

## **Ashland's Wetlands Protection Bylaw What it protects, and why it's important**

Massachusetts is a forerunner in environmental protection in the United States. Its Wetlands Protection Act, which was passed in the 1970s, was designed to protect wetlands and streams from possible detrimental activity that would harm the natural environment.

### **Why Wetlands are Important**

Wetlands provide many vital functions that benefit our entire community, including:

- Flood control and storm damage prevention;
- Filtration of pollutants;
- Protection of groundwater, public and private drinking water supplies;
- Protection of fisheries and land containing shellfish; and
- Wildlife habitat protection.

### **What the Wetlands Protection Act and Wetlands Bylaw Protect**

According to the state Wetlands Protection Act, anyone proposing construction activity within 100 feet of a wetland or 200 feet of a river must first get permission from their local Conservation Commission. These Conservation Commissions ensure that any proposed work will not adversely impact wetlands and streams.

Many communities have passed additional bylaws to protect environmentally sensitive areas particularly near wetlands and rivers. **More than half** of Massachusetts' cities and towns have passed legislation that allows for greater protection than the state law currently affords.

In 1999, the Town of Ashland passed its own Wetlands Protection Bylaw, which placed a 25-foot "No Disturb" buffer around wetlands that are protected under the state law. Before this bylaw was passed the Ashland Conservation Commission had a policy of only permitting building activity outside this 25-foot buffer zone. **All of the communities around Ashland have wetlands bylaws with "no disturb" buffers ranging from 20 to 50 feet.**

### **Why Vegetated Buffer Zones are Important**

One of the most effective management practices to protect wetlands from adjacent human activities is to establish and maintain a vegetative buffer around the wetland. A buffer is simply a strip of upland surrounding the wetland that is maintained in a natural vegetated state. Ashland's Wetlands Bylaw ensures that there will always be a natural vegetated buffer of at least 25 feet around the town's wetlands.

Buffer zones are vital in protecting wetlands in many ways, including but not limited to:

1. Scattering sunlight and providing shade thereby lowering water temperature within wetlands;
2. Slowing water flow thereby decreasing water velocities, allowing infiltration, and reducing the erosion potential of stormwater runoff;
3. Trapping sediment and other insoluble pollutants;
4. Producing leaf litter and biomass which increases the humus content of the soil and increases absorption and infiltration;
5. Providing essential habitat for wetland-associated species;
6. Providing a visual separation between wetlands and developed environments; and
7. Reducing nutrient overloading by filtering nutrients bound to sediment in the surface flow, and removing nutrients from groundwater through uptake in vegetation.

Buffer zones are critical because activities undertaken in close proximity to wetlands and streams have a high likelihood of adverse impact upon these sensitive areas, either immediately, as a consequence of construction, or over time, as a consequence of daily operation or existence of such activities.

According to a federal study by the US Forest Service (see below), vegetated buffers have been shown to effectively remove 50-100% of sediment from stormwater. It is estimated that 80%-90% of phosphorus reaches water bodies adhered to soil particles, and retaining sediment within the buffer effectively lowers the phosphorus load of stormwater runoff.

#### **Effectiveness of Different Vegetation Types for Specific Buffer Benefits**

<b>Benefits</b>	<b>grass</b>	<b>shrubs</b>	<b>trees</b>
Stabilize stream bank	Low	High	High
Filter sediment and the nutrients, pesticides & pathogens bound to it	High	Moderate	High
Filter nutrients, pesticides & microbes from surface water	Moderate	Low	Moderate
Protect groundwater and drinking water supplies	Low	Moderate	High
Improve aquatic habitat	Low	Moderate	High
Improve wildlife habitat for field animals	High	Moderate	Low
Improve wildlife habitat for forest animals	Low	Moderate	High
Provide economically valued products	Moderate	Moderate	High
Provide visual interest	Low	Moderate	High
Protect against flooding	Low	Moderate	High

*Adapted from Agroforestry Notes, AF Note 4 Jan 1997, USDA Forest Service/NRCS*