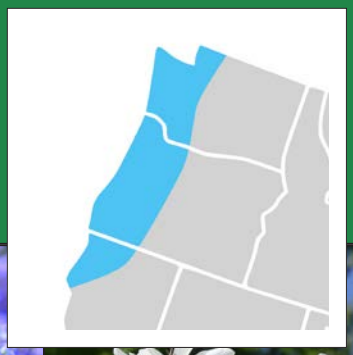
MONARCH NECTAR PLANTS

Maritime Northwest



Left to right: Monarch on showy milkweed, blueblossum, and Lewis' mock orange.

The Maritime Northwest is a region of windswept coastlines, temperate rainforests, sprawling grasslands, and subalpine meadows. It encompasses the coastline and coastal ranges of Washington, Oregon, and northern California; the western slopes and crest of the Cascade mountains to the east; and the open prairies and agricultural lands of the Puget Trough and Willamette Valley in between. The variety of elevations and rainfall patterns found in this area has created diverse plant communities that support a number of native pollinators and other wildlife. Monarch butterflies, while scarce from the Willamette Valley north due to natural limits on milkweed distribution, can still be found in this region during the summer months.

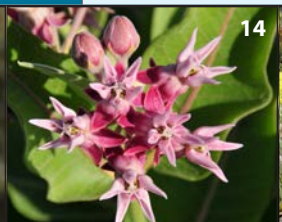
Each spring, monarchs leave hundreds of overwintering sites along the California coast and fan out across the western landscape to breed and lay eggs on milkweed, the monarch's host plant. Several generations are likely produced over the course of the spring and summer, and by May monarchs begin arriving in the Northwest. In late summer and early fall, western monarchs migrate back to overwintering sites in California and central Mexico, where they generally remain in reproductive diapause until the spring, when the cycle begins again.

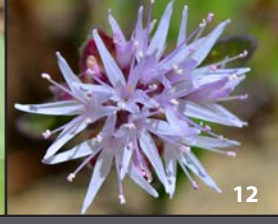
Monarchs at overwintering sites in Mexico and California have declined dramatically since monitoring began in the late 1990s. Across their range in North America, monarchs are threatened by a variety of factors. Loss of milkweed from extensive herbicide use has been a major contributing factor, and habitat loss and degradation from other causes, natural disease and predation, climate change, and widespread insecticide use are probably also contributing to monarch declines. Because of the monarch's migratory life cycle, it is important to protect and restore habitat across their entire range. Adult monarchs depend on diverse nectar sources for food during all stages of the year, from spring and summer breeding to fall migration and overwintering. Caterpillars, on the other hand, are completely dependent upon their milkweed host plants. Inadequate milkweed or nectar plant food sources at any point may impact the number of monarchs that successfully arrive at overwintering sites in the fall.

Providing nectar-rich flowers that bloom where and when monarchs need them is one of the most significant actions you can take to support monarch butterfly populations in the Maritime Northwest. This guide features native plants that have documented monarch visitation, bloom when monarchs are present in the region, and are commercially available. Beyond supporting monarchs, many of these plants attract other nectar- and/or pollen-seeking butterflies, bees, moths, and hummingbirds. For a list of native plants that host butterflies and moths specific to your zip code see www.nwf.org/nativeplantfinder. The species in this guide will be adaptable to growing conditions across most of the region. Please consult regional floras or the Biota of North America's Plant Atlas (http://bonap.net/napa) for details on species' distributions in your area.

