

UNWANTED INVASIVE SPECIES

Tips on Management



- ◆ Learn to properly identify and manage invasive plants on your property
- ◆ Avoid using invasive perennials in gardens and landscaping. Always check your plant reference before choosing garden plants
- ◆ Purchase non-invasive plants from reputable suppliers, native plants will provide a variety of benefits to the plants and wildlife that also depend on them.
- ◆ Do no dispose of compost or garden waste in natural areas as this can disturb the natural vegetation.
- ◆ When hiking, remain on designated trails and keep pets on a leash to reduce transferring invasive plants and seeds to new areas.
- ◆ When an invasive plant is flowering, cut the flower tops to prevent the plant from going to seed, put it in a garbage bag and throw it in the garbage.
- ◆ Share information and spread the work to friends, family and neighbours
- ◆ When in doubt about a plant, whether it is invasive or how it should be controlled, contact the Invading Species Hotline.

Invading Species Hotline

1 800 563 7711

www.invadingspecies.com

www.ontarioinvasiveplants.ca

A Message from the Ontario Invasive Plant Council

The Ontario Invasive Plant Council private consultants, industry and facilitates a coordinated and effective environmental NGOs as well as all response to the threat of invasive plants levels of government.. For more by providing leadership, expertise and a information on the council please visit form to educate, motivate and empower organizations and citizens. The OIPC is composed of conservation authorities, academic institutions, aboriginal; organizations, stewardship networks, www.ontarioinvasiveplants.ca

Land managers, farmer, landowners and community members everywhere, must extend their best efforts to detect the species on their properties early in its establishment, avoiding larger more labour intensive control efforts down the road.

Garlic Mustard

Alliaria petiolata

Alias: Hedge-garlic, sauce-alone, Jack-by-the-edge, Poor Man's mustard and Garlicwort

Ecological Threat

Native to Europe, garlic mustard was brought by early settlers as a green vegetable and a medicinal plant.

First reported in gardens of Toronto in 1879, the rest is history. It can be found in moist forests, wooded stream banks, floodplain forests, roadsides and trail edges and yes, maybe in your garden. In these places, it dominates the ground

layer of plants reducing the forests' natural ability to regenerate.



Recent research demonstrates that toxic chemicals produced by the roots of garlic mustard interfere with the microscopic fungi in the soil needed to stimulate the growth of native plants, giving the garlic mustard something scientists call "displacement capacity". A nasty ability to change our forests forever.

Mug Shot

The plant is green year round, with dark triangular shaped toothed leaves arranged alternately on the stem. The leaves produce a



distinctive garlic odour when crushed. The plant grows from 13 to 120 cm tall, producing a single floral stalk with delicate white flowers from May to early June. Garlic mustard is often found along trail edges, as it is often spread by people's boots, clothes or on tires of recreational vehicles.

Flowers are produced in clusters at the end of the plant, typically six to seven millimeters long. Fruit is produced in late July through August as a small oblong black seed. A single

plant usually produces 50 to 300 seeds that germinate the following spring. The seed is its only way of reproducing. Accomplices contributing to its spread are animals in nature, humans and their dogs.

Unknowingly we can capture seeds on hair, fur, clothes, shoes and bike tires, carrying them to new frontiers where the conditions are right and the seeds literally put down their roots. While we know the seeds don't float well in our waterways, they search out and readily attach to moist surfaces.

Tips on Management

The slender tap root with a distinctive "s" curve is easily pulled by hand, but only in light moist soils, for small infestations and over a minimum of 5 successive years to ensure the seedbank is exhausted. In larger infestations pulling often results in stimulating the seedbank, disturbing the soil and further compounding the problem.

Garlic mustard is a biennial, meaning it takes two years to complete its growing cycle then it dies. First year plants are referred to as basal rosettes, with just a few leaves appearing. In year two, the

plant-actually flowers. Each plant can produce hundreds or even thousands of seeds and they continue to photosynthesize during the winter months between the two stages.

