DRAFT
RESTORATION PLAN
for the
MATTIACE PETROCHEMICAL COMPANY
SUPERFUND SITE
GLEN COVE, NASSAU COUNTY, NEW YORK

February 7, 2006

Prepared by:

United States Fish and Wildlife Service
on behalf of the
U.S. Department of the Interior,
National Oceanic and Atmospheric Administration,
and
New York State Department of Environmental Conservation

A. Introduction

In June 2003, the United States Fish and Wildlife Service (USFWS), on behalf of the United States Department of the Interior (DOI), the National Oceanic and Atmospheric Administration (NOAA) of the United States Department of Commerce, and the New York State Department of Environmental Conservation (NYSDEC), on behalf of the State of New York, collectively referred to as the "Trustees," settled a natural resource damage claim with the Responsible Parties (RPs) for the Mattiace Petrochemical Company Superfund Site (the Site) located in Glen Cove, Town of Oyster Bay, Nassau County, New York.

The Trustees sought this settlement as compensation for injuries to natural resources due to release of environmental contaminants from the Site. We are required to use settlement funds to compensate for those injuries by restoring natural resources, supporting habitat, and/or services provided by the injured resources. The Comprehensive Environmental Compensation and Liability Act (CERCLA), 42 U.S.C. §9601, *et seq*., which designates natural resource trustees, requires that before settlement monies can be used for such activities, we must develop and adopt a Restoration Plan, and that in doing so, there must be adequate public notice and opportunity for hearing and consideration of all public comment.

Accordingly, we are publishing and distributing this Draft Restoration Plan (Draft Plan) and seeking comments on it. We will publish a Notice of Availability of this Draft Plan in the Federal Register and the Oyster Bay *Enterprise-Pilot*. A copy of this Draft Plan is also available for review at the New York Field Office Web Site at http://nyfo.fws.gov/ec/MattiaceDRP.pdf

Commentors should provide their name, address, and telephone number. All comments received on the Draft Plan will be considered and a response provided through revision of this Draft Plan and incorporated into a Final Restoration Plan. A Final Restoration Plan will be published with an anticipated publication date in February 2006.

B. Background

The 2-acre (0.8 ha) Mattiace Petrochemical Company Site (Site) is an inactive chemical distribution facility located on Long Island on Garvies Point Road, about 166 yards (152 m) north of Glen Cove Creek. Garvies Point Preserve, which fronts Hempstead Harbor, is located west of the site along Garvies Point Road. From the mid-1960s until 1987, Mattiace received chemicals by tank truck and redistributed them to its customers. The company also operated the M&M Drum Cleaning Company on the Site until 1982. During its operational period, the Mattiace property contained a Quonset hut, shed, concrete loading dock, and approximately 56 storage tanks, most of which were underground. In 1987, after seven years of failed negotiations and litigation regarding various waste-handling and environmental infractions, the State of New York seized the property. At that time, many drums and tanks of organic, acid, and alkali liquids remained (EPA 2003, NYSDEC 1998).

The primary migration pathways from the Site to habitats of concern in Glen Cove Creek were direct discharge through underground pipes, groundwater discharge, and surface water transport. When the facility was in operation, overflowing chemicals and stormwater were transported to a

solvent/stormwater separator and ultimately discharged to the creek. Runoff eroded soil and created gullies in the driveway that served to direct flow towards Garvies Point Road. Garvies Point Road is connected to Glen Cove Creek via a storm sewer and underground pipe. In 1980, Mattiace obtained a state pollution discharge elimination permit to discharge stormwater overland. The permit expired in 1982 and was not renewed due to permit violations. Contaminated groundwater may have contributed to surface water contamination. Additionally, large leaching pools were constructed on-site to collect surface water runoff and to leach solvents into the ground.

In 1988, the U.S. Environmental Protection Agency (EPA) implemented an emergency removal action to secure the Site and remove more than 120,000 gallons of hazardous liquids. Samples were collected to characterize on-site contaminants, and 100,000 gallons of flammable liquids, 20,000 gallons of contaminated water, and 1,800 gallons of liquids containing polychlorinated biphenyls (PCBs) were removed form the Site. Empty chemical containers were crushed and sent to an off-site incineration facility. The owners reclaimed cylinders and some empty tanks. All other hazardous materials were transported to EPA-approved disposal facilities.

