

Duxbury Conservation Commission

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Tree/Shrub Replacement Guidelines

This Guidance Document was created to provide helpful information to landowners wishing to cut trees on their property which require mitigation plantings, per Duxbury's Tree Removal Policy. Native plants in and near wetlands will intercept pollutants, slow down runoff from adjacent land, provide some wildlife habitat, and reduce the use of watering, pesticides, and herbicides.

What kind of Mitigation Planting is required?

According to Duxbury's Tree Removal Policy, the loss of trees cut in or near Wetland Resource Areas shall be mitigated as follows (size refers to Diameter at Breast Height (DBH):

1. Large trees (>12" DBH): the owner shall plant a native tree sapling (or two native shrubs) for each large tree cut.
2. Small trees (<12" DBH): For every small tree proposed to be cut, the owner shall plant one native tree sapling or one native shrub.

Replacement Tree/Shrub Requirements. A replacement tree/shrub shall:

1. Be planted at least as close to the resource area as the cut tree closest to the wetlands that the new tree is replacing.
Be of a native species
2. Trees shall have a caliper size of 1" or greater and at least 5-feet tall; shrubs shall be a 2-gallon pot or greater
Optimize wildlife habitat value to the maximum extent practicable; and
3. Survive two growing seasons. The owner must describe the steps that will be taken to maintain the tree for at least 24 months after the date that it is planted.

What is a Native Plant? Native plants (also called indigenous plants) are plants that have evolved over thousands of years to adapt to the geography, hydrology, and climate of a particular region. As a result, native plants form communities with other plants that provide habitat for a variety of local wildlife species such as songbirds and butterflies.

NATIVE PLANTS

- Do not require fertilizers.
- Are adapted to our climate.
- Require less water than lawns.
- Support endangered pollinators.
- Provide shelter and food for wildlife.

DUXBURY TREE/SHRUB REPLACEMENT GUIDELINES

Why Use Native Plants?

Because native plants are adapted to local conditions, they provide a beautiful, hardy, drought resistant, low maintenance landscape while benefiting the environment. Once established, they can save time and money by eliminating the need for fertilizers, pesticides, water, and lawn maintenance equipment.

Select the type of native plants - When selecting plants, keep in mind the amount of light and water the location gets as well as the type of soil. A sunny, dry location with sandy soil will need different plants from a shady, wet one with acid soil. Also keep in mind plants that provide natural foods for wildlife such as fruits, seeds, nuts, and nectar. Please refer to Appendix 2 for a partial list of acceptable native plants.

Submit a plan

After selecting the plants, draw up a sketch plan at a scale of 1" =40'. You may use a plot plan printed from the Town of Duxbury GIS system: <https://www.axisgis.com/DuxburyMA/> Please show approximately where the plants will go. Vegetation should be planted in a "naturalistic manner" (i.e. clumping, mini-communities, etc.).

Get Approval

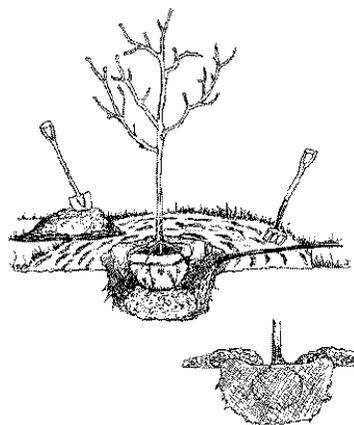
Your re-planting plan shall be submitted with the Tree Removal Request Application and will either be approved by the Conservation Administrator, the Conservation Commission, or will require a more formal application process through a formal Conservation Commission meeting. Please check with the Conservation Administrator as to the process your application and how long the process will take. Once your project is properly approved, you will receive a memo from the Conservation Administrator indicating that our tree cutting, and re-planting may proceed.

DOING THE WORK – Best Times to Plant

Planting is largely a late fall or early spring activity occurring at the beginning or end of the growing season. The growing season for Plymouth County starts after the last frost, typically in May, and ends on the first frost date of fall, typically in October. Planting in hot, dry summer conditions may delay seed germination and plant growth or require extensive watering.

As with any planting, watering may be necessary while the plants are becoming established, especially during a drought or heat wave. Watering seeded areas, however, is usually not mandatory as native species will usually germinate when conditions are most appropriate. Mulch of dead leaves or compost helps to retain moisture in the soil for a young transplant.

Fall plantings should be done before the first frost which occurs sometime around October 18. Shrubs and trees, however, may be planted up to November 15, weather permitting. It should be noted, however, that some plant species are ill-suited to fall plan.



DUXBURY TREE/SHRUB REPLACEMENT GUIDELINES

Planting Trees and Shrubs

Native plants are installed the same way as any other potted or bare root stock by digging a hole large enough so it will not constrict root systems. You will want to use proper tree planting procedures - to make sure the tree has the best chance for a long life.

