

watersheds, and local variation of inland valley). A brief description of topographic position (*i.e.*, coastal mesas, each unit and the reasons for designating it as critical habitat are presented below.

TABLE 1.—APPROXIMATE AREA ENCOMPASSING DESIGNATED CRITICAL HABITAT IN HECTARES (HA) (ACRES (AC)) BY COUNTY AND LAND OWNERSHIP

Orange	N/A	30 ha (74 ac)	117 ha (289 ac)	147 ha (363 ac).
San Diego	530 ha (1,309 ac)	228 ha (564 ac)	1,563 ha (3,862 ac)	2,321 ha (5,735 ac).
Total	530 ha (1,309 ac)	258 ha (638 ac)	1,680 ha (4,151 ac)	2,468 ha (6,098 ac).

¹ Includes Department of Defense and U.S. Fish and Wildlife Service lands.

TABLE 2.—APPROXIMATE PROPOSED CRITICAL HABITAT AREA (HA (AC)), ESSENTIAL AREA, AND EXCLUDED AREA

Area considered essential	8,100 ha (20,015 ac).
Area not included under 3(5)(A) (MCAS Miramar, NRRF, individual HCPs*)	1,036 ha (2,561 ac).
Area excluded under 4(b)(2) (Camp Pendleton and preserve lands under the San Diego MSCP)	4,596 ha (11,356 ac).
Proposed Critical Habitat	2,468 ha (6,098 ac).

* Acreage for individual HCPs are not available.

TABLE 3.—NCCP/HCPs WITHIN THE GENERAL AREA WHICH CONTAIN THE PROPOSED CRITICAL HABITAT

NCCP/HCP	Planning area	Preserve area
San Diego MSCP	236,000 ha (582,000 ac)	69,573 ha (171,000 ac).
Central/Coastal Orange County NCCP/HCP	84,463 ha (208,713 ac)	15,677 ha (38,738 ac).
Proposed MSCP North County Subarea	142,854 ha (353,000 ac)	Information not available.
Proposed Northwestern San Diego MHCP	45,288 ha (111,908 ac)	8,064 ha (19,928 ac).
Proposed Southern Subregion NCCP/HCP Orange County (pending) ..	51,800 ha (128,000 ac)	5,666 ha (14,000 ac).

Areas proposed as critical habitat do not include all of the vernal pools where the San Diego fairy shrimp are found. All of the vernal pools included in the critical habitat were surveyed and are considered to be occupied by the San Diego fairy shrimp. Vernal pools can be measured by different methods: (1) Area of pool basins, (2) soil types, or (3) the associated watersheds. These differences make estimating the historical and current extent of vernal pool habitat in Southern California difficult. In delineating areas essential for the conservation of the San Diego fairy shrimp, we used the area of the associated vernal pool watersheds. Depending on the topography of the area and the adjacent land use, the size of the associated vernal pool watersheds vary between pool complexes.

The five Critical Habitat Units are based on the Management Areas outlined in the Recovery Plan for Vernal Pools of Southern California (Service 1998). The units represent those vernal pools, their associated watersheds, and include populations of the San Diego fairy shrimp throughout its range. The critical habitat units occur on the various soil types and vegetation classes associated with vernal pools. Each contains the primary constituent elements for the San Diego fairy shrimp. We are proposing 2,468 ha (6,098 ac) as critical habitat for this species. Some of the pools within proposed critical habitat are in a degraded state and will

benefit from restoration and enhancement work, which will contribute to recovery of the San Diego fairy shrimp.

Unit 1: Orange County

Unit 1 encompasses approximately 147 ha (363 ac) in Orange County within the Los Angeles Basin/Orange Management Area as outlined in the Recovery Plan. The majority of vernal pools in this management area were extirpated prior to 1950 and only a small number of vernal pools remain in Los Angeles and Orange counties (Service 1998). This unit represents the northern extent of this species' currently known distribution in southern California and includes vernal pools that have been identified as essential to the recovery of the San Diego fairy shrimp in order to stabilizing populations and habitat loss. The vernal pools that are proposed as critical habitat are relatively isolated and are the only known remaining vernal pools in Orange County that support the San Diego fairy shrimp. The pools in this unit include examples of the historic distribution of coastal terrace vernal pools at Fairview Regional Park and Newport-Banning Ranch, vernal pool-like ephemeral ponds formed by landslides and fault activity on Rancho Mission Viejo, and the only known rock pool in southern California. This rock pool is located in the North Ranch Policy Plan Area. As discussed in the

Recovery Plan (Service, 1998), preservation of vernal pools must be on a geographical scale for individual species and habitats. For species like the San Diego fairy shrimp with declining populations and limited distribution, maintenance of genetic variability is crucial for its survival. The high degree of variability in habitat combined with the unpredictability of winter rains has resulted in genetic structure between pool complexes. Moreover, there is a low degree of genetic variability within pool complexes. Thus, to conserve the genetic structure and variability of this species, vernal pools supporting San Diego fairy shrimp need to be conserved throughout the range of this species, including the northern end of the distribution. This northernmost unit is essential to the conservation of the San Diego fairy shrimp because it maintains the ecological distribution and genetic variability of this species on a broad geographical scale. The restricted distribution and isolation of the vernal pools also suggest that they may contain genetic diversity important for the long-term survival of the San Diego fairy shrimp.

Unit 2: San Diego: North Coastal Mesa

Unit 2 encompasses approximately 357 ha (882 ac) in San Diego County within the North Coastal Mesa Management Area, as outlined in the Recovery Plan. This unit includes a small portion of Camp Pendleton