

Wild Parsnip

(*Pastinaca sativa*)

Photo Credit: David McMurray

Best Management Practices Technical Document for Land Managers

July 2025

- DISCLAIMER -

This document conveys information recommended by leading professionals across Ontario. It contains the most up-to-date information available at the time of publication. It is not intended to provide legal advice. It is subject to change as new information emerges, tools and techniques evolve or as legislation or permitting requirements change. Tailor the timing of control to your region.

The prevention and early detection of wild parsnip is essential for an effective plant management strategy. Use this document after you have assessed your site(s) to help identify appropriate control options. An Integrated Pest Management approach is strongly encouraged - which involves using a combination of control tactics (e.g, herbicide application, cutting, and prescribed burns). For more information on the biology and life cycle of this invasive plant, please refer to the Ontario Invasive Plant Council's Best Management Practices document.

SAFETY WARNING: Wild parsnip sap contains furanocoumarins, phototoxic compounds (reacts with UV light to create a toxin) which may cause phytophotodermatitis. This can result in second and third degree burns, permanent scarring, and/or eye damage. Extreme caution and protective clothing are necessary when working with this species. Wear coveralls on top of long sleeve shirts and pants, waterproof gloves, rain boots and eye protection. When working with plants at chest level or higher, a face shield is essential, and a respirator is recommended when working in hot temperatures as the sap can become airborne (volatilization) and cause respiratory issues. If exposure occurs, immediately (within 20 minutes of exposure) wash the areas preferably with detergent (as opposed to soap) and cool water and cover the area from sunlight. Soap forms scum that might stick to the skin while detergent emulsifies compounds and allows them to be washed away.

Strategy Overview and Cautions

- > Wild parsnip is regulated under the Weed Control Act as a Noxious Weed.
- > Wild parsnip reproduces only via seeds, making seed reduction and prevention an important factor in control.
- > Remove the outlying populations (isolated plants or satellite populations) first to prevent further spread.
- > Small populations (≤50 plants) can be removed manually through hand pulling or digging.
- > Large populations (>50 plants) are most effectively controlled using a systemic herbicide.
- > Never use motorized tools (whipper snipper, mowers, etc.) to control wild parsnip because they pose extreme danger of sap exposure. Wash rubber gloves twice before taking them off and then, lastly, remove the protective eye wear.

Caution: Make sure that all equipment and boots, clothing, are cleaned with detergent and water at the site to ensure seeds are not transported from the site. Bag clothing onsite and wash separately from other laundry. Do not move soil that could contain seeds. See the Ontario Invasive Plant Council's Clean Equipment Protocol for more details on how to prevent the spread of invasive plants.



Photo Credit: David McMurray

Management of Small Populations (≤ 50 plants)

Digging or pulling is the most effective method for controlling small populations or those in environmentally sensitive areas where herbicides cannot be used. Always wear the proper protective gear. The average plant can be pulled out like a carrot. For larger or more difficult plants, use a hoe or shovel to sever the taproot 3-5 cm below the soil line. Removal is easiest after a rain when soil is soft, or in times of drought when the taproot shrinks. Spring is best when the taproot is at the beginning of its growing season.

Management of Large Populations (> 50 plants)

A glyphosate-based herbicide is the most effective form of control for large populations. Herbicides are not effective at the flowering stage and control methods should focus on carefully removing the flower heads. Herbicide treatments need to be repeated annually until the seedbank is depleted. Drift may prohibit pesticide use near water.

Legislation and Permitting Requirements for Wild Parsnip Management

Depending on the location, timing of work, and the type of management activity being used, permits, approvals or authorizations may be required from municipal, provincial, or federal agencies before wild parsnip control can be initiated. Land/vegetation managers are responsible for ensuring that any permits are obtained prior to proceeding with control. Additionally, if protected species or habitats are present, an assessment of the potential effects of the control project and authorization could be required. Depending on the species and its location, applications should be directed to the appropriate authorities.

The management of pesticides is a joint responsibility of the federal and provincial governments. The federal government's Pest Management Regulatory Agency (PMRA) is responsible for approving the registration of pesticides across Canada under the Pest Control Products Act. **The PCPA requires the user to ensure Canadian registered pest control products are being used according to the most up to date label requirements.** Ontario regulates the sale, use, storage, transportation and disposal of pesticides including issuing licenses and permits under the Pesticides Act and Ontario Regulation 63/09. Federally registered pesticide products are assigned one of four product class designations (i.e., Manufacturing, Restricted, Commercial or Domestic). The pesticide class determines who can sell or use the product and the restrictions placed on its use (e.g., requires a license and/or permit). All invasive species control programs require licensed exterminators to apply pesticides.

