POLLINATOR PLANTS

California

Pollinator meadow, lacy phacelia, and California goldenrod.

California is one of the most floristically diverse regions in the world, with a high number of endemic species and many unique plant communities such as coastal prairie and scrub, valley grasslands, chaparral, oak woodlands, and giant sequoia groves. California's native plants support a corresponding diversity of pollinators, with an estimated 1,200 – 1,500 native bee species, including the imperiled Franklin's and western bumble bees, and over 200 butterfly species, including the iconic monarch butterfly. As a group, these and other pollinators maintain healthy, productive plant communities, provide food that sustains wildlife, and play an essential role in crop production.

Providing wildflower-rich habitat is the most significant action you can take to support pollinators. Adult bees, butterflies, and other pollinators require nectar as their primary food source, and female bees collect pollen as food for their offspring. Native plants, which are adapted to local soils and climates, are usually the best sources of nectar and pollen for native pollinators. Incorporating native wildflowers, shrubs, and trees into any landscape promotes local biological diversity and provides shelter and food for a diversity of wildlife. Most natives require minimal irrigation, flourish without fertilizers, and are unlikely to become weedy.

This guide features California natives that are highly attractive to pollinators and are well-suited for small-scale plantings in gardens, urban greenspaces, and farm field borders, and on business and school campuses. Beyond supporting native bees and honey bees, many of these plants attract nectar-seeking butterflies, moths, and hummingbirds, and some are hosts for butterfly and moth caterpillars. For example, California is an important breeding area for monarch butterflies, and planting milkweeds, their required host plants, will help sustain the declining western monarch population. With few exceptions, the listed species can be purchased as seed or transplants. They will be adaptable to growing conditions across most of the state, but may be less suitable for planting in the High Sierras, Modoc Plateau, and Eastern Interior Desert regions. Please consult Calflora (www.calflora.org) for details on species' distributions in your specific area.

Bring Back the Pollinators
A Xerces Society Conservation Campaign

Our Bring Back the Pollinators campaign is based on four principles: grow pollinator-friendly flowers, protect bee nests and butterfly host plants, avoid pesticides, and spread the word. You can participate by taking the Pollinator Protection Pledge and registering your habitat on our nationwide map of pollinator corridors.

www.bringbackthepollinators.org












Bloom Period		Common Name	Scientific Name	Annual, Perennial, or Biennial	Flower Color	Max. Height (feet)	Water Needs	Notes
		Forbs					L: low; M: med.; H: high	
Early	1	Baby blue eyes	*Nemophila menziesii*	A	blue	0.25	L	Stunning sky blue flowers attract native bees, including mason bees (*Osmia* spp.); tolerates moderate shade and moisture
	2	Common tidytips	*Layia platyglossa*	A	yellow	0.25	L	Sunny yellow and white flowers are very attractive to butterflies and native bees; tolerates clay soils
	3	Lacy phacelia	*Phacelia tanacetifolia*	A	purple	3	L	Easy to establish, with prolific, showy blooms; tolerates clay soils
Early – Mid	4	California poppy	*Eschscholzia californica*	A, P	orange	0.5	L	Easy to establish and long blooming; attracts a diversity of bees, bumble bees in particular
	5	Elegant clarkia	*Clarkia unguiculata*	A	pink	0.5	L	Strikingly unique flowers attract bees and butterflies; larval host for Clark's sphinx moth
	6	Globe gilia	*Gilia capitata*	A, P	blue	1	M	Globe-shaped, periwinkle-blue flower clusters attract a diversity of bees and butterflies
Mid	7	California phacelia	*Phacelia californica*	P	purple	1	L	Tightly coiled flower heads are very attractive to bumble bees and other native bees; tolerates clay soils
	8	Cleveland sage	*Salvia clevelandii*	P	purple	3	L	Showy flowers attract bees, butterflies, and hummingbirds; extremely fragrant foliage; requires good drainage
	9	Foothill penstemon	*Penstemon heterophyllus*	P	blue	3	L	Iridescent violet flowers attract bees, butterflies, and hummingbirds; requires good drainage; heat and drought tolerant
	10	Narrowleaf milkweed	*Asclepias fascicularis*	P	pink/white	1.5	M	Monarch butterfly host plant; high-quality nectar source for many bees; easier to establish from transplants than from seed
	11	Summer lupine	*Lupinus formosus*	P	purple	1.5	L	This and other lupines are highly attractive to bumble bees and visited by many other native bees
Mid – Late	12	Common sunflower	*Helianthus annuus*	A	yellow	5	M	Sunflowers are a favorite of many bee species; easy to establish and tolerant of clay soils
	13	Gumplant	*Grindelia camporum*	P	yellow	4	L	Long-lasting flowers; attracts small, native bees; tolerates clay soils and wet or dry conditions
Late	14	California aster	*Symphyotrichum chilense*	P	purple	5	L	One of the latest fall blooming plants; important for pre-hibernation bumble bee queens; tolerates clay soils
	15	California fuchsia	*Epilobium canum*	P	orange/red	3	L	Abundant scarlet-colored flowers; critical late-season nectar source for hummingbirds and bees
	16	California goldenrod	*Solidago californica*	P	yellow	3	M	Important late-season forage for bees, butterflies, beneficial solitary wasps, pollen-eating soldier beetles, and more
		Shrubs						
Early	17	California lilac	*Ceanothus* 'Concha'	P	purple	4	L	Attracts bees and butterflies with a profusion of bright violet-blue flowers; tolerates clay soils
	18	McMinn manzanita	*Arctostaphylos* 'McMinn'	P	white	5	L	Clusters of small, bell-shaped flowers provide early season forage for bumble bees and other spring bees; tolerates clay soils
	19	Oregon grape	*Berberis aquifolium*	P	yellow	5	L	Attracts honey bees and native bees, including mason bees (*Osmia* spp.); tolerates shade and wet or dry conditions
	20	Redbud	*Cercis orbiculata*	P	pink/red	15	M	Rose-colored blooms clustered on bare branches; tolerates some shade and moisture; can be pruned to a shrub or small tree
Early – Mid	21	California buckthorn	*Frangula californica*	P	white	5	L	Attractive, evergreen shrub that attracts small, native bees; its berries are a favorite of birds; tolerates some shade
	22	California flannelbush	*Fremontodendron californicum*	P	yellow	15	L	Prolific bloomer with large, bell-shaped yellow flowers; does not need summer water
	23	Silver bush lupine	*Lupinus albifrons*	P	purple	3	L	Showy, deep purple flowers with contrasting silver foliage; attracts numerous bee species; requires good drainage
Mid	24	California buckwheat	*Eriogonum fasciculatum*	P	white	2.5	L	Favored nectar source of many blue and hairstreak butterflies, also very attractive to native bees; drought tolerant












