

1.10 Santa Rosa Brodiaea (*Brodiaea santarosae*) – Category SS

Management Units with Known Occurrences

Santa Rosa brodiaea is a perennial monocot herb endemic to the Santa Ana Mountains in northern San Diego and southwestern Riverside Counties (Chester et al. 2007). It has a very small range and is restricted to soils on or very close to the Santa Rosa Basalt, which is estimated to be 6.5 to 10 million years old (Hull and Nicholson 1992). It can occupy various habitat types, including areas next to vernal pools, but it can also be found in drier locations. Santa Rosa brodiaea can grow in disturbed areas, disturbed soils, on top of the water pipes, and in roadside berms.

In the MSPA, it is known from 3 occurrences on Conserved Lands in MU8 on the Cleveland National Forest, all in the vicinity of Miller Mountain or Margarita Peak (see Table of Occurrences and online map: <http://arcg.is/2iBDW0e>).

Management Categorization Rationale

Santa Rosa brodiaea should be managed as a Species Management Focus Category SS Species due to a moderate risk of loss from Conserved Lands in the MSPA and because managing vegetation alone will not ensure its persistence (see Vol. 1, Table 2-4). Santa Rosa brodiaea is at moderate risk of loss from the MSPA because of its extremely restricted distribution with only 3 occurrences at 2 sites and limited habitat with Santa Rosa basalt soils (see Vol. 3, App.1, Species Profiles). This species primarily occurs in the San Mateo Wilderness (administered by Cleveland National Forest) and the potential for impacts is low, except for fire. This species is also reported from disturbed sites in areas closer to development indicating it has some tolerance for disturbance (Chester et al. 2007).

More research is needed on the characterized threats for this species. Because it does not appear to face a high degree of immediate threat given its remote location in a wilderness area, it is not categorized as an SL or SO species.

Management and Monitoring Approach

The overarching goal for Santa Rosa brodiaea is to maintain existing occurrences to ensure multiple conserved occurrences with self-sustaining populations to increase resilience to environmental and demographic stochasticity, maintain genetic

diversity, and improve chances of persistence over the long term (>100 years) in grassland and vernal pool/alkali playa habitats.

For the planning cycle of 2017–2021, the management and monitoring approach is to inspect extant Santa Rosa brodiaea occurrences on Conserved Lands (see Table of Occurrences) using the regional rare plant IMG monitoring protocol to record abundance and collect habitat and threats covariate data to determine management needs. Conduct routine management actions as identified through the IMG monitoring. Depending on the type and level of threat, management should be conducted as needed, not necessarily every year, and using BMPs with precautions to do no harm.

For details and the most up-to-date goals, objectives, and actions, go to the MSP Portal Santa Rosa Brodiaea summary page: https://portal.sdmmp.com/view_species.php?taxaid=810190.

Santa Rosa Brodiaea References

- Chester, T., W. Armstrong, and K. Madore. 2007. *Brodiaea santarosae* (Themidaceae), A New Rare Species from the Santa Rosa Basalt Area of the Santa Ana Mountains of Southern California. *Madrono* 54(2):187–198. [https://doi.org/10.3120/0024-9637\(2007\)54\[187:bstanr\]2.0.co;2](https://doi.org/10.3120/0024-9637(2007)54[187:bstanr]2.0.co;2).
- Hull, A., and C. Nicholson. 1992. Seismotectonics of the Northern Elsinore Fault Zone, Southern California. *Bulletin of the Seismological Society of America* 82(2):800–818. April 1992.