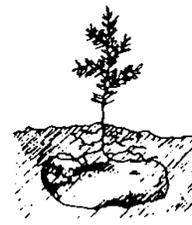
- Dig the hole as deep as the root ball and twice as wide.
- Check to see if the soil around the hole is too hard - if it is, loosen it up a bit with the shovel.
- Remove the container from the root ball. - The roots are like the plant's blood vessels, and they work best if they are not all twisted and knotted up, so you might need to straighten them out if they are circling around after having grown in the container.
- Place the tree in the hole, making sure the soil is at the same level on the tree as when the tree grew in the garden center. If your tree has burlap around the root ball, place the tree in the hole and then carefully untie the burlap. Leave the burlap lying in the bottom of the hole - this is okay - the burlap will simply turn into organic matter over a period of time.
- Fill in around the root ball with soil and pack the soil with your hands and feet to make sure that there are no air pockets.
- Make a little dam around the base of the plant as wide as the hole with left over soil or grass clumps to hold in the water.



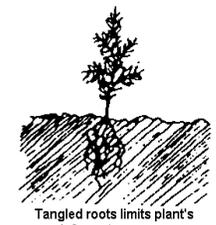
Air pockets leaves roots without soil



Upturned roots leaves plant without water and soil



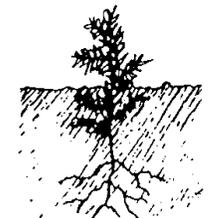
Rock blocks plant's growth



Tangled roots limits plant's reach for water



Too shallow planting leaves roots exposed



Too deep planting strangles the plant

Monitoring of Restored Area

Applications of fertilizers or pesticides should be avoided. Maintenance should be limited to invasive species removal to maintain native plant diversity. It is the landowner's responsibility to replace trees and shrubs that do not survive.

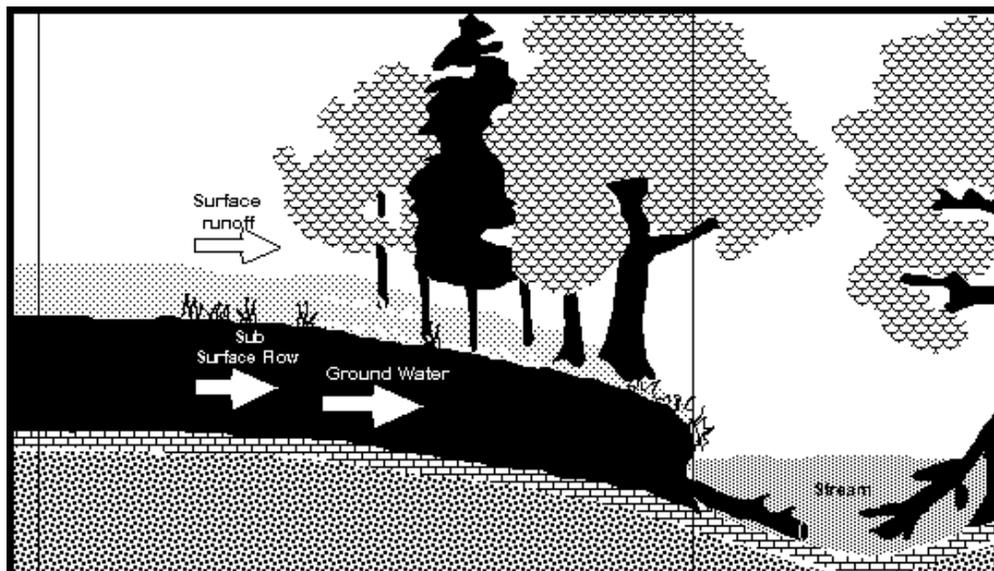
Summary

By choosing native plants suited to the site conditions, little maintenance, chemical fertilizers, or additional watering will be necessary for the plants to thrive. This all adds up to time and cost savings as well as a healthier habitat for you and the wildlife that inhabit your yard.

INTERNET REFERENCES

Choosing the Right Plant for Your Place - Check out these key resources to help identify plants for your home garden:

- **Go Botany** - Learn about native species in New England and check other common garden plants to see which are native:
<https://gobotany.nativeplanttrust.org>
- **Where to Buy Native Plants** See Native Plant Trust's ample selection of native plants on sale at Garden in the Woods and Nasami Farm Nursery, and browse our CSA and Plant Collections: <https://www.nativeplanttrust.org/for-your-garden/buy-native-plants/>
- **Native Plant Resources from Grow Native Massachusetts:**
<https://grownativemass.org/Great-Resources/nurseries-seed>
- **Invasive plants brochure** - Be sure not to plant [invasive species](#), one of the chief threats to native plants. See: https://www.nativeplanttrust.org/documents/321/Managing_Common_Invasives_40519.pdf
- **List of landscape designers** who can assist you in your buffer zone restoration project (Select "MA" but leave the zip code blank):
<https://www.ecolandscaping.org/member-directory/>



A buffer zone (between the 2 vertical lines) allows water to slow down and be filtered before it empties into the stream or wetland. This helps keep our groundwater and surface waters cleaner.

