

# XVIII. Epilogue

Mature Atlantic  
white-cedar  
(*Chamaecyparis  
thyoides*).









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The Atlantic white-cedar forests that once covered much of the Hackensack Meadowlands are gone—a casualty of centuries of logging followed by alteration and degradation of the remaining landscape. Water and land use throughout the Hackensack River watershed not only makes restoration of Atlantic white-cedar forests an unrealistic goal but also threatens remaining fish and wildlife resources. Still, the loss of the Atlantic white-cedars will be instructive if we can learn to value, restore, and protect the Meadowlands ecosystem.

Challenges to the restoration of the Meadowlands include dams, reservoirs, diverted and regulated river flows, nutrient-enriched sewage effluents, widespread and localized contamination, a fragmented landscape, and invasive species. Despite these challenges, the Meadowlands remains an oasis of biological diversity in one of the largest urban centers in the northeastern United States.



Historian Stephen Marshall (2004) has delineated four stages of human ecological modification in the Meadowlands: extraction of natural resources, diversion of water flow, reclamation and development, and degradation. To these stages we now propose to add a final stage—restoration.

Restoring the Meadowlands will require *stakeholders working together with:*

- (1) strengthened organizational, scientific, and legal tools;
- (2) long-term commitments from federal, State, and municipal governments;
- (3) strong public support; and
- (4) a shared vision.



Atlantic white-cedar in south Jersey (left and above)



Atlantic white-cedar trees and stumps at low tide off the Mill Creek Nature Trail in Secaucus, NJ.







## **APPENDIX A**

### **DESCRIPTIONS OF KEY FEDERAL LAWS, EXECUTIVE ORDERS, AND POLICIES RELEVANT TO ACTIVITIES OF THE U.S. FISH AND WILDLIFE SERVICE IN THE HACKENSACK MEADOWLANDS**

1. Fish and Wildlife Coordination Act of 1934
2. Endangered Species Act of 1973
3. Migratory Bird Treaty Act of 1918
4. Federal Water Pollution Control Act of 1972 (Clean Water Act of 1977,  
including the National Estuary Program)
5. Rivers and Harbors Appropriation Act of 1899
6. National Environmental Policy Act of 1969
7. Comprehensive Environmental Response, Compensation, and Liability Act of  
1980 (Superfund)
8. Resource Conservation and Recovery Act of 1976
9. Emergency Wetlands Resources Act of 1986
10. North American Wetlands Conservation Act of 1989 (including the North  
American Waterfowl Management Plan) and the Neotropical Bird  
Conservation Act of 2000
11. Coastal Wetlands Planning, Protection and Restoration Act of 1990
12. Magnuson-Stevens Fishery Conservation and Management Act of 1976  
and the Sustainable Fisheries Act of 1996
13. Coastal Zone Management Act of 1972 and the Coastal Zone Management  
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14. Department of Transportation Act of 1966
15. U.S. Fish and Wildlife Service Mitigation Policy
16. Executive Order 11988 on Floodplain Management
17. Executive Order 11990 on Protection of Wetlands
18. Executive Order 13112 on Invasive Species
19. Executive Order 13186 on Migratory Birds
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## **APPENDIX A. DESCRIPTIONS OF KEY FEDERAL LAWS, EXECUTIVE ORDERS, AND POLICIES RELEVANT TO ACTIVITIES OF THE U.S. FISH AND WILDLIFE SERVICE IN THE HACKENSACK MEADOWLANDS.**

The following federal resource laws, executive orders, management plans, and policies provide the capability for most U.S. Fish and Wildlife Service (Service) involvement in the Hackensack Meadowlands. See the *Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service* (U.S. Fish and Wildlife Service, 2003) for more descriptive information of the laws and other materials noted below.

### **1. Fish and Wildlife Coordination Act of 1934**

Included under the auspices of the Fish and Wildlife Coordination Act (FWCA; 48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) is the capability for the Service's involvement in evaluating impacts to fish and wildlife from proposed federally funded or permitted water resource and associated land development projects (*i.e.*, projects that divert, control or modify the flow of water in any way). This Act requires federal agencies that construct, license, or permit water resource development projects to consult first with the Service (and the National Marine Fisheries Service [NMFS] in some instances) and the State fish and wildlife agency (in New Jersey, the New Jersey Department of Environmental Protection's Division of Fish and Wildlife) regarding the impacts on fish and wildlife resources and measures to mitigate these impacts. The 1958 amendments to the FWCA require that fish and wildlife resources receive equal consideration to other project features and require full consideration of Service recommendations.

