Restoration of Natural Resources through the Jamaica Bay Damages Account

Reconnaissance Phase Report

September 30, 1994

New York State Department of Environmental Conservation
Mario M. Cuomo, Governor
Langdon Marsh, Commissioner
Executive Summary

The Jamaica Bay Damages Account (JBDA) is a fund administered by the New York State Department of Environmental Conservation (DEC) for the purpose of "restoring, replacing or acquiring the equivalent of any natural resources determined to have been injured, destroyed or lost as a result of the release of hazardous substances" from five municipal landfills owned and operated by New York City. Three of the landfills, Edgemere, Pennsylvania Ave., and Fountain Ave., are located at Jamaica Bay. One landfill, Brookfield Ave., is in Staten Island (at Richmond Creek), and one, Pelham Bay Landfill, is in the Bronx (at Pelham Bay Park).

On behalf of the DEC in its role as trustee of the natural resources of New York, the DEC Division of Marine Resources has developed and is carrying out a plan to address injured natural resources and the lost use of those resources. This is the goal of the "Jamaica Bay Damages Account" Restoration Process. The process consists of three phases: Reconnaissance, Planning, and Implementation. The Reconnaissance Phase involves the compilation of a list of projects to be considered for implementation under the JBDA. Another aspect of the Reconnaissance Phase is the development of criteria to be used in prioritizing and selecting projects to be examined during the Planning Phase and carried out in the Implementation Phase. The Planning and Implementation phases involve further explorations of high priority projects, selection of projects for implementation, creation of detailed implementation plans, and finally, execution of the projects. This document is a report on the Reconnaissance Phase.

In support of the Reconnaissance Phase, a workshop was held to promote coordination with other agencies with planning responsibilities in the areas covered by the JBDA. Through the workshop and other methods, proposals for projects were solicited. In addition, input was gathered regarding priorities for selecting the types and geographic distribution of projects. Over 40 project proposals are included in this report along with annotated lists of criteria and standards for prioritization. The project proposals gathered involve various activities including habitat restoration, access control, and land transfers and acquisition.

One goal of the Reconnaissance Phase was to identify any projects which, due to special circumstances, need immediate attention. These projects would be considered for "fast-track" status. Projects qualify for "fast-track" status if they meet the following conditions: a) rank as high priorities using the criteria set forth in this report b) need to be implemented quickly either to avoid a nullifying situation (e.g. imminent development) or to take advantage of a time-limited opportunity (e.g. special matching funds). Additional administrative resources would be assigned, expediting the tasks specific to these projects in the Planning and Implementation phases.

As a result of the Reconnaissance effort, culminating with the workshop, several high priority projects were identified which meet the criteria for inclusion under JBDA. These projects involve a combination of inter-agency land transfers, land purchases, on-site access security, and on-site restoration of natural resources. It is recommended that these projects be given "fast-track" status, with expedition of the Planning and Implementation of these projects.
Three-Phase Process
The Reconnaissance Phase is the first of three phases in the JBDA restoration process. The second and third phases are Planning and Implementation, respectively. The three phase plan was defined and is being carried out by New York State Department of Environmental Conservation Division of Marine Resources with the involvement of the Division of Fish and Wildlife and other programs within the Office of Natural Resources. These three phases are more generally described below.

Phase I: Reconnaissance
The goals of the Reconnaissance Phase are to:

- develop a list of types of projects to be considered for inclusion in the restoration plan,
- develop a list of possible projects,
- define options for prioritizing and grouping projects,
- identify 'fast-track' projects needing immediate attention,
- develop strategies for coordinating with other groups and getting public input,
- create a conditional time frame and procedures for carrying out the Planning and Implementation phases.

Phase II: Planning
The goals of the Planning Phase are to:

- continue close coordination with other trustees, landowners, and agencies involved,
- narrow down the list of recommended projects,
- assemble a final implementation plan including supporting documents such as environmental impact statements, permit applications, property assessments, and detailed budgets.

Phase III: Implementation
The goals of the Implementation Phase are to:

- carry out the final restoration plan,
- develop contracts,
- continue to coordination inter- and intra-agency effort,
- monitoring contract compliance,
- evaluate and monitor the success of each project.
History of the Landfill Issues and Consent Orders

In his role as Trustee of New York's natural resources, Commissioner Thomas C. Jorling commenced an action against responsible parties for the natural resource insults which occurred as a result of acts including the illegal disposal of hazardous substances at five New York City landfills. From associated legal actions, $7 million have been recovered from the responsible parties. These monies may be used on "assessing or valuing injury to, destruction of or loss of natural resources of Jamaica Bay, and any other areas resulting from the release of hazardous substances from the Landfills... and restoring, replacing or acquiring the equivalent of any natural resources determined to have been injured, destroyed or lost as a result of the release of hazardous substances from the Landfills."  "Restoration" actions are those actions undertaken to return an injured resource to its baseline condition (i.e. before the release of the toxic substances). Replacement or acquisition of the Equivalent means the substitution for an injured resource that provides the same or substantially similar services.

General Information About the Affected Areas

All five of the landfills are sited on marine shoreline and were created by the filling in of coastal wetlands and open-water areas. Since the landfills are immediately adjacent to tidally-inundated surface water, any toxic substances which are released from the landfills would be expected to disperse throughout the larger tidal system. Of the three tidal ecosystems affected, two were affected by one landfill each: Pelham Bay Landfill at Eastchester Bay/Pelham Bay Park in the Bronx and Brookfield Ave. Landfill at Richmond Creek/La Tourette Park in Staten Island. Jamaica Bay, in Brooklyn and Queens, was affected by three landfills: Pennsylvania Ave., Edgemere, and Fountain Ave. Of the three tidal systems affected, Jamaica Bay is the largest contiguous ecosystem consisting of diverse marine, estuarine, coastal, and terrestrial habitats.

Eastchester Bay/Pelham Bay Park

The Pelham Bay landfill is situated in Pelham Bay Park at Eastchester Bay where the Hutchinson River flows into Long Island Sound. The landfill was created by dumping municipal solid waste into tidal wetland and marine surface waters due to lack of sufficient upland areas. Later, the landfill received final cover and was closed. Currently, there are significant post-closure actions occurring to remediate the effects of dumping toxic substances at the landfill.

Richmond Creek/La Tourette Park

The Brookfield Ave. landfill is situated at the upper tidally inundated section of Richmond Creek, a major tributary to Fresh Kill and the Arthur Kill. The immediate area is dominated by tidal wetland with adjacent coastal habitats. The area is highly stressed with ongoing toxic discharges by the densely situated industry in the vicinity, another major landfill at the adjacent Fresh Kill, and periodic oil spills.
Jamaica Bay
Three landfills, Pennsylvania Ave., Fountain Ave., and Edgemere, were operated on the shore of Jamaica Bay. The landfills were created by building sand berms around the perimeter of the wetlands and then filling in behind them with municipal solid waste.

Jamaica Bay is an estuarine ecosystem composed of tidal wetlands, freshwater wetlands, upland fields and woods, active and inactive parkland and open space. The land surrounding Jamaica Bay is highly urbanized, and historically Jamaica Bay has suffered from the presence of landfills, point source and urban non-point source water pollution, dredging, filling of wetlands, and development of the shoreline and upland buffering lands. Today, much of the original tidal wetlands comprising Jamaica Bay has been filled with construction waste, incinerator and coal ash, and garbage. Large tracts of shoreline have had bulkheads erected cutting off normal wetland transitioning from water to land. Through these processes, the extent of Jamaica Bay and its wetlands has been reduced from over 25,000 acres to 13,000 acres. Parts of Jamaica Bay have been dredged leaving bottom habitat that supports little life. For instance, Grassy Bay, an unnaturally deep basin, was formed by dredging for source materials to construct JFK Airport. Several thousand acres of wetland were also filled in as part of the airport construction.

In spite of this chronic disruption, over 300 species of birds can be found at Jamaica Bay, many using the Bay as a migration stop. Each fall and spring, as they travel along the Atlantic Flyway, hundreds of thousands of birds use the natural resources at Jamaica Bay.

In the center of the Bay is the Jamaica Bay Wildlife Refuge which provides managed habitat including freshwater ponds created to provide a more diverse habitat for numerous species of reptiles, amphibians, birds, and mammals. Contiguous marine areas provide a unique refuge for the myriad of residential and migrating biota that occur in the area.

Jamaica Bay is designated a New York State Critical Environmental Area. The uplands of the bay provide nesting and foraging habitat for resident and migrant birds. The grassy plains of the area are home to some species of birds not found anywhere else in New York City. Over 80 species of finfish, resident and migratory, utilize the Jamaica Bay habitats for feeding reproduction, nursery, and growth of their populations. Dozens of kinds of reptiles and amphibians, many of them rare, also persist in this critically important urban ecosystem.

Unfortunately, use of Jamaica Bay as wildlife habitat continues to be compromised by the historic loss of large areas of tidal wetlands and upland habitat to degradation, filling, and contamination and the chronic systemic stress associated.

Management of Jamaica Bay
Much of Jamaica Bay is owned and managed by the National Park Service as part of the Gateway National Recreation Area. Other large tracts are controlled by New York City as parks, and as development sites. John F. Kennedy International Airport, managed by the Port Authority of New York and New Jersey, is a major operation dominating the eastern shore of the Bay. In addition,
substantial portions of the shoreline in Broad Channel and other parts of Queens and Brooklyn are developed as commercial and residential properties. As part of New York City, Jamaica Bay is surrounded by one of the most highly urbanized areas in the world.

Types of Projects Under Consideration

Solicitation of Project Proposals
Agencies with an interest in the areas involved in the JBDA Restoration Process, were asked to submit projects for consideration. A workshop held on October 19, 1993 served as a forum for presenting and developing individual project. The workshop was attended by representatives of the following: New York State Department of Environmental Conservation (NYSDEC) Division of Marine Resources, NYSDEC Division of Fish and Wildlife, United States Department of Interior, Gateway National Recreation Area (National Park Service), New York City (NYC) Department of Parks and Recreation, NYC Department of Environmental Protection, the National Marine Fisheries Service, the United States Fish and Wildlife Service, The Trust for Public Land, and NYC Audubon Society. See Appendix A: List of Workshop Participants for a complete list of those who attended.

