

vernal lakes in California, at more than 300 ac (121 ha) (Medeiros 2000).

The Stanislaus Unit is located in the southeast corner of Stanislaus County and the northeast corner of Merced County. It lies between the Tuolumne River and the Merced River. The Mariposa County line is located east of the unit. Turlock Lake and Dawson Lake are adjacent to the northern boundary. County Road J9 and the High Line Canal are west of the unit.

*Unit 22, Merced Unit, Merced and Mariposa Counties (111,459 ac (45,108 ha))*

This unit encompasses the largest block of pristine, high density vernal pool grasslands supporting the species remaining in California (criterion 4) (Holland 1998; Vollmar 1999; CNDDDB 2001). There are more documented occurrences of vernal pool fairy shrimp in this unit than any other area throughout the species range, implying it contains ecological features that are unusually supportive of vernal pool fairy shrimp populations (criterion 2) (CNDDDB 2002). Almost 15 percent of all remaining vernal pool habitats in the Central Valley are located within this unit (criterion 1) (Holland 1998).

The Merced Unit is located midway in a chain of vernal pool complexes that straddles the valley floor and the foothills of the southern Sierra Nevada. Forty percent of vernal pool habitats in the Southern Sierra Foothill vernal pool region are found within this unit (criterion 1). This unit helps to maintain connectivity between vernal pool fairy shrimp habitats on the valley floor and habitats to the north and south of the Merced Unit (criterion 4).

A majority of vernal pool habitat in the Merced Unit is in Merced County. The eastern edge of the unit overlaps into Mariposa County. Bear Creek flows along the southern boundary of the unit, crossing through it in several locations. The City of Merced is south of the unit, Bear Reservoir is southeast of the unit, and the Castle Airport is located outside of the southwest boundary. The northern boundary parallels the Merced River. The entire unit is located east of Highway 99. Land ownership within the unit includes mostly private lands and approximately 8 ac (3 ha) of BLM lands. TNC has a total of 11,283 ac (4,513 ha) of conservation easements within this unit.

*Unit 24B, Madera Unit, Fresno Counties (41,032 ac (16,606 ha))*

The Madera Unit contains occurrences of the species living within hardpan vernal pool complexes composed of numerous small pools and

swales on mima mound topography (Holland 1998; Keeler-Wolf *et al.* 1998; CNDDDB 2001). These vernal pools occur on alluvial fans and terraces. South of this unit, in Fresno County, these pools become less common, because the soils that support them are less widespread (Keeler-Wolf *et al.* 1998).

Located in western Madera County, this unit is located between the Fresno River and San Joaquin River. All lands within this unit are privately owned. All vernal pools in this unit are located east of Highway 99 and the Atchison, Topeka, and Santa Fe Railroad, extending east toward the low-elevation foothill region of the Sierra Nevada. State Route 145 bisects the unit.

This unit consists of two subunits. Subunit A contains vernal pool habitats south of Millerton Lake. The western boundary of this unit is bordered by the San Joaquin River. Gordon Road cuts through the southernmost tip of the unit. Owens Mountain and Table Mountain Rancheria are located east of the unit. The Friant Kern Canal crosses through the unit in a southeasterly direction. Subunit B is located mostly west of State Route 41 along Little Dry Creek and Cottonwood Creek.

*Unit 26A, B, and C, Cross Creek Unit, Tulare and Kings Counties (7,579 ac (3,067 ha))*

This unit contains vernal pools that support occurrences of the species (Holland 1998; CNDDDB 2001) formed on Lewis and Youd soils (USDA 2001). This area represents the southern extent of vernal pool fairy shrimp range along the eastern margin of the Central Valley, and is the largest contiguous vernal pool habitat in this region (criteria 1 and 4) (Holland 1998; CNDDDB 2001).

This unit contains CDFG's Sequoia Field and Stone Corral Ecological Reserves in Tulare County. These reserves are one of the few vernal pool conservation areas in the eastern portion of the San Joaquin Valley, and they have been the focus of several monitoring and management efforts (criterion 4). Land ownership within this unit includes 213 ac (86 ha) of CDFG lands. All other land within this unit is privately owned. TNC, Tulare County, and the Sierra Los Tulares Land Trust have identified this area as one of the best remaining examples of vernal pool habitats in the region. Much of the remaining vernal pool habitat within Tulare County has been severely degraded and converted.

This unit is comprised of three subunits. Subunit A is located in northwest Tulare County and contains vernal pool habitat located west of Seville. The Friant Kern Canal is north of the unit and the Cottonwood Creek

Levee is south of the unit. Road 140 runs west of the unit. Subunit B contains vernal pools in northeastern Kings County and northwestern Tulare County. Highway 99 and St. Johns River cut through the unit in a southeasterly direction. Cross Creek and Cottonwood Creek cut through the unit in a southwesterly direction. Road 112 is east of the unit and the Lakeland Canal is west of the unit. The towns of Goshen and Visalia are south of the unit and Traver and London are north of the unit. Subunit C is known as Sequoia Field Unit and is located in northwestern Tulare County. This unit is south of County Road J36. Road 112 crosses through the western edge of the unit, Avenue 352 crosses through the southern edge, and State Route 63 crosses through the eastern edge.

*Unit 27A and B, Pixley Unit, Tulare County (16,706 ac (6,761 ha))*

This unit contains the largest contiguous area of habitat for the species in the southern portion of the San Joaquin Valley (criteria 1 and 4) (Holland 1998; CNDDDB 2001). Vernal pool fairy shrimp in this area occur within Northern Claypan vernal pools that tend to be alkaline and larger than other vernal pool fairy shrimp habitats, such as those found on the eastern margin of the San Joaquin Valley (criterion 2).

This unit contains wintering areas for migratory waterfowl, shorebirds, marsh, and waterbirds in the southern San Joaquin Valley, and includes natural valley grasslands and developed marsh habitats within the Pixley National Wildlife Refuge complex (3,366 ac (1,362 ha)) (criterion 4). Other ownership within this unit include TNC lands (3,274 ac (1,309 ha)). All other lands within this unit are privately owned. These habitats are important for migratory waterfowl that aid in the dispersal of vernal pool fairy shrimp and other vernal pool crustacean cysts (criterion 3). This unit represents one of only three areas designated for vernal pool fairy shrimp in the San Joaquin Valley vernal pool region described by Keeler-Wolf *et al.* (1998) (criterion 1).

This unit consists of two subunits that lie south of the Cities of Hanford and Lemoore, north of the City of Wasco, and east of the City of the Tulare. In addition to vernal pool fairy shrimp, western spadefoot toad and California tiger salamander are present within this unit.