

A Guide for Southern Ontario



Beautiful Non-Invasive Plants for your Garden

ntario
Invasive Plant Council



TORONTO AND REGION
Conservation
for The Living City

Spring 2011

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Gardening Best Management Practices

- Learn to properly identify and manage invasive plants on your property and remove plants when the infestation is small, to prevent their spread. Techniques for removal include pulling, removing flowers before they seed and the application of herbicide by a licensed contractor.
- Dispose of yard waste through your local municipality or in your backyard compost. Yard waste dumped in natural areas can disturb the natural vegetation leading to erosion and the spread of invasive species. If disposing of invasive plants/plant parts, place in a garbage bag and leave it in the sun for 5 days, then throw it in the garbage or burn. Do not compost invasive plants as seeds can remain viable and flowers can produce seeds, even after the plant has been removed from the soil.
- Don't take plants from natural areas, they may be rare or even invasive.
- Dispose of annual water plants at the end of the growing season properly. Putting them into local waterways could result in these invasive plants overwintering during mild winters and impact local native wetland and water side vegetation.
- Purchase non-invasive or native plants from reputable suppliers. Native plants will provide a variety of benefits to the plants and wildlife that also depend on them. Consider soil and light conditions when selecting native plants to ensure their success.
- Share these Best Management Practices and spread the word to friends, family and neighbours. Know what you are growing and take care when swapping plants.
- When in doubt about a plant, whether it is invasive or how it should be controlled, contact the **"Invading Species Hotline"** @ **1-800-563-7711** or **www.invadingspecies.com** or **www.ontarioinvasiveplants.ca**

Foreword from Landscape Ontario

Thank you for picking up this guide and showing your support for the importance of plants in the landscape.

The alternative plants listed here match the growing conditions, site requirements and garden effect of their sometimes problematic invasive counterparts. They were chosen based on their availability at Ontario's nurseries and garden centres. This guide will help you take full advantage of the wealth and variety of planting stock available across the province.

The issue of invasive species can be controversial and complex. A plant can be a huge problem in one area of the Province and present absolutely no risk in another area. It is hard to believe that some of our favourite plants can cause economic and environmental damage. They can.

The vast majority of horticultural species pose no threat, and can be beautiful additions to any garden. However, some species can cause serious problems if planted near natural areas where they have a tendency to out-compete native species and alter local environmental conditions. For example, some species reproduce by creeping roots, and may be perfectly suitable in built-up urban locations where spread into natural ecosystems is unlikely. Furthermore, not all plants in a certain family or genus are the same, and cultivated varieties are not necessarily as prolific as their parent species, but more research is needed.

When making your plant choices we at Landscape Ontario wish you the best success. Ontario's green industry is on hand to provide you with a multitude of alternatives listed in this guide. We hope you make full use of the Grow Me Instead alternatives guide, and look forward to continuing our service to you in the years to come.

Sincerely,

Tony DiGiovanni
Executive Director, Landscape Ontario Horticultural Trades Association



Invasive Plant Definition

An invasive plant is an alien species whose introduction or spread negatively impacts native biodiversity, the economy and/or society, including human health. Second to habitat loss, invasive species have been identified by the International Union for Conservation of Nature as the most significant threat to biodiversity.

Impacts of Invasive Plants in Ontario

Invasive plants are spreading through our natural ecosystems, urban landscapes, and agricultural lands at an alarming rate. Invasive plants spread through several key pathways of invasion including:

- increased international, national, and regional travel and trade
- horticulture, gardening, and ornamentals
- seed mixtures (re-vegetation, birdseed, wildflower)
- transportation and utility corridors
- recreation
- wildlife, livestock, humans, and pets.

If native plant communities are replaced by invasive plant infestations, biodiversity declines and habitats change. Invasive plants are more than simply “plants out of place;” these invaders are far-reaching in their impacts, permanently altering landscapes and ecosystem functions and costing economies millions of dollars each year. Impacts associated with the introduction and spread of invasive plants are not unique to one industry, organization, or community – all citizens, regions, and industries in Ontario are affected. These unwanted invaders can negatively impact:

- rangelands by reducing forage quality and quantity
- forestry operations by competing with seedlings for light, nutrients, and water
- recreation opportunities by puncturing tires, obstructing trails, and reducing aesthetics
- water quality and quantity by increasing erosion and sedimentation
- ecosystems by disrupting photosynthesis and nutrient cycles

Impacts of invasive plants are often irreversible and restoration can be extremely difficult, if not impossible. Preventing their establishment and spread is key!

Seed Sourcing

In addition to choosing non-invasive alternatives for your garden, the geographic origin (termed “seed source”) of those alternatives is important to know to ensure they will be genetically adapted to your area and therefore healthy and strong. Look for plants that are grown from locally-sourced seed or seed from areas with similar climate conditions. By working with plants that are genetically adapted to your area, you will maximize growth and vigor, and minimize heat-stress, winterkill, frost damage, and insect and disease problems. Remember, the most expensive planting is a failed planting. Always ask your local garden supplier about the source of their plants and encourage them to provide locally-adapted material. The widely available Canada Plant Hardiness Zones www.planthardiness.gc.ca, or Ontario’s Tree Seed Zones (www.fgca.net) can help you with seed source decisions.

Grow Me Instead informs gardening enthusiasts about some of the popular invasive plants that can sometimes cause problems in the landscape. It highlights a variety of native and non-native plant alternatives found to be non-invasive in Ontario. Whether you are adding new, attractive plants to your garden, starting a landscape project, or removing invasive plants, we hope this guidebook will be a valuable resource. By working together, we can ensure that future generations will enjoy the naturally beautiful landscape of Ontario, while nourishing sustainable communities, healthy ecosystems, and vibrant gardens.



Groundcovers and Grasses

English ivy is native to Europe, western Asia and northern Africa. It has been developed into hundreds of varieties and can now be found in gardens throughout North America.

Although technically a vine, this evergreen perennial is commonly used as a groundcover in dense shade. Whether in shade or sun, English ivy will persist and spread vegetatively through its long vines that root at the nodes in almost any soil type. It is easily identified by its dark green three-lobed leaves placed alternately on its flexible woody vine.

Despite its pervasiveness in gardens and nearby natural areas, not a single North American animal uses English ivy for food. Indeed, this is one of the causes of its invasive nature, the other being its considerable adaptability.



Periwinkle is native to Europe, but can now be found in gardens throughout North America. Its popularity is based on its ease of care, dense growth, and its ability to grow in dry shade, a difficult gardening situation.

Periwinkle grows to a height of 3-6 inches and is characterized by glossy evergreen foliage and long-lasting blue-violet flowers. It has few pests or diseases outside its native range, which contributes to its persistence. It spreads via its shallow root system.



Goutweed is native to Eurasia but can now be found in gardens throughout North America.

Also referred to as Bishop's Weed, this perennial groundcover tolerates a wide range of soil conditions including moist areas and disturbed sites. It is highly shade-tolerant and competitive once established, reproducing by seed and spreading by underground stems called rhizomes. It is most commonly found around shrubs in old gardens.