After a geophysical survey was conducted during the Remedial Investigation, EPA found and characterized the contents of buried drums on the west central part of the Site. EPA signed a Record of Decision (ROD) in 1990 specifically for removal and off-site treatment and disposal of drums and contaminated soil in the drum burial area. In Spring 1992, EPA completed excavation and off-site disposal of approximately 400 buried drums and contaminated soil.

The EPA completed a comprehensive remedial investigation and feasibility study (RI/FS) of soil and groundwater pollution, and signed a ROD in June 1991 selecting in situ vapor extraction of soil, limited excavation of soil contaminated with pesticides, removal of all above- and below-ground tanks and cisterns, and groundwater pumping and treatment as the selected remedy. The removal of all tanks, cisterns, and associated piping was completed in the Fall of 1996. EPA initiated construction of an integrated groundwater and soil vapor treatment facility in October 1997. Construction of the facility was substantially completed in August 1998, with subsequent commencement of start-up and long-term operation.

Pursuant to two RODs, EPA excavated and disposed of pesticides-contaminated soil, buried drums, and above- and below-ground storage tanks. In addition, all Site structures were demolished and removed. In August 1998, EPA completed construction of a groundwater/soil vapor integrated treatment facility, and began long-term operation in September 1999. The facility will remediate an estimated one-half billion gallons of contaminated groundwater. EPA determined that all construction activities were completed at the Site in June 2000. In July 2003, a private company assumed responsibility for performing long-term operation of the facility under an agreement with EPA and numerous potentially responsible parties at the Site. EPA provides oversight of the facility operation as part of the agreement and expects soil vapor treatment to be completed by 2006, while groundwater treatment is expected to continue for a much longer period (EPA 2003).

C. Natural Resources and Impacts to Those Resources

Hempstead Harbor has been designated a significant coastal fish and wildlife habitat by the New York State Department of State (NYSDOS 2004) and as Essential Fish Habitat for 15 species by NOAA's National Marine Fisheries Service (NOAA 2005). The USFWS (1997) recognizes the western harbors of Long Island, including Hempstead Harbor, as significant habitat area for many fish and wildlife species, including wintering waterfowl and wading birds. Anadromous, catadromous, euryhaline and marine finfish, and invertebrates also use Hempstead Harbor and Glen Cove Creek. Some of these species have commercial and recreational importance.

Glen Cove Creek and Hempstead Harbor are tidal estuarine systems with tidal wetlands. Hard clams use both Glen Cove Creek near the Site and Hempstead Harbor as spawning, nursery, and adult areas. Hard clams are recreationally fished in both areas. Long Island Sound is a high-salinity estuarine system with extensive habitat areas used by trust species for spawning and nursery areas, adult foraging areas, and as migration routes (Table 1).

Table 1. Selected trust resources and use of Long Island Sound (USFWS 1980 Research Planning Institute 1985).

Species*	Spawning Area	Nursery Area	Adult Area	Migration Route	Recreational Fishery
Invertebrates					
blue crab	X	X			X
soft shell clams	X	X			
hard clams	X	X			
Fish					
American eel			X		X
American shad				X	
Atlantic menhaden			X		X
Atlantic sturgeon				X	
blueback herring				X	
bluefish			X		X
flounder		X	X		X
striped bass			X	X	X
white perch				X	X
winter flounder	X	X	X		X

* Scientific names listed in Appendix A.

Contaminants of concern included volatile organic carbons (VOCs) and phenols (Table 2) contained in groundwater discharge and surface water transport from the Site to creek habitats supporting trust resources. Groundwater samples at the Site contained high concentrations of VOCs, with the levels of six compounds exceeding their lowest observable effects levels (EPA 1986). Toluene was detected in on-site surface water samples. Total phenols were detected in on-site soils, sediment, surface water, and groundwater at levels that potentially reduce the

survivability of algae, benthic invertebrates, fish fry, and the communities of other animals (e.g. shellfish, fish, birds, and mammals) that rely on them for food.