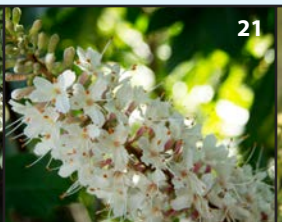
MONARCH JOINT VENTURE
XERCES SOCIETY for Invertebrate Conservation
NATIONAL WILDLIFE FEDERATION GARDEN FOR WILDLIFE

Bloom		Common Name	Scientific Name	Flower Color	Max. Height
		Forbs			(Feet)
Spring to Summer	1	Bluedicks	*Dichelostemma capitatum*	Purple	3
	2	California compassplant	*Wyethia angustifolia*	Yellow	2
	3	Common sunflower	*Helianthus annuus*	Yellow	5
Spring to Fall	4	Coastal sand verbena	*Abronia latifolia*	Yellow	1
	5	Cobwebby thistle	*Cirsium occidentale*	Pink/white/purple	4
Summer	6	Lyall aster	*Symphyotrichum hendersonii*	Blue/purple	5
	7	Narrow-leaved milkweed	*Asclepias fascicularis*	Pink/white	3
	8	Pacific aster	*Symphyotrichum chilense*	Purple	5
	9	Sierra larkspur	*Delphinium glaucum*	Blue/purple	6
	10	Western vervain	*Verbena lasiostachys*	Purple	3
Summer to Fall	11	Heartleaf milkweed	*Asclepias cordifolia*	Pink/purple	3
	12	Mountain monardella	*Monardella odoratissima*	White/purple	1
	13	Rough Canada goldenrod	*Solidago canadensis* var. *salebrosa*	Yellow	7
	14	Showy milkweed	*Asclepias speciosa*	Pink/green/purple	3
	15	Sulphur-flower buckwheat	*Eriogonum umbellatum*	Yellow	3
	16	Western coneflower	*Rudbeckia occidentalis*	Brown/green	6
		Shrubs and Vines			
Spring to Summer	17	Blueblossom	*Ceanothus thyrsiflorus*	Blue	15
	18	Lewis' mock orange	*Philadelphus lewisii*	White	10
	19	Littleflower penstemon	*Penstemon procerus*	Blue/purple	1
Spring to Fall	20	Western white clematis	*Clematis ligusticifolia*	White	20
Summer	21	California buckeye	*Aesculus californica*	White/pink	20
	22	Coyotebrush	*Baccharis pilularis*	White/yellow	6
	23	Nettleleaf giant hyssop	*Agastache urticifolia*	Purple/red	2
Summer to Fall	24	Rubber rabbitbrush	*Ericameria nauseosa*	Yellow	8





Water Needs	Notes
Low, Medium, or High	All species perennials unless otherwise noted. Monarchs are present May through September in the Maritime NW.
L	Attracts other bees, butterflies, and hummingbirds. An early spring bloomer.
M	Drought tolerant with big yellow flowers.
M	Annual. A favorite of many bee species. Easy to establish and tolerant of clay soils.
L/M	Tolerates salt spray and prefers sandy soils. Can bloom year-round.
L	Biennial. Attracts bees, butterflies, and hummingbirds. Larval host for several butterfly species.
L/M	Good nectar plant for native bees and butterflies.
M	Monarch caterpillar host plant. Tolerates clay soils and wet or dry conditions.
L	One of the latest fall-blooming plants. Important for pre-hibernation bumble bee queens. Clay tolerant.
H	Attractive to butterflies and hummingbirds.
L	Can be aggressive in the garden. Long bloom season. Attracts butterflies.
L	Monarch caterpillar host plant. Extremely drought tolerant once established. Appropriate for Southern Oregon gardens.
L	Does best at mid to high elevations. Attracts many species of butterflies.
M	Can be aggressive in the garden.
M	Monarch caterpillar host plant. Extremely attractive monarch nectar plant.
L	Attracts many species of bees and butterflies.
L/M	A favorite of bees.
L	Amazing pollinator plant. Host plant to many butterfly species. Birds will eat the seeds.
L	Flowers give off amazing orange fragrance and attract bees, butterflies, and hummingbirds.
L	Great for rock gardens. Attracts hummingbirds.
M	Semi-woody vine. Widely adaptable and tough species that can form a dense mass if not controlled.
M	Nectar source for many native butterflies.
L	Extremely drought tolerant.
L	Establishes better from transplant than seed. Tolerates clay soil and wet conditions.
L	Very drought tolerant. Extremely attractive to monarchs.