A Typology of Projects to be Considered
Since the landfills are all situated directly in and adjacent to large tracts of marine wetlands, these habitats are the focus of the restoration process. The marine ecosystems in the vicinity of the landfills are exposed to the damage and stress caused by the release of toxics and priority attention will be given to restoring natural resources in the affected ecosystems. Since the effects of the landfills, in addition to being local and acute, are also spatially extensive, chronic, and systemic, the full range of habitats, plant and animal species, and ecosystem functioning in the area is affected.

An effort was made to gather as many ideas as possible. Projects were solicited that involved acquisition, replacement, or restoration of natural resources functionally associated with the five landfills. "Restoration" and "functionally associated" were imagined broadly at this stage, helping to garner a wide variety of proposals across the appropriate geographical areas.

The project types were further broken down into categories as follows. This list is not exclusive, it is illustrative, to aid in the process of developing project ideas within the framework of possible activities.

**Restoration**—Work on a damaged site, returning the ecosystem to baseline functioning, not beyond. This can be done by adding or removing physical structures to improve wetland functioning, better protect the wetland from further damage, or increase appropriate access and usability.

- **Restoration—Habitat Alteration**
  - Replacement of *Phragmites* with low marsh
Restoration-Functional Enhancement

- Restoring tidal flow with culverts or removing barriers

Restoration-Use/Access Enhancement

- Installing guardrails to protect from illegal dumping
- Restoring or creating recreational access through nature trails and structures to provide fishing access

Replacement-Creating a particular habitat or ecosystem function where there was none before.

Replacement-Wetlands

- Creation of a high salt marsh

Replacement-Buffering Uplands

- Creation of a grassland in an abandoned land parcel

Replacement-Artificial Reefs

- Lining the bottom of a water body with rock as habitat for fish that prefer rocky bottoms

Replacement-Submerged Aquatics

- Planting and hydrologic alteration to establish or extend a bed of eel grass

Replacement-Nesting Sites

- Building raptor nesting platforms

Acquisition-Changing ownership of a piece of land to an agency whose mission is conservation of the land and natural resources.

Acquisition-Purchase

- Purchasing in fee simple a parcel of land from a private owner

Acquisition-Transfer

- Shifting ownership from one governmental agency to another that is charged with natural resource conservation or with managing public parks

Acquisition-Easement

- Purchase or transfer of the rights to use a parcel of land in a certain way (this may be a cash transaction where an agency acquires development rights which will then be retired, never to be used).
- An agreement that a land-owning agency manage or develop it in a certain way

Specific Project Proposals

Prior to, during, and after the workshop, project proposals were compiled in a consistent format to aid in clarification and discussion of projects. These forms were distributed to workshop participants and later collected with their comments. The forms contained the following information:

Proposal # For internal reference.

Site-Location: Commonly used site name for the area of the project. The location is one of the three affected areas, Bronx, Staten Island, and Jamaica Bay.
Map Number: Refers to reference map, See Figures 1 and 2.
Project: A short description of the activity to be done.
Type: Based on project typology developed in this report.
Proposed By: For reference in case of questions about the project, does not necessarily imply strong support by the proposing agency.
Contingent Upon: Refers to any other proposals which must be implemented prior to implementation of this one.
Description: Description of the proposed project.
Estimated Cost: Estimated cost of the proposed project

A compilation of the project proposal forms is included in Appendix B: Project Proposal Information Sheets.
Summary of Project Proposals
The following table is a short summary of the proposed project under consideration from the Reconnaissance Phase of the process. Map Number refers to Figures 1 and 2 on pages 13 and 14.

Table 1: Summary of Project Proposals

<table>
<thead>
<tr>
<th>Proposal Number and Site Name</th>
<th>Description</th>
<th>Type</th>
<th>Location Map Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-A Healy Ave.</td>
<td>Purchase parcel for addition to park</td>
<td>Acquisition-Purchase</td>
<td>Jamaica Bay 1</td>
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<tr>
<td>1-B Healy Ave</td>
<td>Install guardrail / Restore wetlands</td>
<td>Restoration-Use/Access</td>
<td>Jamaica Bay 1</td>
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<tr>
<td>2-A Brant Point</td>
<td>Purchase parcels to consolidate holdings</td>
<td>Acquisition-Purchase</td>
<td>Jamaica Bay 2</td>
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<tr>
<td>2-B Brant Point</td>
<td>Wetlands enhancement/Shrub and meadow restoration</td>
<td>Restoration-Habitat Alteration</td>
<td>Jamaica Bay 2</td>
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<tr>
<td>3-A Vernam-Barbados</td>
<td>Transfer of land from NYC Economic Development Corporation to NYC Parks</td>
<td>Acquisition-Transfer</td>
<td>Jamaica Bay 3</td>
</tr>
<tr>
<td>3-B Vernam-Barbados</td>
<td>Restore maritime heathland and grassland / Create access road / Install protective guardrail</td>
<td>Restoration-Habitat Alteration and Use/Access</td>
<td>Jamaica Bay 3</td>
</tr>
<tr>
<td>4-A Spring Creek</td>
<td>Purchase land for consolidation of holdings</td>
<td>Acquisition-Purchase</td>
<td>Jamaica Bay 4</td>
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<tr>
<td>4-B Spring Creek</td>
<td>Salt marsh planting / Clean-up / Protective Guardrail</td>
<td>Replacement-Tidal Marsh Restoration-Use/Access</td>
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<td>5-A Fresh Creek</td>
<td>Transfer from NYC Department of Real Property to NYC Parks</td>
<td>Acquisition-Transfer</td>
<td>Jamaica Bay 5</td>
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<tr>
<td>5-B Fresh Creek</td>
<td>Purchase of land for consolidation of NYC Parks holdings</td>
<td>Acquisition-Purchase</td>
<td>Jamaica Bay 5</td>
</tr>
<tr>
<td>6-A Hook Creek</td>
<td>Transfer of Parcels to NYC Parks</td>
<td>Acquisition-Transfer</td>
<td>Jamaica Bay 6</td>
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<td>Proposal Number and Site Name</td>
<td>Description</td>
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<tr>
<td>6-B</td>
<td>Hook Creek Purchase of In-Holding Private Land</td>
<td>Acquisition-Purchase</td>
<td>Jamaica Bay 6</td>
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<tr>
<td>6-C</td>
<td>Hook Creek Install Guardrail for Security</td>
<td>Restoration-Use/Access</td>
<td>Jamaica Bay 6</td>
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<tr>
<td>7-A</td>
<td>Four Sparrow Marsh Transfer of Land from NYC EDC to Parks (Or Agreement on Protection)</td>
<td>Acquisition-Easement</td>
<td>Jamaica Bay 7</td>
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<tr>
<td>7-B</td>
<td>Four Sparrow Marsh Woodland/Shrub Plantings for Erosion Control and Installing a Protective Guardrail</td>
<td>Restoration-Upland and Use/Access</td>
<td>Jamaica Bay 7</td>
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<td>8</td>
<td>Long Pond Purchase Privately Held Parcels</td>
<td>Acquisition-Purchase</td>
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<td>9</td>
<td>Butler Manor Purchase Privately Held Parcels</td>
<td>Acquisition-Purchase</td>
<td>Staten Island 23</td>
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<td>10</td>
<td>Pelham Bay Intertidal Wetland Restoration</td>
<td>Restoration-Salt Marsh</td>
<td>Bronx 24</td>
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<tr>
<td>11</td>
<td>Twin Island Marsh Restoring Tidal Inundation with Culverts</td>
<td>Restoration-Functional</td>
<td>Bronx 25</td>
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<tr>
<td>12</td>
<td>Turtle Cove Restore Tidal Flushing - Bank Regrading</td>
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<tr>
<td>13</td>
<td>Unspecified Artificial Reef</td>
<td>Replacement-Reef</td>
<td>Jamaica Bay</td>
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<td>14</td>
<td>Unspecified Phragmites Management</td>
<td>Restoration-Habitat Alteration</td>
<td>All 3 Areas</td>
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<td>15</td>
<td>Navy Pier Restore Fishing Access</td>
<td>Restoration-Use/Access</td>
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<td>16</td>
<td>Jamaica Bay Restore Fishing Access (Various Projects)</td>
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<td>17</td>
<td>Broad Channel Restore Interpretive Kiosk and Bathroom</td>
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<td>18</td>
<td>Airport Extension at JoCo Marsh Install Culverts to Restore Tidal Flow</td>
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<td>Jamaica Bay 11</td>
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<td>Proposal Number and Site Name</td>
<td>Description</td>
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<td>19</td>
<td>Jamaica Bay Access Restriction</td>
<td>Restoration-Use/Access</td>
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<td>20</td>
<td>Far Rockaway Piping Plover / Least Terns</td>
<td>Restoration-Habitat</td>
<td>Jamaica Bay</td>
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<tr>
<td>21</td>
<td>Unspecified Upland Sand Piper Habitat Creation</td>
<td>Replacement-Upland</td>
<td>All 3 Areas</td>
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<td>22</td>
<td>Unspecified Enhancement of Public Access/Educational Materials</td>
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<td>All 3 Areas</td>
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<td>LILCO Property Purchase Property</td>
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<td>24</td>
<td>Hook Creek Inter-Agency Transfer / Park Designation</td>
<td>Acquisition-Transfer</td>
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<td>25</td>
<td>Dubos Point Purchase Land</td>
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<td>26</td>
<td>Paerdegat Basin Transfer Land to Parks and Protect</td>
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<td>Hendrix Creek Inter-Agency Transfer</td>
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<td>28</td>
<td>Vandalia Dunes Purchase Land - Limit Development</td>
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<td>29</td>
<td>Beach 90th Street Purchase Parcel</td>
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<td>30</td>
<td>Mott Basin Purchase Private Parcel</td>
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<td>Jamaica Bay</td>
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<td>31</td>
<td>Mott Peninsula (Bayswater Park) Acquire Several Private Parcels</td>
<td>Acquisition-Purchase</td>
<td>Jamaica Bay</td>
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<td>32</td>
<td>Bayswater Park Restoration of Tidal Wetlands</td>
<td>Restoration-Salt Marsh</td>
<td>Jamaica Bay</td>
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<td>33</td>
<td>Norton Peninsula Transfer and/or Open Space Easements and Acquisition</td>
<td>Acquisition-Transfer</td>
<td>Jamaica Bay</td>
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<tr>
<td>34</td>
<td>Unspecified Plant Submerged Aquatic Vegetation</td>
<td>Restoration-Habitat</td>
<td>All Three Areas</td>
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</table>

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Table 1 (Continued): Summary of Project Proposals

