



# Marsh Thistle

*Cirsium palustre* (Aka marsh plume thistle, European swamp thistle)

Alberta Regulation:  
Prohibited Noxious



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## Overview:

Marsh thistle is a biennial or short-lived perennial native to Europe. How it was introduced is unknown. It was first collected in the eastern U.S. in 1902, Newfoundland in 1910, and spread steadily west since.<sup>1</sup> It can form very tall (up to 3 m), spiny stands in moist forest openings. It has the potential to spread and inhabit openings throughout the Boreal forest.<sup>2</sup>

Marsh thistle forms a basal rosette of leaves in its first year of growth and then produces a flowering stalk in the second growing season. It has a fibrous root system.<sup>3</sup> All plants die after seed set (monocarpic).<sup>1</sup> Seeds germinate early spring and rosettes grow quickly, filling the surrounding area. These large disks of leaves exclude other plant species and provide a 'nursery' for seedlings at their margins. Marsh thistle seed germination is inhibited by shade and plant cover.<sup>1</sup>

Marsh thistle rosettes must reach a sufficient size (at least 20 cm) for flowering stalks to be produced. Limiting factors such as light, moisture, crowding and competition can

result in plants which remain in the rosette stage for 2-3 years until better conditions facilitate flowering. Shading also affects flowering, with significantly fewer flowers or sporadic flowers being produced.<sup>1</sup>

Flowers can self-pollinate or be insect pollinated. Cross-pollinated seeds are produced in greater numbers. Marsh thistle produces two types of seeds – one better adapted to survival close to parent plants, the other better adapted to colonizing new sites. 300-2000 seeds can be produced by a single plant.<sup>1</sup>

## Habitat:

Marsh thistle grows in wet sand, sandy clay, and clay or gravelly-sandy-clay soils. It prefers acidic soils and can grow on low-nutrient soils.<sup>1</sup>

## Identification:

**Stems:** Are single, erect, strongly spiny-winged at leaf bases, and sometimes with ascending branches.<sup>1</sup> Stems grow 0.2-2.0 m, sometimes 3 m tall.<sup>2</sup>

**Leaves:** Are narrowly elliptic, 15-30+ x 3-10 cm, margins are deeply lobed, with spines 2-6 mm.<sup>2</sup> Leaf surfaces are smooth to soft-hairy above and lightly to densely long-hairy below.<sup>1</sup> Leaves are sessile (no petiole) and are gradually reduced and become widely spaced up the stem.<sup>2</sup>

**Flowers:** Few to many flower heads are borne in dense clusters at branch tips. Flowers are purple (rarely white). 2 Involucres (flower base) are egg-shaped to cylindrical, 1-1.5 cm tall, and covered with bracts often tipped with a sharp, pointed spine. Bracts are sparsely to densely covered with white, cobwebby hairs, the outer bracts often sticky.<sup>1</sup> Seeds are tan to straw-coloured, 2.5-3.5 mm long, with a pappus 9-11 mm long.<sup>2</sup>

## Prevention:

Marsh thistle seeds can be dispersed by wind, water, and in soil attached to foot traffic, but most fall near the parent plant.<sup>1</sup> Learn to recognize marsh thistle and control new infestations quickly.

## Control:

continued next page

# Marsh Thistle (Continued)

**Grazing:** Not recommended. Grazing appears to limit the development of marsh thistle, primarily through rosette trampling, but can also create ideal sites for germination<sup>1</sup> and spread seed. Invasive plants should never be considered as forage.

**Mechanical:** Mowing before flowering will prevent seed production. Small infestations can be hand pulled before flowering.<sup>3</sup>

**Chemical:** Currently no selective herbicides are registered for use on marsh thistle. Always check product labels to ensure the herbicide is registered for use on the target plant in Canada by the Pest Management Regulatory Agency. Always read and follow label directions. Consult your local Agricultural Fieldman or Certified Pesticide Dispenser for more information.

**Biological:** A weevil (*Rhinocyllus conicus*) introduced as biocontrol for another thistle species has successfully established on marsh thistle in B.C.<sup>3</sup>



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## REFERENCES

- 1 Fraser, Nancy. 2000. *Cirsium palustre* (marsh Thistle). Literature Search and Habitat Potential Risk Analysis. [www.for.gov.bc.ca/hra/Publications/invasive\\_plants/marshplumethistleassessment2000.pdf](http://www.for.gov.bc.ca/hra/Publications/invasive_plants/marshplumethistleassessment2000.pdf)
- 2 *Cirsium palustre* in *Flora of North America*. [www.efloras.org](http://www.efloras.org)
- 3 Marsh Plume Thistle. A Guide to Weeds in British Columbia. [www.weedsbc.ca](http://www.weedsbc.ca)