

FreshkillsPark / Wetlands

A plan for the wetlands



Wetlands can improve water quality, control flooding, prevent erosion, improve species diversity and even provide economic benefits! Due to the importance of this habitat, Freshkills Park is restoring 360 acres of wetlands to make them healthier ecosystems. Plans include removing invasive species such as *Phragmites*, restoring different inter-tidal and freshwater plant communities, and creating additional wetland habitats within existing low-lying areas. We are developing an innovative storm water management system by creating pocket wetlands (canals with dense vegetation covering the sides and bottom), and bioretention areas (where soil and plants are used to remove pollutants from storm runoff). In 2012, the Freshkills Park Development Team restored 2.1 acres of wetlands using goats to eat away at *Phragmites*, and then re-graded the landscape, planted native species and ultimately made the wetlands more resilient. These restoration techniques will be greatly beneficial to many species of plants and animals. For example, the Northern Diamondback Terrapin (a native turtle species) could forage and nest in newly restored wetland and shoreline areas. In addition, wetland restoration

would expand, enhance and provide spawning and nursery habitat for many species of fish. Wading birds, shorebirds, raptors, and songbirds will also benefit. From coastal marshland, to landfill, to park, this area has undergone dramatic changes within the past sixty years. By restoring important local ecosystems such as wetlands, Freshkills Park becomes not only an important shelter for plants and animals, but also a symbol of urban renewal and positive change.

Frequently Asked Questions

What are wetlands?

Wetlands are areas of land saturated by water, either permanently or seasonally, such that they take on characteristics of a distinct ecosystem.

What is the difference between tidal salt marshes and freshwater wetlands?

Freshkills Park is home to many different types of wetlands, including salt marshes and freshwater wetlands. Tidal salt marshes, found along Main Creek, Richmond Creek, and Fresh Kills are coastal wetlands that are flooded and drained by the tides. They are home to a diverse set of species, including Diamondback Terrapins, Herons, and the salt-resistant cordgrass.

Freshwater wetlands usually occur along streams, lakes, and rivers. In Freshkills Park, this habitat is found in East Park and South Park. Freshwater wetlands shelter many species, including migratory birds, muskrats, and red-backed salamanders.

Tidal Wetland



Freshwater Wetland



Why is wetlands hydrology important?

Wetlands hydrology is the study of water in these special areas. Research allows for better understanding of water quality, flood control, streamflow maintenance, species diversity, and the measuring of the economic benefits of wetlands.

Wetland Benefits

Wetlands improve water quality:

Wetlands trap particles carried by water. Vegetation reduces the speed of water, causing heavy metals, organic particles (that could otherwise cause algae blooms), and excessive sediment (that could pose a threat to fish eggs) to sink to the bottom. Bacteria in the root zone breaks down compounds such as nitrogen and phosphorous.

Wetlands control flooding and prevent erosion:

Wetlands reduce shoreline erosion (the wearing away of land by elements such as water). They absorb wave energy and also allow for the storage of large volumes of water. This is especially important during large storms to reduce flooding and storm damage.

Wetlands maintain streamflow:

Wetlands store water and during periods of low rainfall, this water is discharged to adjacent streams to help maintain flow.

Wetlands improve species diversity:

Wetlands are characterized by their brackish (slightly salty) waters that foster the growth of specialized plants and animals not found in freshwater or saltwater habitats. They also serve as important habitats for migratory birds, as well as incubators and nurseries for insects and fish.

Wetlands have economic benefits:

Wetlands can offer substantial economic, as well as ecological benefits. They can save a community from having to build water treatment or flood control systems. Also, by serving as an important fish habitat, they help keep the commercial fishing economy alive.

Animals that benefit from the Freshkills Park Wetland Restoration



Reptiles

Northern Diamondback Terrapins forage and nest in wetlands and shoreline areas. Garter snakes prefer the moist environment found in wetlands.



Fish

Mummichogs and Striped Killfish abound in salt marshes. This habitat provides their diet of phytoplankton, mollusks, crustaceans, and mosquito larvae.



Birds

Spotted Sandpipers nest in wetlands, while Great Egrets use this habitat to hunt for fish, amphibians, reptiles, and even other birds!



Invertebrates

Insects, worms, bivalves, and crustaceans live on the bottom and the surface of wetlands. They break down leaf litter, eat periphyton, remove organic matter, and serve as prey for other wetland dwellers.

