**FOXBOROUGH CONSERVATION COMMISSION**

40 South Street, Foxborough, Massachusetts 02035
www.foxboroughma.gov/conservation
508-543-1251

# Buffer Zone Restoration Guidelines

***"Wetlands are the kidneys of nature."***

Maintaining or restoring a small living filter of native vegetation along wetlands will intercept pollutants, slow down runoff from adjacent land, provide some wildlife habitat, and reduce the need for watering, pesticides and herbicides.

*Cinnamon Fern*

## 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 specific region. As a result, native plants form communities with other plants that provide habitat for a variety of wildlife such as songbirds and butterflies.

## Why Use Native Plants?

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

**NATIVE PLANTS:**

*(When compared to our non-native lawns)*

- *Do not require fertilizers or other chemicals*
- *Require little or no watering*
- *Help to reduce water pollution*
- *Provide shelter and food for native wildlife*

## What is a Buffer Zone and why is "Restoring" it so Important?

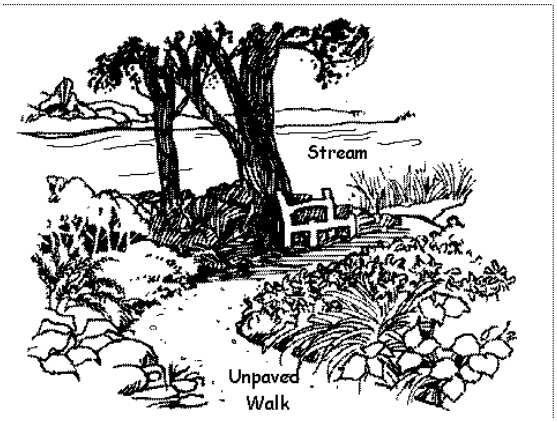
Wetlands, rivers, streams and ponds don't thrive in isolation, but depend on the land surrounding them to keep them healthy. Buffer Zones were set up by the State and Town to help keep wetlands healthy and do what they do best. Adding native plants back to a Buffer Zone helps to maintain the water quality of ponds, streams and wetlands by filtering out stormwater runoff pollutants, providing wildlife food and habitat, and preventing erosion.

**RESOURCES IN THIS GUIDE:**

***Appendix 1*** *- Internet Resources;*
***Appendix 2*** *- Easy Native Plant lists for dry, moist, and wet site conditions; and*
***Appendix 3*** *– Local Nurseries that sell native plants.*

# PUTTING A RESTORATION PLAN TOGETHER

## 1 – DETERMINE SIZE AND LOCATION OF RESTORATION




***Your buffer zone does not need to look weedy or messy. Our native plants are beautiful, so your buffer can be a relaxing and enjoyable space, as shown above.***

If you've been issued an Order of Conditions that requires a buffer zone restoration, please discuss your Order's special requirements with the Conservation Agent. In general, the Conservation Commission *(Commission)* requires that proposed alterations in a buffer zone *(BZ)* area should be restored at a ratio of >1:1 *(s.f. alteration to s.f. restoration).*

*Example,* if a homeowner proposes to install a 10' x 10' (i.e. 100 s.f.) shed on an *existing* lawn, what would be only 10' from a wetland edge, then the Commission *may* allow the shed if the homeowner agrees to remove >100 s.f. of lawn (next to wetland) and restore the area with native plants.

**Preferred Areas to Restore**

- *Existing lawns within the Bylaw's 25-Foot No Activity Zone*
- *Altered areas that are next to existing native vegetation*

## 2 - HOW MANY/WHAT KIND OF PLANTS WILL YOU NEED?

**Categories of Native Plants Used in a Restoration Area**

***Trees*** *create an upper canopy layer that provides shade for wetlands and wildlife habitat. Common native trees include maples, oaks and pines.*

***Shrubs*** *make up the mid-story layer, which helps to prevent erosion and provide food for wildlife. Common shrubs include azaleas, blueberries, viburnums and dogwoods.*

