

SPALDING'S CATCHFLY

Silene spaldingii S. Watson
Plant Symbol = SISP2

Contributed by: USDA NRCS Idaho Plant Materials Program



Figure 1. Spalding's catchfly. Photo by C. Menke.

Alternate Names

Spalding's campion
Spalding's silene

Status

Spalding's catchfly was listed as threatened by the US Department of the Interior, Fish and Wildlife Service in 2001. It is listed in Idaho as threatened (State of Idaho, 2009) and endangered in Oregon (Oregon Department of Agriculture, 2009). In Washington state it is considered threatened with a status of S2 (Washington State, 2010), and in Montana it has a rank of S1 (Montana Natural Heritage Program, 2010). Natureserve ranks it G2, Globally imperiled, with a US national status of N2, and Canada national status N1 (Natureserve, 2010). It is listed as endangered in Canada (Government of Canada, 2010).

Description

General: Carnation or pink family (Caryophyllaceae). Spalding's catchfly is a long-lived perennial forb that emerges in spring from a woody root crown and dies back to below ground level each fall. Plants range from 8 to 30 inches tall with generally one to few yellow-green stems per plant. Each stem bears four to seven (up to 12) pairs of 2- 3 inch long, lance-shaped leaves (Hitchcock et al., 1964). It has swollen nodes where the leaves attach to the stem. The plant is covered in dense sticky hairs that frequently trap dust and insects, hence the common name catchfly. Flowers have a tubular calyx approximately 0.6 inches long; the pale white petals extend slightly beyond the sepals. Flowers bloom from mid-July through August and sometimes into September. It may remain dormant for 3- 6 consecutive years without emerging. The plant has a very large taproot (3 ft or longer).

Distribution:

Spalding's catchfly is native to portions of Idaho, Montana, Oregon, Washington, and British Columbia, Canada. It occupies five physiographic regions: the Palouse Grasslands in west-central Idaho and southeastern Washington; the Channeled Scablands in eastern Washington; the Blue Mountain Basins in northeastern Oregon; the Canyon Grasslands of the Snake River and its tributaries in Idaho, Oregon, and Washington; and the intermountain valleys of northwestern Montana. There are currently 99 known populations of Spalding's catchfly, 66 populations are composed of fewer than 100 individuals each. Twenty-three populations contain 100 or more individuals apiece, and the 10 largest populations are each made up of more than 500 plants (USDI Fish and Wildlife Service, 2007). For current distribution, consult the Plant Profile page for this species on the PLANTS Web site.

Habitat:

The species occurs in dry to moist grasslands in bunchgrass and sagebrush-steppe habitats with Idaho fescue and bluebunch wheatgrass being the dominant components. Occasionally plants can be found in open pine habitats. (USDI Fish and Wildlife Service, 2007).

Adaptation

Plants can be found from 1900 to 3600 ft in elevation. Spalding's catchfly grows on all aspects but is most often encountered on north facing slopes.

The plants prefer sites with deep silt-loam soils (Natureserve, 2010).

Establishment

Spalding's catchfly reproduces solely by seed. It does not spread by rhizomes or other asexual means. It is partially self-compatible (Lesica & Heidel 1996), but its offspring are more fit if cross-pollinated (Lesica 1993). Bumblebees appear to be the primary pollinator (Lesica and Heidel, 1996).

Seedlings germinate in the spring, form rosettes the first year, and occasionally flower the second year. Generally flowering does not occur until the third or subsequent growing seasons. Adult plants emerge from the caudex in spring as either a stemmed plant, a rosette, or occasionally as a plant with both rosette(s) and stem(s). Stemmed plants may remain vegetative or may become reproductive in July or August. Plants senesce or wither in fall (September or October), reappearing the next spring (USDI Fish and Wildlife Service, 2007).

Laboratory studies have shown that seed germination increases following a four to eight week cold stratification period (Lesica, 1993).

Spalding's catchfly arises from a very large tap root which may be up to 3 feet deep. This greatly reduces the potential for transplanting.

