

BC's Coast Region: Species & Ecosystems of Conservation Concern

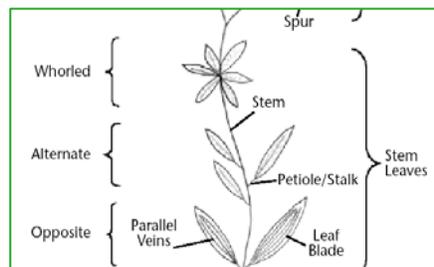
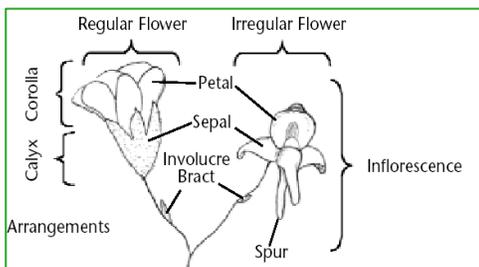
Prairie Lupine (*Lupinus lepidus*)

Global: G5 Provincial: S1 COSEWIC: E, BC List: Red



Notes on *Lupinus lepidus*: A member of the family Fabaceae (“pea”), this species is also referred to as “Pacific lupine.” It is generally the only recognized form of prairie lupine in Canada. Lupines, as with most members of the pea family are adept at fixing nitrogen from the atmosphere into ammonia via “rhizobium-root nodule symbiosis.” Their root nodules host nitrogen fixing bacteria, fertilizing the soil for other plants. This adaptation allows lupines to grow in poor soils as well as being pioneers in changing soil quality to support other plant species.

Plant Anatomy



Description

Height 20-45 cm. A perennial herb, multiple stems arise from a thick, woody stem-base. The flower spikes and leaves may be erect or lay somewhat flat along ground. Stems are slender and covered in fine white hairs giving them a silky-textured appearance. Leaves are found mainly at the base of the stems on 10-16 cm stalks divided into 6-10 lobes that diverge from a central point and fold upward. As with stems, leaves are covered in fine hairs. The flowers are arranged in whorls along a terminal spike. The 1-1.3 cm long flowers are blue, light purple or sometimes white. As with other lupines, the fruit takes the form of stiff dark hairy pods. Pods are 10-30 cm in length, containing 2-4 seeds each.

Look's Like?

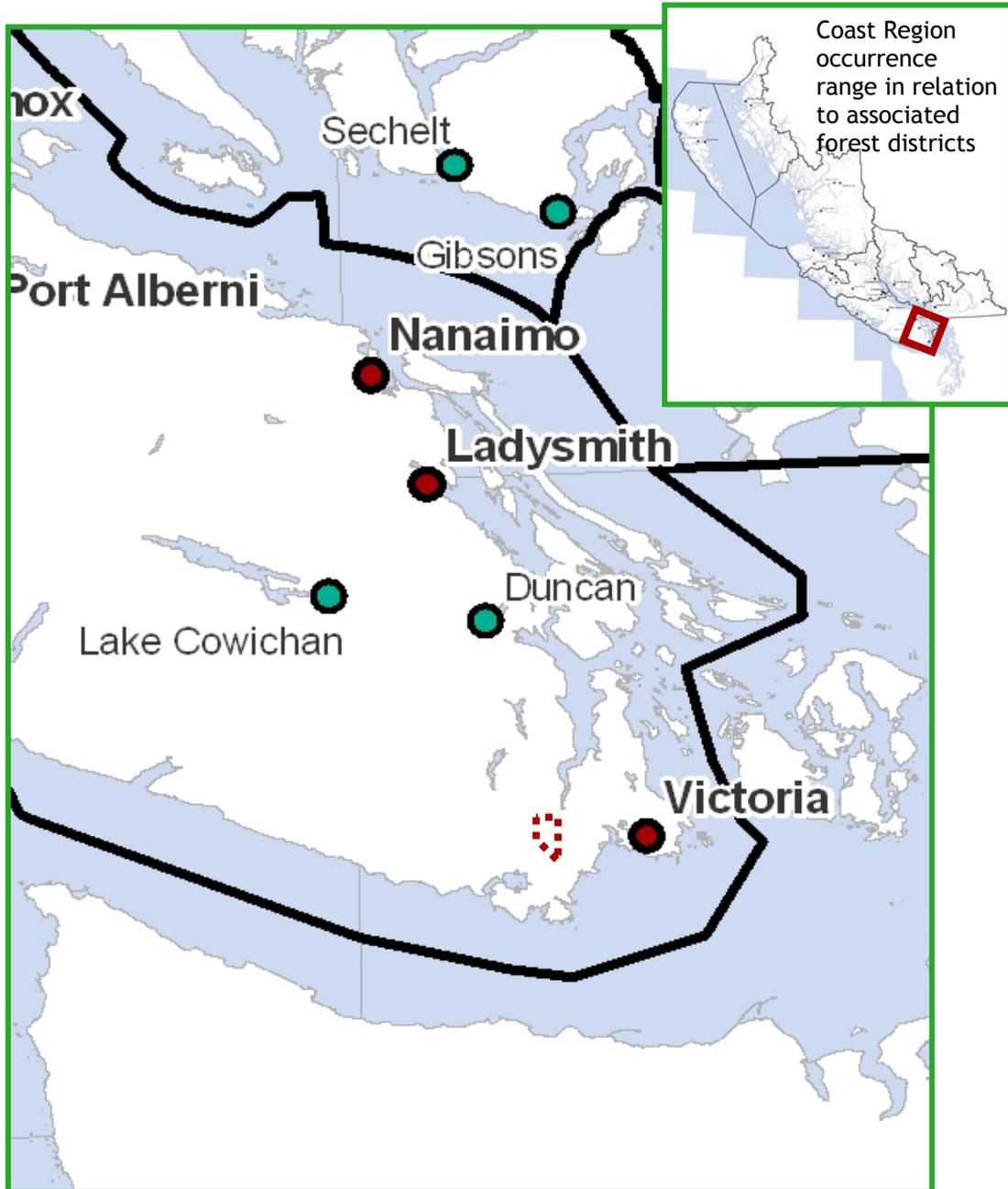
Other species such as small flowered lupine do overlap in distribution and could be mistaken for *L. lepidus* through casual observation. However prairie lupine is generally the only low growing, ground spreading lupine associated with Garry oak ecosystems on southeast Vancouver Island. Most other lupine species on Vancouver Island occur in higher elevation areas or are introduced ornamental varieties.