***Herbaceous Plants*** *live in the lower story/forest floor and often become dormant (disappear) during winter. They help to cleanse stormwater runoff and prevent erosion. Common natives include ferns, wildflowers and ground-covers, such as moss.*

The number of plants needed from each category (trees, shrubs and herbaceous) depends upon the size (i.e. total square feet *[s.f.]*) of the area that will be restored. The Commission generally recommends using a balance of plants from each category, based upon total size, as follows:

- One (1) tree sapling, 6'-8' tall, for every 150 s.f.;
- One (1) shrub, at least 24" tall, for every 80 s.f.; and
- Three (3) herbaceous or groundcover plant for every 25 s.f. *(planted in clusters), or* a native seed mix applied at the recommended coverage rate.

*In Other Words:*
If the proposed restoration area is 300 s.f. in size, then the homeowner might be asked to plant a combination of native plants, such as the following:

- 2 trees;
- 4 shrubs; and
- 36 ferns, wildflowers and/or groundcovers.

# PUTTING A RESTORATION PLAN TOGETHER *(continued)*

## 3 - SELECTING SPECIES OF NATIVE PLANTS TO USE

*Jack in the Pulpit*

When you're selecting your plants, keep in mind the amount of sunlight and water your restoration area receives, as well as soil type. A sunny, dry location with sandy soil will support different plants than a shady, wet area with acidic soil. Try to use plants that will provide food for wildlife and pollinators, such as plants that produce nectar, fruits, seeds, or nuts.

If you live in an area with a high deer population, you might want to plant deer-resistant plants *(i.e. that they don't like to eat),* such as Jack in the Pulpit, Bayberry, Red Osier Dogwood, Witch Hazel, and Sweet Fern.

The way that plants reproduce and spread is another thing to consider. Annual plants live for one season, spreading seeds at the end of the season. Biennial plants grow foliage during the first year, and then flower and seed during the second year. Perennials might spread by seed dispersal, but some multiply by sending out underground runners. Although plants that spread by runners can quickly overtake an area, this can be advantageous. For example, hay scented fern quickly creates a beautiful and lush green carpet, so would be an excellent choice if you need to cover and stabilize a steep hillside area.

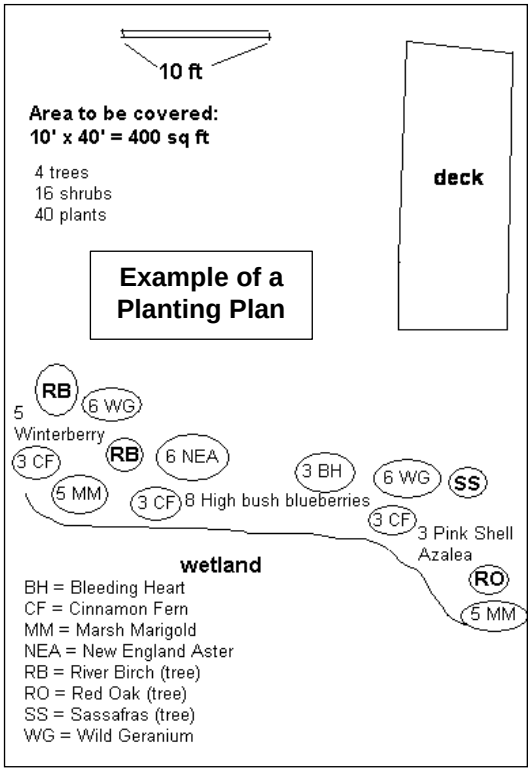
## 4 - SUBMIT A PLAN

*Witch Hazel - flowers in late fall and early winter*

After selecting the native plants that you would like to use in your restoration area, you should draw up an informal plan at a scale of about 1"=10' that shows the approximate locations of where you would like to plant your new plants.

