

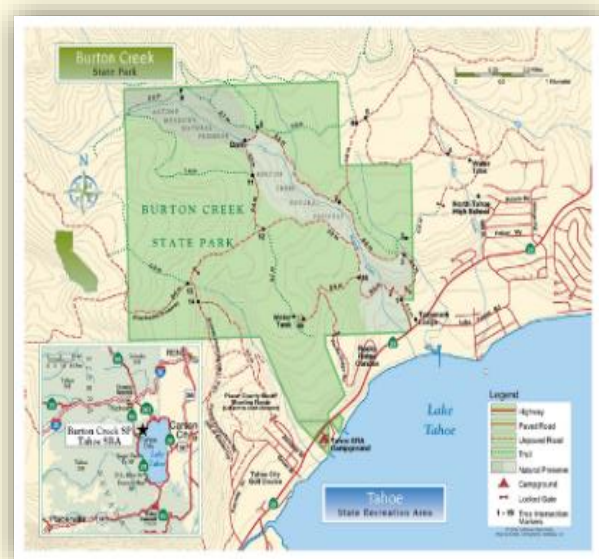
# A Vascular Flora of Antone Meadows & Burton Creek Natural Preserves

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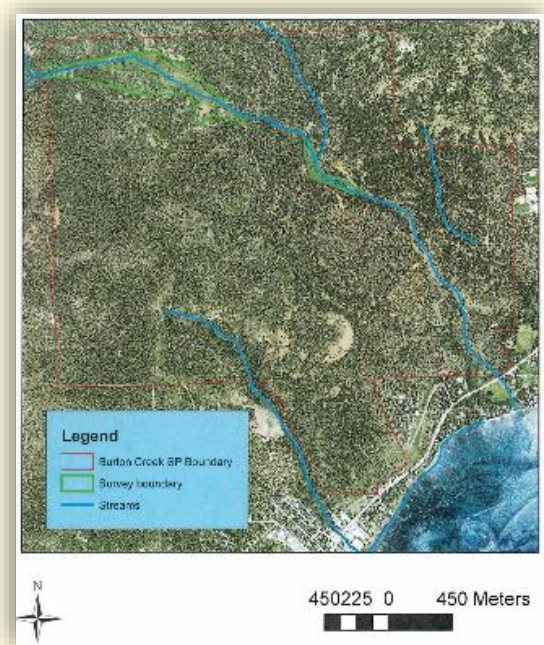
### UC Davis Center for Plant Diversity



#### Where is Burton Creek State Park?



Antone Meadows & Burton Creek Natural Preserves are located within Burton Creek State park and are adjacent to Burton Creek as it meanders downhill, west to east from 6870 to 6630 feet. Burton Creek State Park is located in the northwestern region of the Tahoe Basin, 7.1 miles north of Tahoe City in Placer County. Our survey covered 72 acres total between both of the preserves (Antone Meadows containing 64 acres and Burton Creek Natural Preserve containing 8 acres). Burton Creek divides into a number of small drainages as it flows through the meadows of both preserves, which are rich in native plant diversity.



#### What Plants Did We Find?



To complete this flora, we visited the preserves eight times between May 31 and August 30, over the 2019 flowering season. Along with park botanists, herbarium staff, and volunteers we made 547 flowering or fruiting collections. This helped us to positively ID plants when their various and unique diagnostic features were present. The resulting plant list contains 245 vascular plant taxa including two special-status species and eleven nonnative plants. All 547 plant collections from this project are deposited at the UC Davis Center for Plant Diversity herbarium. Our plant list includes a large number of Asteraceae, Cyperaceae, and Poaceae species. We sent puzzling collections of *Carex*, *Epilobium*, and *Juncus* to experts for a positive ID. Ellen Dean visited the Berkeley herbarium to compare select specimens of *Salix*, *Arnica*, and *Eurybia* with their herbarium specimens of those genera.

