

Trifolium thompsonii Morton

Thompson's clover
Fabaceae (Pea family)

Status: State Threatened, USFWS Species of Concern

Rank: G2S2

General Description: Thompson's clover is a taprooted perennial with several erect stems up to about 2 feet in height. The leaves are palmately compound and are composed of 3 to 8 narrow and sharply pointed leaflets which are also sharply serrulate. The flower heads consist of 30 to 100 reddish-lavender flowers. There may be several heads per plant. The heads generally extend above the leaves.

Identification Tips: Within its range, *Trifolium thompsonii* can be readily distinguished by its palmately compound leaves which have 3-8 narrow, sharply serrulate leaflets, and its unique flower color.

Phenology: Vegetative buds develop in autumn, when the freezing point is reached on a regular basis at night. The overwintering buds emerge about the end of March, when snow no longer covers the ground. Sprouting occurs in early April, when temperatures stay above freezing. Flowering begins in the middle of May and continues for approximately two months. The first seeds mature by the end of June. Some of the pods begin to dehisce shortly after seed maturation. The desiccated flowers fall off of the plants over an extended period of time.

Range: Endemic to southeastern Chelan County and adjacent Douglas County, WA. The species occurs northward from Wenatchee for approximately 20 miles, primarily west of the Columbia River. It occurs from ridgetops to canyon bottoms. It occurs within the Columbia Basin and Eastern Cascades physiographic provinces.

Habitat: *Trifolium thompsonii* occurs in a range of habitats, from open ponderosa pine (*Pinus ponderosa*) woods to areas dominated by grasses (mainly *Agropyron spicatum*) and herbs. Occasional shrubs, including big sagebrush (*Artemisia tridentata*), stiff sagebrush (*A. rigida*) and serviceberry (*Amelanchier alnifolia*) also are present. A majority of the occurrences are on the fringe of the *Pinus ponderosa* Zone. The elevation ranges from 140 feet to 3760 feet. Slope varies from

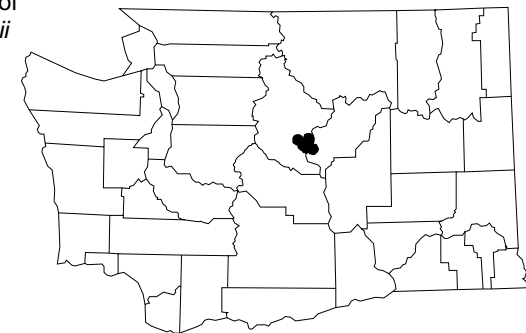
Trifolium thompsonii

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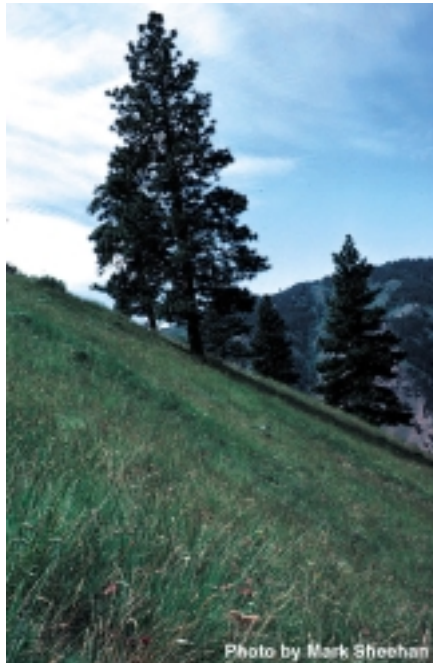
Known distribution of
Trifolium thompsonii
in Washington



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

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Habitat (continued): relatively steep to basically flat. The species grows along ridgelines, on steep slopes, alluvial fans and canyon bottoms. It also occurs on the deeper soils in areas characterized by "biscuit-swale" topography.

Ecology: *Trifolium thompsonii* is apparently limited to microsites which are intermediate between dry, well exposed, south-facing slopes and more mesic, shaded, heavily vegetated sites. Its association with nitrogen-fixing bacteria probably provides an advantage over competing vegetation in the nitrogen poor soils in which it is found. Historically, naturally occurring fires may have played a role in maintaining suitable habitat for the species.

State Status Comments: The species' limited range and relatively small number of occurrences are the primary factors affecting its status.

Inventory Needs: Appropriate habitats in Douglas County should be a priority for inventory, as should suitable habitat within the known range in Chelan County.

Threats and Management Concerns: A major threat is the continued invasion of exotic species, such as knapweed (*Centaurea diffusa*) and cheatgrass (*Bromus tectorum*), which appear to be outcompeting *Trifolium thompsonii* seedlings. Agricultural conversion, grazing, and illegal ORV use are also threats.

References:

Canfield, J.E. 1977. The ecological life history of *Trifolium thompsonii* Morton, with reference to its restricted distribution. Unpublished Masters Thesis, University of Washington. 145p.

Hitchcock, C. L., A. Cronquist, M. Ownbey, and J.W. Thompson. 1961. *Vascular Plants of the Pacific Northwest, Part 3: Saxifragaceae to Ericaceae*. University of Washington Press, Seattle. 614 pp.