1.30 Otay Mesa Mint (*Pogogyne nudiuscula*) – Category SL

Management Units with Known Occurrences

Otay mesa mint is restricted to vernal pools on Otay Mesa in southern San Diego County, California (USFWS 1993, 2010). The species was historically known across the international border where the Tijuana International Airport is now located; however, no Tijuana populations are known to exist today. Otay mesa mint is an obligate vernal pool species occurring only on Stockpen soils in southern coastal mesa vernal pools (Bauder et al. 1998) at an elevation of 90–250 meters (CNPS 2016). Otay mesa mint is considered an obligate wetland species but is more tolerant of the ephemeral inundation of vernal pool habitat than true wetland plants (USFWS 2010).

Otay mesa mint blooms from May or June through early July when water is absent from vernal pools, completing its life cycle in the spring rather than in the summer through winter months (Munz 1974; USFWS 2010). The link between the onset of germination and the temporal conditions needed for vernal pool inundation, temperature, and moisture are critical to germination, maturation, flowering, and fruiting (USFWS 2010).

Within the MSPA, Otay mesa mint is found in MU3 at 3 locations on Otay Mesa: Otay Mesa West, Otay Mesa East, and Otay Mesa Northeast (USFWS 2010; MSP-MOM 2014).

Management Categorization Rationale

Otay mesa mint should be managed as a Species Management Focus Category SL Species due to a high risk of loss from Conserved Lands in the MSPA and because managing the general vegetation community alone will not ensure persistence of the species (see Vol. 1, Table 2-4). Otay mesa mint was listed as a federally endangered species in 1993 (USFWS 1993).

Otay mesa mint has specific habitat requirements (e.g., soil type/Stockpen soils, water depth); therefore, habitat degradation and alteration of the surrounding habitat will likely result in a population decline or even local extirpation. Habitat loss and degradation can occur due to filling, grading, discing, leveling, urban and agricultural development, road projects, grazing, ORV use, trampling, invasion from weedy nonnative plants, trash dumping, soil compaction, erosion, drought,

habitat fragmentation and isolation of vernal pool systems and complexes, and alteration of the watershed (USFWS 1993, 2010; Bauder et al. 1998). Destruction of watersheds and disruption of hydrological systems can create further impacts by creating barriers to dispersal, such that pollination and reproductive output may be inhibited (Bauder 1987; Schiller et al. 2000). Occurrences on Otay Mesa are in areas that experience a high volume of foot traffic between Mexico and the United States. Increased border security on Otay Mesa may threaten vernal pool habitat along the international border (Bauder 1987).

Management and Monitoring Approach

The overarching goal for Otay mesa mint is to protect, enhance, and restore occupied and historically occupied habitat to create self-sustaining populations that are resilient to environmental stochasticity and threats, such as altered hydrology, climate change, and invasive plants, and will be likely to persist over the long term (>100 years).

For the planning cycle of 2017–2021, the management and monitoring approach is to conduct annual surveys 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 Management and Monitoring 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 should 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 Otay Mesa Mint summary page: https://portal.sdmmp.com/view_species.php?taxaid=32643.

Otay Mesa Mint References

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