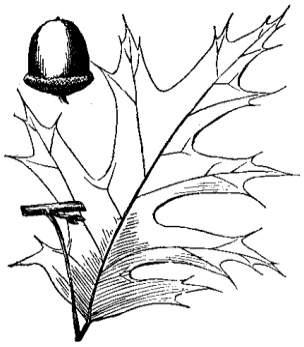
You should try to set the same species of plants in clumps to mimic nature, rather than spacing plants separately and equidistant from each other.

Remember that some plant varieties need more room to grow than others, so you should plan accordingly.



# DOING THE WORK *(after the Commission approves your proposed plan)*

## 1 - WHEN TO PLANT YOUR RESTORATION AREA

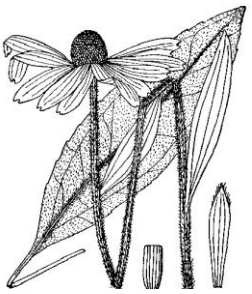


Planting should be done in early spring or late fall; in other words, at the beginning or the end of the growing season. Foxborough's growing season runs from around April 16 through October 18. Planting during hot, dry summer conditions could delay plant growth, or germination, if planting seeds, and will likely require extensive watering for the first year for your plants to survive.

As with any other types of plantings, regular watering is usually required for the first year or two, while the plants are becoming established and more often during a drought or heat wave. Watering newly seeded areas is often not necessary, since native species will usually germinate when conditions are most appropriate. Adding a layer of mulch from shredded fall leaves or compost will help to retain moisture in the soil for tender young plants.

Fall plantings should occur before the first frost, which is usually around October 18. Some shrubs and trees may be planted up to November 15, weather permitting, but some plant species are ill-suited for fall planting.

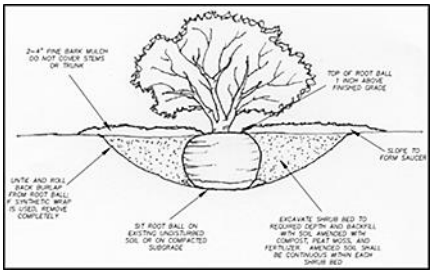
## 2 - REPLACING YOUR LAWN; A GOOD CHOICE



Proper soil preparation is the most important factor to a successful native planting project. Use a sod cutter (which can be rented), to remove sections of your existing lawn. Do not turn over the exposed soil, since disturbing the soil will likely expose weed seeds and encourage their growth. Weeds, especially non-native ones, will often out-compete your new native seedlings by taking up nutrients, water, and sunlight.

## 3 - PLANTING TREES AND SHRUBS

Native plants are installed the same way as any other potted or bare root plant, by digging a hole large enough to allow your new plant's roots to grow. Mulching is often necessary to improve soil and moisture conditions; it will help ensure successful early growth, as well as germination, if you're planting seeds. You will want to use proper tree/shrub planting procedures to ensure that your new plant gets a good start and the best chance for a long life.

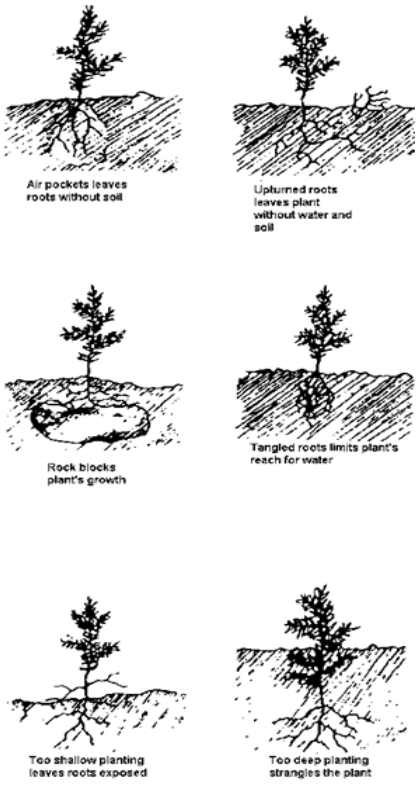



**<u>Dig the hole</u>** as deep as the root ball and twice as wide.

**<u>Check the soil</u>** around the hole; if it is hard-packed, loosen it up a bit with the shovel or a pitch fork.

# DOING THE WORK

## 3 - PLANTING TREES AND SHRUBS (*continued*)




**Remove the root ball from the container**. The roots are like the plant's blood vessels and work best if they are not twisted or knotted up, so you might need to loosen roots that were on the bottom of the container, or even make a 2-inch vertical slice with a knife or your shovel if the roots are very dense.