Cutting the plants using a hand-held motorized trimmer like those used for lawn trimming, from the top down rather than side to side should be done twice a year and prior to flowering.

The use of herbicides has met with some success, however a Letter of Opinion from the district MNR may be required before controlling invasive

plants with chemicals. The Pesticide Act does have some excepted uses including control in forestry, agriculture, public health and safety as well as others. Consult with your district MNR if you have questions. A licensed applicator must do the application. Biological control and the reintroduction of microbial content to locations where garlic mustard has been removed still require extensive research.

Rhamnus cathartica**Alias: European Buckthorn**

Common Buckthorn

Ecological Threat

Common buckthorn is a small tree native to Europe and Asia. It was introduced to Canada as a windbreak in farmers fields and is known to spread aggressively through Southern Ontario and east to Nova Scotia. It forms dense even-aged thickets that often cause an overall reduction in the establishment of shade tolerant native shrubs and herbs. It rapidly produces seeds early in the season that are highly viable and germinate

quickly. It is also an alternate host of the fungus responsible for oat crown rust, which can impact the agricultural industry.



The preferred habitat of common buckthorn includes a wide range of soil and light conditions, giving it the ability to invade a variety of habitats. Many forest stands such as open oak woodlots are threatened by this plant, since it can thrive in lightly shaded conditions and openings in the forest canopy, created by deadfall, intentional thinning or forest management activities.

Mug Shot

Common buckthorn can grow to 6 m (22 feet) in height with a trunk diameter of 25 cm (10 inches) and mature specimens have irregular spreading crowns. The bark is grayish brown and becomes coarse in texture as it matures, while the inner bark is yellow in color with a pinkish to orange heartwood. The twigs have raised patches or lenticels and are usually tipped with a spine for a terminal bud. These spines are soft while alive, but turn to sharp thorns once they have died. In the spring, clusters of 2-6 yellowish green four petal flowers begin to emerge from

stems near the base of the stock. The male and female flowers are found on separate plants. Small black fruits 6mm (1/4 inch) in diameter are also produced which house 3-4 seeds.

The leaves are oval in shape, tipped with a point and are green in color with minute teeth along the edges. The leaves are 2.5-6 cm (1-2.5 inches) long and are arranged oppositely, or nearly so, along the stem. They can also be identified, by observing the 3-4 pairs of veins that curve upward toward the leaf tip. The leaves and fruits of common

buckthorn persist late into fall helping to disguise it from other similar species. Birds and mice eat the fruit which acts as a laxative, and unknowingly distributing the seeds, often close by the parent plant to perpetuate the population.



Tips on Management

Manual/mechanical removal of common buckthorn can be effective, however care should be taken to avoid excessive disturbance to the soil which can stimulate buckthorn seeds stored in the soil. Removal techniques involving prescribed burns in the year following manual or mechanical removal, ensure a higher success rate.

Prescribed burning alone has proven ineffective in eradicating this species. It is important when attempting to control common buckthorn to remove the fruit-producing females and follow

up by-pulling any seedlings that regenerate. Mowing can be an effective means of control if it is continued for 2-3 consecutive years as it takes time and repetition to reduce stem numbers overall vigor and achieve mortality.

The use of herbicides has met with some success, especially for larger infestations. However a Letter of Opinion from the district M R may be required before controlling invasive plants with chemicals. The Pesticide Act does have some excepted uses including

-control in forestry, agriculture, public health- and safety as well as others. Consult with your district MNR if you have questions. A licensed applicator must do the application.

Foliar applications are not recommended as the spray can greatly impact desirable native species surrounding the target plant(s). Painting cut stumps with a strong solution of herbicide has proven to be effective.

