

Keystone Native Plants

North American Deserts – Ecoregion 10

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 North American Deserts – Ecoregion 10

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.

To find species by zip code, check out the [Native Plant Finder](#).

Plant type	Plant genus	Sample of common species (not all encompassing)	# of caterpillar species that use this as a host plant	# of pollen specialist bee species that rely on this plant
Trees	<i>Quercus</i>	Gambel oak (<i>quercus gambelii</i>), scrub oak (<i>quercus turbinella</i>)	208 	
	<i>Prunus</i>	Oregon cherry (<i>prunus emarginata</i>), chokecherry (<i>prunus virginiana</i>)	200 	
	<i>Populus</i>	Eastern cottonwood (<i>populus deltoides</i>), American aspen (<i>populus tremuloides</i>)	184 	
	<i>Pinus</i>	Limber pine (<i>pinus flexilis</i>), single-leaf pinyon (<i>pinus monophylla</i>), ponderosa pine (<i>pinus ponderosa</i>)	163 	
	<i>Alnus</i>	Grey alder (<i>alnus incana</i>)	156 	
	<i>Betula</i>	Water birch (<i>betula occidentalis</i>)	153 	
	<i>Acer</i>	Rocky Mountain maple (<i>acer glabrum</i>), box elder (<i>acer negundo</i>)	102 	
	<i>Abies</i>	White fir (<i>abies concolor</i>), Rocky Mountain fir (<i>abies bifolia</i>)	80 	
Shrubs	<i>Salix</i>	Coyote willow (<i>salix exigua</i>), Goodding’s willow (<i>salix gooddingii</i>)	240 	19 
	<i>Vaccinium</i>	Dwarf bilberry (<i>vaccinium caespitosum</i>), thinleaf huckleberry (<i>vaccinium membranaceum</i>)	116 	
	<i>Ericameria</i>	Rubber rabbitbrush (<i>ericameria nauseosa</i>), Parry’s rabbitbrush (<i>ericameria parryi</i>)	20 	89 
	<i>Chrysothamnus</i>	Long-flowered rabbitbrush (<i>chrysothamnus depressus</i>), rabbitbrush (<i>chrysothamnus viscidiflorus</i>)	24 	87 
Flowering perennials	<i>Gutierrezia</i>	Sticky snakeweed (<i>gutierrezia microcephala</i>), broom snakeweed (<i>gutierrezia sarothrae</i>)	7 	89 
	<i>Helianthus</i>	Plains sunflower (<i>helianthus petiolaris</i>), Nuttall’s sunflower (<i>helianthus nuttallii</i>)	52 	84 

Plant type <i>continued</i>	Plant genus	Sample of common species (not all encompassing)	# of caterpillar species that use this as a host plant	# of pollen specialist bee species that rely on this plant
Flowering Perennials <i>continued</i>	<i>Grindelia</i>	Curlycup gumweed (<i>grindelia squarrosa</i>)	8 	71 
	<i>Heterotheca</i>	Camphorweed (<i>heterotheca subaxillaris</i>), hairy false goldenaster (<i>heterotheca villosa</i>)	6 	65 
	<i>Verbesina</i>	Cowpen daisy (<i>verbesina encelioides</i>)		53 
	<i>Solidago</i>	Western goldenrod (<i>solidago lepida</i>), Rocky Mountain goldenrod (<i>solidago multiradiata</i>)	51 	46 
	<i>Baileya</i>	Desert marigold (<i>baileya multiradiata</i>)	2 	45 
	<i>Machaeranthera</i>	Tahoka daisy (<i>machaeranthera tanacetifolia</i>)	6 	43 



Top 30 Keystone Plant Genera for Butterfly and Moth Caterpillars



Top 30 Native Host Plants for Pollen Specialist Bees

Genus	Common plant name	# of caterpillar species that use this as a host plant
<i>Salix</i>	Willow	240
<i>Quercus</i>	Oak	208
<i>Prunus</i>	Almond, apricot, cherry, peach, plum	200
<i>Populus</i>	Aspen, cottonwood, poplar	184
<i>Pinus</i>	Pine	183
<i>Alnus</i>	Alder	156
<i>Betula</i>	Birch	153
<i>Malus</i>	Apple	141
<i>Vaccinium</i>	Blueberry, cranberry, deerberry	116
<i>Tsuga</i>	Hemlock	106
<i>Acer</i>	Maple	102
<i>Corylus</i>	Hazel	84
<i>Abies</i>	Fir	80
<i>Pseudotsuga</i>	Douglas fir	79
<i>Larix</i>	Larch	78
<i>Picea</i>	Spruce	77
<i>Rubus</i>	Blackberry, raspberry	74
<i>Rosa</i>	Rose	73
<i>Ulmus</i>	Elm	65
<i>Ceanothus</i>	Ceanothus	64
<i>Crataegus</i>	Hawthorn	63
<i>Ostrya</i>	Hophornbeam	63
<i>Fragaria</i>	Starberry	61
<i>Amelanchier</i>	Serviceberry	60
<i>Fraxinus</i>	Ash	56
<i>Vitis</i>	Grape	56
<i>Helianthus</i>	Sunflower	52
<i>Solidago</i>	Goldenrod	51
<i>Juglans</i>	Walnut	51
<i>Cornus</i>	Dogwood	50

Genus	Common plant name	# of pollen specialist bee species that rely on this plant
<i>Ericameria</i>	Goldenbush	89
<i>Gutierrezia</i>	Snakeweed	89
<i>Chrysothamnus</i>	Rabbitbrush	87
<i>Helianthus</i>	Sunflower	84
<i>Grindelia</i>	Gumweed	71
<i>Heterotheca</i>	Goldenaster	65
<i>Verbesina</i>	Wingstem	53
<i>Solidago</i>	Goldenrod	46
<i>Baileya</i>	Desert marigold	45
<i>Machaeranthera</i>	Tansyaster	43
<i>Erigeron</i>	Fleabane	36
<i>Cirsium</i>	Thistle	32
<i>Encelia</i>	Brittlebush	32
<i>Isocoma</i>	Goldenbush	31
<i>Symphotrichum</i>	Aster	29
<i>Astragalus</i>	Milkvetch	28
<i>Phacelia</i>	Phacelia	27
<i>Sphaeralcea</i>	Globemallow	27
<i>Pectis</i>	Chinchweed	26
<i>Senecio</i>	Ragwort	26
<i>Lotus</i>	Bird's foot trefoil, deervetch	25
<i>Dalea</i>	Prairie clover	24
<i>Prosopis</i>	Mesquite	23
<i>Tiquilia</i>	Crinklemat	23
<i>Coreopsis</i>	Tickseed	22
<i>Camissonia</i>	Suncup	21
<i>Psoralea</i>	Indigo bush	21
<i>Chaenactis</i>	Pincushion	20
<i>Baccharis</i>	Baccharis	19
<i>Salix</i>	Willow	19