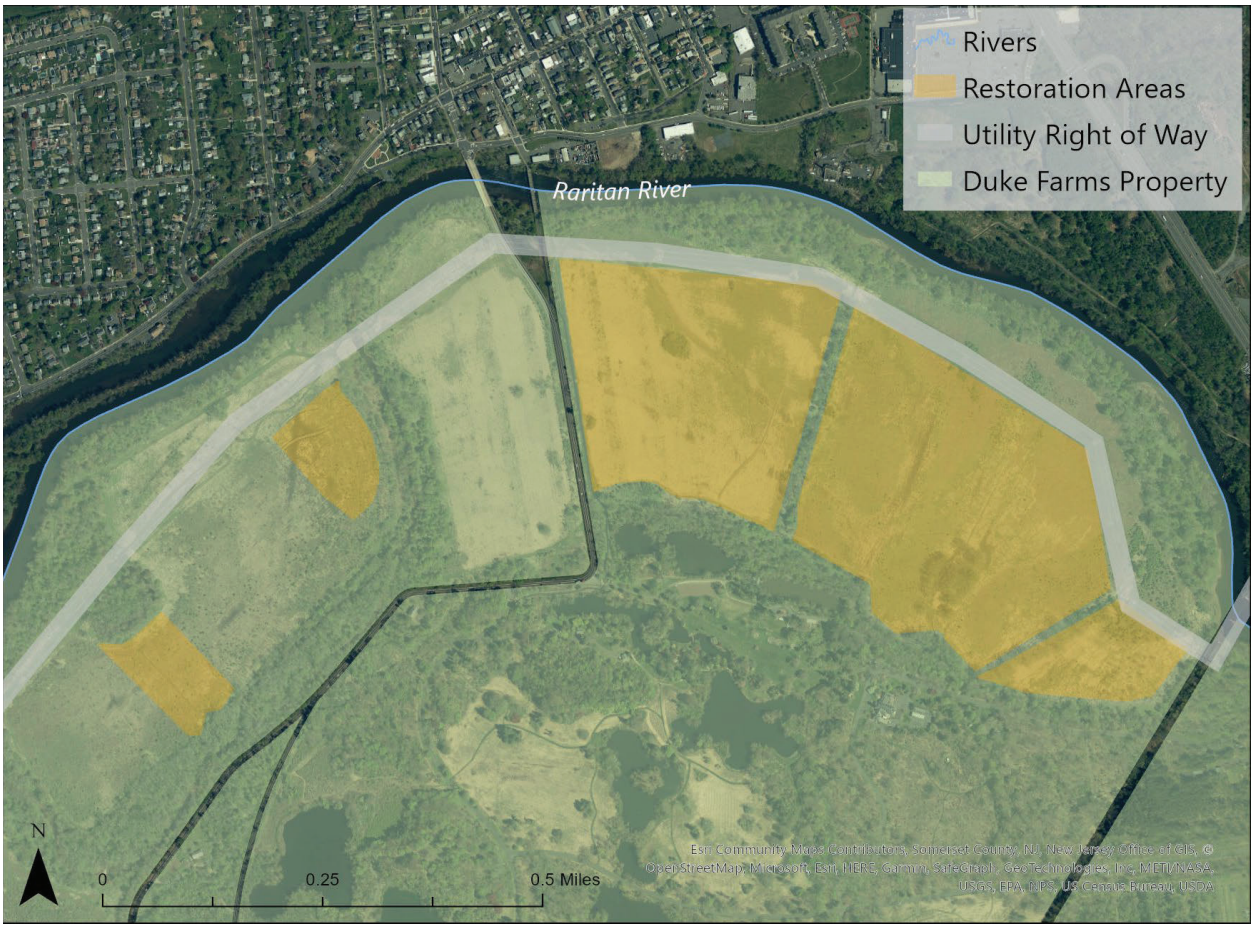

Figure 5. Map of proposed location and compensatory restoration areas under Alternative B.

Vernal pools will be created in areas in which the hydrology and soils are appropriate, with the goal of providing critical breeding habitat for obligate and facultative vernal pool fauna. Once suitable locations have been identified, soils will be excavated to create shallow pools with micro-topographical variation. The pools will have gradual slopes and coarse and fine woody debris to enhance amphibian access and egg-laying substrate.

Thorough invasive species management will occur prior to any planting activity. Undesirable invasive trees and shrubs will be removed by root or mowed and treated with herbicide. Invasive herbaceous cover will be treated with herbicide, which will be strategically applied by a licensed pesticide applicator and in compliance with all State and Federal regulations. Care will be taken to ensure the appropriate herbicide formulations and application techniques are applied to minimize any risk of negative impacts to non-target organisms. Once the Alternative B project site has been prepared, native tree and shrub species with appropriate wetland indicator statuses will be installed and fitted with weed mats to reduce competition with invasive plants. Whenever practical and as availability allows, sourced plants materials will be of ecotypes (genetically adapted to local growing conditions) local to the project area. Since herbivore pressure from

white-tailed deer (*Odocoileus virginianus*) is high, an 8-foot-tall deer fence will be installed surrounding all planting areas and be maintained for a period sufficient to ensure the success of the project.

Once construction is completed, implementation and effectiveness monitoring of the restoration as well as the resources and organisms potentially affected by the restoration will take place, providing information to inform adaptive management and future restoration. Public access to trails adjacent to the area proposed for restoration under Alternative B is pre-existing and may also be improved with a concurrent trail improvement project at Duke Farms being led by the Doris Duke Foundation. In support of this, interpretive materials highlighting the proposed restoration under Alternative B will be developed and installed, offering opportunities for communities to engage meaningfully with the project and local environment.

2.4 Evaluation of Proposed Restoration Alternatives

2.4.1 Summary of Evaluation of Proposed Restoration Alternatives

After considering but eliminating other potential restoration alternatives, the Trustees were left with two primary restoration alternatives to evaluate: the No Action Alternative (Alternative A) and the Duke Farms Forested Floodplain Restoration Alternative (Alternative B). These two alternatives were evaluated against the criteria included in Sections 2.2.1 and 2.2.2. A side-by-side comparison of these two alternatives applying the primary and secondary selection criteria is provided in Table 1 below.

Table 1. Restoration alternatives comparison by primary and secondary selection criteria[5].

#	Evaluation Criteria	Alternative A: No Action	Alternative B: Duke Farms Forested Floodplain Restoration
1	Technical Feasibility	Not Applicable	High
2	Cost/Benefit	Not Applicable	High
3	Cost Effectiveness	Not Applicable	High
4	Response Action Results	Not Applicable	High

[5] Values were determined to be "low," "medium," or "high" when evaluating a criterion that required qualitative assessment, and "pass" or "fail" if evaluating a binary criterion that either met Trustees' standards or did not. Additional detail is provided for certain criteria that required further explanation. For the No Action alternative, certain criteria were not applicable due to the lack of actions to be evaluated.

#	Evaluation Criteria	Alternative A: No Action	Alternative B: Duke Farms Forested Floodplain Restoration
5	Additional Injury	Additional interim loss would occur.	Long-term benefits outweigh short-term injury
6	Recovery Period	Many decades. Uncertain value.	15 years post-restoration
7	Recovery Ability	Low; would require decades.	High
8	Public Health and Safety	Not Applicable	Pass
9	Policy Consistency	Fail. Restoration is feasible under CERCLA.	Pass
10	Regulatory Compliance	Not Applicable	Pass
11	Relationship to Injury	Not Applicable	High
12	Site Ownership	Not Applicable	Pass
13	Contiguous Acreage	Not Applicable	Pass
14	Species/Habitat Benefits	Not Applicable	High
15	Independent Funding	Not Applicable	Low
16	Recreational Access	Not Applicable	High
17	Stewardship Capacity	Not Applicable	High
18	Climate Resilience	Not Applicable	High
19	Environmental Justice[6]	Not Applicable	Medium

[6] Additional discussion of potential beneficial impacts to communities with Environmental Justice concerns is provided in Section 4.

2.4.2 Evaluation of Alternative A: No Action

Under Alternative A or the No Action Alternative, there would be no restoration or replacement of the lost floodplain, riparian, and wetland resources and their services, beyond natural recovery, and the public would not be made whole for past injuries from releases at or from the Site. As a result, the No Action Alternative does not meet the eligibility criteria established by the Trustees.

2.4.3 Evaluation of Alternative B: Proposed Action

The Trustees believe that Alternative B could best compensate the public for injuries to natural resources resulting from releases of hazardous substances at or from the Site. Alternative B meets the Trustees' identified criteria to address injuries potentially caused by the release of hazardous substances from the Site and will achieve the intended floodplain, riparian, and wetland functions and compensate the public for potential injuries to wetland flora and fauna. Therefore, the Trustees recommend Alternative B as the proposed action (also sometimes referred to herein as the "preferred alternative" or the "preferred restoration alternative").

Alternative B is technically feasible and has high potential to directly address the injured resources, by both habitat type and proximity. The availability of 112 acres of contiguous floodplain, riparian, and wetland habitats situated just under three miles upstream of the Site presents an uncommon and desirable opportunity for the Trustees to prioritize and facilitate compensatory restoration in close proximity to the Site. The proposed action is intended to restore overall hydrology and function of wetlands and floodplains, improving flood resiliency and water retention due to restored water table capacity and increased water uptake from installed trees and shrubs. The project is to be intensely monitored and maintained and adaptively managed with contingencies in place for corrective action. Additionally, the project will create obligations for long term stewardship, including maintaining and protecting the project from structural damages which may occur from flooding and casting of debris. The permanent easement held by USDA-NRCS will allow for the benefits of the restoration work to be realized and protected well into the future.

Many species of wildlife occupy riparian areas for components or the entirety of their lifecycle and are therefore expected to benefit from the preferred alternative. For example, bat species such as the Federally endangered Indiana bat and northern long-eared bat may utilize forested riparian areas in the region for roosting, foraging, and rearing young. Migratory birds and bird species of conservation concern are also expected to benefit from the preferred restoration alternative through diversification of food source and habitat structure, as well as the variation offered by natural successional stages over time. This would include grassland and shrubland birds, wading birds, raptors, and in the long-term, birds that rely on forested habitats for foraging and/or breeding.

Obligate vernal pool species that require vernal pools as breeding habitat may benefit from vernal pool creation, and this includes marbled salamander (*Ambystoma opacum*), spotted salamander (*Ambystoma maculatum*), and wood frog (*Rana sylvatica*), as well as other facultative species of amphibian that use (but don't require) vernal pools as breeding habitat.

Additionally, aquatic species are expected to benefit from the associated effects of the restoration provided by the preferred alternative, including additional shade of river and reduced temperatures, nutrient and pollutant filtration, and reduced sediment entering the waterway. Such benefitting species include diadromous fish such as American shad (*Alosa sapidissima)*, river herring (*Alosa aestivalis, Alosa pseudoharengus*), and American eel (*Anguilla rostrata*), as well as benthic macroinvertebrates and freshwater mussels.