Dog Strangling Vine

**Vincetoxicum rossicum syn;
Cynanchum rossicum C. louiseae**

Alias: Dog -strangling vine

Ecological Threat

Dog-strangling vine (DSV) is a perennial, twining soft-stemmed vine-like plant that dies to the ground each season. It is a member of the milkweed family, originating from Eastern Europe, and introduced to Canada approximately 120 years ago. Currently it is finding its way into our backyards and natural areas at an alarming rate, as it produces seeds that are easily carried by the wind over great distances.



DSV prefers disturbed areas like highways, railways, utility and transport corridors, Christmas tree plantations, nursery and perennial crop farms, limestone quarries and abandoned pastures. Once a colony is established, DSV will quickly spread into adjacent undisturbed areas, displacing the native plant species and altering the natural landscape.

Mug Shot

Dog-strangling vine can grow 1-2 m (3-6 feet) in height with leaves that are 5-10 cm long. The leaves are oval in shape with a pointed tip and are arranged

oppositely along the stem. They are glossy in luster and appear green in the early summer and yellow in the late summer.

inches) long. The fruits of DSV often occur in pairs and are 4-6 cm (1.5-2 inches) long and 5 mm (0.2 inches) wide.



DSV has visible flowers from late May to mid July. These flowers have five pinkish maroon colored petals that are 5-9 mm (0.2-0.4 inches) in length. Like other milkweed species, dog-strangling vine produces pods that split open lengthwise to disperse their seeds in the late summer. These pods are abundant in July and August and appear smooth and slender with a light green color. The pods are usually 4-7 cm (1.5-2.5

The roots are fibrous or thread like and spreading, giving them the ability to hold onto the soil firmly. Within the root structure, they have subterranean buds (buds growing below the soil) which can produce several shoots. Without the support of a brush, where DSV persists in open areas, it twines amongst itself forming tops that appear rope like.

Tips on Management

Manual and or mechanical removal of the entire plant, including the root, may work to-control the plant if it is done in the first year of its establishment. Care must be taken to remove the entire root, as the plant will re-sprout from buds on the rootstock. By the second year manual pulling or digging becomes more difficult as the plant roots are stronger and larger. Seed spread can be controlled if the plant is cut back or pulled before it goes to seed. Pulling and digging will have to be done more than once during a season, as plants will re-grow and

produce more pods.

The use of herbicides has met with some success, especially for larger infestations. Glyphosate in at least a 3% solution can be effective if the plants are sprayed while in flower, followed by a second spraying approximately one month later. However a Letter of Opinion from the district MNR may be required before controlling invasive plants with chemicals. The Pesticide Act does have some excepted uses listed including control in forestry, agriculture, public health and others.

Consult with your district MNR if you have questions.



Heracleum mantegazzianum**Alias: Giant Cow Parsley**

Giant Hogweed

Ecological Threat

Giant Hogweed is an invasive plant, native to the Caucasus region between Southwestern Asia and Europe. It is in the carrot/parsley family (Apiaceae) and is closely related to the more commonly known Cow Parsnip, which is the only member of the hogweed genus native to North America. Giant Hogweed was first introduced and planted as a horticultural species in the early 1900's, and has since become widespread in the northern US and southern Canada. Ontario's first confirmed record of this plant was in 1949.

There have been increasing reports of Giant Hogweed naturalizing in Ontario, and it has been designated a noxious weed in Ontario under the Weed Control Act.



Giant Hogweed is a dangerous invader. The sap contains toxins called furocoumarins, which can increase the skin's sensitivity to sunlight and may result in severe burns, blisters and temporary or permanent blindness if it comes in contact with the eye.

Mug Shot

Giant Hogweed is a biennial/perennial plant; producing rosettes of large leaves (up to 1m or 40in) during the first year of growth. In the second year, it can grow a large flowering stalk, which may reach heights of up to 5m (16ft), or remain as a large rosette. If Hogweed doesn't flower in the second year, the plant can survive up to five years before producing the flowering stalk. The stalk has large, umbrella shaped clusters, called umbels, (up to 0.75m or 29in across) of small white flowers, which bloom from June-August and then set seed. A single Giant Hogweed plant can produce up to 100,000 seeds. The leaves of Giant Hogweed are

deeply incised, pointed and serrated, and alternate along the stem. The stem is hairy and hollow, with purple splotches.