<table>
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<th>Proposal Number and Site Name</th>
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<th>Location Map Number</th>
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<tr>
<td>35 Grassy Bay</td>
<td>Rehabilitate Dredging Site</td>
<td>Restoration-Remediation</td>
<td>Jamaica Bay 35</td>
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<td>36 Seagirt Ave.</td>
<td>Purchase Parcels Containing Tidal Wetlands</td>
<td>Acquisition-Purchase</td>
<td>Jamaica Bay</td>
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<td>37 Palmer's Inlet</td>
<td>Purchase of Parcels to Protect Access to Historic Fish Weir</td>
<td>Acquisition-Purchase</td>
<td>Bronx 27</td>
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<td>38 Pugsley Creek</td>
<td>Purchase of Parcels or Easements to Consolidate Holdings</td>
<td>Acquisition-Purchase, Easement</td>
<td>Bronx 28</td>
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<td>39 City Island</td>
<td>Purchase land containing salt marsh</td>
<td>Acquisition-Purchase</td>
<td>Bronx 29</td>
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<td>40 Harbor Herons</td>
<td>Public access</td>
<td>Restoration-Use/Access</td>
<td>Staten Island 30</td>
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<td>41 Pelham Bay Park Dubos Point</td>
<td>Restoration of Habitat [Note: This proposal is being combined into other proposals]</td>
<td>Restoration-Habitat Alteration</td>
<td>Jamaica Bay</td>
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<td>42 Pelham Bay Park Ferry Point</td>
<td>Grasslands Restoration</td>
<td>Restoration-Habitat Alteration</td>
<td>Bronx 32</td>
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<td>43 Greenwich Property</td>
<td>Creation of an Intern Center</td>
<td>Restoration-Use/Access</td>
<td>Jamaica Bay 33</td>
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<tr>
<td>44 Unspecified</td>
<td>Purchase boat for research and educational purposes</td>
<td>Restoration-Use/Access</td>
<td>All 3 Areas</td>
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<td>45 Breezy Point</td>
<td>Gull Management</td>
<td>Restoration-Use/Access</td>
<td>Jamaica Bay 34</td>
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<td>46 Jamaica Bay</td>
<td>Rockaway/Gateway Greenway Bike Path</td>
<td>Restoration-Use/Access</td>
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<table>
<thead>
<tr>
<th>Proposal Number and Site Name</th>
<th>Description</th>
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<td>47   Jamaica Bay (Various Sites)</td>
<td>Grassland Restoration</td>
<td>Restoration-Habitat</td>
<td>Jamaica Bay</td>
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<td>48   Bronx River</td>
<td>Expansion of Water Quality Monitoring</td>
<td>Restoration-Use/Access</td>
<td>Bronx</td>
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<td>49   Bronx River</td>
<td>Shoreline Habitat Restoration for Soil Conservation</td>
<td>Restoration-Habitat Restoration</td>
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<td>50   Bronx</td>
<td>Expand Community Education and Outreach Programs</td>
<td>Restoration-Use/Access</td>
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<td>51   Paw-Paw Woods</td>
<td>Land Purchase</td>
<td>Acquisition-Purchase</td>
<td>Staten Island 23</td>
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</tbody>
</table>
Figure 1
New York City

Landfills
1 Pennsylvania Ave.
2 Fountain Ave.
3 Edgemere
4 Brookfield Ave.
5 Pelham Bay

See Figure 2 for inset
Preliminary Prioritization Criteria

Once inappropriate projects have been screened out, the remaining projects must be prioritized and a final set of projects selected for implementation. One goal of the Reconnaissance Phase is to begin to develop a set of criteria for prioritizing and selecting projects to carry out under the Jamaica Bay Damages Account. These criteria will be applied (with further refinement) in the Planning Phase.

Prioritization Criteria

The criteria below will be used to distinguish between projects which should be given a high priority for implementation with the limited funds available and those that, while appropriate for consideration, may need to be funded through a different process.

High Priority Issues

**High Natural Values**—High priority should be given to projects involving lands with high actual or potential natural values. This includes richness of plant and animal species and positive contributions to ecosystem functioning.

**Diverse Natural Values**—High priority should be given to projects involving land which harbor a diversity of plant life or animal habitat on site or would add diversity to Jamaica Bay due to the presence of a rare habitat.

**Development Pressure**—High priority should be given to projects involving land which is in imminent danger of being developed for residential, commercial, or industrial use. Indicators of development pressure include recent transfer to a development company, application for extension of services such as streets, sewer, water, and utilities, application for zoning changes or subdivision of the property. Any land that has no intrinsic factors limiting development (i.e., in a flood plain, within wetland regulatory jurisdiction, etc.) should be considered under development pressure simply due to the urban location. Development pressure, in and of itself, is only important in the context of other threatened values.

**Consolidation of Protected Land**—High priority should be given to projects involving land which is adjacent to or an inholding of land that is already under some kind of protected status such as park land. The natural value of the protected land is improved by increasing the uninterrupted span of the land holdings. This also provides a buffer against incompatible land use.

**High Restoration Potential**—High priority should be given to projects judged to have a high chance of success. Implementation of restoration procedures that are experimental or have a low success rate, for example, should be avoided.
Availability of Complementary Funding—High priority should be given to projects currently possessing or having the potential for additional funding from other sources. Other sources might include Department of Transportation ISTEA Enhancement Grants and the Environmental Quality Bond Act, among others.

Priority Issues

Access—Priority should be given to projects involving the management of access to natural resources. The goal of managing access is to ensure public use and access to natural resources that are suitable for use while controlling access where it would potentially damage important wildlife habitat or result in an unsatisfactory recreational experience. Access management includes providing roads, boat landings, pier, nature trails, and facilities as well as the erecting of fence and guardrails to prevent illegal dumping of fill and garbage, exclusion of vehicles from fragile habitats such as sand dunes, and putting up signs to help discourage inadvertent damage from inappropriate access.

High Social Value—Priority should be given to projects which provide educational or recreational opportunities. This includes providing controlled access for shoreline recreation, bird watching, and hiking, the provision of interpretive nature trails, and of multi-purpose parkland and open space.

Buffering—Priority should be given to projects which help to provide a buffer between natural resources and activities which have a negative impact upon the functioning of the resources. This includes open fields between developed areas and natural areas to help capture and filter surface run-off, parklands with high intensity of use to lessen the use of sensitive natural areas, and "overflow" habitat to provide a safe place for animals to go in the event of damage to the primary habitats.

Appropriateness of Adjoining Lands—Priority should be given to projects whose goals are not undermined by incompatible uses on nearby lands. A project which will suffer continuing negative impacts from adjacent industrial activities, for example, may not be a location for successful restoration of habitat. However, a project may be effective by preventing a negative impact use of land that would be otherwise likely to occur. In other words, pre-empting a negative use with a neutral use may be as good as providing a positive use.

Local Public Support—Priority should be given to projects for which citizen constituency groups or elected officials have expressed advocacy. This advocacy may be for the specific project or generally in line with the stated goals of the project.
Meets Existing Planning Priorities—Priority should be given to projects which are identified as high priorities as part of other planning processes. Many local, state, federal, and private agencies set land use and natural resource conservation plans. In addition to setting broad objectives, these plans often give specific guidance on strategies and priorities. Consultation of applicable plans will help to coordinate inter- and intra-agency efforts. These existing planning priorities must, of course, meet to goals of this plan to be considered.

Related Prioritization Issues

Description of the Geographic and Categorical Mix of Projects

Three distinct ecosystems are affected by the five landfills covered under the Jamaica Bay Damages Account: Jamaica Bay, Eastchester Bay (Bronx), and Richmond Creek (Staten Island). The consent order governing the Damages Account does not in any way specify an apportionment, therefore any apportionment among the three affected areas will be necessarily arbitrary. Several factors may be considered in determining the geographic distribution of the final projects. The following list of factors is far from inclusive, it is rather a starting point for further refinement during the Planning Phase.

- The relative ecological integrity and importance of the three affected ecosystems may help determine the apportionment. Jamaica Bay is by far the largest and, by some measures, most ecologically important, of the three natural areas affected.
- Prioritization of individual projects may play a role. The money should go to where it can to the most good, regardless of location within the qualified areas. The prioritization criteria in this report give some guidance as to factors which make a project more or less likely to succeed.
- Three of the landfills are located in Jamaica Bay, while only one each are in Eastchester Bay (Bronx), and Richmond Creek (Staten Island). This ratio of 3:1:1 for landfills within each ecosystem may be used to guide apportionment among the areas. A more refined approach may be to take into consideration the relative sizes of the landfills or the estimated damage inflicted by each.

Consideration of Projects for "Fast-track" Status

The "Fast-Track" Option

It may be desirable to expedite the planning and implementation phases of some projects. This option should be used if it is determined, in the Reconnaissance Phase, that there is a proposal(s) which, due to special circumstances, needs to be carried out quickly. These circumstances may include especially favorable conditions in the real estate market (for acquisition), imminent development projects that would have an adverse effect if not immediately pre-empted, or complementary projects or matching funds with an expiring window of opportunity. Projects considered for "fast-track" status should pass an initial screening for being appropriate projects under the JBDA and rank high in project selection criteria. The initial screening and selection criteria are both addressed in this report.
"Fast-Track" Recommendations

Three projects meet the consideration criteria for "fast-track" status. A description of these projects is listed in the Table 2 (following), along with a summary of their priority attributes and the rationale for assigning them "fast-track" status. Additional resources should be devoted carrying out the Planning and Implementation Phases of these projects and an effort should be made to streamline any administrative barriers to completion.
<table>
<thead>
<tr>
<th>Proposal #: Location</th>
<th>Rationale for &quot;Fast-Track&quot; Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposals 1-A, B: Healy Ave., Jamaica Bay</td>
<td>• Development of this property is imminent upon improvement in the real estate market.</td>
</tr>
<tr>
<td>Purchase of 11-acre shoreline property from a private developer for addition to Bayswater Park, including:</td>
<td>• Is one of very few developable shoreline properties in the area.</td>
</tr>
<tr>
<td>o Cleaning up property for health and safety concerns,</td>
<td>• Advantage can be taken of the depressed real estate market to pay a reasonable price.</td>
</tr>
<tr>
<td>o Establishment of access security through guardrails, fencing, and signage, and</td>
<td></td>
</tr>
<tr>
<td>o Restoration of natural habitats and degraded resources.</td>
<td></td>
</tr>
</tbody>
</table>

