

Invasive Exotic Species Ranking for Southern Ontario

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This is a listing of the invasive exotic species found in natural habitats in southern Ontario according to the observations of restorationists and nursery owners we have consulted over the past 10 years and available written documents (see references).

Most exotic species that are found in natural areas do not appear to be a problem for restoration or protection of native biodiversity. They co-exist with indigenous (native) species and can increase local biodiversity without dominating the site. There is sometimes an argument made that since good quality natural habitats are so rare, the exotic species are taking up space that could potentially be occupied by indigenous plants, some of which are uncommon or rare. However this is not a practical approach in most areas since these areas are and will continue to be highly impacted by human activities. A goal of 100% indigenous species, although desirable, is not possible on most sites.

Some species, while highly invasive in early-successional situations, are eventually out-competed by native shade-tolerant species. The choice to control or not will depend on the objectives of a project.

Any exotic species can become invasive if provided with optimum soil, moisture, and disturbance conditions. We have tried to limit this list to those species that are most problematic in Ontario.

Four categories have been used here. Some species may belong in more than one category, but they are listed here where they have the greatest negative effect. This list does not attempt to prioritize these species for ease of control, since control options can vary and new research may provide new options. We have placed species in each category based on reports and observed effects. The level of negative effect for each species is somewhat subjective in the absence of a formal survey.

“Invades” as used here means that an exotic species becomes a significant component of the plant community. “Dominates” means that the species excludes most other species. “Native” as used here means indigenous, and is used for simplicity.

Plants marked with an asterisk (*) may be indigenous to parts of Ontario, but have aggressive behaviour that threatens natural biodiversity (and there seems little doubt that the range expansion was aided by human activities). They are considered invasive exotic plants outside their natural range.

Category 1

Aggressive invasive exotic species that can dominate a site to exclude all other species and remain dominant on the site indefinitely. These are a threat to natural areas wherever they occur because they can reproduce by means that allow them to move long distances. Many of these are dispersed by birds, wind, water, or vegetative reproduction.

These are the top priority for control, but control may be difficult. Eradication may be the only option for long-term success.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Effect on Natural Area</u>
<i>Acer negundo</i> *	Manitoba maple	takes place of native early-successional forest, aggressively invades all habitat types
<i>Aegopodium podagraria</i>	Goutweed	dominates forest understorey
<i>Alliaria petiolata</i>	Garlic mustard	dominates forest herb layer
<i>Alnus glutinosa</i>	Black alder	dominates wetlands, causes changes by shading
<i>Betula pendula</i>	European birch	dominates open wetlands, causes changes by shading
<i>Butomus umbellatus</i>	Flowering rush	dominates open marshes
<i>Cirsium arvense</i>	Canada thistle	dominates meadows, prairies, forest edges
<i>Coronilla varia</i>	Crown vetch	dominates disturbed meadows
<i>Cynanchum nigrum</i>	Black swallow-wort	dominates meadows & forest understorey
<i>Cynanchum rossicum</i>	Pale swallow-wort	dominates meadows & forest understorey
<i>Elaeagnus umbellata</i>	Autumn olive	dominates forest edges
<i>Glyceria maxima</i>	Rough manna grass	dominates wet meadows
<i>Hesperis matronalis</i>	Dames rocket	dominates open forest understorey & meadows
<i>Hydrocharis morsus-ranae</i>	European frog-bit	dominates open water habitats
<i>Impatiens glandulifera</i>	Himalayan balsam	dominates forests & wet meadows
<i>Lonicera japonica</i>	Japanese honeysuckle	dominates forest understorey in northern U.S.
<i>Lonicera maackii</i>	Amur honeysuckle	invades meadows & forest edges
<i>Lonicera morrowi</i>	Morrow's honeysuckle	invades meadows & forest edges
<i>Lonicera tatarica</i>	Tartarian honeysuckle	invades meadows & forest edges
<i>Lonicera xylosteum</i>	Eur. fly honeysuckle	invades meadows & forest edges
<i>Lythrum salicaria</i>	Purple loosestrife	dominates wetlands
<i>Morus alba</i>	White mulberry	hybridizes with rare <i>M. rubra</i>
<i>Myriophyllum spicatum</i>	Eurasian water milfoil	dominates open water habitats
<i>Nymphoides peltatum</i>	Floating heart	dominates open water habitats
<i>Phragmites australis</i> *	Common reed	dominates wetlands & wet meadows
<i>Potamogeton crispus</i>	Curly pondweed	dominates open water habitats in SW Ontario
<i>Rhamnus cathartica</i>	Common buckthorn	dominates forest understorey, meadows & prairies
<i>Rhamnus frangula</i>	Glossy buckthorn	dominates wetlands
<i>Rosa multiflora</i>	Multiflora rose	dominates forest edges