The native plant Great Angelica, Cow Parsnip and Wild Parsnip are often mistaken for Giant Hogweed. Angelica has more rounded flower umbels (almost like globes) and often a completely purple stem. Cow Parsnip has similar attributes to Giant Hogweed with a few key differences; the hairs on Cow Parsnip stems are soft and downy, and coarse and bristly on Giant Hogweed. Cow Parsnip typically has less serrated and sharply toothed leaves than Giant Hogweed, and

only grows about 1.5 m (60in) tall. Giant Hogweed has dark purple splotches on the stem and the Cow Parsnip stem is green to slightly purple. Wild Parsnip is commonly confused, but its flowers are yellow. The sap of both Cow Parsnip and Wild Parsnip contain the same toxic properties as Giant Hogweed, and contact with any of these plant should be avoided.



Tips on Management

If you have Giant hogweed on your property, it is recommended that you hire a professional exterminator to remove it. The plant will be removed safely and as few seeds as possible will be spread. Reducing a large population of Giant hogweed will take a long term commitment. Use a spade to remove as much of the root as possible. Digging up older plants can be difficult since roots can grow deeper than one meter. The plant might re-grow from the root and you may need to dig repeatedly to remove it completely. Or, you can cover the dug area with black plastic to

smother out new growth. If it's possible to use machinery, mow new growth every two weeks.

Herbicides can be used to control plants (like Giant hogweed) that are poisonous to the touch. Glyphosate is effective at controlling the top-growth of Giant hogweed. Foliar herbicide applications are most effective in spring on actively growing plants, followed with a subsequent summer application for missed plants or plants that have regrown. Since glyphosate is non-selective and removes only the green

vegetation that it comes into contact with, new seedlings will often germinate and emerge after glyphosate has been applied. If areas treated with glyphosate are covered in mulch 10 to 14 days after application, it will reduce seedling germination and growth. Herbicide treatments may need to be repeated in following years. If a plant is flowering, herbicides are not effective and control methods should focus on carefully removing the flower heads. Follow label directions and relevant provincial and federal legislation when using herbicides.

YOU CAN HELP!

The Ontario Federation of Anglers and Hunters (OFAH) and the Ontario Ministry of Natural Resources (OMNR) have set up a toll-free number, the Invading Species Hotline 1 800 563 7711 and the website www.invadingspecies.com to obtain information and report sightings of Giant Hogweed and other invading species. For information on what is being done in Ontario to control invasive plants, visit the Ontario Invasive Plant Council website at www.ontarioinvasiveplants.ca.

- ◇ Report a sighting. If you find Giant Hogweed in a new area, take a digital photo, then call the Invading Species Hotline or contact your local Ontario Ministry of Natural Resource office or Conversation Authority to report your findings and confirm your identification.
- ◇ Get involved. Participate in one of our monitoring programs to detect and prevent the spread of invading species, or join the Ontario Invasive Plant Council to receive updates and information on invasive plant initiative in Ontario.

BEWARE OF GIANT HOGWEED

The main concern regarding Giant Hogweed is the threat to human health. The sap causes a condition called phytophotodermatitis, which makes skin extremely sensitive to sunlight. If a person comes into contact with Giant Hogweed sap, followed by exposure to sunlight, it can cause severe burns and blisters. These burns and blisters give way to black or purple scars which can last for years. The sap can also cause temporary or permanent blindness following eye contact.

Giant Hogweed is also an ecological threat. It out-competes native plants for space, sun and nutrients. It forms a dense canopy that may provide unsuitable habitat for native species.

Also, the roots don't hold the soil as native plants do, resulting in erosion along riverbanks.



Giant hogweed can be identified by its purplish, hollow stalk, with small spines sticking out of it. The plant also carries a sap that can blister the skin and eyes when it reacts with light.