Table 2. Maximum concentrations of selected contaminants at the Mattiace Petrochemical Site (NCHD 1982; Woodward-Clyde 1986); lowest observable effects level (LOEL) (EPA 1986); water concentrations in ug/l and soil concentrations in mg/kg.

Contaminant	On-Site Soil	Culvert On-Site Sediment	Ground-water	Culvert Surface Water	LOEL Acute	LOEL Chronic
Volatiles						
Methylene chloride	7.9	N/A	N/A	N/A	N/D	N/D
1,1-dichloroethane	1.7	1.0	15,000	ND	118,000	20,000
Trans-dichloroethylene	8.4	ND	120,000	ND	11,600	N/D
1,1,1-trichloroethane	17	2.3	21,000	ND	N/D	N/D
Trichloroethylene	46	ND	84,000	ND	45,000	21,900
Tetrachloroethylene	19	ND	5,100	ND	5,280	840
Toluene	1,400	34	88,000	6,600	17,500	N/D
Xylene	3,100	86	540,000	ND	N/D	N/D
Ethylbenzene	920	16	140,000	ND	32,000	N/D
4-methyl-2-pentenone	0.48	ND	170,000	ND		N/D
Semi-Volatiles						
Total phenols		1.2	7,000	57	10,200	2,560
ND - Not detected			**N/A - Not available**			**N/D – Not determined**

In developing our settlement requirements, we focused on the release of contaminants of concern at the Site, and resulting reduction in the quality of the 38 acres of tidal wetland habitat in the area used by fish and wildlife populations. Based on the available data, and in consideration of any uncertainty as to the magnitude of the injury and reduction in habitat quality, we determined there was a 5% reduction in productivity (related to survivability and ability to reproduce) of the affected organisms within the tidal community and supporting habitats occurred.

To scale our restoration goal, we used the Habitat Equivalency Analysis (HEA) method described by Unsworth and Bishop (1994). We incorporated the 5% reduction in the ecosystem productivity (referred to as service loss) in the area into the analysis to determine how much habitat would be needed from a restoration project (such as enhancing a degraded environment or preserving an existing environment), to compensate for the service loss in the affected tidal habitat. Various inputs to the model were considered, such as the level of ecological services currently provided at the proposed location, the threat of destruction of the habitat by human encroachment, and the potential for creating/enhancing wetland habitat. With the various parameter inputs, the model calculates the number of discounted service-acre years (DSAYs) as a measure of ecosystem injury. The DSAYs are converted into the number of acres that would

be necessary as compensation for injured tidal wetland habitat. Calculations were extended over 29 years to include both past injury and future reduction in ecological function until the restoration project becomes fully developed ecologically.

Based on our assessment of injury to trust resources from Site-related contaminants, including anadromous, catadromous, euryhaline and marine finfish, invertebrates, and the forage base they provide to migratory birds, the analysis resulted in a total of 60 DSAYs, or equivalent 5-acres of in-kind, in-place restoration habitat. Thus, the purpose and the need of this restoration action is the creation of 5 acres of habitat, or the equivalent, to compensate the Trustees' natural resource damages claim under CERCLA.

D. Natural Resource Damage Settlement

Based on our analysis of injury to the 38-acre area impacted by Site-related contaminants, employment of the HEA Model, and negotiation with the Responsible Parties, we reached a negotiated settlement with the RPs based on a 5-acre wetland restoration goal that was formalized in a Consent Decree signed by the United States Government, the State of New York, and the RPs in June 2003. As a result of the settlement, the RPs forwarded $194,156.53 (the estimated cost of a 5-acre wetland restoration) to the DOI to compensate for the habitat degradation. The restoration account for the Site as of September 2004, due to the accrual of interest, currently contains about $196,337.35. Of those funds, $155,000.00 is available for restoration activities, and the balance for project planning, implementation, and monitoring. The Trustees have identified several potential projects for consideration as the preferred restoration project.