### **2. Endangered Species Act of 1973**

The Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) is widely regarded as one of the most comprehensive wildlife conservation laws in the world. The Act's major purposes include: (1) conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend, and (2) recovery of populations of endangered and threatened species. Endangered species face likely extinction throughout all or a significant portion of their range, whereas threatened species may become endangered in the foreseeable future. Under the ESA, the Service has primary responsibility for terrestrial and freshwater species, and the NMFS is primarily responsible for marine fishes, sea turtles, and marine mammals.

The ESA, widely regarded as a complex yet flexible law, includes a number of key provisions. Most importantly, Section 6 encourages states to develop programs to manage federally listed species, whereas Section 7 requires federal agencies to ensure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of listed species or modify any designated critical habitat. Section 9 prohibits the "take" of a listed species: "take" is defined to include significant modification or degradation of habitat or disruption of essential activities (*e.g.*, feeding, sheltering, breeding).

### **3. Migratory Bird Treaty Act of 1918**

The Service is authorized by more than 25 primary conventions, treaties, and laws to ensure the conservation of migratory birds and their habitats. Foremost among these laws, the Migratory Bird Treaty Act of 1918 (MBTA; 40 Stat. 755, as amended; 16 U.S.C. 703-712) implements various international treaties and conventions with other countries to protect migratory birds, and establishes a federal prohibition (except when permitted consistent with regulations) to pursue, kill, or possess any migratory bird, or any part, nest, or egg of any such birds. Various provisions in the MBTA identify prohibited actions (*e.g.*, attempt to pursue, barter for, export), penalties (*e.g.*, forfeiture of equipment, fines), and authorizations to establish regulations (*e.g.*, Migratory Bird Hunting [50 CFR Part 20]) for hunting migratory game birds.

The MBTA also prohibits the incidental take of migratory birds. In a significant first step to reduce the 100 million to 1 billion birds estimated to be killed by buildings and other structures (Klem, 1990), the Service's (2004) *Blueprint for the Future of Migratory Birds: Migratory Bird Program Strategic Plan 2004-2014* has identified evaluation of human-caused mortality (*e.g.*, buildings, lighting, landscape fragmentation) as a research priority. The Service currently provides interim technical guidelines to reduce such mortality (*e.g.*, the 4 to 5 million birds killed annually by communication towers; U.S. Fish and Wildlife Service, 2000).

### **4. Federal Water Pollution Control Act of 1972 (Clean Water Act of 1977, including the National Estuary Program)**

In its comprehensive 1977 amendments, the Federal Water Pollution Control Act of 1972 (33 U.S.C. 1251 *et seq.*) was renamed the Clean Water Act (CWA) and strengthened to maintain and restore the chemical, physical and biological integrity of the nation's waters. Primary authority for implementation of the CWA rests with the U.S. Environmental Protection Agency (EPA); however, Section 404 (33 U.S.C. 1344 *et seq.*) generally requires permit authorization from the U.S. Army Corps of Engineers (Corps) for the discharge of dredged or fill material in United States' waters, including tidal areas within the Hackensack Meadowlands District. Section 401 (33 U.S.C. 1341) requires a state water quality certificate for any federally licensed or permitted activity that results in discharge of a pollutant, whereas Section 402 (33 U.S.C. 1342) established the National Pollution Discharge Elimination System with both permit and planning components. The Service coordinates with the Corps and EPA pursuant to the FWCA (see above) on projects requiring a federal permit pursuant to the CWA.

Section 320 (33 U.S.C. 1330) established the National Estuary Program, a consensus-based program to protect and restore the Nation's estuaries. The New York-New Jersey Harbor estuary was among the first estuaries to be designated by this program. Unlike traditional regulatory approaches, the National Estuary Program targets a broad range of issues and partners within local communities to develop and implement Comprehensive Conservation and Management Plans to protect the resources in each designated estuary and its watershed. This program focuses on improving water quality in the estuary and on maintaining ecosystem integrity. This includes not only its chemical, physical and biological parameters, but also its economic, recreational, and aesthetic values. A key component of the program is the building of partnerships of stakeholders

including state and local governments, citizens, industry, academia, environmental groups, and commercial interests.

