USDA United States Department of Agriculture

Maintaining and Improving Habitat for Hummingbirds in California

– A Land Manager's Guide –

Forest Service National Headquarters

POLLINATOR PARTNERSHIP

Introduction

Rufous Hummingbird nest
Courtesy of Martin Hutten

Hummingbirds play an important role in the food web, pollinating a variety of flowering plants, some of which are specifically adapted to pollination by hummingbirds. Some hummingbirds are at risk, like other pollinators, due to habitat loss, changes in the distribution and abundance of nectar plants (which are affected by climate change), the spread of invasive plants, and pesticide use. This guide is intended to help you provide and improve habitat for hummingbirds, as well as other pollinators, in California. While hummingbirds, like all birds, have the basic habitat needs of food, water, shelter, and space, this guide is focused on providing food—the plants that provide nectar for hummingbirds. Because climate, geology, and vegetation vary widely in different areas, specific recommendations are presented for each ecoregion in California. (See the *Ecoregions in California* section, below.)

This guide also provides brief descriptions of the species that visit California, as well as some basic information about hummingbird habitat needs.

Whether you're involved in managing public or private lands, large acreages or small areas, you can make them attractive to our native hummingbirds. Even long, narrow pieces of habitat, like utility corridors, field edges, and roadsides, can provide important connections among larger habitat areas.

Hummingbird Basics

Big Sur, Central California Coastline
Courtesy of Marguerite Meyer

Some of the hummingbird species of California are migratory, generally wintering in the southwestern US and Mexico and pushing northward and toward the coast for summer breeding. Anna's Hummingbird can be found throughout much of California year-round, while Costa's and Allen's are primarily found in Southern California year-round. For hummingbird species to thrive, they need to find suitable habitat all along their migration routes, as well as in their breeding, nesting, and wintering areas. Even small habitat patches along their migratory path can be critical to the birds by providing places for rest and food to fuel their journey.

Food

Hummingbirds feed by day on nectar from flowers, including annuals, perennials, trees, shrubs, and vines. Native nectar plants are listed in the table near the end of this guide. They feed while hovering or, if possible, while perched. They also eat insects, such as fruit-flies and gnats, and will consume tree sap, when it is available. They obtain tree sap from sap wells drilled in trees by sapsuckers and other hole-drilling birds and insects.

Western columbine—*Aquilegia formosa*
Courtesy of Gary A. Monroe
USDA-NRCS PLANTS Database

Water

Hummingbirds get adequate water from the nectar and insects they consume. However, they are attracted to running water, such as a fountain, sprinkler, birdbath with a mister, or waterfall. In addition, insect populations are typically higher near ponds, streams, and wetland areas, so those areas are important food sources for hummingbirds.

Lake in Sonoma County, California
Courtesy of Marguerite Meyer

Hummingbird Species in California

Following are brief descriptions of the hummingbird species most commonly found in California, as well as a list of other species that are uncommon or rare visitors.

Black-chinned Hummingbird (*Archilochus alexandri*)

RANGE—Black-chinned Hummingbirds occur in all five *Bird Conservation Regions* (BCRs) in California, which are BCRs 5, 15, 32, 9, and 33. (See the Bird Conservation Regions section, below.) They breed during summer throughout the west and central U.S., and they winter in the lowlands of western Mexico. They are most common in areas below 6000 feet and inhabit a variety of habitats associated with water (less than 1/2 mile), including canyons and gulches, riparian corridors, open woodlands, oak and scrub areas, and urban settings.

Black-chinned—male
Courtesy of Scott Carpenter

Black-chinned—female
Courtesy of Scott Carpenter

NESTING—Habitat includes canyons or flood-plain riparian communities, especially near sycamore or cottonwood. In urban areas, they prefer settings with tall trees and many flowering shrubs and vines. After breeding, they may move to more elevated mountain habitats to feed on nectar-producing flowers. Many will move or stay in urban areas, where flowering plants and feeders are attractive. Typically arriving in April, they migrate south in August.

APPEARANCE—Unlike other North American hummingbirds, the wingtips of the Black-chinned Hummingbird look relatively broad and curved when the bird is at rest. While hovering, they pump their tail almost constantly. The adult male is dull green to emerald green above, pale gray to whitish below, becoming dull green on the sides. It has a velvety black gorget with an iridescent purple band below; the purple band can look black in poor light. White on the breast extends around the sides of the neck, contrasting strongly with the all-dark head. The central two tail feathers are green; the others are black, often with a purplish sheen.

The adult female is dull green to golden green above and pale gray below. The sides are gray-green and often have a tawny or cinnamon-colored patch on the lower flank. The throat of the female can be unmarked or have dusky streaking or spotting in the center of the gorget. The tail is greenish or blackish, with the three outer pairs of tail feathers broadly tipped with white. Immature birds look similar to adult females; refer to a field guide for more information.

Anna's Hummingbird (*Calypte anna*)

RANGE—The Anna's Hummingbird is the largest hummingbird in California. Once a chaparral specialist, it is now a year-round resident of the Pacific coast, from southern British Columbia to northern Baja California. Since the mid-1930s, its range has expanded greatly, likely due to its effective use of non-native plants and feeders in urban and suburban areas. The Anna's Hummingbird is the only hummingbird regularly found in central and northern California in winter; Allen's and Costa's also winter in Southern California. They are largely absent east

Anna's Hummingbird—male
Courtesy of Jim Cruce

of the Sierras. Anna's Hummingbirds occur in all five Bird Conservation Regions (BCRs) in California, which are BCRs 5, 15, 32, 9, and 33.

Anna's Hummingbird—female
Courtesy of Scott Carpenter

NESTING— This species begins nesting in winter (November/December) after the arrival of the winter rains, from sea level up to 5,700 feet. In summer, they inhabit shrubland communities such as chaparral-oak areas and brushy riparian areas, as well as urban and suburban areas. After breeding, they may move to higher elevations (up to 11,000 feet) in search of nectar plants. They do not migrate long distances. Instead, like tropical hummingbirds, they migrate up and down in elevation, different populations migrate to different places, and some populations (especially in cities) are sedentary.