**High Natural Values-Historic Shoreline and Upland Ecosystems**

**Diverse Natural Values-Varied Habitat Types**

**Consolidation of Protected Land-Adjacent to Public Open Space**

**Development Pressure-Privately Owned by Developer**

**Access Control-Terminal End of Roadway**

**Buffering-Multi-Acre Vegetated Natural Shoreline/Upland Area**

**High Restoration Potential-Rehabilitate Shore to Salt Marsh and Improve Upland Habitats**

**High Social Value-Controlled Recreational Access (Boat Ramp)**

**Meets Existing Planning Priorities-NY State Open Space Plan**

** Appropriateness of Adjoining Lands-Connects Parkland**

---

Restoration of Natural Resources through the Jamaica Bay Damages Account Reconnaissance Report Page 19
<table>
<thead>
<tr>
<th>Proposal #: Location</th>
<th>Rationale for &quot;Fast-Track&quot; Designation</th>
</tr>
</thead>
</table>
| Proposal 6-A, B, C: Hook Creek, Jamaica Bay | - Development of this property is imminent. Pre-application with DEC has occurred.  
- Is one of very few developable shoreline properties in the area.  
- Advantage can be taken of the depressed real estate market to pay a reasonable price. |

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Priority Attributes</th>
</tr>
</thead>
</table>
| Purchase of several privately-owned wetland and upland properties in a park and open space area. | Diverse Natural Values-Varied Habitat Types  
Consolidation of Protected Land-Adjacent to Public Open Space  
Development Pressure-Privately Owned by Developer  
Access Control-Currently Used for Illegal Dumping  
Buffering-Multi-Acre Vegetated Natural Shoreline/Coastal Area  
High Restoration Potential-Formerly Connected Salt Marsh  
High Social Value-Potential as Interpretive Nature Trail Park  
Local Public Support-Local Community and Legislative Interest  
Meets Existing Planning Priorities-NY State Open Space Plan  
Appropriateness of Adjoining Lands-Connects Parkland |
| - Clean up property for health and safety concerns.  
- Establish access security through guardrails, fencing, and signage  
- Restoration of natural habitats and degraded resources |

Restoration of Natural Resources through the Jamaica Bay Damages Account Reconnaissance Report  
Page 20
Table 2 (Continued): "Fast-Track" Recommendations (Number 3 of 3)

<table>
<thead>
<tr>
<th>Proposal #/Location</th>
<th>Rationale for &quot;Fast-Track&quot; Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposals 2-A, B / Brant Point, Jamaica Bay</td>
<td>• There is potential development of these parcels as private homes.</td>
</tr>
<tr>
<td>Purchase of several fragmented land parcels to consolidate public holdings to create large contiguous open space, including:</td>
<td>• Is one of very few developable shoreline properties in the area.</td>
</tr>
<tr>
<td>o Clean up property for health and safety concerns,</td>
<td>• Advantage can be taken of the depressed real estate market to pay a reasonable price.</td>
</tr>
<tr>
<td>o Establish access security through guardrails, fencing, and signage,</td>
<td></td>
</tr>
<tr>
<td>o Wetlands enhancement and shrub/meadow restoration of existing habitat</td>
<td></td>
</tr>
</tbody>
</table>

| High Natural Values-Historic Shoreline and Coastal Ecosystems | |
| Diverse Natural Values-Varied Habitat Types | |
| Consolidation of Protected Land-Inholdings to Public Open Space | |
| Development Pressure-Privately Owned | |
| Access Control-Currently Used for Illegal Dumping | |
| Buffering-Multi-Acre Vegetated Natural Shoreline/Coastal Area | |
| High Restoration Potential-Rehabilitate Shore to Salt Marsh and Improve Upland Habitats | |
| High Social Value-Provide Access to Unimproved Natural Area, Scenic Views | |
| Local Public Support-Local Environmental Groups Support | |
| Appropriateness of Adjoining Lands-Connects Open Space | |
| Meets Existing Planning Priorities-NY State Open Space Plan | |
| Availability of Complementary Funding-Environmental Quality Bond Act Grant Recipient | |
"JBDA" Restoration Process Administrative Plan Overview

This is an overview of the plan for carrying out the three phases of the "JBDA" Restoration Process. Less detail is included for the Reconnaissance Phase, which is covered in this report, and the Implementation Phase, which will be further detailed in the report at the end of the Planning Phase.

Reconnaissance Phase

The Reconnaissance Phase consists of four steps:

- Data Gathering
- Production of Draft Reconnaissance Report
- Public Comment and Review
- Production of Final Document

This report is the Draft Reconnaissance Report which will be disseminated for public comment and review.

Planning Phase

Planning Phase Management

Overall management of the Planning Phase involves carrying out the following tasks:

- Develop a list of tasks to be accomplished,
- Estimate the staff time needed to complete each task,
- Develop a time line that shows the order in which tasks need to be carried out (which tasks are dependent on others being done),
- Decide key staff responsible for each task, and the individual with overall responsibility for sections of the process,
- Provide appropriate staff,
- Determine the need for material resources (computers, etc.),
- Assign or acquire needed material resources.

Planning Phase Overview

The first task, developing a list of subtasks for each section of the overall process, involves two steps. First, project flow must be outlined. Second, the details of tasks that are repetitive for each project or type of project must be developed. The individual project planning is included below as a section in the overall planning outline.

Section 1: Pre-Evaluation

The project proposals set forth in the Reconnaissance Phase need to be further explored. This involves some of the following activities for each project (although not required for every project). The goal is to gather enough information to make informed prioritization decisions.
Narrowing down of sites—For the more general proposals, specific sites must be chosen for consideration.

Tax Assessor maps need to be gathered for each of the sites. Tax Assessor information such as owner, etc. and zoning information needs to be gathered.

An initial on-site survey should be performed with notes as to the condition of the site with regard to the natural resources there and the

Section 2: Refining and Applying Project Prioritization Criteria

Criteria for prioritizing and selecting projects have been outlined in the Reconnaissance Report. These criteria may be further developed as part of the Planning Process. The selection and prioritization process has several distinct but related aspects. These are: geographic distribution, mix of project types, and ranking of individual projects.

- Geographic Distribution
  The issues around geographic distribution of the projects include determining the boundaries of the areas eligible for projects and then choosing how projects should be apportioned among the several affected ecosystems defined by those boundaries.

- Mix of Project Types
  Various factors influence the final mix of projects. The quality of the individual projects proposed and the types of projects allowed for use of the JBDA have a great influence on the final mix. In addition, cost of projects, relative chance of project success, availability of complementary funding, and agreement with existing restoration and conservation goals, all affect the final mix of projects. Overall general guidance on mix of project types may need to be given early in the planning process to help narrow down choices.

- Ranking of Individual Projects
  Individual projects will be ranked in priority order using the criteria developed in the Reconnaissance Phase and further refined at the beginning of the Planning Phase. Although there will be a list of projects in overall priority order, for flexibility, a variety of sublists need to be developed. These may be broken down by project type and by geographic distribution. That way, if it is determined that the next project chosen needs to be a restoration project in the Bronx, for example, there will be priority lists showing the most important restoration projects in the Bronx.

Section 3: Project Selection

The process of project selection is somewhat open ended. From the prioritized list of projects will come a subset of "selected" projects. This subset may change if, with further research or effort, the project is shown to be unimplementable. In these instances, the next project on the prioritization list or lists would be selected for implementation.
Section 4: Project Planning

Each project needs a detailed list of project goals and tasks designed to reach those goals.

- Project Goals
  Specific project goals (related to the prioritization and selection criteria) will be defined for each project. These goals form the basis for project planning, development of contract performance standards, and long-term monitoring plans. The goals of each project need to be defined in such a way so as to be measurable so that they can be translated into standards against which contract compliance is measured.

- Project Tasks
  The tasks involved in reaching the goals of the project form the basis for the overall restoration plan. These tasks will become the core of an RFP. The project task list needs to be broken down into enough detail so as to be able to:
  - Estimate staff time needed to accomplish each task
  - Estimate materials/equipment needed to accomplish each task
  - Estimate the duration of each task
  - Show a direct connection between tasks and the achievement of project goals
  - Plan for coordination with other agencies as necessary,
  - Meet any applicable legal local, state, or federal legal requirements including application for required permits.

In addition to those goals and tasks limited to the immediate carrying out of a project, long term issues should be address such as monitoring and ongoing upkeep of land. An effort should be made to also identify possible problems that may drive up the cost above estimates.

Section 5: Inter-Project Coordination

Inter-project coordination is required to provide cost effective use of resources for repetitive actions. For example, there may be a cost benefit to purchasing the materials for three similar projects at once instead of separately. Coordination of work plans may allow savings by grouping activities at nearby sites for work at the same time to reduce travel time and moving of equipment. For instance, a surveyor may be able to complete two nearby properties in much less time if done on the same day instead of separately. A plan for this sort of coordination is an important component of the Planning Phase.

Implementation Phase

The Implementation Phase consists primarily of carrying out work plans developed as part of the Planning Phase. The main components of this are:
  - Project design
  - RFP development
  - Bid process
  - Selection of contractor
Finalization of project designs and RFP development involves translating project task lists and goals into contract specifications and performance standards. Any inter-project coordination will be reflected in the suite of project contracts. Contractors selected to carry out the work may include private firms, other government agencies, and units within DEC.

Monitoring is necessary for establishing the success of a particular project. Two types of monitoring will be required for projects under the Jamaica Bay Damages Account. Contract monitoring consists of checking on whether or not the parts of a project contract were completed adequately. Performance monitoring consists of tracking the long-term status of project sites.
Endnotes

1. New York State Department of Environmental Conservation Case # D2-0001-90-11

2. Critical Environmental Areas are designated under the State Environmental Quality Review Act (SEQR). Designation is for areas with an exceptional or unique character and makes it more likely that projects in the area will reviewed more stringently. The designation of Jamaica Bay applies to Jamaica Bay, Tributaries, Tidal Wetlands, and Regulated adjacent areas. Effective 2-1-90.


