

WD-SP-5

2017

Vegetation Management for Water Quality

New Hampshire's waterbodies provide benefits and uses we all enjoy: fishing, boating and natural beauty to name a few. As communities grow and New Hampshire's landscape changes, the quality of our public waters depends on each of us managing the trees, shrubs and low-growing plants on our property. Nature's most economical and efficient stormwater purification system is a combination of [native shoreland plants](#).

The best vegetation for healthy waterbodies are trees and plants such as oaks, pines, willows and blueberry bushes; they slow down, absorb and purify much more stormwater than low-growing plants with shallow roots such as lawns and mulched garden beds. Trees and plants help remove the oils, salt, heavy metals, fertilizers, and other contaminants from stormwater runoff and spring snowmelt before they enter our lakes and rivers. Even the dense mat of leaves and needles under our trees plays a unique role in purifying our water. Plus, birds, fish and insects rely on the shade, protection and fruits provided by native shoreland plants.

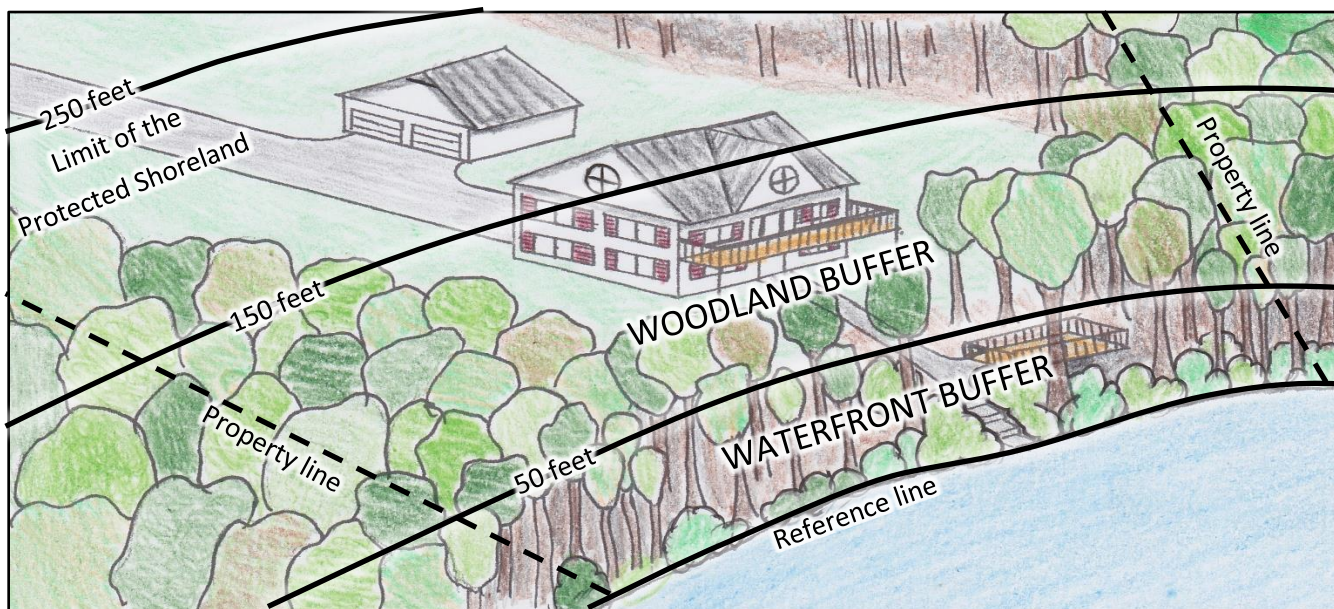


Figure 1: The Waterfront Buffer and the Woodland Buffer located within the Protected Shoreland.

In order to protect water quality and wildlife habitat, the Shoreland Water Quality Protection Act (SWQPA) regulates the removal of ground cover, shrubs and trees within 150 feet of [protected waters](#). This distance is measured from the [reference line](#) (high water line). Within 150 feet of the reference line there are two distinct regions, the **waterfront buffer** and the **woodland buffer**, shown above. The regulations on vegetation management are different within each of these regions and are explained in detail on the following pages.

