

**APPENDIX 6.6-E – RESULTS OF A HABITAT ASSESSMENT FOR THE
FEDERALLY ENDANGERED STEPHEN’S KANGAROO RAT
(*DIPODOMYS STEPHENSI*) FOR THE ORANGE GROVE ENERGY
PROJECT**



SJM BIOLOGICAL CONSULTANTS

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SJMBC.755

Attention: Ms. Elisha Back
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SUBJECT: Results of a habitat assessment for the federally endangered Stephens' kangaroo rat (*Dipodomys stephensi*) (SKR) for the Orange Grove Energy Project (i.e., project); located near the Community of Pala in the northern portion of San Diego County, California (Figure 1).

Dear Ms. Back:

This letter-report presents the results of a site assessment for SKR at the above-described project site.

STUDY AREA DESCRIPTION

The project study area consists of a 250-foot strip of land centered on the proposed gas line alignment that begins at Rice Canyon Road and extends approximately 2.5 miles eastward mostly along or in close proximity to Pala Road (SR76). This area consists primarily of historically disturbed lands used for agriculture (including an abandoned orchard at the eastern terminus where gas line facilities are proposed), but also encompasses parts of the San Luis Rey River floodplain at a couple locations.

The gas line will be installed in a trench within the 250-foot study area. In addition to the gas line itself, a small area of disturbed weedy habitat located at the east edge of Rice Canyon Road ½ mile north of Pala Road is proposed as a water loading site for this project.

BACKGROUND

General natural history features and habitat requirements of SKR are fairly well known (O'Farrell 1987, 1990). Habitats occupied by SKR characteristically occur on level to gently sloping terrain, although the species has occasionally been found on relatively steep slopes (Montgomery 1990; M.J. O'Farrell, pers. comm.). Soils in habitats harboring SKR are typically loamy in nature, while soils dominated by clay or sand very rarely support this species (Price and Endo 1989; S.J. Montgomery, pers. observ.; O'Farrell 1987; O'Farrell and Uptain 1989).

Stephens' kangaroo rats typically occupy lands described as disturbed annual grassland and characterized by a relatively sparse cover of both shrubs and herbaceous vegetation. Although resident SKR have occasionally been found in relatively dense stands of sage scrub in Riverside County (S.J. Montgomery, pers. observ.), such occurrences are by far the exception to the rule. Occupied habitats commonly exhibit an abundance of bare soil during much of the year. Nonetheless, spring/early summer flushes of forb (e.g., *Erodium* sp.) growth often temporarily reduce the amount of visible exposed ground. This phase of the yearly cycle of vegetation cover is subsequently transformed by the desiccating forces of the summer season, which cause non-grass herbaceous vegetation (i.e., forbs) to dry up and disarticulate, again revealing the bare ground that is so characteristic of occupied SKR habitat. Reflecting this preference for open ground, a high ratio of forbs to grasses increases the suitability of grassland for SKR.

Stephens' kangaroo rats are capable of occupying small patches of favorable habitat amidst otherwise unsuitable habitats (e.g., dense grass). They also readily use narrow strips of open habitat to move between larger blocks of suitable habitat (S. Montgomery, pers. observ.; O'Farrell 1990; Price and Kelly 1992).

The Stephens' kangaroo rat is known to occur widely in Riverside County, and its distribution in that county is generally well known (RCHCA 1995). However, the distribution of SKR and information regarding its populations in San Diego County are less well documented. Stephens' kangaroo rats presently inhabit or historically inhabited several widely scattered localities in San Diego County including Camp Pendleton Marine Corps Base (CPMCB) and Fallbrook Naval Weapons Station (FNWS); adjacent parts of Oceanside and nearby lands adjacent to the San Luis Rey River; the general grassland region encompassing Lake Henshaw and Warner Springs; Guejito Ranch east of Escondido; and Ramona (Beauchamp 1984; Lackey 1967; Montgomery 1991; O'Farrell et al. 1989, 1987, 1986; Ogden 1998; Thomas 1975, 1973; USFWS 1997, 1993). The recent discoveries of sizable populations of this species at the Guejito Ranch and Ramona in San Diego County, and in Norco and Anza Valley in Riverside County (Montgomery 1990, 1992), suggest that the limits of its range may still remain to be completely delineated.

Several populations of SKR also occur in more coastal sections of San Diego County, all of which fall within the Western Conservation Planning Area identified in the Draft Recovery Plan for the Stephen's Kangaroo Rat (USFWS 1997). A sizable population, encompassing approximately 2700 acres of occupied and 2300 acres of potentially occupied SKR habitat, was reported for the FNWS immediately west of the town of Fallbrook (USFWS 1993). Several relatively small populations of the species are known to occur on CPMCB, immediately west and south of the FNWS. The total area of occupied habitat on CPMCB was most recently estimated at approximately 700 acres by Montgomery (1997). Nonetheless, both of these populations may have decreased in area since the reports listed above (Montgomery 1994). Scattered populations also historically occurred nearby to the south and east of CPMCB and Fallbrook, along the San Luis Rey River Valley, and on adjoining hillsides (Lackey 1967; Thomas 1973). However, no populations of SKR have been identified in the San Luis Rey River area in recent years,

and the species is probably extirpated in this area (Davenport 1997; O'Farrell and Uptain 1989; USFWS 1997).

Stephens' kangaroo rats are not known to occur closer than within approximately seven miles of the project (California Natural Diversity Data Base 2008). Known populations of SKR nearest to the project occur several miles to the northwest at the FNWS and CPMCB. Nonetheless, due to the general proximity of known occupied SKR habitat in the vicinity of the project, a field check for potentially suitable habitat and/or kangaroo rat sign potentially attributable to SKR was required by San Diego County.

METHODS

The entire project area was visited on 3 May 2008 and assessed for its potential to support SKR. All grassland habitats, including agricultural fields and sparse sage scrub stands, were evaluated for their potential to harbor this species. Open ruderal portions of previously or currently developed lands (e.g., abandoned dairies, etc.) also were inspected for habitat conditions known to be suitable for SKR as well as typical kangaroo rat sign such as tracks, burrows, and scat.

RESULTS

Substrates in most of the study area have been heavily disturbed for many years and would therefore be generally unsuitable for SKR. No areas exhibiting the typical grassland or open sage scrub habitats known to be used/occupied by this species were found to exhibit sign of SKR. Furthermore, the absence of known populations of SKR in the vicinity generally eliminates the potential for future colonization of the project area by this species.

In summary, SKR are not present in any portion of the project area. Thus, impacts to this species would not occur in association with construction or operation of the proposed project.

Please contact me with any questions you may have regarding this report or the subject matter contained therein.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen J. Montgomery". The signature is fluid and cursive, with a large initial "S" and "M".

Stephen J. Montgomery
U.S. Fish and Wildlife Service Permit TE745541-10

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