

# Native Plant Guidelines for Newton

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## Introduction

These guidelines have been developed to assist applicants in developing plans for mitigation and restoration planting areas. Guidelines reflect the interests of the Wetlands Protection Act and Regulations, the Newton Conservation Commission's interest in promoting healthy native ecosystems, and best practices for plant installation and maintenance.

Every site is unique; when developing a planting plan, applicants should consider site characteristics first and foremost. Thoughtful plant selection makes it easier for plants to get established. The Newton Conservation Commission will assess each plan in this context.

## Recommended Plants

### Evergreen Trees

Common Name	Botanical Name	Sun	Moisture	Height	Comments
Balsam Fir	<i>Abies balsamea</i>	Full-Part	Average	75'	
Atlantic White Cedar	<i>Chamaecyparis thyoides</i>	Full-Part	Wet		
American Holly**	<i>Ilex opaca</i>	Full-Part			Commonly found on Cape Cod
Eastern Red Cedar**	<i>Juniperus virginiana</i>	Full-Part	Dry		Upland plant, likes full sun and tolerates drought
Black Spruce	<i>Picea mariana</i>	Full-Part	Average	40'	Tolerates wet sites
Pitch Pine	<i>Pinus rigida</i>				Commonly found on Cape Co
White Pine**	<i>Pinus strobus</i>	Full	Average-Dry	80'	Handsome specimen; not tolerant of road salt
Eastern Arborvitae**	<i>Thuja occidentalis</i>	Full-Part			
Eastern Hemlock	<i>Tsuga canadensis</i>	Full-Shade	Average	70'	Shade tolerant; vulnerable to wooly adelgid

### Deciduous Canopy Trees

Common Name	Botanical Name	Sun	Moisture	Height	Comments
Maple-Red**	<i>Acer rubrum</i>	Full-Part	Average	60'	Excellent fall color; tolerates wet spring soil
Maple-Sugar**	<i>Acer saccharum</i>	Full-Part	Average	75'	Excellent fall color, beautiful large shade tree
Birch-Yellow	<i>Betula alleghaniensis</i>	Full-Part	Average	100'	Does best in cool soils, beautiful bark
Birch-Black	<i>Betula lenta</i>				
Birch-Paper**	<i>Betula papyrifera</i>	Full	Average	70'	White bark year-round, tolerates poor, dry soil
Birch-Gray	<i>Betula populifolia</i>	Full	Average	40'	Does well in poor soils; good for naturalizing
American Hornbeam**	<i>Carpinus caroliniana</i>	Full	Average	30'	Use for naturalizing; tolerates periodic flooding
Hickory-Pignut	<i>Carya glabra</i>				
Hickory-Shagbark	<i>Carya ovata</i>				
Hickory-Mockernut	<i>Carya tomentosa</i>				
American Beech	<i>Fagus grandifolia</i>				
Green Ash	<i>Fraxinus pensylvanica</i>	Full-Part	Average	60'	Grows fast; tolerates salt, drought, alkaline soil
Tamarack	<i>Larix laricina</i>	Full	Wet-Ave.	80'	Good for moist-wet sites & well drained sites
Tulip Poplar**	<i>Liriodendron tulipifera</i>				
Tupelo**	<i>Nyssa sylvatica</i>	Full-Shade	Wet-Ave.	100'	Lovely bright red fall color and blue fruit
Sycamore	<i>Platanus occidentalis</i>				

Black Cherry	<i>Prunus serotina</i>	Full	Average	60'	White flowers (spring); wildlife food source
Oak-White	<i>Quercus alba</i>	Full	Average	80'	Large tree; transplant when young
Oak-Swamp White**	<i>Quercus bicolor</i>				
Oak-Scarlet	<i>Quercus coccinea</i>	Full	Average	80'	
Oak-Red**	<i>Quercus rubra</i>	Full	Average	75'	Transplants readily; good fall red leaf color
Sassafras	<i>Sassafras albidum</i>	Full-Part	Average		Can colonize in the understory
American Linden	<i>Tilia americana</i>	Full-Part	Average	80'	Tolerates alkaline soil; use in urban landscape