APPEARANCE—Males are more vocal than any other North American hummingbird. The male has a dry, scratchy, buzzy song that it sings throughout the year, but especially during the breeding season, November-June. Adult males (and some young males) have an iridescent rose/red crown and gorget with elongated feathers projecting to the sides. Males turn their head from side to side as they sing, flashing their iridescent head as a signal to other hummingbirds. They have a green back and are grayish below. Outer tail feathers are gray, darker at the edges. The tail extends well beyond the wingtips.

Adult females also have a green back and grayish underparts. Gorget (throat) markings vary from bronzy gray mottling to a central splotch of rose/red feathers. Very rarely, rose feathers may occur on the crown. The tail extends to or beyond the wingtips. Tail feathers are broad, rounded, banded in dull gray-green, blackish, and white. Immature birds look somewhat similar to the adult females, although immature males have heavier mottling in the gorget. The Anna's Hummingbird typically holds its tail still while hovering.

Costa's Hummingbird (*Calypte costae*)

RANGE—The Costa's Hummingbird is California's desert hummingbird, a common species found in hot deserts and other xeric habitats, mainly in southern California. This species breeds in three major habitat types: Sonoran Desert scrub, Mohave Desert scrub, and California coast. It leaves the Sonoran and Mojave Desert scrub

habitat after the peak of breeding season (mid-March through mid-April), and by May most of the birds have migrated from the area. Post-breeding destinations are largely unknown; some individuals may go to Mexico, whereas others seem to move uphill, similar to Anna's Hummingbird. Populations with a year-round food supply (e.g. hummingbird feeders) are sedentary. The species returns to Arizona and California deserts when desert lavender or chuparosa begin flowering. During the non-breeding season, individuals have been observed slightly above 7,800 feet in elevation in chaparral, scrub, or woodland habitat. Occurring in BCRs 32 and 33 in California, Costa's Hummingbird can be seen year-round throughout many desert and some coastal habitats of southern California.

Costa's Hummingbird—male and female
Courtesy of Cindy Thill

FOOD—These hummingbirds feed on a variety of plants and insects, with particular focus on two shrubs in desert scrub areas, chuparosa and ocotillo. Additional nectar plants include desert lavender, thornbush, honeysuckle, beardtongue, coral bean, and New Mexico thistle.

NESTING—Costa's Hummingbird's begin to breed after the desert plants begin to bloom, and nest construction begins as early as mid-January. Nesting elevation ranges from 100 to 4,700 feet (Corman and Wise-Gervais 2005). Nests are found on plants in open, sparse habitat, but in urban environments may be in dense vegetation, from 1 to 40 feet above ground.

APPEARANCE—The male Costa's Hummingbird has an iridescent violet crown and gorget that runs along both sides of its throat. Both males and females have green upperparts. Females have a white throat and underparts, with occasional violet feathers.

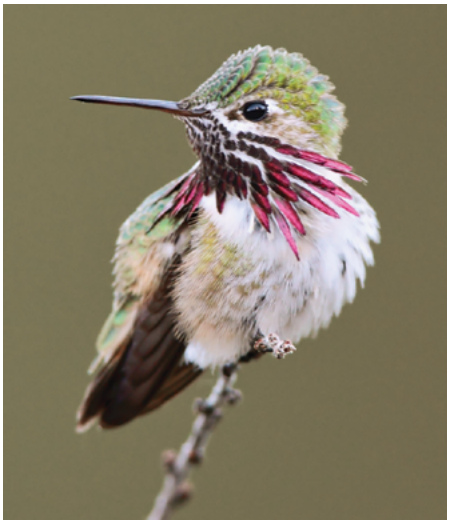
Calliope Hummingbird (*Selasphorus calliope*)

RANGE— Calliope Hummingbirds occur in all five Bird Conservation Regions (BCRs) in California, which are BCRs 5, 15, 32, 9, and 33. They are common summer residents in mountain habitats from southern California to the Oregon border, seen only transiently in the southeast corner of the state and along the coast. Spring migration peaks in April, when the birds pass through both montane and lowland, coastal habitats along the Pacific Flyway. During migration they tend to co-occur with migrating Rufous Hummingbirds, and Rufous Hummingbirds are far more abundant than this species. Fall migration is through both the Pacific and Rocky Mountain

Flyways, at a wider range of elevations, from mountains to desert riparian corridors.

Calliope Hummingbird—female
Courtesy of Scott Carpenter

NESTING— Preferred nesting habitat is montane conifer forests, primarily in shrub-sapling seral stage into second-growth following fires or logging, and usually near (within 1 mile) of riparian habitat. They breed mostly in mountain areas from British Columbia to California, Nevada, and Utah. They breed mainly at middle elevations (4,000 to 7,000 feet), but sometimes as high as timberline (above 9,000 feet) and down to lower forest margins (500 feet).



Calliope Hummingbird—male
Courtesy of Scott Carpenter

APPEARANCE— The Calliope Hummingbird is the smallest breeding bird in North America and is the smallest long-distance avian migrant in the world. The male Calliope Hummingbird weighs about the same as a penny—about half as much as a male Anna's Hummingbird. The adult male is bright green above and creamy white below with a green wash on the sides and flanks. The adult male's gorget is iridescent, wine-red to magenta-red, and, unlike other North American hummingbirds, separated into distinct rays that fan across its throat. The male can elevate the rays into a starburst display against the white background of its throat. Wingtips extend to or slightly beyond the short tail. Tail feathers are dull gray, variably edged with cinnamon at the base.

The adult female is bright green to golden green above and creamy white below, with a rusty wash on the sides, flanks, and across the lower breast. The gorget is evenly spotted with dusky to brownish bronze. The tail usually falls short of the wingtips. The adult female looks much like female Rufous or Allen's Hummingbirds, but it is smaller with a shorter bill, shorter tail, and less rust at the base of the tail. Immature birds look similar to adult females. Calliope Hummingbirds often cock their tails upward, perpendicular to the body, while hovering.