Plants grow about 12 inches high with green leaves that are divided into three leaflets. Some cultivars have variegated leaflets that are green near the centre but whitish around their margins. Umbrella-like white flowers appear in mid-summer.



Garden use: groundcover for sunny gardens

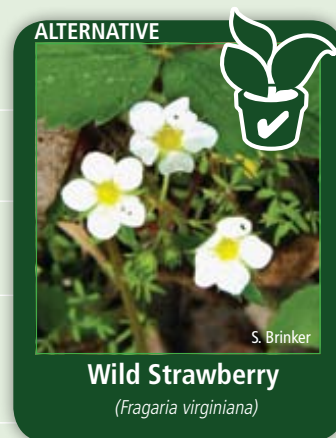
Growing conditions: sun; sand, loam or clay; dry to average soil

Size and shape: low-growing and spreading; 15 cm tall

Flower and fruit: small white flowers in late-spring; small edible red berries early-summer

Leaves: three-lobed and toothed

Additional info: spreads by runners and forms colonies



Groundcovers and Grasses

Garden use: groundcover for shady location

Growing conditions: shade; average to moist, humus-rich soil

Size and shape: 15-20 cm tall; clump-forming

Flower and fruit: single maroon flower under leaves in late-spring

Leaves: soft green heart-shaped

Additional info: spreads slowly by roots to form attractive groundcover; drought-tolerant once established; deer-resistant; roots have a sweet ginger smell and taste, can be used in cooking

ALTERNATIVE



Wild Ginger

(*Asarum canadense*)

Garden use: groundcover for shade; woodland garden

Growing conditions: deciduous shade (needs spring sun); average to moist soil

Size and shape: up to 40 cm tall with one or two leaves

Flower and fruit: a single white flower under leaves in spring

Leaves: large, umbrella-like, deeply lobed leaves unravel in early spring

Additional info: one of the first wildflowers to emerge in spring; forms colonies; fruit is edible only when ripe (yellow and soft) in late summer

ALTERNATIVE



Mayapple

(*Podophyllum peltatum*)

Garden use: shady groundcover; woodland habitat garden

Growing conditions: partial shade; dry to moist; prefers acidic soil

Size and shape: 10-15 cm tall

Flower and fruit: fragrant white flowers in spring; bright red berries in fall

Leaves: small, tough and fragrant; can be chewed for appealing minty flavour

Additional info: medicinal teas made from fruit and leaves

ALTERNATIVE



Wintergreen

(*Gaultheria procumbens*)

Garden use: groundcover for woodland garden

Growing conditions: typically found on rich soils but can withstand nutrient poor soil in damp, cool conditions; acid soil or peat moss

Size and shape: 7-20 cm tall

Flower and fruit: showy cream-green flowers throughout summer followed by red berries

Leaves: smooth-edged upper leaves are green above and whitish below; oblong or egg-shaped and pointed at the tip

Additional info: often grows on stumps or rotting logs in coniferous forests

ALTERNATIVE



Bunchberry

(*Cornus canadensis*)

Groundcovers and Grasses

Garden use: groundcover in shade

Growing conditions: partial shade; rich and moist, well-drained soil

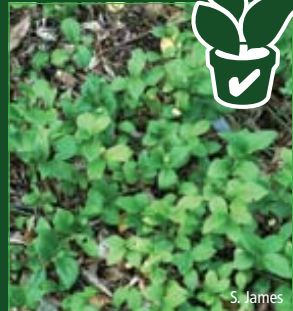
Size and shape: low, trailing deciduous shrub up to 45 cm tall

Flower and fruit: red berries in fall

Leaves: dense foliage turns scarlet in fall

Additional info: native to eastern North America; more vigorous than *Euonymus fortunei*

ALTERNATIVE



Running Euonymus
(*Euonymus obovatus*)

Garden use: groundcover for shady woodland garden

Growing conditions: sun to partial shade; dry to moderate; sand or clay

Size and shape: 30-60 cm tall; clump-forming

Flower and fruit: showy pink or magenta blooms in late-spring and early-summer

Leaves: loose mounds of deeply-lobed leaves

Additional info: nectar source for hummingbirds; often forms colonies

ALTERNATIVE



Wild Geranium
(*Geranium maculatum*)

Garden use: groundcover for shady woodland or rock garden

Growing conditions: partial to full shade; average to moist, humus rich loam soils

Size and shape: 13-25 cm tall

Flower and fruit: small white star-like flowers on spikes in spring and early-summer

Leaves: maple-like leaves turn red in fall and remain throughout winter

Additional info: spreads by runners

ALTERNATIVE



Foamflower
(*Tiarella cordifolia*)

Garden use: rooftop, butterfly and bird gardens

Growing conditions: sun to partial shade; dry to medium; sand and loam

Size and shape: 5-15 cm tall shrub with multiple stems

Flower and fruit: showy white-pink flowers in spring and summer followed by showy red fruit

Leaves: shiny and leathery, bronze in fall

Additional info: drought tolerant; moderate spreader; good replacement for invasive groundcovers

ALTERNATIVE



Bearberry
(*Arctostaphylos uva-ursi*)

Groundcovers and Grasses

Miscanthus grasses are native to Africa and Asia, but many species including these ones are used in gardens in temperate regions around the world.

It is an herbaceous perennial plant growing to 2 metres or more in height and forming dense clumps.

Flower heads change in colour from red to pink, before maturing to a silver colour. It spreads by rhizomes and seed.



Garden use: ornamental grass in border plantings; intermixed with wildflowers in prairie and meadow gardens as well as rooftop gardens

Growing conditions: full sun to partial shade; dry to moist sand, loam and clay

Size and shape: 1-2.5 metres tall

Flower and fruit: rich gold-purple sprays of flowers and seeds in the fall

Leaves: long, flat and narrow blades are dull to dark green

Additional info: drought and compaction-tolerant; consumed by wildlife and livestock



Garden use: ornamental grass in border plantings; intermixed with wildflowers in prairie and meadow gardens as well as rooftop gardens

Growing conditions: full sun to partial shade; well-drained sand or loam

Size and shape: 1-2.5 metres tall, clumping grass

Flower and fruit: blue-red "turkey's foot" flowers in summer

Leaves: elegant blades turn bronze in fall

Additional info: extremely drought-tolerant and useful for erosion control; attracts birds and butterflies



Garden use: ornamental grass; dry garden

Growing conditions: full sun; sand to clay; dry to medium soils

Size and shape: 1-2 metres tall, densely clumping

Flower and fruit: loosely clustered seed head

Leaves: coarse blue-green leaves

Additional info: easy to grow, slow-spreading and long-lived; consumed by wildlife and livestock



Trees and Shrubs

This medium-sized tree is prized for its dense crown and ability to tolerate difficult urban conditions.

Some cultivars have columnar crowns; others like Crimson King have deep red leaves.

The prolific seed production of most cultivars, coupled with the species' ability to grow in dense shade, make Norway maple especially invasive and threatening to natural habitats.

Many urban ravines and parks exhibit nearly pure stands of this species. The dense shade in these stands prevents sunlight from reaching the ground, making it difficult for groundcovers and shrubs to grow. Wildlife habitat is compromised and bare soil becomes susceptible to erosion.



