

bull thistle

Cirsium vulgare (Savi) Ten.

Synonyms: *Carduus lanceolatus* L, *Carduus vulgaris* Savi, *Cirsium lanceolatum* (L.) Scop. non Hill, *C. lanceolatum* var. *hypoleucum* DC.

Other common names: common thistle, spear thistle

Family: Asteraceae

Invasiveness Rank: 61 The invasiveness rank is calculated based on a species' ecological impacts, biological attributes, distribution, and response to control measures. The ranks are scaled from 0 to 100, with 0 representing a plant that poses no threat to native ecosystems and 100 representing a plant that poses a major threat to native ecosystems.

Description

Bull thistle is a biennial plant that grows 61 to 152½ cm tall from short, fleshy taproots. Stems are conspicuously winged, many-branched, green or brown, and sparsely hairy. Leaves are pinnately lobed, hairy, prickly on the upper side, and cottony on the lower side. Leaf blades extend down the petiole and along the stem, forming long, prickly wings. Flower heads are 2½ to 5 cm wide and are composed of deep purple florets. Each seed has a pappus of feathery bristles (Hultén 1968, Whitson et al. 2000).



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Similar species: Bull thistle is the only large-headed thistle with prickly, winged stems in Alaska.

Ecological Impact

Impact on community composition, structure, and interactions: Bull thistle competes with native species for soil moisture and nutrients. It displaces native plant species, decreasing foraging sites for grazing animals.

Impact on ecosystem processes: The impacts of bull thistle on ecosystem processes are unknown.

Biology and Invasive Potential

Reproductive potential: Bull thistle reproduces only by seeds. Cross-pollination is required to produce fertile seeds; a wide variety of insects pollinate bull thistle. The mean seed production of bull thistle is 4,000 seeds per plant. Up to 90% of the seeds produced by bull thistle germinate within a year. Bull thistle does not form persistent seed banks (Klinkhamer and De Jong 1988).

Role of disturbance in establishment: Disturbances greatly favor the establishment of bull thistle.

Potential for long-distance dispersal: Most seeds land within 91 cm of the parent plant, but up to 10% are transported long distances by wind (Klinkhamer et al. 1988).

Potential to be spread by human activity: Bull thistle can be spread by the movement of livestock, vehicles, farm machines, hay, and crop seed.

Germination requirements: Germination is stimulated by soil moisture and light. Seeds germinate well in a wide range of temperatures. Seeds have no innate dormancy; most seeds germinate in spring.

Growth requirements: Bull thistle is most common on soil with intermediate moisture. It tolerates a wide range of soil pH.

Congeneric weeds: Canada thistle (*Cirsium arvense*), prairie thistle (*C. canescens*), meadow thistle (*C. scariosum*), Flodman's thistle (*C. flodmanii*), Japanese thistle (*C. japonicum*), yellowspine thistle (*C. ochrocentrum*), marsh thistle (*C. palustre*), and wavyleaf thistle (*C. undulatum*) are each considered

noxious weeds in one or more states of the U.S. or provinces of Canada (Invaders 2010, USDA 2010).

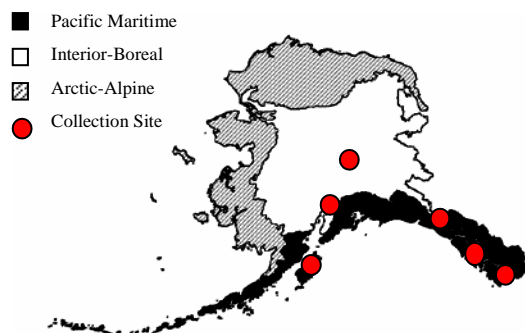
Legal Listings

- Has not been declared noxious
- Listed noxious in Alaska
- Listed noxious by other states (AR, CO, IA, KS, MA, MI, MN, NM, OR, PA, WA)
- Federal noxious weed
- Listed noxious in Canada or other countries (MB, ON)

Distribution and Abundance

Bull thistle is most common in recently or repeatedly disturbed areas such as pastures, rangelands, roadsides, and ditches. However, it can also colonize areas in relatively undisturbed grasslands, meadows, and forest openings.

Native and current distribution: Bull thistle is native to Europe, western Asia, and northern Africa. It has naturalized throughout the United States, in southern Canada, and on every continent except Antarctica. It was probably introduced to North America as a contaminant in seed or ballast in the late 19th century. Bull thistle has been documented from the Pacific Maritime and Interior-Boreal ecogeographic regions of Alaska (Hultén 1968, AKEPIC 2010, UAM 2010).



Distribution of bull thistle in Alaska.

Management

Bull thistle does not withstand cultivation. Cutting plants at the soil surface is an effective method of control. Control programs should be maintained for at least 4 years. Bull thistle is relatively easy to control with herbicides. Two USDA approved insects have been successful at controlling bull thistle populations in California. A variety of natural seed predators are present in The Netherlands; it is unknown, however, if they are also present in North America (Klinkhamer et al. 1988).

References:

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- Whitson, T. D., L. C. Burrill, S. A. Dewey, D. W. Cudney, B. E. Nelson, R. D. Lee, R. Parker. 2000. Weeds of the West. The Western Society of Weed Science in cooperation with the Western United States Land Grant Universities, Cooperative Extension Services. University of Wyoming. Laramie, Wyoming. 630 pp.