### Smaller Deciduous Trees

Common Name	Botanical Name	Sun	Moisture	Height	Comments
Downy Serviceberry	<i>Amelanchier arborea</i>	Full-Part	Average	25'	Edible/wildlife landscapes; orange fall color
Shadblow Serviceberry**	<i>Amelanchier canadensis</i>	Full-Part	Average	20'	Edible/wildlife landscapes; yellow/gold fall color
Alleghany Serviceberry	<i>Amelanchier laevis</i>	Full-Part	Average	25'	Edible/wildlife landscapes; spring leaves bronze
Eastern Redbud**	<i>Cercis canadensis</i>	Full-Part	Average	20'	Charming tiny bright-pink flowers in spring
Pagoda Dogwood**	<i>Cornus alternifolia</i>	Full-Part	Average	25'	Moist soil is important, white flowers in June
Flowering Dogwood**	<i>Cornus florida</i>				
Hawthorne**	<i>Crataegus sp</i>	Full	Average	30'	Red fruits in fall attract birds
American hophornbeam**	<i>Ostrya virginiana</i>	Full-Part	Average-Dry	40'	Slow to establish after transplanting
Pin Cherry	<i>Prunus pensylvanica</i>				
Black Willow	<i>Salix nigra</i>	Full	Wet-Ave	35'	Tolerates wet soils
American Mountain-ash	<i>Sorbus americana</i>	Full	Average	30'	Fruits good in wildlife landscape

### Evergreen Shrubs

Common Name	Botanical Name	Sun	Moisture	Height	Comments
Inkberry**	<i>Ilex glabra</i>	Full-Part	Wet	3-6'	Broadleaf evergreen shrub, slow-growing
Common Juniper**	<i>Juniperus communis</i>	Full	Average-Dry	3'	Takes drought, wind, sterile or alkaline soils
Sheep Laurel	<i>Kalmia angustifolia</i>	Part	Average-Dry	3'	small, mat-forming shrub with flower clusters
Mountain Laurel**	<i>Kalmia latifolia</i>	Full-Part	Average	8'	Adaptable to many soils; best in acidic soil
Canadian Yew	<i>Taxus canadensis</i>	Full	Average	6'	Good for shady landscapes, hard to find the native
Rosebay Rhododendron	<i>Rhododendron maximum</i>	Shade	Average	8'	Broadleaf

## Deciduous Shrubs

Common Name	Botanical Name	Sun	Moisture	Height	Comments
Speckled Alder	<i>Alnus incana</i>				
Red Chokeberry**	<i>Aronia arbutifolia</i>				
Black Chokeberry**	<i>Aronia melanocarpa</i>	Full-Part	Wet-Ave.	6'	Tolerates wet or dry soils; wine-red fall color
Bush Honeysuckle**	<i>Diervilla lonicera</i>	Full-Part	Average	3'	Great native bee plant, dark red fall foliage
Buttonbush	<i>Cephalanthus occidentalis</i>	Full	Wet	6'	Good for wetland plantings
Sweet Pepperbush**	<i>Clethra alnifolia</i>	Full-Shade	Wet-Ave.	8'	Aromatic flowers; dark green foliage
Gray Dogwood	<i>Cornus racemosa</i>	Full-Shade	Average	15'	Suckering; white fall fruits eaten by many birds
Red Twig Dogwood**	<i>Cornus sericea</i>	Full	Wet-Ave.	6'	Red stems attractive in winter; tolerates wet soil
Hazlenut**	<i>Corylus americana</i>	Full-Part	Average	15'	Wildlife eats nuts; tolerates shade and alkaline soil
Beaked Filbert	<i>Corylus cornuta</i>				
Black huckleberry	<i>Gaylussacia baccata</i>	Part	Average	3'	purple-black berries ripen in late summer
Common Witchhazel**	<i>Hamamelis virginiana</i>	Full-Part	Average	15'	Avoid drought; yellow flowers/leaves in fall
Winterberry**	<i>Ilex verticillata</i>	Full-Part	Wet-Ave.	10'	Bright red fruits persist into midwinter
Spicebush**	<i>Lindera benzoin</i>	Part-Shade	Wet	15'	Aromatic leaves and berries (need male & female)
Sweetgale	<i>Myrica gale</i>	Full	Average-Dry	4'	Bushy plant; dark green, aromatic foliage
Northern Bayberry**	<i>Myrica pensylvanica</i>	Full-Part	Average-Dry	6'	Good for massing; useful in poor soil sites
Shrubby Cinquefoil**	<i>Potentilla fruticosa</i>	Full	Average-Dry	4'	Summer-flowering shrub; tolerates alkaline soil
Chokecherry	<i>Prunus virginiana</i>	Full	Average	30'	White flowers in spring; wildlife food source
Swamp Azalea**	<i>Rhododendron viscosum</i>	Part	Wet	10'	sweet-scented flowers
Fragrant Sumac**	<i>Rhus aromatica</i>				
Smooth Sumac	<i>Rhus glabra</i>				
Staghorn Sumac	<i>Rhus typhina</i>	Part	Average-Dry	25'	Suckering; good mass plant for dry slopes
Carolina Rose	<i>Rosa carolina</i>	Full	Average	5'	Pink single flowers midsummer
Swamp Rose	<i>Rosa palustris</i>				
Virginia Rose**	<i>Rosa virginiana</i>				
American Elderberry	<i>Sambucus canadensis</i>	Full	Average	12'	Edible landscapes; tolerates alkaline soil
Highbush Blueberry**	<i>Vaccinium corymbosum</i>	Part-Shade	Wet	8'	Edible/wildlife landscapes; best in acidic soil
Mapleleaf Viburnum	<i>Viburnum acerifolium</i>	Part-Shade	Average	6'	Good for mass plantings in shady sites
Arrowwood Viburnum	<i>Viburnum dentatum</i>	Full-Part	Average	15'	Durable; good hedge; tolerates alkaline soil
Nannyberry	<i>Viburnum lentago</i>	Full-Part	Average	15'	Good for wildlife and naturalized landscapes
Highbush Cranberry**	<i>Viburnum opulus var. trilobum</i>	Full	Average	12'	Use for screening; good for wildlife landscapes

