The Wetlands of Charlotte: An Ecological Treasure

Wetlands are areas that are wet, but not too wet. They are different from lakes and ponds because they either dry out part of the year, are shallow, or are much smaller. Wetlands are legally protected in Vermont because of their ecological importance and the many benefits they provide.

Wetlands include marshes, which are characterized by grass-like plants, rafts, which are dominated by trees or shrubs, and bogs, which are distinguished by Sphagnum moss and unusual insect-eating plants such as pitcher plants.

Some wetlands are hard to get to. These are called real marshes, and although porpoise would stop by if you walked through them at most times of year, they are considered wetlands. Why? Because the water table rises close enough to the surface in the spring to kill the roots of plants that are not adapted to being waded. Wetland function as wetlands and host a special wetland plant community.

Charlotte is richly endowed with wetlands, and they are true ecological treasures.

Wetland Values and Functions

Plants
Wetlands provide habitat for a great number of plants that do not grow anywhere else. These include familiar plants such as cattails and white water lilies, as well as unusual ones such as the carnivorous pitcher plants, sundews, and bladderworts. Two rare reed species and a marsh rush benefit species are found in Charlotte wetlands. In addition, Charlotte contains a large number of examples of the day plant family, a salt-tolerant wetland type that is quite rare in Vermont.

Wildlife
Wetlands are extremely important as habitat for wildlife. Although only about 8% of Vermont’s area is wetland, approximately 20% of the state’s vertebrates (mammals, birds, reptiles, amphibians, and fish) live or depend on wetlands. Many common species, such as birds, such as the osprey and the snowy owl in Charlotte, are rare in the state. Wetlands also support a variety of fish, such as brook trout, which inhabit the wetland’s streams.

Groundwater Recharge
 Marshes are known to replenish water tables when they are drained during droughts. The freshwater marshes in Charlotte are likely to experience less dramatic drops in groundwater levels in dry summer months than in areas further upriver.

Biter Quality
Wetlands near rivers and streams can increase water quality by trapping sediments from erosion and absorbing and filtering pollutants. Wetlands are particularly important in towns such as Charlotte that have lots of farmland, because they reduce the water quality effects of phosphorus and nitrogen. In addition, wetlands can moderate the effects of local floods and can significantly reduce the height of flooding. In addition, this sponge-like quality helps maintain even moisture levels throughout the year.

Flood Control
Wetlands act as sponges in the landscape, absorbing flood waters and storing them in the soil. This can significantly reduce the height of floods. In addition, this sponge-like quality helps maintain even moisture levels throughout the year.

The Midwest Flood of 1993, the worst flood in U.S. history, dramatically illustrates the importance of this function. Scientists believe the extensive flooding of wetlands in the Midwest over the last 150 years contributed significantly to the increased flood levels. The flood caused over $15 billion in damage to property and farmland and caused an estimated 1,000 deaths. In another example, a 1972 study concluded that the wetlands in the Charles River basin in Boston, the city $17 million every year in flood damage. (And that’s just $17 billion in flood damage.)

Wetlands in the Lewis and Clark national park are the best examples of wetlands that perform this function in Charlotte.

Economics
Wetlands have many economic values. The forestation of these is flood control. In addition, almost all commercial fish and shellfish in the ocean depend on coastal wetlands during part of their life cycle. Freshwater wetlands like those in Charlotte also have economic value. Humans, mammals, and animals benefit from the fish and wildlife that wetlands support. According to the Vermont’s 91 fish species need wetlands, including the northern pike, pickerel, brook trout, yellow perch, bowfin, and carp. Almost all freshwater species depend on wetlands. They also host birds such as ospreys, bald eagles, and the wild rye.

Beauty and Inspiration
Wetlands add variety and interest to our landscapes. Wetlands inspire us. They are beautiful places to experience seasons and sunsets, or to feel a sense of openness as we watch clouds drift through a blue sky. Vermont wetlands are protected from development and are an important source of natural open space for Charlotte. Beauty abounds in the large marshes in East Charlotte.

Science
Wetlands are very valuable to science. For example, the vegetation history of an area can be reconstructed by looking at the layers of pollen deposited in wetland sediments. With the help of pollen profiles from lake sediments, scientists know that American birch trees migrated from southern states such as Alabama and Missouri back to New England once climate from the last 2,000 years ago.

Recreation
Wetlands are great places to let life’s many demands and worries drift away. They are especially good places for quiet recreation, nature study, bird watching, canoeing, fishing and walking.