Species: *Saussurea americana* D.C. Eaton, American saw-wort

**Photo Source:** CalPhotos (2021), Mike Pitcairn

**Photo Credits:** Top left and bottom right, Mike Pitcairn, used with permission. Top right, Matt C. Berger, used with permission. Bottom left, Richard Spellenberg.

**Status**

Table 1 summarizes the current status of this species or subspecies/variety by various ranking entities and defines the meaning of the status.

**Table 1. Current status of American saw-wort**
<table>
<thead>
<tr>
<th>Entity</th>
<th>Status</th>
<th>Status Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>NatureServe CA&lt;sup&gt;a&lt;/sup&gt;</td>
<td>G5</td>
<td>G5: Secure — Common; widespread and abundant.</td>
</tr>
<tr>
<td></td>
<td>S1</td>
<td>S1: Critically Imperiled — Critically imperiled in the state because of extreme</td>
</tr>
<tr>
<td></td>
<td></td>
<td>rarity (often 5 or fewer occurrences) or because of some factor(s) such as very</td>
</tr>
<tr>
<td></td>
<td></td>
<td>steep declines making it especially vulnerable to extirpation from the state.</td>
</tr>
<tr>
<td>California Rare Plant Rank&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2B.2</td>
<td>2B: Plants rare, threatened, or endangered in California, but more common elsewhere.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.2: Fairly threatened in California.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This taxon was added to the CNPS *Inventory of Rare and Endangered Plants of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>California* in 1974. It has undergone no changes in rank since 2001.</td>
</tr>
<tr>
<td>California State Listing&lt;sup&gt;c&lt;/sup&gt;</td>
<td>Not listed</td>
<td></td>
</tr>
<tr>
<td>USDA Forest Service&lt;sup&gt;d&lt;/sup&gt;</td>
<td>Not listed</td>
<td></td>
</tr>
<tr>
<td>USDI FWS&lt;sup&gt;e&lt;/sup&gt;</td>
<td>Not listed</td>
<td></td>
</tr>
<tr>
<td>USDI BLM&lt;sup&gt;f&lt;/sup&gt;</td>
<td>Not listed</td>
<td></td>
</tr>
<tr>
<td>NatureServe OR&lt;sup&gt;g&lt;/sup&gt;</td>
<td>Not listed</td>
<td></td>
</tr>
<tr>
<td>Oregon State Listing&lt;sup&gt;h&lt;/sup&gt;</td>
<td>Not listed</td>
<td></td>
</tr>
<tr>
<td>NatureServe NV&lt;sup&gt;i&lt;/sup&gt;</td>
<td>Not present</td>
<td></td>
</tr>
<tr>
<td>Nevada State Listing&lt;sup&gt;j&lt;/sup&gt;</td>
<td>Not present</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> California Natural Diversity Database, California Dept. of Fish & Wildlife [CNDDB 2021, 2021a]
<sup>b</sup> California Native Plant Society [CNPS 2021]
<sup>c</sup> California Department of Fish and Wildlife [CDFW 2021]
<sup>d</sup> US Forest Service Region 5 Forester’s List [USDA 2013] and Pacific NW Survey and Manage [USDA & BLM 2014]
<sup>e</sup> US Department of Interior Fish and Wildlife Service [USFWS 2021]
<sup>f</sup> US Department of Interior Bureau of Land Management [BLM 2021]
<sup>g</sup> Oregon Biodiversity Information Center [ORBIC 2019]
<sup>h</sup> Oregon Department of Agriculture [ODA 2018]
<sup>i</sup> Nevada Natural Heritage Program [NNHP 2020]
<sup>j</sup> Nevada Division of Forestry [NDF 2012]

Note: Individual State Heritage Programs (CNDDB, ORBIC, NNHP) represent NatureServe and contain more up-to-date ranks for their state than NatureServe Explorer.

**Distribution, abundance, and population trend on the planning unit**

Table 2 summarizes the distribution and frequency of this species or subspecies/variety within National Forest System Lands in California. Table 4 in Appendix 1 lists all known occurrences of this species or subspecies/variety within California. Individual occurrences are defined as sites that contain an individual, population, or groups of populations of the plant that are located more than 1/4 (0.25) of a mile apart from each other as defined by the CNDDB.