## **5. Rivers and Harbors Appropriation Act of 1899**

The Rivers and Harbors Appropriations Act of 1899 (30 Stat. 1151, as amended; 33 U.S.C. 403 *et seq.*) governs the placement of structures in navigable waters of the United States. Section 9, administered by the U.S. Coast Guard, regulates the construction of bridges and dams, whereas Section 10, administered by the Corps, regulates construction of any other structure (*e.g.*, pier, bulkhead, jetty) in any port, harbor, canal, navigable river, or other waters of the United States. The Corps may authorize the activities by issuance of a federal permit, but only after coordination with the Service, other federal resource agencies, and state fish and wildlife agencies pursuant to the FWCA (see above) and other applicable authorities.

## **6. National Environmental Policy Act of 1969**

The National Environmental Policy Act of 1969 (NEPA; 83 Stat. 852; 42 U.S.C. 4321 *et seq.*) establishes the fundamental, national charter for protection of the environment. The NEPA is intended to ensure that information about environmental effects of a proposed major federal action and alternative actions are available to agency decision makers and requires that federal agencies present this information in an Environmental Assessment or an Environmental Impact Statement (EIS). An EIS is required for “every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment.” A key provision of NEPA is the requirement to consider alternative projects and/or actions. The Service may provide information for use in NEPA documents and also provides review comments on these documents. Through this process, the Service seeks to ensure that: (1) primary, secondary, and cumulative impacts to fish and wildlife resources are adequately described for each alternative that would fulfill the purpose and need for the action; (2) efforts are made to avoid, minimize, and rectify impacts to fish and wildlife resources; and (3) appropriate compensation for unavoidable impacts to fish and wildlife resources is made with the recommended plan.

## **7. Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund)**

Administered primarily by the EPA, the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (P.L. 96-510; 26 U.S.C. 4611-4682; as amended by the Superfund Amendment and Reauthorization Act of 1986, P.L. 99-499; 42 U.S.C. 9601 *et seq.*) seeks to remediate sites where toxic and hazardous wastes have been deposited or spilled. The original act authorized the collection of taxes (through 1985) on crude oil and petroleum products, certain chemicals, and hazardous wastes, and established liability to the United States Government for damage to natural resources over which the United States has sovereign rights. In the 1986 reauthorization, amendments mandated that: (1) federal officials be designated as trustees for natural resources and assess damages and injury to, as well as destruction of, or loss of, natural resources; (2) stipulated that Superfund monies only be used for natural resource damage claims if all administrative and judicial remedies to recover costs from liable parties have been exhausted; (3) federal facilities are subject to the same cleanup requirements and liability standards as non-



governmental entities; (4) federal trustees be notified of any settlement negotiations regarding damages to natural resources; and (5) established circumstances under which federal trustees may agree not to sue for natural resource damages. The Department of the Interior is a trustee for natural resources, and the Service is responsible for the protection and restoration of trust resources injured by uncontrolled releases of hazardous materials. The Service is responsible for conducting assessments to establish injury and the dollar equivalent of that injury for collection of damages from parties responsible for releasing hazardous materials. Via the EPA's Biological Technical Assistance Group, the Service's Division of Environmental Contaminants also provides technical assistance in the form of information, data, and guidance to the EPA to ensure that site remediation protects federal trust fish and wildlife resources.

## **8. Resource Conservation and Recovery Act of 1976**

The Resource Conservation and Recovery Act of 1976 (P.L. 94-580; 42 U.S.C. 6901-6992; 90 Stat. 2795; as amended) regulates the treatment, transportation, storage, and disposal of solid and hazardous wastes. Key provisions include: (1) the identification and listing of hazardous waste, (2) standards applicable to hazardous waste, (3) requirements for reporting hazardous waste and for permitting storage, transport, and disposal of hazardous waste, (4) management of landfills and other solid waste, (5) management, replacement, and monitoring of underground storage tanks, (6) the applicability of federal, State, and local laws to federal agencies, and (7) citizen suits, judicial review, and enforcement authority.

