Tall western penstemon
(*Penstemon hesperius*)

OREGON DEPARTMENT OF AGRICULTURE

ENDANGERED

Flower (left), habit (center), and habitat (right) of tall western penstemon. Photos by ODA staff. If downloading images from this website, please credit the photographer.

Family

Plantaginaceae

Taxonomic notes

Dr. Morton E. Peck described and named the species in 1932, and it was recognized for over two decades before being synonymized under *P. rydbergii* var. *varians* (Congquist 1959) and then *P. rydbergii* var. *oreocharis* (Holmgren 1984).

Plant description

Tall western penstemon is perennial forb typical of the genus in that it has opposite leaves, flower clusters born in axils of upper bracts, and tubular flowers (of five fused petals) with four fertile, pollen-producing anthers and a fifth sterile anther modified into a staminode (Freeman 2019). Stems and axes of the inflorescence are glabrous to pubescent, or rarely retrorsely hairy, but not pubescent, with main stems generally 50-80 cm tall, but as tall as over 1 meter. Basal and cauline leaves are glabrous and not leathery, with an entire margin, about 3-7 cm long and 1.0-1.5 cm wide, with an oblanceolate to elliptic leaf blade, entire margins, tapered base and obtuse to acute tip that is rarely mucronate. Infloresences are compact panicles with the main axis obscured by cymose subaxes (thyrses), typically 3-10 cm long, with two cymes of 5-11 flowers at each node. The showy flowers are violet to blue or purple, funnelform and 10-14 mm long, lower lip yellow-bearded, and variable calyx lobes 4-9 mm long. Fruits are glabrous capsules, 4-5 x 3-4 mm, produced mid- to late summer.

Distinguishing characteristics

Penstemon hesperius closely resembles mountain meadow beardtongue (*P. rydbergii* var. *oreocharis*)

morphologically, which for a time justified it being synonymized with varieties of *P. rydbergii*. *Penstemon hesperius* can be distinguished by its typically taller stems, from 50-80 cm, and longer (more than 5 mm), hirsutulous (pubescent with very small, coarse, stiff hairs) calyx lobes with attenuate apices. *Penstemon hesperius* roots at the nodes and can spread laterally by layering, resulting in mats up to 2 meters in diameter, or more, compared to the discrete growth for of individual *P. rydbergii* var. *oreocharis* plants that can reach up to 0.7 m diameter and do not spread to form mats. *Penstemon hesperius* stems can be up to 1 cm wide at ground level whereas basal stems rarely exceed 0.5 cm diameter in *P. rydbergii* var. *oreocharis*.

Penstemon hesperius is known to naturally occur in boggy meadows and floodplain habitat at low elevations (below 500 feet) west of the Cascade Range and in the west Columbia River Gorge whereas Rydberg's penstemon is restricted to elevations over 3000 feet across a broader range from the Cascade Range and northern Sierra Nevada east to the Owyhee Mountains, and from the northern Columbia River Basin south to the northern Great Basin in Nevada.

When to survey
Surveys should occur when plants are in flower from May-August

Habitat
Tall western penstemon "occurs in both brushy meadow and open riparian forest" (Christy & Maffitt 2018). In the wetter meadow habitat, the penstemon co-occurs with several species of *Carex*, including *C. athrostachya, C. feta, C. obnupta,* and *C. vulpinoidea*, while in drier meadow habitat Christy and Maffitt also noted *Rosa pisocarpa;* the authors list the riparian habitat associates *Quercus garryana* and *Physocarpus capitatus. Crataegus douglasii, Fraxinus latifolia, Spirea douglasii,* and *Symphoricarpos albus* are found in both habitats.

Range
Penstemon hesperius is endemic to the upper Willamette Valley, Oregon, and greater Vancouver area in southern Washington.

Oregon counties
Washington

Federal status
Under review

Threats
Development in the Portland and Vancouver metropolitan areas, combined with conversion of wet prairie habitat to agriculture have significantly decreased and fragmented suitable habitat for *Penstemon hesperius*. In addition, invasive species such as reed canarygrass (*Phalaris arundinacea*) can outcompete natives such as *Penstemon hesperius* in riparian habitat. Small population size is another concern as it

can reduce genetic diversity and reproductive success. Climate change also has the potential to decrease survivability of the species.

Conservation planning

This species is under review by the U.S. Fish and Wildlife Service (USFWS) following a 2020 ESA petition by the Center for Biological Diversity and the Native Plant Society of Oregon. The USFWS is writing a Species Status Assessment for *Penstemon hesperius* that will be reviewed for the final determination of the federal listing.

Did you know?

The species was presumed extinct until it was rediscovered in 2008 at the Tualatin River National Wildlife Refuge, Oregon, by Rachel Roberts and Virginia "Ginny" Maffitt. *Penstemon hesperius* is unique in being one of only a few members of the genus to occur in northwest Oregon west of the Cascade Range and is the only species that occurs in low elevation wet meadow and riparian forest habitat that region.

References

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