

*Unit 10, Davis Communications Annex Unit, Yolo County (440 ac (178 ha))*

This unit is ecologically important (criterion 2) because it contains claypan vernal pools, which are generally larger and stay inundated for relatively longer periods than vernal pools on alluvial terraces or volcanic mudflows and lava flows. This unit is essential to the species because it represents some of the last remaining claypan vernal pools in Yolo County and west of the Sacramento River.

This unit is located southeast of the City of Davis and south of the South Fork of Putah Creek. This unit's western boundary coincides with the Solano and Yolo County line. The unit contains land owned by Yolo County. This unit contains DoD (1,258 ac (310 ha)) owned land.

*Unit 13, Stanislaus Unit, Stanislaus County (16,323 ac (6,606 ha))*

This unit contains hardpan pools on soils of alluvial fans and terraces. It is important ecologically (criterion 2) for its numerous small pools and swales on mima mound topography, supported by soils that are typically older than those of the alluvial terraces in the Sacramento area. The unit is also geographically important (criterion 1) because it contains almost 25 percent of vernal pool habitats found along the eastern margin of the San Joaquin Valley. King (1996) found that vernal pool tadpole shrimp within this unit, although similar to vernal pool tadpole shrimp in eastern Sacramento County, were genetically different from other tadpole shrimp occurrences sampled throughout the species' range, particularly those on the floor of the Central Valley. The Stanislaus Unit contains very high quality, hydrologically intact vernal pool complexes likely to persist over time (criterion 4), including the well-known Hickman pools in Stanislaus County.

The Stanislaus Unit is bordered by the Stanislaus River to the north and Dry Creek to the south and southeast in western Stanislaus County. All the land within this unit is privately owned.

*Unit 14, San Francisco Bay Unit, Alameda and Santa Clara Counties (802 ac (325 ha))*

This unit is geographically important (criterion 1) because it represents the only location where vernal pool tadpole shrimp occur in the San Francisco Bay region, and because it represents the western extent of the species range. The unit is over 37 mi (60 km) from the nearest unit to the north, and over 56 mi (90 km) from the nearest units to the

east and south. Vernal pool tadpole shrimp within this unit are found in a unique tidal marsh estuary area that represents an unusual habitat type for the species (criterion 2).

This unit is situated south of the cities of Fremont and Newark, west of Interstate 880 and north of Mud Slough. Portions of this unit are particularly likely to persist over time (criterion 4) because they occur within the boundaries of San Francisco Bay National Wildlife Refuge. This unit also includes a preserve established as a conservation measure for vernal pool tadpole shrimp as part of the Pacific Commons development project (Service 2000b).

*Unit 15, Merced Unit, Merced and Mariposa Counties (61,379 ac (24,840 ha))*

This unit is important for the conservation of the species because it contains more documented occurrences of the species than any other area throughout the species' range (criterion 1) (CNDDDB 2001). The Merced Unit contains almost 15 percent of all remaining vernal pool habitats in the Central Valley, and 40 percent of vernal pool habitats along the eastern margin of the San Joaquin Valley (Holland 1998). The vernal pool tadpole shrimp in this unit occur in the largest block of pristine, high-density vernal pool grasslands remaining in California (Vollmar 1999). These vernal pools support multiple large vernal pool tadpole shrimp occurrences that are capable of producing large numbers of cysts in good years, which is important for this species to survive through a variety of natural and environmental changes, as well as stochastic events (criterion 4). Genetic analyses of vernal pool tadpole shrimp revealed that occurrences in this unit are genetically different from other sampled occurrences (King 1996). Of all occurrences studied, King (1996) found these to be the most highly divergent.

A majority of the vernal pool habitat in the Merced Unit is in Merced County. The eastern edge of the unit generally follows the Mariposa County line. The Chowchilla River in Madera County flows along the southern boundary of the unit. The northern boundary parallels the Merced River. The entire unit is located east of Highway 99. As part of TNC's Merced Grasslands Project, approximately 20,288 ac (8,210 ha) of vernal pool habitat in this unit have been conserved through the establishment of conservation easements.

*Unit 17, Table Mountain Unit, Fresno County (1,802 ac (729 ha))*

This unit contains Northern Basalt Flow vernal pools found on narrow, sinuous basalt mesas above the surrounding low-lying terrain. Basalt flow vernal pools are a very rare habitat type for vernal pool tadpole shrimp, and the habitats within this unit are important for maintaining the range of ecological conditions in which the species occurs (criterion 2). They typically contain small, irregularly clustered pools with "flashy hydrology" (Keeler-Wolf *et al.* 1998). The occurrences of vernal pool tadpole shrimp in this unit are genetically different from occurrences in other portions of the species' range, particularly those occurring on the floor of the Central Valley (King 1996).

Located in Fresno County, this unit contains vernal pool habitats east and south of the San Joaquin River and east of Millerton Lake. The unit is west of Marshall Station and North of Table Mountain Rancheria. Table Mountain occurs within this unit, and land ownership within the unit includes BLM (190 ac (77 ha)), CDFG lands (419 ac (170 ha)), and TNC conservation easements (639 ac (256 ha)). All other lands within this unit are privately owned.

*Unit 18A, B and C, Tulare Unit, Tulare County (7,579 ac (3,067 ha))*

This unit contributes to the conservation of the species because it contains pools formed on San Joaquin, Cometa, and Madera soils, among others (criterion 2). The unit is geographically essential (criterion 1) because it represents the southern extent of the vernal pool tadpole shrimp's range. The unit is essential because it maintains the genetic diversity of the species. The Sequoia Field occurrence was most closely related to occurrences at Kesterson National Wildlife Refuge, and was generally more similar to other occurrences on the valley floor than occurrences found on the eastern margin of the valley in the Sierra Nevada Foothills. However, King (1996) found that vernal pool tadpole shrimp within this unit were genetically different from other populations studied.

This unit is comprised of three subunits located in northwest Tulare County. CDFG manages vernal pool habitats at the Stone Corral and Sequoia Field Ecological Reserves found within this unit. Keeler-Wolf *et al.* (1998) identified the vernal pools in these areas as "high-quality hardpan pools." Much of the area within this unit is owned by