Broad-tailed Hummingbird (*Selasphorus platycercus*)

RANGE—The Broad-tailed Hummingbird is a long-winged, high elevation hummingbird whose migratory breeding populations range north across the Rocky Mountains to southern Montana and west through forested regions of Nevada and just barely make it into eastern California. They breed above 6000 feet (and so only rarely overlap with the lower-elevation Black-chinned Hummingbird). Summer breeding occurs along the central eastern border of California in the White Mountains. Occurring in BCRs 9 and 33 in California, this species occupies high-elevation great basin mountain habitats, including piñon-juniper, pine-oak, montane riparian areas and wet meadows, and areas of open mixed conifers including fir, spruce, and pine.

Broad-tailed Hummingbird—male
Courtesy of David Inouye

FOOD—Broad-tailed Hummingbirds primarily consume nectar from flowers such as red columbine, Indian paintbrush, sage species, currants, and scarlet mint. Broad-tailed Hummingbirds also feed from flowers that are not typically used by other hummingbirds, including pussywillows, and glacier lilies. They will also eat small insects, gleaning them from leaves and snatching them from midair.

Broad-tailed Hummingbird—female
Courtesy of David Inouye

NESTING—Nest site selection and construction is done entirely by the female and can begin as early as late April, and ends by late July. Nests are typically observed on low horizontal branches of willows, alders, cottonwoods, pines, firs, spruces, or

aspens, generally 3-13 feet above ground. Their nests are often located over water. Broad-tailed Hummingbirds mainly breed between 6,000-10,000 feet, but have been observed nesting at elevations over 10,700 feet. After breeding, they follow the path of blooming plants.

APPEARANCE— These mid-sized hummingbirds have longer tail and wings than any other North American Selasphorus species. The male is green above and white below with an iridescent, rosy-red gorget. The male may be known at once due to the loud, cricket-like wing trill sound it produces with its wings. These specialized flight feathers allow him to be heard from about a 100-yard distance, making his presence obvious.

Rufous Hummingbird—male
Courtesy of Jim Cruce

The female is green above and white below with rusty sides and rust at the base of the tail. Females can be distinguished from other Selasphorus species by a white eye-ring and long rectrices, which make their tails look longer and broader when fanned.

Rufous Hummingbird (*Selasphorus rufus*)

RANGE— The Rufous Hummingbird travels farther north than any other hummingbird, wintering in Mexico and migrating to breeding sites as distant as Alaska.

Rufous Hummingbird—female
Courtesy of Jim Cruce

Although a relatively small hummingbird, it has an aggressive nature and frequently chases larger hummingbirds from nectar sources. Its presence in California is solely migratory as it rotates between wintering sites in central and western Mexico and summer breeding sites in the Pacific Northwest. Fall migration begins in June and is split between the Pacific and Rocky Mountain Flyways. As with other hummingbirds, Rufous Hummingbirds typically move to higher elevations for the fall migration, following nectar flowers. During migration, the Rufous Hummingbird occurs in all five Bird Conservation Regions (BCRs) in California, which are BCRs 5, 15, 32, 9, and 33. Rufous Hummingbirds are found in a wide variety of habitats.

NESTING—For breeding, they prefer second-growth forest communities and

openings, but they will also use mature forests, parks, and residential areas—from sea level to 4,000 feet. This species nests in southern Oregon, but nesting has not been confirmed in far northern California.

APPEARANCE—The back of the adult male Rufous Hummingbird is cinnamon-colored (rufous), sometimes spangled with green and rarely more than half green. The underparts are creamy white with a rufous "vest." The crown is bright green, and the gorget is iridescent scarlet to orange, appearing golden or yellow-green from some angles. The tail extends past the wingtips. The rufous tail feathers are black-tipped and pointed.

The adult female is bright green above and white below, strongly washed with rufous on the sides, flanks, and undertail coverts. The face and sides of the gorget are also washed rufous. The gorget is off-white, spangled with green to bronze (concentrated on the sides). The throat is marked with red-orange, from just a few spangles to a large patch. The rounded tail extends past the wingtips; it is rufous at the base and banded with black. The outer three pairs of tail feathers have white tips. Immature birds look similar to the adult female, although the immature males typically show more rufous on the rump and lower back as well as heavier markings on the throat.

Allen's Hummingbird (*Selasphorus sasin*)

Allen's Hummingbird—male
Courtesy of Michael Duncan

The Allen's Hummingbird is closely related to the Rufous Hummingbird, and the two species look very similar, making identification a challenge where the species' ranges overlap. It breeds in coastal areas from California into southern Oregon and winters mostly in central Mexico and also along the Gulf Coast to Alabama. There are two subspecies, a migratory subspecies found throughout coastal California from Santa Barbara north; and a sedentary subspecies that does not migrate, found on the Channel Islands as well as on the mainland coast, from Santa Barbara south to Mexico, and inland to Riverside.

RANGE—Allen's Hummingbird is a coastal species, rarely found more than 40 miles inland anywhere except southern California. It occurs in Bird Conservation Regions (BCRs) 5, 32, and 33. In spring, Allen's Hummingbirds migrate along the coast in coastal scrub, chaparral, riparian woodland, and eucalyptus groves. They breed in the

summer along the entire length of the California coast and are present year-round in southern California around the Los Angeles County area. Southbound migration is apparently also coastal, as well as inland along the coast range at higher elevations mixed woodland, open coniferous forest, and montane chaparral habitats. There are also extralimital reports of southbound birds from interior and eastern parts of the state as they migrate between their breeding grounds along the coast and wintering habitat in Central Mexico. Southbound migration begins in June and peaks in July.

Allen's Hummingbird—female
Courtesy of Michael Duncan

NESTING—They breed only in the narrow, moist, coastal zone affected by summer fogs, from sea level to 1,000 feet, and usually in or near shrubby, riparian habitat. Males typically select territories in open areas of coastal scrub or riparian shrubs, preferring willows as well as blackberry, dogwood, and poison oak. Females select nest sites in more densely vegetated areas with at least some cover.

APPEARANCE—It is very difficult to distinguish Allen's Hummingbirds from Rufous Hummingbirds. Both species even sound alike. The adult male Allen's Hummingbird is brilliant green above with a green crown, and a rufous rump and undertail coverts. Unlike nearly all adult male Rufous Hummingbirds, the back is more than half green. The tails of the two species differ slightly in appearance, but the bird must be held in the hand to make the distinction.

The adult female and immature Allen's Hummingbirds appear almost identical to those of the Rufous Hummingbird. Distinguishing the two species requires having the bird in hand.