Pests and Potential Problems

Threats to Spalding's catchfly primarily involve loss of habitat. This includes habitat loss due to human development, habitat degradation associated with domestic livestock and wildlife grazing, changes in fire frequency and seasonality, and invasions of aggressive non-native plants. Plants are also susceptible to herbicide spray drift and off-road vehicle use. The species may also suffer loss of genetic fitness from population fragmentation (USDA Forest Service, 2009).

Management

Recovery strategies for Spalding's catchfly involve reducing identified threats to catchfly habitat. Measures include limiting adverse grazing and off-road vehicle use, protecting pollinators, incorporating integrated pest management strategies, and appropriate fire management (USDI Fish and Wildlife Service, 2010).

References

Government of Canada. 2010. Wildlife species assessment. [Online]. Available at http://www.cosewic.gc.ca/eng/sct5/index_e.cfm

(accessed 8 Jan 2010). Committee on the status of endangered wildlife in Canada. Ottawa, Ontario.

- Lesica, P. 1993. Loss of fitness resulting from pollinator exclusion in *Silene spaldingii* (Caryophyllaceae). *Madroño* 40:193-201.
- Lesica, P., and B. Heidel. 1996. Pollination biology of *Silene spaldingii*. Unpublished report to Montana Field Office of The Nature Conservancy. Montana Natural Heritage Program, Helena, Montana. 16 p.
- Hitchcock, C. L., A. Cronquist, M. Ownbey and J. W. Thompson. 1964. Vascular plants of the Pacific Northwest, Part 2. Salicaceae to saxifragaceae. University of Washington Press, Seattle and London. 597 pp.
- Montana Natural Heritage Program. 2009. Plant species of concern. [Online]. Available at <http://mtnhp.org/SpeciesOfConcern/?AorPp> (accessed 22 Dec 2009). Helena, MT.
- NatureServe. 2010. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: January 7, 2010).
- Oregon Department of Agriculture. 2009. Oregon listed plants. [Online]. Available at <http://oregon.gov/ODA/PLANT/CONSERVATION/statelist.shtml> (accessed 30 Dec 2009). Portland, OR.
- State of Idaho. 2009. Federal threatened and endangered species in Idaho. [Online]. Available at www.species.idaho.gov (accessed 30 Dec 2009) Idaho Governor's office of conservation. Boise, ID.
- USDA Forest Service. 2009. Rare plant profile for Spalding's catchfly. [Online]. Available at http://www.fs.fed.us/wildflowers/rareplants/profiles/tep/silene_spaldingii/index.shtml (accessed on 7 Jan 2009). USDA Forest Service. Rangeland Management Botany Program. Washington DC
- USDI Fish and Wildlife Service. 2001. Endangered and threatened wildlife and plants: final rule to list *silene spaldingii* (Spalding's catchfly) as threatened. *Federal Register*. 66 (196) 51598-51606.
- USDI Fish and Wildlife Service. 2007. Recovery Plan for *Silene spaldingii* (Spalding's Catchfly). U.S. Fish and Wildlife Service, Portland, Oregon. Xiii + 187 pages.
- Washington State. 2010. List of Plants Tracked by the Washington Natural Heritage Program. [Online]. Available at <http://www1.dnr.wa.gov/nhp/refdesk/lists/plantr>

nk.html (accessed 8 Jan 2010). Washington State Department of Natural Resources. Seattle, WA.

Prepared By

Derek Tilley; Range Scientist, USDA NRCS Plant Materials Center, Aberdeen, Idaho.

Dan Ogle; Plant Materials Specialist, USDA NRCS, Boise, Idaho.

Loren St. John; Team Leader, USDA NRCS Plant Materials Center, Aberdeen, Idaho.

Citation

Tilley, D., D. Ogle, and L. St. John. 2009. Plant guide for Spalding's catchfly (*Silene spaldingii*). USDA-Natural Resources Conservation Service, Idaho Plant Materials Center. Aberdeen, ID. 83210.

Edited: 8Jan2010djt; 08Jan10 lsj; 08Jan10 dgo

For more information about this and other plants, please contact your local NRCS field office or Conservation District <<http://www.nrcs.usda.gov/>>, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."

Read about [Civil Rights at the Natural Resources Conservation Service](#).