**Maine Conservation Fact Sheets for Homeowners Series**

# Planting and Maintaining Vegetation

A shorefront buffer being planted.

The "duff" layer consists of fallen leaves, pine needles, sticks, and other organic matter that builds up in undisturbed forests.

More information about the importance of shoreline vegetation can be found in Maine Audubon's Guide: "Conserving Wildlife in Maine's Shoreland Habitats"

## Purpose:

Vegetated buffers are naturalized areas of trees, shrubs, and groundcover plants along shorelines. They provide a host of water quality, habitat, and shoreline stability benefits. Trees and shrubs intercept raindrops and reduce their impact on soil while also providing shade and habitat for wildlife. Uneven ground surfaces, natural duff, and groundcover plants help slow down runoff, which allows water to filter into the ground. Root systems hold soil in place and absorb water and nutrients.

## What's wrong with the Lawn?

Lawns alone cannot provide sufficient protection from erosion on your shorefront lot. The grasses used in common lawn mixes are shallow-rooted, and while they can provide some protection against surface erosion in flat areas, they can't provide adequate protection over the long haul. Lawns are best used as part of an overall landscape design, to provide open space for outdoor activities. To save yourself maintenance time while improving water quality and wildlife habitat, keep lawn areas to a minimum. One of the easiest ways to establish a better buffer is to stay a little further back with the mower and let nature fill in the rest.

## Methods of Vegetation Enhancement:

- **Natural Growth**— Increase growth indirectly by limiting mowing, pruning, raking of duff, and through thoughtful land use. Buffers will naturally revert over time. This is a cost-effective option to increase buffer and bank stability.

- **Seeding**—Enhancing shoreline resilience and habitat can be achieved by seeding disturbed areas with a native seed mix composed of species adapted to the site's conditions. However, the seeds will require time and attention in order to establish. To protect the soil and seeds from erosion, temporary mulches or natural fiber blankets should be used. Hand seeding is preferred, but other seeding options may be available.

- **Live Stakes**—Live stakes are dormant woody shrub cuttings that root quickly once planted in moist to wet soils along the banks of streams and lakes. Live stakes make a good, low-cost source of plant materials for stabilizing banks and restoring shoreland (riparian) vegetation.

- **Planting potted nursery and bare root plants**—Incorporating native trees and shrubs, with their deeper and wider root systems, can enhance stability. Nursery plants have an established root system and may naturalize faster than other methods such as seeding. This method of planting requires disturbance of the shoreline area, so Maine DEP and local Shoreland Zoning permits may be necessary. Additional mulch stabilization may also be needed to stabilize the remaining disturbed or bare soil. Use of dormant bare root plants may be a cost-effective alternative.

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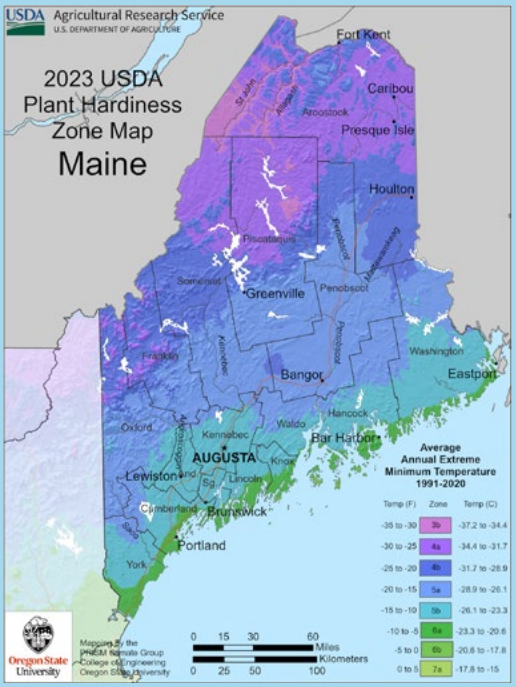
Diagram: Carolina Swindel

Plant roots help hold soil in place and take up excess water and nutrients from the soil.