Others

A few other hummingbird species are sometimes, though rarely, seen in California. They include:

Ruby-throated Hummingbird (*Archilochus colubris*)

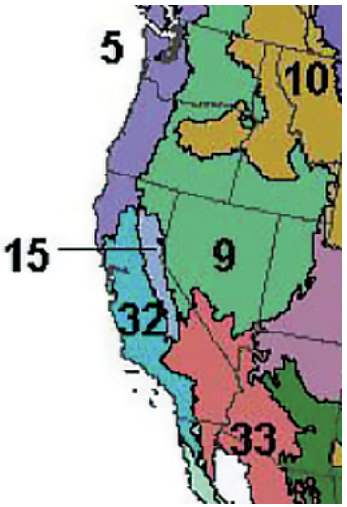
Violet-crowned Hummingbird (*Amazilia violiceps*)

Broad-billed Hummingbird (*Cynanthus latirostris*)

Magnificent Hummingbird (*Eugenes fulgens*)

Bird Conservation Regions in California

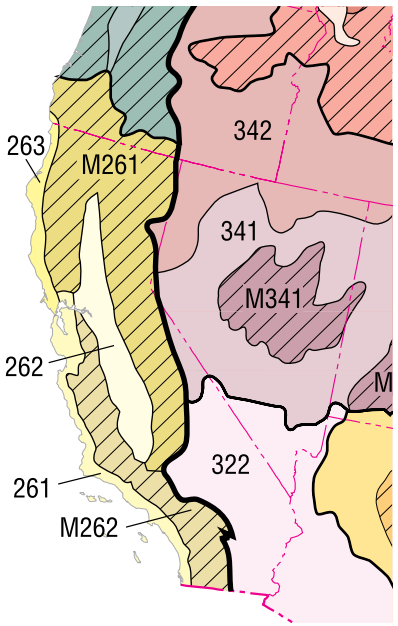
The United States North American Bird Conservation Initiative Committee is a coalition of government agencies, private organizations, and bird initiatives in the United States. The committee is working to ensure the long-term health of North America's native bird populations. Bird conservation initiatives have produced national and international conservation plans for birds as well as regional plans for numerous BCRs, which are ecologically distinct regions in North America with similar bird communities, habitats, and resource management issues. The regional plans provide more detailed information on population objectives and habitat needs for birds in specific landscapes.



The five BCRs in California, the Northern Pacific Rainforest (BCR 5), the Sierra Nevada (BCR 15), Coastal California (BCR 32), the Great Basin (BCR 9), and the Sonoran and Mohave Deserts (BCR 33), are shown on the map (above left).

Ecoregions in California

Land within California lies within eight ecoregions (see below—codes in parentheses), which are shown on the map: *Ecoregions in California*. The ecoregion boundaries differ from those of the BCRs and their relationship is as below.



(322) American Semi-Desert and Desert (ASDD) – lies within BCR 33

(261) CA Coastal Chaparral (CACC) – lies within BCR 32

(263) CA Coastal Steppe (CACS) – lies within BCR 5 and BCR 32

(M262) CA Coastal Range Open Woodland (CACROW) – lies within BCR 32

(262) CA Dry Steppe (CADS) – lies within BCR 32

(M261) Sierran Steppe Mixed Forest (SSMF) – lies within BCR 5, BCR 9, BCR 15, and BCR 32

(341) Intermountain Semi-Desert and Desert (ISDD) – lies within BCR 9

(342) Intermountain Semi-Desert (ISD) – lies within BCR 9

Note: Ecoregion map adapted from http://www.fs.fed.us/rm/ecoregions/images/maps/ecoregions-united-states-sample.jpg

The Pollinator Partnership website (www.pollinator.org) will show you which ecoregion you are in just by entering your postal zip code (under "Planting Guides" on the website). If you wish to supplement the information presented in this guide, for example, to attract other pollinators or to learn about other ecoregions, the Pollinator Partnership offers planting guides for ecoregions throughout the United States. The website provides additional tools and connections to useful resources for pollinator and plant information.

Hummingbird Nectar Plants for Ecoregions in California

The following table (*Hummingbird Nectar Plants for Ecoregions in California*) lists some plants that are nectar sources for hummingbirds. These plants are native to California, and are adapted to conditions in the ecoregions indicated in the table. The table also provides basic information on habitat and light, soil, and water needs. Finally, the tables provide seed sources for each plant valid as of July 2015. A directory of the seed sources follows the tables. Use locally-adapted genetically appropriate plants in all your restoration and pollinator enhancement work. Seed zones—areas with genetically similar plants—help determine the right plant materials to use; poorly chosen plants usually fail to thrive. See http://fs.bioe.orst.edu/web_maps/Seed_Zones.html for provisional seed zones of California, and select plant materials from your zone. Planting non-natives to attract hummingbirds is against policy and destructive: these plants can become invasive and disrupt ecosystems. For example, yellow toadflax (*Linaria vulgaris*, also called "butter and eggs") is attractive to hummingbirds but is a noxious weed.

Yellow Toadflax
Courtesy of Colorado State University Extension–Adams County

Hummingbird Nectar Plants for Ecoregions in California

Botanical Name	Common Name	Ecoregion1							
		ASDD	CACC	CACC	CACROW	CADS	SSMF	ISDD	ISD
Trees and Shrubs									
**Arbutus menziesii*	Pacific Madrone		X	X			X		
Arctostaphylos spp.	Manzanita (various species)		X	X	X		X		
Arctostaphylos glandulosa	Eastwood Manzanita		X	X	X				
**Arctostaphylos glauca*	Bigberry Manzanita				X				
Arctostaphylos manzanita	Common Manzanita						X		
Arctostaphylos nevadensis	Pine-mat Manzanita						X		
Arctostaphylos pungens	Pointleaf Manzanita				X				
Arctostaphylos uva-ursi	Kinnikinnick		X	X					
Calliandra eriophylla	Fairyduster	X							
Chilopsis linearis	Desert Willow	X							
**Condea emoryi*	Desert Lavendar	X							
**Fouquieria splendens*	Ocotillo	X							
**Justicia californica*	Chuparosa	X							
Lonicera conjugialis	Purpleflower Honeysuckle						X		
**Lonicera involucrata*	Twinberry			X					
**Lycium andersonii*	Box Thorn	X							
Lycium cooperi	Cooper's Box Thorn	X							
Malacothamnus fasciculatus	Mendocino Bush-mallow		X						
Parkinsonia florida	Blue Paloverde	X							
Peritoma arborea	Bladderpod					X			
Pickeringia montana	Chaparral Pea								
Ribes spp.	Currants (various species)								
**Ribes aureum*	Golden Currant				X		X		