## Vines

Common Name	Botanical Name	Sun	Moisture	Height	Comments
Virginbower	<i>Clematis virginiana</i>	Full	Average		Climbing vine; best in alkaline soil
Trumpet Honeysuckle**	<i>Lonicera sempervirens</i>	Full-Part	Average		Coral colored flowers attract hummingbirds
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Full-Shade	Average-Dry		Hardy vine; maroon in fall; takes alkaline soil
Fox Grape	<i>Vitis labruscas</i>	Full	Average		Handsome foliage; good vine for arbors

## Woody Groundcovers

Common Name	Botanical Name	Sun	Moisture	Height	Comments
Running Serviceberry	<i>Amelanchier stolonifera</i>	Full-Part	Average	2'	Stoloniferous groundcover; forms thickets
Bearberry**	<i>Arctostaphylos uva-ursi</i>	Full-Part	Average-Dry	6"	Best in poor, sandy, acidic soils; salt-tolerant
Sweetfern**	<i>Comptonia peregrina</i>	Full-Part	Average-Dry	3'	Aromatic foliage; good in dry and sandy soil
Wintergreen**	<i>Gaultheria procumbens</i>	Part-Shade	Average	6"	Evergreen groundcover; leaves reddish in fall
Creeping Juniper **	<i>Juniperus horizontalis</i>	Full	Average-Dry	1'	Tolerates hot, dry, alkaline soil; evergreen
Partridgeberry **	<i>Mitchella repens</i>	Part-Shade	Average	2"	Delicate plant; red fruits persist into winter
Lowbush Blueberry **	<i>Vaccinium angustifolium</i>	Full	Average	2'	Edible/wildlife landscapes; acidic soil
Cranberry	<i>Vaccinium macrocarpon</i>	Full	Wet-Ave.	6"	Edible/wildlife landscapes; acidic soil

## Ferns

Common Name	Botanical Name	Sun	Moisture	Height	Comments
Maidenhair Fern	<i>Adiantum pedatum</i>	Part-Shade	Average	18"	Delicate black stem, fronds almost circular
Lady Fern	<i>Athyrium filix-femina</i>	Part-Shade	Wet-Ave.	18"	Lacey Fronds; reddish in spring
Hay-scented Fern	<i>Dennstaedtia punctilobula</i>	Full-Part	Average-Dry	12"	Fragrant lacey fronds; tolerates hot, dry sites
Marginal Wood Fern	<i>Dryopteris marginalis</i>	Full-Part	Average-Dry	24"	Fronds blue-green; tolerates rocky sites
Ostrich Fern	<i>Mattuccia struthiopteris</i>	Part-Shade	Average	36"	Beautiful fronds; fiddleheads edible
Sensitive Fern	<i>Onoclea sensibilis</i>	Full-Part	Wet-Ave.	12"	Easy to grow; spreads
Cinnamon Fern	<i>Osmunda cinnamomea</i>	Part-Shade	Wet-Ave.	36"	Attractive cinnamon color fertile frond (spring)
Interrupted Fern	<i>Osmunda claytoniana</i>	Full-Shade	Wet-Dry	36"	Spreads well; luxuriant spring growth
Royal Fern	<i>Osmunda regalis</i>	Full-Shade	Wet-Ave.	36"	Vase-shaped; sterile fronds finely dissected
Christmas Fern	<i>Polystichum acrostichoides</i>	Part-Shade	Average	12"	Leathery, evergreen fronds
New York Fern	<i>Thelypteris noveboracensis</i>	Part-Shade			

