



Keystone Native Plants

Mediterranean California – Ecoregion 11

Native plants have tight relationships with wildlife, formed over many thousands of years, providing natural sources of food, cover and places to raise young. Without healthy native plant communities, wildlife cannot survive. Every ecoregion has different native plant communities.

Keystone plants are native plants critical to the food web and necessary for many wildlife species to complete their life cycle. Without keystone plants in the landscape, butterflies, native bees, and birds will not thrive. 96% of our terrestrial birds rely on insects supported by keystone plants.



















There are two types of keystone plants:

-  Host plants that feed the young caterpillars of approximately 90% of butterflies and moths (Lepidoptera).
-  Plants that feed specialist bees who only eat pollen from specific plants. Keystone plants for native bees feed both specialist and generalist bees.

Entomologist Dr. Doug Tallamy, and his University of Delaware research team have identified the keystone plants that support butterfly and moth species. Native host plants of pollen specialist bees were researched by pollinator conservationist Jarrod Fowler.

Top Keystone Plant Genera in Mediterranean California – Ecoregion 11

A genus is a taxonomic category of plants that contains one or more species of plants with similar characteristics. Species within each genus have adapted to local conditions and are the appropriate native species or varieties suited to a specific ecoregion.

Plant Type	Plant Genus	Sample of Common Species (not all encompassing)	# Caterpillar Species that Use this as a Host Plant	# of Pollen Specialist Bee species that Rely on this Plant
Trees	<i>Quercus</i>	Coast live oak (<i>Quercus agrifolia</i>), Canyon live oak (<i>Quercus chrysolepis</i>)	275 	
	<i>Prunus</i>	Oregon cherry (<i>Prunus emarginata</i>), Chokecherry (<i>Prunus virginiana</i>)	262 	
	<i>Populus</i>	Balsam poplar (<i>Populus balsamifera</i>), Eastern cottonwood (<i>Populus deltoides</i>)	230 	
	<i>Pinus</i>	Gray pine (<i>Pinus sabiniana</i>), Ponderosa pine (<i>Pinus ponderos</i>)	220 	
	<i>Alnus</i>	White alder (<i>Alnus rhombifolia</i>), Red alder (<i>Alnus rubra</i>)	202 	
	<i>Betula</i>	Water birch (<i>Betula occidentalis</i>)	187 	
	<i>Acer</i>	Bigleaf maple (<i>Acer macrophyllum</i>), Box elder (<i>Acer negundo</i>)	120 	
	<i>Abies</i>	White fir (<i>Abies concolor</i>)	117 	
Shrubs	<i>Salix</i>	Coyote willow (<i>Salix exigua</i>), Shining willow (<i>Salix lasiandra</i>)	328 	15 
	<i>Ceanothus</i>	Buckbrush (<i>Ceanothus cuneatus</i>), Deer brush (<i>Ceanothus integerrimus</i>), Hairy ceanothus (<i>Ceanothus oliganthus</i>)	120 	
	<i>Ericameria</i>	Goldenfleece (<i>Ericameria arborescens</i>), Cliff goldenbush (<i>Ericameria cuneata</i>)	25 	45 
	<i>Chrysothamnus</i>	Long-flowered rabbitbrush (<i>Chrysothamn depressus</i>), Rabbitbrush (<i>Chrysothamnus viscidiflorus</i>)	32 	40 
	<i>Encelia</i>	California brittlebush (<i>Encelia californica</i>), Brittlebush (<i>Encelia farinosa</i>)	5 	29 
Herbaceous	<i>Helianthus</i>	Western sunflower (<i>Helianthus anomalus</i>), Nuttall's sunflower (<i>Helianthus nuttallii</i>)	58 	41 

