

Restoring the Crossroads of the American Industrial Revolution



Two great egrets and a great blue heron forage in the Mill Creek restoration area

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In the Hackensack Meadowlands, Dutch colonists found a landscape close to their hearts, a landscape filled with fertile land, tidewater streams, lush marshes and Atlantic white-cedar swamps, a landscape that drew settlers from the earliest days. "Dutch New Jersey" was admired both for the hard-working, entrepreneurial spirit of the residents and also for the natural bounty the Meadowlands supplied for industrial activities. Indeed, the American Industrial Revolution was centered within a few miles of the Meadowlands. With the Industrial Revolution came opportunity, growth, and, unfortunately, natural resource degradation, destruction and contamination.

The passage and enforcement of the Federal Water Pollution Control Act in 1972, now known as the Clean Water Act (CWA), began the restoration possibility of fish and wildlife populations in the area. Closure of landfills and enforcement of responsible disposal practices by the State of New Jersey and New Jersey Meadowlands Commission have greatly decreased illegal dumping practices and reduced the amount of leachate oozing into the Hackensack River and wetlands. These and other contaminant prevention measures have provided improvements in air, water, and soil quality and have helped to triple the number of avian, fish, and shellfish species using the Meadowlands.

The CWA, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (commonly known as "CERCLA" or "Superfund") and the Oil Pollution Act of 1990 authorize cleanup and restoration of sites with existing contamination from unauthorized releases of hazardous substances and oil. These laws provide stakeholders with legal authority to pursue active restoration under the Natural Resource Damage Assessment and Restoration Program (Restoration Program), the goal of which is to restore natural resources adversely impacted by contamination. The Restoration Program operates through a "polluter pays" principle: restoration is paid for by the responsible parties rather than the taxpayer. The U.S. Fish & Wildlife Service has direct, legislatively-mandated responsibilities under Section 107 of CERCLA, serving as a "natural resource trustee" for the general public.

Today, the Meadowlands has a diverse number of contaminant issues, notably, three Superfund sites, including the nation's most contaminated mercury site. Just outside the Meadowlands boundary is the nation's most contaminated dioxin site. Twenty percent of the Meadowlands is currently in landfills as a result of 300 years of metropolitan



The good news: the ospreys are back and join more than 50 species of fish and over 60 species of birds that populate the Meadowlands



Restoration: revitalizing the Carlstadt-Moonachie Wetlands, May 1999

and industrial growth. The EPA has the federal lead for remediation of these sites under the Superfund Program as well as general cleanup authority under the CWA. Restoration by trustees under CERCLA follows remediation efforts at Superfund sites.

How can any area that has been subject to the neglect and wasteful land-use practices that the Meadowlands has endured be cleaned up and restored to the point where healthy populations of fish and wildlife thrive? We emphasize the word *healthy* because there is a need to assure the public that species using the Meadowlands are not only present but confirmed to be healthy or can be made healthy through remediation and restoration. By using state-of-the-art toxicological tools to assess species health and identify causes of adverse health outcomes, we will succeed at primary remediation as well as trustee-led restoration. Deferring to public health-related goals instead of identifying parallel goals for ecological health will not be productive because wild species often have life history, exposure and sensitivity differences that can make them more susceptible to contaminants than people. We need to establish goals that protect wild species as well as the people who harvest them for food.

Surrounded by intense urban development, the Meadowlands is among the last remaining "islands" of open space that provide the 20 million residents and tourists of the New York City environs with a sense of wildness and natural landscape. The Meadowlands



Desolation: tidal erosion dramatically exposes the yellowed stratum of chromium-contaminated soil laid down by operations at a now defunct factory

continues to provide Essential Fish Habitat for eight species of estuarine fish and more than 50 species of fish that need the area for at least part of their life cycle. Likewise, the Meadowlands still provides valuable nesting and foraging habitat for migratory waterfowl, waterbirds, and neotropical songbirds, as well as wintering raptors such as rough-legged hawks and northern harrier. More than 60 bird species are considered to be residents of the area. We have both marveled at the magnetism the Meadowlands has for aquatic life, fish and wildlife. While nature is quite resilient and adaptive, environmental managers, including trustees, must often intercede to undo what has been done to assure the health of significant ecosystems such as the Meadowlands.

President Theodore Roosevelt once said, "Do what you can, with what you have, where you are." Meeting the challenge of cleaning up, restoring, managing, and permanently protecting the Meadowlands' ecological functions and values can be met only through cooperative stakeholder efforts from various

levels of government, the private sector, conservation groups and the public. If all stakeholders participate in doing what is right for the Meadowlands, together we can make President Roosevelt's words come alive, creating a great success story in the process.



The bad news: these signs are still common in the Meadowlands