

Washington Bumble Bee Habitat Kit

Planting Guide

Thank you for your interest and work in conserving bumble bees and other pollinators. By planting this habitat kit, you are an essential partner in bumble bee and pollinator conservation! This handout includes instructions for planting and follow-up care for successful habitat establishment.

Background

In response to concerning declines in a number of bumble bee species, the Xerces Society and partners developed a [statewide strategy](#) to conserve these essential pollinators in Washington. To target conservation on areas with the potential to benefit the highest number of at-risk bumble bees, the strategy identifies priority management areas where targeted conservation actions can increase the amount of habitat available to these species. In order to help address bumble bee declines and habitat loss, the Xerces Society partnered with local native plant producers to create these kits and make them available to conservation partners in select bumble bee priority regions in Washington.

What's in This Kit?

These kits contain native plants, including a variety of flowering plants documented to be visited by at-risk bumble bees in Washington. Plant species in these kits also support many other native pollinators and have been selected based on their appropriateness within specific ecoregions that occur in bumble bee priority management areas in Washington. Plants that bloom early in spring and late in fall may be especially important for supporting bumble bees, so there is an emphasis on offering species that provide flowering resources for the entire time their colony is active. In addition to flowering resources, kit contents include bunch grasses, which may provide nesting habitat for bumble bees. You can find more information on the plant species in your kit, including growth form, bloom time and size at maturity, at burkeherbarium.org.

Tips for Plant Establishment

The plants in your kit are ideally suited for specific ecoregions near the eastern foothills of the Cascades of Washington, but they will need good care to get started.

- ⇒ **Weed management:** Before and after planting, manage weeds so they aren't outcompeting transplants. Providing a top layer of mulch may help protect against weed encroachment while potentially reducing irrigation requirements.
- ⇒ **Timing:** For best establishment success, plant the entire habitat kit within a week or two of receiving your plants. Milkweed transplants are best planted before they go dormant, giving time for the roots to become established underground. Transplants will be fine kept in containers if they are watered regularly.

Plant Spacing and Configuration

All kits can be planted in linear rows (hedgerow: see diagram below) or any configuration that fits your planting site. Generally speaking, we recommend spacing herbaceous plants and grasses on 3' centers and woody plants (shrubs) on 6' centers. For kits that contain both woody and herbaceous plants, consider alternating woody and herbaceous plants on 6' centers (this is our recommended spacing for linear hedgerows). Survival rates can be lower with forbs and grasses, which stay smaller, therefore, we recommend planting these plants 2-3' apart in groupings of 2-3 plants of the same species. If planting in areas with minimal irrigation or moisture, all plants will generally grow more slowly, therefore grouping them in clusters will fill in the planting area more easily.

Hedgerow Example

One row of alternating shrubs and subshrubs (wildflowers & grasses)



— Drip irrigation line with 1/2" polyhose (or what is available).

● 2 GPH emitters on either side of trunk near the base for shrubs. 1 GPH emitter in center for wildflowers and grasses. If fewer emitters are available place a single higher rate emitter in center.

Planting

- ⇒ **Transplants:** Dibble sticks are ideal for plug planting, as they are easy to use and designed to make a correctly sized hole.

- ⇒ Use a spade or shovel for larger transplants (or for plugs if dibble sticks are not available).
- ⇒ The hole should be slightly deeper and wider than the plant container.
- ⇒ Gently remove the plant from the container using a small blade (a plastic knife works well for plugs), being careful to keep the root ball intact, and place it in the hole.
- ⇒ Gently pack soil around the base of the plant and pinch or compress soil gently over the plant's root crown to minimize loss of soil moisture.
- ⇒ It is important not to make the holes too deep; the base of the plant should be level to the surrounding soil.

Irrigation

Generally speaking, smaller transplants will need more frequent irrigation than larger transplants. A thick layer of mulch is recommended to help plants retain moisture.

- ⇒ **Transplant irrigation:** Transplants will need supplemental irrigation or moisture during the first several years to get established.
- ⇒ Irrigate transplants thoroughly immediately after planting. If the plants are not dormant or fall is unusually warm, consider additional occasional irrigation until dormancy or fall weather begins.
- ⇒ Resume irrigation in spring or whenever soil moisture starts depleting, and continue irrigating until fall moisture begins.
- ⇒ During the first growing season, irrigate transplants approximately once a week based on the soil moisture present and the needs of the plant. If there is a heat wave and the plants look wilted, consider an additional watering in the evening or early morning.
- ⇒ Once plants are well established (usually after the first year), irrigation can be gradually decreased. Generally, by the third year after planting, most native plants will need only monthly irrigation or no irrigation at all.
- ⇒ If possible, drip irrigation is ideal for transplants and minimizing weed growth.
- ⇒ If plants are near a well-watered lawn or sprinklers, reduce irrigation to the planting or move species that like it drier further away from the lawn border.

Additional Resources

Bumble Bees

Xerces Society: *Habitat Management for Bumble Bees in the PNW*
xerces.org/publications/guidelines/pnw-bb-management

Xerces Society: *The Pacific Northwest Bumble Bee Atlas: Summary and Species Accounts*
xerces.org/publications/guidelines/pnw-bumble-bees

Xerces Society: *Conserving Bumble Bees. Guidelines for Creating and Managing Habitat for America's Declining Pollinators*
www.xerces.org/publications/guidelines/conserving-bumble-bees

Xerces Society: *Strategy To Protect State And Federally Recognized Bumble Bee Species Of Conservation Concern*
www.xerces.org/publications/strategy-bumble-bee-species-conservation-concern

Pollinators

Xerces Society: Pacific Northwest-based resources, including plant lists and milkweed guides
xerces.org/pollinator-resource-center/pnw

Bee Better Certified

beebettercertified.org

Habitat Establishment and Management

Xerces Society: *Guidance to Protect Habitat from Pesticide Contamination*
xerces.org/publications/fact-sheets/guidance-to-protect-habitat-from-pesticide-contamination

Xerces Society: Pollinator habitat installation guides for hedgerows and wildflower meadows
xerces.org/pollinator-conservation/habitat-installation-guides

Community Science

Bumble Bee Watch
bumblebeewatch.org

Pacific Northwest Bumble Bee Atlas
pnwbumblebeeatlas.org

Western Monarch Milkweed Mapper
monarchmilkweedmapper.org

Xerces is Here to Help!

We are excited to partner with you on creating bumble bee and pollinator habitat. Please feel free to contact us if you have any questions or need additional guidance (washingtonhabitatkits@xerces.org). You will find publications about bumble bees, pollinators, and habitat restoration work on our website (xerces.org) or by following the links provided.

The Xerces Society for Invertebrate Conservation is a nonprofit focused on protecting the natural world through the conservation of invertebrates and their habitats. We take our name from the now-extinct Xerces blue (*Glaucopsyche xerces*), the first butterfly known to go extinct in North America as a result of human activities. Washington habitat kits are supported by the U.S. Forest Service and Xerces Society donors and members.