

The Importance of Wetlands

BY DAVID HENKELS,
CONSERVATION COMMISSIONER

In any given year, the Sudbury Conservation Commission will hold upwards of twenty-five meetings, volunteering many hours to listening, questioning, and making decisions that bear directly on the conservation of the Town's natural resources. Sometimes the subject of concern is one of the numerous open natural spaces owned by the Town. Other times, the topics can range from conservation restrictions to budgets to agricultural leases. On rare occasions, we may even have the good fortune to approve the acquisition of an entirely new property.

However, the lion's share of our time is dedicated to the diligent execution of the authority granted to Commission by the [Wetland Protection Act](#) (M.G.L. c. 131, § 40), as well as the [Sudbury Wetlands Administration Bylaw](#) (Article XXII). Development projects in and near wetland resource areas are thoughtfully discussed, and permits are issued when the applicant demonstrates that adequate protections and mitigation will be implemented. At this point, you may be asking yourself: why should we care about wetlands?

For that matter, what are wetlands? Wetlands are areas where water covers the soil or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season. The hydrological conditions of the soil, specifically, the degree to which it is saturated with water, determine how the soil develops. This in turn influences the types of plant and animal communities that live in and on that soil. Prolonged presence of water creates conditions that favor the growth of specially adapted plants called "hydrophytes", and promotes the development of hydric soil that often characterizes a wetland.

There are many different types of wetlands. These include swamps, bogs, marshes, and vernal pools, but also floodplains, and the lands underlying streams, rivers, ponds, and lakes. [Sudbury's wetlands](#) are extensive and well-connected.

Why all the fuss over some soggy dirt? In fact, wetlands are a critical resource, providing valuable services. Such services include protection of public & private water supplies, flood control, storm damage prevention, water and soil pollution prevention, erosion and sedimentation control, opportunities for passive recreation, and wildlife habitat. One study conducted in 1997 examined the total value of services provided by wetlands around the globe. They estimated it to be \$4.9 trillion per year. Yet wetlands do what they do without charging a dime.



The Importance of Wetlands, cont.

As the climate changes, flooding is expected to become more frequent and intense. According to a 2023 report by the National Oceanic and Atmospheric Administration, damage costs for weather and climate disasters in the United States reached a historic \$1.1 trillion over the last ten years. And that is just counting the 152 separate events with costs exceeding \$1 billion. Some of you may have personal experience with the damage and costs associated with floods and storms. Wetlands, particularly floodplains and in coastal areas, reduce flooding by storing excess water during storm events. This permits the water to safely infiltrate or evaporate, consequently reducing flooding.

The roots of wetland plants bind the soil, preventing water from washing it away. The plants also dissipate the energy of running water, slowing it down and allowing sediment to settle out. In addition to preventing erosion, the ability of wetlands to absorb and filter water provides natural pollution control. Filtration and collection of sediment from runoff water can prevent organic debris from stifling streams, lakes, and reservoirs

of their purpose to provide clean water.

Wetlands shelter and feed thousands of different plants and animals, including many that are threatened and endangered, as well as some who extensively depend on wetland biomes. A total of 432 native species are currently listed and protected under the Massachusetts Endangered Species Act (M.G.L. c. 131A). These includes species that rely heavily on wetlands, such as the Blanding's Turtle, the New England Blazing Star, and the Blue-spotted Salamander. When wetlands are damaged or destroyed, the impacts to wildlife can be incalculable.

As a community, we must remain vigilant. Development, stormwater runoff, pollution, hydrologic fragmentation, and loss of forest canopy exert steady pressure on our valuable wetlands. Once removed, they are difficult or impossible to replace. Visit the Conservation Commission's [website](#) to learn more about wetlands and other topics.

