

Creeping-Bellflower (*Campanula rapunculoides*)

- Creeping bellflower (CBF) is an invasive plant and that is widespread across Canada. CBF is regulated in Alberta and Manitoba as a noxious weed.
- CBF is a hardy perennial native to Asia which was first introduced through the horticultural trade as an ornamental plant.
- The long parsnip-like roots make CBF very drought tolerant and difficult to eradicate in gardens.
- Invasive plants harm biodiversity by outcompeting native plants. Gardeners who continue to grow CBF because they think the flowers are pretty contribute to the problem.

General Control Information:

- Control efforts should focus on preventing the spread of this invasive species. **Focus on edges first, reversing the invasion front.**
- When removing any invasive plant, NEVER dump them anywhere other than in the garbage or in designated soil treatment areas at landfills. Special care needs to be taken when the homeowner lives in an area where garbage is dumped in a local bin. Please consult your municipality if in doubt.
- Any plants removed should be placed in heavy, dark garbage bags.
- Property lines: Removal along a fence or property line is most effective when neighbours work together. If cooperation is not feasible, barriers *may* reduce invasions, e.g., planting an aggressive native plant, physical barriers (search for “bamboo barriers” online).
- Soil: Take care when sharing any plants from the area in your garden that has CBF in case you inadvertently spread the plant to the gardens of friends or neighbours.
- Be aware that removal may take several seasons or years and the area in question should be inspected regularly for CBF plants or seedlings, especially in spring.
- Replant the area as soon as you’re sure the area is free of CBF. This will stop other invasive plants from taking hold. *Replanting with native plants is highly recommended.*

Appearance

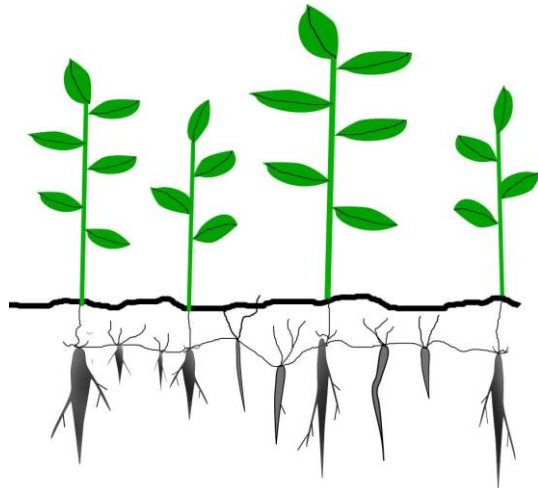
- Leaves are heart-shaped in early stage, then change to lance-like shape and coarser texture.
- Purple-blue, bell-shaped flowers (2-3 cm) hang down along the stem on one side. Blooms start on the lower part of the stem.
- Roots are pale with a typical “parsnip-like” appearance .



Images: 1<https://northerngardener.org/creeping-bellflower/>

How it Spreads

- Each flower produces thousands of seeds. Once seeds are produced, they may be further spread by small mammals or birds to other gardens or natural areas.
- Regenerates from any portion of root left in soil.
- CBF can spread into a lawn, through perennial beds, fences and even in cracks in concrete.



The parsnip-like roots start several inches to up to a foot (30 cm) underground, depending on the soil.

Campanula rapunculoides root system diagram

Beverley Wagar CC BY-NC-ND

Control Methods

Note: If CBF is growing in perennial beds, gardeners may need to remove all bulbs and perennials and grow them in another location or in pots until the area is treated. All perennials should be root washed to prevent CBF from spreading to these new locations. If perennials cannot be moved, consider collecting seeds or taking cuttings from current plants to start new ones.

Cutting, Digging & Hand Removal (smaller areas)

- **Reduce the seedbank in your soil:** Your **first priority** should be to stop the plant from going to seed by removing flower heads and disposing of them. A line trimmer or hoe can be used to cut flowers before they form seeds.
- **Hand removal:** While labour intensive, this the best way to remove CBF in smaller areas. Plants are easier to pull from moist soil, so choose a day after it has rained or water the area before working in it. Using a **garden fork** minimizes cutting root pieces that will then regrow.
 - Open up the soil with a garden fork to a depth of **at least 6 inches (15 cm)**. Established plants may have deeper roots, so you may need to follow the root down to its base before extracting. Remove the entire plant, roots and all.
 - Inspect the soil for any remnants of roots or leaves. Passing the soil through a screen is recommended to remove any plant parts left behind.
 - **Disposal:** Plant parts can be bagged and left in the full sun and then disposed of in the garbage. If you do not have municipal garbage pick-up, leave plants in plastic bags until plant parts completely decompose, including the seeds.
 - **Inspect the area** at least once a week and remove any shoots that may have resprouted. This method **may take several seasons/years** to control and eradicate CBF.

- **Continue inspecting and removing all shoots in early spring** as new plants may germinate from the seed bank in your soil.