**Place the plant in the hole**, making sure the soil is at the same depth as the container so it is planted at the level it had grown in the nursery. If your plant has burlap around the root ball, just place the wrapped plant in the hole, carefully untie the burlap and then tuck the excess back into the hole or cut it off at ground level. If any is left above-ground, it could wick moisture away from your plant. The buried burlap will turn into organic matter.

**Fill the hole with water**, let it drain down a bit, and then evenly place soil back around the root ball, then hand pack the soil (or press it down with your foot) to remove any air pockets.

**Make a small dam** with left over soil around the plant's base (as wide as the hole) to create a depression that will retain water.

**Water thoroughly** and remember to water your new plant at least two to three times a week, particularly during hot weather.

**Mulch** with 1-2 inches of organic material (but don't pack the mulch too tightly, or pile it up on the plant's stem or trunk).

**Scatter logs, various sized branches, rocks**, or leaf litter around your new plantings to help naturalize the area.

## 4 - MONITORING YOUR NEWLY RESTORED AREA

To ensure the success of your project, you should monitor it regularly, remove any invasive plants (weeds) and replace any plants that don't survive. After they become established, they need only very minimal maintenance; fertilizers and chemicals should be avoided. One of the nicest things about gardening with native plants is the fact that they only need your help in the beginning, since they were "made" to grow here!

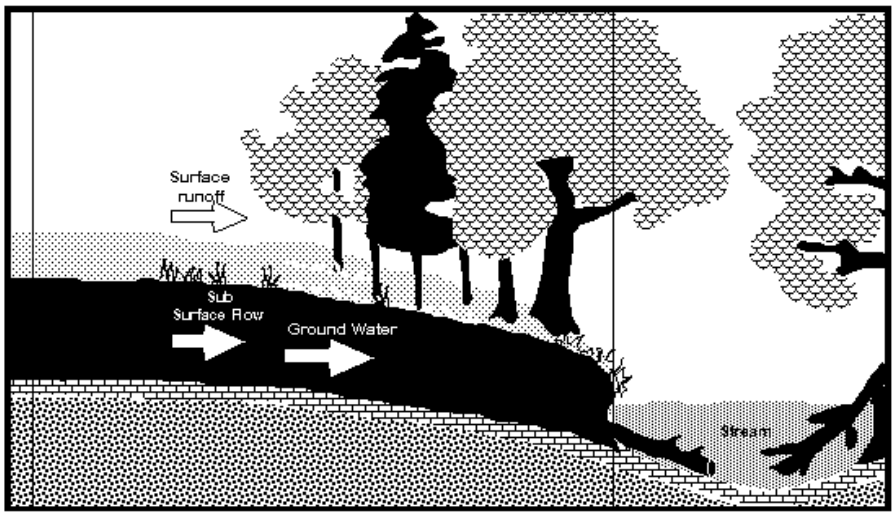
***In Summary*: Native plants require minimal maintenance and watering** *after they've become established. By choosing to restore your yard's buffer zone with native plants, you will save money and you will have more time to enjoy your new native "garden" (it will need only minimal maintenance), as well as the wildlife that your native plants are sure to attract. You will also have peace of mind, since you will have helped to create a healthier environment for your family, your neighbors, and your wild visitors.* ***Thank you!***

