

3.4 Wetlands

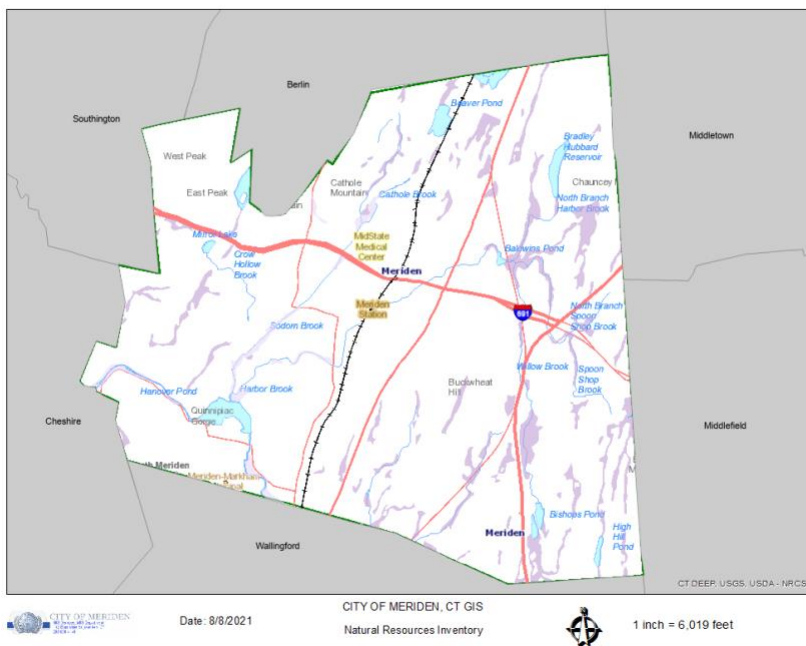
Meriden’s INLAND WETLANDS AND WATERCOURSE REGULATIONS begin with the statement, “The wetlands and watercourses are an indispensable, irreplaceable and fragile natural resource with which the citizens of Meriden have been endowed. They are essential to an adequate supply of surface and underground water, to hydrogeological stability and control of flood and erosion, to the recharging and purification of groundwater, and to the existence of many forms of animal, aquatic and plant life.”

Connecticut wetlands are defined by soil type, specifically saturated or hydric soils, which are protected under the City’s inland wetland regulations.

Water in freshwater wetlands is replenished by surface water flooding and groundwater discharge. Ponding of water in wetlands can occur seasonally, semi-permanently, or permanently. According to the DEEP’s “Wetlands of Connecticut” on page five, wetlands are defined by three aspects:

1. Hydrology – the degree of flooding or soil saturation
2. Wetland vegetation
3. Hydric soil

The 2020 Meriden POCD identified 1,085 acres of wetland-designated soils, which comprise 7% of Meriden’s lands. Below is a map of wetland soils in Meriden. Smaller wetland areas are not documented on this map but are detailed in wetland maps used by the Meriden Planning Department.



Inland Wetland Soils	
■	Poorly Drained and Very Poorly Drained Soils
■	Alluvial and Floodplain Soils

Wetlands are beneficial because they improve water quality; serve as habitat, spawning, and nursery area for many species; prevent flood damage; support endangered species; and provide erosion control. Wetlands trap nutrients from runoff water, improving water quality. Wetlands also provide outdoor recreational opportunities (i.e., wildlife viewing/photography, nature study).

