

**Changed from California Rare Plant Rank 2B.2 to 4.2 in the CNPS Inventory on September 24, 2014**

**Rare Plant Status Review: *Coptis laciniata***

**Proposed change from California Rare Plant Rank 2B.2 to 4.2, and keep as G4 / S3**

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Changes made to the original document are in blue text.

*Coptis laciniata* is a perennial rhizomatous herb in the Ranunculaceae known from coastal, mesic areas in the North Coast and west Klamath Ranges of California, extending north to Oregon and Washington. It occurs in meadows and seeps, and along streambanks in North Coast coniferous forest at an approximate elevation of 0 to 1000 meters. It is included in *The Jepson Manual* (Wilken 1993), *The Jepson Manual, Second Edition* (Ford and Wilken 2012), and the *Flora of North America* (Ford 1997). *Coptis laciniata* mostly flowers between March and May, but has been observed flowering as early as February and as late as September to November.

In California, *C. laciniata* is currently known from 122 occurrences throughout Del Norte, Humboldt, and Mendocino counties. At least nine of the occurrences are considered historical (occurrences not seen in the past 20 years are considered historical by the CNDDDB), and five of the historical occurrences are over 50 years old (with four occurrences having an unknown sighting date). Although all of the occurrences are presumed to be extant, some of the very old occurrence records (e.g. EO's 7, 19, 20, 104, and 106) should be sought after and assessed in order to determine their current status. Of the 113 recent occurrences, a total of 70 are currently ranked as either "excellent" or "good", while 21 of the recent occurrences are ranked either "fair" or "poor" by CNDDDB. A total of 31 occurrences have an unknown occurrence rank. The population sizes of *Coptis laciniata* are fairly well known, with data available for approximately 100 occurrences. Over half (69) of the total known occurrences of *C. laciniata* have population counts/estimates of 100 individuals or more, with approximately 20 occurrences estimated to have over 1,000 individuals. Based on the available data, the total number of known individuals of *C. laciniata* in California is estimated to be over 67,500 plants (population count/estimate data is available in the "Populations" worksheet of the "Locations\_CoptisLaciniata" spreadsheet).

*Coptis laciniata* was first added to California Rare Plant Rank (CRPR) 2.2 (plants rare, threatened or endangered in California, but more common elsewhere) in October 2006, and has remained at this rank ever since. It was originally proposed to be added to rank 2.3, but was added to rank 2.2 after user feedback on the Rare Plant Status Review Forum (the Forum) noted possible impacts from trail use to a few populations, and threats from timber harvest activities for many occurrences (see the Forum at: <http://cnps.org/forums/showthread.php?t=950>. For those who have not registered on the Forum, contact the first author at [asims@cnps.org](mailto:asims@cnps.org) for registration instructions). At the time it was added, *C. laciniata* was only known from approximately 23 occurrences in California from Del Norte, Humboldt, Mendocino, and Siskiyou counties (the record from Siskiyou County is no longer included in the CNDDDB), with the majority of

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occurrences being historical (in the original proposal it was documented from 15 occurrences, but the known occurrences increased to 23 after user feedback on the Forum). Since that time, the known occurrences of *C. laciniata* has increased by over 430% (99 occurrences), expanding its known distribution and range by approximately 20 additional USGS 7.5' Quadrangles.

The majority of occurrences (83 occurrences, 68%) of *C. laciniata* are on private land, mostly managed by timber companies. Its remaining known occurrences are on Angelo Coast Range Reserve (1), Redwood National Parks (1), State Parks (2), Six Rivers National Forest (5), The Conservation Fund (6), Jackson Demonstration State Forest (13), and unknown land ownership (11) (see the "Localities" worksheet in the "Locations\_CoptisLaciniata" spreadsheet for a breakdown of occurrences). This large difference in land ownership could be due to private ownership dominating the range of *C. laciniata* compared to U. S. Forest Service, State Park, and other lands that are found further inland, or it could be a result of required surveys on all private properties that have Timber Harvesting Plans and the lack of activities that necessitate botanical surveys on public lands (T. Engstrom pers. comm. 2012). *Coptis laciniata* is also a plant that may have been overlooked in California for many years. It often occurs in rocky habitat that is difficult to access and maneuver, such as along banks of creeks that are dangerous to walk along (T. Bolton pers. comm. 2012). Over a quarter of the known occurrences appear to be located in areas that are not as difficult to access, with at least 32 of the documented occurrences lying along trails, roads, old road cuts and banks, and/or skid trail banks; however, only 25 of these occurrences have been newly documented since 2006, with the majority of newer occurrences being found along or near creek and river banks (CNDDDB 2014).