E. Proposed Restoration

1. Goals of the Restoration Project

The primary goal of the restoration project is to compensate for natural resources which were injured. Restoration includes returning an injured resource to its prior condition, as well as acquisition of other resources to compensate for those which were injured. We used the following criteria to consider restoration projects in order of priority:

1. Restoration of in-kind natural resources at the same location, if cleanup or remediation will be sufficient to prevent future contaminant problems;
2. Restoration or replacement of in-kind natural resources in the vicinity of the loss;
3. Replacement or acquisition of similar, out-of kind resources that are nearby.

An in-kind natural resource refers to the same type of resource that was injured or lost. An out-of-kind natural resource refers to resources different from those injured or lost, but which provide similar natural resource services. Projects entailing out-of-kind restoration are given less priority than those entailing in-kind restoration due to the ecological uncertainties associated with replacing one habitat or resource type with a different type. Acquisition entails substituting an injured resource with another resource

that provides the same or substantially similar services. The least priority is given to the acquisition of resources that differ from those that were injured.

2. Specific Projects Considered

We are required to assess a reasonable number of possible restoration projects. A project may consist of a single action or a set of actions to be undertaken. To identify potential projects, we consulted various program areas within the Service, NOAA's Restoration Center, the NYSDEC, the New York State Department of Parks and Recreation, the Department of Maritime Services - Town of Huntington, and Ducks Unlimited. Based on the input received, we identified the following as desired project characteristics and potential projects to meet our restoration goals:

- Similarity of the restored resource to the injured resource.
- Proximity of the alternative to the injured resource; priority will given to projects located in Nassau and Suffolk Counties.
- Relative compensation to loss ratio.
- Long-term or perpetual benefits to fish and wildlife resources.
- Little or no potential for adverse effects on human health and public safety.
- Projects that provide the greatest environmental benefit for the least cost.
- A restoration site that is protected from future development activities will be favored over one where future land use is unrestricted or may potentially adversely affect the restoration project.
- Projects that do not comply with applicable Federal, State, Tribal, and local laws and policies will not be considered.

Project Categories and Alternatives

Restoration of In-Kind Natural Resources at the Same Location

No alternatives were identified under this category. The Mattiace Site is located in an area of industrial/commercial development surrounded by homes and municipal development, except on the west where it is bordered by an upland park. Restoration of natural resources on-Site, whether in-kind or out-of-kind, is not feasible because (1) the area is too small, (2) there is a lack of suitable soils for the restoration/development of wetland habitat, and (3) the area is currently slated for development as an industrial/commercial property. Therefore, no alternatives were identified that would provide in-kind natural resource restoration at the same location, and will not be given further consideration.

Restoration or Replacement of In-Kind Natural Resources in the Vicinity of the Loss

Alternative 1 - Glen Cove Creek Restoration

The Trustees considered performing a restoration project in Glen Cove Creek, which is in the immediate vicinity of the Site. However, the Glen Cove Creek shoreline is highly developed and contains a significant portion of high-walled, steel-sheet and wood pilings along the banks limiting shoreline and/or wetland restoration options of a single project to less than the minimum 5-acre restoration goal. Therefore, a restoration project in Glen Cove Creek will not be given further consideration.

Alternative 2 - Mill Dam Pond Revitalization Restoration Projects

Mill Dam Pond (Pond) is located in the Village of Huntington, Suffolk County, New York, immediately south of Mill Dam Road, west of New York Avenue, and east of Shore Road. According to the Town of Huntington's Local Waterfront Revitalization Program (LWRP), the Pond has been described as a NYSDEC "Formerly Connected Tidal Wetland also Designated as Freshwater Wetland."

The 9-acre Pond receives large volumes of stormwater flow from the Wall Street and New York Avenue drainage areas. The Pond has filled with sediment from decades of untreated stormwater flow. Little storage volume exists in the Pond to detain stormwater flow. Untreated stormwater with little detention has degraded water quality in the receiving waters, Huntington Harbor, and ultimately Long Island Sound.