Using a variety of Environmental Justice (EJ) information sources and mapping tools, the Trustees have considered and identified communities with potential EJ concerns in the proposed project area for Alternative B, as discussed further in Section 3.7. These include low-income and minority populations, individuals with limited English proficiency, tribal communities, and other disadvantaged communities. Disadvantaged communities are those that are marginalized, underserved, and overburdened by pollution, as set forth in Executive Order 14008. In general, adjacent communities that may be disadvantaged or environmentally vulnerable would have the opportunity to experience enhanced birding, hiking, and connection with nature, resulting from the implementation of Alternative B. Additionally, the ecological services associated with Alternative B would benefit these communities, including through air and water quality improvements, carbon sequestration, and flood storage capacity. Anticipated benefits to communities with EJ concerns are discussed further in Section 4.2.3.

2.4.4 Alternatives Considered but Eliminated from Further Evaluation and Analysis: Lost Valley Park

The Lost Valley is an area of the Borough of Manville, Somerset County, New Jersey, situated along the western side of the Millstone River, just upstream of the confluence with the mainstem Raritan River. The Nature Conservancy and other partners proposed to transform the 65-acre Lost Valley Area into a multi-use Nature Park (referred to below as the "Lost Valley Park").

Existing conditions at the Lost Valley Park site include mowed lawn, recreational fields, and some naturalized areas dominated by introduced plant species of low ecological value (Figure 6). This proposed restoration alternative would provide a mix of recreational and ecological improvements, that may include but are not limited to: the removal of existing impervious surfaces; trail and path development; planting of pollinator garden areas; installation of rain gardens; expansion and revegetation of wetland areas; tree plantings; upland meadow plantings; improvements to a gravel driving path; installation of a new gravel parking area; and installation of educational and wayfinding signage.

Figure 6. Existing conditions at the Lost Valley Park site consist of mowed lawn and naturalized areas consisting largely of non-native invasive species.

Though the Lost Valley Park project meets much of the identified primary evaluation criteria established by the Trustees (see Section 2.2.1 above), the Trustees identified a number of reasons to eliminate it from further consideration as a viable alternative in this Final RP/EA.

Specifically, the available acreage is not sufficient to compensate for the injury at the Site. Further, landowner and stakeholder coordination regarding contiguous properties for potential restoration in and around the Lost Valley Park site is in early development, which creates uncertainty and the potential for a long timeline to recovery. Additionally, this project has been identified as a selected alternative in the Final Restoration Plan/Environmental Assessment for the Cornell-Dubilier Electronics, Inc. Superfund Site and will likely be implemented with funds available from the Cornell-Dubilier Electronics, Inc., settlement. For these reasons, the Lost Valley Park project is not considered further in this Final RP/EA.

However, should circumstances change, the Trustees may decide to re-evaluate this project as a restoration alternative in the future.

3 Environmental Assessment

Restoration actions taken by the Trustees under CERCLA and other Federal laws are subject to NEPA, 42 U.S.C. §§ 4321 et seq., and regulations at 40 C.F.R. §§ 1500-1508.24. In general, 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, agencies prepare an 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, and no EIS is required.

As noted in Section 1.3.3, this document constitutes the EA for the proposed restoration compensating for certain natural resources injuries at the Site, by addressing and evaluating the potential impact of proposed restoration action on the quality of the physical, biological, and cultural environment. The Trustees have integrated the CERCLA and NEPA processes and documentation in this Final RP/EA, as recommended under 40 C.F.R. § 1506.4.

This Final RP/EA complies with NEPA by: (1) describing the purpose and need for restoration (Section 1.7); (2) addressing public participation for this process (Section 1.10); (3) identifying and describing restoration alternatives (Section 2.3); (4) summarizing the affected environment (Section 3.1); and (5) analyzing environmental consequences (Section 4.2).

3.1 Affected Environment

This section describes the general environmental setting that may be affected by the restoration alternatives identified in this Final RP/EA (40 C.F.R. § 1502.15). It includes information on the physical, biological, and socioeconomic environment in the immediate vicinity of Alternative B, as well as portions of the Raritan River watershed, including those resources that may be affected by the proposed alternatives.

The Raritan River watershed contains three primary subwatersheds: the Upper Raritan, the Lower Raritan, and the Millstone (Figure 7). The affected environment where the proposed restoration alternatives occur includes portions of the Lower Raritan and Millstone subwatersheds that fall within Somerset and Middlesex Counties.

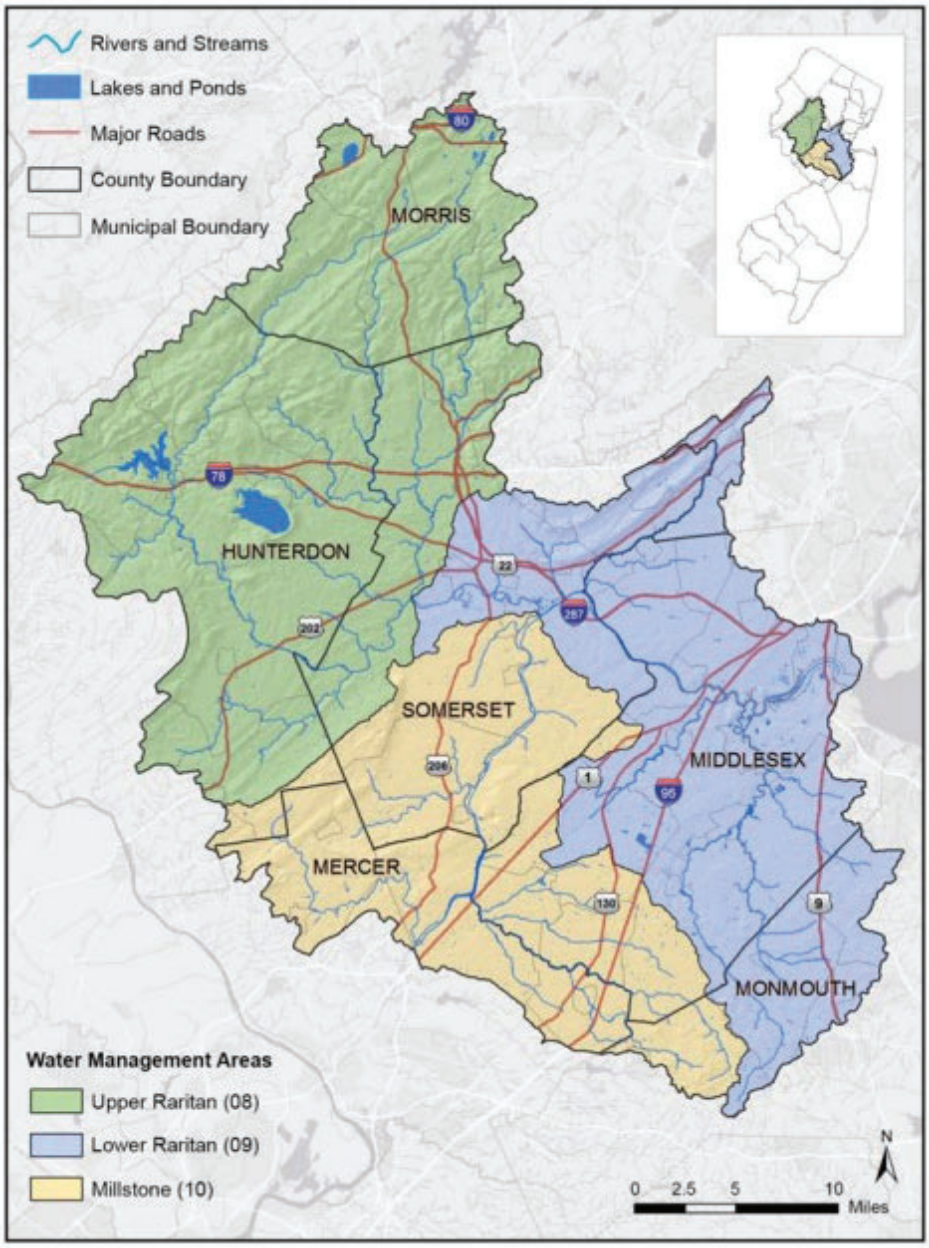

Figure 7. Map of the Upper Raritan, Lower Raritan, and Millstone watersheds (SRRI 2016).

3.2 The Physical Environment

The Raritan River watershed is the largest watershed located entirely within the State of New Jersey, with a drainage area of 1,105 square miles. It consists of mainstem Raritan River, the North and South Branches of the Raritan River, and major tributaries including the Manalapan Brook, South River, Lawrence Brook, Millstone River, Stony Brook, Green/Bound Brook, Neshanic Creek, Lamington/Black River, and Rockaway Creek. The North and South Branch Raritan Rivers meet to form the mainstem Raritan River, which demarks the upstream boundary of the Lower Raritan watershed. The Lower Raritan watershed is 352 square miles and includes the Green/Bound Brook, Lawrence Brook, the Manalapan Brook, and the South River. The Lower Raritan drains to the Raritan Bay. The Millstone watershed meets the Lower Raritan watershed near Manville, New Jersey. The Millstone watershed covers 285 square miles and includes the Stony Brook and Millstone River as well as a significant section of the Delaware and Raritan Canal.

The affected area occurs within the Northern Piedmont Level III Ecoregion, which is characterized by a "transitional region of low rounded hills, irregular plains, and open valleys" (EPA 2013). It is underlain by a mix of metamorphic, igneous, and sedimentary rocks, with soils that are mostly Alfisols and some Ultisols. Historically, vegetation was predominantly Appalachian oak forest (EPA 2013).

In one of the most densely populated areas of the United States, housing and economic development in New Jersey has led to high levels of human development in the Lower Raritan and Millstone watersheds (Figure 8). These regions contain a high proportion of urban land (59.5% and 41.2%, respectively), which generally has a negative impact on water quality as impervious surfaces increase (SRRI 2016).

