

Maintaining Your Buffer

Buffers that are carefully designed and planted with native species do not require extensive care and attention, but some maintenance is necessary.

Maintaining an existing forested Buffer or a newly planted Buffer will keep it beautiful, healthy, and functioning. Three primary activities are useful for maintaining the appearance and resource benefits of the Buffer:

- Pruning
- Invasive (and Noxious) Species Control
- Mulching and/or Ground Cover Establishment

In order to make sure that these activities will enhance the Buffer and not harm existing forest vegetation, a Buffer Management Plan may be required depending on the scope of the work to be performed. In general, if live branches or invasive species are to be pruned or removed, and three or more trees will be affected, a Buffer Management Plan should be filed with the local government. In some cases, a Simplified Buffer Management Plan (see Chapter 5) may be sufficient. The local planning office can provide more specific information regarding your project.

Pruning

The pruning of trees and shrubs in the Critical Area Buffer is permitted for safety, health, and aesthetic purposes. Pruning can remove branches that could fall and cause injury or property damage, that obstruct lines of sight on roads, or that interfere with utility lines. In some instances, pruning is necessary to maintain the health of trees and promote the development of a strong structure. Pruning for aesthetics related to maintaining or creating a view of the water is permitted, but

The pruning of trees and shrubs in the Critical Area Buffer is permitted for safety, health, and aesthetic purposes.

it must be done carefully. Precise and judicious pruning will ensure that the health of the tree is not adversely affected and that the water quality and habitat benefits of the riparian Buffer are not impaired in any way.

In Maryland, all tree pruning, by a person other than the owner of the property, must be performed by a Maryland licensed tree expert. Licensed tree experts have the training, skill, and insurance coverage necessary to perform the work properly, legally, and safely. Before starting any work, the property owner or the tree expert should contact the local planning office to determine what permits or approvals are required. This varies depending on the size and scope of the pruning project. In general, a Buffer Management Plan is required to cut, trim, remove, clear, or disturb any natural vegetation within the Buffer in the Critical Area.

Canopy “cleaning” is the removal of dead, dying, diseased, or broken branches from a tree. Removing these branches can reduce the likelihood of further decay, damage, or pest infestation of living portions of the tree. Often canopy cleaning will yield the desired results, and further pruning will not be necessary.

Crown raising or “limbing up” involves selectively removing branches between the ground and the bottom of the tree crown. This is often done to provide access around the tree, provide a view, and improve the form and appearance of the tree. In general, no more than the lowest one-third of the tree should be pruned, leaving a ratio of live crown to total tree height of at least two-thirds. The removal of too many lower branches can lead to trunk defects and decay. Trees that are improperly pruned above the lower third can become unstable during storm events. The risk of the tree becoming uprooted is intensified when the tree is tall with a relatively slender trunk, the canopy is wet and heavy, and the ground is saturated.

Crown thinning can be employed to improve the health of a tree or trees by increasing light and air in the tree canopy. Crown thinning can also be used to open up a view. Selective removal of



Limbing up, crown thinning, and pruning of trees can be permitted in the Buffer, as long as the water quality and habitat benefits are not adversely affected.

live branches is allowed; however, it is important that pruning not impair the tree's natural structure and form. Generally, no more than one-quarter of the living crown should be removed at any one time. Branches that rub or cross each other or that compete with the central trunk leader should be removed first. If possible, the branches removed should be evenly distributed through the canopy to maintain a stable structure. This is especially important for open-grown or isolated trees. These trees often have a very large canopy, are exposed to high winds during storm events, and are located in soils along the shoreline that can become unstable when saturated.

Pruning cuts should be made so that only branch tissue is removed. Every effort should be made to ensure that trunk tissue is not damaged. This will ensure that the trunk tissue will not become decayed and the cut area will seal more effectively.

Shrubs should be pruned similarly to trees. Using a motorized "hedge trimmer" is not recommended for pruning shrubs because there is a tendency to prune too much. This type of pruning can result in irregular cuts and damage to trunk tissue and bark. The resulting "crew cut" appearance looks unnatural and can lead to dense sprouting of weak new growth near the cuts, altering the natural form of the shrub.

Vine, Invasive, and Noxious Species Control

On some sites, certain vine, invasive, and noxious plant species can significantly impair the appearance of the Buffer, views of the water, and access to the shoreline. Invasive species are those species that have been introduced to the region from other areas and may cause economic or environmental damage. In some cases, the species can be harmful to human health. In the Buffer, both native and invasive vine species can grow quite densely and climb up trees and shrubs. They can threaten the health and survival of the trees and shrubs and may crowd out or overwhelm native plants. Some invasive vine species that you may see along the shoreline include English Ivy, Kudzu, Japanese Honeysuckle, and Wisteria.