The LWRP for Huntington Harbor adopted by the Town Board in April 2001, included revitalization of Mill Dam Pond. Recommendations from a study (Cashin Associates 2000) of the LWRP included that "…*Mill Dam Pond be revitalized to enhance public access, including: the removal of Phragmites, installation of native*

plantings, and other actions to enhance the habitat values of this site; placement of an observation platform and benches on northerly shore of the pond; construction of a jogging path around the perimeter of the pond; paddle boating and fish pond; and general cleanup of debris and litter throughout the area."

As part of the pond revitalization, proposed modifications to the dam would reintroduce tidal flow to the Pond, creating the potential for restoration of tidal wetland vegetation along the shores of the Pond to create a brackish water habitat for harbor finfish and shellfish. In concert with changes to the dam, 7 acres of pond are recommended for dredging. Some or all of the dredged material will remain on-site for landscape contouring and/or construction at the site. In keeping with NYSDEC guidelines, 25% of the Pond would be dredged to a depth at high tide of 6 feet. All shallow areas would be inundated at high tide and provide tidal flats at low tide to benefit a number of bird species and various crustaceans and mollusks. To mitigate for creation of a proposed peninsula in the Pond resulting from reuse of dredged sediment, a 2-acre extended retention wetland would be constructed in the southwestern portion of Mill Dam Park where the elevation is low and remnants of degraded wetlands exist. The wetland would function to remove pollutants through sedimentation, adsorption to vegetation, physical filtration, microbial action, and uptake by wetland plants and algae.

Following a review of the proposed revitalization plan summarized above, the Trustees' identified two potential projects that could be funded with settlement monies to meet restoration goals. The projects include 1) implementation of fish passage and 2) wetland enhancement in the Pond.

Alternative 2a – Mill Pond Fish Passage

A project to create or install a structure to facilitate movement of fish into the Pond from the Harbor would open 7 acres of tidal wetland for use by fish and wildlife. The project would involve fishway design, permitting, construction, and post-project monitoring at an estimated cost of $527,000.00 ($75,286 /acre). The fishway project could be incorporated with the proposed dam modifications or could be completed following dam modification.

Alternative 2b – Mill Pond Wetland Enhancement

As an alternative to fish passage, the Trustees could implement shoreline enhancement to create about 4.2 acres of tidal wetland around the Pond perimeter at an estimated cost of $168,000.00 ($40,000/acre). The project would include shoreline stabilization and planting native wetland species in the Pond to benefit fish and wildlife using the area.

Alternative 3 - Beaver Dam Creek Tributary Restoration

The Beaver Dam Creek Tidal Marsh Restoration Site is located in the Hamlet of Brookhaven, Town of Brookhaven, Suffolk County, New York. The project at Beaver Dam Creek aims to restore degraded salt marsh habitat to a healthy, functional coastal wetland system. A combination of dredged spoil deposition, dike construction, ditching for mosquito control, and the spread of invasive species have so altered the natural hydrology of the area that few marsh functions remain. By addressing various impacts along the eastern and western sides of the creek, approximately 30 acres of marsh would be restored in total.

Restoration of 8 acres of tidal wetlands on the eastern bank of the creek was completed by Ducks Unlimited, the Post-Morrow Foundation (PMF) and the NOAA Restoration Center in 2004. The remaining goal of the project is to restore 22 acres of salt marsh habitat on the western side of Beaver Dam Creek. The parcel to be restored is characterized by a dike along the western shore of the creek, large areas of dredged spoil, and extremely dense and expansive growth of *Phragmites*. The proposed restoration work along Beaver Dam Creek would take place on permanently protected lands held by the Post-Morrow Foundation and Suffolk County Parks, Recreation, and Conservation, thereby ensuring long-term protection of the restoration efforts.

As part of the 30-acre restoration project, the Trustees would fund restoration of an additional 5 acres (to complete 13 of 30 acres) of tidal wetland along the western bank of the creek at a cost of $155,000.00 ($31,000/acre). Suffolk County Parks Department, the Town of Brookhaven, Ducks Unlimited, the PMF, and the NOAA Restoration Center have pledged additional funding and in-kind services for future restoration of the remaining 17 acres.

