

Restoring Habitat at John Heinz National Wildlife Refuge at Tinicum

Natural Resource Damage Assessment and Restoration Program



The Problem

On February 5th, 2000 a 192,000 gallon oil spill occurred on the John Heinz National Wildlife Refuge at Tinicum (Refuge). One of five Sunoco pipelines located under the eastern end of the Refuge developed a three-inch crack and seeped oil into important habitat for migratory birds, fish and reptiles.

The Refuge, located in Philadelphia and Delaware counties, contains the largest remaining freshwater tidal wetland area in Pennsylvania. The 1000-acre refuge is the habitat of many species of birds, mammals, amphibians, and reptiles, including the State-listed, threatened red-bellied turtle and endangered coastal plain leopard frog.



Marsh restoration

Natural Resource Damage Assessment and Restoration Program

When hazardous substances enter the environment, fish, wildlife, and other natural resources can be injured. The Department of the Interior, along with State, Tribal and other Federal partners, acts as “trustee” for these resources. Trustees seek to identify the natural resources injured and determine the extent of the injuries. Trustees work with the responsible parties to carry out restoration activities, or recover funds from responsible parties to carry out the restoration activities. These efforts are possible under the Natural Resource Damage Assessment and Restoration Program (NRDAR), the goal of which is to restore natural resources injured by oil spills or the release of hazardous substances.

Highlights

- Restored 10 acres of important tidal habitat for migratory birds and spawning anadromous fish;
- Restored natural tidal flow connection to Darby Creek; and
- Installed new hiking trails and interpretive signs.

Restoring the Resources

It took a month of skimming and siphoning to remove the oil from the impoundment adjacent to the spill. The damaged section of the cracked pipe was removed and replaced. Extensive contaminated soil excavation was conducted and trails were closed to visitors for their own safety.

In order to improve leak detection in the future, a 50-foot corridor was cleared of trees and brush through the former “Warbler Woods”. The refuge decided to manage the corridor as grassland and edge habitat for the benefit of many wildlife species.



Larry Masters

Semipalmated sandpiper

In 2005, Sunoco agreed to pay \$865,000 to restore natural resources injured by the oil spill. These funds were combined with NRDAR funds recovered from the release of hazardous substances at the Publicker Industries, Inc., National



Native plantings in restored soils and sediments

Priorities List (Superfund) Site, located nearby on the banks of the Delaware River which injured similar resources. The combined funds were used to fund wetland restoration at the Refuge. This restoration included: removing old dredge spoil from the restoration area; planting native trees, shrubs, grasses and forbs; constructing a two pedestrian bridges; and creating interpretive signs.

In addition, a dike separating the restoration area from Darby Creek was breached, restoring natural tidal flows throughout the 10-acre site. Pedestrian bridges were installed to link an approximately 0.5-mile trail surrounding the restoration site, providing new recreation opportunities for the public.

The restored wetlands will add additional habitat to the Refuge, which is used by more than 300 species of migratory birds along the Atlantic Flyway, including warblers, egrets, sandpipers, and a large variety of ducks. In addition, the restoration will benefit the more than forty species of fish occurring at the Refuge (including anadromous American shad and catadromous American eel), and the eight species of amphibians and eighteen species of reptiles that have been documented at the Refuge. Red-bellied turtles have already been seen in the area of the restoration.



New pedestrian walkway



Red-bellied turtles (right) basking with painted turtles

Thanks to Our Partners

Without the assistance of the Refuge staff, NRDAR staff, USFWS Region 5 engineers, staff from other refuges that came and worked some of the heavy equipment, contractors, the USFWS Partners for Fish & Wildlife staff, and the Army Corps of Engineers, the restoration at the John Heinz National Wildlife Refuge would not have been possible.



Coastal plain leopard frog



Newly constructed pedestrian bridge

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