Not all invasive species are vines. A variety of trees, shrubs, and herbaceous plants are also considered invasive species. Often these species thrive in disturbed areas and places where soil types and moisture levels can create difficult growing conditions. Certain species grow quickly and spread rapidly and easily. They can quickly out-compete other trees and shrubs, dominating an area with a single species. The removal of large areas of invasive species is often difficult, time-consuming, and expensive.

Typically, herbicide spraying and manual removal using hand tools are the best ways to eliminate and control invasive species in the Buffer. Some species may require maintenance for two or more years. It is important to understand the growth and reproduction habits of the species that you are trying to eliminate. Some species may be successfully removed by pulling up the plants and their roots, whereas others may spread when the soil is disturbed. When using herbicides in the Buffer, be sure that the product you are using is designed for residential use near waterways. Make sure that you read and follow the label and application directions. On sites where the area of invasive species to be removed exceeds 1,000 square feet, you may want to obtain the services of a qualified professional. Certain types of herbicides can only be applied by licensed applicators.

Mulching and Groundcover Establishment

In natural forests and wooded areas, leaves, twigs, acorns, and other organic material fall to the ground and build up over time. This “duff layer” provides important benefits. It acts as a “natural fertilizer,” providing nutrients to growing trees and shrubs, helping to retain moisture, increasing the ground’s capacity to hold water, inhibiting the growth of weeds, and stabilizing and protecting bare soil from eroding during heavy downpours.

In newly planted areas, where such a layer does not yet exist, it is beneficial to mulch the area to begin establishing the duff layer. Wood fiber mulch, such as shredded hardwood or pine bark, is readily available and reasonably priced. Generally, three to four inches of mulch spread over the entire planting area works best. Mulching planting beds thoroughly will minimize the time spent weeding as the new plants get established. Mulch should not be mounded up around the trunks of trees or woody shrubs, as this limits air circulation and can lead to disease and decay. When mulch is spread properly, it will decompose over time, and leaves and twigs from the new plantings will accumulate into a healthy and functional duff layer. Depending on the size of your new plantings and their rate of growth, you may need to mulch your new planting area in the spring for several years.

In order to optimize the different water quality and habitat benefits in the Buffer, you may want to mulch certain areas and establish groundcover in other areas. Although existing areas of turf grass in the Buffer can be maintained, new areas

of turf grass cannot be created in the Buffer. Turf should not be cultivated in areas designated for Buffer mitigation or Buffer establishment. Mulch or groundcover species should be used. Turf grass is not considered an appropriate groundcover plant for the Buffer. Most turf grass varieties sold in Maryland are not native species. Their shallow root systems and fine texture do not provide significant water quality or habitat benefits when compared to other native grass and groundcover species.

A wide variety of native grass species grow well in Maryland. When using native grasses as a groundcover or as part of a “natural meadow” planting, it is important to note that the natural mature height of these grasses is often one to three feet. Native grasses cannot be maintained by weekly mowing like turf grass. Generally, native grasses should not be mowed more than twice per year.

If you wish to maintain a more “manicured” appearance with your groundcover, you may want to consider a dense planting of low-growing herbaceous plants such as violets, Blue-eyed Grass, Robin’s Plantain, or Partridgeberry. Ferns can also be used as a groundcover, and most ferns grow the best in full or partial shade. They are ideal groundcover plants for the Buffer because they thrive in full or partial shade, and grow well in moist forested settings. Many fern species transplant well and spread easily. Regardless of the type of groundcover you choose, you will find that these plantings significantly enhance the beauty and habitat value of your Buffer to small wildlife species such as chipmunks, voles, salamanders, and turtles.

Long-Term Management

Depending on the condition of your Buffer and the species that are present or planted there, the Buffer on your property may require ongoing maintenance. Most local governments will allow a property owner to obtain approval of a Buffer Management Plan for ongoing maintenance activities. Typically, this Plan can be valid for up to five years; however, the approval must specify the duration of the implementation period. This type of Plan is flexible and allows certain ongoing maintenance activities that are necessary to ensure the long term health and functions of the Buffer. If you are interested in this type of long-term plan approval, you will need to coordinate with the local planning office to make sure the proposed activities are permitted and necessary inspections are performed. Photos and a more detailed description of the maintenance activities may be required.