



Illustration by Libby Walker Davidson

WETLANDS FACT SHEET

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Topic: Wetland Buffer Zones

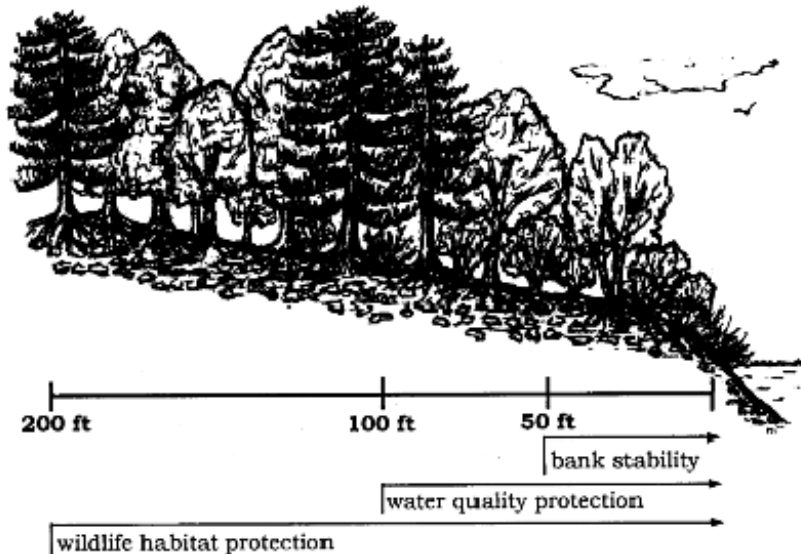
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BACKGROUND

The Vermont Wetland Rules, which became effective on February 23, 1990, were adopted to identify, evaluate, and protect the state's "significant" wetlands (See Wetlands Fact Sheet, Number 4 on the Wetland Rules). Significant wetlands provide beneficial wetland functions and values including habitat for fish, wildlife, and plants, including rare species, flood control, water quality protection, and aquifer recharge. To help protect the wetland functions and values, an adjacent area of upland, or buffer zone, is also protected. For Class Two wetlands, which include most of the wetlands protected under the Wetland Rules, the protected buffer zone is 50-feet wide. For Class One wetlands, the protected buffer zone is 100 feet wide, unless otherwise designated.

FUNCTIONS OF WETLAND BUFFER ZONES

Example of Riparian Buffer



Filtration of Suspended Sediments

Buffer areas provide the important function of filtering sediment from surface runoff before it enters the wetland. The stems and branches from trees, shrubs, and small herbaceous plants, as well as the duff (fallen leaves, previous year's grasses, and other organic material) and uneven topography, all slow runoff from adjacent upslope areas allowing sediment to settle out, thereby protecting water quality.

Nutrient Removal

The vegetation and soils of buffer areas also help remove excess nutrients from surface runoff. Nutrients attached to sediments are retained in the buffer when the sediment is filtered out. Nutrients dissolved in runoff water are used by plants and microorganisms or are incorporated into the soils of the

buffer. This removal process protects the wetland and its waters from nutrient overloads and drastic changes in the wetland community. Excess nutrients can result in algal blooms and nuisance levels of plant growth.

Wildlife Habitat

A buffer zone is essential protection both for species in the wetland and those species preferring the upland/wetland border. The trees and shrubs provide important food, cover, and nesting sites for large and small mammals, songbirds, reptiles and amphibians. The vegetation also screens wetland wildlife from noise, light, and other human activities in adjacent uplands.

Other Functions

The vegetation of buffer zones reduces the potential for erosion of upland areas by stabilizing the soil with its root systems and lessening the impact of rainfall and runoff. Buffers also keep human activity from directly affecting the wetland community.

WHAT MAKES AN EFFECTIVE BUFFER?

The most effective buffer for both wetland water quality and wildlife protection is a diverse, multi-layered, undisturbed vegetation community. The buffer needs to be deep enough to slow and reduce surface water runoff, be self-perpetuating, and provide wildlife habitat. In most cases, the 50-foot buffer described in the Wetland Rules is adequate for wetland protection, depending on the slope, soil type, functions of the wetland, and amount of adjacent human activity. In situations where there are steep slopes adjacent to the wetland, the wetland is more sensitive to human disturbance; adequate wetland protection in these cases may call for buffer wider than 50 feet. Other wetlands with significant wildlife habitat may also require a wider buffer to adequately protect its habitat. Although some species of birds and mammals will use a narrow buffer for travel or food, most breeding birds and mammals studied in riparian habitats need 100-600 feet to find suitable nesting and feeding sites. See the illustration on page one.

CREATING OR ENHANCING A WETLAND BUFFER

For wetland owners who want to re-create, enhance, or expand a wetland buffer strip that has been altered or removed previously, there are a number of Vermont nurseries that carry native trees, shrubs and herbaceous species suitable for both dry and moist soil conditions. Native plants that are aesthetically pleasing and important to wildlife for food and cover can be easily obtained. Nursery owners can help determine what species would be best for individual situations. A listing of nurseries statewide that carry native upland and wetland plants is available to interested landowners from the Water Quality Division. The landowner can also let a buffer grow up naturally with the species already present in the area. For work in the designated buffer zone of wetlands protected under the Vermont Wetland Rules, however, the Wetlands Office staff should be contacted.