## **9. Emergency Wetlands Resources Act of 1986**

Congress, recognizing the integral role of wetlands in maintaining the quality of life through material contributions to our food supply, water supply and quality, flood control, fish, wildlife, and plant resources, and thus to the health, safety, recreation, and economic well-being of all citizens of the United States, enacted the Emergency Wetlands Resources Act of 1986 (EWRA; P.L. 99-645) to promote the conservation of wetlands. The EWRA directed the Department of the Interior to develop a national wetlands data base (including maps; *e.g.*, U.S. Fish and Wildlife Service, 2005a), report to Congress on the status and trends of wetlands within the contiguous United States, and develop a National Wetlands Priority Conservation Plan identifying the priority wetlands for acquisition by federal, state, and local agencies using the Land and Water Conservation Fund.

Wetlands reports generated pursuant to EWRA have become important tools in assessing wetlands trends and assessing government policies and management of wetlands. Early wetlands status and trends reports (*e.g.*, Dahl, 1990) documented the extensive losses of wetlands since colonial times and during the first half of the past century. Subsequent reports, generated every 10 years as required by EWRA, not only report trends in wetlands losses, but characterize the kinds and causes of wetlands losses. Wetlands within the Hackensack Meadowlands have been designated as "priority wetlands" by the Service, in accordance with the EWRA. Trends in wetlands losses in the Meadowlands since the mid 1960s (Tiner *et al.*, 2002) largely paralleled trends in wetlands losses for the entire nation (Dahl and Johnson, 1991; Dahl, 2000) until 2003, when nearly 60 acres were filled pursuant to a Corps permit (a 300 percent rate increase in the annual loss compared to the previous decade).



## **10. North American Wetlands Conservation Act of 1989 (including the North American Waterfowl Management Plan) and the Neotropical Bird Conservation Act of 2000**

The North American Wetlands Conservation Act (NAWCA; 103 Stat. 1968; 16 U.S.C. 4401-4412; P.L. 101-233) provides funding and administrative direction for implementation of the North American Waterfowl Management Plan and the Tripartite Agreement on wetlands between Canada, the U.S., and Mexico. The NAWCA established a North American Wetlands Conservation Council, composed of the Service's Director, the Executive Director of the National Fish and Wildlife Foundation, and representatives from state fish and wildlife agencies in each flyway and three non-profit organizations, to make recommendations for NAWCA-funded projects.

The North American Waterfowl Management Plan was established to conserve our continent's remaining wetlands and increase migratory bird populations with NAWCA appropriations. This international effort provides the following funding initiatives: (1) a large matching-grants program, with up to \$1 million per project in federal funds, to manage, restore and/or acquire land, through purchase or easement; and (2) a small-grants program, with up to \$50,000 per project in federal funds, to encourage new partnerships. Currently, 16 large projects known as Joint Ventures (U.S. Fish and Wildlife Service, 2005b), are funded through this program in the United States and other countries.

The Atlantic Coast Joint Venture initially focused on protecting and restoring habitat for black duck (*Anas rubripes*) and other waterfowl along the east coast (U.S. Fish and Wildlife Service, 2005c), but later expanded to include conservation of other bird groups. Its regional plans, developed by different groups of public and private agencies, organizations, and stakeholders, now include a focus on waterbirds (Waterbird Conservation for the Americas, 2005), shorebirds (U.S. Shorebird Conservation Plan, 2005), and neotropical migrant landbirds (Partners in Flight, 2004). The Service's Office of Migratory Bird Management and relevant Regional Offices are partners in these regional planning efforts. The Hackensack Meadowlands is located on the Atlantic Flyway at the juncture of three physiographic areas (Southern New England, Mid-Atlantic Coastal Plain, and Mid-Atlantic Piedmont) for which specific plans are developed.

The Neotropical Migratory Bird Conservation Act of 2000 (P.L. 106-247) provides grants to agencies, international organizations, and individuals for the conservation of neotropical migratory birds that spend the winter season in Latin America and the Caribbean and the summer season in North America. The law creates a competitive grants program to be administered by the Secretary of Interior, through the Director of the U.S. Fish and Wildlife Service. The law encourages habitat protection, education, researching, monitoring, and capacity building to provide for the long-term protection of neotropical migratory birds.

## **11. Coastal Wetlands Planning, Protection and Restoration Act of 1990**

The Coastal Wetlands Planning, Protection and Restoration Act of 1990 (16 U.S.C. 3951-3956) supports and funds coastal wetlands restoration and conservation projects. This Act requires the Service to make matching grants of 50 to 75 percent of project costs, under the National Coastal Wetlands Conservation Grants Program, to any coastal state to carry out coastal wetlands conservation projects that will be administered for the long-term conservation of lands, waters, and



dependent fish and wildlife. Nationwide, recent grants have ranged from \$10,000 to \$1 million. The Act also authorizes the Corps to carry out projects for the protection, restoration, or enhancement of aquatic and associated ecosystems; the Corps must give projects that protect, restore, or create wetlands and coastal ecosystems equal consideration with projects relating to irrigation, navigation, or flood control. To date, National Coastal Wetlands Conservation Grants have been used to acquire property in the NY-NJ Harbor Estuary but not within the Hackensack Meadowlands.