Norway maple
(*Acer platanoides*)

Garden use: specimen planting; edible ornamental; screen; naturalized area

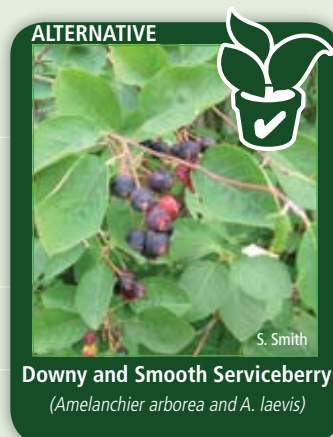
Growing conditions: full sun to partial shade; moist to semi-dry soils; tolerant of a wide range of soil conditions

Size and shape: 5-8 metres tall with round, open crown

Flower and fruit: white flower clusters at branch tips in spring; edible fruit ripen in summer

Leaves: emerging leaves purplish-bronze on *A. laevis* only; both species rich green in summer, turning to yellow, orange and deep red in fall

Additional info: highly prized by gardeners and birds for delicious fruit



Downy and Smooth Serviceberry
(*Amelanchier arborea* and *A. laevis*)

Garden use: specimen planting

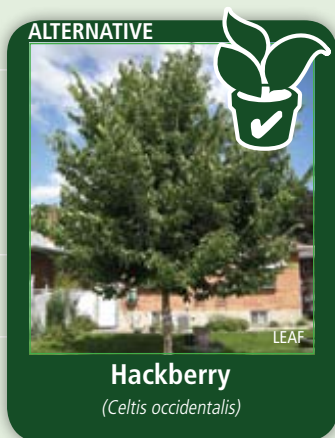
Growing conditions: full sun to moderate shade; adapted to range of soils; drought resistant; tolerates difficult urban conditions

Size and shape: 15 metres tall with broad, upright crown

Flower and fruit: small, unassuming green flowers; reddish-purple berry-like fruit maturing in fall and often persisting through winter

Leaves: green, elm-like leaves turning to yellow in fall

Additional info: long-lived (150 years) hardy tree; interesting ridged bark pattern; persistent fruits provide food for over-wintering birds



Hackberry
(*Celtis occidentalis*)

Garden use: shade tree; specimen planting

Growing conditions: full sun to partial shade; moist soils for silver and Freeman maples; deep, rich soils for sugar maple

Size and shape: 30-35 metres tall; upright to rounded crown

Flower and fruit: small, yellow to red flowers emerging before leaf-out in early spring; paired, winged maple "keys" developing in spring on silver and Freeman maples, and in fall on sugar maples.

Leaves: medium to light green deeply lobed leaves; fall colours from brilliant yellows to reds

Additional info: silver maple has an aggressive root system and should not be planted near pipes and foundations; Freeman maple is a natural hybrid of red and silver maple and exhibits some of the best attributes of both species; sugar maple may have difficulty in exposed, urban situations



Sugar, Silver and Freeman Maples
(*Acer saccharum*,
A. saccharinum and *A. x freemanii*)

Trees and Shrubs

The hardy and adaptable Russian olive was typically planted in poor sites and along roadways due to its high drought and salt tolerance and rapid growth.

A native of southern Europe through the Himalayas, it is generally single-stemmed with a full crown reaching a height of 3-4 metres.

Russian olive is often misidentified as a willow because of its dull green-gray leaves, but is differentiated by its long fruit that matures in autumn, and thorns. It is especially problematic because of its ability to reproduce via root suckers.



Garden use: small specimen planting with edible fruit for birds and people

Growing conditions: full sun to part shade; prefers disturbed soils

Size and shape: 4-10 metres tall; multi-stemmed small tree or large shrub with 3-5 metre wide crown

Flower and fruit: cylindrical clusters of small white aromatic flowers in spring; small, red-purple cherries in late summer

Leaves: glossy dark green in summer; yellow in fall

Additional info: important commercial food crop used in jellies, juices, preserves and syrup; chokecherry used in many land reclamation projects and on erosion-prone and riparian areas for extensive root mass



Garden use: stand alone shrub ideal for shady areas; planted for its fall colour and fall blooming effect

Growing conditions: full sun to partial shade; prefers cool, moist acidic soils; somewhat pollution tolerant

Size and shape: 4-8 metres tall; multi-stemmed and wide-spreading

Flower and fruit: showy yellow flowers with spicy scent in fall; seedpods persist through winter and can eject seeds when touched

Leaves: bright to dark green; vibrant yellow colour in fall compliments late blooms

Additional info: the only Canadian tree or shrub to bloom in fall; common name originates from its use as divining rod material to locate subterranean water and mineral deposits



Garden use: specimen planting; naturalized areas; screen or hedge

Growing conditions: partial shade with moist soil; full sun acceptable if site is cool and moist

Size and shape: 5-6 metres tall; prominently tiered branching with loose crown

Flower and fruit: small, fragrant white flowers in flat clusters in spring; small fruit changing from green to red to blue-black in summer; fruit stalks persistent through winter with bright coral red colour

Leaves: prominently veined, alternate deep green leaves typically in whorled clusters at branch tips

Additional info: desirable for its tiered branch structure, lending to its other common name "Pagoda Dogwood"



Trees and Shrubs

Autumn olive originated in Asia, but is now a common shrub in southwestern Ontario where it thrives on nutrient-poor soil and spreads via root suckers.

It grows to a height of 3-4 metres in a short period of time and is generally multi-stemmed.

Sometimes confused with Russian olive, autumn olive has deep green leaves with silvery undersides, deep red to purple fruit, and a more shrubby appearance than its single-stemmed cousin. Silver-white flowers produce a strong fragrance in May.



Garden use: naturalized area, or specimen planting

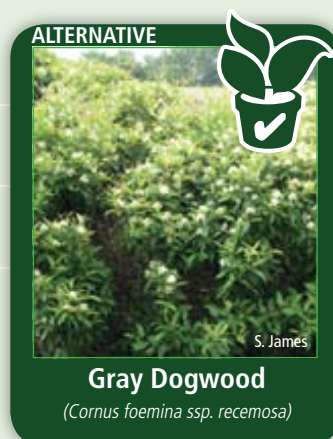
Growing conditions: full sun to partial shade

Size and shape: 2-3 metres tall and wide

Flower and fruit: cream-white flowers and prominent white berry clusters in late spring, with vibrant red stems persisting through winter

Leaves: blue-green; deep crimson-purple in fall

Additional info: excellent shrub for varied conditions; responds well to pruning; may spread via root suckers



Garden use: stand alone shrub, screen or hedge

Growing conditions: full sun to partial shade; adaptable to various soil types

Size and shape: 2-3 metres tall and wide; dense and rounded with age

Flower and fruit: white to pink domed flower clusters in spring; dry red-brown pods in fall

Leaves: medium green; vibrant yellow-bronze in fall

Additional info: very hardy and adaptable shrub offering winter appeal with exfoliating bark



Garden use: low hedge, tall groundcover

Growing conditions: hot, dry conditions in full sun; adaptable to varied soils

Size and shape: 0.5-2 metres tall; 2-3 metres wide

Flower and fruit: yellowish clusters of small flower "catkins" on males in spring; red, hairy clusters of fruit on female plants in late summer

Leaves: fragrant blue-green leaves with a glossy upper surface; vibrant orange, or red-purple in fall

Additional info: good shrub for naturalized areas; may grow quite thick and intertwined; important cover and food crop for birds



Trees and Shrubs

Non-native Bush Honeysuckles

All five of these honeysuckles originally range from central Asia through the mountains of Europe.