Planting for Success

Sun Exposure

Most pollinator-friendly plants prefer sites that receive full sun throughout most of the day and are mostly open, with few large trees. A southern exposure can provide the warmest habitat, but is not required.

Plant Diversity

Choosing a variety of plants with overlapping and sequential bloom periods will provide food for pollinators throughout the seasons.

Habitat Size and Shape

Habitat patches that are bigger and closer to other patches are generally better than those that are smaller and more isolated from one another. However, even a small container garden can attract and support pollinators!

Planting Layout

Flowers clustered into clumps of one species will attract more pollinators than individual plants scattered through a habitat patch. Where space allows, plant clumps of the same species within a few feet of one another.

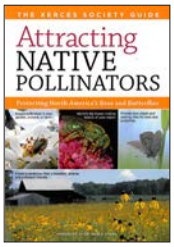
Seeds or Transplants

It is usually cheaper to establish large habitat areas from seed; however, seeding native wildflowers on a large-scale is an art unto itself. For step-by-step instructions, see the *Pollinator Habitat Installation Guides* (listed in the Additional Resources section). For smaller areas like gardens, transplants are usually easier to use, and plants will bloom faster than when started from seed.

Protect Pollinators from Insecticides

Although dependent on timing, rate, and method of application, all insecticides have the potential to poison or kill pollinators. Systemic insecticides in particular 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 plant tissues and are sometimes present in pollen and nectar. You can help protect pollinators 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 insecticides. To read more about threats to pollinators from pesticides, please visit: www.xerces.org/pesticides.

Additional Resources



Attracting Native Pollinators: Protecting North America's Bees and Butterflies

Our best-selling book highlights the role of native pollinators in natural ecosystems, gardens, and farms. Introductory sections explore the natural history and habitat needs of bees, butterflies, pollinating beetles, and much more. Advanced sections provide guidance on conserving pollinators in multiple landscapes. The book also includes a first-of-its-kind guide to all common native bee genera of North America. Available in bookstores everywhere, and through www.xerces.org/books.

Xerces' Pollinator Conservation Resource Center

Our Pollinator Conservation Resource Center is an online database of additional pollinator plant recommendations, guidelines on establishing and protecting pollinator habitat, and a directory of native plant nurseries for every region of the United States and Canada. www.xerces.org/pollinator-resource-center/

Ladybird Johnson Wildflower Center

The Ladybird Johnson Wildflower Center has developed a collection of pollinator-friendly native plants as part of their extensive native plant database. Along with this special pollinator plant collection, the Center's website features image galleries, how-to articles on native plant gardening, and more. www.wildflower.org/collections

Pollinator Habitat Installation Guides

These how-to guides, developed in collaboration with the USDA Natural Resources Conservation Service, provide in-depth, step-by-step instructions for developing a large-scale wildflower meadow for bees and a list of regional native seed vendors and native plant nurseries. www.xerces.org/pollinator-conservation/agriculture/pollinator-habitat-installation-guides

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