Small Flowered Lupine

Distribution

Elevations: 0-420 m. In the Pacific Northwest, prairie lupine occurs west of the Cascades in Oregon, Washington and the southeastern portion of Vancouver Island. Its historic distribution on southeastern Vancouver Island was in association with Coastal Douglas-fir/Garry oak ecosystems just north of Duncan, south to Oak Bay and west to Langford. Its current range is restricted to two populations in the Sooke hills area of Langford and Metchosin. National Herbarium of Canada records indicate occurrences from the eastern portion of the Lower Fraser Valley on the Lower Mainland, however these were likely misidentifications.



Prairie Lupine (*Lupinus lepidus*), known range of population occurrences (red-dotted line) for the Coast Region

Habitat Preferences

Prairie lupine grows with a variety of shrubs including species of snowberry, ocean spray and dull Oregon grape as well as herbaceous plants and species of fescue, mosses and lichens. Populations in BC occur in association with wind-swept hilltops or ledges in steeply sloping terrain.



Critical Features

This species has a narrow habitat range requiring droughty, gravelly to loamy soil in open grasslands, conditions that may limit competition from other species. Historically these sites would have been maintained through periodic low intensity fire regimes.

This species is associated with very dry exposed aspects of rocky well-drained shallow soils found in association with Garry oak woodlands and meadows.

Seasonal Life Cycle

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
			Germination and seedling development early spring through fall, flowering from mid-June to July									
Seeds set mid-July, seeds actively dispersed short distances. Seed bank can persist for several years												

Scarification (abrasion) of seeds enhances germination success. Seed set is high (60-70%) in medium to large plants but low (0-10%) in small plants.

Threats

- ◆ The preferred ecological associations of this species are geographically limited and subject to urban development and associated habitat loss
- ◆ Disturbance, trampling and picking from outdoor recreation activities.
- ◆ Competition for nutrients and shading from associated vascular plants and subsequently expansion of other more shade tolerant species.
- ◆ Fire suppression has led to increased spread and encroachment of competitive plant species (i.e. shrubs) including native and introduced species.

Conservation & Management Objectives

- ◆ Apply conservation and management objectives for this species as set out in the “COSEWIC Assessment and Update Status Report on the Prairie Lupine *Lupinus Lepidus* in Canada and Species at Risk in Garry Oak and Associated Ecosystems in British Columbia. 2008. *Lupinus Lepidus*. Further applications for identification and protection of critical habitat may found in association with species described in the “Recovery Strategy for Multi-Species at Risk in Garry Oak Woodlands in Canada.
- ◆ Collection activities should be limited and apply practices identified in the Province’s “Voucher Specimen Collection, Preparation, Identification and Storage Protocol: Plants & Fungi.” Inventory activities should consider approaches and references identified in E-Flora’s Protocols For Rare Vascular Plant Surveys.

Specific activities should include:

- ◆ Assess actual level and extent of threats to existing populations.
- ◆ A targeted inventory is needed to determine if undiscovered populations exist elsewhere within the Coast Region.
- ◆ Conduct outreach to raise awareness of this species and how to identify it to improve distribution knowledge.
- ◆ Monitor existing populations on an ongoing basis to assess viability and reduce potential disturbance from land use activities.
- ◆ Where suitable habitat occurs, work with land managers and land owners to ensure development or recreational activities do not disturb or encroach on sensitive areas.
- ◆ Suitable areas need to be identified for reintroduction or population enhancement.
- ◆ Effective long-term control and reduction in competition from invasive or aggressively spreading vascular plants (e.g. invasive grasses) must form part of strategies to protect and recover populations. Disturbance to rare plant species and communities must be minimized during control activities.

This species is listed under the Federal Species at Risk Act (SARA) and may be subject to protections and prohibitions under the BC Wildlife Act. Habitat for this species may also be governed under provincial and federal regulations including the Fish Protection Act and Federal Fisheries Act as well as Regional and local municipal bylaws.

Content for this Factsheet has been derived from the following sources

- B.C. Conservation Data Centre. 2010. [Internet] [Updated October 23 2008] Conservation Status Report: *Lupinus lepidus*. B.C. MoE.
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- Ministry of Environment, Lands and Parks Resources Inventory Branch. 1999. [Internet] Voucher Specimen Collection, Preparation, Identification and Storage Protocol: Plants & Fungi. Standards for Components of British Columbia's Biodiversity No. 4b
- Polster, D. et al. 2006. [Internet] Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia. Prepared for the BC Ministry of Environment. Victoria (BC).
- Proulx, Gilbert et al. 2003. A Field Guide to Species at Risk in the Coast Forest Region of British Columbia. Published by International Forest Products and BC Ministry of Environment. Victoria (BC).
- USDA /NRCS. 2010. [Internet] The PLANTS Database

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Every effort has been made to ensure content accuracy. Comments or corrections should be directed to the South Coast Conservation Program: info@sccp.ca. Content updated August 2010.

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