

Restoring Injured Natural Resources in the Harbor

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Multiple oil spills and thousands of waste sites in the greater NY-NJ Harbor area have had acute and chronic adverse impacts on coastal habitats and associated wildlife and fishery resources. Human uses have also been affected, including restrictions on fishing, swimming and navigation. For example, in January of 1990, a pipeline rupture beneath the Arthur Kill spilled 567,000 gallons of home heating oil, resulting in the oiling of approximately 125 acres of salt marsh and mudflats, and killing wetland vegetation and the fish, crabs, and other organisms living in the marsh, including 700 birds.

Federal and state agencies act as trustees on behalf of the public to assess and restore natural resources injured during oil spills, hazardous material releases, or vessel groundings. The National Oceanic and Atmospheric Administration (NOAA) is a trustee for coastal resources such as estuarine and anadromous fish and other living marine resources and their habitats, including wetlands, mudflats, and coastal streams, as well as recreational uses of those resources. In NY-NJ Harbor, NOAA's Damage Assessment, Remediation, and Restoration Program (DARRP) works with co-trustees such as the U.S. Department of the Interior, and the States of NY and NJ, as well as the public and responsible parties to ensure the protection and restoration

of the injured natural resources through the Natural Resource Damage Assessment (NRDA) process.

When a spill or release occurs, the Federal On-Scene Coordinator designated by the United States Coast Guard and United States Environmental Protection Agency manages the response. At that point, NOAA sends a Scientific Support Coordinator to provide scientific advice, communicate with the scientific community, and coordinate assistance for scientific studies.

Responsible parties are required to cleanup and restore the harm from their releases, as mandated by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Oil Pollution Act (OPA). Trustees coordinate with the response and cleanup agencies to ensure (1) protective cleanups that promote recovery of natural resources occur and (2) the appropriate amount and type of restoration is achieved to compensate the public for injuries to the natural resources and the services they provide.

In the states of New York and New Jersey, NOAA's Damage Assessment, Remediation, and Restoration Program has worked cooperatively with state and federal agencies, tribes, industry, and communities to assure long-term protection of natural resources at 52 waste sites. Settlements have resulted

in the restoration and/or protection of over 600 acres of marine habitat and nearly 500 acres of freshwater or terrestrial habitats.

The Natural Resource Damage Assessment process begins with an initial evaluation of potential injuries and determination of whether remediation and restoration will be necessary. If injuries have occurred, the Damage Assessment, Remediation, and Restoration Program works with the other affected trustees to determine the appropriate type and amount of restoration needed to restore lost resources and compensate the public for their lost use. The Exxon Bayway Oil Spill in Arthur Kill, mentioned at the beginning of this article, provides an important case study of the steps in this process.

A Case Study: Exxon Bayway Oil Spill

Site Background

The Arthur Kill runs for approximately 10 miles from Newark Bay to Raritan Bay, separating Staten Island, New York, from New Jersey. Aside from being a major shipping corridor, this tidal strait also has numerous wetlands that support populations of birds and other wildlife.

Response, Remediation and Assessment

When the pipeline lying beneath Arthur Kill ruptured in 1990, the wetlands, wildlife, and associated ecological services provided by these

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Old Place Creek on Staten Island before (left) and after (right) the planting of marsh grass. Oil from the spill impacted this tributary to the Arthur Kill. Photo: NOAA Restoration Center, NE Region

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natural resources were detrimentally affected. As part of its mission, NOAA worked with its partners to ensure an effective response and remedy. Following the reporting of a spill in the Exxon Bayway, boom was put in place to contain the oil and limit additional contamination. Shoreline bioremediation took place through application of fertilizer, which spurs microorganisms to accelerate the breakdown of the oil. To minimize the impact of the oil upon the surrounding habitat, trenches were dug and the oil removed by vacuum (a process known as trenching). Responders also engaged in significant surface water cleanup, including skimmers that mechanically captured floating oil.