They have all shown an invasive tendency -with rapid growth and high reproduction- taking over large natural areas.

These multi-stemmed plants range from 2-5 metres tall and wide at maturity, and have simple leaves that remain green through the fall. Summer leaf colour is fairly similar among these four ranging from a blue-green to dark green. The flowers range in colour from white to pink to crimson.



Garden use: stand alone shrub, screen or hedge

Growing conditions: full sun to partial shade; adaptable to various soil types

Size and shape: 2-3 metres tall and wide; dense and rounded with age

Flower and fruit: white to pink domed flower clusters in spring; dry red-brown pods in fall

Leaves: medium green; vibrant yellow-bronze in fall

Additional info: very hardy and adaptable shrub offering winter appeal with exfoliating bark



Garden use: shrub borders, small flowering tree, hedges

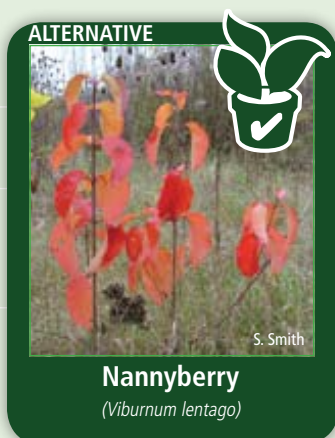
Growing conditions: full sun to shade; moist to dry sites

Size and shape: 4-5 metres tall; irregular to rounded form with upright branching

Flower and fruit: dense, showy cream-white flower clusters 5-10 cm wide in spring; hanging clusters of edible 1 cm long fruit change from green through yellow, pink, rose and finally blue-black

Leaves: light green maturing to dark, glossy green; deep maroon to red in fall

Additional info: a very versatile species capable of growing in full shade or open sites; grows as a shrub or small tree if pruned; fruit are used by birds and wildlife and can be eaten off the branch



Garden use: low hedge, tall groundcover

Growing conditions: hot, dry conditions in full sun; adaptable to varied soils

Size and shape: 0.5-2 metres tall; 2-3 metres wide

Flower and fruit: yellowish clusters of small flower "catkins" on males in spring; red, hairy clusters of fruit on female plants in late summer

Leaves: fragrant blue-green leaves with a glossy upper surface; vibrant orange, or red-purple in fall

Additional info: good shrub for naturalized areas; may grow quite thick and intertwined; important cover and food crop for birds



Trees and Shrubs

Multiflora rose is usually formed as a fountain-shaped shrub, or as a scrambling shrub climbing over other plants to a height of 3 – 5 metres.

Originally from Japan it was introduced to North America as a soil conservation measure due to its adaptability to different soil conditions, salt tolerance, and ease of transplanting.

Multiflora rose is distinguished from native North American roses by its fragrant white flowers that are arranged in clustered “inflorescences” of more than ten flowers, whereas native roses rarely exceed three per cluster.

Multiflora rose is spread by birds and is a prolific seed producer. It can re-sprout roots from stems that come in contact with soil. It readily invades open areas and forms dense thickets, replacing native vegetation.



Garden use: specimen planting; edible ornamental

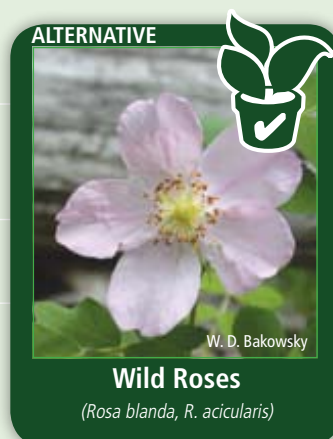
Growing conditions: sun to partial shade; wide moisture and soil tolerance

Size and shape: 30-150 cm tall shrub

Flower and fruit: showy cream to pink flowers in spring and early summer; orange to red “rose hips”

Leaves: medium green leaves growing from small-thorned branches

Additional info: edible rosehips commonly used to make tea



Garden use: fast-growing specimen planting; screen or hedge; edible ornamental

Growing conditions: full sun; moist soils

Size and shape: 2-4 metres tall with rounded crown; multi-stemmed with open branching

Flower and fruit: large (18-26 cm wide) clusters of cream-white flowers in early summer; purple-black edible fruit in late summer

Leaves: bright green leaves with seven leaflets

Additional info: transplants easily; suitable for rough sections of garden



Garden use: specimen planting; edible ornamental

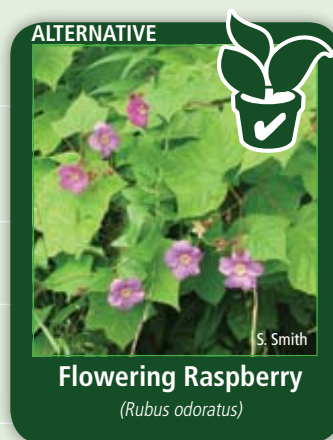
Growing conditions: sun to partial shade; wide moisture and soil tolerance

Size and shape: 30-150 cm tall shrub

Flower and fruit: showy cream to pink flowers in spring and early summer; orange to red “rose hips”

Leaves: medium green leaves growing from small-thorned branches

Additional info: edible rosehips commonly used to make tea



Trees and Shrubs

Common barberry was originally brought to North America by early colonists. It grows up to 4 metres tall and is a host plant for black rust, a disease of wheat crops.

More recently, Japanese barberry has been introduced for garden use, as well as incline stabilization and erosion control.

This 1-1.5 metre tall bush grows in a rounded form and has thorns along its many branches. Barberries are prolific seed producers and have germination rates as high as ninety percent.

The seeds ripen in fall, persist on the shrub through winter, and are carried long distances by birds where they readily invade natural areas and the forest understory.

Barberries are adapted to all soil types, can survive in full sun or full shade, and have shown an ability to acidify soil thereby affecting native habitats.



