

Cohasset Conservation Commission

Guidelines for Plant Selection in Vegetated Wetlands



Introduction

It is the policy of the Cohasset Conservation Commission that all new plantings in the Town's vegetated wetlands include only native and non-invasive species. The term "native" in this context refers to flora which have existed and thrived in the vegetated wetlands in and around Cohasset for many decades, if not centuries. These species represent Cohasset's traditional flora and exclude imported species which have naturalized (i.e. invasives) and in some cases have become quite prolific... e.g. yews, some dogwoods, ivies, etc.

Vegetated wetland plant species vary greatly in their ability to tolerate differing hydrologic condition. On one hand, species are found thriving in conditions where their roots are continuously submerged, while other species grow with only occasional inundation. The wetlands in Cohasset exhibit both of these extremes in hydrology, as well as the broad range in between. Because of this, the scope of plants available for wetland planting needs to be broad and comprehensive.

The species to be planted in Cohasset’s vegetated wetlands must be commercially available. Homeowners and contractors needing to do wetland planting should have ready access to the correct wetland plants, in reasonable quantities and available from outside suppliers. For example, *New England Wetland Plants, Inc.* is a major supplier of conservation plants and materials; the firm is located in Amherst, MA and has a comprehensive website. They supply a broad range of wetland plants: herbaceous, shrubs, trees, as well as wetland seed-mix composed of herbaceous plants in seed form. There are several suppliers in the region with varying supplies, availability, pricing, and convenience.

To summarize, Cohasset’s vegetated wetland plant guidelines rely on species which are:

- Native and non-invasive
- Customized to specific hydrology in the targeted wetlands; and
- Commercially available

ZONE A: Standing Water Species

(Plants normally with submerged root systems in standing or slow moving water)

Herbaceous Species

<i>Callitriche species</i>	Water Starworts	<i>Mimulus ringens</i>	Blue Monkey Flower
<i>Carex comoa</i>	Bearded Sedge	<i>Myrica gale</i>	Sweet Gale
<i>Carex crinite</i>	Fringed Sedge	<i>Nymphaeae odorata</i>	White Water Lily
<i>Carex lupulina</i>	Hop Sedge	<i>Peltandra virginica</i>	Arrow Arum
<i>Carex scoparia</i>	Broom Sedge	<i>Pontederia cordata</i>	Pickerel Weed
<i>Carex stipara</i>	Winkled Sedge	<i>Rhododendron visa</i>	Swamp Azalea
<i>Carex stricta</i>	Tussock Sedge	<i>Sagittaria latifolia</i>	Northern Arrowhead
<i>Carex vulpinoidea</i>	Fox Sedge	<i>Schoenoplectus</i>	Bulrush
<i>Chelona glabra</i>	Turtlehead	<i>pungens</i>	
<i>Dulichium arundinaceum</i>	3-way Sedge	<i>Schoenoplectus</i>	Soft Bulrush
<i>Eleocharis spp.</i>	Spike Rush	<i>taberbaemontani</i>	

<i>Elodea species</i>	Frog's Bit	<i>Scirpus cyperinus</i>	Wool Grass
<i>Eriocaulon aquaticum</i>	Pipeworts	<i>Sparganium species</i>	Burr Reeds
<i>Hibiscus mosheutos</i>	Swamp Rose Mallow	<i>Symphotrichum</i>	Swamp Aster
<i>Iris versicolor L.</i>	Blue flag	<i>puniceum</i>	
<i>Juncus canadensis</i>	Canada Rush	<i>Toxicodendron vernix</i>	Poison Sumac
<i>Leersia oryzoides</i>	Rice Cut-Grass	<i>Utricularia species</i>	Bladderworts
<i>Lemna minor</i>	Duckweed	<i>Vallisneria species</i>	Eel Grass
<i>Ludwigia palustris</i>	Water Purslane		

Woody Shrubs and Trees

<i>Cephalostus</i>	Buttonbush	<i>Rhododendron visa</i>	Swamp Azalea
<i>occidentalis</i>		<i>Rosa palustris</i>	Swamp Rose
<i>Deocodon verticillata</i>	Water Willow		

Zone B: March, Bog, and Floodplain Species

(Plants with deep root systems absorbing water from a saturated zone underneath)

Herbaceous Species

Aracea	Arum family	<i>Lobelia spicata</i>	Spiked Lobelia
<i>Aster nemorales</i>	Aster	<i>Onoclea sensibilis</i>	Sensitive Fern
<i>Caltrha palustris</i>	Marsh Marigold	<i>Osmunda cinnamomea</i>	Cinnamon Fern
<i>Deocodon verticillat.</i>	Water Willow	<i>Osmunda regalia</i>	Royal Fern
<i>Drosera species</i>	Sundew	<i>Solidago sempervir</i>	Beach Goldenrod
<i>Eriophorum tenellum</i>	Cotton Grass	<i>Sphagnum species</i>	Sphagnum Moss
<i>Eupatorium perfoliatum</i>	Boneset	<i>Verbena hastata</i>	Blue Vervain
<i>Eupatorium purpureum</i>	Joe Pye Weed	<i>Veratrum viride</i>	False Helleborine
<i>Elymus virginica</i>	Virginia Rye	<i>Typha latifolie</i>	Common Cattail
<i>Lobelia cardinalis</i>	Cardinal flower		