List of Major Wetland Values		
Fish and Wildlife Values	Environmental Qualities	Socio-economic Values
Fish and Shellfish Habitats	Pollution Filter	Flood Control
Waterfowl and Other Bird Habitat	Sediment Removal	Erosion Control
Furbearer and Other Wildlife Habitat	Oxygen Production	Groundwater Recharge
	Nutrient Recycling	Water Supply
	Chemical and Nutrient Absorption	Timber and Other Natural Products
	Aquatic Productivity	Recreation
	Microclimate Regulator	Aesthetics
	World Climate (Ozone Layer)	Recreation and Scientific Research

Adapted from "Wetlands of Connecticut" (CT DEEP), page 67

Wetlands improve water quality through nutrient removal and retention, and vegetation acts as a filter. As water floods a wetland, the water spreads throughout the vegetation. Extra sediment binds to the roots of plants. Wetland vegetation is resilient and can remove nutrients from fertilizer run-off or waste products by taking in those chemicals and making some less harmful. Wetlands can remove sediment, which is valuable because sediment can carry excess nutrients and heavy metals. Wetlands are often located near groundwater areas and are essential for contributing to groundwater quality.

Preserving wetlands is an important step in flood control. During flooding, wetlands slow water velocity, lessening flood damage and reducing the water's erosive potential. Wetlands act as flood storage, taking in surface flow and storing it to release the water back into groundwater and streams slowly.

Wetland vegetation is a significant oxygen producer, providing clean air and ample amounts of dissolved oxygen. Wetlands also regulate the microclimate in the surrounding area by filtering the air of pollutants. They self-maintain through wetland ecosystem processes, such as primary production, flood protection, shoreline erosion control, and nutrient cycling.

As the EPA notes, wetlands play a critical role in watersheds because the shallow water, high levels of nutrients, and primary productivity are ideal for developing organisms that form the base of the food web. These organisms are fed on by fish, amphibians, shellfish, and insects, while birds and mammals migrate for food and shelter. Many species on the Endangered and Threatened Species List are wetland or water-dependent.

The DEEP reports that nearly all freshwater fish can be considered wetland-dependent because many species feed in wetlands or upon wetland-produced food. Many fish use wetlands as nursery grounds, while almost all important recreational fish spawn in the waters of wetlands. This includes trout, sunfish, bass, Channel Catfish, and other recreational fish species in Meriden.

DEEP emphasizes on page 69, "Wetlands, therefore, are crucial for the existence of many birds, ranging from waterfowl and shorebirds to migratory songbirds. Some spend their entire lives in wetland environments, while others primarily use wetlands for seasonal breeding, feeding, or resting."

A wetland ecosystem thrives on properties and functions that generally exist beyond frequent human contact, even in developed areas. Wetlands support both living and non-living organisms that are wetland specific. The U.S. Army Corps of Engineers says that wetlands are biologically diverse and productive areas.

According to the DEEP's, "Wetlands of Connecticut," on page 87, direct threats to wetlands include:

- Filling for dredged spoil and other solid disposals
- Dredging and stream channelization
- Construction of dikes, dams, levees, and seawalls

These threats can occur without proper consideration of wetland values. The greatest threat to freshwater wetlands is residential, commercial, or industrial development encroachment. Dredging removes vegetation, increasing erosion. Historically, dredging and filling wetlands have been favored to create houses, buildings, and parking lots. Urbanization and transportation projects that compromise wetlands increase sedimentation and nutrient levels in streams, affecting water quality, plants, and animals. By filling wetlands with paved areas, impervious surface cover leads to surface water runoff with extra nutrients, fertilizers, pesticides, etc.

Wetland and watercourse regulations are actively managed by the Inland Wetlands and Watercourse Commission. Minutes and other information can be found on MeridenCT.gov by searching for “Documents on Demand” and then searching “wetland.”

Resources

CT DEEP, “Wetlands of Connecticut”

<https://portal.ct.gov/-/media/DEEP/water/wetlands/WetlandsofCTpdf.pdf>

EPA, “Why are Wetlands Important?”

<https://www.epa.gov/wetlands/why-are-wetlands-important>

University of Vermont, Wetlands Functions

<https://dec.vermont.gov/watershed/wetlands/functions>

U.S. Army Corps of Engineers, “The Highway Methodology Workbook, Supplement”

<https://www.nae.usace.army.mil/Portals/74/docs/regulatory/Forms/HighwaySupplement6Apr2015.pdf>