Unfortunately, the impact from the spill upon the environment was almost immediate as marsh fringes in Morse's Creek—less than 100 yards from the rupture, and Old Place Marsh—approximately 400 yards from the rupture, were oiled and significantly affected. The Trustees embarked on an assessment to determine the extent of injuries and public losses arising from the spill. Field surveys depicted the various types of shoreline habitats and areas of high, medium, and low oiling along the Arthur Kill. Approximately 11 acres of marsh most affected by the spill were entirely removed of vegetation. After the response, remediation, and assessment phases, restoration was necessary to compensate the public for their losses of habitat, its associated

wildlife, and ecological services.

Restoration

With the receipt of approximately \$11.5 million in restoration funds, the Damage Assessment, Remediation, and Restoration Program and its partners (including Department of the Interior, New Jersey Department of Environmental Protection, and New York State Department of Environmental Conservation, NYC Department of Parks and Recreation), focused on compensating the public for the losses caused by the oil spill. To date, 53 acres of tidal wetlands have been enhanced and restored, including 17.5 acres along the Woodbridge River in New Jersey and 18 acres at Bridge Creek Salt Marsh on Staten Island in New York. As compensation for losses to the bird population, the Trustees removed invasive non-native trees and planted native birch trees on 1 acre of land to enhance the nesting opportunities for herons and egrets.

In addition to this restoration activity, the Trustees purchased 23 acres in the Bridge Creek Complex, 9.52 acres at the Goethals Bridge Pond, 78 acres in the Old Place Marsh Complex, and a 13-acre conservation easement on Shooter's Island in the Kill van Kull. These locations are a mix of upland forested habitats and freshwater, brackish, and salt marsh environments. Located on the northwestern corner of Staten Island, these areas are part of the Harbor Herons Wildlife Complex, which provides habitat for wading birds including herons, egrets, and ibises.

The Trustees have also been

actively involved in land acquisition on the New Jersey side of the Arthur Kill. Targeting the Rahway River, a tributary feeding into the Arthur Kill, the Trustees purchased 25 acres of freshwater wetlands and upland forest in Edison, NJ. The lower Rahway River provides important tidal habitat for a range of species and the health of its ecosystem impacts the state of the Arthur Kill.

Apart from these completed efforts, additional restoration work is ongoing. Work is underway to plan and design a 35-acre wetland along the Hackensack River in Jersey City. Evaluation of restoration of salt marsh at the Goethals Bridge Pond is in process.

The case of the Exxon Bayway spill represents a good example of the process undertaken by NOAA and its partners when an oil spill occurs. Coordination of efforts between Trustees and, when possible, responsible parties, ensures that remediation, assessment, and restoration are completed and that the public is compensated for their losses. More information on these and other on-going DARRP projects in the New York-New Jersey Harbor Estuary area as well as other areas in the United States is available at www.darrp.noaa.gov. ❖

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Carter Sails Off

After many years of collaboration with HEP, Carter Craft is moving on from

the Metropolitan Waterfront Alliance. We thank him for his determined efforts as the NY co-chair of HEP's Citizens Advisory Committee and the Chair of the Public Access Work Group. Carter's ability to network and provide fresh insight moved public access and waterfront issues to center stage. We'll miss you Carter.

Fall 2008 ANEP Meeting

The NY-NJ Harbor Estuary Program will host the 2008 fall meeting of the Association of National Estuary Programs (ANEP), on November 17–19 in New York City. A non-profit organization, ANEP's goal is to promote responsible stewardship and a common vision for the preservation and restoration of our nation's bays and estuaries. ANEP works with the 28 National Estuary Programs to enhance communication and help coordinate a national agenda. The meeting will provide an opportunity for National Estuary Programs to learn from each other, engage in fruitful discussion and brainstorming, and explore or boost collaboration among organizations. Two focus areas of the meeting's agenda will be habitat restoration and low impact development (LID).