Category 2

Exotic species that are highly invasive but tend to only dominate certain niches or do not spread rapidly from major concentrations. Many of these spread vegetatively or by seeds that drop close to the parent plant. They may have been deliberately planted and persist in dense populations for long periods. Control where necessary and limit their spread to other areas.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Effect on Natural Area</u>
<i>Acer platanoides</i>	Norway maple	dominates forest canopy
<i>Acer pseudoplatanus</i>	Sycamore maple	dominates forest canopy
<i>Ailanthus altissima</i>	Tree of Heaven	replaces native early-successional forest
<i>Celastrus orbiculatus</i>	Oriental bittersweet	dominates forests and forest edges, has become more common than native <i>C. scandens</i> .
<i>Galium mollugo</i>	White bedstraw	invades meadows
<i>Lotus corniculatus</i>	Bird-foot trefoil	dominates meadows & prairies
<i>Lysimachia nummularia</i>	Moneywort	dominates wet forest understorey
<i>Melilotus alba</i>	White sweet clover	dominates meadows & prairies
<i>Melilotus officinalis</i>	Yellow sweet-clover	dominates meadows & prairies
<i>Pinus sylvestris</i>	Scots pine	invades meadows
<i>Poa pratensis</i>	Kentucky bluegrass	dominates prairies
<i>Polygonum cuspidatum</i>	Japanese knotweed	dominates wet meadows & moist forests
<i>Populus alba</i>	White poplar	invades meadows
<i>Robinia pseudo-acacia</i>	Black locust	invades meadows
<i>Scilla siberica</i>	Scilla	dominates spring ephemerals in forest understorey
<i>Sedum acre</i>	Mossy stonecrop	invades alvars
<i>Syringa vulgaris</i> Lilac		dominates shallow limestone areas, persists for decades
<i>Ulmus pumila</i>	Siberian elm	invades prairies, causes changes by shading
<i>Vicia cracca</i>	Cow vetch	dominates meadows & prairies
<i>Vinca minor</i>	Periwinkle	dominates forest understorey

