

WETLAND CONSERVATION



Hudson River
Estuary Program

What does the Hudson Valley have to lose?

Wetlands are important components of the Hudson River estuary watershed, providing habitat for wildlife and plants, improving water quality and storing floodwater, and offering unique opportunities for people to experience nature.

Wetland diversity

The estuary watershed supports a diversity of tidal and non-tidal wetland types, from freshwater intertidal mudflats along the Hudson's shores, to floodplain forests along creeks, to inland wetlands such as woodland pools. At least half of the 57 wetland community types that occur in New York have been documented in the estuary watershed. Each of these different wetlands has unique conditions, and in turn supports different plants, wildlife, and fish, contributing significantly to the region's rich biodiversity.

What is a wetland?

Wetlands are typically defined by vegetation, soils, and hydrology. More specifically, wetlands are areas saturated by surface or groundwater enough to support a community of plants that are adapted to life in saturated soil conditions. Water is not always present; in fact, some kinds of wetlands often appear dry. If water is present long enough during the year to influence the kinds of plants that grow, an area can be a wetland.

Benefits of wetlands

Wetlands provide many functions and benefits that are valuable to people and the environment, including:

- **water quality improvement:** Wetlands cleanse water by filtering out pollutants, which are then broken down or immobilized. They also filter sediment and reduce turbidity.
- **flood and storm water control:** Wetlands absorb, store, and slow the flow of rain and snow melt, helping to minimize flooding and related damage. An acre of wetland can store one million gallons of water.
- **surface and groundwater protection:** Wetlands often serve as groundwater discharge sites, maintaining base flow and water levels in streams, rivers, ponds, and lakes. In some places, wetlands help to recharge groundwater.
- **fish, wildlife, and plant habitat:** Wetlands are one of the most productive habitats for feeding, nesting, spawning, resting, and cover for fish and wildlife, including many rare and endangered species. They are home to a large diversity of plants, as well.
- **carbon sequestration:** Wetlands contribute to climate change mitigation by storing carbon in soils and plants.
- **public enjoyment:** Wetlands provide areas for recreation, education, and research. They are popular destinations for wildlife watching and larger wetlands offer hunting and fishing opportunities.

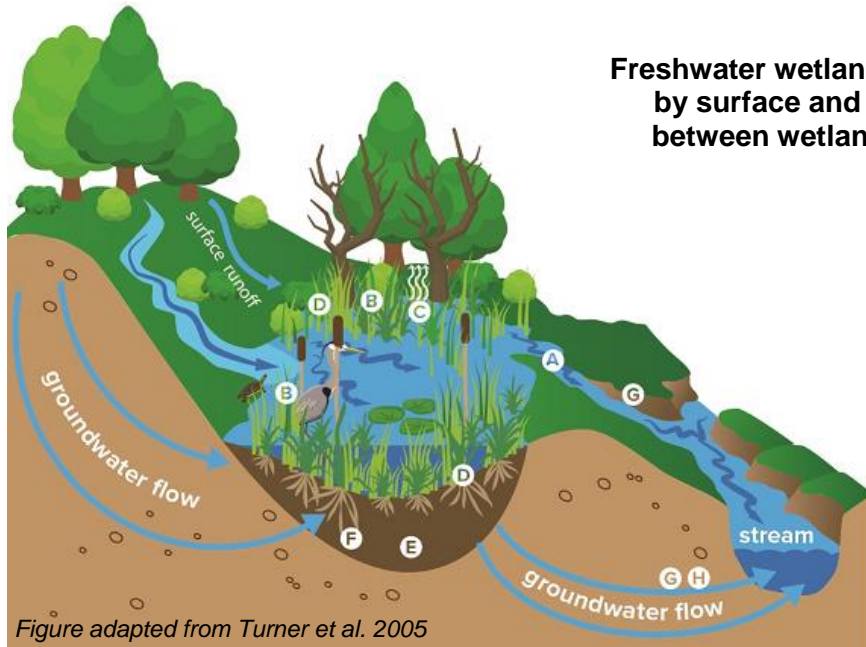


Plants like blue vervain (above) can tolerate prolonged wet soil conditions. Photo: L. Heady



Some wetlands, like this hardwood swamp, may appear dry during certain times of year. Photo: L. Heady

Freshwater wetlands are connected to their surroundings by surface and groundwater, and by wildlife that move between wetlands and terrestrial habitats to meet their foraging, breeding, and resting needs.



- A** Stream energy dissipates through system.
- B** Critical habitat is available to wildlife.
- C** Surface water is slowly released through evaporation.
- D** Plants transpire stored water.
- E** Saturated soil stores water.
- F** Contaminants and sediment are filtered.
- G** Water leaving wetland is cleaner.
- H** Groundwater is slowly released to stream.

Figure adapted from Turner et al. 2005

Which freshwater wetlands are protected?

It is estimated that over half of New York’s historic wetlands were lost due to activities such as filling, draining, and dredging. Today, some freshwater wetlands receive protection from Article 24 of the NYS Environmental Conservation Law and from Section 404 of the federal Clean Water Act. However, it is estimated that up to 55% of wetlands in the estuary watershed are too small or geographically isolated to receive state or federal protection. These vulnerable wetlands can be protected through land acquisition, private stewardship, and municipal efforts.

State and Federal Protection of Freshwater Wetlands	
NYS Freshwater Wetlands Act of 1975 , Article 24 of the Environmental Conservation Law	NYSDEC protects freshwater wetlands greater than 12.4 acres that are on the state’s regulatory map, with a 100-foot adjacent area. Certain smaller wetlands of “unusual local importance” are also protected. The main provisions of the Act seek to regulate activities that would have an adverse impact on wetlands, such as filling and draining. DEC regulates these uses through the Freshwater Wetland Permit Program. See https://www.dec.ny.gov/lands/4937.html .
Section 404 of the Federal 1972 Clean Water Act	The Environmental Protection Agency provides oversight and the US Army Corps of Engineers regulates wetlands defined as “waters of the United States” (WOTUS). A federal wetland permit and an associated 401 Water Quality Certificate issued by DEC are required to fill or alter regulated wetlands; however, the WOTUS definition has undergone recent changes and jurisdiction is often determined on a case-by-case basis. Generally, Federal regulations do not apply to wetlands that lack connections to surface waters, and do not protect adjacent areas. See https://www.epa.gov/cwa-404 .

Many municipalities in the estuary watershed are concerned about their community’s wetlands and have pursued different strategies to ensure their continued existence and function, including local wetland laws and open space protection.

Resources to learn more:

- *An analysis of the size and distribution of geographically isolated, small wetlands in the Hudson River estuary watershed.* Zucker and Lau. 2009.
- *Hudson River Estuary Wildlife and Habitat Conservation Framework.* Penhollow et al. 2006.
- *Wetlands Status and Trend Analysis of NYS - Mid-1980s to Mid-1990s.* Huffman & Associates, Inc. 2000.

Websites:

- *Hudson Valley Natural Resource Mapper* <https://www.dec.ny.gov/lands/112137.html>
- *Environmental Resource Mapper* <https://www.dec.ny.gov/gis/erm/>
- *New York Natural Heritage Program Conservation Guides* <https://guides.nynhp.org/>
- *Conservation and Land Use in the Hudson River Estuary Watershed* <https://www.dec.ny.gov/lands/5094.html>