Woody Shrubs

<i>Alnus rugosa serrul.</i>	Alder species	<i>Ilex verticillata</i>	Winterberry
<i>Aroria melanocarpa</i>	Black Chokeberry	<i>Ilex glabra</i>	Inkberry
<i>Azalea viscosum</i>	Swamp Azalea	<i>Iva frutescens</i>	Hightide Bush (near ocean)
<i>Baccharis halimifolia</i>	Groundseltree (near ocean)	<i>Lindera benzoin</i>	Spicebush
<i>Cephalanthus occid.</i>	Buttonbush	<i>Rhus verniz</i>	Poison sumac
<i>Chamaedaphne caly.</i>	Leatherleaf	<i>Sambucus canad.</i>	Amer. elder
<i>Clethra alnifolia</i>	Summersweet	<i>Vaccinium macro</i>	Cranberry

Trees

<i>Acer saccharunum</i>	Silver Maple	<i>Picea mariana</i>	Black Spruce
<i>Chamcyparise thyoides</i>	Atlantic White Cedar	<i>Platanus occidentalis</i>	Sycamore
<i>Fraxinus pennsylvancia</i>	Green Ash	<i>Populus termuloides</i>	Quaking Aspen
<i>Larix laricina</i>	Eastern Larch	<i>Quercus bicolor</i>	Swamp white Oak
<i>Nyssa sylvatica</i>	Tupelo	<i>Salix nigra</i>	Black Willow

Zone C: Inundation Tolerant Species

(Plants which tolerate saturated soils for brief periods, but prefer drier soils)

Herbaceous Species

<i>Euthamia graminifolia</i>	Grass-Leaved Goldenrod	<i>Glyceria canadensis</i>	Manna Grass
<i>Panicum virgatum</i>	Switchgrass	<i>Poa palustris</i>	Fowl Bluegrass

Woody Shrubs

<i>Amelanchire canadensis</i>	Serviceberry	<i>Juniperus communis</i>	Common Juniper
<i>Aronia melanocarpa</i>	Black Chokeberry	<i>Rhododendron canadensis</i>	Rhodora
<i>Hamamelis virginiana</i>	Which hazel		

Trees

<i>Acer rubrum</i>	Red Maple	<i>Kalmia augustifolia</i>	Sheep Laurel
<i>Betula alleghaniensis</i>	Yellow Birch	<i>Lyonia ligustrina</i>	Maleberry
<i>Betula populifolia</i>	Gray Birch	<i>Tsuga canadensis</i>	Canadian Hemlock
<i>Carpinus carolinus</i>	American Hornbeam	<i>Ulmus americana</i>	American Elm
<i>Cornus amomum</i>	Silky Dogwood	<i>Vaccinium corymbosum</i>	High Bush Blueberry

Herbaceous Seed Mixtures: New England Wet-mix

Predominately herbaceous plants which are intended for permanently moist, non-flooded terrain. Seed will not germinate when inundated. Sample wetland indicator plants: Various Carex and Sedges, Sensitive Fern, Blue Vervain, Green Bulrush, Swamp Amrigold, several Rushes, Swamp Milkweed, Joy Pye Weed, Monkey Flower, etc.

NB: low growing “lawn” type grasses have been excluded. It is recommended to not enrich the soil since wetland flora do not require supplemental nutrition.

Cohasset Conservation Commission

Guidelines for the Selection of Plants for Coastal Banks



Background

Cohasset is blessed with well over 10 miles of coastal banks. These banks are outstandingly scenic, extensively inhabited by native flora and fauna, and serve to protect the developed shoreline. While of major benefit to the community, the coastal banks are fragile landforms which require continuous monitoring, protection from development and encroachment, and occasional restoration. It is the responsibility of the Cohasset Conservation Commission to guarantee the preservation of our coastal banks for future generations.

Coastal bank composition varies among bare ledge, mounds of ocean cobble and stone, to landforms of compressed sand and silt. These banks share a similarly rugged seaside environment characterized by

wave action, strong winds, salt spray, intense sun and a generally arid situation. Indigenous vegetation has been able to adapt to these harsh conditions, and remains highly preferred in all coastal bank planting efforts.

Importance of Vegetation

The stability of our coastal banks is greatly enhanced by indigenous vegetation which prevents the destructive effects of erosion, while offering seaside wildlife much needed habitat. Non-indigenous vegetation (e.g. *rosa rugosa*) has proven invasive, weakening our native flora and leaving our banks destabilized.

The rugged coastal environment produces varying conditions for plants:

- * Areas of direct seaward exposure (regular wave action, salt spray, intense wind) are relatively inhospitable to plants while more sheltered areas (considerably less adverse conditions) are more hospitable.
- * Soil quality also differs substantially between locations. Little soil exists on the seaward side and top of banks, while pockets of soil suitable for growth can be found in crevices on ledge, the landward side of banks and covering more sheltered inland banks.