### Appendix A: List of Workshop Participants

#### Participants List
**Jamaica Bay Damages Workshop**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Affiliation</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gordon Colvin, Director</td>
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</tr>
<tr>
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<tr>
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<td>National Marine Fisheries Service</td>
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</tr>
</tbody>
</table>
Participants List (continued)
Jamaica Bay Damages Workshop

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Boston 02210-3334

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Nancy Schlotter
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Islip, NY 11751
Appendix B: Project Proposal Information Sheets

Project Proposal Information Sheets are one page summaries of projects proposed for consideration for the restoration of natural resources through the Jamaica Bay Damages Account. The sheets provide a consistent format with which to compare projects and were used in the Jamaica Bay Damages Workshop for soliciting feedback from workshop participants.

Proposal 1-A

Site: Healy Ave
Map Number: 1

Project: Add Parcel to the Park
Type: Acquisition
Proposed By: NYC Parks and DEP

Description:
Just east of the Edgemere Landfill is an 11-acre parcel, currently in private ownership, that was previously mapped as an addition to Bayswater Park. We estimate that this parcel could be purchased for approximately $1.5 million. The site contains excellent upland coastal meadow habitat including Myrica pennsylvanica, Panicum virgatum, and Prunis maritima, and salt marsh fringe of the sort eliminated by the landfills. [See Proposal 1-B] NRG has conducted an inventory of the site.

Estimated Cost: $1.5 million (not including enhancement)

Proposal 1-B

Site: Healy Ave.
Map Number: 1

Project: Install Guard Rail and Restore Wetlands
Type: Restoration
Proposed By: NYC Parks
Contingent Upon: Proposal 1-A, Acquisition of Land

Description:
[See Proposal 1-A] Also recommended is $200,000 to be allocated for guardrail to prevent illegal dumping of solid waste and restoration of the upland meadows and wetland enhancement. NRG has conducted an inventory of the site.

Estimated Cost: $200,000
Proposal 2-A

Site: Brant Point
Map Number: 2

Project: Purchase Multiple Parcels to Consolidate Holdings.
Type: Acquisition
Proposed By: NYC Parks and DEP

Description:
Brant Point lies along the Southeastern Jamaica Bay shoreline, just west of Edgemere landfill. It is located west of Dubos Point, at the head of Vernam Basin. The 16-acre site, 2/3 of which is privately-owned, offers a magnificent view of the Bay, contains fine examples of salt marsh vegetation and shrubby high marsh of the type that would have been found in the landfill area. The site is rimmed by salt marsh including Spartina alterniflora, and S. patens. The meadows contain a mixture of native and non-native herbaceous species. Trees and shrubs including bayberry, groundsel-tree, and eastern cottonweed, also comprise the site. NYC Parks previously received $800,000 in EQBA funds from NYS DEC to acquire a part of Brant Point.

The block and lots to be acquired are: Block 16056, Lots 27, 32, 33, 40; Block 16057 Lots 1, 26, 30, 38, 40, 42, 46; Block 16059 Lots 1, 21, 46; Block 16061 Lots 1, 2, 5, 12, 15, 17, 18, 22, 25, 30, 38, 41, 44, 46, 48; Street beds - Barbados Drive between Beach 72nd St. and Hillmeyer Ave., Bayfield Ave. between Beach 72nd St. and Barbadoes Dr., Decosta Ave. between 72nd St. and Jamaica Bay (this includes sites to be acquired with the EQBA money). [See Proposal 2-B]

Estimated Cost: $750,000 (not incl. enhancement)
Additional Funding: $800,000 in EQBA funds from NYS DEC

Proposal 2-B

Site: Brant Point
Map Number: 2

Project: Wetlands enhancement and shrub/meadow restoration of existing habitat
Type: Habitat Restoration
Proposed By: NYC Parks
Contingent Upon: Proposal 2-A, Acquisition of Land

Description:
[See Proposal 2-A] An additional $350,000 should be allocated for wetlands enhancement, and shrub/meadow restoration of the existing habitat. There is extensive concrete rip-rap which needs to be removed.
Estimated Cost: $350,000
Proposal 3-A

Site: Vernam-Barbados
Map Number: 3

Project: Transfer of Land from NYC Economic Development Corporation to NYC Parks
Type: Acquisition
Proposed By: NYC Parks and DEP

Description:
This peninsula located just west of the Edgemere Landfill contains one of the best examples of mixed coastal dune and meadow habitat in the Bay. The site contains two globally-endangered communities: maritime heathland and maritime grassland. The New York State Natural Heritage Program rated these communities the highest state ranking: S1, "especially vulnerable to extirpation in NY State." The global ranking indicates that the communities are similarly rare, and threatened with extinction worldwide. Dominant meadow plants include little bluestem, switchgrass, and false heather. Shrub buffers include bayberry, sumac, and hawthorne, with fine examples of willow oak, and American holly. The site is rimmed with Spartina alterniflora. The area has great potential for restoration, and protection as a NYC Parks refuge. It is currently owned by the City and managed by the NYC Economic Development Corporation (EDC), and is slated for development. The lot and blocks to be transferred are: 16075-1 of 120. 999 (street beds). [See Proposal 3-B]

Estimated Cost: Inter-Agency Transfer

Proposal 3-B

Site: Vernam-Barbados
Map Number: 3

Project: Restore maritime heathland and grassland and create access road and protective guardrail
Type: Restoration and Enhancement
Proposed By: NYC Parks
Contingent Upon: Proposal 3-A, Transfer of Land from NYC Economic Development Corporation to Parks

Description: [See Proposal 3-A] Under this proposal, $750,000 would be allocated for the restoration of this area, contingent upon the City transferring 12 acres from EDC to Parks, together with space for an access road to allow for Parks maintenance. Perimeter protection such as guardrail would be included in the package, to prevent dumping. NRG/NRU have conducted a nat. resources inventory of the site.

Estimated Cost: $750,000
Proposal 4-A

Site: Spring Creek
Map Number: 4

Project: Purchase Land for Consolidation of Holdings
Type: Acquisition
Proposed By: NYC Parks and DEP

Description: The largest parcel of undeveloped land and wetlands in northern Jamaica Bay, the Spring Creek site contains 40 acres of salt marsh along meandering tidal creeks, and 66 acres of upland (created from landfilled marsh). The creek itself flows between the Pennsylvania Avenue and Fountain Avenue landfills. Although the upland is in close proximity to the salt marsh, its elevation -- greater than ten feet above mean high tide -- places it outside State wetlands regulations. The site serves as a shorebird and waterfowl migration staging area, and as diamondback terrapin nesting area. These areas also serve as foraging areas for birds such as northern harrier (State threatened), which would otherwise use the landfills.

Although the City already owns much of the headwaters of this creek, intertidal acres remain in private ownership. These areas could be developed for projects such as marinas or docks which would seriously undermine the integrity of the parcels already in Parks ownership. These purchases would consolidate City ownership, and will facilitate all this area being transferred and mapped as parks. This unified public ownership would also permit more efficient and aggressive management of this environmentally vital habitat including marsh restoration. The block and lots to be acquired are: Brooklyn -- Block 4585. Lots 165, 167, 225; Queens -- Block 11455. Lot 8, Block 13932. Lot 16. NRG has conducted a natural resources inventory of the site. [See Proposal 4-B]

Estimated Cost: < $100,000

Proposal 4-B

Site: Spring Creek
Map Number: 4

Project: Salt Marsh Planting, Clean-up, Protective Guardrail
Type: Replacement/Restoration, Enhancement
Proposed By: NYC Parks
Contingent Upon: Proposal 4-B, Purchase of Land to Consolidate Holdings

Description: [See Proposal 4-A] While the remediation of the landfills will have a beneficial impact on these areas, active on-site restoration, such as guardrail, cleanup and salt marsh planting is needed.

Estimated Cost: Not Given
Proposal 5-A

Site: Fresh Creek
Map Number: 5

Project: Transfer from NYC Department of Real Property to NYC Parks
Type: Acquisition (Transfer)
Proposed By: NYC Parks and DEP

Description: [See Proposal 5-B] Transfer of the disputed 90,000 square feet currently in Department of Real Property jurisdiction should also be part of this action.

Estimated Cost: Inter-Agency Transfer

Proposal 5-B

Site: Fresh Creek
Map Number: 5

Project: Purchase of Land for Consolidation of NYC Parks Holdings
Type: Acquisition-Purchase
Proposed By: NYC Parks
Contingent Upon: Proposal 9, Transfer of Land from NYC Department of Real Property to NYC Parks

Description: Fresh Creek is a one and one-half mile meandering tidal creek flanked by 56 acres of mostly Park-owned land. Similar to the situation in Spring Creek, the City already owns much of the wetlands and uplands bordering this creek, which flows just to the west of the Pennsylvania Avenue Landfill. The majority of the city-owned land in this Basin has been assigned to NYC Parks. Two parcels, Block 8235, part of Lot 30, and Lots 316, 322 and Block 8273, Lots 155, 160, 165, approximately two acres total of intertidal in-holdings, should be purchased to consolidate public ownership and permit better management. [See Proposal 5-A]

Consolidation of the remaining parcels would add continuity to the nearly 100-acre Park Preserve. NRG has conducted an ecological assessment of the site.

Estimated Cost: < $100,000

Proposal 6-A

Site: Hook Creek
Map Number: 6

Project: Transfer of Parcels to NYC Parks
Type: Acquisition (Transfer)
Proposed By: NYC Parks and DEP
Description: [See Proposal 6-B] Several other parcels abutting these sites are in City ownership and they need to be investigated to determine recommendations for transfer. [See Proposal 6-C]

Estimated Cost: Inter-Agency Transfer

Proposal 6-B

Site: Hook Creek
Map Number: 6

Project: Purchase of In-Holding Private Land
Type: Acquisition-Purchase
Proposed By: NYC Parks and DEP
Contingent Upon: Proposal 11, Transfer of Land from NYC Agencies to NYC Parks

Description: Along Brookville Avenue, directly contiguous to a large assemblage of NYC Parks and Division of Real Property owned tidal wetlands are a number of private inholdings. The inholdings, near the intersection of Rockaway and Brookville Avenues and approximately two miles from the Edgemere Landfill, abut a magnificent stretch of high and low marsh. Species found at this site include, snowy egret, glossy ibis, black crowned night heron, and birds foraging here are likely to forage also on landfill areas. The parcels in question, approximately 3 1/2 acres, are at Brookville North. This site was recommended for protection in the Buffer the Bay, Revisited, report.