Category 3

Exotic species that are moderately invasive but can become locally dominant when the proper conditions exist. Control where necessary and limit their spread to other areas.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Effect on Natural Area</u>
<i>Abutilon theophrasti</i>	Velvet-leaf	invades meadows
<i>Acinos arvensis</i>	Mother-of-thyme	invades alvar habitats
<i>Aesculus hippocastanum</i>	Horse-chestnut	reproduces moderately, creates dense shade
<i>Artemisia absinthum</i>	Absinth sage	invades disturbed meadows
<i>Barbarea vulgaris</i>	Yellow rocket	invades meadows
<i>Berberis vulgaris</i>	Common barberry	invades forests
<i>Berberis thunbergii</i>	Japanese barberry	invades forests
<i>Berteroa incana</i>	Hoary-alyssum	invades prairies
<i>Carduus nutans</i>	Nodding thistle	invades meadows & prairies
<i>Centaurea maculosa</i>	Spotted knapweed	invades meadows and prairies
<i>Convallaria majalis</i>	Lily-of-the-valley	a frequent garden escape in forests
<i>Convolvulus arvensis</i>	Field bindweed	dominates meadows, slows natural succession
<i>Crataegus monogyna</i>	Singleseed hawthorn	dominates shrub communities, meadows & prairies
<i>Dactylis glomerata</i>	Orchard grass	invades meadows & prairies
<i>Dipsacus sylvestris</i>	Teasel	dominates meadows & prairies
<i>Elaeagnus angustifolia</i>	Russian olive	invades meadows & shrub communities
<i>Elymus repens</i>	Quack grass	dominates meadows and prairies
<i>Euonymus alata</i>	Winged euonymus	invades forest understory shrub layer
<i>Euonymus europaeus</i>	Spindle-tree	invades forest understory & edges, similar to rare <i>E. atropurpurea</i>
<i>Euphorbia cyparissias</i>	Cypress spurge	invades meadows
<i>Festuca arundinacea</i>	Tall fescue	dominates moist meadows & prairies
<i>Galium verum</i>	Yellow bedstraw	invades meadows & prairies
<i>Hedera helix</i>	English ivy	invades forest understory
<i>Hieracium aurantiacum</i>	Orange hawkweed	invades meadows
<i>Hieracium caespitosum</i>	Yellow hawkweed	invades meadows
<i>Hieracium vulgatum</i>	Common hawkweed	invades meadows
<i>Hieracium x floribundum</i>	Pale hawkweed	invades meadows
<i>Humulus japonicus</i>	Japanese hop	invades wet meadows
<i>Kochia scoparia</i>	Summer cypress	invades meadows
<i>Lycopus europaeus</i>	Bugleweed	invades wetlands, displaces native <i>Lycopus sp.</i>
<i>Miscanthus sinensis</i>	Eulalia	dominates wet meadows
<i>Pastinaca sativa</i>	Wild parsnip	invades meadows
<i>Ranunculus repens</i>	Creeping buttercup	invades meadows
<i>Rorippa amphibia</i>	Marsh cress	invades wetlands in SE Ontario
<i>Salix alba</i>	White willow	invades wetlands, displaces native <i>Salix spp.</i>
<i>Salix fragilis</i>	Crack willow	invades wetlands, displaces native <i>Salix spp.</i>
<i>Salix x rubens</i>	Hybrid willow	invades wetlands, displaces native <i>Salix spp.</i>
<i>Saponaria officinalis</i>	Bouncing bet	invades meadows
<i>Solanum dulcamara</i>	Bittersweet nightshade	invades forests & wetlands
<i>Sorbaria sorbifolia</i>	False spiraea	invades meadows & forest understory
<i>Tanacetum vulgare</i>	Tansy	invades disturbed meadows
<i>Thymus praecox</i>	Creeping thyme	invades meadows
<i>Urtica dioica</i> ssp. <i>dioica</i>	European stinging nettle	dominates forest understory
<i>Vicia sativa</i>	Common vetch	invades meadows
<i>Vicia tetrasperma</i>	Slender vetch	invades meadows

Category 4

Exotic species that do not pose a serious threat to natural areas unless they are competing directly with more desirable vegetation. These can often be tolerated in restoration projects if they are already present. They may eventually be replaced through natural succession or management. Control where necessary and limit their spread to other areas.

Some of these exotic species are substituted in restoration projects for indigenous species but may not reproduce aggressively once established. They do occupy space that desirable indigenous species require and do not achieve project objectives when used.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Effect on Natural Area</u>
<i>Acer ginnala</i>	Amur maple	frequently planted
<i>Ajuga reptans</i>	Creeping bugleweed	persists in forest understorey & edges
<i>Bromus inermis</i>	Smooth brome	resists conversion to native meadow & prairie
<i>Campanula rapunculoides</i>	Creeping bellflower	invades forest edges & meadows
<i>Euphorbia esula</i>	Leafy spurge	can dominate prairies (mostly in western provinces)
<i>Glechoma hederacea</i>	Ground ivy	competes with meadow & prairie species
<i>Hemerocallis fulva</i>	Orange Day lily	dominates meadows
<i>Hypericum perforatum</i>	St. John's-wort	can dominate meadows
<i>Inula helenium</i>	Elecampane	invades meadows
<i>Iris pseudacorus</i>	Yellow flag	invades wetlands
<i>Ligustrum vulgare</i>	Privet	invades forest edges
<i>Linaria vulgaris</i>	Butter-and-eggs	invades meadows
<i>Lolium perenne</i>	Perennial rye grass	competes with meadow & prairie species
<i>Malva moschata</i>	Musk mallow	invades meadows
<i>Medicago lupulina</i>	Black medick	invades meadows
<i>Medicago sativa</i>	Alfalfa	invades meadows & prairies
<i>Myosotis scorpioides</i>	True forget-me-not	dominates shaded seepage areas
<i>Mentha x piperita</i>	Peppermint	invades meadows
<i>Nepeta cataria</i>	Catnip	invades meadows
<i>Origanum vulgare</i>	Wild marjoram	invades disturbed meadows
<i>Pachysandra terminalis</i>	Japanese spurge	persists in forest understorey & edges
<i>Populus x canadensis</i>	Carolina poplar	often misidentified as <i>P. deltoides</i> by nurseries
<i>Rumex acetosella</i>	Sheep sorrel	invades meadows
<i>Salix caprea</i>	Goat willow	frequently substituted for <i>S. discolor</i>
<i>Salix purpurea</i>	Purple willow	invades wetlands, displaces native <i>Salix spp.</i>
<i>Senecio jacobaea</i>	Tansy groundsel	invades meadows
<i>Setaria sp.</i>	Foxtail grasses	invade meadows, resist invasion by natives
<i>Sorbus aucuparia</i>	European Mountain-ash	invades forests
<i>Symphoricarpus albus</i> var <i>laevigatus</i>	Western snowberry	frequently substituted for <i>S. albus var albus</i>
<i>Trifolium arvense</i>	Rabbit-foot clover	invades meadows
<i>Trifolium pratense</i>	Red clover	invades meadows
<i>Trifolium repens</i>	White clover	invades meadows
<i>Tussilago farfara</i>	Sweet coltsfoot	invades wet meadows & riverbanks
<i>Ulmus glabra</i>	Scotch elm	invades disturbed forests
<i>Viburnum opulus</i> ssp. <i>opulus</i>	Guelder rose	frequently substituted for <i>V. opulus</i> ssp. <i>trilobum</i> ; has replaced <i>V. trilobum</i> across most of southern Ontario

