



Landscape Guide



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Native, Adaptive Native & Wetland Plants

The key to using native or wetland plants successfully is carefully choosing plants that will match your site conditions. While some native plants are tremendously adaptable to a wide range of environmental conditions, many are quite habitat-specific. Before you start selecting plant materials, know your site, including the exposure, soil texture, pH, fertility, moisture conditions, weed problems, and the history of use. The conditions will need to be similar to a desired plant's natural habitat. Some discrepancies can be corrected with soil amendments, mulching, fertilization, and other techniques, but these solutions may not overcome a poor match between your selected plant and site. The issue of native plants in the industry is sometimes confusing as to what is a true native and what is an adaptive native plant. The below list is a combination of several extension and industry lists of native, adaptive native and suggested wetland plants.

Acer rubrum	Gleditsia tricanthos	Quercus alba
Acer saccharum	Gymnocladus dioica	Quercus bicolor
Amelanchier canadensis	Hammamelis virginiana	Quercus coccinea
Amelanchier laevis	Ilex verticillata	Quercus palustris
Aronia arbutifolia	Itea virginica	Quercus rubra
Aronia melanocarpa	Juniper horizontalis	Quercus shumardii
Betula nigra	Juniper communis	Rhodotypos scandens
Calycanthus floridus	Juniper virginiana	Rhus typhina
Campsis radicans	Liquidamber styraciflua	Salix alba
Carpinus carolina	Liriodendron tulipifera	Syringa vulgaris
Carpinus betulus	Magnolia virginiana	Salix discolor
Celtis occidentalis	Malus spp. Myrica pennsylvanica	Taxus cvs
Cercis canadensis	Nyssa sylvatica	Taxodium distichum
Chionanthus virginicus	Oxydendron arboreum	Thuja occidentalis
Clethra alnifolia	Parthenocissus tricuspidata	Tilia americana
Cornus alternifolia	Picea abies	Tilia cordata
Cornus florida	Picea pungens	Tsuga canadensis
Cornus racemosa	Pinus nigra	Viburnum dentatum
Crataegus curgalli	Pinus strobus	Viburnum dilatatum
Crataegus phaenopyrum	Pinus sylvestris	Viburnum lantana
Eleagnus augustifolia	Platanus x acerfolia	Viburnum lentago
Fagus sylvatica and cvs.	Prunus virginiana	Viburnum prunifolium
Ferns-asst varieties	Rhus typhina	Viburnum trilobum
Fraxinus americana	Rosa rugosa	

Plants That Tolerate Clay Soil

Trees

Shrubs

Shrubs-continued

Acer campestre and cvs.
Acer rubrum and cvs.
Acer saccharinum and cvs.
Betula nigra spp. and cvs.
Crataegus spp. and cvs.
Eleagnus augustifolia
Gleditsia Triacanthos inermis and cvs.
Koelreuteria paniculata
Liquidamber styraciflua and cvs.
Malus most cvs.
Picea spp. and cvs.
Platanus x acerfolia and cvs.
Prunus Virg. 'Shubert'
Pyrus, most cvs.
Salix, most cvs.
Taxodium distichum spp, and cvs.
Ulmus spp. and cvs.

Aronia spp. and cvs
Chaenomeles spp. and cvs.
Cornus sericea, racemosa
Eleagnus augustifolia and cvs.
Euonymus, most cvs.
Forsythia x Spring Glory
Hamamelis most cvs.
Junipers horiz. spp. and cvs.
Juniper virginiana and cvs.
Kolkwitzia amabilis
Lonicera tatericum spp and cvs.
Myrica pennsylvanica
Pyracantha spp. and cvs.
Rhodotypos scandens
Rhus spp. and cvs.
Ribies alpinum
Rosa rugosa and cvs.

Taxus most cvs.
Viburnum dentatum and cvs.
Viburnum lantana and cvs.
Viburnum opulus and cvs.

Groundcovers & Perennials

Aegopodium pod. 'Variegata'
Ajuga spp. and cvs.
Euonymus fort. 'Coloratus'
Grasses, ornamental, most
Hemerocallis, all
Hosta, all
Houttuynia cordata 'Cameleon'
Juniper, Most low growing types
Lonicera japonica 'Halls'
Pachysandra Terminalis spp. and cvs.

Plants & Aerial Salt Tolerance

Varieties List

This list is a suggestion of varieties and salt tolerances. This list is a guideline only and with the understanding that site variables, plant health and proper soil preparations may alter tolerance levels.

