

Western lily (*Lilium occidentale*)



ENDANGERED



Flower (left), habit (center), and habitat (right) of western lily. Photos by Kelly Amsberry (left), Melissa Carr (center) and Rebecca Currin (right). If downloading images from this website, please credit the photographer.

Family

Liliaceae

Taxonomic notes

This species is thought to hybridize with other *Lilium* species, including *L. columbianum* and *L. pardalinum* ssp. *vollmeri*.

Plant description

Western lily is a perennial that grows from a rhizomatous bulb, with a slender, unbranched stem 60-170 cm tall. The dark green leaves are narrowly oblanceolate, 6-22 cm long by 0.5-2.5 cm wide, and mostly scattered, with usually only the central leaves whorled. The showy, nodding flowers number 1-10 (25) on very long pedicels, the tepals linear-oblong, 4-5 cm long, and revolute half their length or more. The distal half to two-thirds of the tepals are crimson to deep red within, the basal part orange, yellow, or greenish yellow, sometimes shading to green in the throat, with maroon spots. The basal orange to yellow portion comes to a point near the midline of each tepal, giving the overall appearance of a central golden star when the flower is viewed from its open end. The stamens and style are nearly straight; the anthers are 0.4-1.2 cm long and closely grouped around the pistil. Capsules are broadly ellipsoid and 2-4 cm long. Seedlings and young plants produce a single above-ground leaf.

This species exhibits high morphological variability, with two extremes, or forms, that appear to be correlated with the two distinct soil types in which western lily occurs (see Habitat). The "Oregon form" is typically shorter, has narrow leaves with little or no whorling, and produces fewer flowers. The "California form," which was described as the type specimen, is taller, has wider leaves with more whorling, and produces more flowers. The two morphological forms occur in both California and Oregon.

Distinguishing characteristics

Western lily is distinguished from other *Lilium* species by its wet coastal habitat, its true bulb, lack of fragrance, recurved tepals, nodding flowers, red flower color and star-

shaped yellow flower centers, and its non-spreading stamens. All other orange- or red-flowered *Lilium* species within the range of western lily have stamens (and usually styles) that curve outward.

When to survey

Surveys should be completed when this species is flowering, from mid-June through July.

Habitat

Western lily is often found near the ocean in freshwater fens and on the edges of bogs, in coastal prairie and scrub, and in transition zones between these communities. The species also occurs in spruce forest, but plants in this habitat are stunted and do not produce flowers. It occurs at elevations ranging from just above sea level to about 120 m (400 ft).

The species occurs in two distinct soil types. The first type, deep organic peat, which is saturated for most of the year, appears to be correlated with the "Oregon form" of western lily (see Plant description). The second type, mineral-based soils, which tend to be acidic, poorly drained, and exhibit either a shallow iron pan or clay pan that holds water seasonally, appears correlated with the "California form" of the species.

Associated species that occur at nearly all western lily sites include *Picea sitchensis*, *Malus fusca*, *Salix* spp., *Myrica californica*, *Gaultheria shallon*, *Spiraea douglasii*, *Vaccinium ovatum*, *Rubus* spp., *Lonicera involucrata*, *Calamagrostis nutkaensis*, *Carex obnupta*, *Gentiana sceptrum*, *Lotus formosissimus*, *Blechnum spicant*, and *Pteridium aquilinum*. Common associates usually restricted to the northern portion of the species' range (Del Norte County northward) include *Pinus contorta* ssp. *contorta*, *Chamaecyparis lawsonia*, *Ledum glandulosum*, *Rhododendron occidentale*, *R. macrophyllum*, *Tofieldia glutinosa*, *Trientalis arctica*, *Sanguisorba officinalis*, *Sphagnum* spp., and *Viola palustris*. Species more common in the southern portion of western lily's range include *Polystichum munitum*, *Holcus lanatus*, and *Anthoxanthum odoratum*.

Range

Western lily is restricted within a narrow 4-mile- (6.4-kilometer-) wide band that spans about 200 miles (320 kilometers) along the Pacific coastline from Hauser, Coos County, Oregon to Loleta, Humboldt County, California. There are approximately 23 extant principle populations occurring within this limited region (as recognized by U.S. Fish and Wildlife Service), all of which are small (ranging from less than 0.1 acres to 10 acres), isolated, and densely clumped.

Oregon counties

Coos, Curry

Federal status

Endangered

Threats

Habitat loss due to agricultural, commercial, and residential development (particularly cranberry agriculture) and road construction and maintenance is a major threat to this species. The greatest long-term threat to western lily is successional encroachment by shrubs and trees in the absence of disturbance (from sources such as fire and grazing). Reduced reproductive output due to deer herbivory has been documented at many western lily sites. Hydrological alteration, fungal, viral, or bacterial infection, and

horticultural collection also threaten this species. There is potential for random loss of genetic variability, as many western lily populations are very small, containing fewer than 200 individuals.

Conservation planning

A U.S. Fish and Wildlife Service [Recovery Plan](#) (pdf document, 7.13 MB) was released for western lily in 1998.

A [5-Year Review](#) (pdf document, 834kB) for western lily was completed in 2009 by U.S. Fish and Wildlife Service.

Did you know?

Hummingbirds are the principal pollinators of western lily, although bees and other insects also transfer pollen of this species.

References

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