The use of pesticides on land is subject to the Ontario Cosmetic Pesticides Ban. Unless they are certain biopesticides and low-risk products on Ontario's "Allowable List", pesticides may only be used if they are permitted under an exception to the ban. Depending on the specifics of the extermination, invasive plant control may be permitted in accordance with exceptions for forestry, agriculture, public health and safety (e.g., plants poisonous to humans by touch and plants that affect public works and other buildings and structures) and compliance with other legislation (e.g., control of noxious weeds where required by the Weed Control Act). There is also an exception for the management, protection, establishment or restoration of a natural resource that may be considered if other exceptions do not apply. Ontario Regulation 63/09 specifies requirements for pesticide use under each exception and may include conditions such as a letter from the relevant Ministry (MNR or MECP) and/or others. The licensed exterminator can provide guidance about applicable extermination requirements. For information about obtaining a license or a permit refer to the Ministry of the Environment, Conservation and Parks website at www.ontario.ca/page/pesticide-licences-and-permits.



Photo Credit: David McMurray

Table 1: Exceptions to the Ontario Cosmetic Pesticides Ban which may be applicable for control of wild parsnip in terrestrial environments.

| | |
|--------------------------|---|
| Public health or safety: | Poses a hazard to human health by causing phytophotodermatitis. |
| Agricultural: | Can reduce the quality of some agricultural forage crops and is listed as a <u>Noxious Weed</u> under the <u>Weed Control Act</u> . |
| Natural resource: | Can negatively impact the environment, reduce biodiversity and degrade the quality of wetland and riparian habitats. |

For more information on these exceptions and applicable procedures, please refer to the Ontario Invasive Plant Council’s Best Management Practices document for this species.

Herbicide Selection

Pesticide applications can be an effective method for wild parsnip management when used as part of an integrated pest management program and in consideration of wild parsnip biology and site-specific information. Pesticides must be applied in accordance with the federal Pest Control Products Act, Ontario’s Pesticides Act, Ontario Regulation 63/09 and all label directions. Most invasive species control programs using a pesticide will require an appropriately licensed exterminator. The availability of pesticides to control wild parsnip may change over time, as may the label directions on how to use the pesticide so that it does not endanger human health or the environment.

Before using any pesticide, ensure you have the most current label. Pesticide labels can be accessed using the PMRA’s label search tool, which can be found by searching “PMRA label search” in any major search engine. Always read and follow all directions on the label. The label is a legal document that must be followed exactly, including any applicable buffer zones. Using a pesticide to treat a species not listed on the label, or in a manner other than that specified on the label violates the Pest Control Products Act and may incur penalties.

Professionals consulted at the time this document was written recommend using a glyphosate-based herbicide when its use is approved by the pest control product label. Glyphosate is a broad spectrum, non-selective systemic herbicide which is translocated throughout an actively growing plant. Herbicide needs to be applied annually until the seedbank is exhausted and/or other vegetation is sufficiently established.

Table 2: Chemical control techniques recommended by experts for wild parsnip at the time this document was written.

| Chemical Control Method | Chemical | Timing and Application |
|-------------------------|------------|--|
| Foliar | Glyphosate | Late April / early May. Follow with summer application for missed plants or those that may have re-grown. Apply before bud stage or early flowering. |

Please read the label in full before use. Some of the product labels belonging to these active ingredients may not currently be approved for the referenced use and/or may not be approved moving forward if the label is amended.



Photo Credit: David McMurray

Wild Parsnip Treatment Times

| | | | | | | | | | | | | |
|-------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Digging | J | F | M | A | M | J | J | A | S | O | N | D |
| Chemical (Foliar) | J | F | M | A | M | J | J | A | S | O | N | D |

No Treatment Times
Optimal Treatment Times
Suboptimal Treatment Times

*Note: The above treatment times for herbicide application must consider weather conditions.

Disposal

NOTE: Extreme caution should be taken when disposing of wild parsnip. Ensure the applicator wears proper PPE to avoid sap exposure. Contact with the sap can happen by brushing up against any plant parts, handling plant materials or accidentally touching equipment used to remove the plant. If you have questions concerning your health status, consult a professional. For medical or health information, please contact your local health care provider or Telehealth Ontario at 1-866-797-0007.

Onsite disposal: Wild parsnip plants without flower/seeds can be left to dry out completely on site after the root has been severed from the crown and the stem has been severed from the roots. **DO NOT BURN as sap can become airborne and cause respiratory issues.**

Offsite disposal: Do not compost viable plant material (flowers, seeds and roots) at home. Put the plant in doubled up garbage bags and solarize. Bags will contain sap and can become hazardous. **Do not use black plastic bags. Use clear bags so identification is easy. Most accidental contact with the sap when handling the bags. Be sure to suit up and wear PPE. NOTE: Using weaker, thinner bags will increase the chance of tearing and exposure to sap.** Bags should also be labelled clearly “wild parsnip”. When in doubt about how to dispose of invasive plant material, consider getting help from professionals or local authorities who can destroy and dispose of the plant and its seeds. For large volumes of material, a proper landfill disposal appointment will be required.

Rehabilitation and Monitoring

Wild parsnip invades disturbed areas so immediate rehabilitation of the area is vital for control. Control is much more successful when heavily infested areas, often with seed-saturated soil, are re-planted with native tree and plant species that can out-compete new growth. See the Ontario Invasive Plant Council’s Best Management Practices document for more details. Follow-up monitoring and removal of new growth is crucial for the next 3 to 5 years, until the seedbank is depleted.