A total of 72 occurrences of *C. laciniata* are noted to be threatened by direct and indirect impacts from timber harvest activities, including: road construction, road maintenance, road brushing and road widening; slope disturbance and erosion; herbicide spraying; canopy reduction and increased sun exposure; timber falling; and clearcutting (CNDDDB 2014). Possible threats to *C. laciniata* are flooding to occurrences that are located directly along floodplains and river banks, and foot traffic to the few occurrences that lie near trails (CNDDDB 2014). The threat assessments regarding timber harvest activities in the CNDDDB for *C. laciniata* are generally inductive and not deductive, with many of the occurrences being presumably threatened by proximity rather than actual impacts (T. Engstrom pers. comm. 2012, CNDDDB 2014). This can be attributed to almost half (at least 34) of the 72 occurrences of *C. laciniata* that are noted as threatened by logging in the CNDDDB (2014). Approximately 25 of the 72 occurrences with logging as an attributed threat only include "surrounding land use is timber harvest" under the threats section, with another 9 occurrences noting that all of the plants are either within a protected buffer zone, or that the threats from timber harvest activities are minimal to none (CNDDDB 2014). Therefore, further documentation of real versus potential and possible threats from timber harvest activities is necessary to fully assess the severity of these threats to *C. laciniata* in California.

Some scientific literature suggests that *C. laciniata* may not be adversely affected by timber harvest practices. At the H.J. Andrews Experimental Forest in Oregon, Dyrness (1973) documented plant successional trends of post-harvesting in old-growth Douglas-fir forests and found that *C. laciniata* maintained approximately the same distribution

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and cover as it did before logging. Later, Dovčiak and Halpern (2010) utilized a 40-year record from Dyrness' (1973) study area and found that understories dominated by *C. laciniata* were stable even as species diversity increased, which was contrary to their initial predictions. Furthermore, current threats to *C. laciniata* from timber harvest activities may now be significantly reduced; the majority of *C. laciniata* occurrences are within riparian sites included in Watercourse and Lake Protection Zone (WLPZ) areas that are afforded with protections under the California Forest Practices Act (CFPA). In January 2010, revised rules were adopted that increased WLPZ buffer zones to 150 feet that are adjoining streams that support anadromous fisheries, and various other restrictions within WLPZ areas now apply which would substantially reduce threats to *C. laciniata* (T. Engstrom pers. comm. 2012).

The long-term survival and reproductive success of *C. laciniata* in California from timber harvest practices, however, is still relatively uncertain. Its rhizomatous growth form may help it recover somewhat from limited disturbance; however, this is an inadequate measure of survival, since this type of recovery does not account for reproduction success (J. Kalt pers. comm. 2012). Also, contrary to the results from Dyrness (1973), a population of *C. laciniata* in Jackson Demonstration State Forest, Mendocino County, appeared to be negatively impacted by increasing light exposure caused by logging. Lastly, although many of the known occurrences of *C. laciniata* are within WLPZ areas, it does not necessitate the plants protection. The WLPZ areas have equipment exclusions and requirements for canopy retention, but thinning still occurs with the use of cables (J. Kalt pers. comm. 2012). Herbicide use within WLPZ areas is also typically restricted (T. Engstrom pers. comm. 2012); however, there is virtually no regulation of post-harvest spraying (J. Kalt pers. comm. 2012), and therefore its use may still pose a threat to *C. laciniata*. The majority of field survey forms for *C. laciniata* occurrences on timberlands were filled out prior to timber harvest activities (CNDDDB 2014), and there is currently little data on the survival and reproduction of *C. laciniata* in California after the affects of harvest. Therefore, post-harvest monitoring needs to occur in order to adequately assess the status of *C. laciniata* in California.

With 70 occurrences ranked as "excellent" or "good" by CNDDDB, *C. laciniata* has met the general level of meriting downranking from California Rare Plant Rank 2B to 4 based on occurrence numbers alone (in general, California Rare Plant Rank 2B contains plants that are known from fewer than 50 occurrences ranked as "excellent" or "good" by CNDDDB). The number and general conditions of occurrences alone does not necessitate downranking. However, the increase of occurrences of *C. laciniata* by over 430% in less than ten years, population sizes totaling more than 67,500 plants, apparent ability to survive some forms of timber harvest activities, and relatively low number of substantiated, severe threats in California appear to necessitate its downranking at this time. *Coptis laciniata* does not appear to be in a trend towards extirpation in California at this time, and therefore currently appears to not be eligible for state listing. Nevertheless, the condition of *C. laciniata* occurrences after timber harvest and associated activities, along with information on the long-term trends and viability of populations in California, should continue to be documented and assessed in order to adequately determine the conservation status of this species.

Based on the available information, CNPS and CNDDDB recommend re-ranking *Coptis laciniata* from California Rare Plant Rank 2B.2 to 4.2. If occurrences of *C. laciniata* in California begin to trend downward, and/or if threats to its survival increase, CNPS and CNDDDB will re-evaluate its status at that time.