## **12. Magnuson-Stevens Fishery Conservation and Management Act of 1976 and the Sustainable Fisheries Act of 1996**

The Fishery Conservation and Management Act of 1976 (P.L. 94-265; 16 U.S.C. 1801-1882; 90 Stat. 331; as amended) provides for management of fish and other species within the 200-mile Exclusive Economic Zone under plans drawn up by eight Regional Councils comprised of federal and State officials (including the U.S. Fish and Wildlife Service) and reviewed and approved by the Secretary of Commerce. Major amendments to the Act (the Sustainable Fisheries Act, P.L. 104-297) made important changes in federal efforts to conserve and manage marine fishery resources. The Act mandated NMFS' identification of Essential Fish Habitat (EFH) for managed species as well as measures to conserve and enhance the habitat necessary to fish to carry out their life cycles. The Sustainable Fisheries Act requires cooperation among the NMFS, Regional Councils, fishing participants, federal and State agencies, and others in achieving Essential Fish Habitat protection, conservation, and enhancement. Other provisions included requirements of the Regional Councils to: (1) minimize bycatch (the incidental harvest of non-targeted marine species) and its mortality, (2) identify overfished species and actions to rebuild those stocks, and (3) require research on fishery management and conservation and on the economics and social characteristics of fisheries.

## **13. Coastal Zone Management Act of 1972 and the Coastal Zone Management Improvement Act of 1980**

The Coastal Zone Management Act of 1972 (CZMA; P.L. 92-583; 86 Stat. 1280; 16 U.S.C. 1451-1464; as amended) established a voluntary national program within the Department of Commerce's NOAA to encourage coastal states to develop and implement coastal zone management plans. Funds were authorized for cost-sharing grants to states to develop their plans. Subsequent to federal approval of their plans (certification for consistency with the CZMA), grants would be awarded to implement the plans. In order to be eligible for Federal approval, each state's plan is required to: (1) define boundaries of the coastal zone, and (2) identify uses of the area to be regulated by the state, the mechanism (criteria, standards or regulations) for controlling such uses, and broad guidelines for priorities of uses within the coastal zone. Currently, the NJMC's 2004 Master Plan has not been formally submitted to NOAA for certification of consistency with the CZMA.

Subsequent amendments have established additional programs for coastal areas. The Coastal Zone Management Improvement Act of 1980 (P.L. 96-464) established a new system of Resource Management Improvement Grants related to preservation of certain coastal areas, redevelopment of urban waterfronts, and public access to beaches. Subtitle D of the Consolidated Omnibus Budget Reconciliation Act of 1985 (P.L. 99-272) established the National Estuarine Reserve Research System (a state-federal process for designating national reserves) and guidelines for estuarine



research. Consistency provisions of the CZMA were amended as part of the Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508) to require that "any federal activity within or outside of the coastal zone that affects any land or water use or natural resource of the coastal zone" shall be "consistent to the maximum extent practicable with the enforceable policies" of a State's coastal zone management plan. The new law also established a new Enhancement Grants Program for specific areas, including protecting, restoring or enhancing existing coastal wetlands or creating new coastal wetlands and assessing the cumulative effects of coastal development on coastal wetlands and fishery resources. In addition, this statute has established a new Coastal Nonpoint Source Pollution Control Program and increased the financial assistance for land acquisition under the National Estuarine Research Reserve System.