Bloom Season	Sunlight	Soils, Water	General habitat/ elevation	Seed Sources2
Apr-May	Sun to partial shade	Dry, well drained	Exposed or wooded slopes & canyons below 5000'	CCW, LS, SSS
Dec-May	Sun	Dry		CCW, RNP, PS, S&S, SSS, TPF, WC
Jan-Mar	Partial shade	Dry, gravelly	Chaparral or evergreen forests on dry, gravelly slopes & ridges; 1000-6000	TPF, WC
Jan-Mar	Sun to partial shade	Dry to moist, sandy to loamy	Dry slopes below 4500', chaparral	TPF
Fed-Apr	Sun to partial shade	Dry, well drained	Dry slopes & foothill canyons	SSS
May-Jul	Partial shade	Moist, well drained	Moist, open mt. woods; 2000-10,000'	SSS
Jan-Feb	Partial shade	Well drained, sandy	Mixed shrub and sagebrush commu-nities, pinyon-juniper woods, canyons, lower mountain slopes	
Mar-Jun	Sun to shade	Dry to moist, rocky or sandy, acid soils	Rocky, open woods; dry, sandy hills; mountainous regions	PS, RNP
Feb-Mar	Full sun	Dry, gravelly	Dry, gravelly slopes & mesas	RNP
Apr-Sep	Sun	Dry, well drained	Desert washes	PS, RNP, S&S, SSC, TPF
Jan-May	Sun	Dry, sandy, gravelly	Washes, canyons, desert scrub below 3000'	
Feb-May	Full sun	Rocky, well drained	Desert washes	
Mar-Jun	Sun	Dry	Desert washes	RNP
Jun-Aug	Shade to sun	Moist	Woods, meadows and moist open slopes at mid-elevations in the mountains	
Mar-Aug	Shade to sun	Moist, well drained	Moist or wet, open woods from sea level-10,000'	
Mar-May	Sun	Dry	Dry, stony hills, mesas & washes	RNP, S&S, SSC
Mar-May	Sun	Dry	Sandy to rocky flats, washes in deserts, to 6000'	S&S
May-Aug	Sun	Moist to dry	Dry slopes & canyon sides below 2500'	RNP, S&S, SSC
Apr-May	Sun	Dry, well drained	Desert washes and grasslands	RNP
Feb-Jul	Sun	Dry	Subalkaline coastal bluffs; desert washes; stabilized dunes	RNP, S&S
May-Aug	Sun	Dry	Dry hillsides in chaparral	
Jan-May				CCW, PS, RNP, S&S, SSC, SSS, WC
Apr-May	Sun to partial shade	Dry to moist	Moist to drier hillsides & river valleys	CCW, PS, RNP, SSC

Hummingbird Nectar Plants for Ecoregions in California...continued

Botanical Name	Common Name	Ecoregion1							
		ASDD	CACC	CACC	CACROW	CADS	SSMF	ISDD	ISD
Ribes glutinosum	Wild Currant		X	X			X		
**Ribes malvaceum*	Chaparral Currant				X				
Ribes menziesii	Canyon Gooseberry		X		X				
Ribes quercetorum	Oak Gooseberry					X			
Ribes roezlii	Sierra gooseberry						X		
**Ribes sanguinium*	Pink-flowered Currant		X	X			X		
**Ribes speciosum*	Wild Gooseberry			X					
Rubus spectabilis	Salmonberry			X					
Salvia spp.	Various salvias		X		X				
**Salvia apiana*	White Sage		X		X				
Salvia carduacea	Thistle Sage					X			
Salvia clevelandii	Cleveland Sage		X	X	X				
Salvia dorrii	Hairy Sage	X							
**Salvia leucophylla*	Purple Sage		X		X				
**Salvia mellifera*	Black Sage		X		X				
**Salvia spathacea*	Hummingbird Sage								
Sambucus racemosa	Red Elderberry			X					
Symphoricarpos albus	Common Snowberry				X				
Symphoricarpos longiflorus	Desert Snowberry	X						X	
Perennial Herbs									
Antirrhinum multiflorum	Chaparral Snap-dragon		X		X				
**Aquilegia Formosa*	Western Columbine		X	X	X		X		
**Castilleja spp.*	Various Castilleja	X			X	X	X	X	X
Castilleja applegatei	Wavyleaf Indian paintbrush				X		X		
Castilleja exserta	Purple Owl's Clover					X			
Castilleja linariifolia	Desert Paintbrush	X						X	X
Castilleja miniata	Scarlet Paintbrush						X		