SUGGESTED NATIVE PLANTS

For a complete listing, please refer to Native Plant Trust's native plant listing at:

<https://www.nativeplanttrust.org/>

Easy Plants for Dry Soils

TREES

Sassafras albidum – Sassafras
Quercus Alba – White Oak
Quercus rubra – Northern Red Oak
Pinus strobus – Eastern White Pine

SHRUBS

Amelanchier species - Serviceberry
Cornus racemosa - Gray Dogwood
Ilex glabra - Inkberry Holly
Kalmia angustifolia - Sheep Laurel
Myrica pensylvanica - Bayberry
Rhododendron vaseyi - Pink-shell Azalea
Rosa virginiana - Virginia Rose
Spiraea alba var latifolia - Meadowsweet
Vaccinium angustifolium - Lowbush Blueberry
Vaccinium pallidum - Hillside Blueberry

Easy Plants for Moist Soils

TREES

Acer Rubrum - Red Maple
Betula nigra 'Heritage' - River Birch
Cercis canadensis - Eastern Redbud
Liriodendron tulipifera - Tulip Tree
Quercus rubra - Red Oak
Quercus palustris - Pin Oak

SHRUBS

Amelanchier canadensis - Serviceberry
Clethra spp. - Sweet Pepperbush
Cornus alternifolia - Pagoda Dogwood
Hamamelis virginiana - Common Witchhazel

Easy Plants for Moist Soils (continued)

SHRUBS

Ilex verticillata - Winterberry
Kalmia latifolia - Mountain Laurel
Rhododendron vaseyi - Pink-shell Azalea
Sambucus canadensis - Elderberry
Vaccinium corymbosum – Highbush Blueberry
Viburnum dentatum - Arrowwood
Viburnum nudum - Witherod Viburnum

Easy Plants for Wet Soils

TREES

Platanus occidentalis - American Sycamore
Quercus palustris - Pin Oak
Acer Rubrum - Red Maple
Fraxinus Pennsylvania - Green Ash

SHRUBS

Aronia arbutifolia - Red Chokeberry
Ilex glabra - Inkberry Holly
Ilex verticillata – Winterberry
Lindera benzoin - Spicebush
Rhododendron viscosum - Swamp Azalea
Vaccinium corymbosum - Highbush Blueberry

LOCAL NURSERIES THAT SELL NATIVE PLANTS

<p>Bigelow Nurseries, Inc. 455 West Main Street - NOT Rte 20 Northboro, MA 01531 01532 Phone: 508-845-2143</p>	<p>A semi-local nursery that has a standard variety of native - and non-native plants. http://www.bigelownurseries.com/</p>
<p>Blue Stem Natives 376 Washington Street (REAR LOT) Norwell, MA 02061 Phone or Text: 781-738-4869</p>	<p>Local plant nursery specializing in a variety of native flowering plants, shrubs and trees. https://www.bluestemnatives.com/</p>
<p>New England Wetland Plants, Inc 820 West St. Amherst, MA 01002 Phone: 413-548-8000</p>	<p>Experts in wetland plants who will answer questions. They have seed mixes for a variety of conditions. They ship seed & plants, but encourage pick up. About 1 ½ hours from Framingham. http://www.newp.com/</p>
<p>Native Plant Trust 180 Hemenway Road Framingham, MA 01701 Phone: 508-877-7630 TTY: 508-877-6553</p>	<p>Native Plant Trust runs 2 nurseries specializing in native plants. One in Framingham at the <i>Garden in the Woods</i>, and <i>Nasami Farms</i>, in Whately, MA. https://www.nativeplanttrust.org/for-your-garden/buy-native-plants/</p>
<p>Russell's Garden Center 397 Boston Post Rd - Rt. 20 Wayland, MA 01778 Phone: 508-358-2283</p>	<p>This is a semi-local nursery that has a standard variety of native - and non-native plants. A treat to walk in the greenhouses in winter. http://www.russellsgardencenter.com/</p>
<p>Weston Nurseries of Hopkinton, Inc. 93 East Main Street - Rte. 135 Hopkinton, MA 01748 Phone: 508-435-3414</p>	<p>This is also a semi-local nursery which does some of its own hybridizing. It has a variety of native - and non-native plants. http://www.westonnurseries.com/</p>
<p>Other Native Plant Resources:</p>	<p>https://www.grownativemass.org/</p> <p>https://www.prairiemoon.com/</p> <p>https://www.prairienursery.com/</p>

**Town of Duxbury Conservation Commission
Native Plant Mitigation Form**

Name _____

Address _____

Location of Restoration Area _____

Size of Restoration Area - square feet _____

Please attach a sketch plan of the planting area with the approximate location of planting at a scale of 1"=40'.

Name and Type of native vegetation to be planted

Species Name	Common Name	Quantity
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Nursery(ies) where plants will be purchased _____

Proposed date of planting
