

1.28 California Orcutt Grass (*Orcuttia californica*) – Category SL

Management Units with Known Occurrences

California Orcutt grass is currently known from Ventura County to northern Baja California, Mexico (CNPS 2016), with extant populations in Ventura, Los Angeles, Orange, western Riverside, and San Diego Counties (USFWS 2011). California Orcutt grass is an obligate vernal pool species closely associated with deep vernal pools in clay soils with an impervious subsurface layer and longer inundation periods (Bauder et al. 1998). The species is specifically adapted to survive in vernal wet conditions due to the presence of aerenchyma tissue for submerged gas exchange called Crassulacean Acid Metabolism (CAM) photosynthesis (USFWS 2011). Seeds germinate in the saturated and/or submerged soils in vernal pools after a period of anaerobic conditions followed by exposure due to drying (Bauder et al. 1998).

In San Diego, California Orcutt grass is known from 1 vernal pool in the City of Carlsbad (MU6), 3 occurrences on MCAS Miramar (MU4), and 4 pool complexes on Otay Mesa (MU3) (Bauder et al. 1998; MSP-MOM 2014).

Management Categorization Rationale

California Orcutt grass should be managed as a Species Management Focus Category SL Species due to a moderate risk of loss from Conserved Lands in the MSPA and because managing vernal pool vegetation alone will not ensure persistence of the species (see Vol. 1, Table 2-4). This species is vulnerable to loss from the MSPA because of its limited distribution in 2 MUs with only 2 occurrences in the MSPA (see Table of Occurrences or online map: <http://arcg.is/2kFKziT>). The species was listed as endangered in 1993 (USFWS 1993).

California Orcutt grass is threatened by urban and agricultural development (including mowing or plowing), ORV use (some ORV damage may also occur in the course of legitimate activities including fire-fighting, security patrols, and military maneuvers), habitat trampling associated with humans and/or livestock, drainage and/or watershed alterations, military activities, and the invasion of nonnative species (USFWS 1993). Habitat loss from urbanization and agricultural development continues to impact *O. californica* and will not likely be reduced until more private lands, which support the species, are conserved (USFWS 2011).

Management and Monitoring Approach

The overarching goal for California Orcutt grass is to maintain or enhance existing occurrences to ensure multiple conserved occurrences with self-sustaining populations to increase resilience to environmental and demographic stochasticity, maintain genetic diversity, and ensure persistence over the long term (>100 years) in vernal pool vegetation communities.

For the 2017–2021 planning cycle, the management and monitoring approach for California Orcutt grass is to conduct annual surveys for California Orcutt grass in occupied, historically occupied, and potentially suitable vernal pools to determine cover classes in each basin and cover of each nonnative species using a standardized protocol as defined in the Vernal Pool Habitat Conservation Plan (City of San Diego 2015). Nonnative cover classes will be combined to determine if management triggers for Level 1, 2, or 3 management are met. Management recommendations will be made, noting individual nonnative species that pose a threat to direct specific management actions. Management actions will be implemented annually as part of the general vernal pool habitat management objectives for different management levels (ML1, ML2, ML3).

For details and the most up-to-date goals, objectives, and actions, go to the MSP Portal California Orcutt grass summary page: https://portal.sdmmp.com/view_species.php?taxaid=41970

California Orcutt Grass References

- Bauder, E., A. Kreager, and S. McMillan. 1998. *Vernal Pools of Southern California Recovery Plan*.
- City of San Diego. 2015. *Vernal Pool Habitat Conservation Plan (VPHCP) Preliminary Draft*. San Diego, CA.
- CNPS (California Native Plant Society). 2016. Inventory of Rare and Endangered Plants (Online Edition, v8-02). <http://www.rareplants.cnps.org>.
- MSP-MOM. 2014. *Management Strategic Plan Master Occurrence Matrix*.
- USFWS (U.S. Fish and Wildlife Service). 1993. *50 CFR Part 17: Endangered and Threatened Wildlife and Plants: Revised Endangered Status, Revised Critical*

Habitat Designation, and Taxonomic Revision for Federal Register 58:41384-41392.

USFWS. 2011. *Orcuttia Californica (California Orcutt Grass) 5-Year Review: Summary and Evaluation.*