The northern most extent of high marsh which is now considered formerly connected tidal marsh is still a healthy, vital part of the Hook Creek system. Although most of the area is part of New York City's Brookville Park, the parcels of wetlands and adjacent area bounded by 226th and 230th Streets and 148th Avenue should be acquired as part of this package, for consolidation into the park. [See Proposal 6-A] [See Proposal 6-C]

Estimated Cost: $600,000

Proposal 6-C

Site: Hook Creek
Map Number: 6

Project: Install Guardrail for Security
Type: Restoration-Use/Access
Proposed By: NYC Parks
Contingent Upon: Proposal 12, Purchase of In-Holding Private Land

Description: [See Proposal 6-B] [See Proposal 6-A] The acquired sites will be appropriately guardrailled to secure perimeter control against dumping.

Estimated Cost: Not Given.
Proposal 7-A

Site: Four Sparrow Marsh
Map Number: 7

Project: Transfer of Land from NYC EDC to Parks (Or Agreement on Protection)
Type: Acquisition-Easement/Transfer
Proposed By: NYC Parks Natural Resource Group (NRG) and DEP

Description: The site contains a 2/3 mile shoreline along Mill Basin, which feeds directly into Jamaica Bay, east of the Pennsylvania Avenue Landfill. The site, which is ecologically very similar to the landfill sites prior to their being filled, is utilized by a host of wading birds. There are mussel beds, numerous crab species, snails, and healthy shellfish and fish population. Nesting sharp-tailed sparrow, sea side sparrow, green backed heron, black crowned night heron, clapper rail and diamond back terrapin also use the site.

Of its total 73 acres, 30 acres are salt marsh, among the most pristine in the City. The remaining 43 acres are landfilled upland, unregulated by the State, because of elevation greater than ten feet above mean high tide. Though unprotected, the uplands are an important buffer for the marsh. If developed, structures and pavement would interfere with percolation of water through the soil and into the marsh, upsetting the balance of fresh and salt water. EDC plans to extend Flatbush Ave. commercial strip here and has plans to build condos on the uplands. In preliminary meetings, EDC has agreed to protect the upland wooded area. The site, currently in EDC jurisdiction would be transferred to Parks pending proposed buffer enhancements and restoration. Block 8591 - 100, part of 125. [See Proposal 7-B]

Estimated Cost: Inter-Agency Transfer

Proposal 7-B

Site: Four Sparrow Marsh
Map Number: 7

Project: Woodland/Shrub Plantings for Erosion Control and Installing a Protective Guardrail
Type: Restoration-Use/Access Enhancement, Habitat Alteration
Proposed By: NYC Parks
Contingent Upon: Proposal 14, Transfer of Land from NYC EDC to Parks (Or Agreement)

Description: [See Proposal 7-A]
NRG conducted an ecological assessment. Our proposal calls for woodland and shrub buffer plantings to filter potential runoff from proposed commercial development. The site would also require guardrail to secure it from dumping. In order to enhance wetland functioning, a connecting culvert may need to be retro-fitted.

Estimated Cost: $350,000
Proposal 8

Site: Long Pond, Staten Island
Map Number: 23

Project: Purchase Privately Held Parcels
Type: Acquisition-Purchase
Proposed By: NYC Parks and DEP

Description: We propose that $1.5 million be used to purchase two large privately held parcels -- those at Long Pond, threatened by development and the 4.3 acre Butler Manor land, south of Hylan Boulevard. The Tax Lots for Butler Manor include Block 7710, Lot 400. The Tax Lots for Long Pond include: Block 7744, Lots 1, 2, 50, 60, and 115 (315,700 square ft.) and Block 7740, Lot 1, 100, 150, 200, and Block 7741, Lots 1 and 68. NRG has conducted a detailed natural resources inventory of the site. [See also Proposal 9]
Estimated Cost: ($1.5 million with Proposal 9)

Proposal 9

Site: Butler Manor, Staten Island
Map Number: 23

Project: Purchase Privately Held Parcels
Type: Acquisition-Purchase
Proposed By: NYC Parks and DEP

Description: We propose that $1.5 million be used to purchase two large privately held parcels -- those at Long Pond, threatened by development and the 4.3 acre Butler Manor land, south of Hylan Boulevard. The Tax Lots for Butler Manor include Block 7710, Lot 400. The Tax Lots for Long Pond include: Block 7744, Lots 1, 2, 50, 60, and 115 (315,700 square ft.) and Block 7740, Lot 1, 100, 150, 200, and Block 7741, Lots 1 and 68. NRG has conducted a detailed natural resources inventory of the site. [See also Proposal 8]
Estimated Cost: ($1.5 million with Proposal 8)

Proposal 10

Site: Pelham Bay Lagoon, Bronx
Map Number: 24

Project: Intertidal Wetland Restoration
Type: Restoration-Habitat Alteration
Proposed By: NYC Parks

Description: Intertidal wetland restoration will improve one-thousand feet of shoreline in Pelham Bay Park for erosion control and habitat restoration. The Pelham Bay Lagoon area,
located just north of the Pelham Bay Landfill, supports 26.29 acres of vegetated tidal wetland, extensive mudflats and an upland buffer of native woodlands and shrubs. Lagoon edges that have been filled in the past are now covered with Phragmites, evidence of the lack of tidal flushing. Improvements to the remaining marshland will protect and enlarge the habitat available to migrating and resident wildlife.

The proposal has several parts. First, a barrier must be created to dissipate the wave action. This could be achieved by constructing an "atoll". This restoration would require regrading the shoreline, and placement of fines, possibly the spoil from other Parks restorations, to provide appropriate growing conditions for Spartina alterniflora, which will hold the fines in place. This design approach provides two intertidal zones in the enclosed water space between the atoll and the shoreline. The GAIA Institute has worked on design of this project in coordination with NRG and the Pelham Bay Park Administrators office.

Estimated Cost: $400,000

Proposal 11

Site: Twin Island Marsh, Bronx
Map Number: 24

Project: Restoring Tidal Inundation with Culverts
Type: Restoration-Functional
Proposed By: NYC Parks

Description: This restoration involves restoring tidal flow and re-creation of salt marsh that existed prior to the construction of Orchard Beach, less than one-half mile from the landfill. Additional planting of salt marsh vegetation will stabilize this newly created site, and displace Phragmites monoculture.

In thriving salt marsh, outside of the carriage road dike, egrets and herons wade and fish at low tide; ducks congregate in the small bay during higher tides. Tidal flushing has been eliminated for more than fifty years and the former salt marsh is now filling in with Phragmites. A sustainable ecosystem will be established by restoring tidal inundation, installing culverts beneath the carriage road.

A site survey has been completed and a consultant hired to design the restoration. Excavated material will be stored within the Park, perhaps used in the shoreline stabilization and salt marsh restoration at the Lagoon. Nearly one-half of the $250,000 necessary to complete this project has already been awarded to Parks by NYS DEC (1972 EQBA). The project is currently on-hold, awaiting further funding.

Estimated Cost: $140,000
Additional Funding: approx. $110,000 in EQBA funds from NYS DEC
Proposal 12

Site: Turtle Cove, Bronx
Map Number: 24

Project: Restore Tidal Flushing - Bank Regrading
Type: Restoration-Functional
Proposed By: NYC Parks

Description: Tidal flushing will be restored through bank regrading and breaching an old dike near Glover's rock. Salt marsh vegetation will be planted to accelerate establishment.

Turtle Cove is rimmed by a band of salt marsh bordered by Phragmites, evidence of mosquito control ditching earlier in the century. The upland forest contains uncommon swamp white oak and persimmon. Sesame grass, rare in New York State, dominates a small meadow on the east side of the cove. Regrading to reestablish salt marsh will provide extensive habitat for intertidal species and the wildlife who depend on them.

Estimated Cost: $500,000

Proposal 13

Site: Jamaica Bay
Map Number:

Project: Artificial Reef
Type: Replacement-Reef
Proposed By: DEC Division of Marine Resources

Description: Placing an artificial reef in an area of Jamaica Bay where the water is relatively deep would provide habitat for recreational fish species which prefer a rocky/hard bottom. Further evaluation of possible sites needs to be done.

Estimated Cost: Not Given

Proposal 14

Site: Jamaica Bay, Bronx, Staten Island
Map Number:

Project: Phragmites Management
Type: Restoration-Habitat Alteration
Proposed By: DEC Division of Marine Resources

Description: Restoring tidal flow and replacing Phragmites dominated habitat with Spartina alterniflora, high marsh, and shrub species will increase ecological productivity in these areas. This project will enhance habitat for a variety of biota including birds, marine vertebrates and
invertebrates. The benefits are an increase in all of the functions and values of wetlands and vegetated buffers such as pollutant filtering and primary productivity.

This project would involve selecting areas currently dominated by *Phragmites* and attempt to eradicate or limit the spread of this nuisance species. Activities would include physical alteration of the existing contours and the removal of plant stock. Fencing of these areas would be required to prevent future illegal filling once the area has been restored.

**Estimated Cost:** $650,000 for five acres

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**Proposal 15**

**Site:** Ranger Road Bulkhead and Navy Pier  
**Map Number:** 8

**Project:** Restore Fishing Access  
**Type:** Restoration-Use/Access Enhancement  
**Proposed By:** DEC Division of Marine Resources, Gateway National Recreation Area

**Description:** This project involves rehabilitation of a bulkhead adjacent to the old Navy Pier and the Pier itself, at Floyd Bennett Field. Recreational fishing is limited in Jamaica Bay, this project addresses this deficiency. Site is in the Gateway National Recreation Area and so would need US Parks cooperation. This is one of three similar projects proposed. [See Proposals 24, 25]

**Estimated Cost:** $1,000,000
Proposal 16
Site: Jamaica Bay

Project: Restore Fishing Access
Type: Restoration-Use/Access Enhancement
Proposed By: New York City Department of Environmental Protection

Description: The New York City Department of City Planning is completing a comprehensive look at the needs for recreational fishing enhancement in the Bay area and has determined that more area is needed to restore and enhance the recreational use of Jamaica Bay. A number of sites are being considered, with varying capital expenditures needed. When this study is available, some of the projects may be appropriate for consideration.