Planting for Success

Monarch nectar plants often do best in open, sunny sites. You can attract more monarchs to your area by planting flowers in single species clumps and choosing a variety of plants that have overlapping and sequential bloom periods. Monarchs are present from May through September in the Maritime Northwest, although they are much less frequently seen in the northern part of this region. If you are located further inland, check out our guide for the Inland Northwest, available at: www.xerces.org/monarch-nectar-plants.

Why Plant Native?

Although monarchs use a variety of nectar plant species, including exotic invasives such as butterfly bush and English ivy, we recommend planting native species. Native plants are often more beneficial to ecosystems, are adapted to local soils and climates, and help promote biological diversity. They can also be easier to maintain in the landscape, once established.

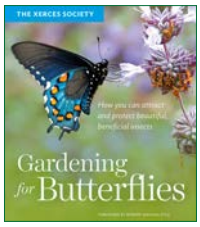
Tropical milkweed is a non-native plant that is widely available in nurseries. This milkweed can persist year-round in mild climates, allowing monarchs to breed throughout the winter rather than going into diapause. Tropical milkweed may foster higher loads of a monarch parasite called Oe (*Ophryocystis elektroscirrha*), which negatively impacts monarch health. Because of these implications, we recommend planting native species of milkweeds in areas where they historically occurred. You can read more about Oe in a fact sheet by the Monarch Joint Venture: http://monarchjointventure.org/images/uploads/documents/Oe_fact_sheet.pdf.

Protect Monarchs from Pesticides

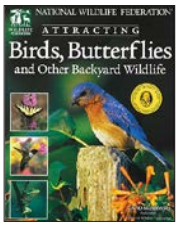
Both insecticides and herbicides can be harmful to monarchs. Herbicides can reduce floral resources and host plants. Although dependent on timing, rate, and method of application, most insecticides have the potential to poison or kill monarchs and other pollinators. Systemic insecticides, including neonicotinoids, have received significant attention for their potential role in pollinator declines (imidacloprid, dinotefuran, clothianidin, and thiamethoxam are examples of systemic insecticides now found in various farm and garden products). Because plants absorb systemic insecticides as they grow, the chemicals become distributed throughout all plant tissues, including the leaves and nectar. New research has demonstrated that some neonicotinoids are toxic to monarch caterpillars that are poisoned as they feed on leaf tissue of treated plants. You can help protect monarchs by avoiding the use of these and other insecticides. Before purchasing plants from nurseries and garden centers, be sure to ask whether they have been treated with systemic insecticides. To read more about threats to pollinators from pesticides, please visit: www.xerces.org/pesticides.

Additional Resources

Gardening for Butterflies



Attracting Birds, Butterflies, and Other Backyard Wildlife



Available through www.xerces.org/books and http://bit.ly/1Xhxfgu.

Conservation Status and Ecology of the Monarch Butterfly in the U.S. Report
www.xerces.org/us-monarch-consv-report

Guide to Milkweeds and Monarchs in the Western U.S.
www.xerces.org/western-us-monarch-guide

Guide to the Native Milkweeds of Oregon
www.xerces.org/or-mw-guide

Guide to the Native Milkweeds of Washington
www.xerces.org/wa-mw-guide

Milkweed Seed Finder www.xerces.org/milkweed-seed-finder

Websites

The Xerces Society www.xerces.org/monarchs

Monarch Joint Venture www.monarchjointventure.org/resources

Natural Resources Conservation Service
www.nrcs.usda.gov/monarchs

National Wildlife Federation www.nwf.org/butterflies

Citizen Science Efforts in Oregon & Washington

Xerces Society & USFWS Milkweed and Monarch Survey
www.xerces.org/milkweedsurvey

Monarch Butterflies in the Pacific Northwest
www.facebook.com/MonarchButterfliesinThePacificNorthwest

Journey North www.learner.org/jnorth/monarch

Monarch Larva Monitoring Project www.mlmp.org

Project Monarch Health www.monarchparasites.org

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