



# Planting & Maintaining Vegetated Areas

Preventing erosion, stabilizing soils, and protecting lake habitat

Lake friendly living  
means using lakeshore  
BEST MANAGEMENT  
PRACTICES

## BMP

Planting and Maintaining  
Vegetated Areas

## STANDARDS

### Shorefront

- Minimum of 15 feet width of vegetation along the shore
- Stable bank
- Clean runoff to lake
- Natural conditions, including healthy lake habitat

## LAKE BENEFITS

Vegetated areas naturally stabilize the shore, filter and clean dirty runoff, maintain greater privacy, increase property values, enhance scenic beauty, prevent erosion, and allow for healthy habitat for fish, birds, and other wildlife species.

## MATERIALS

- Compost and/or top soil.
- Spade shovel.
- Native plants representing flowering and fruiting plants, all size classes, and those specific to moisture and light needs of your site.

NOTE: As of 2011, it is illegal to use lawn fertilizers containing phosphorus. Additionally, no fertilizer can be applied to within 25 feet of the lake between October 15 and April 1st while the ground is frozen.

## Planting & Maintaining Vegetated Areas

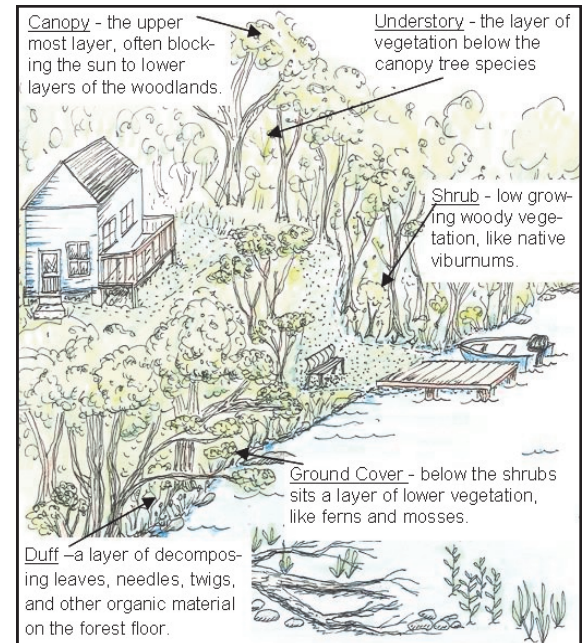
**Description:** A mix of trees, shrubs and unknown groundcover along the lakefront. Naturally vegetated lakeshores typically would have five tiers or layers of vegetation: canopy, understory, shrub, ground cover, and duff layer.

**Purpose:** Restore the shore with vegetation of different types (groundcover, shrubs and trees) to stabilize the bank and prevent erosion.

### How to:

1. Plan out and use a path to access the lake (see *BMP Planning Pathways*). Then you will be able to allow native shrubs and trees to grow along the shore. Selectively prune out the species you don't want and encourage the ones you do.
2. To restore the shore, these suggestions may help:
  - Place angular stone (6-8 inch size) at the toe of the bank. Angular rocks lock in place better than rounded or flat stone, and larger rocks cause erosion by concentrating the wave and/or ice energy elsewhere. The stone should extend approximately six inches above the average summer water level so most of the waves hit the stone. Lay filter fabric between the rock and soil of the bank to prevent the washing out of soil from behind the rock.
  - Grade bank back to no steeper than 2:1 (two horizontal feet to every one vertical foot). An erosion control fabric might be needed to hold soil in place until the vegetation becomes established.
  - Plant a mixture of native groundcover, shrubs and trees and allow them to naturalize. Don't mow around the woody vegetation. Careful pruning can keep vistas open.

Note: Any work that occurs in the lake (below the mean lake level) requires a [Shoreland Encroachment Permit](#). Also, see the BMP supplement, *Understanding the Shoreland Encroachment Permit*.



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## Choosing the Right Plants

### Use native species.

Trees and shrubs that are native to the northeast are resistant to most diseases and insects and provide good food and habitat for wildlife. They are low maintenance and have the same landscape values of cultivated species. Many nurseries will carry at least some native species.