Waterfront Buffer Requirements

Within 50 feet of the reference line, ground cover and shrubs may not be removed, landscaped or converted to lawn. Ground cover and shrubs may only be trimmed to a height of no less than 3 feet. Trees may also be pruned as long as the health of the tree is not endangered. Pruning only the bottom 1/3 of a tree is recommended to maintain property aesthetics and tree health. Always determine if a tree can be pruned before removing it. Pruning trees often increases views while providing wildlife habitat and privacy.

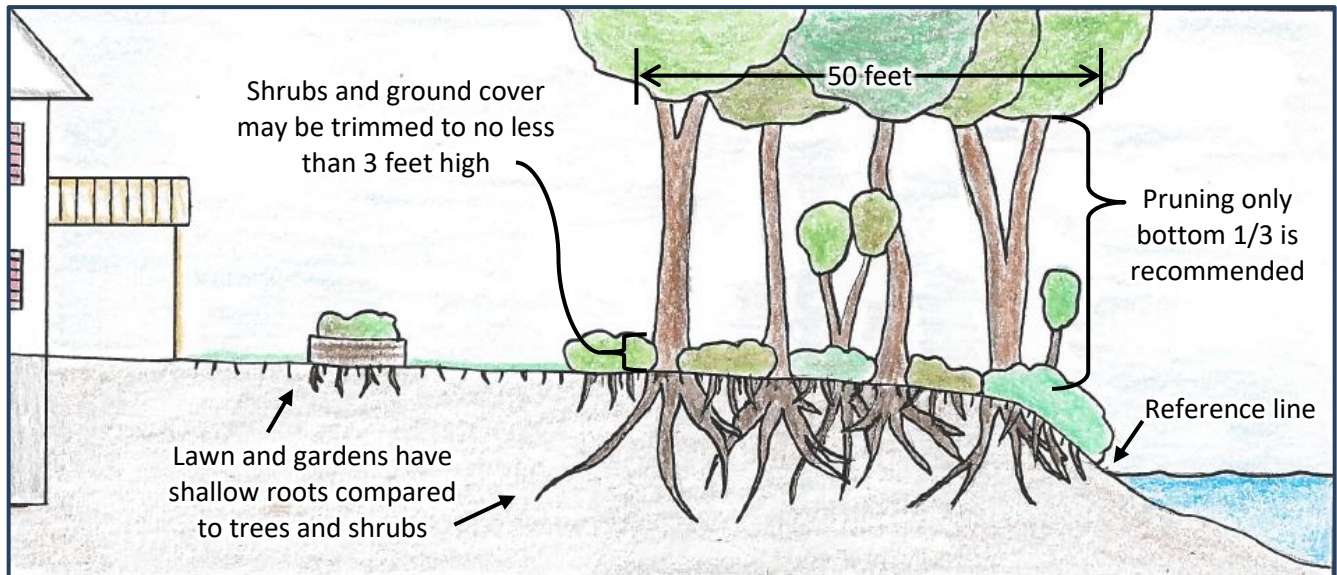


Figure 2: Waterfront buffer profile view

Removing trees within the waterfront buffer *may* be permissible, but there are limitations based on a *grid segment and point score* system. In order to remove trees within the waterfront buffer, property owners must maintain a minimum number of “points” within the “grid segment” from which they propose to remove trees. To determine if trees can be removed, always beginning from the most northerly or easterly property boundary, divide the waterfront buffer into 25-foot by 50-foot grid segments (see **figure 3**). Properties that have shoreland frontage that does not divide to an even number of 25-foot segments require fewer points in the last segment.

Next, to determine if trees can be removed from a grid segment, calculate the grid segment’s total tree and sapling point score. Each tree is awarded a point score based on its trunk diameter (width) 4½ feet above the ground on the uphill side (See **figure 4**). Dead, diseased or dying trees are not awarded points.