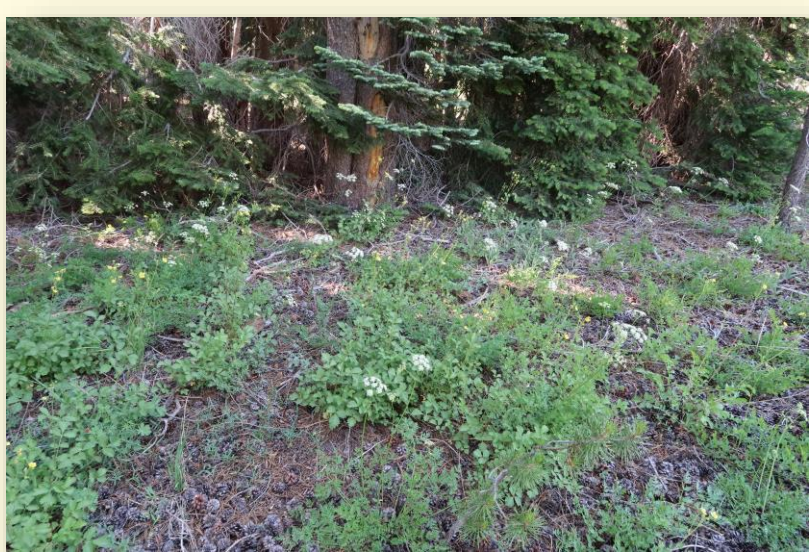


#### Vegetation Types

Antone Meadow contains a mosaic of plant communities including an Alpine Vernal Pool, making it a hot spot for native plants. We documented eleven broadly circumscribed vegetation types: Lodgepole Forest, White Fir/Jeffrey Pine Forest, Aspen Forest, Willow Scrub, Mountain Alder/Dogwood Thickets, Montane Chaparral, Dry Meadow, Wet Meadow, Alpine Vernal Pool, Obligate Sedge Wetland, and a Pond/Reservoir. Within these vegetation types we did our best to match the species assemblages to alliance descriptions provided by the *Manual of California Vegetation* (CNPS, 2019).



Obligate Sedge Wetland



Dry Conifer Forest



Wet Meadow

#### Acknowledgments

We would like to express our sincerest gratitude and thanks to Ellen Dean for her mentorship throughout this project. Assistance provided by state parks was greatly appreciated; special thanks to Svetlana Yegorova and Leah Gardner. We would like to thank Marcus Griffiths, Emily Wilkinson, Rod Beale, Nida Superak, Craig Thomsen, Thomas Starbuck, Daniel Potter, Roberta Gerson, Beth Hendrickson, and Fifi Dean for field assistance. We would also like to thank Peter Zika, Peter Hoch, John Strother, Bruce Baldwin, and Dieter Wilken for their assistance with plant identifications.



#### Special-Status Findings

We documented two special-status species within our survey area: Subalpine Aster (*Eurybia merita*) CRPR 2B.3 and Obtuse Starwort (*Stellaria obtusa*) CRPR 4.3. Subalpine Aster was an unexpected discovery because it did not come up on our pre-field research of rare plant database queries. A field collection of this plant was compared with other *Eurybia* specimens at the University of California, Berkeley herbarium and it was there that Ellen Dean determined 19 misidentified, *Eurybia radulina* specimens to *Eurybia merita* using both *The Jepson Manual, Vascular Plants of California* (Baldwin et al., 2012) and the *Flora North America North of Mexico* (1993). This survey is the first report of the species occurring outside of Siskiyou County.



Subalpine Aster (*Eurybia merita*) CRPR 2B.3



Obtuse Starwort (*Stellaria obtusa*) CRPR 4.3

#### Cascade Lake Ceanothus



Cascade Lake Ceanothus (*Ceanothus x serrulatus*)