Bloom Season	Sunlight	Soils, Water	General habitat/ elevation	Seed Sources2
Jan-Mar	Shade to partial shade	Dry to moist	Canyons and north slopes in the coast ranges, below 7000'	CCW, LS
Feb-May	Sun to partial shade	Well drained	Chaparral	CCW
Apr-May	Partial sun to shade	Dry	Shrubby or wooded canyons	
Mar-May	Sun	Dry	Woodlands, chaparral, and dry desert slopes and canyons	
May-Jun	Sun to partial sun	Dry to moist	Moist mountain tops	
Jan-May	Sun to shade	Dry to moist	Canyons and north slopes in the coast ranges, below 7000'	CCW, RNP,
Jan-May	Part shade	Well drained	Brushy, shaded canyons below 1500	RNP, S&S
Mar-Jun	Shade to sun	Moist, acidic	Low, moist woods; stream banks; mt. slopes	
				CCW, ESP, PS, RNP, S&S, SSC, TPF, WC
Apr-Jul	Sun	Dry, well drained	Dry slopes below 5000	RNP, S&S, SSC, TPF, WC
Mar-Jun	Sun	Dry	Sandy or gravelly, open places	S&S, SSC
Apr-Aug	Sun	Well drained sand and gravel	Dry slopes below 3000	RNP, S&S, SSC, TPF, WC
May-Jun	Sun	Dry	Dry, open scabland & sagebrush	S&S
May-Jun	Sun	Dry	Dry slopes below 4000'	LS, RNP, S&S, SSC
May-Jun	Sun	Dry	Dry slopes & flats below 2000	RNP, S&S, SSC, TPF, WC
Mar-May	Partial shade	Moist	Open or shaded slopes below 2000	CCW, RNP
May-Jun	Sun to partial shade	Moist	Woodland, savannah, wet meadow/ prairie/field, riparian	SSC
May-Jun	Sun to shade	Wet to moist	Wooded hillsides; rocky, open slopes	CCW, SSS, TPF
May-Jun	Sun	Dry	Moister spots in the desert mountains	
May-Jul	Sun	Dry, well drained	Chaparral slopes after fire, 3000-5000'	
Feb-May	sun to shade	Dry to moist rocky soils	Moist, open woods, banks & seeps; 4000-9000	CCW, LS, SSS, WC
				PS, S&S, TPF
Apr-Jun	Sun to partial shade	Rocky, dry, well drained	Sagebrush, open conifer woods	
Mar-May	sun	Moist to dry	Fields, deserts, and open, wooded areas	PS , S&S, SSC, TPF
Jun-Sep	Partial shade	Dry, rocky	Plains, sagebrush, juniper forests, at mid to high elevations	
May-Sept	Sun	Wet to moist, well drained	Moist meadows, forest openings, from coast to mountains	SSS

Hummingbird Nectar Plants for Ecoregions in California...continued

Botanical Name	Common Name	Ecoregion1							
		ASDD	CACC	CACC	CACROW	CADS	SSMF	ISDD	ISD
Chamerion angustifolium	Fireweed								
Cirsium occidentale	Cobweb Thistle						X		
Cynoglossum grande	Western Hounds-tounge		X				X		
Delphinium cardinale	Scarlet Larkspur		X		X				
Delphinium nudicaule	Red Larkspur		X		X		X		
Dicentra chrysantha	Golden Eardrops				X				
Dicentra formosa	Western Bleeding Heart			X			X		
Dichelostemma	Firecracker Flower			X			X		
Ida-maia									
**Dudleya spp.*	Various Dudleyas	X	X		X		X		
Dudleya abramsii	Abram's Dudleya				X		X		
Dudleya cymosa	Canyon Dudleya				X		X		
Dudleya lanceolata	Southern California Dudleya		X		X				
Dudleya pulverulenta	Chalk Dudleya		X		X				
Dudleya saxosa	Panamint Dudleya	X			X				
**Epilobium canum*	California Fuchsia						X		
Epilobium septentrionale	Humboldt County Fuchsia			X					
Eriodictyon parryi	Poodle-dog Bush						X		
Erysimum capitatum	Wallflower		X	X	X		X		
Erythronium	Glacier Lily						X		
grandiflorum									
Fritillaria recurva	Scarlet Fritillary				X				
Hibiscus lasiocarpos	Rose-Mallow					X			
Ipomopsis aggregata	Scarlet Gilia						X		
Iris missouriensis	Western Blue Flag						X		
Keckiella antirrhinoides	Chaparral Beardtongue				X				
Keckiella breviflora	Bush Beardstounge				X		X		

Bloom Season	Sunlight	Soils, Water	General habitat/ elevation	Seed Sources2
Jul-Sep	Sun	Moist to dry	Disturbed soil in cool areas, burned areas	
May-Aug	Sun to partial shade	Dry	Below 6000'	LS
Mar-Jun	Shade	Dry	Dry shaded places in woods	
Mar-Jul	Partial sun to partial shade	Moist	Hot, dry openings in brush & woods below 5000'	
Mar-Jun	Partial sun to partial shade	Moist	Dry, wooded or shrubby foothills below 6500	SSC, SSS
May-Jul	Sun	Dry	Dry, brushy areas prone to wildfire	WC
Mar-Jul	Sun to shade	Moist, well drained, humus rich	Cool, damp woods	SSS
May-Jul	Sun to partial shade	Well drained	Grassy slopes in woodland openings at low or moderate elevations	CCW
				CCW, RNP, TPF, WC
Apr-Jun	Sun	Dry, rocky	Rocky cliffs	
Apr-Jun	Partial shade	Dry, rocky	Rocky, interior cliffs below 3500	SSS
May-Jul	Sun to partial shade	Dry, rocky	North facing cliffs and rock crevices with little soil	RNP, WC
Apr-Jul	Sun to partial shade	Dry, rocky	Rocky areas and cliff faces below 3000'	RNP, TPF
May-Sept	Sun to partial shade	Dry, rocky	North facing cliffs and rock crevices with little soil	
Jul-Oct	Sun	Dry	Dry slopes and ridges from sea level to high in the mountains	CCW, RNP
Aug-Nov	Part shade	Heavy soils	Dry sand or stony ledges	
May-Aug	Sun	Disturbed soils	Chaparral, on granitic slopes and ridges from 3000-7500'	
Mar-Jul	Sun	Dry, well drained	Plains; foothills; high elevation conifer-ous forests	TPF
May-Jul	Part shade	Moist	Grows in alpine or subalpine meadows, forest openings, among sagebrush	
Apr-Jun	Sun to part shade	Dry	Rocky bush-covered slopes	SSS
Apr-Sep	Sun	Wet	Borders of sloughs, ponds & ditches; low, wet woods	
Jun-Sep	Sun to partial shade	Dry, sandy to loamy	Hillsides, Slopes	SSS
May-Jul	Sun to partial sun	Moist to wet	Marshes; wet meadows	PS , S&S, SSC
Apr-Jul	Sun to partial shade	Dry, rocky	Dry, rocky slopes below 4500	RNP, S&S, SSC, WC
Apr-Jul	Sun	Dry	Dry, rocky slopes below 8000	