# INTERNET RESOURCES

- **MCA Native Pollinator Task Force** – *MCA's mission is to conserve native pollination systems*
  **https://www.svtweb.org/mca-native-pollinator-task-force**
- **Native Plant Trust** *(formerly NEWFS)* **–** *Framingham's Garden in the Woods is a great place to visit to get inspiration about how to use beautiful native plants in your own yard.*
  **http://www.nativeplanttrust.org/visit/garden-woods/**
- **MCA Pollinator Preservation Toolkit** – *Includes useful resources for creating a garden that supports at-risk pollinators in Eastern Massachusetts.*
  **https://www.svtweb.org/mca-pollinator-preservation-garden-toolkit**
- **MA Natural Heritage & Endangered Species Program** – *Native shrubs to plant for wildlife*
  **https://www.mass.gov/guides/native-shrubs-for-plantings-as-wildlife-food**
- **Greenscapes Massachusetts** – *Landscaping practices with less impact on the environment*
  **http://greenscapes.org/your-yard/**
- **Wild Ones** – *Encourages the preservation and restoration of native communities*
  **https://wildones.org/**
- **Native Plant Trust; Invasive Plant Control** – *Invasive plants that you should avoid planting*
  **http://www.nativeplanttrust.org/conservation/invasive/**
- **Invasive Plant Atlas of New England** – *Database of invasive and potentially invasive plants*
  **http://www.eddmaps.org/ipane/**

***Vegetated Buffer Strips*** ***help keep our ground and surface waters clean by:***

- ***slowing down*** *stormwater runoff,*
- ***promoting*** *groundwater recharge,*
- ***preventing*** *erosion,*
- ***allowing*** *plants to absorb nutrients (fertilizers, etc.) and pollutants, and*
- ***filtering*** *stormwater before it can empty into a pond, stream or wetland.*




←---------- ***Vegetated Buffer Strip*** ----------→

# SUGGESTED NATIVE PLANTS

## Easy Plants for Dry Soils

### Trees

*Acer saccharum* – Sugar Maple
*Betula lenta* – Black Birch
*Pinus strobus* – Eastern White Pine
*Quercus alba* – White Oak
*Quercus rubra* – Northern Red Oak
*Sorbus americana* - American Mountain-Ash

### Shrubs

*Amelanchier arborea* – Tall Shadbush
*Compatonia peregrine* – Sweet Fern
*Cornus racemosa* - Gray Dogwood
*Gaylussacia baccata* - Black Huckleberry
*Ilex glabra* - Inkberry Holly
*Kalmia angustifolia* - Sheep Laurel
*Kalmia latifolia* - Mountain Laurel
*Moella pensylvanica* - Bayberry
*Rhododendron periclymenoides* - Pink Azalea
*Rosa carolina* – Carolina Rose
*Vaccinium augustifolium* – Lowbush Blueberry
*Vaccinium palladium* – Hillside Blueberry

### Herbaceous Plants / Groundcovers*

*Antennaria species* - Pussy-Toes*
*Aquilegia species* - Columbine
*Arctostaphylos uva-ursi* – Bearberry*
*Asclepias syriaca* – Common Milkweed
*Asclepias tuberosa* - Butterfly Weed
*Baptisia australis* – Wild Blue False Indigo
*Echinacea purpurea* – Purple Coneflower
*Epigaea repens* – Trailing Arbutus, Mayflower*
*Gaultheria procumbens* – Wintergreen, Teaberry*
*Leucanthemum vulgare* – Daisy
*Lupinus perennis* – Wild Blue Lupine
*Maianthemum canadense* - Canada Mayflower*
*Monarda fistulosa* – Bee Balm
*Rudbeckia hirta* – Black-Eyed Susan
*Schizachyrium scoparium* - Little Bluestem Grass

### Ferns

*Onoclea sensibilis* – Sensitive Fern
*Thelypteris noveboracensis* – New York Fern

## Easy Plants for Moist Soils

### Trees

*Acer Rubrum* - Red Maple
*Betula nigra* - River Birch
*Cercis canadensis* - Eastern Redbud
*Nyssa sylvatica* – Black Gum/Tupelo
*Platanus occidentalis* - Sycamore
*Sorbus americana* – American Mountain Ash