## Perennial Wildflowers

Common Name	Botanical Name	Sun	Moisture	Height	Comments
Baneberry	<i>Actaea pachypoda</i>	Part-Shade	Average	24"	Attractive, but poisonous fruit
Columbine	<i>Aquilegia canadensis</i>	Full-Shade	Average-Dry	12"	Early spring flowers
Spikenard	<i>Aralia racemosa</i>	Part-Shade	Average-Dry	36"	Good for back of border
Jack-in-the-Pulpit	<i>Arisaema triphyllum</i>	Part-Shade	Wet-Ave.	12"	Flower green and brown; bright red fruit
Common Milkweed	<i>Asclepias syriaca</i>	Full	Dry	36"	Attracts many bees and butterflies
Swamp Milkweed	<i>Asclepias incarnata</i>	Full	Wet-Ave.	36"	
Butterflyweed	<i>Asclepias tuberosa</i>	Full	Dry	24"	Orange flowers
New England Aster	<i>Aster novae-angliae</i>	Full-Part	Average-Dry	24"	Fall flowering; deep purple
New York Aster	<i>Aster novi-belgii</i>	Full-Part	Average-Dry	24"	Fall flowering; purple
Marsh Marigold	<i>Caltha palustris</i>	Full-Part	Wet-Ave.	12"	Showy yellow flowers in early spring
Harebell	<i>Campanula rotundifolia</i>	Full-Part	Average-Dry	12"	Delicate blue-purple flowers
Blue Cohosh	<i>Caulophyllum thalictroides</i>	Part-Shade	Average-Dry	36"	Blue fruits; back of border
Turtlehead	<i>Chelone glabra</i>	Part-Shade	Wet-Ave.	24"	Interesting white flowers in midsummer
Bluebead Lily	<i>Clintonia borealis</i>	Part-Shade	Average	12"	Yellow ball-shaped flowers, poison fruit
Trout-lily	<i>Eupatorium americanum</i>	Part-Shade	Average	6"	Flowers early-spring
Joe-pye Weed	<i>Eupatorium maculatum</i>	Full	Wet-Ave.	48"	Purple flowers in fall; attracts butterflies
Boneset	<i>Eupatorium perfoliatum</i>	Full	Wet-Ave.	24"	Green flowers; good for drying
Blue Flag	<i>Iris versicolor</i>	Full-Part	Wet-Ave.	24"	Elegant form; blue-purple flowers
Indian Cucumber-root	<i>Medeola virginica</i>	Part-Shade	Average	12"	Interesting magenta floral bracts
Obedient Plant	<i>Physostegia virginiana</i>	Full-Shade	Average-Dry	24"	flowers pink; leaves dark green; cut flowers
Solomon's Seal	<i>Polygonatum pubescens</i>	Part-Shade	Average	18"	Arching stems w/ white flowers (spring)
Silvery Cinquefoil	<i>Potentilla anserina</i>	Full	Dry	6"	Yellow flowers, silvery leaves
Bloodroot	<i>Sanguinaria canadensis</i>	Part-Shade	Average	12"	Showy white flowers in early spring
Foam Flower	<i>Tiarella cordifolia</i>	Part	Average	6"	Delicate white flowers in early spring
Wild-oats	<i>Uvularia sessilifolia</i>	Part-Shade	Average	6"	Cream, bell-shaped flowers in early spring
Sweet White Violet	<i>Viola blanda</i>	Part-Shade	Average	2"	Small white flowers, ground cover, self-sows
Marsh Blue Violet	<i>Viola cucullata</i>	Part-Shade	Average	6"	Blue flowers, spreading; self-sows
Labrador Violet	<i>Viola labradorica</i>	Full-Part	Average-Dry	6"	Magenta flowers; reddish foliage; self-sows
Downy Yellow Violet	<i>Viola pubescens</i>	Part-Shade	Average-Dry	6"	Yellow flowers
Round-leaved Violet	<i>Viola rotundifolia</i>	Part	Average-Dry	3"	Yellow flowers, leaves large, round & leathery

### Planting Area Design

- Mitigation/restoration planting areas should be sited away from buildings and roads when possible.
- Walls and fences can diminish the habitat value of mitigation/restoration areas, so they should be avoided when possible.
- Planting areas adjacent to other natural areas can connect and restore fragmented landscapes. Whereas small, isolated planting areas have limited habitat value.
- Narrow strips of planting have limited habitat value—planting beds should be massed in a larger and non-linear layout where possible.