#### **14. Department of Transportation Act of 1966**

Amendments to the Department of Transportation Act of 1966 (Policy on lands, wildlife and waterfowl refuges, and historic sites, 49 U.S.C. 303) require special effort to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) of the Act requires the Secretary of Transportation to cooperate and consult with the Secretaries of Interior and other federal land-management agencies in developing transportation plans and programs that include measures to maintain or enhance the natural beauty of lands crossed by transportation activities or facilities. The Secretary of Transportation may approve a transportation program or project (other than any project for a park road or parkway under 23 U.S.C. 204) requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance only if: (1) there is no prudent and feasible alternative to using that land; and (2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

#### **15. U.S. Fish and Wildlife Service Mitigation Policy**

The Service's Mitigation Policy (*Federal Register*, Vol. 46, No. 15, January 23, 1981) establishes guidance for Service personnel to make consistent and predictable recommendations on mitigating adverse impacts of land and water use and development on fish, wildlife, and their habitats. The policy also allows other agencies and the regulated public to anticipate Service recommendations and incorporate mitigative measures into the early stages of project planning. This policy was established in accordance with key federal authorities (*e.g.*, FWCA, NEPA). Most importantly, the Mitigation Policy makes clear the Service's adoption of the NEPA definition of mitigation in the following sequence: (1) avoiding the impacts, (2) minimizing the impacts, (3) rectifying the impacts, (4) eliminating the impacts over time, and (5) compensating for the impacts. This policy also established mitigation goals dependent upon resource quality, with more stringent mitigation recommended for the more valuable and/often uncommon resources. The Service adheres to its Mitigation Policy when commenting on a Public Notice for a regulated activity in the Meadowlands and in its member role with the Meadowlands Interagency Mitigation Advisory Committee.



## **16. Executive Order 11988 on Floodplain Management**

The purpose of Executive Order (EO) 11988, signed May 24, 1977, is to prevent federal agencies from contributing to the “adverse impacts associated with the occupancy and modification of floodplains” and the “direct or indirect support of floodplain development.” This EO requires federal agencies to “take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains.” Before proposing, conducting, supporting or allowing any action in a floodplain, each federal agency must determine if proposed activities will affect the floodplain and evaluate the potential effects of the intended actions on its functions. The EO requires federal agencies “to avoid adverse effects and incompatible development in floodplains.” This EO applies to federal agencies that are (1) acquiring, managing, and disposing of federal lands and facilities; (2) providing federally undertaken, financed, or assisted construction and improvements (including restoration projects, such as the Hackensack Meadowlands Environmental Restoration [U.S. Army Corps of Engineers, 2003]); and (3) conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities.

## **17. Executive Order 11990 on Protection of Wetlands**

Executive Order 11990 (signed May 24, 1977) requires federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The EO applies to federal agencies that are (1) acquiring, managing, and disposing of federal lands and facilities; (2) providing federally undertaken, financed, or assisted construction and improvements; and (3) conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities. The EO does not apply to the issuance by federal agencies of permits, licenses, or allocations to private parties for activities involving wetlands on non-federal property.

## **18. Executive Order 13112 on Invasive Species**

The purposes of this EO (signed February 3, 1999) are to prevent the introduction of invasive species (*e.g.*, common reed; purple loosestrife), provide for their control, and minimize the economic, ecological, and human health impacts of invasive species. Federal agencies whose actions may affect the status of invasive species shall: (1) identify such actions, (2) use relevant programs and authorities to prevent, control, monitor, and research such species, and (3) not authorize, fund, or carry out actions that are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere. This EO also established a National Invasive Species Council (2004), of which the Secretary of Interior serves as Co-Chair, to provide national leadership regarding invasive species. The Council develops and implements a *National Invasive Species Management Plan* (National Invasive Species Council, 2001) to coordinate complementary, cost-efficient, and effective actions by federal agencies to achieve performance-oriented goals and objectives and specific measures of success regarding invasive species.

## 19. Executive Order 13186 on Migratory Birds

This EO (signed January 10, 2001) directs each federal agency taking actions that negatively affect migratory birds to develop a Memorandum of Understanding (MOU) with the Service to promote the conservation of migratory bird populations. Although no such MOUs have been completed to date, the EO encourages each federal agency to immediately begin implementing 15 identified categories of conservation measures as appropriate and practicable. Some of these categories of conservation activities include: (1) avoiding and minimizing adverse impacts on migratory bird resources when conducting agency actions; (2) restoring and enhancing the habitat of migratory birds; (3) preventing or abating the pollution or detrimental alteration of the environment for the benefit of migratory birds; (4) designing migratory bird habitat and population conservation principles, measures, and practices, into agency plans and planning processes, and coordinating with other agencies and nonfederal partners in planning efforts; and (5) promoting research and information exchange related to the conservation of migratory bird resources, including coordinated inventorying and monitoring and the collection and assessment of information on environmental contaminants and other physical or biological stressors having potential relevance to migratory bird conservation.