### Shrubs

*Amelanchier canadensis* – Thicket Shadbush
*Clethra alnifolia* - Sweet Pepperbush
*Cornus amomun* - Silky Dogwood
*Cornus sericea* – Red-Osier Dogwood
*Hamamelis virginiana* – Witch Hazel
*Lindera benzoin* - Spicebush
*Myrica gale* - Sweet Gale
*Rosa palustris* - Swamp Rose
*Sambucus canadensis* - Elderberry
*Vaccinium corymbosum* - Highbush Blueberry
*Viburnum cassinoides* – Wild Raisin
*Viburnum recognitum* - Arrowwood
*Viburnum lantanoides* - Hobblebush

### Herbaceous Plants / Groundcovers*

*Actaea pachypoda* – White Baneberry, Doll's-Eyes
*Arisaema triphyllum* - Jack-in-the-Pulpit
*Cornus canadensis* – Bunchberry*
*Eutrochium maculatum* – Joe Pye Weed
*Mertensia virginica* – Eastern Bluebells
*Maianthemum - Smilacina stellatum* - Star Flower*
*Penstemon digitalis* – Foxglove Beardtongue
*Podophyllum peltatum* - Mayapple
*Symphyotrichum novae-angliae* – New England Aster
*Trillium erectum* - Red Trillium
*Uvularia sessilifolia* – Sessile-Leaved Bellwort
*Vaccinium macrocarpon* – Large Cranberry*

### Ferns

*Adiantun pedatum* - Maidenhair Fern
*Dennstaedtia punctilobula* – Hay-Scented Fern
*Osmunda cinnamomea* - Cinnamon Fern
*Polystichum acrostichoides* – Christmas Fern

# SUGGESTED NATIVE PLANTS

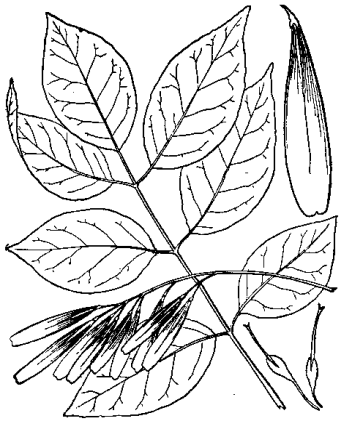
## Easy Plants for Wet Soils

### Trees

*Platanus occidentalis* - American Sycamore
*Acer Rubrum* - Red Maple
*Fraxinus Pennsylvania* - Green Ash
*Nyssa sylvatica* – Black Gum/Tupelo

### Shrubs

*Aronia arbutifolia* - Red Chokeberry
*Ilex glabra* - Inkberry Holly
*Ilex verticillata* – Winterberry Holly
*Lindera benzoin* – Common Spicebush
*Myrica gale* - Sweet Gale
*Rhododendron viscosum* - Swamp Azalea
*Rosa palustris* – Swamp Rose
*Salix discolor* – Pussy Willow
*Sambucus canadensis* – Common Elderberry
*Vaccinium corymbosum* - Highbush Blueberry
*Viburnum cassinoides* – Wild Raisin



*Green Ash*

### Herbaceous Plants / Groundcovers*

*Anemone Canadensis* – Canada Anemone*
*Asclepias incarnata* - Swamp Milkweed
*Caltha palustris* - Marsh Marigold
*Camassia species* - Camas Lily
*Carex vulpinoidea* – Fox Sedge
*Chelone glabra* – White Turtlehead
*Eupatorium perfoliatum* – Boneset
*Iris versicolor* - Blue Flag Iris
*Liatris spicata* - Marsh Blazing Star
*Lilium canadense* – Canada Lilly
*Lobelia cardinalis* - Cardinal Flower
*Rubus hispidus* – Dewberry*
*Symphyotricheum puniceum* – Swamp Aster
*Symplocarpus foetidus* - Skunk Cabbage*
*Vaccinium macrocarpon* – Cranberry*
*Verbena hasata* – Blue Vervain