Figure 3: Mapping out each grid segment

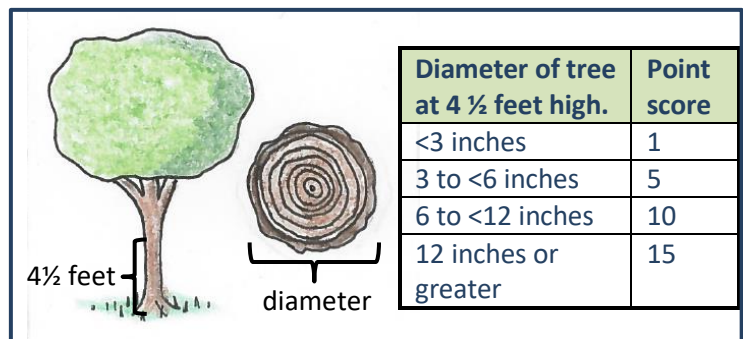


Figure 4: Scoring each trunk by its width

Trees may be removed from any grid segment provided that, after removing the trees, the sum of the tree and sapling point score within the affected grid segment will be at least 25 points (see figure 5).

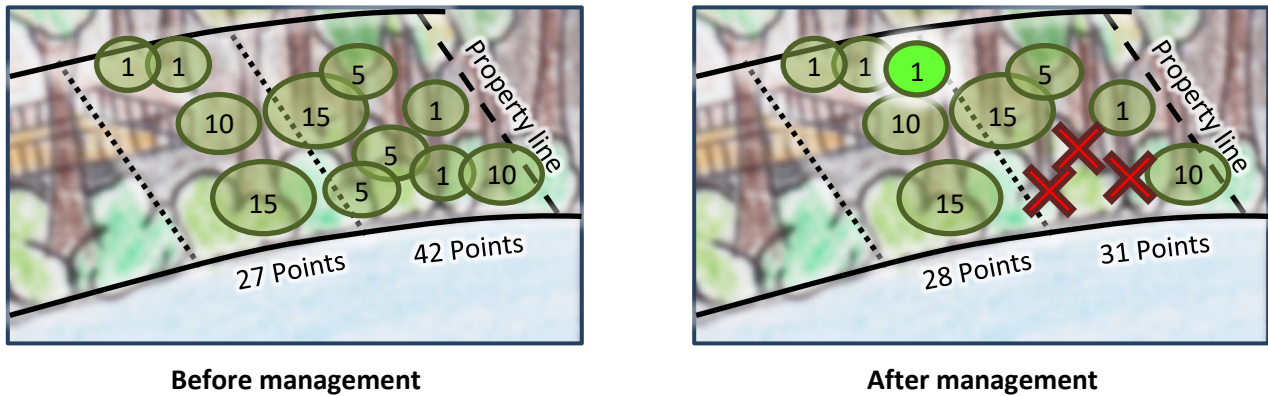


Figure 5: Managing trees within the Waterfront Buffer; here three trees are removed and one is planted.

Property owners are encouraged manage grid segments by strategically planting additional saplings, especially within grid segments that do not meet the 25 minimum point score so that, once the saplings mature, and the grid segment's total point scores increases above 25 points, trees may then be removed.

Woodland Buffer Requirements

Between 50 and 150 feet from the reference line, at least 25% of this area must be managed as Natural Woodland where all existing [native](#) ground cover, shrubs and trees are allowed to grow. Property owners have the freedom and flexibility to elect which region(s) of the Woodland Buffer are designated as Natural Woodland. This area does not have to be contiguous and many people place it on the edges of their property to provide a dense area of vegetation for privacy.