Smothering (medium to large areas)

- Smothering uses heavy black plastic/tarps/heavy cardboard to starve plants of light and water. It will kill all plants in the treated area, but may take a long time.
- Care should be taken if there are trees or large shrubs in the area as their roots can be affected.
- A thick layer of cardboard or leaf bags/mulch may also be used to smother, especially in the vicinity of trees or shrubs. See link about “The “Cover and Smother” Approach to Goutweed Control” below for more information
- **Smothering can take up to 2 years or more.** Keep in mind that viable seeds may remain in the soil.
- Can be started any time of year, in sunny or shady locations.
- If the area is very large, work in sections, covering with tarp/dark plastic/cardboard as you clear a section.
- **Method:** Cut the CBF at or just below ground level, using a hoe or line trimmer. Remove as much cut plant material as possible, and bag for disposal.
- Cover the cleared area with heavy black plastic/tarps/heavy cardboard. Make sure materials overlap.
- Weigh the heavy plastic/tarps down to keep them in place, e.g., rocks, branches, bricks, tent pegs.
- Check progress each season by lifting the plastic/tarp/cardboard to see if the plants are still growing. Continue to smother as needed.
- Replant the area as soon as you’re sure the area is free of CBF. This will stop other invasive plants from taking hold. *Replanting with native plants is highly recommended.*

Solarizing (medium to large areas)

- Solarizing will kill seeds and growth in the top few inches of the soil, **but is unlikely to kill the long taproots of CBF.** It may be used in conjunction with other methods to reduce labour in dealing with large CBF infestations.
- Solarizing uses **clear** plastic, the heat of the sun and moisture to “cook” invasive plants and kill seeds in the soil. It will also kill other plants in the treated area.
- Solarizing should only be used if there are no trees or large shrubs in area.
- Best started in late spring, in sunny areas, when plants emerge and weather warms. Not as effective in lower light areas
- Solarizing is most effective when the plastic can lie snugly against the soil. If possible, remove any mounded areas and level out the ground using a rake or hoe.
- Cut the CBF at or just below ground level using a hoe, sharp spade or line trimmer.
- Water the soil deeply until it is wet.
- Cover the cleared area with CLEAR plastic (such as 1 to 4 mil painter’s plastic). Clear polyethylene sheets or rolls are available from places like Lowes or Home Depot.
- Bury the plastic edges in the soil to trap the heat.
- Leave the plastic in place for at least 4 to 6 weeks in the **hottest part of the summer.**
- If the area is very large, work in sections, covering new sections with plastic as you clear an area.
- Remove the plastic and inspect. Continue to solarize as needed.
- Monitor the area and continue with other techniques such as smothering or hand removal as needed.

Herbicide

- CBF is resistant to most herbicides. Top growth may be killed, but the deep roots will grow back. Herbicides may need to be constantly reapplied.
- Mid to late autumn applications are most effective. “During this period, plants are drawing nutrients from their leaves and into their roots for storage over the winter, and herbicides are more effectively moved into the roots as well, resulting in better control.”
<https://ask2.extension.org/kb/faq.php?id=799730>
- Glyphosate is **not approved** for use on CBF in Ontario.

Replanting Suggestions

Once an area has been cleared of invasive plants, it is important to replant the area to prevent new invasions. The following have a similar look to CBF without being invasive:

- Native American bellflower (*Campanula americana*): purple flowers, arranged **all around** the stem with 5 petals, arranged facing outwards. Biennial or annual, so allow to seed in garden for following year. <https://www.minnesotawildflowers.info/flower/american-bellflower>
- Native harebell (*Campanula rotundifolia*): long lasting small blue flowers bloom July to the fall ; delicate, fine leaved foliage. <https://www.minnesotawildflowers.info/flower/harebell>
- Native bluebells (*Mertensia virginica*): spring ephemeral (plant goes dormant after blooming) with gorgeous blue to pinkish flowers <https://www.minnesotawildflowers.info/flower/virginia-bluebells>
- Delphiniums (non-native)

More Reading

- U-W Madison Managing Invasive Plants – Creeping Bellflower
<https://douglas.extension.wisc.edu/files/2015/07/Creeping-Bellflower.pdf>
- Ask a Master Gardener: Creeping Bellflower <https://northerngardener.org/creeping-bellflower/> (suggests round up)
- “Cover and Smother” Approach to Goutweed Control (using leaf bags)
<https://www.youtube.com/watch?v=VS5uyk9f2kE>
- **Solarizing:** Methods for Managing Weeds in Wildlands: Non-chemical Control (not sure if good)
<https://weedcut.ipm.ucanr.edu/management-practices/solarizing/#gsc.tab=0>
- Alberta Invasive Plant Council Creeping Bellflower Factsheet 1
https://yiccc8.a2cdn1.secureserver.net/wp-content/uploads/2020/07/N_FS-CreepingBellflower.pdf?time=1690369522
- Manitoba
<http://invasivespeciesmanitoba.com/site/uploads/pdf/ISCM%20Fact%20Sheets/AB%20CreepingBellflower.pdf> <https://invasivespeciesmanitoba.com/site/index.php?page=creeping-bellflower>