To be sure you are getting native species, you need to know the scientific (Latin) name. Often the same common name is used for several different plants.

The best clue to what will grow well on your lakeshore is to look at undeveloped stretches of the lake and observe what is growing there. If you own land uphill of the lake you can transplant some species down to the lakeshore.

The following three tables list trees, shrubs and groundcover plants that grow well on lakeshores in Vermont. For more options for using native species for lakeshore plantings, check out the booklet, [Native Vegetation for Lakeshores, Streamsides, and Wetland Buffers](#), available on the Vermont Watershed Management Division's web site.

Redosier dogwood (*Cornus stolonifera*) is stunning in all seasons because of its beautiful red stems.



### Keep it Vermont Native!

Many trees, shrubs and herbaceous plants used in landscaping are exotic or non-native species. A number of these plants have escaped from cultivations and threaten native species and diversity. In particular, avoid *rugosa* rose species, honeysuckles, and purple loostrate. For a listing of species to avoid and for information on how to manage already established invasive species, visit the [Vermont Landowner's Guide Invasive Terrestrial Plant Management](#) at the Vermont Nature Conservancy's web site.

Trees	Soil Conditions	Mature Height	Aerial Spread	Comments
Red Maple ( <i>Acer rubrum</i> )	Wet to dry	75-100 ft	50-75 ft	Bright red fall foliage, fast growing
Shadbush or Serviceberry ( <i>Amelanchier canadensis</i> )	Drier soils	10-15 ft	8-10 ft	Lovely early spring flowers and fruits, (a favorite of birds), colorful foliage
Paper birch ( <i>Betula papyrifera</i> )	Well-drained soil, tolerant of less well-drained situations	75+ ft	n/a	White attractive bark, small cones are good winter bird food
Green ash ( <i>Fraxinus pennsylvanica</i> )	Moist, tolerant of periodic flooding	60-80 ft	35-50 ft	Relatively rapid growth, attractive branching
White pine ( <i>Pinus strobus</i> )	Moderately well-drained, creates acidic soils	75-100 ft	20-40 ft	Long-lived evergreen, good for wildlife, little grows under mature trees
Red oak ( <i>Quercus rubra</i> )	Drier soils	70-90 ft	60-75 ft	Grand tree with reddish-brown bark, dark leaves, good for wildlife
Northern white cedar	Moist, intolerant of acidic soils	25-50 ft	10-15 ft	Can be maintained as a hedge, easily shaped

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Shrubs	Soil Conditions	Light Tolerance	Mature Height	Comments
American hazelnut ( <i>Corylus americana</i> )	Drier soils	Adapted to shade but does well on an edge or more open situations	8-12 ft	Reddish and ornamental
Silky dogwood ( <i>Cornus amomum</i> )	Wet to dry	Full sun but has fair shade tolerance	6-8 ft	Relatively rapid growth, good food and cover for birds
Red-osier dogwood ( <i>Cornus stolonifera</i> )	Moist to wet	Fair shade tolerance	6-10 ft	Bright red stems that are especially distinct in winter, spreads rapidly by underground stems
Witch hazel ( <i>Hamamelis virginiana</i> )	Moist	Shade tolerant	8-16 ft	Delicate clusters of yellow flowers in the fall after leaves fall off, good as an understory species in moist areas
Winterberry ( <i>Ilex verticillata</i> )	Wet to moist	Full or partial sun	6-8 ft	Bright red berries persist into winter
Highbush or lowbush blueberry ( <i>Vaccinium corymbosum</i> and <i>angustifolium</i> )	Acid, wet soils to drier conditions	Sun or shade	Up to 10 ft or 6-18 in.	Attractive form, edible berries
Nannyberry ( <i>Viburnum lentago</i> )	Drier soils but tolerant of wet conditions	Sun or shade	Up to 20 ft	Spreads relatively aggressively, retains berries into late winter and thus good for birds
Groundcovers	Site Conditions	Height	Comments	
Cinnamon fern ( <i>Osmunda cinnamomea</i> )	Wet soils, mostly shady	2-4 ft	Vase-shaped clumps, attractive fertile fronds	
Interrupted fern ( <i>Osmunda claytonia</i> )	Wet to somewhat dry soils, mostly shady	2-3 ft	Vase-shaped clumps	
New England aster ( <i>Aster novae-angliae</i> )	Fertile soil, adequate moisture, full sun	4 ft	Attractive dark purple late summer flowers, will spread by rhizomes	
Bunchberry ( <i>Cornus canadensis</i> )	Cool and shady, adequate moisture, acid soil	6 in	Spreading groundcover of attractive leaves, white flowers, red berries	
Blue flag iris ( <i>Iris versicolor</i> )	Wet soil, full sun	1-3 ft	Spreads well, avoid the invasive yellow iris	
Partridgeberry ( <i>Mitchella repens</i> )	Shady, acid soils	1-2 in	Dark green attractive leaves, red berries, trailing plant	
Cardinal flower ( <i>Lobelia cardinalis</i> )	Wet to moist soils, sun and shade	2-4 ft	Brilliant red flowers loved by hummingbirds	