The Trustees' Project Partners would include the NOAA Restoration Center, Ducks Unlimited, Town of Brookhaven, PMF, Suffolk County Department of Public Works, and Friends of Wertheim National Wildlife Refuge. The Trustees' contribution would result in a consolidated 30-acre tidal marsh restoration by the Project Partners.

Ducks Unlimited would provide coordination and oversight of on-the-ground habitat restoration and would hire qualified, experienced contractors to complete the restoration work. Ducks Unlimited has specialized equipment for use as necessary for working within salt marsh habitats. The equipment, with a ground pressure of less than two pounds per square foot, is required by State and Federal regulations. A low ground pressure excavator and amphibious excavator would be used to remove dikes and dredged spoil, clean existing ditches, create tidal creeks, and form tidal pools to serve as important finfish and shellfish nursery habitat. A 5-foot flail mower, attached to the boom of one of the excavators, would be used to mow dense stands of *Phragmites*.

A variety of techniques would be used to regain the functions of the lost salt marsh habitat, such as creating multiple breaches along the existing dike, removing several acres of dredged spoil and subsequent regarding to marsh grade level, excavating tidal pools and creeks, and removing several acres of *Phragmites* through a combination of mowing and excavating. The dredged spoil may be used on-site to construct a nature trail along the western edge of the parcel to provide opportunities to educate visitors about the importance of healthy wetland systems and community stewardship of the Beaver Dam Creek watershed.

Return of natural hydrology patterns would provide increased habitat for the suite of fish and wildlife species dependent upon salt marshes. The restored ecological services would provide finfish and shellfish with enhanced foraging, breeding, and nursery habitat, and migratory birds with foraging, nesting, and resting habitat. Ultimately, the goal is to achieve restoration of the entire tributary using a coordinated, comprehensive approach that will serve as a template for similar tributary systems along the south shore.

Replacement or Acquisition of Out-of-Kind or Similar Resources Nearby

Alternative 4 - Phillips Mill Pond Dam Fish Passage

North and South Phillips Mill Pond Dams are located at the southeast corner of Caleb Smith State Park Preserve, Smithtown, Town of Smithtown, Suffolk County, New York. The approximately 5-foot high dams are at the head of tide at a common boundary between the park and privately-owned land. The site is suitable for installing a structural fishway to provide fish passage to several miles of river, and about 10 acres of high quality lake habitat for alewife, blueback herring, and American eel. The Park Manager of the Caleb Smith State Park Preserve has expressed interest in providing fish passage at the site. The Trustees could use settlement funds to implement fish passage at the site of the dam restoration in partnership with the Park Manager and other interested parties, to provide about 5 acres of high quality lake habitat for alewife, blueback herring, and American eel.

Implementation of a fish passage project would involve repair or replacement of the existing dam before fishway design and construction could be undertaken. The private landowner would have to agree to construction access, placement of the fishway, and accept a conservation easement in perpetuity to make the project viable. The estimated cost of the needed dam repair or replacement is expected to exceed $400,000.00. At present, no funds are currently targeted by the State, County, or other entity to undertake dam restoration, eliminating the possibility of implementing fish passage as this time. Implementation of fish passage is expected to cost up to an additional $527,000.00. Because the project costs far exceed the restoration monies available, this alternative will not be given further consideration.

Alternative 5 - New Mill Pond Dam Fish Passage

New Mill Pond Dam is located in Blydenburgh County Park, Smithtown, Town of Smithtown, Suffolk County, New York. The dam impounds a large impoundment (approximately 100 acres) of high quality water. The NOAA Restoration Center has concluded that a natural bypass channel and/or structural fishway could be built to provide about 100 acres of high quality lake habitat for alewife, blueback herring, and American eel. The use of settlement funds to implement fish passage at this site would be an appropriate restoration project. However, fish passage would be needed downstream at Phillips Mill Pond Dam to make this project possible. Because implementation of a fish passage project is not possible at Phillips Mill Pond Dam at this time, the alternative will not be given further consideration.

No Action Alternative

Federal regulations require natural resource trustees to consider this a no action restoration option. Under the No Action Alternative, no action would be taken to restore resources injured due to contamination or remedial activities associated with the Site.