	<i>Grindelia</i>	Great Valley gumplant (<i>Grindelia camporum</i>), Hairy gumplant (<i>Grindelia hirsutula</i>)	19 	38 
	<i>Gutierrezia</i>	California matchweed (<i>Gutierrezia californica</i>), Sticky snakeweed (<i>Gutierrezia microcephala</i>)	19 	37 
	<i>Heterotheca</i>	Telegraphweed (<i>Heterotheca grandiflora</i>), Oregon false goldenaster (<i>Heterotheca oregon</i>)	17 	35 
	<i>Phacelia</i>	Caterpillar phacelia (<i>Phacelia cicutaria</i>), Douglas' phacelia (<i>Phacelia douglasii</i>)	25 	32 
	<i>Solidago</i>	West coast Canada goldenrod (<i>Solidago elongata</i>), Threenerve goldenrod (<i>Solidago velutina</i>)	53 	27 
	<i>Erigeron</i>	Spreading fleabane (<i>Erigeron divergens</i>), Leafy daisy (<i>Erigeron foliosus</i>)	21 	26 



Top 30 Keystone Plant Genera for Butterfly and Moth Caterpillar

Genus	Common Plant Name	# of Caterpillar Species that use this as a Host Plant
<i>Salix</i>	willow	328
<i>Quercus</i>	oak	275
<i>Prunus</i>	almond, apricot, cherry, peach, plum	262
<i>Populus</i>	aspen, cottonwood, poplar	230
<i>Pinus</i>	pine	220
<i>Alnus</i>	alder	202
<i>Betula</i>	birch	187
<i>Acer</i>	maple	120
<i>Ceanothus</i>	ceanothus	120
<i>Abies</i>	fir	117
<i>Pseudotsuga</i>	douglas fir	116
<i>Tsuga</i>	hemlock	108
<i>Vaccinium</i>	blueberry, cranberry, deerberry	107
<i>Rosa</i>	rose	99
<i>Rubus</i>	blackberry, raspberry	96
<i>Amelanchier</i>	serviceberry	77
<i>Ulmus</i>	elm	74
<i>Lupinus</i>	lupin	74
<i>Corylus</i>	hazel	71
<i>Arctostaphylos</i>	bearberry, manzanita	68
<i>Artemisia</i>	sagebrush	64
<i>Fragaria</i>	strawberry	62
<i>Vitis</i>	grape	62
<i>Cornus</i>	dogwood	58
<i>Helianthus</i>	sunflower	58
<i>Fraxinus</i>	ash	57
<i>Lotus</i>	bird's foot trefoil	54
<i>Juniperus</i>	juniper	53
<i>Solidago</i>	goldenrod	53
<i>Arbutus</i>	arbutus	48



Top 30 Native Host Plants for Pollen Specialist Bees

Genus	Common Plant Name	# of Pollen Specialist Bee Species Relying on this Plant
<i>Ericameria</i>	goldenbush	45
<i>Helianthus</i>	sunflower	41
<i>Chrysothamnus</i>	rabbitbrush	40
<i>Grindelia</i>	gumweed	38
<i>Gutierrezia</i>	snakeweed	37
<i>Heterotheca</i>	goldenaster	35
<i>Phacelia</i>	phacelia	32
<i>Encelia</i>	brittlebush	29
<i>Lotus</i>	bird's foot trefoil, deervetch	28
<i>Solidago</i>	goldenrod	27
<i>Erigeron</i>	fleabane	26
<i>Machaeranthera</i>	tansyaster	26
<i>Camissonia</i>	suncup	25
<i>Astragalus</i>	milkvetch	24
<i>Cirsium</i>	thistle	24
<i>Baileya</i>	desert marigold	22
<i>Cryptantha</i>	cryptantha	22
<i>Isocoma</i>	goldenbush	22
<i>Prosopis</i>	mesquite	22
<i>Verbesina</i>	wingstem	22
<i>Senecio</i>	ragwort	20
<i>Chaenactis</i>	pincushion	19
<i>Eriogonum</i>	buckwheat	19
<i>Symphyotrichum</i>	aster	17
<i>Dalea</i>	prairie clover	15
<i>Lupinus</i>	lupin	15
<i>Salix</i>	willow	15
<i>Sphaeralcea</i>	globemallow	15
<i>Lasthenia</i>	goldfields	14
<i>Stephanomeria</i>	wirelettuce	14