

Geranium molle

DOVEFOOT GERANIUM

ENGLISH NAMES Dovefoot geranium,
dovefoot crane's-bill
SCIENTIFIC NAME *Geranium molle*
FAMILY Geraniaceae (Geranium)



Photo Credit: © JAMIE FENNEMAN/E-FLORA BC

Dovefoot geranium is a low-growing annual or perennial herb with small pink flowers and sharply toothed leaves.

RANGE/KNOWN DISTRIBUTION

Dovefoot geranium is native to Eurasia and has been introduced to western and eastern North America. It is commonly found throughout southwestern British Columbia, including southeastern Vancouver Island and the Gulf Islands, becoming less common up the coast. This distribution overlaps the range of Garry oak and associated ecosystems in British Columbia.

IMPACTS ON GARRY OAK AND ASSOCIATED ECOSYSTEMS

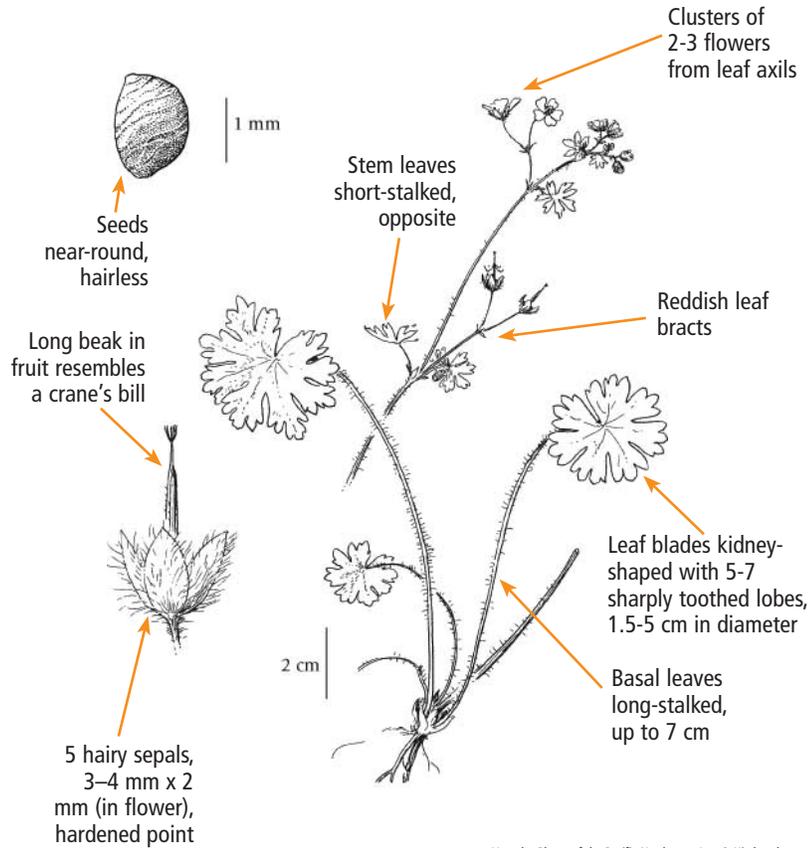
Dovefoot geranium spreads aggressively across the ground by its branching and creeping stems. This spreading cover can shade out and prevent the establishment of native species. This can significantly change the plant composition in Garry oak ecosystems, reducing available habitats and food sources for some rare plant and animal species. Non-native species can also be a medium for the introduction of harmful fungi, viruses and nematodes.

FIELD DESCRIPTION

Dovefoot geranium is a low-growing forb from a taproot. Multiple stems and most (basal) leaves grow from the base. The plant's branched stems grow erect to 10-40 cm tall. The stems, reddish towards the base, are densely covered in stiff white hairs. The leaf stalks, also hairy, are longer in the basal leaves and shorter in the stem leaves. The leaves are dull green with ciliate edges.

The flowers are 7-13 mm in diameter and have 5 dark pink petals that are mostly hairless but for a few basal cilia. The petals are elliptical, widening and clearly notched at the apex. The sepals are slightly shorter than the petals, and keep growing after flowering. The pistils are smooth, hairless and cross-wrinkled. The 5 purple-tipped

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Vascular Plants of the Pacific Northwest, Leo C. Hitchcock; Arthur Cronquist, and Mario Ownbey, illustrations by Jeanne R. Janish. Published by the University of Washington Press (1969).

styles are around 3 mm long during flowering and continue growing afterwards up to 8 mm. There are 10 erect, fertile stamens that are fused basally and all have two-lobed, purple anthers, around 1 mm in size.

Dovefoot geranium is similar to cutleaf geranium (*G. dissectum*), which is distinguished by its narrower leaf segments.

LIFE HISTORY

Dovefoot geranium is an annual or perennial herb. Flowering occurs from April to September. Flowers are hermaphroditic and are primarily self-fertilized. After flowering, both styles and sepals

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continue to grow. Seeds are dispersed from June to October, primarily by an explosive expulsion and rarely by fauna. Dovefoot geranium seeds are persistent in the seed bank and they can remain dormant for greater than five years.

HABITAT

Dovefoot geranium can tolerate a wide range of soil types (eg. sandy to clay, acidic to basic) but requires dry to very dry and well drained soils. In British Columbia, it grows at elevations of 125 to 250 metres on gentle to moderate slopes with southerly aspects. It is found in open areas as it requires plenty of sunlight and does not tolerate shade. Typical habitats include grasslands, open forests, lawns, agricultural fields, bare ground and disturbed areas.

MANAGEMENT

Develop a long-term, realistic program for invasive species removal before undertaking any work. Before taking action, obtain expert advice. Please refer to the introductory section of this manual.

PHYSICAL CONTROL: Dovefoot geranium can be controlled by manual pulling or careful hoeing if done prior to the first seed set. If the infestation has already gone to seed, repeated treatment will be required for as many as five years, as long as seeds continue to germinate. This can quickly become very labour intensive.

BIOLOGICAL CONTROL: No known biological agents are available.

CHEMICAL CONTROL: Studies have found the herbicides glufosinate and glyphosate to be effective at controlling dovefoot geranium when applied to young, actively growing plants and prior to flowering. The plant was resistant to both herbicides when applied on older plants. In another study, the herbicide Poast was reported to be successful at controlling non-native grasses, while at the same time resulting in a dramatic increase in dovefoot geranium. *Herbicides should only be used with extreme caution, and under expert advice, in sensitive Garry oak ecosystems.*

OTHER TECHNIQUES: Burning is not known to have any effect on dovefoot geranium. Cover remained unchanged following repeated burning in a coastal prairie in California.

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PREVENTATIVE MEASURES: Soil disturbance should be avoided in natural areas. Encourage plant nurseries and gardeners to stock and use native or non-invasive species, and to avoid using non-native species such as dovefoot geranium. Equipment, clothing and animals should be checked and cleared for seeds when leaving an infested area.

PERSISTENCE: Dovefoot geranium seeds are persistent and can remain dormant in the seed bank for greater than five years.

SELECT REFERENCES

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A comprehensive annotated bibliography of literature specific to dovefoot geranium is available at www.goert.ca.

For more information contact the Garry Oak Ecosystems Recovery Team, or see the website at www.goert.ca