Trees

<u>Plant</u>	<u>Tolerance</u>	<u>Plant</u>	<u>Tolerance</u>
Acer Campestre	Moderate	Lirodendron tulipifera	Sensitive
Acer Celebration	Moderate	Malus spp. and cvs.	Moderate
Acer ginnala and cvs.	Moderate	Metasequoia glyptostroboides	Sensitive
Acer platanoides and cvs.	Tolerant	Nyssa sylvatica	Tolerant
Acer rubrum and cvs.	Sensitive	Picea spp. and cvs.	Moderate
Acer saccharium and cvs.	Moderate	Pinus spp. and cvs.	Moderate
Amelanchier spp. and cvs.	Moderate	Platnus spp. and cvs.	Sensitive
Betula nigra spp. and cvs.	Tolerant	Populus spp. and cvs.	Tolerant
Carpinus betula and cvs.	Sensitive	Prunus and cvs.	Moderate
Celtis occidentalis	Sensitive	Pyrus calleryana and cvs.	Moderate
Cornus alternifolia	Sensitive	Quercus spp. and cvs.	Tolerant
Cornus kousa chinensis and cvs.	Sensitive	Salix spp. and cvs.	Moderate
Cornus mas and cvs.	Sensitive	Tilia cordata and cvs.	Moderate
Fagus sylvatica spp. and cvs.	Sensitive	Tsuga canadensis and cvs.	Sensitive
Ginko biloba and cvs.	Tolerant	Ulmus spp. and cvs.	Moderate
Gymnocladus dioica and cvs.	Tolerant	Zelkova serr. and cvs.	Moderate
Liquidambar styraciflua and cvs.	Sensitive		

Shrubs

<u>Plant</u>	<u>Tolerance</u>	<u>Plant</u>	<u>Tolerance</u>
Amelanchier canadensis and cvs.	Tolerant	Lonicera most cvs.	Moderate
Aronia spp. and cvs.	Tolerant	Magnolia hybrids and cvs.	Moderate
Azalea evergreen, decidous and cvs.	Sensitive	Myrica pensylvanica	Tolerant
Berberis thunbergi and cvs.	Moderate	Philadelphus Virginalis and cvs.	Tolerant
Chaenomeles japonica and cvs.	Sensitive	Physocarpus opulifolia and cvs.	Moderate
Cornus alba , sericea and cvs.	Sensitive	Potentilla cvs.	Tolerant
Corylus avellana and cvs.	Sensitive	Prunus x cistena	Tolerant
Cotoneaster most cvs.	Tolerant	Pyracantha and cvs.	Sensitive
Eleagnus spp and cvs.	Tolerant	Rhamnus fragula and cvs.	Moderate
Eouonymus alata and cvs.	Moderate	Rhododendrons most	Sensitive
Euonymus fortunei and cvs.	Sensitive	Rhus most cvs.	Tolerant
Forsythia x intermedia and cvs.	Moderate	Ribes alpinum and cvs.	Tolerant
Hamamelis spp. and cvs	Tolerant	Rosa and cvs.	Moderate
Hibiscus syriaca and cvs.	Tolerant	Spiraea and cvs.	Sensitive
Hydrangea most cvs.	Moderate	Syringa vulgaris and hyb.	Moderate
Hypericum spp. and cvs	Tolerant	Taxus media and cvs.	Sensitive
Ilex all evergreen types	Sensitive	Thuja occidentalis and cvs.	Sensitive
Ilex vert. and cvs.	Tolerant	Viburnum most cvs.	Moderate
Junipers most cvs.	Moderate	Weigelia florida and cvs.	Moderate
Kolkwitzia amabilis and cvs.	Moderate	Yucca fillmentosa and cvs.	Tolerant
Ligustrum most cvs.	Moderate		

Plants That Tolerate Urban Conditions

Shrubs

Aronia arbutifolia
Berberis thunbergii and cvs.
Celastris scandens
Chaenomeles spp. and cvs.
Chionathus virginicus
Clethrea, all
Cornus mas
Cornus racemosa and cvs.
Cotoneaster cvs.
Eleagnus umbellata and cvs.
Euonymus spp. and cvs.
Forsythia spp. and cvs.
Grasses, nearly all
Hamamelis spp. and cvs.
Hibiscus syriacus and cvs.
Hydrangea most cvs.
Hypericum spp. and cvs.
Ilex crenata and cvs.
Ilex glabra and cvs.
Ilex x meserveae and cvs.
Itea spp. and cvs.
Juniperus spp. and cvs.
Ligustrum spp. and cvs.
Lonicera spp. and cvs.
Magnolia stellata and cvs.
Myrica pensylvancia
Potentilla, most
Pyracantha spp. and cvs.
Rhamnus spp. and cvs.
Rhodotypos scandens
Rhus spp. and cvs.
Rosa rugosa and cvs.
Salix spp. and cvs.
Spiraea spp. and cvs.
Syringa x prestoniae and cvs.
Syringa reticulata
Syringa vulgaris and cvs.
Taxus spp. and cvs.
Viburnums, most
Weigelia spp. and cvs.
Wisteria sinensis and cvs.
Yucca filimentosa and cvs.