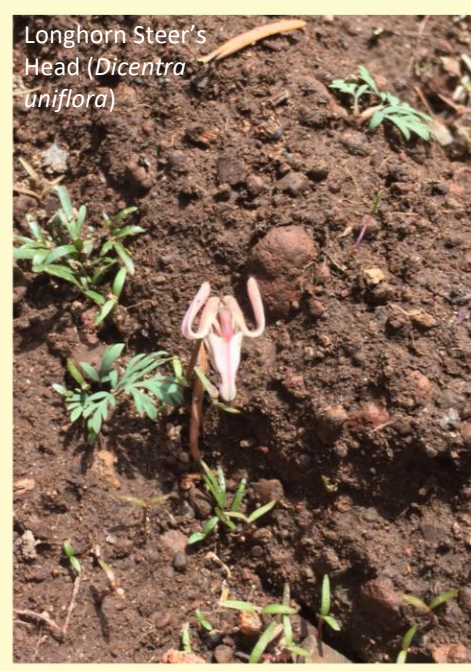
Wilken, a Ceanothus expert, later confirmed that our specimen was indeed Cascade Lake Ceanothus, making this a county record for Placer County. McMinn described and made the first collection of Cascade Lake Ceanothus in 1926 near Emerald Bay and Cascade Lake in El Dorado County. He postulated that Cascade Lake Ceanothus is a cross between Mahala Mat and White Thorn (*Ceanothus cordulatus*); both parental species were found in the vicinity of our new record. We revisited the site on August 16, 2019, and found no fruits on the plant, which is typical of hybrids. Cascade Lake Ceanothus has not been collected since McMinn’s 1926 publication; our collection is only the second time that this hybrid has been documented.



Cascade Lake Ceanothus (*Ceanothus x serrulatus*)

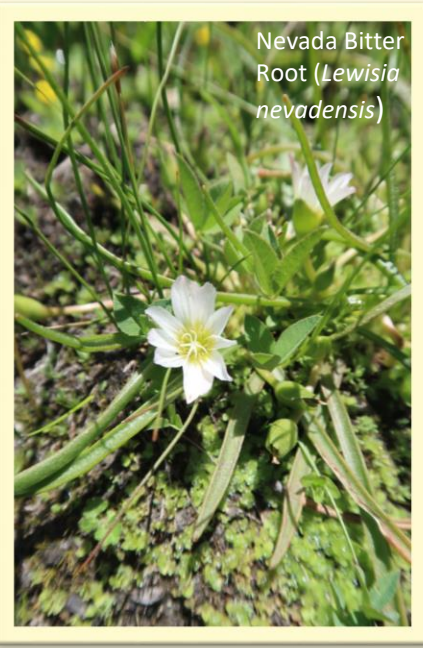
#### Early Season Flora (May 31st – June 7th)

Willow catkins were beginning to flower and we collected many specimens to ID along Burton Creek throughout both Preserves. Longhorn Steer’s Head (*Dicentra uniflora*) was one of the first plants we observed in flower in late May in an open volcanic area just upland from Antone Meadow. We also saw Snow Plant (*Sarcodes sanguinea*) along the trail. Our survey areas were overflowing with water from early season snowmelt.



#### Mid Season Flora (June 21st –August 2nd)

During this survey period, we observed and collected the most abundant diversity and quantity of species of the flowering season. The meadow was full of lovely surprises like Beautiful Spikerush (*Eleocharis bella*), American Bistort (*Bistorta bistortoides*), Primrose Monkeyflower (*Erythranthe primuloides*), and Nevada Bitter Root (*Lewisia nevadensis*).



Within moist habitats, both upland and along Burton Creek, we found Alpine Shooting Star (*Primula tetrandra*), Sierra Corydalis (*Corydalis caseana* ssp. *caseana*), Sierra Tiger Lily (*Lilium parvum*), and Sierra Rein Orchid (*Platanthera dilatata* var. *leucostachys*), all beautiful wildflowers of the Sierra Nevada.



#### Late Season Flora (August 16th – August 30th)

The meadow was drying out and Lamiaceae members like Nettle Leaf Giant Hyssop (*Agastache urticifolia*), Wild Mint (*Mentha canadensis*), and Rough Hedge Nettle (*Stachys rigida*) were all in full bloom. The Purple Flower Honeysuckle (*Lonicera conjugialis*) was in fruit. Additionally, Fireweed (*Chamerion angustifolium* ssp. *circumvagum*) was found in the wet meadows. A lone Western Eupatorium (*Ageratina occidentalis*) was found in a rocky outcrop and Whitewater Crowfoot (*Ranunculus aquatilis* var. *diffusus*) was also found in just one location. We collected over 33 grasses, 23 sedges, and 9 rushes by the end of the field season. Fruiting Brewer’s Bittercress (*Cardamine breweri*) was common along the edges of drainages, alongside *Arnica* species coming into flower.

