

## Economic & Environmental Benefits of Wetlands

By: Jennifer Coccozza, Senior Planner

If you were to ask a random group of people what wetlands do or what wetlands are, the answers would vary quite a bit. Some would say that they are related to the environment, that there are fish and frogs in them, or perhaps that they are just breeding grounds for those annoying mosquitoes. All would be correct, but that is just a small piece of the picture.

### Habitat

The fact is that wetlands do many things, some more noticeable than others. Probably the most recognized job of wetlands is to provide habitat for animals, both aquatic and terrestrial. What child hasn't run to the edge of a wetland with the hope of seeing a frog? Wetlands provide nesting sites for birds, spawning and nursery habitat for fish, and allow migratory birds a place to rest on their long journeys. Many larger mammals also call wetland areas "home."

In addition, wetlands also support many types of plant species which provide food and habitat to the animals, insects and microbes that live there, and filter excess nutrients from the water.

### Water Quality

Fast moving water erodes soil away and carries nutrients and sediments downstream that can negatively impact other waterbodies. Wetlands provide a place to slow the flow of water, allowing sediments and nutrients to settle and returning cleaned water to the larger system.

Without removal of excess nutrients, waterbodies begin to experience algal blooms and rapid aquatic plant growth that eventually lead to eutrophication. Simply put, eutrophication is the process by which a waterbody dies, where oxygen levels decrease to a point that can no longer sustain life. Wetlands improve water quality by filtration and absorption, keeping waterbodies downstream of the wetland healthy.



*On a recent outing with the NYSDEC, Dutchess County Planning Federation participants explored tidal wetland sites on Tivoli North Bay.*

More than 33% of the threatened and endangered species in the US live only in wetlands.

(Source: US EPA)

## Water Storage, Groundwater Recharge, and Flood Protection

Wetlands have the unique ability to hold large amounts of water and slowly release it back into the environment. This helps reduce soil erosion by allowing water to “pool” in the wetland area, and then gradually recharge groundwater supplies. This sponge-like capacity also helps reduce the devastation that can be caused by flooding after a storm event. Wetlands hold the water that would otherwise flood basements and streets, thereby reducing the potential for property damage caused by flooding.

A one-acre wetland can store about three acre-feet of water, or 1,000,000 gallons.

(Source: US EPA)

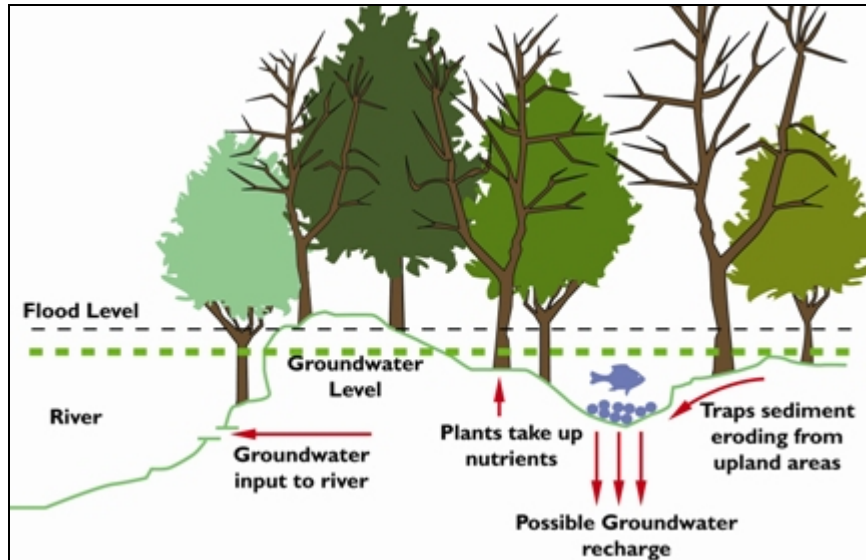


Diagram of a wetland. (Adapted from: [www.csu.org](http://www.csu.org))

## Recreation

Wetlands serve a recreational function as well. According to the US Environmental Protection Agency, more than half of adults in the United States annually spend \$59.5 billion fishing, birdwatching, hunting, and photographing wildlife. Wetlands provide an amazing backdrop for hiking enthusiasts, and can be used as living classrooms for teachers and their students.

## An Economic Twist . . .

In addition to the many environmental benefits of wetlands, there are related economic benefits. Wetlands provide many services to us by simply existing. They improve water quality without expensive treatment facilities, curb flooding after large storm events which reduces potential damage to buildings, roads and infrastructure, and increase the enjoyment of our human habitat by providing places for important wildlife and plants to live.

Another economic application of wetlands found in other areas of the country is the use of wetlands to grow and support saleable products, such as cranberries and fish. For the New England coastal states, about 32% of the commercial fish and shellfish harvested in the northeast Atlantic are dependent on estuaries and their associated wetlands.



Cranberries growing and being harvested in a cranberry bog (a type of wetland).

(Source: [www.itsaruby.com](http://www.itsaruby.com))

On a local level, many Dutchess County residents can recount storm events that cost thousands, if not millions, of dollars in repairs and maintenance of buildings and roads due to the damage caused by the flooding waters. Water storage and flooding might always be an issue in some places in the County, especially in floodplain areas. It is therefore important that we support and protect our existing wetlands as they assist us in flood control, water storage and attenuation in upstream areas – in order to mitigate or prevent costly negative environmental and economic impacts further downstream.



*Flooding from the April 2007 storm. Shown here is the parking area and fields at the Pleasant Valley Recreation Park behind Town Hall.*  
(Photo Credit: D. Druchunas)

### **What Can We Do to Ensure Healthy Wetlands?**

With the many benefits that wetlands provide for us, we should be working to ensure that they are allowed to function as nature intended. Whether you are a member of a local legislative, planning, zoning, or conservation advisory board, there are both regulatory and non-regulatory things you can do to preserve and protect these important areas.

Regulations that exist at both the State and Federal level can be supplemented by local regulations to help protect wetlands and their buffer areas. Municipalities can enact local regulations that are more protective than state regulations, and that restrict activities occurring in a wetland or wetland buffer area such as grading and filling, construction of other structures, and storage of materials.

Non-regulatory ways to protect wetlands include outright acquisition of the wetland area, and deed restrictions or conservation easements placed on the wetland and its buffer area. So even if your municipality does not have its own local regulation, other options exist and may be just as effective.

Further, local boards can influence and educate developers and homeowners in the site plan review process to propose development that supports, or at least does not conflict with, important wetland functions.

So the next time you pass by a wetland, be it a bog, fen, marsh, or vernal pool, remember to appreciate its unique qualities and functions – mosquitoes and all.

#### **Several Dutchess County municipalities have enacted wetland regulations:**

Town of Amenia  
Town of Clinton  
Town of East Fishkill  
Town of Fishkill  
Town of Hyde Park  
Town of LaGrange  
Town of Pawling  
Town of Pine Plains  
Town of Pleasant Valley  
Town of Poughkeepsie  
Town of Stanford  
Town of Wappinger

*Source: Cornell Cooperative Extension Dutchess County*

## **More Information**

[NYS Department of Environmental Conservation – Wetlands Page](#)

[US Environmental Protection Agency – Wetlands Division](#)  
[National Oceanic and Atmospheric Administration](#)

[CLICK HERE](#) to view past issues of the DCPF's newsletter, *Plan On It*.

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