Garden use: border shrub; screening or hedgerow

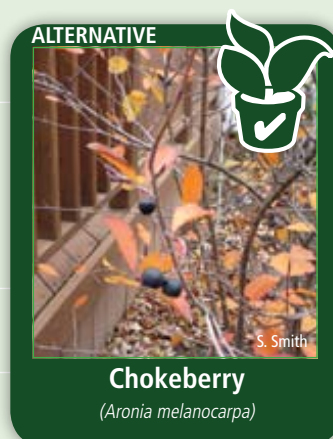
Growing conditions: full sun to partial shade; normal to moist soil; drought tolerant; salt tolerant; tolerant of compacted soils

Size and shape: 1-3 metres tall; multi-stemmed, suckering shrub

Flower and fruit: white to whitish pink flowers produced in clusters in early spring; bluish-black berries produced in early fall, staying on the plant through the winter

Leaves: glossy, bright green leaves; alternate and simple; beautiful fall foliage ranges in colour from crimson to apricot

Additional info: the name "chokeberry" is derived from the edible but bitter tasting berries



Garden use: rock garden; border; ground cover; foundation planting; specimen planting

Growing conditions: full sun; dry to normal soil; drought tolerant; salt tolerant

Size and shape: 30-130cm tall rounded shrub; numerous upright branches

Flower and fruit: pale to bright yellow, buttercup-shaped flowers produced in early to late summer

Leaves: dense leaves divided into five or seven leaflets; foliage is covered in fine silvery, silky hair

Additional info: there are over 130 different cultivars of this plant in the horticultural trade; attracts butterflies; also used for erosion control



Garden use: border shrub; screening or hedgerow

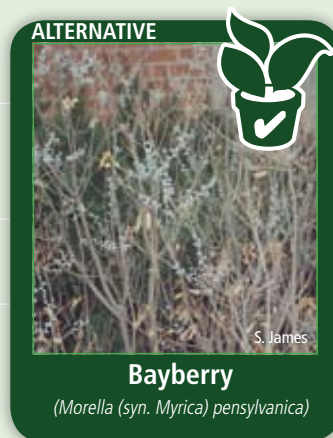
Growing conditions: full sun to partial shade; dry to wet soil; drought tolerant; salt tolerant

Size and shape: 1.5-3 metres tall; rounded shrub

Flower and fruit: small yellowish catkins appear in spring; waxy, bluish-white berries with strong aromatic scent ripen in summer and persist on the branches

Leaves: leaves are dark green, waxy and fragrant with yellow resin dots on the underside; deciduous to semi-evergreen; alternate

Additional info: the berries were used as a source of wax for early settlers; the scent is still used in candle making



Japanese Honeysuckle Vine is native to Japan and Korea, and was introduced as a horticultural species.

It is a climbing vine that is evergreen to semi-evergreen; the vines reach lengths of 24 metres and grow either by climbing over other vegetation or trailing along the ground.

Pairs of fragrant, tubular flowers can range in colour from white to yellow and are found at leaf axils along the stem.

This vine can cover and kill trees either by toppling them from the weight of the vines, or by blocking out sunlight.

It spreads rapidly through runners and by long-range seed dispersal by birds and other animals. It out-competes native species for habitat, sunlight, and nutrients.



Japanese Honeysuckle Vine
(*Lonicera japonica*)

Garden use: climbing vine; can be trained into shrub form

Growing conditions: full sun to partial shade (will not consistently flower in full shade); moist, humus-rich, well-drained soils

Size and shape: up to 15 metres long; climbs by twining stems; requires trellis or other support structure

Flower and fruit: elongated clusters of purple-blue flowers, blooms late spring to early summer

Leaves: shiny, dark green divided leaves with 7-11 leaflets; foliage turns golden in the fall

Additional info: attractive to butterflies



American Wisteria
(*Wisteria frutescens*)

Garden use: climbing vine; groundcover; can also be trained as a shrub

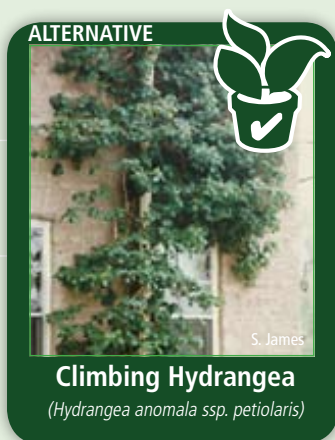
Growing conditions: partial to full shade; moist to well-drained soil

Size and shape: grows 9-12 metres in length, 1 metre tall when trained as a shrub; climbs by clinging with aerial roots; prominent lateral branches spread from the support structure

Flower and fruit: large flat-topped clusters of fragrant white flowers; blooms early spring until late summer

Leaves: dark green glossy leaves; heart-shaped and serrated; persist until late fall

Additional info: attractive to birds, wildlife, and bees; new plants may take a few years to establish, but grow quickly afterwards and get large with age



Climbing Hydrangea
(*Hydrangea anomala ssp. petiolaris*)

Garden use: climbing vine; can be trained into shrub form

Growing conditions: full sun to partial shade; moist soil

Size and shape: 4-6 metres in length; climbs by twining stems

Flower and fruit: fragrant tubular pink-purple flowers with yellow centres; grow in terminal whorls; blooms throughout much of the growing season from late spring until early fall

Leaves: pairs of round, blue-green leaves

Additional info: attractive to hummingbirds and butterflies



Goldflame Honeysuckle
(*Lonicera x heckrottii*)

Oriental Bittersweet is native to Asia and was introduced in the 1860's as a garden ornamental.

This brown, woody vine can grow up to 18 metres in length and climbs by twining around supports.

The fruits turn from green to yellow and split open in the fall to reveal very attractive bright red-orange seeds, the twigs with berries are used in flower arrangements.

However, when it escapes from gardens, oriental bittersweet may directly compete with the rare American bittersweet (*C. scandens*) for light and space, or may hybridize with it, jeopardizing the genetic purity of the native species. This vine can kill trees, smothering them and blocking sunlight.



Garden use: climbing vine; ground cover

Growing conditions: full sun, roots require mulch or shaded area; light loam; moist soil

Size and shape: twining vine; 3-4 metres in length

Flower and fruit: large velvety dark purple flowers; bloom late summer to early fall; other cultivars of jackman clematis may have red, white, pink or lavender flowers

Leaves: dense foliage with bright to dark green leaves 5-10 cm in length

Additional info: lightly fragrant flowers



Garden use: climbing vine; screen

Growing conditions: full sun to partial shade; moist, well-drained soil; tolerant of urban conditions

Size and shape: perennial twining vine, growing 6-9 metres in length

Flower and fruit: unique pipe-shaped yellowish flowers; bloom late spring to early summer

Leaves: dark green heart-shaped leaves

Additional info: rapid growth once established; fragrant flowers; attractive to bees, butterflies and birds



Garden use: climbing vine

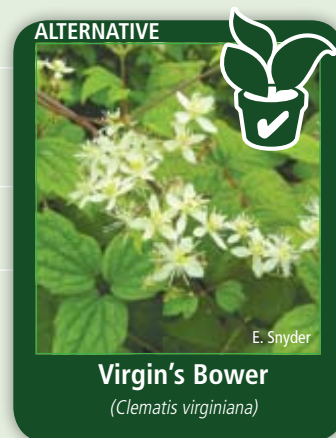
Growing conditions: full sun to partial shade; average to moist soil

Size and shape: twining vine; grows up to 5 metres in length

Flower and fruit: white four-petaled flowers; bloom late summer to early fall; distinctive fluffy white seeds remain on the plant through winter

Leaves: leaves divided into three leaflets with toothed edges

Additional info: fragrant flowers attract hummingbirds, bees, and butterflies; self-sows and will root where the vine touches the ground



European frog-bit is native to Eurasia but can now be found in the St. Lawrence River to Lake Ontario, throughout the Kawartha Lakes, the Rideau and Ottawa River systems and along Lakes Erie and St. Clair.

