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Meadowlands Environmental Site Investigation Compilation (MESIC)

**Hudson-Raritan Estuary
Hackensack Meadowlands, New Jersey**

Prepared by:



**U.S. ARMY CORPS OF ENGINEERS
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MEADOWLANDS ENVIRONMENTAL SITE INFORMATION COMPILATION (MESIC) HACKENSACK MEADOWLANDS, NEW JERSEY

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- Figure 1-3: Existing Restoration, Preservation and/or Mitigation Sites
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EXECUTIVE SUMMARY

A resolution of the U.S. House of Representatives Committee on Transportation and Infrastructure, dated April 15, 1999, identified environmental restoration within the Hudson-Raritan Estuary (HRE), including the creation and enhancement of aquatic, wetland, and adjacent upland habitats as specific areas of interest. In response, the U.S. Army Corps of Engineers – New York District (USACE-NYD) initiated a reconnaissance study to identify and inventory water resources and sediment-related problems and needs in the Hudson-Raritan Estuary (HRE). The study was performed under the U.S. Army Corps of Engineers (USACE) Civil Works Program. Problems were evaluated to identify potential environmental restoration projects in the HRE that met the criteria for federal involvement and that had strong sponsor/local support.

On April 23, 2003, the District Engineer from the USACE-NYD and the Executive Director for the New Jersey Meadowlands Commission (NJMC), the non-federal sponsor, endorsed the Project Management Plan (PMP) for the Ecosystem Restoration Study (ERS) for the Hudson-Raritan Estuary – Hackensack Meadowlands, New Jersey (Meadowlands). The purpose of the PMP was to describe the process that will be undertaken during the Meadowlands Feasibility Study (Meadowlands FS). The Meadowlands FS will determine the feasibility of environmental restoration and protection projects relating to water resources, wildlife habitat, and sediment quality within the Meadowlands, and culminate in recommendations for USACE-NYD project implementation, while also providing recommendations for programs or projects to be implemented by other agencies or local stakeholders.

The Meadowlands, located in Bergen and Hudson Counties, New Jersey, encompasses 32 square miles or 19,730 acres across ten communities in Bergen County and four in Hudson County. As an integral part of the HRE, the significance of the Meadowlands lies in it being one of the largest wetland complexes remaining in the HRE ecosystem, as well as being one of the largest contiguous blocks of open space in the highly developed landscape of the New York City metropolitan area. The approximately 8,400 acres of remaining wetlands and waterways are especially significant for concentrations of federal trust wildlife species. Figure ES-1 presents the boundary of the Meadowlands, along with the boundaries of the 50 MESIC sites.

To facilitate and focus the scope of work development associated with the Meadowlands FS, this Meadowlands Environmental Site Information Compilation (MESIC) was conducted to identify and catalog available, relevant data. The existing data is organized in this report to facilitate a determination of data gaps and needs, so that a strategy can be created for the substantial data collection effort required for the Meadowlands FS. It is anticipated that the MESIC will serve to advance the Meadowlands FS and eliminate duplication of data previously collected and recorded.

The two primary purposes for the MESIC are: 1) to form a baseline of available, relevant information on the various technical areas for each of the MESIC sites, and 2) to facilitate the coordination of potential restoration-related actions within the Meadowlands with the involved regional stakeholders and public.

The MESIC was conducted in full coordination with the USACE-NYD, the NJMC, and the U.S. Fish and Wildlife Service. The data investigation centered on 50 sites within the Meadowlands, but also included data relevant to the Meadowlands as a whole entity, so a “Meadowlands-wide” category was included.

While a vast amount of data exists for the Meadowlands, the MESIC focuses on that data that will be useful in accomplishing the goal of the Meadowlands FS – determining the feasibility of environmental

restoration and protection projects relating to water resources, wildlife habitat, and sediment quality within the Meadowlands. The MESIC also focuses on data that is relevant to the specific site's intended purpose. Ten data categories were established to organize the useful and relevant data that was collected. These categories cover the many different topics that are applicable to a comprehensive ecosystem restoration approach.

Data collection for the Meadowlands and specific sites will remain an on-going process that will be important to continue as the Meadowlands FS progresses. This report represents the initial, baseline data collection effort for 50 selected sites of interest, as well as the Meadowlands, current as of May 2004. Similarly, the 50 sites represent the majority of sites within the Meadowlands that were relevant to the comprehensive ecosystem restoration approach as of May 2004, as well as those sites for which relevant data was available as of May 2004. The data collected is not all-inclusive, nor is the list of 50 sites the final list of candidate sites anticipated to result from the Meadowlands FS.

For each of the 50 sites, the MESIC report includes a one-page site information fact sheet and a more detailed site report. Both the fact sheets and the site reports contain general site information. The site reports also contain site-specific citations and abstracts of the documents catalogued or collected during the data investigation listed under the appropriate data categories; the fact sheets include a summary description of the citations that are listed on the site reports. The site information fact sheets are contained in Section 1.5 and the site reports are located in Section 3.2.