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## Planting & Caring for a Vegetated Area

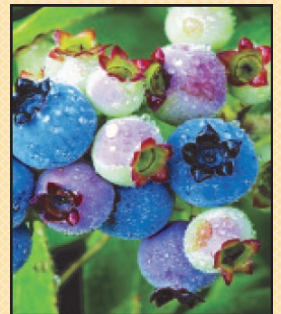
1. Early spring or fall are the optimum times to plant.
2. Dig a hole twice as big as the root ball, and partially fill the hole with existing soil. If the soil is poor, compost or topsoil can be mixed in.
3. Be sure the plant is placed in the hole so that the original soil level on the stem matches the new soil level.
4. Press the fill around the plant using your hands, not feet. If the roots are bare, carefully spread them out in a natural shape and gently press soil in around them.
5. Water but don't fertilize the plants at planting time. Continue to water often so that the soil remains moist for at least 6 weeks. If planting has occurred in the summer, plan on watering the plant every other day for 8 weeks.
6. Pruning should not occur until the plant has had one or two full growing seasons (with the exception of removal of broken branches). Pruning too early will weaken the plant. When pruning do so lightly so as not to stress the plant. Eventually you can prune regularly and selectively, keeping hedges low and encouraging trees to grow tall.
7. Make sure you always have plenty of young "replacement" trees on the way. Either allow saplings to grow naturally, or occasionally plant new small trees in your buffer.
8. **Do not mow** or otherwise maintain a lawn under your buffer's trees and shrubs. **The spongy duff layer of fallen or rotting plant material is critical to the water-cleansing function of a buffer.**
9. Fertilize plants with composted vegetation or manure rather than chemical fertilizer.
10. Leave dead, dying or down trees unless they threaten to fall on structures; they are important habitat for numerous species of birds. If a tree right on the lake bank is dying and needs to be removed, cut it in the winter and leave the roots and stump in place. Note that a tree fallen in the water makes great fish habitat, so it's best to leave them there.



When planting a "bare root" tree or shrub, spread the roots out carefully and fill in soil by hand, pressing gently but firmly to avoid leaving air holes. Mulch around the newly planted tree or shrub to keep competition down while it gets established. Don't pile up the mulch around the stem. The mulch should be shallow right at stem so that the correct ground level is maintained, otherwise the mulch can rot the stem.

## A SWEET OPPORTUNITY FOR LANDOWNERS

The Federation of Vermont Lakes and Ponds (FOVLAP) **Buffers for Blue Lakes Program** encourages lake-shore owners to plant blueberries on their properties. Planting native blueberries and other native fruits is sure to provide you a sweet treat every year, plus colorful fall foliage.



You can choose from low bush, half-high and high-bush blueberry shrubs and plant them directly into your bank or add amended soil to encourage dense fruiting and vigor.

For a guide on choosing the right blueberries for your buffer visit the resources link at FOVLAP's web site: [www.vermontlakes.org](http://www.vermontlakes.org)