Estimated Cost: Variable

Proposal 17
Site: Broad Channel
Map Number: 10

Project: Restore Interpretive Kiosk and Bathroom
Type: Restoration-Use/Access Enhancement
Proposed By: DEC Division of Marine Resources

Description: This project site is an area popular for fishing in Broad Channel and involves restoration of an interpretive center/kiosk and a bathroom. Recreational fishing is limited in Jamaica Bay, this project addresses this deficiency. Site is in the Gateway National Recreation Area and so would need US Parks cooperation. This is one of three similar projects proposed. [See Proposals 23, 24]

Estimated Cost: $74,000

Proposal 18
Site: Kennedy Airport Runway Extension at JoCo Marsh
Map Number: 11

Project: Install Culverts to Restore Tidal Flow
Type: Restoration
Proposed By: DEC Division of Marine Resources

Description: The Kennedy Airport runway extension effectively interrupts tidal flow for a significant part of Jamaica Bay. Placing culverts underneath the runway extension would restore this flow, better flushing a portion of the bay. Since the part of the bay in question is adjacent to the airport making it likely to be contaminated, and has been subject to extensive dredging in the past, the effects of adding culverts is not intuitively obvious and would require further study.
This project is a candidate for an ISTEA Enhancement Grant.

**Estimated Cost:** Not Given.

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**Proposal 19**

**Site:** Jamaica Bay

**Project:** Access Enhancement/Control

**Type:** Restoration-Use/Access Enhancement

**Proposed By:** DEC Division of Marine Resources

**Description:** A major problem throughout Jamaica Bay is a lack of control on access to sensitive areas. The problems caused by this include illegal dumping (fill, toxic substances, garbage) and vehicular recreational traffic on fragile lands.

A comprehensive plan needs to be developed to address access problems. A list of appropriate access limiting strategies (guardrail, fences, etc.) needs to be developed along with a list of sites where implementation of these strategies is essential. In addition, increasing the number of controlled and appropriate access sites may help alleviate undesirable access.

**Estimated Cost:** Not Given.

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**Proposal 20**

**Site:** Far Rockaway

**Map Number:** 12

**Project:** Piping Plover / Least Terns

**Type:** Restoration-Use/Access Enhancement

**Proposed By:** DEC Division of Fish and Wildlife

**Description:** The piping plover and least tern are both listed as New York State Endangered Species. The endangered status of these two species is largely due to increased human disturbance and habitat loss. Plovers and terns nest predominantly in areas of wide sand beaches and vegetated dunes.

DEC staff have identified nesting sites of plovers and terns on Far Rockaway. The project proposed is to design site specific activities (signs, fencing, etc.) for each site so as to protect the nesting adults and young.

**Estimated Cost:** Not Given.
Proposal 21
Site: JFK Airport and other Jamaica Bay Sites

Project: Upland Sand Piper
Type: Replacement-Upland Habitat
Proposed By: DEC Division of Fish and Wildlife

Description: The upland sand piper is identified as a species of special concern by the State of New York. The species is found in short-grass fields, old pastures, and plains. Habitat alterations, such as conversion of grasslands to residential developments, have had an adverse impact on this species. Currently, the species persists in area that still maintain the necessary habitat requirements. This species has been a confirmed breeder at JFK Airport for several years.

Several sites may be appropriate for this project. In addition, grasslands habitat might be created on portions of the closed landfills. The project will determine if grassland species, such as the grassland sand piper, can be attracted to and establish on these restored habitats.

Estimated Cost: Not given.

Proposal 22
Site: Unspecified

Project: Enhancement of Public Access and Educational Materials
Type: Restoration-Use/Access Enhancement
Proposed By: Gateway National Recreation Area

Description: Improvements may be made to access trails for wildlife watching, interpretive nature trails, and the Jamaica Bay Wildlife Refuge educational programs and materials. The goals is to channel use of Jamaica Bay toward more compatible and controlled activities.

Estimated Cost: Not Given.

Proposal 23
Site: LILCO Property
Map Number: 13

Project: Purchase Parcel to Consolidate Holdings
Type: Acquisition-Purchase
Proposed By: NYC Department of Environmental Protection

Description: This property is Block 16166 lots 110, 177 (Queens) roughly bounded by Beach Channel Drive, Rockaway Blvd., Beach 108th Street and an extension of Beach 113 Street with some frontage on the water. This property abuts NYC DEP facilities and is adjacent to City Board of Education, Parks, and DGS properties.
Proposal 24
Site: Hook Creek
Map Number: 6

Project: Inter-Agency Transfer / Park Designation
Type: Acquisition-Transfer
Proposed By: Buffer the Bay Revisited-XIV

Description: A largely city-owned and extensive wetland is in need of full recognition and protection. The Hook Creek wetlands and immediately adjacent undeveloped uplands, whether private or city-owned, should be protected either through interagency transfer or acquisition and should receive official park designation.
Estimated Cost: Inter-Agency Transfer

Proposal 25
Site: Dubos Point
Map Number: 14

Project: Purchase Land
Type: Acquisition-Transfer
Proposed By: Buffer the Bay Revisited-X

Description: After the initial Buffer the Bay Report (1987) Dubos Point became the Dubos Point Wildlife Refuge, with the transfer of city land from NYC Housing Authority and Division of Real Property to the Parks Department and the acquisition of some private land. Additional private and city-owned lands should be acquired as buffer for the refuge and for Sommerville Basin.
Estimated Cost: Unknown

Proposal 26
Site: Paerdegat Basin
Map Number: 15

Project: Transfer Land to Parks and Protect
Type: Acquisition-Transfer
Proposed By: Buffer the Bay Revisited-II

Description: Beyond the natural wetland immediately north of Joseph Thomas McGuire Park, which is expected to be transferred to NYC Department of Parks and Recreation, the future of open space at Paerdegat Basin is uncertain. Alternative plans for the site are being investigated by
NYC DEP and the Economic Development Corporation. Protection and consolidation of all wetlands and adjacent undeveloped uplands at Paerdegat Basin are a high priority.

**Estimated Cost:** Inter-Agency Transfer

### Proposal 27

**Site:** Hendrix Creek  
**Map Number:** 16

**Project:** Inter-Agency Transfer  
**Type:** Acquisition-Transfer  
**Proposed By:** Buffer the Bay Revisited-IV

**Description:** The remaining shoreline open space at Hendrix Creek has been modified by filling and channelization but a rim of *Phragmites* wetland and mudflats persists. DEP facilities occupy much of the northern and western bank of the creek. Attention should be given to the protection and reclamation of the Hendrix Creek shoreline, in coordination with potential protective measures at the contiguous Vandalia Dunes area to the east.

**Estimated Cost:** Inter-Agency Transfer

### Proposal 28

**Site:** Vandalia Dunes  
**Map Number:** 17

**Project:** Purchase Land - Limit Development  
**Type:** Acquisition  
**Proposed By:** Buffer the Bay Revisited-V

**Description:** Extensive sand-filled uplands, which have been proposed as an urban renewal site, hold significant promise for restoration as an natural area, linking Buffer the Bay sites and inlets at Spring Creek and Hendrix Creek and in close proximity to the parklands of Fresh Creek and Gateway National Recreation Area. Represents a significant grassland habitat resource because of its large size, 230 acres, of which 120 acres is grassland or sandy dune. This property is under extreme development pressure.

**Estimated Cost:** Not Given.

### Proposal 29

**Site:** Beach 90th Street  
**Map Number:** 18

**Project:** Acquire Parcel  
**Type:** Acquisition  
**Proposed By:** Buffer the Bay Revisited-VII

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NYC DEP and the Economic Development Corporation. Protection and consolidation of all wetlands and adjacent undeveloped uplands at Paerdegat Basin are a high priority.

Estimated Cost: Inter-Agency Transfer

Proposal 27
Site: Hendrix Creek
Map Number: 16

Project: Inter-Agency Transfer
Type: Acquisition-Transfer
Proposed By: Buffer the Bay Revisited-IV

Description: The remaining shoreline open space at Hendrix Creek has been modified by filling and channelization but a rim of *Phragmites* wetland and mudflats persists. DEP facilities occupy much of the northern and western bank of the creek. Attention should be given to the protection and reclamation of the Hendrix Creek shoreline, in coordination with potential protective measures at the contiguous Vandalia Dunes area to the east.

Estimated Cost: Inter-Agency Transfer

Proposal 28
Site: Vandalia Dunes
Map Number: 17

Project: Purchase Land - Limit Development
Type: Acquisition
Proposed By: Buffer the Bay Revisited-V

Description: Extensive sand-filled uplands, which have been proposed as an urban renewal site, hold significant promise for restoration as an natural area, linking Buffer the Bay sites and inlets at Spring Creek and Hendrix Creek and in close proximity to the parklands of Fresh Creek and Gateway National Recreation Area. Represents a significant grassland habitat resource because of its large size, 230 acres, of which 120 acres is grassland or sandy dune. This property is under extreme development pressure.

Estimated Cost: Not Given.

Proposal 29
Site: Beach 90th Street
Map Number: 18

Project: Acquire Parcel
Type: Acquisition
Proposed By: Buffer the Bay Revisited-VII

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Proposal 33

Site: Norton Peninsula
Map Number: 22

Project: Transfer and/or Open Space Easements and Acquisition
Type: Acquisition
Proposed By: Buffer the Bay Revisited-XII

Description: Despite fragmentation patterns of ownership and jurisdiction, the perimeter of Norton Peninsula and adjacent shorelines harbor potential open space under HPD plans for the Edgemere Urban Renewal Area.
Estimated Cost: Not Given.

Proposal 34

Site: Jamaica Bay

Project: Plant Submerged Aquatic Vegetation
Type: Restoration
Proposed By: DEC Division of Marine Resources

Description: Submerged aquatic vegetation such as eel grass once existed in Jamaica Bay. These plants are provide an important habitat because...... These plants do not survive well in the current environmental status of the Bay. They suffer in the presence of high turbidity, ..... Restoration requires the presence of existing habitat to expand upon. The lack thereof in Jamaica Bay make restoration at this time very difficult. This type of project may have to wait until the water quality of Jamaica Bay improve sufficiently.
Estimated Cost: Not Given.

Proposal 35

Site: Grassy Bay, Jamaica Bay
Map Number: 35

Project: Rehabilitate Dredging Site
Type: Restoration
Proposed By: DEC Division of Marine Resources

Description: Grassy Bay was dredged to provide material to fill wetlands for a portion of JFK Airport. The bottom is largely "dead," supporting little in the way of plant or animal life and highly contaminated with a variety of toxic substances. Several proposals have been made to "cap" the toxic sediments, sealing them off and then raising the level of the bottom to provide a shallow habitat for plants and animals. Due to the nature of the problem other funds may be available for this projects including those from the Port Authority, Army Corps of Engineers, and

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NYC DEP Watershed Plan. The status of these options should be determined before proceeding.

Estimated Cost: Not Given.