Use USDA plant hardiness zones to determine which plants are suitable for your property.

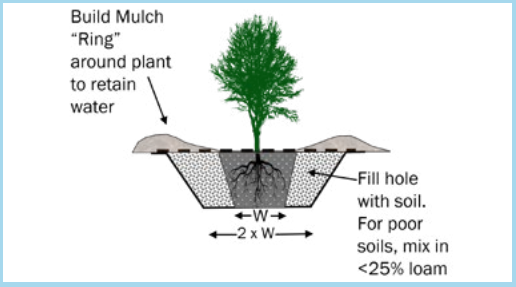



Diagram showing proper plug planting technique.

- **Transplanting wild plants**—You can save money by transplanting native plants into your buffer area. Keep in mind, however, that mortality rates for transplants are relatively high. Make sure to ask for landowner permission before harvesting and do not take too many plants from any one area. Do not remove plants next to waterbodies. Transplant in the early spring or late fall when the plants are dormant. This reduces trauma to their root systems. Dig up the root ball as much as possible (extend your digging area at least to the width of the plant's branches.) Once your transplant has been replanted, water frequently until well established.

## Selection of plants:

Select native plants suitable to the growing zone, light and soil conditions of the planting area. Native plants are better adapted to local conditions, fit in with the natural landscape and do not require fertilizers or pesticides. Take a look at undeveloped surrounding shoreline vegetation for some hints on what does well in your locality.

The most effective buffers should be as wide as possible and include a mix of trees, shrubs and groundcover plants. The plants provide stabilization through mixed root types, close spacing and diversity of species. Named varieties are often clones of one plant, so selecting seed grown plants or inclusion of male and female versions (where necessary for pollination) will help increase resilience.

## Installation:

Fall and spring are ideal planting times, but anytime during the growing season is acceptable.

1. Water the plant while it is still in its container. Dig a hole 2 times the width of the container and as deep as the soil level in the container.
2. Remove the root ball from the container and loosen the outside layer of the root system either by scoring with a knife or pulling by hand.
3. Set the plant in the middle of the hole. The top of the root ball should be at or slightly above normal ground level. If not, remove the plant and adjust the hole. Keep in mind that planting too deeply can kill the plant.
4. Backfill 2/3 of the planting hole with soil. If the original soil is very poor and the plant requires better soil conditions, mix in no more than 25% loam and/or compost with the original soil.
5. Fill the planting hole with water. This will result in a "moat" around the soil ball. When this drains completely, re-fill with water again.
6. After the water has drained, backfill the rest of the hole to ground level, and gently press the soil down to remove air pockets. Next, form a circular mound of soil around the planting hole. Formation of this "ring" around the hole will help future watering and rain sink into the ground.
7. Water thoroughly once more to remove any remaining air pockets.
8. Place no more than 2" to 4" of mulch around the plant, but keep the mulch a few inches away from the trunk or branches emerging from the root ball. Cover leftover bare soil with additional mulch or move it to areas where it will not erode into the lake.

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## Maintenance:

### Year One

Deep, weekly watering is a must during the first year of planting. Most plants that die in the first season do so because of inadequate watering. Make sure that the water reaches the depth of the root ball. The “ring” around the plant helps the water sink into the ground instead of running off.

### After One Year

After the first year, you should only need to water if there is a lack of normal rainfall. Once the plants are well established, you can let the planted area naturalize so that you do not need to replenish mulch or weed. The “duff” layer of leaves and pine needles will serve as natural mulch. If plants appear to be growing well, they should not require fertilization. Fertilizer can actually harm newly developing roots, and summer/fall applications can prevent shrubs and trees from hardening off in time for winter. Shrubs and trees should only be fertilized in early spring, and only after a soil test indicates that specific nutrients are required.

**Scan here** for more information

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