### Recommended Actions

CNPS: Change from 2B.2 to 4.2

CNDDDB: Keep as G4 / S3

### Current CNPS Inventory Record

*Coptis laciniata* Gray

Oregon goldthread

Ranunculaceae

CRPR 2B.2

Oregon, Washington

Del Norte, Humboldt, Mendocino

Eureka Hill (537A) 38123H5, Point Arena (537B) 38123H6, Elk (552B) 39123B6, Cold Spring (552D) 39123A5, Albion (553A) 39123B7, Northspur (568A) 39123D5, Noyo Hill (568B) 39123D6, Mathison Peak (568C) 39123C6, Comptche (568D) 39123C5, Mendocino (569D) 39123C7, Cahto Peak (584A) 39123F5, Lincoln Ridge (584B) 39123F6, Dutchmans Knoll (584C) 39123E6, Sherwood Peak (584D) 39123E5, Inglenook (585D) 39123E7, Leggett (600C) 39123G6, Briceland (617C) 40123A8, Dinsmore (634A) 40123D5, Larabee Valley (634B) 40123D6, Board Camp Mtn. (652B) 40123F6, Showers Mtn. (652C) 40123E6, Blake Mountain (652D) 40123E5, Mad River Buttes (653A) 40123F7, Iaqua Buttes (653B) 40123F8, Owl Creek (653C) 40123E8, Willow Creek (670B) 40123H6, Lord-ellis Summit (671A) 40123H7, Blue Lake (671B) 40123H8, Weitchpec (687B) 41123B6, Hoopa (687C) 41123A6, French Camp Ridge (688A) 41123B7, Bald Hills (688B) 41123B8, Fish Lake (704C) 41123C6, Blue Creek Mtn. (705A) 41123D7, Holter Ridge (705C) 41123C8, Johnsons (705D) 41123C7, Cant Hook Mtn. (722B) 41123F8, Broken Rib Mtn. (738B) 41123H6, Gasquet (739C) 41123G8, Hiouchi (740D) 41124G1  
Meadows and seeps, North Coast coniferous forest (streambanks) / mesic; elevation 0 – 1000 meters.

Perennial rhizomatous herb. Blooms (February) March – May (September to November).

Potentially threatened by erosion and timber harvest activities.

Available online at: <http://www.rareplants.cnps.org/detail/3178.html>

### Revised CNPS Inventory Record

*Coptis laciniata* A. Gray

Oregon goldthread

Ranunculaceae

CRPR 4.2

Oregon, Washington

Del Norte, Humboldt, Mendocino

Eureka Hill (537A) 38123H5, Point Arena (537B) 38123H6, Elk (552B) 39123B6, Cold Spring (552D) 39123A5, Albion (553A) 39123B7, Northspur (568A) 39123D5, Noyo Hill

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(568B) 39123D6, Mathison Peak (568C) 39123C6, Comptche (568D) 39123C5, Mendocino (569D) 39123C7, Cahto Peak (584A) 39123F5, Lincoln Ridge (584B) 39123F6, Dutchmans Knoll (584C) 39123E6, Sherwood Peak (584D) 39123E5, Inglenook (585D) 39123E7, Leggett (600C) 39123G6, Briceland (617C) 40123A8, Dinsmore (634A) 40123D5, Larabee Valley (634B) 40123D6, Board Camp Mtn. (652B) 40123F6, Showers Mtn. (652C) 40123E6, Blake Mountain (652D) 40123E5, Mad River Buttes (653A) 40123F7, Iaqua Buttes (653B) 40123F8, Owl Creek (653C) 40123E8, Willow Creek (670B) 40123H6, Lord-ellis Summit (671A) 40123H7, Blue Lake (671B) 40123H8, Weitchpec (687B) 41123B6, Hoopa (687C) 41123A6, French Camp Ridge (688A) 41123B7, Bald Hills (688B) 41123B8, Fish Lake (704C) 41123C6, Blue Creek Mtn. (705A) 41123D7, Holter Ridge (705C) 41123C8, Johnsons (705D) 41123C7, Cant Hook Mtn. (722B) 41123F8, Broken Rib Mtn. (738B) 41123H6, Gasquet (739C) 41123G8, Hiouchi (740D) 41124G1 Meadows and seeps, North Coast coniferous forest (streambanks) / mesic; elevation 0 – 1000 meters.

Perennial rhizomatous herb. Blooms (February) March – May (September to November).

Previously CRPR 2B.2; more common than originally thought. Potentially threatened by erosion and timber harvest activities. See *The Botanical Gazette* 12:297 (1887) for original description.

### Literature Cited

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