Hummingbird Nectar Plants for Ecoregions in California...continued

Botanical Name	Common Name	Ecoregion1							
		ASDD	CACC	CACC	CACROW	CADS	SSMF	ISDD	ISD
**Keckiella cordifolia*	Heartleaf Beardtounge		X		X				
Keckiella corymbosa	Red Beardtounge			X			X		
Keckiella lemmonii	Lemmon Beardtounge						X		
Keckiella ternata	Scarlet Beardtounge				X				
Lepechinia calycina	Pitcher Sage		X	X	X	X	X		
Lilium	Washington Lily						X		
washingtonianum									
Lilium pardalinum	Leopard Lily						X		
Lobelia cardinalis	Cardinalflower				X				
Mahonia repens	Creeping Barberry						X		
**Mimulus aurantiacus*	Sticky monkeyflower		X	X	X		X		
Mimulus cardinalis	Scarlet Monkeyflower		X		X		X		
Mimulus dentatus	Coastal Monkeyflower			X					
Mimulus guttatus	Seep Monkeyflower	X	X	X	X	X	X		
Monardella macrantha	Red Monardella		X		X				
Monardella villosa	Coyote mint		X	X	X		X		
Oenothera elata	Evening Primrose		X	X	X	X	X		
Pedicularis densiflora	Indian warrior		X	X	X		X		
Pedicularis semibarbata	Pine Lousewort				X		X		
Penstemon spp.	Various Penstemons		X	X	X		X		
Penstemon azureus	Blue Penstemon						X		
Penstemon centranthifolius	Scarlet Bugler		X		X				
Penstemon clevelandii	Clevland's Penstemon	X							
Penstemon eatonii	Firecracker Penstemon							X	X
Penstemon gracilentus	Slender Penstemon						X		

Bloom Season	Sunlight	Soils, Water	General habitat/ elevation	Seed Sources2
Mar-Aug	Sun	Dry, rocky	Dry, brushy slopes & canyons below 4000	RNP, S&S, TPF, WC
Jul-Sep	Sun	Serpentine soils	Open, rocky slopes and cliffs below 6000'	
Mayl-Aug	Sun to partial shade	Dry, rocky	Rocky slopes, conifer and mixed forests, chaparral	
Jun-Aug	Sun	Dry	Exposed areas of north slopes below 6000'	WC
Mar-Jun	Sun to shade	Dry to moist	Chaparral, woodlands	CCW
Jun-Aug	Sun-part shade	Well drained, dry in summer	Brush or open forests	SSS
May-Jul	Sun to partial sun	moist to wet	Conifer stream banks & springy places up to 6000'	SSS, TPF
Jun-Aug	Shade to sun	Wet to moist	Depressions, Woodlands edge, Opening, Stream banks	PS
May-Jul	Partial shade	Dry to moist, well drained	Dry, open woods & hills at high elevations	PS, RNP
May-Sep	Sun to partial sun	Dry to moist		HF, LS, RNP, S&S, SSC, SSS, TPF
Apr-May	Shade	Wet to moist	Stream banks & seeps below 8000	RNP, S&S, SSC, TPF
May	Shade to sun	Moist, well drained	Coastal streams and wet shady places	
Apr-Jul		Moist to wet	Stream banks; wet places to 10,000	CCW, LS, PS, RNP, S&S, SSC
Jun-Aug	Partial sun to partial shade	Moist to dry	Dry slopes & ridges from 2500-6000'	
May-Aug	Sun to part shade	Dry, well drained	Chaparral, woodlands	CCW
Jun-Sep	Sun	Moist	Sandy stream banks; low, marshy areas	HF, RNP, S&S, TPF
Jan-Aug	Sun-partial shade	Moist to dry	Chaparral, forests, California oak woodlands at low elevations	SSS
May-Jul	Shade	Dry	Coniferous forests	
Mar-Aug				CCW, PS, RNP, S&S, SSC, SSS, TPF, WC
May-Aug	Sun	Well drained, dry	Dry, rocky slopes & banks; 3500-7500	SSS
Apr-May	Sun	Dry	Dry slopes below 6500	S&S, SSC, WC
Mar-May	Sun	Dry	Dry, open slopes from 2500-4500	CCW
Apr-May	Sun	Dry, well drained	Southwest desert mountains commonly in openings between Pinyon Pines	PS, RNP, SSC
Jun-Aug	Partial shade	Dry, well drained	Woodland, sagebrush; up to 9,000 feet	

Hummingbird Nectar Plants for Ecoregions in California...continued

Botanical Name	Common Name	Ecoregion1							
		ASDD	CACC	CACC	CACROW	CADS	SSMF	ISDD	ISD
Penstemon heterophyllus	Foothill Penstemon						X		
Penstemon labrosus	San Gabriel Penstemon						X		
Penstemon newberryi	Mountain Pride						X		
Penstemon pseudospectabilis	Desert Penestemon	X							
Penstemon rostriflorus	Bridge Penstemon						X		
Penstemon spectabilis	Showy Penstemon			X			X		
Phlox speciosa	Showy Phlox						X		
**Sarcodes sanguinea*	Snowplant				X		X		
Satureja mimuloides	Monkeyflower Savory				X				
**Scrophularia californica*	California Figwort		X	X	X	X	X		
**Silene californica*	Indian-pink						X		
**Silene laciniata*	Cardinal Catchfly		X		X				
Stachys chamissonis	Coast Hedge Nettle			X					
Tellima grandiflora	Fringe cup		X						
**Trichostemma lanatum*	Woolly Blue Curls				X				
Vines									
Clematis ligusticifolia	Western Virgin's Bower						X		
Lathyrus vestitus var. ochropetalus	Pacific Pea			X					
**Lonicera ciliosa*	Vine Honeysuckle						X		
**Lonicera hispidula*	California honeysuckle		X	X			X		
Lonicera interrupta	Chaparral honeysuckle				X		X		
Lonicera subspicata	Southern honeysuckle			X	X				

***Hummingbird adapted or preferred nectar sources**

1 Ecoregions:

ASDD = American Semi-Desert and Desert
CACC = CA Coastal Chaparral
CACS = CA Coastal Steppe
CACROW = CA Coastal Range Open Woodland
CADS = CA Dry Steppe
SSMF = Sierran Steppe Mixed Forest
ISD = Intermountain Semi-Desert