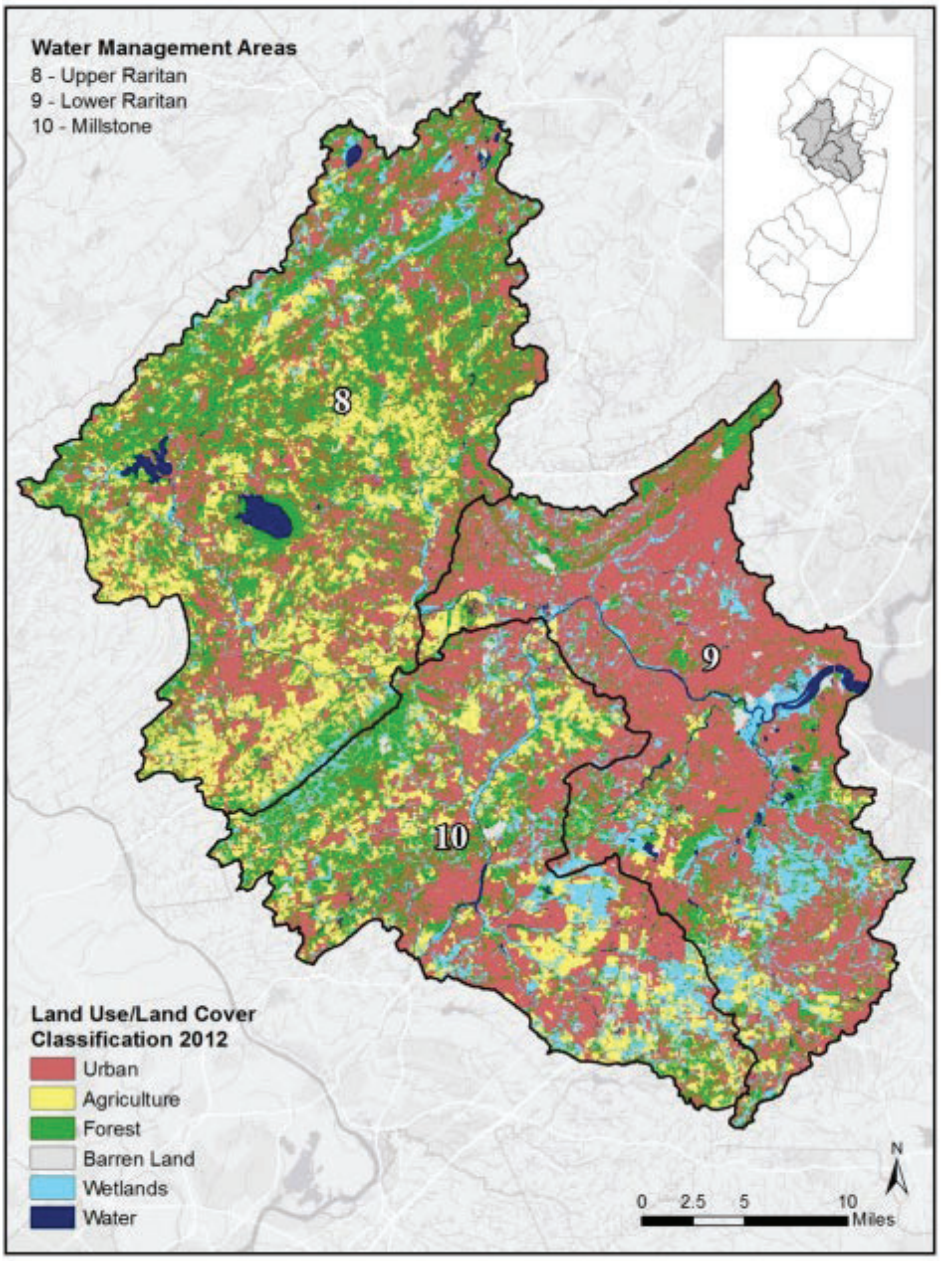

Figure 8. Map of land use/cover in the Raritan watershed (SRRI 2016).

3.3 Biological Resources

The Lower Raritan and Millstone watersheds include a variety of habitats that support fish, birds, and other wildlife. High levels of development have historically resulted in extensive loss and fragmentation of habitats including grassland, wetland, and forest habitats (NJDEP 2008). However, despite these losses, the region contains patches of grassland and agricultural areas,

mixed deciduous forests, hardwood swamps, tidal freshwater and brackish marshes, and swaths of natural riparian areas.

Common mammals that occur within the affected area include: white-tailed deer (*Odocoileus virginianus*), eastern cottontail (*Sylvilagus floridanus*), eastern gray squirrel (*Sciurus carolinensis*), eastern chipmunk (*Tamias striatus*), groundhog (*Marmota monax*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*), black bear (*Ursus americanus*), raccoon (*Procyon lotor*), North American beaver (*Castor canadensis*), striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), northern short-tail shrew (*Blarina brevicauda*), eastern mole (*Scalopus aquaticus*), American mink (*Neovision vison*), and North American river otter (*Lontra canadensis*).

The Raritan River watershed is located within the Atlantic flyway and provides habitat for both migrating and resident birds, including raptors such as red-tailed hawk (*Buteo jamaicensis*), Cooper's hawk (*Accipiter cooperii*), broad-winged hawk (*Buteo platypterus*), sharp-shinned hawk (*Accipiter striatus*), osprey (*Pandion haliaetus*), and bald eagle (*Haliaeetus leucocephalus*). Songbirds such as warblers, orioles, and blackbirds, as well as waterfowl and shorebirds, also utilize the Raritan and Millstone River corridor. Habitats provide nesting habitat for a variety of species, including flycatchers, swallows, thrushes, woodpeckers, and warblers. Shallow water wetlands, shoals, and flats provide foraging habitat for wading birds such as great egret (*Ardea alba*), snowy egret (*Egretta thula*), great blue heron (*Ardea herodias*), green heron (*Butorides virescens*), black-crowned night heron (*Nycticorax nycticorax*), and yellow-crowned night heron (*Nyctanassa violacea*).

Common reptiles and amphibians in the Raritan River watershed include: northern watersnake (*Nerodia sipedon*), eastern ratsnake (*Pantherophis alleghaniensis*), common snapping turtle (*Chelydra serpentina*), eastern painted turtle (*Chrysemys picta picta*), spotted turtle (*Clemmys guttata*), eastern mud turtle (*Kinosternon subrubrum subrubrum*), eastern musk turtle (*Sternotherus odoratus*), marbled salamander (*Ambystoma opacum*), spotted salamander (*Ambystoma maculatum*), wood frog (*Rana sylvatica*), American toad (*Bufo americanus*), bullfrog (*Rana catesbeiana*), four-toed salamander (*Hemidactylium scutatum*), Fowler’s toad (*Bufo woodhousii fowleri*), green frog (*Rana clamitans*), long-tailed salamander (*Eurycea longicauda*), New Jersey chorus frog (*Pseudacris kalmi*), northern cricket frog (*Acris crepitans*), northern gray tree frog (*Hyla versicolor*), northern spring peeper (*Pseudacris crucifer*), and pickerel frog (*Lithobates palustris*).

Common freshwater fish species include: American eel (*Anguilla rostrata*), rainbow trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*), spottail shiner (*Notropis hudsonius*), blacknose dace (*Rhinichthys atratulus*), creek chub (*Semotilus atromaculatus*), channel catfish (*Ictalurus punctatus*), margined madtom (*Noturus insignis*), rock bass (*Ambloplites rupestris*), bluegill (*Lepomis macrochirus*), redbreast sunfish (*Lepomis*

auritus), smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), and tessellated darter (*Etheostoma olmstedi*).

Common diadromous fish species include: American eel (*Anguilla rostrata*), American shad (*Alosa sapidissima*), alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), hickory shad (*Alosa mediocris*), gizzard shad (*Dorosoma cepedianum*), sea lamprey (*Petromyzon marinus*), and striped bass (*Morone saxatillis*).

Occurrence of Federally listed species in the affected area may include: Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*); as well as one species proposed for listing, the tricolored bat (*Perimyotis subflavus*); and one candidate species, monarch butterfly (*Danaus plexippus*).

Birds of conservation concern are protected under the Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712) and the Bald and Golden Eagle Protection Act (16 U.S.C. § 668). In the affected area, these species may include bald eagle (*Haliaeetus leucocephalus*), black-billed cuckoo (*Coccyzus erythropthalmus*), cerulean warbler (*Dendroica cerulea*), chimney swift (*Chaetura pelagica*), eastern whip-poor-will (*Antrostomus vociferus*), golden eagle (*Aquila chrysaetos*), Kentucky warbler (*Oporornis formosus*), prairie warbler (*Dendroica discolor*), prothonotary warbler (*Protonotaria citrea*), red-headed woodpecker (*Melanerpes erythrocephalus*), rusty blackbird (*Euphagus carolinus*), and wood thrush (*Hylocichla mustelina*).

State-listed species that have the potential to be found in the affected area include but are not limited to: bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*), pied-billed grebe (*Podilymbus podiceps*), American bittern (*Botaurus lentiginosus*), black-crowned night heron (*Nycticorax nycticorax*), osprey (*Pandion haliaetus*), red-headed woodpecker (*Melanerpes erythrocephalus*), American kestrel (*Falco sparverius*), bobolink (*Dolichonyx oryzivorus*), great blue heron (*Ardea herodias*), wood turtle (*Glyptemys insculpta*), and eastern box turtle (*Terrapene carolina carolina*).

3.4 Historic and Cultural Resources

The Raritan River watershed has played a central role in New Jersey's history, beginning with the Lenape and related tribes, including the Sanhican and Raritan bands of Lenape who lived in the area from approximately 1000-1600 (Millstone Valley Preservation Coalition 2022; Schneider 2019). Dutch and English farms and settlements began to spread throughout the watershed in the late 1600s. Coastal shipping and commerce became prevalent in the lower Raritan River throughout the 1700s, and the river played an important role in several Revolutionary War battles in 1777. By the early 1800s, the American industrial revolution was underway, and the Raritan River and its tributaries became home to numerous mills and factories; most of the region's dams were built in this period. The Delaware and Raritan Canal was built in 1834 to move goods throughout the area and between the Delaware and Raritan Rivers. By 1888, the Raritan River Railroad was built, connecting the burgeoning industries

throughout the region to the shipping port at Raritan Bay. New Jersey's population doubled between 1900 and 1930, and manufacturing became a four-billion-dollar industry. During this time, the public became increasingly aware of pollution due to local industry; the mainstem Raritan River was closed to swimming in the 1920s after numerous reports that the river tasted and smelled bad. Nonetheless, industry only expanded throughout the watershed during World War II, as corporations established large-scale electronics and chemical industrial operations.

There are numerous historic districts and properties under the New Jersey and National Registers of Historic Places as determined and managed by the NJ State Historic Preservation Office (SHPO). These properties and historic districts all meet the New Jersey and National Register criteria for significance in American history, archaeology, architecture, engineering or culture, and possess integrity of location, design, setting, materials, workmanship, feeling and association. Some that exist in the affected area include but are not limited to the North Hillsborough-Raritan River Historic District, the Delaware and Raritan Canal Historic District, and the Duke Estate.

3.5 Recreational Services

The Raritan and Millstone Rivers and surrounding areas, despite having high levels of urbanization, offer many nature-based recreational opportunities to the public including hiking, biking, horseback riding, cross-country skiing, fishing, camping, wildlife viewing, and boating. Multiple public and private nature preserves as well as County and State Parks exist along the waterways, providing public access to the rivers and surrounding natural areas.

3.6 Socioeconomic Resources

The population density of the Lower Raritan and Millstone watersheds are approximately 2,327 and 929 persons per square mile, respectively (SRRI 2016). The Lower Raritan has an estimated population of 819,136 individuals, and the Millstone has an estimated population of 264,864 individuals as of the 2018 U.S. Census. The median household income of Somerset County is $116,510 in 2020 dollars, and the median household income of Middlesex County is $91,731 in 2020 dollars (U.S. Census Bureau 2020).

