

Queendevil Hawkweed

Pilosella praealta (formerly *Hieracium praealtum*)

ALBERTA REGULATORY STATUS:
WEED CONTROL ACT
NOXIOUS

Last Updated: May 2026



Parks Canada

Overview:

Queendevil hawkweed is a perennial forb in the Aster family native to Europe. It has fibrous roots and produces milky latex in its stems and leaves. Invasive hawkweeds were first detected in western Canada approximately 50 years ago.¹ It is present in isolated locations in Alberta.

Recent taxonomic revisions have divided hawkweeds into two genera: *Pilosella* and *Hieracium*.¹ In Alberta, invasive hawkweeds belong to the genus *Pilosella*, while *Hieracium* includes both native and invasive species.¹

In Alberta, invasive hawkweeds in the *Pilosella* genus can generally be distinguished in the field by carefully examining the type and density of hairs on stems and leaves.^{2,3} Genetic analyses may not reflect these visible differences, making morphology the most practical approach for ID.³ See the [AISC's Quick Reference Guide to Invasive Hawkweed Species of Alberta](#) for more information on identifying species.

Invasive *Pilosella* species reproduce both by seed and vegetatively through stolons (some species, including queendevil hawkweed), rhizomes, and occasional regrowth from root fragments.² *Pilosella* species produce wind-dispersed seeds. Most invasive hawkweeds can produce viable seed without pollination, meaning a single plant can establish a new infestation.²

Flower heads can continue to mature viable seed even after plants have been pulled, and seeds may remain viable in the soil for up to seven years.²

Habitat:

Prefer well drained, coarse textured soils, low in organic matter.¹ Found in disturbed areas, open fields, mountain meadows, permanent pastures, along edges and in clearings in forest zones.¹

Identification:

Stems: Upright and sometimes branch near the top. Stems have sparse simple hairs. Plants are typically 25–80cm tall. Queendevil hawkweed produces **elongated, leafy stolons** (runners) that

spread along the ground and produce new daughter plants.¹

Leaves: Basal leaves are long and narrow to oval or egg-shaped, with mostly smooth edges (sometimes very finely toothed), and usually narrow gradually where they attach to the stem.² Upper surfaces are smooth and hairless, while **lower surfaces have variable amounts of star-shaped hairs (look like white speckles to the naked eye)** and longer simple hairs mostly concentrated along the mid-vein. Occasionally, 1–2 small leaves may be present on the lower stem.^{1,2}

Flowers: 15–30 yellow flower heads arranged in a tight, rounded cluster.¹ Bracts at the base of the flower heads are often covered with grey, brown, or clear gland-tipped hairs, which may appear as tiny spikes.¹

Seeds: Seed heads are surrounded by small, hairy bracts (leaf-like parts at base of seed). Seeds are ribbed, with dirty white to tawny fluffy tufts (like dandelions).^{1,2}

continued next page

Queendevil Hawkweed *(continued)*

Lookalike species: Tall hawkweed (*P. piloselloides*): Very similar look to queendevil. Leaves mostly hairless except long hairs on underside midvein and leaf margin. Contrast with queendevil that has star shaped hairs on underside of leaves and has stolons, shorter leaves than tall hawkweed.^{1,2} Stolons absent. Orange hawkweed (*P. aurantiaca*): distinguished by orange flowers, stem and leaves are covered with star-shaped, simple, and gland-tipped hairs. Stolons present. Meadow hawkweed (*P. caespitosa*): Stem and leaves are covered with star-shaped, simple, and gland-tipped hairs. Stolons present. Yellowdevil hawkweed (*P. glomerata*): Leaves appear hairless but feel rough due to short white and star-shaped hairs. Stolons absent. *Hieracium* spp. (native and invasive hawkweed species): typically have well-developed stem leaves. Stolons absent. Hawksbeard (*Crepis* spp.): differ in leaf shape and structure.

Impacts:

Hawkweeds' rapid growth and ability to exploit disturbed ground allow them to spread quickly and dominate sites. Even small, easily overlooked patches can develop into persistent infestations that are difficult to control. Dense mats can form, displacing native vegetation and overtaking yards, gardens, pastures and natural areas. Some studies suggest that invasive hawkweeds may also release chemicals into the soil that inhibit the growth of surrounding plants (allelopathy),² which may further contribute to their ability to dominate sites.

In BC, invasive hawkweeds were projected to cause up to \$60 million per year in economic damages by 2020 if left unmanaged, driven by impacts to forage production, recreation, biodiversity, and human health.⁵

Prevention:

Reduce the risk of establishment by maintaining healthy, competitive plant communities and regularly monitoring high-risk areas, including properly identifying unknown species before they spread. Prevent introduction and movement by working from clean sites to infested sites, cleaning equipment and gear between locations, and minimizing soil disturbance. Use weed-free products where available, avoid generic wildflower seed mixes, and obtain seed certificates for large-scale seeding to assess for potential contaminants.

Control:

Effective control of invasive hawkweeds requires repeated treatment and ongoing monitoring, using an integrated approach to address both seed production and aggressive vegetative spread. Plants should be treated before flowering to prevent seed production. If flowers or buds are present, they should be removed and properly disposed of to prevent viable seed development. Root systems must be fully removed or effectively controlled to prevent regrowth from fragments. Pulled material must be bagged and disposed of in a landfill or incinerated, as plants can continue to produce viable seed after removal. Maintaining healthy, competitive vegetation helps reduce reinfestation, while regular monitoring is essential to detect regrowth and new seedlings from the seed bank. Cleaning equipment is also key to prevent the spread of seeds and root fragments.