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<sup>1</sup> 1909.12 Chapter 10, Section 12.53, components 2, 3, and 4.
Table 2. Known Occurrence Frequency of American saw-wort within the Planning Area (NRIS, CNDDB, Calflora/CCH databases)

<table>
<thead>
<tr>
<th>National Forest System (NFS) lands in California</th>
<th>Record #s (from Table 4)</th>
<th>CNDDB EOs</th>
<th>Non-CNDDB Records</th>
<th>Recent (seen in past 20 years)</th>
<th>Historical (not seen in past 20 years)</th>
<th>Most Recent Obs. Date</th>
<th>Total Records on NFS lands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klamath:</td>
<td>1, 2</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>5-Jul-2013</td>
<td>2</td>
</tr>
<tr>
<td>Rogue River-Siskiyou:</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>31-Aug-1991</td>
<td>1</td>
</tr>
<tr>
<td>Totals:</td>
<td>N/A</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>N/A</td>
<td>3</td>
</tr>
</tbody>
</table>
Sources: Distribution: Calflora 2021, CCH2 2021, CNDDDB 2021. Baselayers: 2013 National Geographic Society, i-cubed, Esri, Garmin, NOAA, NPS, USGS.
American saw-wort was last updated in the CNDDB on January 23, 2017 (CNDDB 2021), and therefore all Calflora, CCH, and/or NRIS records prior to this date are assumed to have already been reviewed and entered into the CNDDB for this plant. Accordingly, only records from Calflora, CCH, and/or NRIS reported after this date have been reviewed for potential new or updated occurrence information and are included in Table 4 in Appendix 1 as applicable.

In California, American saw-wort is found in the Klamath Ranges (KR) bioregion just south of the Oregon border. This is the southernmost edge of the species’ range, which extends north to Alaska, and as far east as Montana (Xu et al. 2019, CNPS 2021, JEPS 2021).

American saw-wort has four location records in California. Three of those records are found on National Forest lands: two records on the Klamath National Forest and one record on the Rogue River-Siskiyou National Forest. The remaining record is found on private land. None of these records occur in Wilderness Areas or other protected areas. Two of the California records are historical and two records are recent. Record #4 was first discovered in 2017 (Calflora 2021, CCH2 2021, CNDDB 2021).

All CNDDB records have at least one population estimate, with record #s 1 and 3 having greater than 100 individuals present for at least one visit, but there are not enough data to determine population trends for these sites. Only record #4, which is not in the CNDDB, has population information from the past five years, with a population of 11-50 individuals recorded at the site in 2017 (Calflora 2021).

One of the four California records of American saw-wort is not currently included in the CNDDB. This non-CNDDB record is located at least 10 miles away from the nearest CNDDB occurrence and would seem to represent a new occurrence that should be evaluated for inclusion in the CNDDB.

**Brief description of natural history and key ecological functions**

American saw-wort is a perennial herb that flowers from July to August. It reaches 30–120 cm tall, with many leafy stems growing from a stout caudex. Young plants are covered in short woolly hairs, and mature plants can be hairy, glandular, or both. The lanceolate to triangular-shaped leaves are alternate, between 5–15 cm long and can have pedicels up to 6 cm long; the margins of the leaves are sharply-toothed. The inflorescence is a cluster of heads composed of disk flowers with corollas that are usually dark purple but can range to white. The phyllaries are covered in woolly hairs and pale green to dark purple or black at the margins. All flowers are bisexual, fertile, and produce one seed. American saw-wort’s fruit is a cypsela, which is usually glabrous and topped by a brown, bristle-shaped pappus (FNA 1993+, JEPS 2021).

American saw-wort grows from 1000–2600 m in elevation in open, mesic montane meadows and slopes (FNA 1993+, CNDDB 2021, CNPS 2021, JEPS 2021). In most cases, it grows in riparian areas or near cold springs or seeps in often steep, wet meadows, though one record notes it growing on a dry serpentine ridge (FNA 1993+, CNPS 2021, CNDDB 2021, JEPS 2021, Matt 2 Basis for other 1909.12 Chapter 10, Section 12.53 components.)
Species Account: *Saussurea americana* 2021-10-01

Berger pers. comm. 2021, Sheri Hagwood, pers. comm. 2021). While this species apparently can grow on serpentine substrates, geological maps suggest that it does not specialize in this habitat (CDC 2021, CNDDB 2021). Many of the species recorded as occurring with American saw-wort in California are also commonly found in montane meadows. These species include: *Aconitum columbianum*, *Alnus incana*, *Angelica* spp., *Bromus vulgaris*, *Castilleja miniata*, *Erythranthe moschata*, *Heracleum maximum*, *Hosackia oblongifolia*, *Rudbeckia occidentalis*, *Veratrum californicum*, and *Viola* spp. (Calflora 2021, CCH2 2021, CNDDB 2021).

The center of diversity for the genus *Saussurea* is in the Hengduan Mountains of China. Of the approximately 460 species currently placed in this genus, only six are found in North America, and American saw-wort is one of only two *Saussurea* species that are endemic to North America. (Xu et al. 2019). Very little information is available on the natural history of this species. It is probably insect pollinated, and its flowers are attractive to bumblebees (Sheri Hagwood pers. comm. 2021). The presence of pappus on its fruit suggests that like many other aster species, American saw-wort’s seeds are probably wind dispersed. The presence of a caudex, or a short, stout stem that is usually at or below the ground, may provide some resilience to disturbance and fire, but research is needed to confirm this.