3.7 Environmental Justice

The Trustees have considered initiatives from both the Federal and State level that provide a foundation for the consideration of Environmental Justice in evaluating restoration alternatives. Executive Order 12898, titled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," guides Federal agencies to "make environmental justice part of its mission by identifying and addressing, as appropriate, disproportionally high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

In 2020, Governor Phil Murphy signed into effect New Jersey's Environmental Justice Law, N.J.S.A. 13:1D-157, which requires NJDEP to evaluate the contributions of certain facilities to existing environmental and public health stressors in overburdened communities. An Overburdened Community, as defined by the law, is any census block group, as determined in accordance with the most recent United States Census, in which:

- at least 35 percent of the households qualify as low-income households (at or below twice the poverty threshold as determined by the United States Census Bureau);
- at least 40 percent of the residents identify as minority or as members of a State recognized tribal community; or
- at least 40 percent of the households have limited English proficiency (without an adult that speaks English "very well" according to the United States Census Bureau).

To consider implications under these Federal and State initiatives, the trustees used three sources of information to determine potential Environmental Justice impacts of the restoration alternatives: the EPA Environmental Justice Screening and Mapping Tool (EJScreen)[7], the Climate and Economic Justice Screening Tool (CEJST),[8] and the NJDEP's Environmental Justice Mapping, Assessment and Protection Tool (EJMAP).[9]

EJScreen presents a nationally consistent dataset and approach for combining environmental and demographic socioeconomic indicators that can be used to provide environmental vulnerability information for specific geographic areas. EJScreen indicates that there may be sensitive EJ communities within the Raritan River watershed, based on environmental and demographic indicators (EPA 2022). In general, the Lower Raritan subwatershed has higher indicators of communities with potential EJ concerns than either the Upper Raritan or the Millstone. On a county-basis (2017-2021), Mercer County has a 10.4% poverty rate; Middlesex has 8.0%; Monmouth has 7.4%; Somerset has 5.5%; Morris has 5.6%; Hunterdon has 4.1%, and Union has 9.3% (U.S. Census Bureau 2022). EJScreen also indicates that there are 2 disadvantaged tracts in Somerset County, where the Alternative B site is located; minority populations comprise approximately 46% of the county's population (U.S. Census Bureau 2022).[10] EJScreen was also used to identify low-income populations at the Census Block scale. The affected environment for the Alternative B site lies within Census Block Group 340350538041 (population 1,879), where 8% of the population is low-income; and Census Block Group 340350537063 (population 1,536), where 14% of the population is low-income. This compares to an approximately 30% low-income population for the United States as a whole. Under EJScreen, the site of Alternative B and immediately adjacent communities fall between the 65th and 84th percentile for

[7] EJ Screen: https://ejscreen.epa.gov/mapper/
[8] CEJST: https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5
[9] EJMAP: https://experience.arcgis.com/experience/548632a2351b41b8a0443cfc3a9f4ef6
[10] Minority populations consist of non-white populations, including Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and other races, as described by U.S. Census Bureau.

"Superfund Proximity" index, between 59th and 81st percentile for the "Air Toxics Respiratory Hazard" index, and between 58th and 75th percentile for the "Wastewater Discharge" index.

The CEJST was produced by the White House Council on Environmental Quality to determine disadvantaged communities based on thresholds for categories of burden including climate change, energy, heath, housing, legacy pollution, transportation, water and wastewater, and workforce development. The site of Alternative B and directly adjacent communities are not identified as disadvantaged under the CEJST tool.

EJMAP presents geographic locations of overburdened communities by the definition established in N.J.S.A. 13:1D-157, which takes into consideration minority, low income, and limited English proficiency statuses as qualifiers. The Lower Raritan and Millstone watersheds contain numerous communities that are considered overburdened under the New Jersey Environmental Justice Law for meeting criteria under the following categories: minority, low-income, and limited English proficiency. Under EJMAP, the Census Block Groups 340350538041 and 340350537063 in Hillsborough Township, encompassing the site of Alternative B, meet the criteria of an "overburdened community" by minority population (42% and 54%, respectively). Additionally, the directly adjacent Census Block Group 340350505001 in Raritan Borough is considered an "overburdened community" by low-income and minority criteria (36% and 56%, respectively).

4 NEPA Environmental Consequences

4.1 Scope of NEPA Analysis and Trustee Approach

Council on Environmental Quality (CEQ) Regulations (40 C.F.R. 1502.4) encourage agencies to prepare broad EISs that encompass program areas. These evaluations are referred to as Programmatic EISs. CEQ also encourages agencies to incorporate the information and analyses included in programmatic documents into project specific analysis by reference. This is referred to as "tiering off" of the programmatic document (40 C.F.R. 1501.11).

In 2015, the NOAA Restoration Center developed a *Programmatic Environmental Impact Statement for Habitat Restoration Activities Implemented throughout the Coastal United States* (PEIS; NOAA 2015). NOAA developed the PEIS to evaluate coastal and riverine habitat restoration activities routinely funded or implemented through its existing programs. The Service documented their adoption of the PEIS with a Record of Decision, dated August 20, 2019 (84 Federal Register 45515). The PEIS is available on NOAA's website.[11] The PEIS includes a description of, and an evaluation of typical impacts for, a suite of restoration activities that are inclusive of the proposed restoration identified in this Final RP/EA, including:

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

- Planning, Feasibility Studies, Design Engineering, and Permitting
- Fish, Wildlife, Vegetation Management: Invasive Species Control
- Wetland Restoration and Shoreline Stabilization Techniques
- Wetland Restoration: Wetland Planting
- Implementation and Effectiveness Monitoring
- Fish and Wildlife Monitoring
- Road Upgrading and Decommissioning: Signage and Access Management
- Environmental Education Classes, Programs, Centers, Partnerships, and Materials

Prior to drafting the RP/EA, the proposed action was screened through the PEIS evaluation process to determine if the anticipated impacts are consistent with the impacts that have been determined under the PEIS. To avoid duplication of effort and streamline the NEPA analysis in this Final RP/EA, the Trustees are using the applicable analysis from the PEIS as part of achieving NEPA compliance for the proposed action. Specific environmental impacts are summarized briefly below in Section 4.2; however, the full analysis provided in the PEIS is incorporated by reference (40 C.F.R. § 1502.21).

4.2 Impacts of Proposed Alternatives

4.2.1 Alternative A (No Action)

The Trustees evaluated the impacts of the No Action alternative on relevant resources (e.g., geology and soils, water, air, living coastal and marine resources and Essential Fish Habitat, threatened and endangered species, cultural and historic resources, land use and recreation, socioeconomics, and Environmental Justice). As noted above, the No Action alternative is not preferred because it fails to compensate the public for losses associated with the American Cyanamid Superfund Site. However, NEPA mandates that Federal agencies evaluate the environmental impacts of no action.

By definition, the No Action alternative lacks physical interaction with the environment. Accordingly, under the No Action alternative, there would be no direct impacts to the ecological and socioeconomic environment since no actions would be taken to restore, rehabilitate, replace, and/or acquire the equivalent of injured natural resources or the supporting habitats and services they provide. Project area water, geological/soil, land cover, and climate conditions would not be affected since no restoration would occur. Terrestrial and aquatic habitats would not be affected, and the trajectory of any ecologically degraded areas would remain unchanged. Project area fish,

wildlife, and threatened and endangered species would not be affected. Project area socioeconomic variables would not be affected, and potential economic and ecological benefits to EJ communities would not be realized. There would be no effect on cultural and historic resources.

4.2.2 Alternative B: Duke Farms Forested Floodplain Restoration (Preferred Alternative)

4.2.2.1 Planning, Feasibility Studies, Design Engineering, and Permitting

The PEIS Section 4.5.1.1 states the following regarding the potential impacts of Planning, Feasibility Studies, Design Engineering, and Permitting:

"*The completion of project planning, feasibility studies, design engineering studies, and permitting activities would cause indirect, long-term, beneficial impacts to the affected environment. These activities would support the continued implementation of the most successful projects and therefore result in effective and efficient habitat restoration. Some feasibility studies would cause direct, short-term, minor impacts through associated fieldwork, including drilling into soil or sediment with an augur, drill rig, or other tools to remove surface, subsurface, or core samples. These impacts would be very minor and localized to the project site given how small such areas are in relation to an overall project area. Similar short-term impacts to living coastal resources…essential fish habitat…and threatened and endangered species may include effects from handling, noise, and displacement (see PEIS Section 4.7).*"

The Trustees have determined that the impacts from the proposed action (i.e., preferred alternative) fall within the range of alternatives and scope of potential environmental impacts analyzed in the PEIS and do not have significant adverse impacts.

4.2.2.2 Invasive Species Control

The PEIS Section 2.2.2.4.1 states the following regarding the potential impacts of Invasive Species Control:

"The impacts of invasive species removal ultimately benefit the immediate ecosystem by allowing native species the chance to re-establish. Generally, invasive species removal activities may cause direct, short-term, localized, minor adverse impacts to the affected area from mechanical or human activities. For terrestrial and aquatic invasive plant removal, direct adverse impacts to geology and soils may include compaction, whereas impacts to in-water substrate and water resources may include ephemeral sedimentation, turbidity, or other water quality impacts. However, long-term moderate to major beneficial impacts to geology and soils, water resources, coastal resources and essential fish habitat, and threatened and endangered species would result as non-native species are replaced by diverse native plant and animal communities."

"Herbicide use for removal of invasive plant species could cause direct, short-term, moderate, adverse impacts to geology and soils, water, air, living coastal resources and essential fish habitat, 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. 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. 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 Trustees have determined that the restoration activities and impacts associated with the proposed action fall within the range of alternatives and scope of potential environmental impacts analyzed in the PEIS and do not have significant adverse impacts.

4.2.2.3 Wetland Restoration

The PEIS Section 4.5.2.11.2 states the following regarding potential impacts of Wetland Restoration and Shoreline Stabilization Techniques:

"*Construction impacts from sediment removal, materials placement, and shoreline stabilization activities are similar, and would cause direct and indirect, short-term, localized, minor adverse impacts on geology and soils, water, living coastal and marine resources and EFH* [Essential Fish Habitat]*, and threatened and endangered species during the implementation phase of the projects."*

"*Potential impacts to air quality could include direct, short-term, minor adverse impacts to air quality during construction or other on-the-ground activities. These impacts include exhaust emissions from off-road construction equipment, on-road hauling, construction worker employee*

commuting vehicles, and fugitive dust emissions from paved roads and earthmoving activities. These impacts may extend beyond the project site."

"*These restoration activities may impact vegetation on the project site or nearby. Impacts to vegetation should be minimal, as the most frequently removed mature plants would not be native to the site or would be invasive species. For instance, shrub and tree species would be removed if the end goal is a habitat dominated by wetland obligate species. The removed plant species may not provide the same quality of habitat for fish as the goal habitat and consequently the overall impact of this removal is low. In instances where sediment and vegetation are not removed from the site, those working on the site may potentially trample existing vegetation or unintentionally introduce non-native species, but this would be kept to a minimum through the use of BMPs.*"

"*After construction, these projects would result in direct and indirect long-term or permanent, moderate to major beneficial impacts to geology and soils, water, living coastal and marine resources and EFH, and threatened and endangered species, and minor beneficial impacts related to socioeconomic resources as a result of increased tourism opportunities that could result from an improved resource. Sediment removal, materials placement, and shoreline stabilization activities would result in beneficial impacts by restoring or creating wetland and/or shallow-water habitats that provide areas for feeding and shelter for fish, as well as nutrient cycling and carbon sequestration and storage capacity. Changes in land use would be permanent if uplands were converted to wetlands. In general, increases in wetlands are beneficial impacts, due to the historic loss of wetland habitat*."