It is also spreading northward at scattered sites throughout the southern margin of the Canadian Shield.

It grows free-floating, or as a rooted mat in shallow waters.

Roots can grow up to 50 cm long with numerous root hairs.

Leaves are floating and form a rosette; white-pink flowers emerge in summer.



Water soldier is an aquatic plant commonly sold in the aquarium and water garden industry. This plant is native to Europe and Central Asia. It was recently found for the first time in Canada in the Trent Severn Waterway.

Water soldier, also known as water aloe, looks very similar to an aloe vera plant, or the top of a pineapple plant.

Water soldier grows underwater on the river bottom most of the year, and emerges in late spring and summer.

The leaves that grow once it has surfaced have air pockets enabling the plant to float. Water soldier forms dense populations with large masses of plants which out-compete other aquatic plant species.

A notable concern is that each leaf is lined with small serrated spines that can easily cut swimmers.



Native to Southern Europe and Asia, yellow floating heart was originally thought to only occur in ponds connecting to the Rideau Canal in Ottawa, but more recently an established population has been found in Georgetown.

This floating plant with heart-shaped leaves and bright yellow flowers is a rooted perennial that prefers slow moving rivers and lakes, ponds and canals.

It can establish in mud and in water up to 4 metres deep. When it grows in thick floating mats, it can create stagnant water with low oxygen levels, thus degrading fish habitat and limiting recreational activities.



Garden use: ornamental in ponds and water gardens; provides shade for fish and habitat for invertebrates

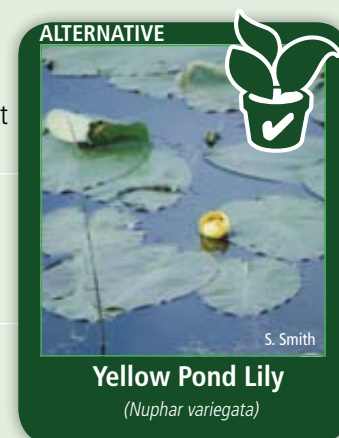
Growing conditions: found in lakes, ponds, quiet streams and rivers; can grow in sun or shade, but flowers more readily in sun

Size and shape: floating leaved perennial with thick and elastic leaf stalks; grows in water depths up to 2 metres

Flower and fruit: flowers: showy, yellow 4–6 cm wide with 6 showy petals; fruit: 2–4.5 cm long; green to red oval berries occurring in fall

Leaves: heart shaped leaves with rounded lobes 10-25cm long, submerged when young, floating when mature

Additional info: waterfowl and marsh birds eat seeds; mammals eat rhizomes and leaves



Garden use: ornamental in ponds and water gardens; provides shade for fish

Growing conditions: lakes, ponds, slow rivers and marshes; variety of sediment types

Size and shape: round stems rise toward water surface from fleshy rhizome buried in the sediment; grows in water depths up to 2 metres

Flower and fruit: white, showy, fragrant flowers 7-20 cm wide, open only from mid-morning to early afternoon throughout summer; flower produced on separate flower stalks growing directly from the rhizome; cultivars may also have pale pink flowers; leathery berries with many seeds ripening underwater in mid to late summer

Leaves: floating, round "lily-pad" with narrow V-shaped split; underside of leaf is reddish purple

Additional info: waterfowl eat fruit and seeds; roots are eaten by mammals

ALTERNATIVE



Fragrant Water Lily
(*Nymphaea odorata*)

Garden use: ornamental in ponds and water gardens, provides shade for fish and habitat for invertebrates, oxygenator

Growing conditions: shallow ponds, lakes, rivers, streams and marshes and wet shorelines; full sun

Size and shape: single stems emerge from rhizomes; up to 1 metre tall with erect stalk emerging from the water surface; stems are floating and hairless

Flower and fruit: bright pink elongated flower clusters at stem tips; dark seeds form in late summer to early autumn.

Leaves: often reddish floating oval leaves; rounded or heart-shaped at the base

Additional info: hot pepper-flavoured leaves can be used in salads or cooked like spinach; seeds consumed by waterfowl in fall

ALTERNATIVE



Water Smartweed
(*Polygonum amphibium*)



Fanwort, also called cabomba, is native to the sub-tropic and temperate regions of South America. This submerged perennial plant is very popular in the aquarium industry and is widely available through pet stores across Ontario.

The first report of an established population of fanwort in Ontario was in Kasshabog Lake in 1991 and is suspected to originate from the dumping of aquarium contents into natural waterways.

Fanwort has finely dissected, fan-shaped submersed leaves and small inconspicuous linear or rounded floating leaves. The flowers are small, white to pale yellow and have three petals. Rooted in substrate, this plant flourishes in slow flowing waters in streams, small rivers, ponds and lakes. Fanwort is extremely persistent once established and can form dense stands, displacing native vegetation, and clogging drainage in canals and streams.



Garden use: oxygenation, habitat enhancement for ponds and water gardens

Growing conditions: submerged aquatic found in lakes, ponds, marshes and rivers, sometimes common in lakes with low nutrient availability

Size and shape: Grow in depths of up to several metres; leaves are directly attached to slender stems; stems are anchored in sediment by shallow roots; stems branch profusely and form dense, tangled stands

Flower and fruit: white flower up to 9 mm wide, raised to the surface of the water by stalks 3–20 cm long; oval beaked fruit 6 mm long, narrow and cylindrical occurring mid to late summer

Leaves: small and lance-shaped; bright green when young 6–17mm long, in whorls of 3 in middle and upper part of stem

Additional info: one of the few plants found at depths greater than 10 metres



Garden use: oxygenation, habitat enhancement for ponds and water gardens

Growing conditions: submerged aquatic found in lakes, ponds, streams, marshes and quiet rivers; overwinters as an evergreen under ice; tolerant to low light and cool water

Size and shape: coarse, branching stems and no roots; may drift and become loosely anchored in sediment

Flower and fruit: very small, stalk-less solitary flowers on submerged leaves; fruit is dark olive green, elliptic

Leaves: split into 2 equal, thread-like segments; sharply toothed; in whorls of 5-12; leaves get denser at the end of the stem and look like a raccoon's tail

Additional info: provides food and shelter for invertebrates; can become abundant in shallow ponds and form large beds; also known as hornwort; reproduce through fragmentation



Garden use: oxygenation, habitat enhancement for ponds and water gardens

Growing conditions: submerged or above surface, aquatic found in lakes, ponds, marshes, streams and rivers, sometimes on peat in fens; muddy substrate; prefers non-acidic conditions

Size and shape: stems thick, soft, erect, 10-50 cm tall, from spongy roots

Flower and fruit: Flower: very small, lacking sepals and petals in axils of upper leaves, rare and occur in the summer; Fruit: nutlet, ellipsoidal, 1.7–2.5mm long occurring mid-to late summer.