Bloom Season	Sunlight	Soils, Water	General habitat/ elevation	Seed Sources2
Apr-Jul	Sun	Moist winter/spring, dry summer, good drainage	Dry hillsides below 5500	LS, RNP, TPF, WC
Jun-Aug	Partial shade	Well drained	Fairly dry, wooded slopes & benches; 5000-10,000	
Jun-Aug	Shade tolerant	Very well drained, rocky	Rocky places from moderate to high elevations	S&S, SSS
Mar-May	Sun	Dry, well drained	Deserts, washes & canyons; 2000 to 7000	PS
Jun-Aug	Sun	Rocky, sandy	Dry slopes in pinyon & ponderosa pine forests; 4500 to 10,000	
Apr-Jun	Sun	Dry	Dry washes & disturbed areas below 6000	PS, RNP, S&S, TPF, WC
Apr-Jun	Sun to partial sun	Dry to moist, rocky	Shrub-steppe, grasslands, lightly wood-ed areas, at low to mid elevations	
May-Jul	Shade	Parasitic on conifers	Humus of coniferous woods	
Jun-Oct	Sun	Moist to wet, clay	Creek sides in mountains	
Feb-Jul	Sun to partial shade	Sandy to clay, dry to moist	Coastal scrub and woodlands	CCW, LS, RNP, S&S, SSC
Apr-Jul	Sun to partial sun	Dry to moist	Open, brushy areas or woods below 5000	SSS
Apr-Jun	sun to partial sun	Moist to dry	Pine forests; grassy or brushy slopes	RNP
May-Oct	Sun to partial shade	Wet	Wet areas along the coast	
Mar-May	Shade	Moist, rich, well drained	Cool, moist woods & rocky places below 5000	CCW
May-Aug	Sun	Poor, well drained	Dry slopes & chaparral below 3500	RNP, S&S, SSC, TPF
May-Aug	Sun to partial sun	Moist	Woods along streams; moist, brushy coulees	LS, PS, RNP, S&S, TPF
Mar-Jun	Partial shade	Semi-dry	Forests, woodlands, and chaparral	
Apr-Jun	Partial sun	Moist	Open woods & thickets	
Jun-Aug	Sun to partial shade	Dry to moist	Open woods & thickets	CCW, LS, RNP
Apr-Aug	Sun to shade	Dry	Oak woodland, chaparral	
May-Aug	Sun to shade	Dry to moist	Chaparral slopes below 5100'	RNP

2 Seed Sources:

CCW = Central Coast Wilds

ESP = Environmental Seed Producers
HF = Hedgerow Farms
LS = Larner Seeds
PS = Plants of the Southwest
RNP = RECON Native Plants, Inc.

Directory of Seed and Plant Sources

Central Coast Wilds
336 A Golf Club Drive
Santa Cruz, CA 95060
(831) 459-0656
info@centralcoastwilds.com
www.centralcoastwilds.com

Environmental Seed Producers
1859 West Olive Ave
P.O. Box 2709
Lompoc, CA 93436
(805) 735-8888
www.wildflowerseed.com

Hedgerow Farms
21905 County Road 88
Winters, CA 95694
(530) 662-6847
info@hedgerowfarms.com
www.hedgerowfarms.com

Larner Seeds
P.O. Box 407
235 Fern Road
Bolinas, CA 94924
(415) 868-9407
info@larnerseeds.com
www.larnerseeds.com/

Plants of the Southwest
Agua Fria Rt. 6 Box 11-A
Santa Fe, NM 87501
(800) 788-7333
plantsofthesouthwest@gmail.com
www.plantsofthesouthwest.com

RECON Native Plants, Inc.
1755 Saturn Blvd.
San Diego, Ca 92154
(619) 423-2284
info@reconnativeplants.com
www.reconnativeplants.com

S&S Seeds Inc.
P.O. Box 1275
Carpinteria, CA 93014
(805) 684-0436
info@ssseeds.com
www.ssseeds.com

Sierra Seed Supply
358 Williams Valley Rd.
Greenville, CA 95947
(530) 284-7926
orders@sierraseedsupply.com
www.sierraseedsupply.com

Stover Seed Company
P.O. Box 86175
Los Angeles, CA 90086
(213) 626-9668
(800) 621-0315
customer_service@stoverseed.com
www.stoverseed.com

Theodore Payne Foundation for Wildflowers and Native Plants
10459 Tuxford Street
Sun Valley, CA 91352
(818) 768-1802
info@theodorepayne.org
www.theodorepayne.org

Wild California
P.O. Box 1581
Idyllwild, CA 92549
(951) 692-5385
jlasater@wildcalifornia.co
www.wildcalifornia.co

This list of seed sources is not exhaustive, and is only meant to serve as a starting point for land managers. Seed inventories are constantly fluctuating, and some species are offered on a seasonal basis. Please check the availability of specific species before visiting a particular seed source. Wholesale suppliers sometimes require a minimum quantity to place an order.
In addition, the Native Seed Network (www.nativeseednetwork.org) is an online resource that provides search tools and information on all aspects of native seed. You can search the network to find additional sources for native seeds.

Additional Resources

Rufous Hummingbird
Courtesy of Scott Carpenter

• The Western Hummingbird Partnership (WHP) is a developing network of partners collaborating to build an effective and sustainable hummingbird conservation program: www.westernhummingbird.org

• Native Seed Network: www.nativeseednetwork.org

• North American Bird Conservation Initiative: www.nabci-us.org

• e-bird is a real-time, online checklist program and a way for the birding community to report and access information about birds: www.ebird.org

• Partners in Flight is a coalition of partners working to combine, coordinate, and increase resources of public and private entities in order to conserve bird populations: www.partnersinflight.org

• Pollinator Partnership: www.pollinator.org

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Editors
Christopher Clark, Ph.D., UC Riverside
Evan Cole, Pollinator Partnership
David Rankin, UC Riverside
Laurie Davies Adams, Pollinator Partnership

Please send feedback to
info@pollinator.org

Front cover images
Top: Cindy Thill

Back cover images
Top: Sandra Restrepo-Denkins
Bottom: David Inouye

Graphic Design
Erik Ackerson
EarthDesign@weavingroom.com

Marguerite Meyer
www.MargueriteMeyer.com