Trees

Acer sacharum and cvs.
Acer ginnala
Acer platanoides and cvs.
Carpinus betulus and cvs.
Celtis occidentalis and cvs.
Chamaecyparis obtusa and cvs.
Chamaecyparis nootkatensis and cvs.
Crataegus spp. and cvs.
Eleagnus augustifolia
Fagus sylvatica and cvs.
Gleditsia tricanthos inermis and cvs.
Gymnocladus dioica
Koeleria paniculata
Laburnum x wateri "Vossii"
Liquidambar styraciflua and cvs.
Liriodendron tulipifera
Malus spp. and cvs.
Nyssa sylvatica
Picea spp. and cvs.
Pinus nigra
Platanus spp. and cvs.
Populus spp. cvs. and hybrids
Pyrus calleryana and cvs.
Taxodium distichum and cvs.
Tillia codata and cvs.
Ulmus cvs. and hybrids

The above list is from several professional sources and research projects. The list is growing due to new hybrid's that are being introduced into the industry. This rush of products is being introduced as part of the green movement.

Butterfly Gardens

In creating a butterfly garden, you must provide a suitable habitat for the entire growing season. The preparation of the location and plant selection will increase your success and enjoyment of the garden. The butterfly garden should include: * **Host plants for the larvae** * **Nectar plants for the adults** * **Water** * **Shelter from predators and weather** * **An open area where butterflies can bask in the sun**

Perennial Plants

Ageratum (Ageratum)
Aster (Aster species)
Bee-balm (Monarda didyma)
Black-eyed susan (Rudbeckia species)
Bugle (Ajuga reptans)
Coneflower (Echinacea purpurea)
Coreopsis (Coreopsis species)
Daisy, Shasta (Chrysanthemum maximum)
Daylily (Hemerocallis species)
False indigo (Baptisia australis)
Gayfeather (Liatris species)
Goldenrod (Solidago species)
Hibiscus (Hibiscus species)
Joe-pye weed (Eupatorium fistulosum)
Passion flower (Passiflora species)
Phlox (Phlox paniculata, P. carolina)
Sage (Salvia leucantha; Salvia species)
Sedum (Sedum species)
Verbena (Verbena species)
Yarrow (Achillea species)

Trees and Shrubs

Buckeye (Aesculus parviflora; A. pavia)
Buddleia (Buddleia davidii)
Hawthorn (Crataegus species)
Mock orange (Philadelphus species)
Pear (Pyrus communis)
Plum (Prunus species)
Redbud (Cercis)
Rose of sharon (Hibiscus syriacus)
Spiraea (Spiraea species)
Summersweet (Clethra alnifolia)
Viburnum (Viburnum species)

SUGGESTED LARVAL FOOD PLANTS: For Specific Types of Adult Butterfly

Asters (Aster species): **Pearly crescent spot**
Antennaria, Anaphalis, Gnaphalium: **American painted lady**
Cherry laurel, black cherry, wild plums (Prunus species): **Tiger swallowtail**
Clovers (Trifolium species) and other legumes: **Sulfurs, gray hairstreak**
Dogwoods (Cornus species) and viburnum: **Spring azure**
Elm (Ulmus species), willows: **Mourning cloak, viceroy**
Hackberries (Celtis species): **Hackberry butterfly**
Milkweed (Asclepias species): **Monarch**
Mustard family: **Cabbage and checkered whites**

Native grasses: **Various skippers**
Oaks (Quercus species): **Banded hairstreak**
Passion flowers (Passiflora species): **Gulf fritillary**
Paw paw (Asimina species): **Zebra swallowtail**
Pipevines (Aristolochia species): **Pipevine swallowtail**
Sassafras (Sassafras occidentalis): **Palamedes swallowtail**
Spicebush (Lindera benzoin): **Spicebush swallowtail**
Tulip tree (Liriodendron tulipifera): **Red-Spotted purple**

Plants For Hedges and Windbreaks

General Varieties List

This list is a suggestion of varieties that are used for hedges as well as a approximate height. The possibilities of course is endless and many other plants can be trimmed to fit into this category. When selecting a hedge or windbreak plant it is important to also consider soils, mature height as well as type of trimming that will be needed to maintain the desired design concept.