**Overview of ecological conditions for recovery, conservation, and viability**

Habitat quality was noted for only one of the CNDDB records for American saw-wort; the quality of the other locations is unknown. Record #1 was recorded as excellent quality, but this location was last visited in 1991. No threats were noted at any of the recorded locations for American saw-wort, but record #s 1 and 2 are both close to the Pacific Crest Trail; therefore, recreational activities could have an impact on these locations.

American saw-wort is frequently used to test the specificity of biocontrols for closely related invasive plant species, including yellow star-thistle and Canadian thistle (Xu et al 2019, Mike Pitcairn pers. comm. 2021). Outside of this research, there appears to be very little information on specific threats to this species. General threats to this species’ habitat probably include tree encroachment due to fire suppression (e.g. Clark and Wilson 2001) and drought-induced changes in hydrology caused by climate change (Burkett 2000). There appears to be no information about how American saw-wort responds to fire or other disturbances. While none of the record locations burned during the 2020 fire season (CalFire 2021), given the small number of records in California and the increasing severity of fire seasons, further research on how this species responds to fire could be useful.

**Taxonomy**

Table 3 summarizes this species or subspecies/variety’s name status in key literature.

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3 1909.12 Chapter 10, Section 12.53, components 7, 9, 10, 11 and 12, as appropriate.
4 1909.12, Chapter 10, Section 12.53, component 1.
Table 3. Name status of American saw-wort

<table>
<thead>
<tr>
<th>Entity</th>
<th>Name Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNDDDB and CNPS</td>
<td><em>Saussurea americana</em> D.C. Eat.</td>
</tr>
<tr>
<td>Jepson eFlora</td>
<td><em>Saussurea americana</em> D.C. Eaton</td>
</tr>
<tr>
<td>Flora of North America</td>
<td><em>Saussurea americana</em> D.C. Eaton</td>
</tr>
<tr>
<td>USDA NRCS¹ PLANTS</td>
<td><em>Saussurea americana</em> D.C. Eaton</td>
</tr>
</tbody>
</table>

Synonymy: No synonyms (Tropicos 2021)


Type locality: “Mountains of Union Co., Oregon (7000 ft. elev.)” (W. C. Cusick). (Piper 1906).

Key literature


Literature cited


Species Account: *Saussurea americana*


Persons Contacted


Pitcairn, Mike. 2021. Senior Environmental Scientist, Biological Control Program, California Department of Food and Agriculture. Email correspondence regarding distribution and threats to Saussurea americana. Personal communication 19 March 2021.

Author(s) and Date:
Molly S. Wiebush, California Native Plant Society, Rare Plant Botanist Coordinator, 24 March 2021; finalized 1 October 2021.

Reviewer(s) and Date:
Aaron E. Sims, California Native Plant Society, Rare Plant Program Director, 24 March 2021; Julie Ann Kierstead, USDA Forest Service Region 5, Ecosystem Planning, 05 May 2021

Formatting: Form is set up as 508 compliant. Please use the “styles” if further formatting is necessary.

Purpose: This is to maintain the best available science on a species that could be used by the Forest Service in a variety of functions. Specifically, there would be additional steps and evaluations to determine whether or not this species would be considered a Species of Conservation Concern under the 2012 Planning Rule or a Sensitive Species under the 1982 Planning Rule.
### Appendix 1: Known Occurrences

Table 4. Known Occurrences of American saw-wort within California (NRIS, CNDDB, Calflora/CCH databases).

**Duplicate records from the same site are given the same record number and are included in red. Rows containing questionable records are highlighted in red.**