Potentially Invasive Exotic Species to Monitor

Some of these species have the potential to become invasive exotics in Ontario. They can reproduce aggressively on occasion but have not been shown to be a serious threat to natural areas in Ontario. Some are very similar to indigenous species and could simply have been overlooked.

Scientific Name	Common Name	Risk to Natural Areas
<i>Alnus incana</i> ssp. <i>incana</i>	European white alder	similar to Speckled alder <i>A. incana</i> ssp. <i>rugosa</i> , nursery trade is using European name to describe <i>A. rugosa</i> as well, creating the possibility of misidentification.
<i>Ampelopsis brevipedunculata</i>	Porcelain-berry	invasive in northeast U.S.
<i>Artemisia vulgaris</i>	Common mugwort	highly invasive in New York City natural areas
<i>Cabomba caroliniana</i>	Fanwort	invasive in New England lakes
<i>Cornus sericea</i>	Red osier dogwood	ambiguous species name being used in the nursery trade to describe <i>C. stolonifera</i> , creating possibility of misidentification with similar Eurasian red dogwoods.
<i>Daphne mezereum</i>	Mezer's Daphne	has invaded moist forests in S. Ontario
<i>Egeria densa</i>	Waterweed	known to be invasive in Massachusetts wetlands
<i>Fraxinus excelsior</i>	European ash	sometimes misidentified as <i>F. nigra</i> , can reproduce in shade
<i>Isatis tinctoria</i>	Dyer's woad	a new invader to the Bruce Peninsula
<i>Lapsana communis</i>	Nipplewort	
<i>Najas minor</i>	Minor naiad	invasive in New York and New England waterways
<i>Humulus lupulus</i>	Common hop	locally invasive in Ontario
<i>Hydrilla verticillata</i>	Hydrilla	known to be invasive in mid-Atlantic states of U.S.
<i>Phalaris arundinacea</i> *	Reed canary grass	hypothesized that a European strain dominates wet meadows, or native species may be responding to high nutrient availability, to be determined.
<i>Populus tremula</i>	European aspen	very similar to <i>P. tremuloides</i>
<i>Prunus avium</i>	Bird cherry	reproduces but does not seem to dominate natural areas
<i>Prunus mahaleb</i>	Perfumed cherry	
<i>Sambucus racemosa</i>	European red elder	may be misidentified as <i>S. pubens</i>
<i>Tilia cordata</i>	European linden	reproduces but does not seem to dominate natural areas
<i>Trapa natans</i>	Water-chestnut	invasive in New York and New England waterways
<i>Typha</i> sp.	Exotic cattail species	being sold in nursery trade in northeast U.S.
<i>Viola odorata</i>	Sweet violet	very aggressive garden plant, many <i>Viola</i> sp. are difficult to identify accurately, leading to misidentification.

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