Proposal 36
Site: Seagirt Ave., Jamaica Bay
Map Number: 36

Project: Purchase Parcels Containing Tidal Wetlands
Type: Acquisition-Purchase
Proposed By: New York City Department of Environmental Protection

Description: This area is bounded by Seagirt Blvd., Seagirt Ave., Beach 9th Street, and the roadway leading to the Atlantic Beach bridge (Doughty Blvd.?). This tidal wetland area contains open water with Spartina islands and fringes. It is used by many birds such as egrets and kingfishers. Other than some weedy invasion of the upland edge there is little human disturbance.

Estimated Cost: Not Given.

Proposal 37
Site: Palmer's Inlet, Eastchester Bay
Map Number: 27

Project: Purchase of Parcels to Protect Access to Historic Fish Weir
Type: Acquisition-Purchase
Proposed By: New York City Department of Environmental Protection

Description: This area is a natural sheltered inlet of Eastchester Bay which contains salt marsh, rocky shoreline, and open water. At the mouth of the creek, visible at low tide is an historic Indian fish weir. The upland area around the inlet is developed with single family residences except for the prominent land form which juts out into the Bay on the north side of the Inlet. This vacant parcel, which includes a mapped but unbuilt street, is privately owned. It is vegetated with trees, shrubs, and grasses and affords an extraordinary view of the Eastchester Bay to Long Island Sound. Along with the New York City street ownership and an abutting sewer easement, purchase of the property would consolidate public ownership of this natural area.

Estimated Cost: Not Given.

Proposal 38
Site: Pugsley Creek, Eastchester Bay
Map Number: 28

Project: Purchase of Parcels or Easements to Consolidate Holdings
Type: Acquisition-Purchase, Easement
Proposed By: New York City Department of Environmental Protection
Description: Pugsley Creek is an intertidal inlet of the East River just south of Westchester Creek and the Whitestone Bridge. The majority of the shoreline supports intertidal marsh with several areas of high marsh dominated by Spartina patens and Salicornia. The upland areas are vegetated with a range of meadow areas, shrub, and thickets with some dense wooded area. Wading bird use is high. Local environmental groups have carried out numerous vegetation restoration programs and clean-up efforts. There is a large, privately held parcel, formerly part of the YMCA which fragments the continuous Department of Parks holdings around the Creek. The purchase of this parcel or the establishment of a conservation easement would consolidate the wetlands area and management.

Estimated Cost: Not Given.

Proposal 39

Site: City Island, Eastchester Bay
Map Number: 29

Project: Purchase of Land Parcels
Type: Acquisition-Purchase
Proposed By: New York City Department of Environmental Protection

Description: From the western end of Ditmars Street to Tier Street, between Hunter Avenue to 100 feet from the western coast is a special example of an intertidal marsh with an upland and transition zone. Approximately 16 acres of wooded and shrub/thicket are grades down to a thriving salt marsh which is frequently used by many shore birds. This area is bounded by publicly woned shoreline and two street ends. It is the largest undeveloped space in the tightly packed marine island community.

Estimated Cost: Not Given.

Proposal 40

Site: Harbor Herons & CSX Railline, Staten Island
Map Number: 30

Project: Purchase of Parcels
Type: Acquisition-Purchase
Proposed By: NYC Audubon Society

Description: Purchase of land parcels with on-site restoration. More information needed on this proposal.

Estimated Cost: Not Given.
Proposal 41

Site: Pelham Bay Park, Bronx
Map Number: 24

Project: Removal of concrete from shoreline
Type: Restoration
Proposed By: NYC Audubon Society

Description: Removal of concrete from the shoreline restoring it to its natural rocky state and general restoration of landscape in southern zone of Pelham Bay Park
Estimated Cost: Not Given

Proposal 42

Site: Pelham Bay Park and Ferry Pt. Park
Map Number: 24

Project: Grasslands Management
Type: Restoration-Habitat Alteration
Proposed By: NYC Audubon Society

Description: Management of grasslands habitat in the uplands adjacent to the shore and wetlands.
Estimated Cost: Not Given.

Proposal 43

Site: Greenwich Property, Bayswater Park
Map Number: 33

Project: Intern Center
Type: Restoration-Use/Access
Proposed By: NYC Audubon Society

Description: Build and outfit a center for a staff of student interns working on restoration and research projects.
Estimated Cost: Not Given.
Proposal 44

Site: All Three Areas

Project: Research/Educational Boat
Type: Restoration-Use/Access Enhancement
Proposed By: NYC Audubon Society

Description: This proposal entails the purchase of a boat and then outfitting it for educational and scientific purposes.
Estimated Cost: Not Given.

Proposal 45

Site: Breezy Point, Jamaica Bay
Map Number: 34

Project: Gull Control
Type: Restoration-Habitat Alteration
Proposed By: US Fish and Wildlife Service (Chuck Merckel)
Contingent Upon: Cooperation with Gateway National Recreation Area

Description: Gull populations have greatly expanded their historic range and abundance in response to increased food sources that man has inadvertently provided at municipal landfills and other locations. Both Black-backed Gulls and Herring Gulls have established nesting colonies on Breezy Point, which are continuing to expand. It is likely this territorial expansion was initially associated with the increase in food abundance at nearby landfills. These gull populations appear to be continuing their expansion despite the closure of local landfills. These gull colonies have apparently come into territorial conflict with Piping Plover nesting sites (and possibly with other species such as skimmer and terns). Since these gulls are known predators on the nests and young of these species their presence may be limiting the success of the local Piping Plover population which has experienced a recent decline (Piping Plover are a Federal threatened species).

The Service recommends that action be taken to manage the gull colonies on Breezy Point. The colonies should be displaced or eradicated in a manner so as not to interfere with the safety or breeding success of the Plovers or other breeding species of the area. The program should be conducted in conjunction with Proposal 20 which seeks to enhance the survivability of both Plovers and Terns. Monitoring of the success of this remedial measure should be included in the final proposal.

The National Park Service is already implementing gull management in this area, if additional funds or coordination of effort is needed, JBDA monies may be appropriate.
Estimated Cost: Dependent on management method chosen
Proposal 46

Site: Jamaica Bay

Project: Rockaway/Gateway Greenway
Type: Restoration-Use/Access Enhancement
Proposed By: NYS Department of Environmental Conservation

Description: To provide matching funds for a project funded through an ISTEA enhancement grant. The total amount is $1.25 million, with $950,000 coming from Federal sources and $300,000 from the Jamaica Bay Damages Account. This project involves the "design and construction of a Class 1 bike/pedestrian path on Cross Bay Blvd. from 165th Street to the Cross Bay Blvd. Bridge and provide for signage and striping of the entire 20 miles of the Rockaway/Gateway Greenway." The Rockaway/Gateway Greenway is a proposed "urban greenway linking Gateway National Recreation Area's Brooklyn and Queens units with a bicycle/pedestrian path, providing both recreational and utilitarian uses."

Note: Quoted material from the Rockaway/Greenway Advisory Board Meeting of August 1993.

Estimated Cost: $300,000

Proposal 47

Site: Various Sites in Jamaica Bay

Project: Restore Upland Grasslands
Type: Restoration-Habitat
Proposed By: NYS DEC

Description: Several sites were originally suggested as possible mitigation sites for the habitat which would be destroyed by the Gateway Estates project. The sites include Marine Park East, Spring Creek Park, Floyd Bennett Field, and JFK West.

Estimated Cost: N/A

Proposal 48

Site: Bronx River

Project: Expansion of Water Quality Monitoring
Type: Restoration-Use/Access
Proposed By: Bronx River Restoration Project

Description: Expansion of the current water quality monitoring program to include sampling for nitrates, phosphates, and coliform count, and to initiate sampling of riverbed sediment and sampling for benthic macroinvertebrates. Covered in the cost would be training of local Bronx youth in these scientific techniques.
Bronx River Restoration has technical assistance for these projects available through and Urban Resource Partnership (URP) contract from the US Department of Agriculture. Funds from the Jamaica Bay Damages Account will be used to implement the projects. All of these projects can be initiated starting in 1994 and continuing in 1995.

**Estimated Cost:** $25,000

**Proposal 49**

**Site:** Bronx River

**Project:** Shoreline Habitat Restoration for Soil Conservation  
**Type:** Restoration-Habitat Restoration  
**Proposed By:** Bronx River Restoration Project

**Description:** Planting for soil conservation along the river, including removal of intrusive exotic plants and replacement with native species; survey and mapping of plant life along the river; wetlands restoration in the estuarine section of the river; stabilization of eroding riverbanks. Covered in the cost would be expansion of the current Conservation Program with Bronx youth to help implement these projects.

Bronx River Restoration has technical assistance for these projects available through and Urban Resource Partnership (URP) contract from the US Department of Agriculture. Funds from the Jamaica Bay Damages Account will be used to implement the projects. All of these projects can be initiated starting in 1994 and continuing in 1995.

**Estimated Cost:** $45,000

**Proposal 50**

**Site:** Bronx

**Project:** Expand Community Education and Outreach Programs  
**Type:** Restoration-Use/Access  
**Proposed By:** Bronx River Restoration Project

**Description:** Expand current community education and outreach programs for people of all ages, including environmental education with youth, to reach a larger number of people and more Bronx neighborhoods.

Bronx River Restoration has technical assistance for these projects available through and Urban Resource Partnership (URP) contract from the US Department of Agriculture. Funds from the Jamaica Bay Damages Account will be used to implement the projects. All of these projects can be initiated starting in 1994 and continuing in 1995.

**Estimated Cost:** $25,000
Proposal 51

Site: Paw-Paw Woods
Map Number: 23

Project: Land Purchase
Type: Acquisition-Purchase
Proposed By: NYC Parks

Description: Paw-Paw Woods is in close proximity to Butler Manor located at the southwest corner of Hylan Blvd. on Page Avenue. Paw-Paw Woods contains the finest example of rare coastal oak barren containing white, black, red, and pin oak in addition to uncommon post, chestnut, blackjack, scrub oaks, and rare hybridized species including Quercus Rudkini and Quercus heterophylla (Bartram's Oak). The site also contains State endangered species such as bleading heart (G5, S1), willow oak (G5, S1), and paw-paw (G5, S2), and a glorious hybiscus pond.

Estimated Cost: Not given.

Proposal  (Blank Proposal Form)

Site:  
Map Number:  

Project:  
Type:  
Proposed By:  

Description:  

Estimated Cost:  

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