Grazing: Can be an effective IPM tool in some contexts; however, due to limited information on plant response and grazing parameters, it is not currently recommended for invasive hawkweeds, including queendevil hawkweed.⁶

Mechanical: Mowing before flowering will prevent seed production of taller plants but will not inhibit vegetative reproduction. Hand digging of small infestations, ensuring all roots and stolons are removed, may be effective. Root fragments can generate new plants; therefore, any mechanical tilling/cultivation is not recommended. If manually removed while flowering, hawkweeds may still produce viable seed, so timing and disposal are important considerations to prevent seed dispersal.

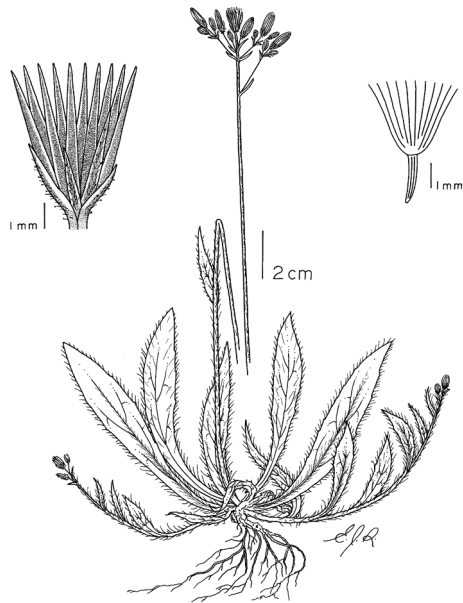
Cultural: Long-term management of hawkweeds requires maintaining healthy plant communities. Fertilizing and seeding desirable vegetation can help out-compete hawkweeds.¹ Use caution when sourcing seed for re-vegetation, reviewing the seed analysis certificate for the lot can help reduce risk of contamination. Use weed-free products where available, avoid generic wildflower seed mixes, and obtain seed certificates for large-scale seeding to assess for potential contaminants.

Chemical: Registered herbicides for managing hawkweeds in Canada may include products containing active ingredients such as 2,4-D, acetic acid, aminopyralid, aminocyclopyrachlor, chlorsulfuron, dicamba, florasulam, glyphosate, hexazinone, MCPA, metsulfuronmethyl, pelargonic acid, and picloram.⁷ Some herbicide products list specific hawkweed species on their labels, always check the product label to confirm that the herbicide is registered for use on the target plant in Canada. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

Biological: Biological control agents have been researched and released for several invasive hawkweed species, though none have been specifically studied for queendevil hawkweed. For

Queendevil Hawkweed *(continued)*

example, the stolon-tip gall wasp (*Aulacidea subterminalis*) was released in BC in 2011 and has established on whiplash hawkweed (*Pilosella flagellaris*), while the root-feeding hoverfly (*Cheilosia urbana*) has been released to target multiple hawkweed species but has not yet established.⁸ Research into additional agents for invasive hawkweeds is ongoing.



Illustrated Flora of British Columbia Volumes 1–8, eds. G.W. Douglas; Stroley, G.B.; Meidinger, D.V.; Pojar, J. 1998–2002. Copyright Province of British Columbia. All rights reserved. Reproduced with permission of the Province of British Columbia

REFERENCES:

1. Wilson, L., S. Turner, S. Cesselli, C. Moffat, and D. Ensing. 2021. Key to identification of invasive and native hawkweeds in the Pacific Northwest. Fourth revision. B.C. Ministry of Forests, Range Branch, Kamloops, British Columbia, Canada.
2. Moffat, C.E., De Clerck-Floate, R.A., J. Littlefield, and G. Cortat. 2023. Hawkweeds (*Pilosella* spp.): History and Ecology in North America. In: R.L. Winston, Ed. Biological Control of Weeds in North America. North American Invasive Species Management Association, Milwaukee, WI. NAISMA-BCW-2023-36HAWKWEEDS-P.
3. Moffat, C. E., D. J. Ensing, J. F. Gaskin, R. A. De Clerck-Floate, and J. Pither. 2015. Morphology delimits more species than molecular genetic clusters of invasive *Pilosella*. *American Journal of Botany* 102:1145–1159. <https://doi.org/10.3732/ajb.1400466>
4. Alberta Invasive Species Council. 2022. Update to the costs of invasive species in Alberta. Alberta Invasive Species Council, Sherwood Park, Alberta, Canada.
5. Frid, L., D. Knowler, C. Murray, J. Myers, and L. Scott. 2009. Economic impacts of invasive plants in British Columbia. Prepared for the Invasive Plant Council of British Columbia by ESSA Technologies Ltd., Vancouver, British Columbia, Canada.
6. Michalsky, S., M. Neville, and A. J. Miller. 2022. Targeted grazing: plant and animal interactions. Paskwa Consultants Ltd., Gramineae Services Ltd., and Palouse Rangeland Consulting. Prepared for the Grassland Restoration Forum.
7. Alberta Grains. 2025. Crop protection guide 2025. Alberta Grains, Alberta, Canada.
8. De Clerck-Floate, R. A., G. Cortat, S. C. Turner, and C. E. Moffat. 2024. *Pilosella* spp., hawkweeds / piloselles (Asteraceae). Pages 543–558 in M. A. Vankosky and V. Martel, editors. Biological control programmes in Canada, 2013–2023. CABI.