<u>Plant</u>	<u>Approx. height</u>	<u>Plant</u>	<u>Approx. height</u>
Acer campestre	20-25'	Juniper s. 'Witchita Blue'	15-18'
Acer ginnala 'Flame'	12-15'	Ligutrum o. regalianum	5-7'
Amelanchier cvs.	12-18'	Ligutrum x 'Ibolium'	8-10'
Aronia Arbutifolia and cvs.	6-8'	Ligustrum x 'Vicary'	5-6'
Aronia melanocarpa and cvs.	4-8'	Lonicera fragrantissima	6-10'
Berberis thunbergi and cvs.	3-5'	Magnolia cvs	15-30'
Carpinus betulus 'Fastigiata'	25-30'	Picea spp. cvs	30-60'
Cornus sericea cvs.	5-8'	Pinus Strobus	50-60'
Cotinus coggygria cvs.	12-15'	Quercus r. Fastigiata and cvs.	50-60'
Crategus crusgalli cvs	15-20'	Rhamnus frag. and cvs.	12-15'
Crategus phaenopyrum	18-20'	Syringa vulgaris and cvs.	10-20'
Eounymus alatus 'Compacta'	8-10'	Taxus spp. and cvs.	8-10'
Forsythia x 'Spring Glory'	4-8'	Thuja occidentalis and cvs.	10-18'
Hibiscus syriacus and cvs.	8-10'	Thuja plic. and cvs	10-18'
Ilex x 'China Boy & Girl'	8-10'	Tsuga canadensis	25-40'

Formal Clipped Hedges

This list suggests plants that will be able to take a tight regular formal trimming.

<u>Plant</u>	<u>Approx. height</u>	<u>Plant</u>	<u>Approx. height</u>
Acer ginnala 'Flame'	12-15'	Ligutrum o. regalianum	5-7'
Berberis thunbergi and cvs.	3-5'	Ligutrum x 'Ibolium'	8-10'
Buxus spp. and cvs	2-8'	Ligustrum x 'Vicary'	5-6'
Crategus crusgalli cvs	15-20'	Lonicera tatarica anc cvs.	8-10'
Crategus phaenopyrum	18-20'	Taxus spp. and cvs.	8-10'
Eounymus alatus 'Compacta'	8-10'	Thuja occidentalis and cvs.	10-18'
Ilex x 'China Boy & Girl'	8-10'	Thuja plic. and cvs	10-18'
Ilex x mes. cvs.	10-15'	Tsuga canadensis	25-40'
Juniper virginana and cvs.	12-18'	Viburnum cvs.	12-18'

Willoway Nurseries, Inc. produces plant material in various sizes to not only meet price concerns but also design requirements. We have added several new Pot In Pot areas in both tree and shrub production to meet the demands of our customers. This type of product line provides a year round source for "Just In Time" deliveries. There is no need to stop working in the summer. We can provide you the material that you need to get the job done now.

Tables & Conversions

Planting Groundcovers & Perennials

Total Square Footage	Spacing Of Plants On Center						
	<u>4in</u>	<u>6in</u>	<u>8in</u>	<u>12in</u>	<u>18in</u>	<u>24in</u>	<u>36in</u>
50	450	200	100	50	22	12	5
100	900	425	225	100	45	25	11
150	1350	650	350	150	67	37	16
200	1800	875	450	200	90	50	22
250	2250	1100	550	250	112	62	28
300	2700	1325	675	300	135	75	33
400	3600	1775	900	400	180	100	44
500	4500	2225	1100	500	225	125	55
600	5400	2675	1350	600	270	150	66
700	6300	3125	1550	700	315	175	77
800	7200	3575	1800	800	360	200	88
900	8100	4000	2000	900	405	225	99
1000	9000	4500	2250	1000	450	250	100

Coverage For Bulk Mulch and Other Products

Total Square Footage	Depth In Inches		
	<u>1 Inch</u>	<u>2 Inches</u>	<u>4 Inches</u>
50	0.2	0.3	0.6
100	0.3	0.6	1.2
150	0.5	0.9	1.9
200	0.6	1.2	2.5
250	0.8	1.5	3.1
500	1.5	3.1	6.2
1000	3.1	6.2	12
1500	4.6	9.3	18
2000	6.2	12	25
2500	7.7	15	31
5000	15	31	62

***Formulas for finding area or square footage:**

Circles

Triangle

Rectangles and Square

Diameter x diameter x .7854

1/2 Length of the base x height

Height x width