

California Phenology Project:
species profile for
Greenleaf Manzanita
(*Arctostaphylos patula*)

USA **nph** National Phenology Network

UCSB



CPP site(s) where this species is monitored: Lassen Volcanic National Park, Sequoia National Park



Photo credit: Bryant Olsen (Flickr)

What does this species look like?

This perennial evergreen shrub forms circular clones that are 1 to 2 meters tall and up to 3 meters in diameter. Clones form when the lower branches produce roots that penetrate the soil, promoting clonal growth. The smooth bright green leaves are 2.5 to 6 centimeters long and 1.5 to 4 centimeters wide. The glabrous pink or white, pendant, urn-shaped flowers form drooping clusters. Fruits are dark brown and 1 centimeter in diameter, each containing five hard seeds.

When monitoring this species, use the USA-NPN **broadleaf evergreen trees and shrubs** datasheet.

Species facts!

- The CPP four letter code for this species is **ARPA**.
- The fruits of Greenleaf manzanita are eaten by bears and other animals.
- The seeds can stay dormant in the soil for many years, and require both fire and cold conditions to germinate.
- Pollinated by bees.
- Has a relationship with mycorrhizal fungi.



Photo credit: Brian Haggerty



Photo credit: Bryant Olsen (Flickr)

Where is this species found?

- *Arctostaphylos patula* is found in coniferous forests.
- Occurs between 750 and 3350 meters in elevation.
- Adapted to hot, dry climates and to extreme temperatures.
- Found on well drained soils, from sandy to silky loam.

For more information about phenology and the California Phenology Project (CPP), please visit the CPP website (www.usanpn.org/cpp) and the USA-NPN website (www.usanpn.org)

California Phenology Project:
species profile for
Greenleaf Manzanita
(*Arctostaphylos patula*)



Brian Haggerty

Breaking leaf buds

Leaf buds originate at the nodes of existing leaves, in the leaf "axils".

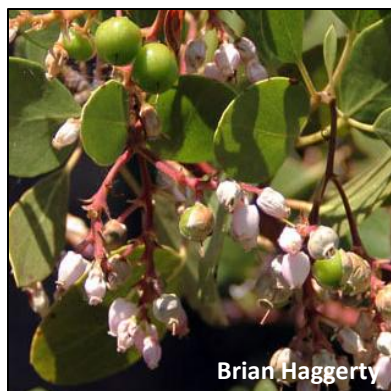
Note: The photo shows leaf buds right before they have broken to reveal the tips of young leaves.



Brian Haggerty

Young leaves

Young leaves tend to be thinner and brighter than mature leaves.



Brian Haggerty

Flowers or flower buds

When monitoring **flower or flower bud abundance** for this species, count each inflorescence as a single flowering structure! For example, if there are two inflorescences with many flowers or buds each, then abundance should be recorded as <3. **Note:** there are no flower buds in the photo.



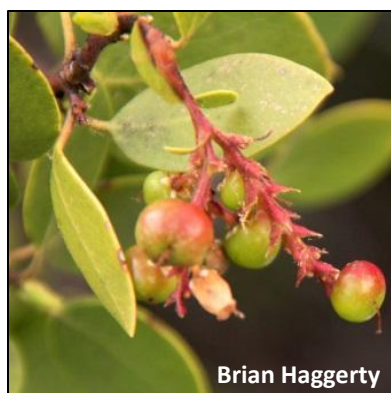
Bryant Olsen

Open flowers

Each flower has both male and female parts contained within the urn-shaped floral tube; this makes it difficult to see both the anthers and the stigma.

Proportion of open flowers should be recorded at the scale of individual flowers, not inflorescences (i.e. estimate the proportion of individual flowers that are open)!

Note: flower phenophases are nested; if you record **Y** for "open flowers" you should also record **Y** for "flowers or flower buds"



Brian Haggerty

Fruits

The fruit is berry-like and changes from green to red, reddish-brown or purplish-brown; it then drops from the plant when ripe.



Bryant Olsen

Ripe fruits

The fruit is considered ripe when it is red, reddish-brown or purplish-brown.

Note: fruit phenophases are nested; if you record **Y** for "ripe fruits" you should also record **Y** for "fruits"

Important note regarding sequence of ARPA phenophases: The phenological progression of ARPA can be confusing as its phenophases do not appear in the sequence presented on USA-NPN datasheets. Observers should look for the following progression: Inflorescence structures (i.e. buds) begin to develop early in the growing season and are mostly, if not exclusively, terminal; the buds on these inflorescences do not open into flowers until the following spring (flower buds form one year prior to maturity). Flowering of last year's inflorescence begins after the flower buds for next year have developed. Following flowering, leaf buds break. Following leaf bud break, fruits set and ripen. Leaves are often fully developed before the fruits become ripe.

Phenophases not pictured: **Recent fruit or seed drop**