



U.S. Fish & Wildlife Service

Conservation Planning for the Hackensack Meadowlands

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The Meadowlands and Its Fish and Wildlife Resources

The Value of the Hackensack Meadowlands

The Hackensack Meadowlands, the largest brackish water complex in the New York / New Jersey Harbor Estuary, is increasingly vital to fish and wildlife resources at regional, national, and international levels. At the crossroads of several Atlantic Flyway migration routes, the Meadowlands supports a significant concentration of migratory birds (332 of the 443 species of birds observed in New Jersey). In addition to those federal trust resources, the Meadowlands also provides habitat for more than 275 plant species, 50 species of fish and shellfish, 25 species of reptiles and amphibians, and 24 species of mammals. The U.S. Fish and Wildlife Service (Service) has identified 88 species of special emphasis in the Hackensack Meadowlands, including 25 State-listed species and approximately 50 species considered rare in the urban area.

The federal government has taken numerous steps to recognize and protect the fish and wildlife resources in the Meadowlands. The Hackensack Meadowlands is identified as important habitat in the Service's Migratory Birds Initiative, a "Priority Wetland Site" under the Emergency Wetlands Resources Act, a "Regionally Significant Habitat Complex" in the New York Bight watershed, and as a

"Regional Resource Priority" in the Service's Northeast Region. The lower Hackensack River is identified as "Essential Fish Habitat" for 14 species by the National Marine Fisheries Service, whereas the Meadowlands has been designated as an "Aquatic Resource of National Importance" by the U.S. Environmental Protection Agency (EPA) and other federal agencies.

The Meadowlands Problems: Years of Neglect

Anthropogenic changes have diminished the Meadowlands' support of fish and wildlife. About 150 years ago the Hackensack Meadowlands covered nearly 21,000 acres of waterways and wetlands, much of them forested by Atlantic white-cedar. However, during the past century most wetlands were diked and filled, and only 5,400 acres remain today. The Meadowlands also has experienced extensive development and degradation from unregulated solid-waste dumping and extensive contamination (e.g., dioxins, furans, PCBs, other hydrocarbons, heavy metals) at industrial and landfill sites. The flow of water throughout the watershed has been altered extensively (e.g., five water storage reservoirs in two states, numerous other flow diversions) to provide drinking water. About half of the river's daily flow is

provided by surface waters diverted from the Passaic River (45 mgd) and other sources. Secondary effluent from a single sewage treatment plant is the biggest source of fresh water (85-109 mgd) into the watershed. Water quality in the Hackensack River remains impaired for many criteria, (e.g., dissolved oxygen) set by the standards of the New Jersey Department of Environmental Protection (NJDEP) and requirements of the EPA. Finally, wetlands and some uplands are dominated by invasive species (mostly common reed) and are fragmented by the urban landscape.

Service Activities in the Meadowlands

The Service's present task is to develop effective partnerships that provide a framework for the long-term remediation and restoration of the Meadowlands in order to conserve its diverse inhabitants, both resident and migratory. The Service is supporting restoration and management of the Meadowlands in several ways. First, the Service supports the U.S. Army Corps of Engineers, New York District (Corps) and the New Jersey Meadowlands Commission (NJMC) on the Hackensack Meadowlands Environmental Restoration and the Corps' Hudson-Raritan Estuary Environmental Restoration projects through interagency agreements

to address specific issues, such as contaminants. The Service, Corps, and NJMC are involved in a Feasibility Study that will lead to the development of a Comprehensive Restoration Implementation Plan. The Service also assists the Corps, NJMC, and NJDEP on related environmental issues (e.g., water quality, filling) and activities that include and/or impact restoration, such as mitigation, which is addressed through the federal regulatory program and interagency agreements (e.g., Meadowlands Interagency Mitigation Advisory Committee).

Through various appropriations bills (e.g., P.L. 108-447) and other operating authorities, Congress has directed the Service to provide technical assistance for the restoration and protection of the Hackensack Meadowlands ecosystem. The Service has sponsored diverse activities to facilitate protection and restoration of the Meadowlands. Stakeholder work sessions in 2000 and 2001 addressed protection strategies, prioritized acquisition sites, and supported establishment of a Meadowlands land trust. The Service and the New Jersey Division of Fish and Wildlife jointly developed "A Vision Plan" for the Hackensack Meadowlands. The New Jersey Field Office's Hackensack Meadowlands Issue of *Field Notes* (December 2002) publicized the importance of the Meadowlands and emphasized the collaborative efforts to restore and protect the area. The Service's *National Wetlands Inventory* also published Wetland Status and Trends for the Meadowlands documenting quantitative changes in the Meadowlands from the 1950s to the 1990s. The Service, Corps, NJMC, and Hudsonia Ltd. co-sponsored The Meadowlands Symposium at the NJMC in October 2003 to showcase local scientific research. The Service has also worked closely with local non-governmental organizations and interagency groups.

Preliminary Conservation Plan

The Service has been directed to provide technical assistance for protection of the Hackensack Meadowlands. Consequently, the Service is developing a strategy that will lead to and help substantiate the Service's overall goal for the Meadowlands—the remediation, restoration, long-term protection, and management of the area, including its fish and wildlife resources. The most effective mechanism to present this strategy is a preliminary conservation plan. The plan will address baseline conditions and make recommendations to influence restoration planning and related decision-making, such as remediation of environmental contaminants. Additionally, this conceptual plan will promote the Service's vision for the Meadowlands, which includes the following:

- a functioning estuarine ecosystem with healthy fish and wildlife resources;
- a cleaner environment (progressive reduction in acute and chronic effects of contaminants);
- a diverse native, wetland and associated communities that sustain local and regional populations of native species, including federal trust fish and wildlife resources; and
- public commitment to and diverse social benefits from the Meadowlands.

The purpose of this conceptual plan is to influence: there is no federal action or regulatory authority associated with the plan. The plan is not intended as a technical blueprint for restoring individual parcels in the Meadowlands, but rather to provide a general guideline for beginning restoration based upon the best available information. This conceptual plan identifies critical fish and wildlife resources, prioritizes concerns, and

initiates the development of common objectives shared by other stakeholders in the Hackensack Meadowlands Initiative, and suggests relevant work tasks. The Service's intent is to inform the public that, despite serious environmental impacts, the Meadowlands still provides critical ecosystem functions and supports a remarkable biodiversity, and that, though accessible to 20 million people and several major universities, the Meadowlands is underutilized for education, research, and recreation.

The Service's vision for the Meadowlands is based on the Service's Mission to work with others to conserve, protect, and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people. Thus, this conceptual plan is intended to influence future land-use decisions that will sustain and safeguard the Meadowlands ecosystem. The plan's introduction explains the Service's goal, objectives, and guiding principles regarding restoration. The next two sections describe the natural history, fish and wildlife resources, and critical environmental challenges. Subsequent sections discuss restoration, protection, management, research, education, recreation, and other objectives to achieve the Service's goal for the Meadowlands. Throughout this plan, the Service makes recommendations regarding critical issues, research needs, and data gaps.

Just the Beginning ...

Many agencies, dedicated groups, and individuals have worked tirelessly to stop further encroachment and degradation of the Meadowlands. The Service's conservation planning efforts, coincident with the input of others, show that work vital to safeguarding and sustaining the Meadowlands and its biodiversity has just begun.