### Plant Layout

- Applicants should provide the Commission with a clear planting plan. The plan helps think through appropriate spacing and layout, identify and avoid potential conflicts, and clearly illustrate final, proposed conditions.
- Modifications to approved plans may be approved by Conservation staff.

### Plant Density and Sizes at time of installation

- In addition to the species of plants to be included in a mitigation/restoration area, it is important to consider the density and sizes of plants to be installed. Plans should show sizes at the time of installation.

Type of Plant	Planting distance	Planting density	Size at time of installation
Groundcover	2' on center	25.0 per 100 sf	4"-1 gallon, 10" plugs, or seed mix
Groundcover w/ shrubs	4' on center	6.3 per 100 sf	4" container, plugs,
Shrubs	5' on center	4.0 per 100 sf	1'-3' tall = 1 gal.; 2'-4' tall = 2 gal.
Shrubs w/ trees	6' on center	3.0 per 100 sf	1'-3' tall = 1 gal.; 2'-4' tall = 2 gal.
Saplings/small trees	10' on center	1.0 per 100 sf	1 caliper inch / 6-8 feet tall
Canopy trees	15' on center	0.4 per 100 sf	2 caliper inches / 8-10 feet tall

### Site Preparation and Correct Planting Practices

1. Mix compost or other organic amendments into the back-fill soil to increase water-holding capacity where appropriate.
2. Dig planting hole for trees only as deep as measured from the trunk flare to the bottom of the root ball or to the same depth as the container.
3. Dig planting hole a minimum of three times the diameter of the root ball.
4. Removed all (or at least top third) of burlap and wire baskets from the root ball.
5. Stake large trees for stability for one growing season.
6. Water all plants thoroughly at the time of planting (15-20 gal. per plant).
7. Mulch root zones with 2 inches of mulch.
8. No fertilization is necessary at planting time.

## Maintenance from Planting through Establishment

**Water:** All newly planted areas should receive approximately 1" of water per week during the growing season from April through October. Temporary irrigation may include drip tubing on a timer to be removed after establishment or TreeGators™.

**Mulch:** Root zones of newly planted trees and shrubs should be mulched to a depth of 2" to 2 ½" to the drip-line, except for the area directly adjacent to the trunk. Mulching materials may include shredded leaves, aged wood chips, bark mulch, or other conservation commission approved material; or may be a hydro-seeded mixture of grasses and forbs. If hydro-seeding, a minimum of 4" of topsoil should be put down prior to seeding. On steep slopes, biodegradable erosion fabric may be used. Efforts will be made to prevent erosion and sedimentation in the planted areas.

**Weeding:** Hand removal of weeds is to be conducted where appropriate.

**Fertilizer:** No fertilizer should be applied at planting. In subsequent years, slow-release fertilizers may be appropriate based on plant growth.

**Removal of invasive species:** Consideration shall be given to the removal of those species of plants listed by the Mass. Dept. of Agricultural Resources Division of Regulatory Services.

## Nurseries

Below is a non-comprehensive list of nurseries that have a good selection of native plants. Within this list there is a lot of variability. Some are local to Newton and some are not; some that carry only trees and shrubs, others carry only perennials; some do mail order and some that do not; some are retail and some are wholesale-only; some may be by appointment only; some may be once a year sales. Do your homework and call ahead for accurate info on open hours, inventory, pricing, etc.

- Grow Native Massachusetts native plant sale (1x/yr May/June)
- Rhode Island Wild Plant Society native plant sales (twice a year)
- New England Wetland Plants in South Hadley, MA
- Bigelow Nurseries in Southborough, MA
- Sylvan Nurseries in Westport, MA
- Bluestem Natives in Norwell, MA
- Oakhaven Sanctuary in North Reading, MA
- Native Plant Trust/Garden In The Woods in Framingham, MA
- Russell's Garden Center – several locations in MA
- Mahoney's Garden Center – several locations in MA
- Weston Nurseries – several locations in MA
- Earth Tones Nursery in CT
- Van Berkum Nursery in NH
- Mail order nurseries – many have terrific websites for learning about plants! Prairie Moon; North Creek; New Moon; Ernst Seed