

Lupinus densiflorus

English name dense-flowered lupine

Scientific name *Lupinus densiflorus*

Family Fabaceae (Pea)

Other scientific names *Lupinus densiflorus* var. *scopulorum*; *Lupinus microcarpus* var. *scopulorum*

Risk status

BC: critically imperilled (S1); red-listed

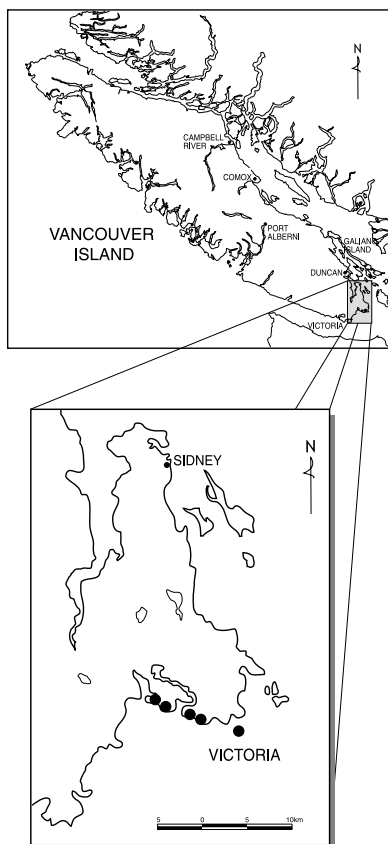
Canada: endangered (N1)

Global: stable/apparently secure (G5T4)

Elsewhere: Washington – vulnerable (S3?); California and Oregon – reported (SR)

Range/Known distribution

Dense-flowered lupine occurs in British Columbia only in the Victoria area. It also occurs in northwest Washington state and in Oregon, California, and Baja California. In British Columbia, there are currently six known occurrences and two unconfirmed historic localities.



Distribution of *Lupinus densiflorus*

● recently confirmed sites

Lupinus densiflorus

Field description

A white to yellowish annual herb from a taproot. The stems are erect to spreading, 20-30 cm tall, with a hollow-cylindric base. They are generally branched, and covered in soft-spreading hairs. There are basal and stem leaves that alternate along the stem, with many of them clustered toward the top. Leaves are palmately compound and are attached by the very hairy leaf stalks that are several times as long as the leaf blades. Elliptical leaflets number 8 to 10, are 1.5-3 cm long, and have sharp-pointed to blunt tips. Leaflets are glabrous (smooth) above but bear soft-spreading-hairs below. The flower head is a terminal raceme (flowers arranged on a single axis) of whorled pea-like flowers. Flowers are white to yellowish-white, often tinged with pink and 1-1.5 cm long. All flower parts tend to persist as dried membranes around the pod. The fruit is a pod, 1.5-2 cm long, egg-diamond-shaped, covered in stiff hairs. There are generally two seeds per pod. Seeds are brownish and 4-6 mm long.

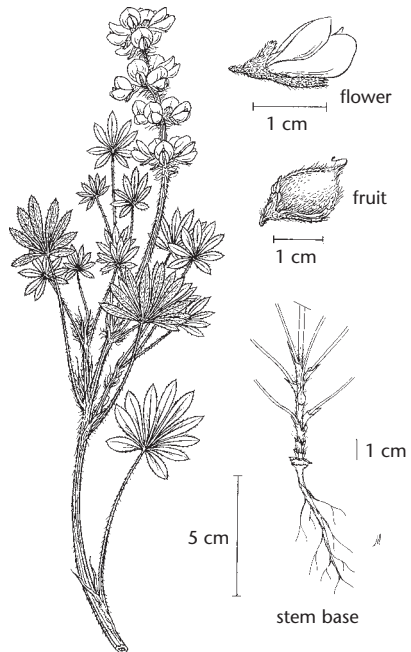
IDENTIFICATION TIPS

The white to yellowish-white pea-like flowers and the whorled arrangement of the flowers along the axis distinguish this species from the other annual lupines such as two-coloured lupine (*L. bicolor*). The hairiness of this plant gives it an overall greyish to light green colour such that it stands out among other herbaceous plants.



Hans Reemer

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Life history

Lupinus densiflorus is an annual species with some seeds germinating in the fall and some seeds remaining dormant over winter on the soil surface to potentially germinate in the spring. Those that germinate in the fall overwinter either in the cotyledon stage or develop a few emergent primary leaves. Flowering occurs from May until October with seed set starting in July. Seeds are dispersed by gravity, but birds and small mammals, which consume the seeds, may assist in secondary dispersal. *L. densiflorus* is presumed to be either self-pollinated or to be cross-pollinated by bees.

Habitat

Lupinus densiflorus inhabits dry to moist grassy openings, clay cliffs and gently eroding grassy banks above the seashore, usually with a south or west facing exposure. Shrubs on these upper eroding slopes include Nootka rose (*Rosa nutkana*) and snowberry (*Symphoricarpos albus*). Associated native herbaceous perennials include nodding onion (*Allium cernuum*), sea thrift (*Armeria maritima*), harvest brodiaea (*Brodiaea coronaria*), common camas (*Camassia quamash*), California oatgrass (*Danthonia californica*), red fescue (*Festuca rubra*), gumweed (*Grindelia integrifolia*), and beach pea (*Lathyrus japonicus*). Introduced grasses are prevalent at all sites. Elevations: to 13 m.

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Why the species is at risk

Populations persist on eroding seaside bluffs within federal lands, municipal parks, and provincial ecological reserves. These sites are susceptible to both soil erosion and trampling by humans. As well, potential habitat for dense-flowered lupine is altered by park maintenance practices such as landscaping, fertilizing of lawns, thatching and mowing. Although seeds are produced abundantly, there are few suitable germination sites at localities such as Macaulay Point and Beacon Hill because of unfavourable slope position. The gravity-dispersed seeds fall below the parent populations, which are situated on the lower and toe portions of cliffs, where germinating seedlings are flooded during winter high tides. Other seeds land in crevices in the exposed parent material above the tide line, or in the clay-based soil of the lower slopes where they can germinate and persist. This latter habitat is severely limited in extent and is also affected by competition from other plant species.

What you can do to help this species

Management practices should be tailored to the needs of the site. Potential management tools will depend on the specific circumstances and may require experimentation prior to implementation. **Before taking any action, expert advice must be obtained and no action taken without it. Please refer to the introductory section of this manual.**

References

- Dunn, D. B. 1956. The breeding systems of *Lupinus*, group *micranthi*. Amer. Midl.-Nat. 55:443-472.
- Dunn, D.B. & J.M. Gillett. 1966. The lupines of Canada and Alaska. Can. Dept. of Agric. Res. Branch Monogr. 2.
- Ford, S. Stewardship Account: *Lupinus densiflorus* (Dense-flowered Lupine). Garry Oak Ecosystems Recovery Team, Victoria, British Columbia.
- Neilson, J.A. Jr. 1964. The autecology of *Lupinus densiflorus* Benth.; some aspects of its relation to the plants that occur with it, and a review of its taxonomic position in the genus. Ph.D. diss., Univ. Calif. (Davis).

For further information, contact the Garry Oak Ecosystems Recovery Team, or see the web site at: www.goert.ca.

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