

Wetlands for Citizens & Land Use Decision Makers

What is a wetland?

Wetlands develop where water creates distinctive soil conditions and plant communities. They are transitional areas, displaying elements of both open water and dry land.

The Army Corps of Engineers and the Environmental Protection Agency (EPA), which regulate wetlands, define wetlands as: "Those areas that are saturated by surface or ground water ... and that under normal circumstances support... vegetation adapted for life in saturated soil conditions."



Thousand Acre Swamp in the Town of Penfield is an excellent example of a type of wetland that is not always easy to identify. At certain times of the year, swamps may contain little or no surface water. Also, they do not support cattails that many of us associate with wetlands.



Great Blue Lobelia is one of the many beautiful plants that grow in our local wetlands.

Many people associate the term "wetland" with cattail marshes, similar to those found at Irondequoit and Braddock Bays. However, there are many different types of wetlands in Monroe County. Recognizing other wetland types can be difficult because they may contain trees (swamps and bogs), or they may lack surface water (wet meadows and vernal pools).

Why are wetlands important?

Wetlands prevent flooding by temporarily storing and slowly releasing stormwater. Wetlands also reduce water flow, thus allowing sediments and associated pollutants to settle out. Beneficial microorganisms (called biofilm) live on wetland plants and process some forms of pollution. In addition, roots of wetland vegetation hold soils in place, thus stabilizing the banks of rivers and streams.



Many of the birds that we admire, such as the Great Blue Heron, depend upon wetlands for nesting and feeding.

Wetlands also provide wildlife habitats and support recreational opportunities:

Sport fish, migratory birds, mammals, reptiles, and amphibians rely on wetlands for shelter, breeding and feeding. Wetlands also provide unique habitat for endangered plants and animals. According to the New York State Department of Environmental Conservation (DEC), 10 species of endangered animals make their homes in wetlands. Recreational activities that depend on healthy wetlands include hunting, trapping, sport fishing, bird watching, hiking, swimming and canoeing.



Created stormwater wetlands, such as this excellent example in the Town of Pittsford, both filter pollutants from stormwater runoff and help to beautify our neighborhoods.

Why are wetlands created?

Stormwater runoff from impervious surfaces such as parking lots, roads and rooftops, contains significant quantities of pollutants such as eroded soil and phosphorus.

Increased phosphorus levels in waterways may result in nuisance algae growth. As algae decomposes, it can deplete oxygen levels in the water, thus creating unsuitable conditions for fish survival.

Wetlands can be created to reduce the amount of pollution found in stormwater runoff. A local study directed by the Monroe County Environmental Health Laboratory, showed that constructed wetlands remove 84% of the suspended solids and 32% of the phosphorus contained in runoff.



Large areas of our community are covered with impervious surfaces such as roads and parking lots. The stormwater runoff from these areas is a major source of pollutants to our water resources. Wetlands can be created to remove the pollutants from stormwater runoff.

What additional benefits do constructed wetlands provide?

Constructed wetlands provide areas of educational and aesthetic value: Educators from Penfield, Pittsford, and the Cornell Cooperative Extension use created stormwater wetlands to teach students about the environment. Stormwater wetlands in the Towns of Greece, Ogden, Pittsford and Perinton are visually attractive additions that increase property values.

Natural wetlands, such as this cattail marsh in the Town of Henrietta, perform many valuable functions including protecting water quality, minimizing flood damage, and providing habitat for wildlife. We all need to take an active role in ensuring that these valuable community resources are protected.



How safe are the constructed stormwater wetlands in my community?

Generally, stormwater wetlands include design features that minimize safety risks.

These include shallow water (1-6"), gentle side slopes, and a barrier of thick, emergent vegetation to prevent easy entrance into the wetland. Like other stormwater management facilities, secured inlet and outlet structures are essential to prevent unauthorized access. The experience of local towns such as Pittsford, has shown that constructed stormwater wetlands do not significantly increase liability.

Do wetlands create mosquito problems?

A frequent concern of residents is that wetlands are breeding grounds for mosquitoes. However, mosquito populations are controlled by other wetland organisms such as frogs, toads, reptiles, birds, bats and small fish. The Town of Penfield has reported that the conversion of a dry stormwater detention basin to a created wetland resulted in a reduction in resident complaints concerning mosquitoes.

What are the primary threats to wetlands?

There are many threats to wetlands including urban expansion, agricultural activities, harbor dredging, and the invasion of exotic species. According to estimates, 60% of the original wetlands in New York State have been lost.

How is a wetland identified?

The New York State Freshwater Wetlands Act mandates that all wetlands 12.4 acres or greater in size be mapped by the DEC. Federal National Wetland Inventory (NWI) maps are also used to identify wetlands. Both the state and federal wetland maps provide only the general location of wetlands. On-site investigation is recommended for projects involving wetlands.

How are wetlands protected?

Activities that affect a wetland or waterway will most likely require a permit. Applicants should communicate with regulatory agencies to identify issues and reduce regulatory delays.

State At the state level, the DEC requires a permit for regulated activities in wetlands that are 12.4 acres or greater in size. A permit is also required for activities in smaller wetlands of significant local importance. Contact the DEC Region 8, in Avon, New York at (716) 226-2466 with any questions you may have concerning state permits.

Federal At the federal level, the U.S. Army Corps of Engineers issues permits for regulated activities that have impacts on federal wetlands. Unlike state regulations, federal protection applies to all wetlands, **regardless of size**. However, a created wetland maintained as a stormwater management facility, may not be subject to federal protection. The Army Corps can be contacted concerning federal permits in Buffalo, New York at (716) 879-4330.

According to the conservation provisions of federal farm bill legislation, farmers that participate in USDA programs are subject to wetland regulations administered by the Natural Resource Conservation Service (NRCS). Contact the NRCS at (716) 473-2120.

Local Municipalities may enact regulations to protect wetlands. This can be achieved using several strategies including, environmental protection overlay districts, cluster development, large lot zoning, and wetland protection ordinances.

Pittsford and Perinton are examples of towns that have enacted ordinances which protect wetlands. In general, wetland protection ordinances have standard elements such as a definition of a wetland and activities that are permitted in town wetlands. Local ordinances must be consistent with established state and federal regulatory standards.



Who do I call with questions regarding wetlands and wetland regulations?

The following local agencies can provide information regarding wetlands:

- For assistance with wetlands identification, or to obtain a copy of the Monroe County wetland guidebook, contact the Monroe County Environmental Management Council at (716) 760-7610 Extension 7041.
- For advice about constructing stormwater wetlands, contact the Monroe County Soil and Water Conservation District at (716) 473-2120 or the Monroe County Environmental Health Laboratory at (716) 274-6820.
- For information regarding land use techniques for wetland protection, contact the Monroe County Department of Health at (716) 274-7638.

For information on ordering Federal NWI maps contact the following:

1-800-USA-MAPS

The following wetland web sites are available:

- Army Corps of Engineers
<http://www.ncb.usace.army.mil>
- The Environmental Protection Agency (EPA)
<http://www.gov.epa.gov/owow/wetlands/>

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