Leaves: when breaking water surface, 1-2 cm long thick, firm and spiky whorls of 6-12; when submerged, 1-3 cm long thin and weakly attached, dropping when removed from water

Additional info: marsh birds occasionally feed on the leaves and stems of common mare's tail; Hippuris means "horse's tail"



Hydrilla, also called water thyme, water weed, and Florida elodea is native to Asia and can be found in rivers, lakes, ponds, streams and wet ditches.

This invasive plant resembles Ontario's native waterweeds (*Elodea canadensis* and *E. nuttallii*) but can be distinguished by the presence of prickles on lower leaf surfaces.

Although there are no documented populations of hydrilla in Ontario, it presents a significant threat to aquatic ecosystems and navigation.

Hydrilla is another popular aquarium plant sold in pet stores throughout Ontario.



Garden use: oxygenation, habitat enhancement for ponds and water gardens

Growing conditions: submerged aquatic found in lakes, ponds, marshes and rivers, sometimes common in lakes with low nutrient availability

Size and shape: Grow in depths of up to several metres; leaves are directly attached to slender stems; stems are anchored in sediment by shallow roots; stems branch profusely and form dense, tangled stands

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Growing conditions: submerged aquatic found in lakes, ponds, streams, marshes and quiet rivers; overwinters as an evergreen under ice; tolerant to low light and cool water

Size and shape: coarse, branching stems and no roots; may drift and become loosely anchored in sediment

Flower and fruit: very small, stalk-less solitary flowers on submerged leaves; fruit is dark olive green, elliptic

Leaves: split into 2 equal, thread-like segments; sharply toothed; in whorls of 5-12; leaves get denser at the end of the stem and look like a raccoon's tail

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Additional info: marsh birds occasionally feed on the leaves and stems of common mare's tail; Hippuris means "horse's tail"



Yellow iris is native to Eurasia but can now be found throughout southern Ontario.

Occurring in shallow water along streams, rivers, ponds and lakes, it was likely introduced as an ornamental garden plant in ponds and outdoor water gardens.

This riparian perennial has erect leaves and brightly coloured showy flowers.

Yellow iris can easily be spread between water bodies by boats and other recreational vehicles, as well as by plant pieces and seeds.

Once established, yellow iris can form a dense stand which displaces native shoreline vegetation and converts wet habitat to drier environments. Plant juices may cause skin blistering.



Garden use: ornamental in ponds and water gardens, used for shoreline enhancement

Growing conditions: shallow water (rarely more than 1 metre deep) along muddy or sandy shores of lakes, ponds, marshes, rivers and streams

Size and shape: stems erect, stout, 30-60 cm tall growing from thick spreading root system often forming dense colonies in still waters

Flower and fruit: flowers violet-blue with 2 yellow dots on upper lip, funnel-like, about 8 mm long; 1-seeded bladder-like fruit

Leaves: lance to egg shaped, heart shaped at base, 5-25 cm long, 2-5 cm wide

Additional info: young stems and leaves of pickerelweed can be eaten in salads or boiled and served with butter; seeds can also be eaten raw; pollinated by bees and butterflies



Garden use: ornamental in ponds and water gardens, used for shoreline enhancement

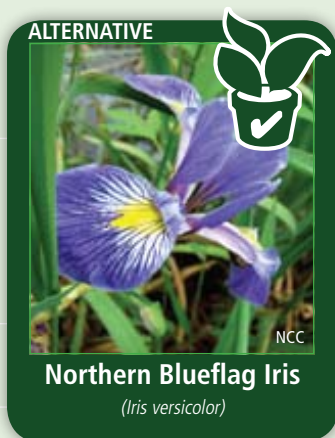
Growing conditions: along shores and in marshes, swamps, wet meadows and occasionally fens; in water up to 2 metres deep

Size and shape: stems 20-80 cm tall, growing in small colonies

Flower and fruit: showy, blue-purple flowers with yellowish veins separated into 3 petals; fruit capsules 2-3 cm long with flat seeds stacked inside, turning brown in autumn

Leaves: elongated, with parallel veins, up to 3 cm wide

Additional info: root stocks are poisonous; flowers are pollinated by bees; muskrats, beavers and birds feed on flower nectar



Garden use: habitat and shoreline enhancement of ponds and water gardens

Growing conditions: Prefers medium to moist soils, found in moist fields and meadows; once established can be found in drier garden soils

Size and shape: ranging from 30-180 cm tall with square, grooved stem

Flower and fruit: Flowers: blue-violet flowers, blooming from summer to fall

Leaves: oppositely arranged, 5-15 cm long lance-shaped leaves, narrowed at base

Additional info: useful for shoreline restoration or in a rain garden; attractive to birds, butterflies and pollinating bees; young plants are often confused with mint



Native to Eurasia, flowering rush can now be found in Ontario throughout Lakes Erie, St. Clair, and Ontario, as well as in the western St. Lawrence River, Severn River and Winnipeg River systems.

This perennial aquatic rush may grow submerged or emerge above the surface, with triangular leaves and multiple pink flowers on the end of a stalk.

Flowering rush can grow in lakes, rivers, marshes, ponds and wet ditches. It is used as an ornamental plant for ponds and outdoor water gardens, or intentionally planted along shorelines where it may escape and invade new areas.

Once established, flowering rush can displace native shoreline vegetation and hinder recreational use.



Flowering Rush
(*Butomus umbellatus*)

Garden use: ornamental in ponds and water gardens, used for shoreline enhancement

Growing conditions: shallow water (rarely more than 1 metre deep) along muddy or sandy shores of lakes, ponds, marshes, rivers and streams

Size and shape: stems erect, stout, 30-60 cm tall growing from thick spreading root system often forming dense colonies in still waters

Flower and fruit: flowers violet-blue with 2 yellow dots on upper lip, funnel-like, about 8 mm long; 1-seeded bladder-like fruit

Leaves: lance to egg shaped, heart shaped at base, 5-25 cm long, 2-5 cm wide

Additional info: young stems and leaves of pickerelweed can be eaten in salads or boiled and served with butter; seeds can also be eaten raw; pollinated by bees and butterflies



Pickerelweed
(*Pontederia cordata*)

Garden use: ornamental in ponds and water gardens, used for shoreline enhancement

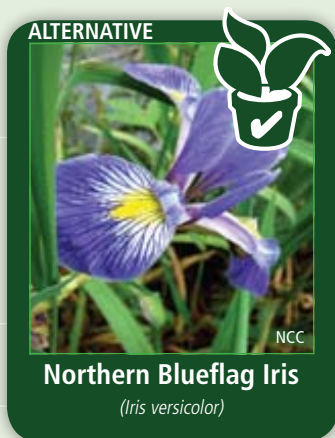
Growing conditions: along shores and in marshes, swamps, wet meadows and occasionally fens; in water up to 2 metres deep

Size and shape: stems 20-80 cm tall, growing in small colonies

Flower and fruit: showy, blue-purple flowers with yellowish veins separated into 3 petals; fruit capsules 2-3 cm long with flat seeds stacked inside, turning brown in autumn

Leaves: elongated, with parallel veins, up to 3 cm wide

Additional info: root stocks are poisonous; flowers are pollinated by bees; muskrats, beavers and birds feed on flower nectar



Northern Blueflag Iris
(*Iris versicolor*)

Garden use: habitat and shoreline enhancement of ponds and water gardens

Growing conditions: Prefers medium to moist soils, found in moist fields and meadows; once established can be found in drier garden soils

Size and shape: ranging from 30-180 cm tall with square, grooved stem

Flower and fruit: Flowers: blue-violet flowers, blooming from summer to fall

Leaves: oppositely arranged, 5-15 cm long lance-shaped leaves, narrowed at base

Additional info: useful for shoreline restoration or in a rain garden; attractive to birds, butterflies and pollinating bees; young plants are often confused with mint



Blue Vervain
(*Verbena hastata*)

Common Reed is native to Eurasia and can now be found scattered throughout much of southern Ontario, and as far north as Georgian Bay, Lake Superior and northwestern Ontario.