The Trustees have determined that the restoration activities and impacts associated with the proposed action fall within the range of alternatives and scope of potential environmental impacts analyzed in the PEIS and do not have significant adverse impacts.

4.2.2.4 Wetland Planting

The PEIS Section 4.5.2.11.3 states the following regarding the potential impacts of Wetland Planting:

"*Planting may cause short-term, direct adverse impacts to living coastal and marine resources when existing vegetation is trampled during the donor harvest or planting process. Planting is generally short-term in duration, lasting days to weeks, but the length of time between the restoration efforts that prepare a site for planting and when planting has begun may be several months, as planting cannot be completed outside the local growing season. For this reason, active wetland restoration activities may last over a year, even at smaller sites. Short-term damage to stands of healthy wetland vegetation may occur where native species are harvested from donor sites using species-appropriate techniques. The growth habit and length of the growing season determines how rapidly a donor site would recover. Generally, the benefits of using a local, native plant source outweigh the damage to the donor site, which is temporary. For restoration activities that involve building native plant nurseries, although the nursery use may be long-term, the impacts are low because the sites are generally constructed in areas that*

do not have existing habitat value (e.g., a school playground, a disturbed upland area, or former sewage treatment plant or aquaculture pond). Minor adverse impacts to cultural and historic resources may occur during wetland restoration, when historic structures are present within a project site."

"Long-term, moderate beneficial impacts to water resources, living coastal resources and threatened and endangered species would occur due to the erosion reduction and increased shelter provided by wetland plants. Wetland planting activities would result in beneficial impacts by restoring or creating wetland and/or shallow-water habitats that provide areas for feeding and shelter for fish, as well as nutrient cycling and carbon sequestration and storage capacity."

The Trustees have determined that the restoration activities and impacts associated with the proposed action fall within the range of alternatives and scope of potential environmental impacts analyzed in the PEIS and do not have significant adverse impacts.

4.2.2.5 Implementation and Effectiveness Monitoring

The PEIS Section 4.5.1.2 states the following regarding the potential impacts of Implementation and Effectiveness Monitoring:

"*The environmental consequences of the initial implementation of restoration monitoring could cause direct and indirect, short-term, minor, localized, adverse impacts. Impacts to threatened and endangered species may include effects from handling, noise, turbidity, displacement, and mortality (see PEIS Section 4.7). These impacts would result from activities associated with in-water or on-site observation or experimentation, such as the use of equipment for sampling or monitoring of organisms. Although these adverse impacts may occur, the monitoring products would result in indirect, long-term, minor to major beneficial impacts that extend beyond the project site. The benefits would allow future restoration proposals to be planned with better information and implemented more effectively by using the most successful methods, materials, or equipment for achieving the goal of restoration*."

The Trustees have determined that the restoration activities and impacts associated with the proposed action fall within the range of alternatives and scope of potential environmental impacts analyzed in the PEIS and do not have significant adverse impacts.

4.2.2.6 Fish and Wildlife Monitoring

The PEIS Section 4.5.1.3 states the following regarding the potential impacts of Fish and Wildlife Monitoring:

"Fish and wildlife monitoring activities are related to monitoring the performance and progress of restoration projects relative to their established project goals. Because monitoring can allow for smarter decision-making, projects using this technique could cause indirect, long-term,

minor to major beneficial impacts to geology and soils, water resources, living coastal and marine resources, and threatened and endangered species that may be localized or extend beyond the project site. The data gathered by trained individuals would be used to establish baseline information on species abundance and diversity and then to evaluate changes in these metrics through time…These data would then be used as a basis for future habitat management decisions and restoration actions to substantially benefit various wildlife species…In addition, indirect and direct, short-term, localized, minor to moderate adverse impacts to living coastal and marine resources and EFH, and threatened and endangered species may include effects from handling, noise, turbidity, displacement, and mortality (see Section 4.7 for more details). Cultural and historic resources may be impacted if disturbed during monitoring activities. Projects with successful monitoring programs would likely be more successful than those without such programs because monitoring would allow problems and flaws to be identified early in the process and corrected. Newly established invasive species also would be identified quickly, contained, and eradicated before they become widely established. Monitoring programs would have direct and indirect, long-term, minor beneficial impacts on land use and socioeconomics that extend beyond any project site, because the information gathered and any involvement of local citizens in environmental projects would promote environmental stewardship, an understanding of living coastal and marine resources and environmental issues, and a sense of community pride."

"Despite the beneficial impacts expected from this activity, monitoring could cause adverse impacts. Direct, short-term, localized, minor adverse impacts are expected to geology and soils from the human presence and movement around the project site (i.e., from soil compaction). Direct, short-term, localized, minor adverse impacts are also expected to air quality and noise at the project site due to the presence of crew members (and in the case of electrofishing, the operation of gas- or battery-powered electrofishing equipment). Direct, short-term, localized, minor adverse impacts may occur to water quality because, depending on the water body's substrate, turbidity may increase from the movement of crew members throughout the project site. Potential impacts to air quality could include direct, short-term, minor adverse impacts to air quality during construction or other on-the-ground activities. These impacts include exhaust emissions from off-road construction equipment, boats, and employee commuting vehicles. These impacts may extend beyond the project site. Direct, short-term, localized, minor, adverse impacts would occur to land use and recreation because anglers or other individuals recreating at the project site may need to vacate or avoid the site in order to avoid interacting with monitoring activities. Adverse population level effects are not expected from monitoring activities (e.g., electrofishing) because the activity typically takes place over a relatively small area compared with the overall distribution of the population being monitored. Regardless of the level of mortality observed from a monitoring event, it is reasonable to expect that areas that may observe mortality would be rapidly recolonized by individuals from surrounding, connected waters (e.g., Berra and Gunning 1970; Smock 2006)."

The Trustees have determined that the restoration activities and impacts associated with the proposed action fall within the range of alternatives and scope of potential environmental impacts analyzed in the PEIS and do not have significant adverse impacts.

4.2.2.7 Signage and Access Management

The PEIS Section 4.5.2.8 states the following regarding the potential impacts of Signage and Access Management:

"*Temporary or permanent fencing, signage, or netting is intended to eliminate or reduce degradation of streams, streambanks, lakeshores, riparian/wetland vegetation, and unstable upland slopes. The effects of livestock grazing, human access, and vehicle traffic on riparian and in-stream habitats can be detrimental to habitat quality. Such impacts include the compacting of stream substrates, destabilization of streambanks, localized reduction or removal of herbaceous and woody vegetation along streambanks and within riparian areas, increased stream width-to-depth ratios, reduced pool frequency, promotion of incised channels, increased sedimentation and turbidity, and lowered water tables. Increased water temperatures can also result from the removal Environmental Consequences 145 of streambank vegetation that provides shade, and from shallow, slow-moving reduced water flows through open stream areas. The installation of temporary or permanent fencing, signage, or netting would have direct, longterm (fencing would likely have a long-term impact, but not netting), moderate beneficial impacts on the geology and soils of the project site, and on water resources, living coastal and marine resources and EFH, and threatened and endangered species beyond the project site. The benefits of these actions are reduced disturbance by humans, animals, and vehicles. Similarly, invasive species spread could be reduced by consolidating or restricting access to sensitive habitats. These benefits may be enhanced by implementing this restoration in concert with other activities such as vegetation planting, creation of riparian buffers, and reduction of livestock attraction to riparian areas and stream channels by providing upslope water facilities to help distribute livestock away from sensitive areas."*

The Trustees have determined that the restoration activities and impacts associated with the proposed action fall within the range of alternatives and scope of potential environmental impacts analyzed in the PEIS and do not have significant adverse impacts.

4.2.2.8 Environmental Education Classes, Programs, Centers, Partnerships, and Materials

The PEIS Section 4.5.1.4 states the following regarding the potential impacts of Environmental Education Classes, Programs, Centers, Partnerships, and Materials.

"*Projects that provide environmental educational classes, programs, and centers; encourage and maintain partnerships with local school systems; and fund the development of education materials would have direct and indirect, long-term, minor beneficial impacts on geology and*

soils, water resources, living coastal resources and essential fish habitat, threatened and endangered species, land use, and socioeconomics. The beneficial impacts would result because education of local citizens and youth about environmental issues in the community and beyond, habitat restoration, and conservation would promote environmental stewardship, an understanding of living coastal resources and environmental issues, and a sense of community pride. Educational materials developed would encourage conservation and environmental stewardship, and educate the public on the benefits of habitat restoration projects."

"*Projects that train volunteers to participate in restoration projects and provide outreach and education to the community would have indirect, long-term, minor beneficial impacts on all resources because training and involvement of local citizens in environmental projects would promote environmental stewardship, an understanding of living coastal resources and environmental issues, and a sense of community pride. Projects are not likely to adversely impact threatened and endangered species*."

The Trustees have determined that the restoration activities and impacts associated with the proposed action fall within the range of alternatives and scope of potential environmental impacts analyzed in the PEIS and do not have significant adverse impacts.

4.2.3 Impacts Not Addressed in the PEIS - Environmental Justice

Riverine and coastal habitat restoration projects that include environmental justice are not directly addressed in the PEIS impacts analysis; therefore, the Trustees have provided additional NEPA analysis for potential impacts to Environmental Justice communities. The Trustees have determined that all proposed restoration activities would provide long-term or permanent beneficial impacts to the disadvantaged and overburdened communities described in Sections 2.3.4 and 3.7. The ecological uplift facilitated by the proposed restoration would assist in addressing the historic burdens placed upon these communities by proximity to Superfund Sites, effects from air and water pollutants, all in combination with socioeconomic burdens. The associated improvements in ecosystem services, including improved air quality, water quality, and flood resilience, along with and enhanced recreational and educational opportunities will serve these local communities. None of the alternatives are expected to adversely impact minority or low-income populations.

4.3 Summary of Impacts

The Trustees have determined that the restoration activities and impacts associated with the proposed action fall within the range of alternatives and scope of potential environmental impacts analyzed in the PEIS and do not have significant adverse impacts. The Trustees anticipate Alternative B to have primarily beneficial direct and indirect long-term impacts to the affected environment.

4.4 Cumulative Impacts

4.4.1 Cumulative Impacts of No Action Alternative

The No Action alternative would have long-term, minor adverse effects to physical and biological resources in the Raritan River watershed, since no active restoration would occur. Natural resources would not return to baseline and interim losses would not be compensated.

