

Black lily: distribution secrets of a sensitive species

WHAT IS A BLACK LILY?

Black lily (*Fritillaria camschatcensis*) is a species from the lily family, found in areas bordering the Pacific Ocean from Washington State to Japan. In the Pacific Northwest, black lily grows in tidal marshes and in montane bogs. Black lily is currently listed as a sensitive species by the state of Washington.

This species was once used as a food source for Native American tribes along the coast, and there is great interest in reintroducing black lily to estuaries that are being restored.

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OBJECTIVES:

- To gain an understanding of the factors that limit the distribution of black lily in a Puget Sound estuary.
- To provide plant placement recommendations to those planting black lily into restored estuaries.

METHODS:

First, I marked 1 m² plots where black lily is found, and plots where it is not found. Within these plots, I measured:

- which other species were found
- percent cover of each of these species
- type of substrate (wood, soil, etc.)
- amount of shade created by trees and shrubs
- pH, salinity and available nitrogen in the soil
- slope and topography

RESULTS:

By comparing the measurements from plots with and without black lily, I found several differences in the environments. Plots containing black lily are:

- at slightly higher elevations
- primarily composed of wood as a growth substrate

Soils in the black lily plots have:

- lower salinity
- lower ammonium (a type of plant-available nitrogen)

In addition, the plots with black lily are located in more shaded areas and have an appreciably higher amount of moss than those plots without the lily.

RECOMMENDATIONS:

Plantings of bulbs or seeds of black lily in Puget Sound tidal marshes should be concentrated on decaying logs or areas of mounded soils at ~11 ft above Mean Low Water. Preference should be given to sites shaded by surrounding woody vegetation.

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