Alternative 6 – Natural Attenuation

The Trustees would rely entirely on the natural recovery of resources from the sustained injuries.

3. Evaluation and Comparison of Feasible Project Alternatives

As natural resource trustees, we are required to evaluate each of the possible restoration projects based on all relevant considerations, including the following factors: technical feasibility; the relationship of expected costs of the proposed actions to the expected benefits; cost-effectiveness; the results of any actual or planned response actions; the potential for additional injury resulting from the proposed actions, including long-term and indirect impacts; the natural recovery period of the injured resources; the ability of the resources to recover with or without alternative actions; the potential effects of the action on human health and safety; consistency with relevant Federal, State, and Tribal policies; and compliance with applicable Federal, State, and Tribal laws. We must also consider the feasibility to secure future environmental protection of the restoration site.

Among all of the projects considered for selection as the preferred natural resource restoration, the following project alternatives may be feasibly implemented to meet our stated restoration goal. Attributes of feasible projects is summarized in Table 3.

Table 3. Summary of Differences in Feasible Project Alternatives 2a, 2b, 3, and the No Action Alternative.

Project	# Restored Acres	Cost per Acre	Restoration Type	Development Activities*
No Action	0	0	None	N
Alt 2a Mill Dam Pond Fish Passage	7	$75,286	Enhancement	P
Alt 2b Mill Dam Pond Wetland Enhancement	4.2	$40,000	Enhancement	P
Alt 3 Beaver Dam Creek Restoration	5+	$31,000	Restoration	N

* N - No future development; P - Future development possible or planned

+ Additional 17 acres tidal wetland habitat to be restored by restoration partners.

Alternative 2 - Mill Dam Pond Revitilization Restoration Projects

2a Mill Pond Fish Passage: Selection of fish passage at Mill Dam Pond would provide fish access to about 7 acres of tidally influenced wetland (4.2 acres) and open water (2.8 acres), provided the proposed dam modifications are implemented. Among the In-Kind Alternatives, fish passage is the most expensive alternative. The number of restoration acres achieved is the second highest at 7 acres. Use of the pond by bay and estuary finfish and shellfish may be limited by the relatively small project size. The project is located in a Town of Huntington Park and would be protected in perpetuity. Proposed development and recreational uses of the pond, including fishing access, boating, and a bike/walking trail around the pond, may negatively affect the quality of the site for use by trust resources. Sedimentation in the pond from stormwater runoff will be reduced but not eliminated, and could affect the longevity and effectiveness of the project in providing benefits to trust resources. Furthermore, the pond will continue to receive stormwater runoff containing environmental contaminants from the surrounding area that may affect the health of fish and wildlife resources using the pond.

2b Mill Pond Wetland Enhancement: Selection of wetland enhancement at Mill Dam Pond would create 4.2 acres of tidally influenced wetland, provided the proposed dam modifications are implemented. Among the in-kind alternatives, wetland enhancement in the pond is the second most costly project. The 0.84 project compensation ratio falls below a 1 to 1 compensation ratio goal for a

preferred alternative. The project is located in a Town of Huntington park that would be protected in perpetuity. Proposed development and recreational uses of the pond, including fishing access, boating, and a bike/walking trail around the pond, may negatively affect the quality of the site for use by trust resources. Sedimentation in the pond from stormwater runoff will be reduced but not eliminated, and could affect the longevity and effectiveness of the project in providing benefits to trust resources. Furthermore, the pond will continue to receive stormwater runoff containing environmental contaminants from the surrounding area that may affect the health of fish and wildlife resources using the pond.