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**APPENDIX B**

**NEW JERSEY DIVISION OF FISH AND WILDLIFE  
AND U.S. FISH AND WILDLIFE SERVICE (2002)  
VISION PLAN FOR THE HACKENSACK MEADOWLANDS**



# A Vision Plan

Presented by  
The New Jersey Division of Fish and Wildlife  
and the  
U.S. Fish & Wildlife Service



The Hackensack Meadowlands is a complex of wetlands, forests, and fields along the lower Hackensack River. This unique area supports an astonishing number of raptors, ducks, geese, wading birds, other migratory birds, fish, reptiles and amphibians. It is an oasis in the midst of one of the most densely populated areas in the United States. This 8,400-acre area is the largest remaining brackish wetland complex in the New York / New Jersey Harbor Estuary.

Unfortunately, however, the Meadowlands has problems. This mixture of land and water so rich in natural resources has been the center of a growing human population for the last 300 years. Consequently, development pressure, pollution, and ignorance have led to the degradation and destruction of this area, which threatens the health and vitality of fish and wildlife. But now there is an opportunity to save and restore the Meadowlands.

Contamination can be eliminated and cleaned up. Fill can be removed and areas restored to wetlands. Tidegates can be removed to restore a more natural hydrology. Lands can be acquired and conservation easements obtained to prevent over-development and provide wildlife habitat and public recreation opportunities. Invasive and exotic species can be controlled and areas restored to natural conditions. Citizens can work together to protect the integrity of the Meadowlands. Saving this unique habitat will require the cooperation and meaningful involvement of all stakeholders—municipal, state and federal agencies, local and national environmental groups, and the people of New Jersey and New York. Taking the right steps now can ensure a future of clean water to our communities, flourishing plant, fish, and wildlife populations, and outdoor recreational opportunities for more than 14 million people.

Any environmental protection plan for the Meadowlands must recognize that government agencies alone cannot achieve sustained environmental improvements. The cumulative effects of the day-to-day decisions made by millions of people who live, work, and play in the Hackensack River watershed can greatly outweigh the environmental benefits of a particular government program. The approach for developing a long-term plan must be to operate both individually and collectively. Instead of simply controlling problems or mitigating the impacts of our actions on the environment, all parties must work to avoid problems from the start to improve the current condition of the Meadowlands. Through our cooperative efforts, each stakeholder and interest group, as well as all levels of government, have an opportunity and an obligation to help find a solution for making the Meadowlands an example of our collective commitment to natural resource stewardship.

## Goals for the Meadowlands:

1. Improve conditions for all native plant, fish and wildlife species.
2. Clean up contaminated sites and reduce the effects of pollution on fish and wildlife resources.
3. Acquire, preserve, and restore remaining undeveloped tracts of land to key functioning parts of the Meadowlands ecosystem (*e.g.*, removal or replacement of tide gates with structures that close only on extremely high tides to allow more normal tidal flow and fish passage). Preserve and restore vegetated wetland and upland corridors connecting both small and large tracts that are necessary to connect populations of less mobile species and increase the habitat value of formerly isolated tracts.
4. Control invasive and exotic species.
5. Enhance, restore, and maintain ecosystem integrity, including natural dynamic processes (*e.g.*, successional patterns, natural disturbance regimes, hydrologic processes, nutrient cycles, predator-prey associations).
6. Increase public awareness and education about the Meadowlands and its regional importance through an expanded number of public access points within the Meadowlands, and by encouraging increased but ecologically responsible use of these public facilities.

## Tasks to be Accomplished:

1. Develop long-term management options for fish and wildlife species and native plant communities.
2. Build a stakeholder coalition of agencies and citizens to spearhead the protection, restoration and management of the Hackensack Meadowlands. Define roles and responsibilities of groups and move forward on Memoranda of Understandings.
3. Prioritize sites for acquisition and begin protecting lands either through fee title or conservation easements. Seek funding for priority acquisitions. Contact landowners to identify willing sellers.
4. Identify contaminated sites, determine the source and extent of contamination, and estimate the costs of remediation options.
5. Identify sites with restoration potential. Begin collaborating with natural resource agencies, local universities and environmental groups to explore methods and timing.
6. Create opportunities for public use and education targeting urban populations that often have limited outdoor recreation options or experience.





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