4.4.2 Cumulative Impacts of the Preferred Alternative

Alternative B would have no major adverse impacts on habitats, lands, or waterways in the Raritan River watershed. The preferred alternative may result in minor, short-term adverse impacts and both short- and long-term beneficial impacts to habitats and the natural resources they support. When considered in tandem with other past, present, and reasonable foreseeable future actions within the Raritan River watershed, the preferred alternative is not anticipated to have adverse cumulative impacts. Direct and indirect adverse impacts are likely to be short-term and will occur primarily during and immediately after periods of active construction. The preferred alternative is expected to result in long-term, beneficial cumulative impacts on the human environment since they may positively impact the areas land use, recreational use, and economic activity through habitat restoration, and improved public access, and recreational activities.

5 Compliance with Federal Laws and Regulations

As appropriate, the Trustees will ensure compliance with applicable statutes, regulations, and policies prior to implementation of any restoration alternatives. The following is a list of statutes that may apply to proposed projects. Compliance with these authorities, and other authorities not listed, is considered part of the restoration planning process.

5.1 Federal Laws

- **National Environmental Policy Act**
    - The National Environmental Policy Act (NEPA; 42 U.S.C. §§ 4321 et seq.) requires that Federal agencies consider the environmental impacts of proposed actions and reasonable alternatives to those actions. The Authorized Official will determine, based on the facts and recommendations in this document and input from the public, whether this EA supports a FONSI or whether an EIS should be prepared.
- **Federal Water Pollution Control Act (Clean Water Act)**

- The Clean Water Act (CWA; 33 U.S.C. §§ 1251 et seq.) is the principal law governing pollution control and water quality of the nation's waterways. Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the United States. Section 401 of the CWA requires any applicant for a Federal license or permit that conducts any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification from the State in which the discharge originates or would originate. The Trustees will require all necessary permits to be in place prior to all construction activities.

- **Fish and Wildlife Coordination Act**

  - The Fish and Wildlife Coordination Act (16 U.S.C. §§ 661 et seq.) requires that Federal agencies consult with the Service, NOAA, and state wildlife agencies regarding activities that affect, control, or modify waters of any stream or bodies of water, in order to minimize the adverse impacts of such actions on fish and wildlife resources and aquatic environments. This coordination is generally incorporated into compliance processes used to address the requirements of other applicable statutes, such as Section 404 of the CWA.

- **Endangered Species Act**

  - The Endangered Species Act (ESA; 16 U.S.C. §§ 1531 et seq.) is intended to protect species that are threatened with extinction. It provides for the conservation of habitats and ecosystems that these species depend on and produces a program for identification and conservation of these species. Federal agencies are required to ensure that any actions are not likely to jeopardize the continued existence of a threatened and endangered species. The Trustees will engage in required ESA consultations prior to implementing any restoration actions.

- **Migratory Bird Treaty Act**

  - The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712) protects all migratory birds and their eggs, nests, and feathers and prohibits the taking, killing, or possession of migratory birds. The proposed restoration actions would not result in the taking, killing, or possession of any migratory birds.

- **National Historic Preservation Act**

  - The National Historic Preservation Act (NHPA; 16 U.S.C. §§ 470 et seq.) is intended to preserve historic and archaeological sites. Compliance with the NHPA would be fulfilled through coordination with the State Historic Preservation Office (SHPO). Federal agencies will consult with SHPO and Tribal Historic

Preservation Officers (if applicable) to identify historic properties that may be affected by a proposed project and to assess potential adverse effects of restoration actions.

- **Occupational Safety and Health Act**

    - The Occupational Safety and Health Act (OSHA; 29 U.S.C. §§ 651 et seq.) governs the health and safety of employees from exposure to recognized hazards, such as exposure to toxic chemicals, excessive noise, mechanical dangers, and unsanitary conditions. Work conducted on the proposed restoration actions will comply with OSHA requirements.

- **Floodplain Management, Executive Order 11998**

    - Executive Order 11998 (42 Federal Register 26951) requires Federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The Trustees will ensure compliance with this executive order as part of the state permitting process.

- **Protection of Wetlands, Executive Order 11990**

    - Executive Order 11990 (42 Federal Register 26961) requires Federal agencies to take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities for acquiring, managing, and disposing of Federal lands and facilities; providing Federally undertaken, financed, or assisted construction and improvements; and conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities. The Trustees will ensure compliance with this executive order as part of the state permitting process.

- **Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Executive Order 12898**

    - Executive Order 12898 (59 Federal Register 7629) directs Federal agencies to identify and address the disproportionally high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. The Executive Order directs each agency to develop a strategy for implementing Environmental Justice, is intended to promote nondiscrimination in Federal programs that affect human

health and the environment, and provides minority and low-income communities access to public information and public participation. The Trustees have not identified any disproportionate adverse impacts on human health or the environment for minority and low-income populations due to the implementation of the selected projects. Anticipated beneficial impacts to Environmental Justice communities are discussed in Section 4.2.3.

5.2 State and Local Laws

The Natural Resource Trustees will ensure compliance with all applicable state and local laws and other applicable Federal laws and regulations relevant to the State of New Jersey. All projects that receive funding will be responsible for obtaining necessary permits and complying with relevant statutes, regulations, and policies.

6 Monitoring Program, Performance Criteria, and Adaptive Management

Monitoring will assess whether riparian and wetland habitats are sufficiently restored to meet restoration goals and objectives for affected resources, and if species of interest are occupying habitat enhancement areas. A project-specific monitoring plan will be developed to evaluate the long-term impacts of planned restoration actions. The monitoring plan will include performance standards and criteria, as well as a sampling and analysis plan, 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 if the restoration areas are on target, and if not, 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.

7 Public Notification and Comments

The Draft RP/EA was released for a 30-day public comment period that began on May 21, 2023 and ended on June 22, 2023. Public review of the Draft RP/EA is an integral and important part of the restoration planning process and is consistent with all applicable state and federal laws and regulations, including the guidance for restoration planning found within 43 C.F.R. Part 11. Through the public review process, the Trustees sought public comment on the restoration alternatives and the Trustees' preferred restoration alternative intended to restore the injured natural resources. The Trustees addressed public comments and documented responses to those comments as part of this Final RP/EA. A summary response to comments can be found in Appendix A.

8 List of Preparers and Reviewers

List of Preparers and Reviewers:

- Jillian Stark, the Service
- David Gately, DOI
- Mark Barash, DOI
- Hannah O'Neill, DOI
- Carl Alderson, NOAA
- Reyhan Mehran, NOAA
- Kate Barfield, NOAA
- John Fiorentino, NOAA
- Peter Revilla, NJDEP
- Matthew Knoblauch, NJDOL

List of Agencies and Persons Consulted:

- U.S. Fish and Wildlife Service, Ecological Services
- DOI Office of Restoration and Damage Assessment, Restoration Support Unit
- DOI Office of the Solicitor
- NOAA Restoration Center
- NOAA Assessment Restoration Division
- NJDEP Office of Natural Resource Restoration
- NJ Attorney General's Office, Division of Law

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APPENDIX A: SUMMARY OF RESPONSE TO PUBLIC COMMENTS

The Draft Restoration Plan and Environmental Assessment (Draft RP/EA) was released for a 30-day public comment period that began on May 21, 2023, and ended on June 22, 2023. The U.S. Fish and Wildlife Service (Service) posted the Draft RP/EA on the Department of Interior website, sent an email blast to 98 recipients, and published a legal notice in the legal ads of the Courier News and mycentraljersey.com, inviting comment on the Draft RP/EA for the 30-day period. The Trustees received six written comments from the public. This Appendix summarizes public comments and provides the Trustees' response to those comments. If a comment contained multiple points that warranted response, the Trustees broke these down into separate comments and responses. Table A-1, found at the end of this Appendix, provides a list of all commenters. The Trustees value stakeholder input and have considered all written comments received.

A. Public Comments and Trustee Responses

A.1 Comment (summarized): The document addresses the potential injuries to floodplain, riparian, and wetland resources that occurred as a result of the release of hazardous substances associated with the American Cyanamid Superfund Site. The preferred restoration alternative (the Duke Farms Forested Floodplain Restoration) is in an ideal location on land owned by an exemplary land steward and will have positive impacts on water quality, wildlife habitat, and flood resiliency. It will also have important positive effects on fish habitat and flood resiliency downstream of the project.

A.1 Response: The Trustees received six comments that expressed support of the preferred restoration alternative and its potential impacts described in the Draft RP/EA. Comments were received from individuals, non-governmental organizations, and a local government entity.

A.2 Comment: [The commenter's] only concern with respect to this project relates to the use of funds for remediation on lands/property that may potentially limit public access. We hope that this project would include a public education component, and public access to the site, at multiple steps of implementation.

A.2 Response: As stated in section 2.3.2 of the Draft RP/EA, Duke Farms is open to the public and hosts approximately 150,000 visitors per year, serving as a destination for people from local communities, as well as from all over the State of New Jersey and beyond. There are more than 18 miles of walking trails on the Duke Farms property, some of which bisect or run adjacent to the proposed restoration area. The project site is accessible directly from both Raritan Borough and Hillsborough Township. This access will offer an opportunity for the public to directly experience the evolution of the proposed restoration and to observe the wildlife that the project will benefit.

Public signage containing information about the restoration project and its benefits will be developed and installed when the construction of the restoration project is completed, as described in Section 2.3.2 of the Draft RP/EA. The 8-foot deer fence surrounding the restoration project area is necessary to protect the installed plants from herbivory during the establishment period and will also provide a refuge for wildlife. The fence will be removed once the restoration

project and monitoring period has been completed (15 years after construction). As the landowner, Duke Farms may further utilize the project as an education resource if they would like to, however, it is not a requirement of the restoration project per the settlement agreement.

A.3 Comment: I wonder if in the future it would be appropriate to also consider whether the proposed restoration location is upstream or downstream of the Superfund site in question. Although I certainly support the selection of the Duke Farms site, its upstream location means it is unable to directly compensate for any ecological damage associated with the Cyanamid site and can only provide indirect mitigation. A downstream location could potentially accomplish both. I recognize that in this case there may have been no candidate locations downstream of the Cyanamid site, but it seems like upstream vs. downstream location could be a useful criterion in decision making for compensation proposed for other Superfund sites.

A.3 Response: We will consider this suggestion in the future as it pertains to other cases and restoration projects.

For clarification, the EPA's remedial process is distinct and separate from the Trustees' Natural Resources Damage Assessment and Restoration (NRDAR) process outlined in this document. The goal of EPA's remedial process (i.e., clean-up) is to assess and then address any risks to human health and the environment. The EPA's remedial process can also include mitigation for impacts to sensitive areas resulting from implementation of the remedy (e.g., restoration of riparian areas that were disturbed to provide equipment access and cleanup). There are no mitigation or remediation goals associated with the proposed restoration under NRDAR. Additional information on the EPA's clean-up activities can be found at: https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.cleanup&id=0200144.