Alternative 3 - Beaver Dam Creek Tributary Restoration

The Beaver Dam Creek Project would restore 5 acres of tidal wetland habitat to create a total 13 acres of high quality tidal wetland (including 8 acres of contiguous wetland habitat previously restored by partnership members) for use by fish and wildlife resources. Among the in-kind alternatives, this project has the lowest cost at $31,000/acre and would benefit from additional acres of future habitat restoration activities to be conducted by restoration partnership members. The restored wetland would be protected in perpetuity and no future development allowed. There are no records of environmental contamination within the project area. Return of natural hydrology patterns would provide increased habitat for the suite of fish and wildlife species dependent upon salt marshes. The restored ecological services would provide finfish and shellfish with benefits from enhanced foraging, breeding, and nursery habitat, and migratory birds with foraging, nesting, and resting habitat. Ultimately, if fully constructed, the project would result in a 30-acre wetland restoration. A future goal is to achieve restoration of the entire tributary using a coordinated, comprehensive approach that will serve as a template for similar tributary systems along the south shore. Strong partnership participation is likely to ensure a timely, high-quality restoration and reduce the overall project cost.

Alternative 6 - No Action Alternative

Under the No Action Alternative, injuries to natural resources would be uncompensated. Although wetland function would eventually return to previous levels over time, there would remain a net loss of ecological productivity during the period of natural attenuation and the time frame for such natural recovery has been estimated to be in terms of decades. This alternative would be unacceptable because it fails to restore injured resources in a timely manner. Furthermore, no environmental benefits would be realized from the settlement with the RPs for the Site, and we would not fulfill our obligations as natural resource trustees in accordance with the Consent Decree and the provisions of CERCLA. For these reasons, this option will not be given further consideration.

4. Preferred Project

Based on an evaluation and comparison of project alternatives, we have selected Alternative 3, the Beaver Creek Tributary Restoration, as the Preferred Project. Our reasons for selecting the Beaver Creek Tributary Restoration project as the preferred restoration project are as follows: 1) The project restoration activities will benefit the same or similar biological resources to those injured by Site releases; 2) The project has the highest potential for success; 3) The project will be conducted with other ongoing restoration activities planned by the Ducks Unlimited, the Post-Morrow Foundation, the NOAA Restoration Center, and the Town of Brookhaven, that will increase the ecological value of this alternative; 5) The project can be conducted within the constraints of the existing budget; 6) The project appears as though it will provide the greatest amount of ecological benefit relative to the other projects for the limited budget available, since restored habitats provide relatively greater ecological function than do enhanced habitats; and 7) The project would be least influenced by development, environmental contaminants, and recreational pressure among the project alternatives.

If this project is recommended for funding in the Final Restoration Plan, the project proponents will be required to submit detailed plans identifying project specifications including project location(s), acreage, project designs, and entities responsible for restoration activities, timetable for restoration, monitoring plans, and relevant conservation easements, deed restrictions, landowner agreements, or other protective land covenants. The plans shall be submitted to, and approved by, the Trustees prior to fund allocation.

This Draft Plan represents our current proposal for actions to restore natural resources and makes the environment and public whole from the loss of such resources due to the release of environmental contaminants at the Site. Based on comments we receive on this Draft Plan and other considerations, we may eventually choose to implement a project other than the currently Preferred Project. Any such changes will be contained in the Final Restoration Plan.

F. Compliance with the National Environmental Policy Act (NEPA)

The *Final Revised Procedures* for the U.S. Fish and Wildlife Service for implementing NEPA, published in the *Federal Register* on January 16, 1997, provide a categorical exclusion for natural resource damage assessment restoration plans prepared under CERCLA when only minor or negligible change in the use of the affected areas is planned. Categorical exclusions are classes of actions which do not individually or cumulatively have a significant effect on the human environment.

The Beaver Dam Creek Restoration project will result in only a minor change in the use of the affected area. Accordingly, this Restoration Plan qualifies for a categorical exclusion under NEPA. We will prepare an Environmental Action Statement documenting this determination.

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Appendix A

Scientific Names for Species Listed in Table 1

Common Name	Scientific Name
Blue crab	*Callinectes sapidus*
American eel	*Anguilla rostrata*
American shad	*Alosa sapidissima*
Atlantic menhaden	*Brevoortia tyrannus*
Atlantic sturgeon	*Acipenser oxyrhynchus*
Blueback herring	*Alosa aestivalis*
Bluefish	*Pomatomus saltatrix*
Striped bass	*Morone saxatilis*
White perch	*Morone americana*
Winter flounder	*Pseudopleuronectes americanus*