The MESIC report also includes a site matrix table, which contains cells corresponding to each of the 50 sites and each of the ten data categories. A number from "1" to "4" is assigned to indicate the level of usefulness for the data corresponding to the site and the data category represented by that cell. In general, usefulness was assessed based on the data's level of detail, substantiating documentation, age, and relevance to the assessment of ecological restoration needs and design concepts in accordance with the specific data category. The level-of-usefulness assignments are explained in more detail in Section 2.0; the site matrix table is in Section 2.1.

Data for the MESIC report was collected from various sources including federal and state agencies, Rutgers University, and private firms. Contact information is given for these sources in Section 3.0 of this report.

15. Kearny Brackish Marsh

Category: Candidate Restoration/Preservation Site

Location: The site is divided horizontally by the New Jersey Turnpike - Eastern Spur and bordered in the east by the Hackensack River in Kearny, Hudson County.

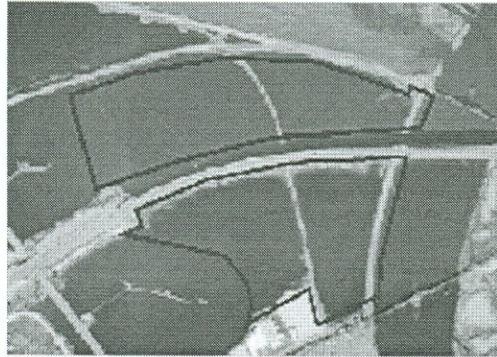
Latitude/Longitude: 40.75814/-74.10272

Current Land Use: Tidal marsh

Size: 116 acres

Current Ownership: NJMC

Site Description: Emergent vegetation at the Kearny Brackish Marsh has been mostly eliminated over the past ten years and replaced by open water. Both tidal flows and hydrologic connections have been restricted due to surrounding development. The current conceptual restoration design includes the re-establishment of emergent vegetation by managing water levels and preventing soil erosion, potentially through the replacement of the broken water control structures at the Cayuga Dike.



Existing Site-Specific Data Inventory

A. Survey, Maps, and GIS

HMD regional data exists inclusive of this site.

B. Real Estate/Ownership

Owned by NJMC. Acquisition data available on NJMC website.

C. Site History & Land Use

No data obtained.

D. Biological Studies - Fauna

No data obtained.

E. Biological Studies - General Environmental

A sediment/vegetation comparative study was performed in 2003. Wetland assessment performed in 2003.

F. Geotechnical

No data obtained.

G. Hydraulics and Hydrology

No data obtained.

H. Water and Sediments

A sediment/vegetation comparative study was performed in 2003.

I. Historical/Cultural Resources

No data obtained.

J. Restoration/Remediation Design Plans

No data obtained.

16. Kearny Freshwater Marsh

Category: Candidate Restoration/Preservation Sites

Location: Bordered to the north by the New Jersey Transit - Boonton Line, to the south by a freight line and the west by Keegan Landfill, in Kearny, Hudson County.

Latitude/Longitude: 40.75956/-74.12746

Current Land Use: Freshwater wetland

Size: 279 acres

Current Ownership: NJMC

Site Description: The Kearny Freshwater Marsh is a freshwater impoundment, adjacent to the Keegan Landfill at its southwestern corner. Over the years, the productivity of the marsh has declined as a result of rising water levels within the marsh itself. Additionally, leachate from the Keegan Landfill and runoff from the surrounding areas have resulted in increased contaminant levels throughout the surface sediments. The current conceptual restoration plan includes the re-establishment of emergent vegetation by managing water levels and stemming erosion, removal and disposal of contaminated surface soils, closure of the Keegan Landfill (a source of leachate), and installation of a water control structure and/or pumping station to manage water levels.



Existing Site-Specific Data Inventory

A. Survey, Maps, and GIS

HMD regional data exists inclusive of this site. General, baseline data was collected for a 1989 EIS. Topography information for a portion of the site is available in a 1998 Keegan Landfill study.

B. Real Estate/Ownership

Owned by NJMC. Acquisition data available from the NJMC website.

C. Site History & Land Use

General site information available from the 1978 Meadowlands Management Plan and a 1989 EIS. Site-specific data from 1978, 1982, and 1988 reports.

D. Biological Studies - Fauna

A variety of studies have been completed ranging from a 1978 bird survey to a 2003 macroinvertebrate biodiversity assessment.

E. Biological Studies - General Environmental

A variety of studies have been completed, dating from 1978 to 2003.

F. Geotechnical

No data obtained.

G. Hydraulics and Hydrology

No data obtained.

H. Water and Sediments

A variety of water and sediment quality studies were completed between 1999 and 2003.

I. Historical/Cultural Resources

General baseline data collected for 1989 EIS.

J. Restoration/Remediation Design Plans

A draft wetland mitigation plan was proposed in 1998.