Adapting Plants to Specific Conditions

Plant selection is segmented, on the one hand, between “Direct Exposure” and “Sheltered Sites”, and, on the other, between “Arid Areas” and “Areas with Soil for Moisture Retention”. Other than Cape American Beachgrass, no species tolerates all of these conditions. Careful matching of plant requirements to the growing conditions of the bank location is essential if efforts are to be successful.

Special Plant Note:

Rosa rugosa: This rose species grows prolifically on the coastal banks around Cohasset. Unfortunately, the Rugosa family is non-native (from Japan) and highly invasive. Rugosa’s take up all available moisture and nutrients leaving little for our native species! Whenever possible, Rugosa should be dug out and replaced with native flora as presented herein.

Plants for Exposed Areas of Coastal Bank

“Species must be adapted to the rugged conditions found on the seaward side or top of a coastal landform. Tolerance of storm waves, high winds, salt spray, unrelenting sun and low moisture levels are obligatory. “

***Arid Areas:** typical of bank composed of bare ledge, ocean cobble and/or highly compressed sand containing little organic material for moisture and nutrient retention. Extreme drought tolerant plantings are required.

Grasses, Perennials and Vines

Cape American Beachgrass	<i>Ammophila breviligulata</i>
Seaside Goldenrod	<i>Solidago sempervirons</i>
Sea Rocket	<i>Cakile edentula</i>
Virginia Creeper	<i>Parthenocissus quinquefolia</i>

Shrubs and Groundcovers

Beach Heather	<i>Hudsonia tomentosa</i>
Bearberry	<i>Arctostaphylos uva-ursi</i>
Common Juniper	<i>Juniperus communis</i>
Northern Bayberry	<i>Myrica pensylvanica</i>

Trees

Pitch Pine	<i>Pinus rigida</i>
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***Moisture Retaining Areas:** presence of soil, however thin the layer, allows for sustainable growth of species requiring only limited moisture. (e.g. crevices, landward side of banks where organic material can collect)

Grasses, Perennials and Vines

Saltmeadow Cordgrass	<i>Spartina patens</i>
Seaside Goldenrod	<i>Solidago sempervirons</i>
Switchgrass	<i>Panicum virgatum</i>

Shrubs and Groundcovers

Beach Plum	<i>Prunus maritima</i>
Marsh Elder	<i>Iva frutescens</i>
Sweet Fern	<i>Comptonia peregrine</i>

Trees

Black Cherry	<i>Prunus serotina</i>
Eastern Red Cedar	<i>Juniperus virginiana</i>
White Oak	<i>Quercus alba</i>

Plants for Sheltered Areas of Coastal Bank

“Species adapted to the landward side of a coastal bank, the trough between banks or inland coastal banks are often protected from the most rugged coastal conditions.”

***Arid Areas: (as defined previously)**

Grasses, perennials and vines

All species from Exposed Areas:

Little Bluestem	<i>Schizachyrium scopariu</i>
Poverty Dropseed	<i>Sporobolus vaginiflorus</i>
Purple Lovegrass	<i>Eragrostis spectabalissx</i>

Shrubs and Ground cover

Same as species for Exposed Areas

Trees

Same as species for Exposed Areas

***Moisture Retaining Areas: (as defined previously)**

Grasses, perennials and vines

Big Bluestem	<i>Andropogon gerardii</i>
Eastern Showy Aster	<i>Eurybia spectabilis</i>
Indian Grass	<i>Sorghastrum nutans</i>
Pennsylvania Sedge	<i>Carex pensylvanica</i>
Pink Tickseed	<i>Coreopsis rosea</i>
Red Columbine	<i>Aquilegia canadensis</i>
Red Fescue	<i>Festuca rubra</i>

St. Johnswort	<i>Hypericum spp.</i>
Sweet Goldenrod	<i>Solidago odora</i>
Wavy Hairgrass	<i>Deschampsia flexuos</i>

Shrubs and Ground covers

Arrowwood Viburnum	<i>Viburnum dentatum</i>
Black Chokeberry	<i>Aronia melanocarpa</i>
Downy Serviceberry	<i>Amelanchier canadensis</i>
Elderberry	<i>Sambucus canadensi</i>
Inkberry	<i>Ilex glabra</i>
Nannyberry	<i>Viburnum lentago</i>
Red Chokeberry	<i>Aronia arbutifolia</i>
Shrubby Cinquefoil	<i>Potentilla fruticosa</i>
Sweet Pepperbush	<i>Clethra alnifolia</i>
Virginia Rose	<i>Rosa virginiana</i>

Trees

Black Tupelo	<i>Nyssa sylvatica</i>
Gray Birch	<i>Betula populifolia</i>
Green Ash	<i>Fraxinus pennsylvanica</i>
Red Maple	<i>Acer rubrum</i>
Sassafras	<i>Sassafras albidu</i>

