ALKALI MILK-VETCH

Astragalus tener* var. *tener
USFWS: Species of Concern
CDFG: None
CNPS: List 1B

Species Account

Status and Description. Alkali milk-vetch (*Astragalus tener* var. *tener*) is a CNPS List 1B species and a federal Species of Concern. It is a delicate, 4 to 30 cm tall, annual herb in the pea family (Fabaceae). Its leaves are pinnately compound, 2 to 9 cm long, with seven to 17 well-separated leaflets. The inflorescence is dense consisting of 3 to 12 pink-purple, pea-like flowers. It is distinguished from Ferris's milk-vetch (*A. t.* var *ferrisiae*), another rare plant, primarily by its fruits (legumes), which are up to 2.5 cm long on a round base whereas those of Ferris's milkvetch are up to 5 cm on a short, stalk-like base (Baldwin 2012).

Range and Distribution. Historically alkali milk-vetch occurred in the Central Coast, Lake-Napa Livermore, San Joaquin Valley, Solano-Colusa and Santa Rosa Vernal Pool Regions. Between 1864 and the early 1980s, collections were made in more than 40 separate sites within 13 counties, ranging from the Salinas Valley and the San Francisco Bay area to the Central Valley. Of the 66 occurrences that have been reported, 36 are presumed to be extant. The majority of the extant occurrences are in the Solano-Colusa Vernal Pool Region, but it also still occurs in Merced, Alameda, Napa and Yolo Counties (UFWS 2005).

Habitat and Ecology. Alkali milk-vetch grows in alkaline/saline soils in vernally wet playas, flats, and valley and foothill grasslands. The vernal pool types in which it grows are Northern Basalt Flow, Northern Claypan, Northern Hardpan and Northern Volcanic Ashflow (Sawyer and Keeler-Wolf 1995). In Solano County, alkali milk-vetch commonly grows in Solano-Pescadero and Pescadero clay soil types. During a recent study (Barbour et al. 2007) maximum depth of pools where alkali milk-vetch occurred was 27 cm on average, and average size of pools was 32,500 square meters. Common species associations in the Solano-Colusa Vernal Pool Region are dwarf peppergrass (*Lepidium latipes* var. *latipes*), Fremont's goldfields (*Lasthenia fremontii*); and salt grass (*Disticulus spicata*), in order of frequency (UFWS 2005); it may also be occasionally associated with bicolored lupine (*Lupinus bicolor*) and Jepson's button celery (*Eryngium aristulatum*). It flowers (February) March through June (CNDDB 2011, CNPS 2011).

Population Levels and Occurrence in Plan Area. Alkali milk-vetch is found in and along the edges of vernal pools in the vernal pool vegetation areas within the Plan Area. It is primarily associated with the Valley Grasslands and Vernal Pools Natural Community. In Solano County,19 populations of alkali milk-vetch are widely distributed with most of the populations centered around Dozier and the Jepson Prairie Preserve. Other populations have been found on Travis Air Force Base, in the eastern Fairfield/Tolenas area, south of Davis, the northern edge of the Potrero Hills, and at the

western edge of the Montezuma Hills. Where reported, population sizes range from 15 to 650 plants. A large population (several subpopulations) was observed by LSA on Muzzy Ranch, located directly east of Travis Air Force Base, in 2003. The population was estimated to comprise a several thousand plants. This species also occurs on Jepson Prairie Preserve (Jepson Prairie 1998) and on Gridley Trust Mitigation Bank lands (AMEC & Foothills Associates 2001).

Threats to the Species. The habitat of alkali milk-vetch is threatened primarily by loss of habitat through agricultural conversion (CNPS 2011), and secondarily by extirpation from chance events due to small population sizes, and loss of pollinators due to destruction or degradation of their habitat. Anecdotal evidence suggests that alkali milk-vetch may benefit from some types of temporary surface disturbance, such as a recently buried pipeline. In addition, grazing may be necessary to reduce competition from invasive species. Although many populations of alkali milk-vetch occur on public land, no particular management activities have been undertaken to protect it, and monitoring is sporadic (USFWS 2005).

Literature Cited

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