### Ferns

*Osmunda cinnamomea* - Cinnamon Fern
*Osmunda claytoniana* - Interrupted Fern
*Osmunda regalis* - Royal Fern

# LOCAL NURSERIES THAT SELL NATIVE PLANTS & SEEDS

| | |
|---|---|
| **Bigelow Nurseries**<br>*http://www.bigelownurseries.com/*<br>455 Main Street, Northborough, MA 01532 | Phone: 508-845-2143<br>Large nursey. Good selection native trees, shrubs and herbaceous plants. *Sizes: containers to B&B trees.* |
| **Blue Moon Farm Perennials**<br>*http://bluemoonfarmperennials.com/*<br>173 Saugatucket Road, Wakefield, RI 02879 | Phone: 401-284-1783<br>Large nursery. Mostly perennials with good selection of natives; *whole plants rather than seeds or plugs.* |
| **Native Plant Trust** *(formerly NE Wildflower Society)*<br>*http://www.nativeplanttrust.org/*<br>*Garden in the Woods*, Framingham, MA 01701<br>180 Hemenway Road Phone: 508-877-7630<br>*Nasami Farm*, Whately, MA Phone: 413-397-9922 | Two large nurseries. Sell only native herbaceous and small woody plants. Excellent selection of NE wild-flowers and hard to find species (i.e. Lady's slippers, trilliums). *Sizes: seedlings to 10 gal.* Visit *Garden in the Woods; it's* an excellent garden idea center. |
| **Sylvan Nursery**<br>*http://www.sylvannursery.com/*<br>1028 Horseneck Road, Westport, MA 02790 | Phone: 508-636-4573<br>Large nursery. Primarily wholesale, but open to retail 3 days/week. *Offers plants in all sizes.* |
| **Russell's Garden Center**<br>*http://www.russellsgardencenter.com/*<br>379 Boston Post Road, Wayland, MA 01778 | Phone: 508-358-2283<br>Large garden center; sells many native perennials, ferns and grasses, and some native trees and shrubs. |
| **Weston Nurseries**<br>*https://www.westonnurseries.com/*<br>93 E. Main Street, Hopkinton, MA 508-435-3414<br>160 Pine Hill Road, Chelmsford, MA 978-349-0055 | Retail garden center and also a wholesale nursery. Large selection of plants, some of which are native. *Sizes: 1 gallon perennials up to B&B trees.* |
| **A Wing and a Prayer Nursery**<br>*https://aliceskitchenathoneyhill.com/amys-nursery/*<br>48 Trouble Street, Cummington, MA<br>*Open May- Oct, limited hours, several days/week.* | Phone: 413-634-5659<br>Small retail nursery growing well over 100 species. Most are native wildflowers or grasses grown from seed; also sell some woody plants grown locally. |
| **Earth Tones Native Plants**<br>*http://www.earthtonesnatives.com/*<br>212 Grassy Hill Road, Woodbury, CT 06798 | Phone: 203-263-6626 - *Sizes: 1 quart to 5 gal.*<br>Small nursery; worth the trek from MA. Grows/sells hundreds of native species from wild-collected seeds. |
| **Colonial Seed**<br>*http://www.colonialseed.com/index.html*<br>Windsor, CT – *Agways may sell some seed mixes.* | Phone: 413-355-0200<br>A seed mix company that also sells plugs of many native NE grasses, sedges, rushes, and some forbs. |
| **Earnst Seeds**<br>*https://www.ernstseed.com/*<br>8884 Mercer Pike, Meadville, PA 16335 | Phone: 800-873-3321<br>Largest native seed producer and supplier in eastern US. Sells seeds, seed mixes, for eco restoration, etc. |

*(The above-listed resources are suggestions, only, and not recommendations.)*