For the purposes of this restoration action, there is no preference for upstream or downstream locations. The intent of the preferred restoration alternative in this Draft RP/EA is to restore, rehabilitate, replace and/or acquire the equivalent of the natural resources associated with floodplains, riparian corridors, and wetlands that have been potentially injured as a result of release of hazardous substances related to the Site. The Trustees have maintained an interest in restoring services as close as possible to the potentially injured areas and have carefully considered proximity among the criteria for project selection. The Duke Farms project site resides on the banks of the Raritan River roughly three miles upstream of where the injury occurred. Among the project's anticipated services, which extend to downstream locations, are the typical functions that forested floodplains provide during extreme weather events, including storm water detention and storage, and velocity control.

A.4 Comment: I wonder why the Trustees did not consider in-stream restoration in the Raritan River as a possible restoration action. I don't know the extent to which the accumulation of contaminants of concern like PCB's [sic], mercury, benzene, etc. have been measured in the sediments of the Raritan (and perhaps also Cuckels Brook). Could dredging and removal of contaminated sediments be considered as part of this restoration plan, or any other action associated with this Superfund site?

A.4 Response: Please refer to the previous comment response regarding EPA's remedial process and actions at the Site that address contaminant cleanup and hazardous substance remediation. This Draft RP/EA focuses on compensation for environmental injuries that is sought under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1981 (CERCLA). Remedial actions that are conducted under the authority of the EPA and the environmental restoration actions that are undertaken under the authority of the NRDAR Trustees are distinct processes under CERCLA. Previous NRDAR legal settlement agreements for the Site did not compensate for floodplain, riparian and wetland injury. The 2016 Final In-River Restoration Plan/Environmental Assessment addressed potential in-river injuries associated with the Site. That document can be accessed at: https://pub-data.diver.orr.noaa.gov/admin-record/6831/Final_River_Restoration_Plan_Enviromental_Assessment_for_American_Cyanamid_Nov_2016.pdf. Two compensatory restoration projects were completed as part of the in-river settlement agreement: the Weston Mill Dam Removal and the design for Island Farm Weir fish passage improvement.

The current Draft RP/EA is intended to address and compensate for injuries to the remaining natural resources potentially affected by hazardous substance releases at or near the Site, including those in floodplain, riparian, and wetland habitats.

A.5 Comment: I noticed that the report mentioned that if additional tile drain infrastructure was discovered in the floodplain area, that it would be removed as part of the restoration work. The potential adverse and beneficial impacts of this activity was not mentioned in the PEIS analysis.

A.5 Response: Thank you for your comment. Section 4.2.2.3 of the RP/EA has been added to address potential impacts of any tile drainage removal.

A.6 Comment: During the restoration work, I would urge the Trustees to consider sourcing native plant material with local genotypes for any revegetation efforts.

A.6 Response: The Trustees agree. When practical, and as availability allows, all sourced plant materials will be of ecotypes local to the project area. Section 2.3.2 has been revised to address this comment.

A.7 Comment: I realize the monitoring plan has not been developed yet; however, when that plan does materialize, I would urge the Trustees to consider incorporating the following:

a. Monitoring natural recruitment of native plant species inside the deer fences (in addition to monitoring the success of vegetation intentionally planted via the restoration activities)
b. Monitoring appropriate water quality parameters in groundwater in the floodplain area, multiple locations in the receiving Raritan River, and in small streams or channels that drain from the site to the Raritan River. These measurements should be initiated before any restoration work is begun to establish baseline conditions, then proceed during restoration activities, and continue for a period of several years after restoration work is completed.

A.7a Response:: The Trustees are interested in monitoring natural recruitment in addition to vegetation intentionally planted. We will incorporate it into the monitoring plan to the extent it is feasible.

A.7b Response: Restoration of floodplain, riparian, and wetland resources are the focus of the monitoring effort. Benefits to aquatic resources and water quality, while notable, are supplementary and are not being monitored for evaluating success of this project. Potential in-river injuries associated with the Site were addressed in the 2016 Final In-River Restoration Plan/Environmental Assessment which can be accessed at: https://pub-data.diver.orr.noaa.gov/admin-record/6831/Final_River_Restoration_Plan_Enviromental_Assessment_for_American_Cyanamid_Nov_2016.pdf. Watershed-wide monitoring of water quality parameters conducted by groups such as Raritan Headwaters Association, The Watershed Institute, or the New Jersey Department of Environmental Protection may be able to capture the information sought in this comment.

A.8 Comment: It seems that this restoration plan is entirely focused on an area surrounding Duke Farms in Hillsborough, NJ. I understand that this project could positively impact the region as a whole, but why wouldn't this report consider remediation in Bridgewater? The officials in Hillsborough are not the ones hearing from residents over decades due to the impacts of this site. Bridgewater Township is.

I would like to understand the following:

1. What, if any, tracts in Bridgewater Township were assessed?
2. If tracts in Bridgewater were assessed, what primary criteria was used to eliminate them from consideration?
3. Did the any of the government entities involved in the creation of this report contact any Bridgewater Township official to get any information/feedback? If not, why not?

A.8 Response: A large-scale scoping effort in the Raritan River watershed was conducted in 2018 as part of the Cornell-Dubilier Electronics Superfund Site restoration planning process. The Trustees identified and contacted stakeholders to solicit restoration project ideas that would be appropriate to restore, rehabilitate, replace, and/or acquire the equivalent of injured natural resources as those injured or destroyed by the release of hazardous substances at the Cornell-Dubilier Site (https://pub-data.diver.orr.noaa.gov/admin-record/6229/CornellDubilier_RestorationScopingReport.pdf) which included wetlands, riparian areas, and floodplains. In this scoping process, the Trustees identified and contacted 144 NGOs, academic institutions, state agencies, federal agencies, public and private utilities, and all municipalities and counties in the Raritan River watershed, including Bridgewater Township; Bridgewater Township Mayor, Daniel Hayes was included in this direct solicitation. The Cornell-Dubilier Electronics Restoration Plan and Environmental Assessment was finalized in 2021 and can be accessed at: https://pub-data.diver.orr.noaa.gov/admin-record/6229/CDE%20FINAL%20RPEA%20FWS%20Version%20with%20Embedded%20NOAA%20and%20FWS%20FONSI.pdf. Four selected alternatives were identified in Bridgewater Township: Improvement of Fish Passage at the Island Farm Weir, the Headgates Dam Removal, the Mill Street Dam Removal, and the North Branch Riparian Corridor Project (in part). Three

of the projects do not compensate for wetland, riparian, and floodplain service losses. One of the projects has direct benefit to riparian corridors and floodplains. The Cornell-Dubilier Electronics Trustees have funded a $490,000 riparian restoration project in partnership with the Raritan Headwaters Association, as part of which a riparian restoration planting occurred in the fall of 2022 in North Branch Park in Bridgewater Township.

The Trustees have taken advantage of this previous scoping effort and used the information as part of the restoration planning process. Secondary evaluation criteria (in addition to the primary criteria established in 43 CFR § 11.82) are defined in 2.2.2 of the Draft RP/EA. The Trustees determined that the proposed Forested Floodplain Restoration at Duke Farms fulfilled these criteria best because it is a large contiguous tract of land with potential to restore the injured resources (floodplain, riparian, and wetland), is located adjacent to the Raritan River with close proximity to the Site on land on which these resources had not been previously restored, and has a landowner with potential to implement long-term stewardship of the restoration site. Due to its close geographic proximity both upstream and downstream along the Raritan River, Bridgewater Township's resources and residents will ultimately benefit from the proposed restoration through improved ecosystem services including enhanced flood storage capacity and air and water quality improvements.

Table A-2. List of commenters on the American Cyanamid Draft RP/EA.

2 private citizens
Bridgewater Township
Lower Raritan Watershed Partnership
New York/New Jersey Baykeeper
Raritan Headwaters Association

UNITED STATES FISH AND WILDLIFE SERVICE

ENVIRONMENTAL ACTION STATEMENT

Final Floodplain, Riparian, and Wetlands Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site
Bridgewater Township, Somerset County, New Jersey

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 Final Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site:

____ 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.

_X_ 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):

Final Floodplain, Riparian, and Wetlands Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site

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Regional Director/DOI Authorized Official Date

FINDING OF NO SIGNIFICANT IMPACT

Final Floodplain, Riparian, and Wetlands Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site
Bridgewater Township, Somerset County, New Jersey

The U.S. Department of Interior, U.S. Department of Commerce, and State of New Jersey have completed a Final Restoration Plan and Environmental Assessment (RP/EA) that explains the decisions of the Trustees to select a restoration alternative, the Duke Farms Forested Floodplain Restoration, as the alternative that will best compensate the public for injuries to natural resources resulting from releases of hazardous substances at or from the Site. This alternative involves restoring 112-acres of land adjacent to the Raritan River to floodplain forest habitat through invasive species management, vernal pool creation, native tree and shrub planting, deer fence installation, interpretive signage and long-term monitoring and maintenance. This restoration will be a multi-year effort that will restore, replace, rehabilitate, and/or acquire the equivalent of the natural resources injured as a result of hazardous substances released from the American Cyanamid Superfund Site. The Trustees provided the Draft RP/EA for public review from May 21, 2023 through June 22, 2023. The Trustees addressed public comments and documented responses to those comments as part of the Final RP/EA. In general, the comments supported the restoration project selection identified by the Trustees. Some clarifications and additional information have been provided as a result. Based on a review and evaluation of the information contained in the Final RP/EA, I have determined that the proposed actions do not constitute a major federal action which would significantly affect the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969. Accordingly, the preparation of an environmental impact statement on the proposed actions is not required at this time.

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FINDING OF NO SIGNIFICANT IMPACT

Final Floodplain, Riparian, and Wetlands Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site Bridgewater Township, Somerset County, New Jersey

I. Purpose of Finding of No Significant Impact: The Council on Environmental Quality (CEQ) Regulations direct agencies to prepare a Finding of No Significant Impact (FONSI) when an action not otherwise excluded will not have a significant impact on the human environment. 40 CFR §§ 1500.4(b) & 1500.5(b). To evaluate whether a significant impact on the human environment is likely, the CEQ regulations direct agencies to analyze the potentially affected environment and the degree of the effects of the proposed action. 40 CFR § 1501.3(b). In doing so, agencies should consider the geographic extent of the affected area (i.e., national, regional or local), the resources located in the affected area (40 CFR § 1501.3(b)(1)), and whether the project is considered minor or small-scale (NAO 216-6A CM, Appendix A-2). In considering the degree of effect on these resources, agencies should examine both short- and long-term effects (40 CFR § 1501.3(b)(2)(i); NAO 216-6A CM Appendix A-2 - A-3), and the magnitude of the effect (e.g., negligible, minor, moderate, major). CEQ identifies specific criteria for consideration. 40 CFR § 1501.3(b)(ii)-(iv). Each criterion is discussed below with respect to the proposed action and considered individually as well as in combination with the others.

