

Hedysarum occidentale Greene

western sweetvetch
Fabaceae (Pea Family)

Status: State Sensitive

Rank: G5S1

General Description: Adapted from Hitchcock et al. (1961), and Cronquist et al. (1989) : *Hedysarum occidentale* is an herbaceous perennial with several stems 15 to 32 in. (4-8 dm) tall arising from a woody base. The stems are usually branched above, sparsely covered with short hairs, and greenish. The leafy bracts (stipules) at the base of the leaf stalks are brown, papery and up to 1 ¼ in. (3 cm) long. The lowest bracts are longer and more fused, while the upper bracts are freer. Each 3 to 7 in. (7-17 cm) compound leaf has 9 to 21 leaflets ½ to 1 ¼ in. (1-3 cm) long that are lanceolate to elliptic or ovate in shape with a tip that ranges from a sharp point to being slightly notched. The leaflets have minute brownish depressions on the upper surface, and are smooth to thinly soft-hairy beneath. The flower stalk is 4 to 12 in. (1-3 dm) long and has 20-80 nodding rose-pink to magenta-purple flowers 5/8 to 7/8 in. (16-22 mm) long. The lower fused petal is 5/8 to ¾ in. (15-19 mm) long, while the upper petal and flared wings are slightly shorter. The fruit is smooth to very short-hairy and ¼ to ½ in. (7-12 mm) broad with 1 to 5 chambers and sharp-edged, irregular wing-margins.

Identification Tips: *Hedysarum occidentale* is the only species of this genus likely to occur in western Washington. The pea family is very large, but there are several characteristic traits of *Hedysarum occidentale* that will distinguish it from all others of the pea family. It is herbaceous, has compound leaves with opposite leaflets, and purple to pink-purple flowers. This species is most recognizable by its fruit, which is strongly flattened, smooth or short-hairy, and constricted between seeds. The pods open crosswise rather than opening lengthwise as do most other members of the pea family.

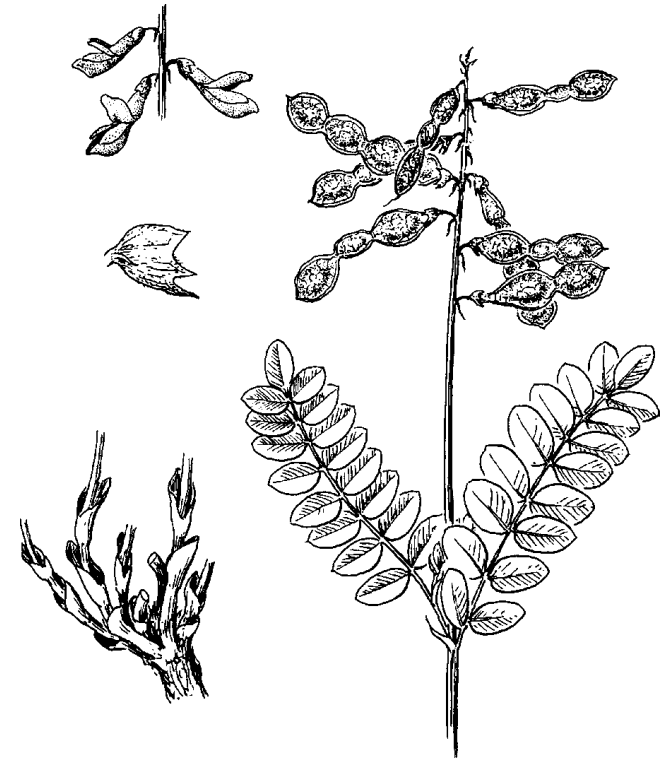
Phenology: This species is identifiable June through September, and was observed blooming in Washington in late June.

Range: This species is distributed from Idaho and Montana and south to Wyoming and Colorado. It is also rarely found in the Cascades and is disjunct in the Olympic Mountains. Occurrences have been noted in Clallam, Jefferson, Grays Harbor, Mason, Cowlitz, Walla Walla, Skamania, and Clark counties.

Habitat: *Hedysarum occidentale* can be found in meadows, shrub-fields, bare rock outcrops, boulder-fields, and talus-slopes at an

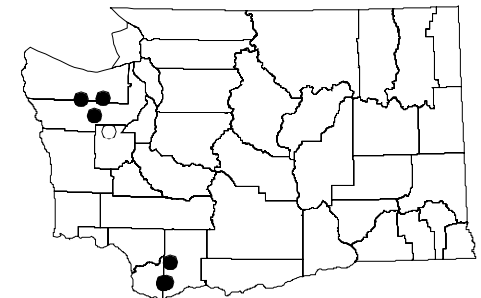
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Known distribution of
Hedysarum
occidentale
in Washington



● Current (1980+)
○ Historic (older than 1980)

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Photo by Chris Chappell



Photo by Chris Chappell

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elevation of 3150 to 6500 feet (960-1980 m) in Washington. Associated herbaceous species found in Skamania County include red columbine (*Aquilegia formosa*), goatsbeard (*Aruncus sylvestris*), fireweed (*Epilobium angustifolium*), western featherbells (*Stenanthium occidentale*), spreading phlox (*Phlox diffusa*), common hawkweed (*Hieracium vulgatum*), and false Solomon's seal (*Smilacina racemosa*), vine maple (*Acer circinatum*), square twig blueberry (*Vaccinium membranaceum*), and thimbleberry (*Rubus parviflorus*).

Ecology: According to Kaye (1997), seeds of *Hedysarum occidentale* requires ripening and scarification in order to germinate.

State Status Comments: This species is known from less than ten occurrences in Washington. The small number of populations contributes to its state sensitive status.

Inventory Needs: Rocky, exposed sites in the Cascade and Olympic mountains should be investigated.

Threats and Management Concerns: Recreational activity may pose a threat to some populations. The weedy common hawkweed (*Hieracium vulgatum*), has often been found in association with *Hedysarum occidentale* and may pose a threat.

References:

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- Hitchcock, C.L., A. Cronquist, M. Ownbey, J.W. Thompson. 1961. *Vascular Plants of the Pacific Northwest Part 3: Saxifragaceae to Ericaceae.* University of Washington Press, Seattle, WA. 614 pp.
- Kaye, T.N. 1997. Seed dormancy in high elevation plants: implications for ecology and restoration. Pages 115-120 in T.N. Kay, A. Liston, R.M. Love, D.L. Luoma, R. J. Meinke, and M.V. Wilson, editors. *Conservation and Management of Native Plants and Fungi.* Native Plant Society of Oregon, Corvallis, Oregon.