This extremely tall (2-4 metres), perennial grass grows in dense stands in shallow waters in wetlands, streambanks, lakeshores, wet fields and ditches.

It was commonly used in site restoration and slope stabilization, and is sold as an ornamental plant.

Common Reed can spread very aggressively by both seed and underground tubers. Also, plant pieces carried by water or wind can regenerate easily, displacing native wetland vegetation and threatening habitat of rare species, species at risk and other wetland species.



European Common Reed
(*Phragmites australis subsp. australis*)

Garden use: habitat and shoreline enhancement of ponds and water gardens

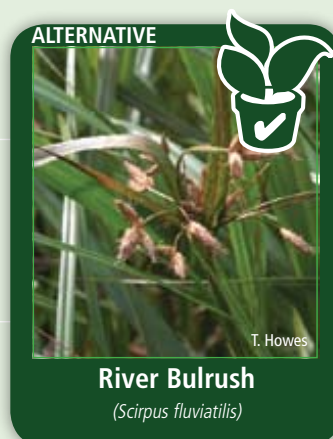
Growing conditions: Found in shallow marshes, beaver meadows and swamps; quickly colonizes disturbed soils, wet cutovers and ditches

Size and shape: up to 2 metres tall, prominently triangular stems with thick short roots

Flower and fruit: flowers in loose, 15-30 cm long clusters of many rounded clusters of spikelets; whitish 3-sided seeds, 0.7-1.0 mm long with 6 long white to rust-coloured bristles at the top

Leaves: ridged, very rough, 3-10 mm wide leaves over 30cm long

Additional info: favored by geese during migration as the tubers are an important food source; seeds are eaten by a variety of waterfowl including black duck, mallard, and pintail



River Bulrush
(*Scirpus fluviatilis*)

Garden use: shoreline enhancement of ponds and water gardens

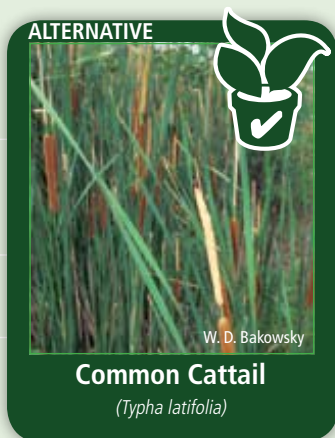
Growing conditions: found in marshes, ponds, and ditches and less frequently in fens and swamps

Size and shape: stems over 1 metre tall, spreading by roots

Flower and fruit: dense tiny flowers in spikes, with male spike at stem tip reaching 10-20cm long, female spike immediately below; minute fruit with many brown hairs giving mature spikes their brown colour, produced in great quantity

Leaves: flat, 10-25 mm wide, spongy but very strong due to the framework of fibers

Additional info: common cattail can quickly colonize new and disturbed sites through the fluffy masses of seeds produced by each plant; good source of nesting materials for birds and food and habitat for wildlife; roots can be cooked and eaten like potatoes



Common Cattail
(*Typha latifolia*)

Garden use: habitat and shoreline enhancement of ponds and water gardens

Growing conditions: commonly found on sandy, wave-washed lakeshores and in sheltered bays and ditches

Size and shape: flowering stems 1-3 metres tall, olive green

Flower and fruit: Flower: tight clustered flowers in spikelets that appear to grow from side of stem with pale or whitish brown, orange-red dotted scales; 1.5-2.5mm long fruits, brown to black with 0-6 barbed bristles as base, occur mid-summer

Leaves: barely visible bladeless sheaths at base of stem

Additional info: very similar to (*S. validus*), but softstem bulrush can be distinguished by its light blue-green stems, which are easily crushed between fingers



Hardstem Bulrush
(*Scirpus acutus*)

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Wild ginger (<i>Asarum canadense</i>)	9
Wild roses (<i>Rosa acicularis</i> , <i>R. blanda</i>)	21
Wild strawberry (<i>Fragaria virginiana</i>)	8
Wintergreen (<i>Gaultheria procumbens</i>)	9
Witch-hazel (<i>Hamamelis virginiana</i>)	17
Yellow pond lily (<i>Nuphar variegatum</i>)	32

Alert Species

The following species are additional horticulture plants to be on alert for in Ontario. Gardeners should be aware that these species can be invasive in natural areas:

- Bohemian Knotweed (*Polygonum x bohemicum*)
- Giant Knotweed (*Polygonum sachalinense*)
- Japanese Knotweed (*Polygonum cuspidatum*)
- Lily-of-the-valley (*Convallaria majalis*)
- Parrot Feather (*Myriophyllum aquaticum*)
- Reed Canarygrass (*Phalaris arundinacea* var. *picta*)
- Saltcedar/Tamarisk (*Tamarix ramosissima*)
- Tree of Heaven (*Ailanthus altissima*)
- Winged Euonymus/Burning Bush (*Euonymus alata*)

Additional Resources

Invasive Species:

Credit Valley Conservation

www.creditvalley.ca/invasives/

O.F.A.H./OMNR Invading Species Awareness Program

www.invadingspecies.com

Invading Species Hotline: 1-800-563-7711

Ontario Invasive Plant Council

www.ontarioinvasiveplants.ca

Native Plant Gardening:

Canadian Wildlife Federation

www.wildaboutgardening.org

Evergreen

www.evergreen.ca

Landscape Ontario

www.landscapeontario.com

North American Native Plant Society

www.nanps.org

Toronto and Region Conservation

www.trca.on.ca/yards

Publications

Garden Wise: Non-Invasive Plants for Your Garden

This booklet is designed to help Washington gardeners and nursery professionals identify invasive garden plants and replace them with non-invasive alternatives. <http://www.nwcb.wa.gov/education/education.htm>

Garden Smart Oregon: A Guide to Non-Invasive Plants

This guide identifies more than 25 of Oregon's invasive plants, along with alternatives and tips for gardeners on how to select noninvasive replacement plants. www.nature.org/wherewework/northamerica/states/oregon/about/art24578.html

Native Alternatives to Invasive Plants

This book by the Brooklyn Botanical Garden lists hundreds of native plants for every region, chosen as alternatives to invasive species.

The Landowners Guide to Controlling Invasive Woodland Plants

A resource describing ecology and control methods of common invasive woodland species. Available through the Invading Species Awareness Program website at www.invadingspecies.com



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