In preparing this FONSI, we reviewed the *Final Floodplain, Riparian, and Wetlands Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site, Bridgewater Township, Somerset County, New Jersey* (Final RP/EA) which evaluates the affected area, the scale and geographic extent of the proposed action, and the degree of effects on those resources (including the duration of impact, and whether the impacts were adverse and/or beneficial and their magnitude). The Final RP/EA was prepared by the United States Fish and Wildlife Service (Service), acting on behalf of the United States Department of the Interior (DOI), in coordination with its fellow natural resource trustees at the American Cyanamid Superfund Site (Site): the National Oceanic and Atmospheric Administration (NOAA) by and for the United States Department of Commerce, and the New Jersey Department of Environmental Protection (NJDEP) on behalf of the State of New Jersey (collectively referred to as the "Trustees").

The Trustees' preferred alternative--Duke Farms Forested Floodplain Restoration--will compensate the public for injuries to natural resources resulting from releases of hazardous substances at or from the Site. This alternative involves restoring 112 acres of land adjacent to the Raritan River to floodplain forest habitat through invasive species management, vernal pool creation, native tree and shrub planting, deer fence installation, interpretive signage, and long-term monitoring and maintenance. The Final RP/EA is hereby incorporated by reference. (40 CFR § 1501.6(b).

II. NOAA Environmental Review and Adoption of Final RP/EA: The Service acted as the lead federal Trustee for the Final RP/EA and NOAA participated as a cooperating federal agency pursuant to NEPA (40 C.F.R. § 1508.5). As a Trustee for the American Cyanamid case and a cooperating federal agency for NEPA, NOAA has participated in the development and finalization of the Final RP/EA. Participating as a Trustee and a cooperating agency allowed NOAA to ensure that the necessary information and analyses were included in the Final RP/EA to support the proposed action and allow for consideration of adoption of the document as a Final RP/EA for NOAA's NEPA purposes. NOAA has evaluated the Final RP/EA and found that it includes all required components for adoption by NOAA: sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) if impacts were determined to be significant, or FONSI if impacts were determined to be temporary and insignificant; brief discussion of the purpose and need for the proposed action; a description of the alternative to the proposed action; a description of the affected environment; a discussion of the environmental impacts of the proposed action and alternative; and a list of agencies and persons consulted. As a result of this review, NOAA has determined that it is not necessary to prepare a separate EA or EIS to identify and select the preferred alternative to compensate for injuries resulting from the release of hazardous substances at the Site, and has adopted the Final RP/EA under the Council on Environmental Quality's Regulations for Implementing NEPA (40 C.F.R. § 1506.3) and has issued a FONSI. This FONSI documents NOAA's determination to adopt the Final RP/EA.

II. Approach to Analysis: The proposed action consists of habitat restoration that would, if implemented, provide benefits to natural resources injured by the release of hazardous substances at or from the American Cyanamid Site (the Site), and provide natural resource services similar to what would have been provided had those releases not occurred. Collectively, the proposed action includes habitat restoration and public outreach and education components, as well as providing environmental justice benefits. The Final RP/EA is an integrated document to efficiently address the Trustees' dual requirements to comply with both the National Environmental Policy Act (NEPA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

A. The scale of the proposed action will be locally substantial but would not contribute to a significant impact at a regional or greater level.

B. The proposed action will not cause a significant effect to any specific resource. If an impact is determined to be negligible, minor or moderate, it is not considered to meaningfully contribute to a significant impact.

C. The proposed action and the potential impacts from it are consistent with the Final RP/EA. If the collective effects of the proposed action were added to possible effects of other related actions, their cumulative impacts would still only be local and the magnitude would not be significant at a regional or greater scale.

III. Geographic Extent and Scale of the Proposed Action: The proposed action consists of habitat restoration activities that would, if implemented, provide benefits to natural resources injured by the release of hazardous substances at or from the Sites, and provide natural resource services similar to what would have been provided had those releases not occurred. The proposed action is expected to increase habitat quality and quantity, create new public use opportunities, and benefit natural resources within the Raritan River watershed consistent with the Final RP/EA.

IV. Degree of Effect: The Final RP/EA analyzes potential environmental impacts associated with the proposed action for restoration in the Raritan River watershed. The analysis is summarized in Section of 4.0 the Final RP/EA. The proposed action is unlikely to have significant adverse impacts on the environment. This alternative would meet the mandates under Natural Resource Damage Assessment (NRDA) statutes and regulations to restore natural resources and services injured by releases of hazardous substances and is consistent with the goals and objectives outlined in the Final RP/EA. The proposed action would have direct beneficial effects and only minor, short-term adverse impacts. The No-Action Alternative would not have direct beneficial effects or adverse impacts but would allow the degraded conditions of habitats in the Raritan River to continue, which would not be consistent with the Final RP/EA.

A. The proposed action cannot reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment. All relevant permits will be obtained prior to initiating construction activities, and the contractor conducting the activities will be expected to follow all regulatory requirements.

B. There are no substantial adverse public health or safety impacts expected from the proposed action.

C. The degree to which the proposed action is expected to affect a sensitive biological resource, including:

a. The proposed action is not expected to adversely affect Federal endangered or threatened species or their designated critical habitat. Overall, the proposed action is expected to benefit species through improved habitat availability and function.
b. The proposed action is not expected to adversely affect marine mammals, their critical habitat, or other non-target species.
c. The Trustees do not expect the proposed action to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act. As documented in the Final RP/EA, the Trustees expect the selected project to result in long-term, beneficial impacts to riverine habitat and associated species by increasing the area and ecological function of riverine and wetland habitats.
d. The proposed action is not expected to adversely affect bird species protected under the Migratory Bird Treaty Act.

e. There are no national marine sanctuaries or monuments in the project area.
f. The proposed action is not expected to adversely affect vulnerable coastal ecosystems, including but not limited to, deep coral ecosystems.
g. The selected project is not expected to have any substantial impacts beyond a local level; the beneficial impacts on ecosystem function and species biodiversity would not be substantial at a regional or larger scale. As documented in the Final RP/EA, the proposed project is expected to result in long-term beneficial impacts to plants and wildlife, providing additional habitat to support recovery of these sensitive communities and resulting in greater habitat complexity, diversity, and productivity. Any potential adverse impacts are expected to be minimal, short term, localized, and not expected to decrease function or species biodiversity.

D. The proposed action will not adversely affect any historic or cultural resources listed in or eligible for listing in the National Register of Historic Places, and will not cause loss or destruction of significant scientific, cultural, or historical resources. Consultation with the New Jersey State Historic Preservation Office pursuant to Section 106 of the National Historic Preservation Act will be undertaken as part of the project permitting process.

E. The proposed action will not have a disproportionately high and adverse effect on the health or the environment of minority or low-income communities, compared to the impacts on other communities (EO 12898). The Trustees have determined that the proposed restoration activities would provide long-term or permanent beneficial impacts to the disadvantaged and overburdened communities described in the Final RP/EA. The ecological uplift facilitated by the proposed restoration would assist in addressing the historic burdens placed upon these communities by proximity to Superfund Sites, effects from air and water pollutants, all in combination with socioeconomic burdens. The associated improvements in ecosystem services, including improved air quality, water quality, and flood resilience, along with the enhanced recreational and educational opportunities will serve these local communities. The proposed action is not expected to adversely impact minority or low-income populations.

F. The proposed action is not reasonably expected to result in the introduction, continued existence, or spread of noxious weeds or nonnative invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of the species.

G. The proposed action is not expected to have a substantial impact to any other physical or biological resources within the project area or over which there is substantial uncertainty or scientific disagreement.

V. Other Actions Including Connected Actions: The proposed action is not known to be related to other actions within the Raritan River watershed that, when considered together, could

result in synergistically significant impacts. Any future Federal actions in the area may have to undergo a similar NEPA evaluation and review process, and would consider the Trustees' Duke Farms Forested Floodplain Restoration activities when addressing cumulative effects. While overall, a net beneficial cumulative impact may result from the implementation of the proposed action in synergy with future restoration activities, cumulative impacts would not occur at a regional scale and are not expected to be significant.

VI. Mitigation and Monitoring: Potential impacts to soil, water and biological resources will be minimized or mitigated through BMPs, permit conditions, and consultation requirements if/as required by other statutes (e.g., Clean Water Act). The proposed action includes long-term monitoring at property owned and managed by Duke Farms, a center of the Doris Duke Foundation. Monitoring will assess whether riparian and wetland habitats are sufficiently restored to meet restoration goals and objectives for affected resources, and if species of interest are occupying habitat enhancement areas. A project-specific monitoring plan will be developed to evaluate the long-term impacts of planned restoration actions. The monitoring plan will include performance standards and criteria, as well as a sampling and analysis plan, and a schedule for the frequency and duration of monitoring.

DETERMINATION

The CEQ NEPA regulations, 40 CFR § 1501.6, direct an agency to prepare a FONSI when the agency, based on the EA for the proposed action, determines not to prepare an EIS because the action will not have significant effects. In view of the information presented in this document and the analysis contained in the supporting Final RP/EA prepared by the Trustees, it is hereby determined that the restoration activities identified by the Trustees as the proposed action in the Final RP/EA will not significantly impact the quality of the human environment. The *Final Floodplain, Riparian, and Wetlands Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site, Bridgewater Township, Somerset County, New Jersey* is hereby incorporated by reference. In addition, all beneficial and adverse impacts of the proposed action as well as mitigation measures have been evaluated to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.

Christopher Doley

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Christopher Doley
Chief, Restoration Center
National Marine Fisheries Service

Date

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Tony Penn
Chief, Assessment and Restoration Division
National Ocean Service

Date

Department of Interior

U.S. Fish and Wildlife Service

Approval of the Final Floodplain, Riparian, and Wetlands Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site Bridgewater Township, Somerset County, New Jersey

In accordance with U.S. Department of 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 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 American Cyanamid Superfund 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 and Environmental Assessment is hereby approved.

Approved:

WENDI WEBER

Digitally signed by WENDI WEBER
Date: 2023.12.07 12:21:25 -05'00'

Wendi Weber Date
Regional Director
Northeast Region
U.S. Fish and Wildlife Service

Concurred:

MARK BARASH

Digitally signed by MARK BARASH
Date: 2023.11.15 18:21:36 -05'00'

Mark Barash Date
Attorney
Northeast Region
Office of the Solicitor

Department of Commerce

National Oceanic and Atmospheric Administration

Approval of the Final Floodplain, Riparian, and Wetlands Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site Bridgewater Township, Somerset County, New Jersey

By the signature below, the Final Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site is hereby approved.

Approved by:

Christopher Doley

Digitally signed by DOLEY.CHRISTOPHER.DAVID.1365844042
Date: 2023.10.11 08:00:47 -04'00'

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

State of New Jersey

New Jersey Department of Environmental Protection

Approval of the Final Floodplain, Riparian, and Wetlands Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site Bridgewater Township, Somerset County, New Jersey

In accordance with Trustee protocol regarding documentation for Natural Resource Damage Assessment and Restoration Projects, the New Jersey Department of Environmental Protection is providing its approval of the Final Restoration Plan and Environmental Assessment for the American Cyanamid Superfund Site.

Approved By:

David Bean 12/12/2023

David Bean Date
Bureau Chief
Office of Natural Resource Restoration
Community Investment & Economic Revitalization
New Jersey Department of Environmental Protection