



# San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

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SPECIES SUMMARY

## San Joaquin kit fox *Vulpes macrotis mutica*

Biological information on the San Joaquin kit fox is available in the USFWS's draft San Joaquin Valley Recovery Plan. The distribution of kit foxes in California includes all or portions of Alameda, Contra Costa, Fresno, Kern, Kings, Merced, Monterey, San Benito, San Joaquin, San Luis Obispo, Santa Barbara and Tulare counties. Morrell (1975) estimated the size of the San Joaquin kit fox population to be between 5,066 and 14,800 individuals with an average of 10,000 in 1975. O'Farrell (1983) later revised this 1975 estimate to about 7,000.

Habitat loss is the primary cause of the decline of the kit fox in the northern portion of its range. Most of the preferred valley bottom grassland and alkali scrub habitats in the northern range have been eliminated by agricultural, suburban, and industrial development. Direct poisoning and prey reductions have been identified as major factors limiting kit fox occurrence in the northern portion of its range. Other factors that may affect kit fox populations include road kills, illegal shooting, trapping, lack of adequate denning sites, predation by coyotes (*Canis latrans*), and possible competition with or predation by introduced red foxes (*Vulpes vulpes*). In addition, the kit fox population may have declined due to the impacts of a prolonged drought throughout their range.

The preferred prey items of kit fox are kangaroo rats (*Dipodomys* sp.), ground squirrels (*Spermophilus beecheyi*), and black-tailed hares (*Lepus californicus*). They will also feed on other rodents, insects, birds, and carrion. Morrell (1972) and Egoscue (1956) suggested that movements of den sites may often be in response to fluctuations in prey availability. The kit fox is a wide ranging species with established home ranges generally between 1-3 square miles, but they can be as large as 12 square miles. Kit foxes in the northern range are found in higher elevations than those in the southern range. Dens have been found at elevations between 1,400 and 1,460 feet on slopes generally less than 30 percent.

Consistent with the draft San Joaquin Valley Recovery Plan, the SJMSCP emphasizes maintenance of the north/south trending movement corridor for kit foxes through the southwest portion of San Joaquin County. The SJMSCP GIS Database includes 31 records considered adequate to identify occupied habitat. Except for one recent record in a small grassland near Clifton Court Forebay, all are on the Lone Tree Creek, Midway, and Tracy quads. There are also 47 SJMSCP GIS Database records too old or imprecisely located, or where the current land use is incompatible with kit foxes, to be considered occupied habitat.

Sources: Chadwick and Odenweller 1988; O'Farrell 1983; USFWS 1983; USFWS 1990; USFWS 1997; Orloff et al. 1986; Orloff 1990; Morrell 1972; White and Ralls 1993)

INCIDENTAL TAKE MINIMIZATION MEASURES

### 5.2.4.25 San Joaquin Kit Fox

Preconstruction surveys shall be conducted two calendar weeks to thirty calendar days prior to commencement of ground disturbance for projects located within the Southwest Zone or Southwest/Central Transition Zone. Surveys shall be conducted by qualified biologists. When surveys identify potential dens (potential dens are defined as burrows at least four inches in diameter which open up within two feet), potential den entrances shall be dusted for three calendar days to register track of any San Joaquin kit fox present. If no San Joaquin kit fox activity is identified, potential dens may be destroyed. If San Joaquin kit fox activity is identified, then dens shall be monitored to determine if occupation is by an adult fox only or is a natal den (natal dens usually have multiple openings). If the den is occupied by an adult only, the den may be destroyed when the adult fox has moved or is temporarily absent. If the den is a natal den, a buffer zone of 250 feet shall be maintained around the den until the biologist determines that the den has been vacated. Where San Joaquin kit fox are identified, the provisions of the U.S. Fish and Wildlife Service's published Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance shall apply (except that preconstruction survey protocols shall remain as established in this paragraph). These standards include provisions for educating construction workers regarding the kit fox, keeping heavy equipment operating at safe speeds, checking construction pipes for kit fox occupation during construction and similar low or no-cost activities.

It is possible that the Permitting Agencies could discover the San Joaquin kit fox within the eastern foothills of San Joaquin County, (this potential range in the eastern foothills would most likely coincide approximately with the boundaries of the Vernal Pool Zone, excluding that area of the Vernal Pool Zone located in the northern portion of San Joaquin County). San Joaquin kit fox also may move within the Primary Zone of the Delta west of Old River. The TAC shall work with the USFWS to prepare an abbreviated survey protocol for these areas in the Vernal Pool Zone and Primary Zone of the Delta within one year of issuance of SJMSCP Permits pursuant to SJMSCP Sections 5.2.2.1 through 5.2.2.4.

Protocols for conducting pre-construction surveys for the San Joaquin kit fox shall be updated in accordance with the SJMSCP Adaptive Management Plan to reflect changes to the Standardized Recommendations for Protection of the San Joaquin kit fox Prior to or During Ground Disturbance.