<table>
<thead>
<tr>
<th>Rec. #</th>
<th>Locality</th>
<th>County</th>
<th>Quad</th>
<th>Ref. (Source)</th>
<th>Date Last Obs’ed</th>
<th>Population Info</th>
<th>Threats</th>
<th>Land Mgr.</th>
<th>Elev. (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NEAR PACIFIC CREST TRAIL ON SOUTH SLOPE OF WHITE MOUNTAIN, Klamath NF</td>
<td>Siskiyou</td>
<td>Dutch Creek</td>
<td>CNDDDB, Jan. 2021 (EO 1)</td>
<td>30-Aug-1991</td>
<td>POSSIBLY OBSERVED IN 1978 (CLIFTON MAP INFO IS UNCLEAR). 1000 PLANTS OBSERVED BY TURNER IN 1983. 100+ PLANTS IN 100' X 250' AREA OBSERVED IN 1991.</td>
<td></td>
<td>Klamath NF</td>
<td>5600</td>
</tr>
<tr>
<td>2</td>
<td>NEAR PACIFIC CREST TRAIL ON SOUTHWEST SLOPE OF WHITE MOUNTAIN, Klamath NF</td>
<td>Siskiyou</td>
<td>Dutch Creek</td>
<td>CNDDDB, Jan. 2021 (EO 2)</td>
<td>5-Jul-2013</td>
<td>100+ PLANTS IN VICINITY IN 1978. UNKNOWN NUMBER AT MAPPED SITE IN 2013. 1934 WHEELER COLLECTION FROM &quot;S SIDE WHITE MTN, 5700 FT, T47N R11W SEC 1&quot; AND 1974 FULLER COLLECTION FROM &quot;HEADWATERS HORSE CREEK, SW SLOPE WHITE MTN&quot; ATTRIBUTED HERE.</td>
<td></td>
<td>Klamath NF</td>
<td>5550</td>
</tr>
<tr>
<td>3</td>
<td>EAST OF WHITE MOUNTAIN, ABOUT 0.5 MILE NORTHEAST OF REESE RANCH SPRING, Rogue River-Siskiyou NF</td>
<td>Siskiyou</td>
<td>Dutch Creek</td>
<td>CNDDDB, Jan. 2021 (EO 3)</td>
<td>31-Aug-1991</td>
<td>4 CLUMPS OBSERVED IN 1991.</td>
<td></td>
<td>Rogue River-Siskiyou NF</td>
<td>6400</td>
</tr>
</tbody>
</table>
Duplicate records from the same site are given the same record number and are included in red. Rows containing questionable records are highlighted in red.

<table>
<thead>
<tr>
<th>Rec. #</th>
<th>Locality</th>
<th>County</th>
<th>Quad</th>
<th>Ref. (Source)</th>
<th>Date Last Obs’d</th>
<th>Population Info</th>
<th>Threats</th>
<th>Land Mgr.</th>
<th>Elev. (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Riparian area of Deer Creek dominated by alder</td>
<td>Siskiyou</td>
<td>Buckhorn Bally (4112287)</td>
<td>Calflora, Jan. 2021 (po50419)</td>
<td>10-Aug-2017</td>
<td>11 - 50 individuals</td>
<td></td>
<td>Private</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 2: Additional Considerations at the Forest Level

This section, including the next 5 subheadings, would be filled out by Forest Service botanists.

Forest Name

Geographic distribution within the Forest
- Scarce or isolated
- Patchy or gaps
- Contiguous

Select a geographic distribution rank and provide references or cite ‘specialist expertise, <name>’ where appropriate.

Abundance of the species on the Forest
- Rare – current abundance is low enough that stochastic and other factors could lead to potential imperilment.
- Uncommon – current abundance is large enough that demographic stochasticity is not likely to lead to rapid local extinction, but, in combination with highly variable environmental factors, could pose a threat.
- Common – current abundance is large enough that species persistence is not threatened by demographic stochasticity in combination with environmental variation.
- Insufficient information to draw inferences about criterion.

Select a species abundance rank and provide references or cite ‘specialist expertise, <name>’ where appropriate.

Population trend on the Forest
- Significant downward or suspected downward population trend.
- Stable population.
- Upward population trend.
- Insufficient information to draw inferences about criterion.

Select a population trend rank and provide references or cite ‘specialist expertise, <name>’ where appropriate.

Habitat trend on the Forest
- Decline in habitat quality or quantity.
- Stable amounts of suitable or potential habitat, relatively unchanged habitat quality.
- Improving habitat quality or increasing amounts of suitable or potential habitat.
- Insufficient information to draw inferences about criterion.

Select a habitat trend rank and provide references or cite ‘specialist expertise, <name>’ where appropriate.
**Vulnerability of habitat on the Forest**

A. Substantial modification of habitat has occurred or is anticipated with conditions departing from expectations based on NRV, and/or habitat is impacted by modern stressors such as drought, climate change, high intensity wildfire and wildfire suppression disturbances, loss of natural openings due to historical wildfire suppression, nonnative invasive species, water impoundments and diversions, and recreation, etc.

B. Habitat modification is likely to result in ecological patterns similar to the range of historical conditions, but is being impacted by modern stressors.

C. Habitat resilient, changes are similar in frequency and intensity to those expected from NRV, and modern stressors not significant.

D. Insufficient information to draw inferences about criterion.

<Select a habitat vulnerability rank and provide references or cite ‘specialist expertise, <name>’ where appropriate.>

**Additional Forest specific information related to the SCC determination**

<This section is provided for Forest botanists to add additional Forest specific information that is not captured in the section above, if necessary. Provide a narrative description here of the additional relevant information. State “No additional information” if this section is not used.>