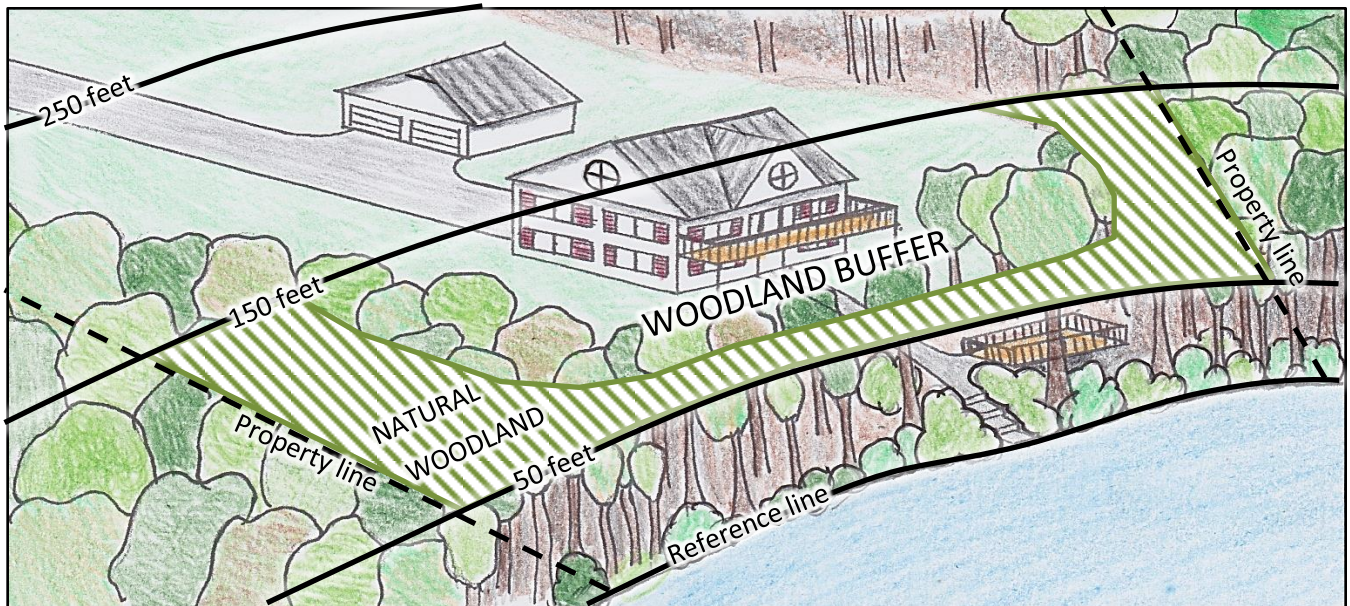


Figure 6: At least 25% of the Woodland Buffer must be designated as “Natural Woodland.”

Areas of the property with the highest density of native trees, shrubs, and ground cover should be given priority for designating as Natural Woodland. Managing vegetation within the Natural Woodland is done by allowing the native plants to grow without cutting except as needed to maintain or improve plant health.

The Natural Woodland may appear very different depending on site conditions. See **figure 7** for some examples.



Figure 7: Examples of natural woodland areas.

Permitting Requirements

- [A NHDES shoreland permit is not required](#) for vegetation management provided it occurs in accordance with the limitations described within this fact sheet. This includes planting vegetation, removal of limbs, ground cover, shrubs, trees and [invasive species](#).
- Any dead, diseased or unsafe tree which has a [structural defect](#) and poses an [imminent hazard](#) may be cut to ground level at any time without a shoreland permit. NHDES recommends property owners retain documentation of the tree's condition at the time of removal such as clear photos and/ or written confirmation from a horticultural professional describing the tree's defect or condition.
- [A NHDES shoreland permit is required](#) for any excavation, fill, or construction within 250 feet of the reference line. Examples include using mechanized equipment to plant trees, removing stumps or large rocks, constructing a walkway, patio, or other structure, or grading. *Any earthwork or construction of structures on the bank, in the water, or on the bed of a waterbody are regulated by the NHDES Wetlands Bureau* and are subject to the NHDES [Wetlands Permitting Process](#).
- Areas cleared of ground cover, shrubs, or trees in excess of these requirements prior to July 1, 2008, may be maintained but not enlarged; examples of cleared areas include lawn and mulched landscaped areas.
- Before removing trees, always check local ordinances as well. Many municipalities have standards that are stricter than the NH Shoreland Water Quality Protection Act.

Chemical Application

No fertilizer may be applied within 25 feet of the reference line. Between 25 and 250 feet from the reference line, only [slow or controlled release fertilizer](#) may be used. No other chemicals, including pesticides or herbicides of any kind, can be applied within 50 feet of the reference line, except by a licensed, permitted professional.

For more information:

For more information about the Shoreland Water Quality Protection Act and the NHDES Shoreland Program, please go to <http://des.nh.gov/organization/divisions/water/wetlands/cspa/index.htm> or contact the Shoreland Program at (603) 271-2147 or irm@des.nh.gov.