

Appendix D14

San Bernardino Kangaroo Rat Survey Report (SCD 2002)



Appendices

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S. C. DODD BIOLOGICAL CONSULTING

02 April 2002

Mr. Scott White
White & Leatherman BioServices
201 North First Avenue, Number 102
Upland, CA 91786

RE: Results of a live-trapping survey for the federally listed endangered San Bernardino kangaroo rat (*Dipodomys merriami parvus*) on the secondary access route for the proposed Martin Ranch project, located near Devore in San Bernardino County, California. The study site occurs largely in unsectioned lands, Range 5 West, Township 2 North, on the Devore 7.5' USGS Quadrangle.

Dear Mr. White:

Following is a letter report of a field survey for the San Bernardino kangaroo rat (SBKR) on the above-described property.

INTRODUCTION

At the request of White and Leatherman BioServices, S. C. Dodd Biological Consulting conducted a trapping survey to determine presence/absence of the federally listed endangered SBKR on the secondary access route of the proposed Martin Ranch project site. The primary Martin Ranch project site was previously trapped for SBKR by PCR Services Corporation in August and November of 1998 (PCR 1999) and was not trapped as part of this study. The survey area occurs in close proximity to localities known to harbor this species. Therefore, environmental documentation required a field survey to confirm its presence/absence.

The SBKR, a member of the rodent Family Heteromyidae, is endemic to southwestern California. It is a subspecies of the Merriam's kangaroo rat (*D. merriami*), which is widely distributed throughout the western United States and northwestern Mexico. Populations of the SBKR historically ranged from San Bernardino Valley in San Bernardino County to Meniffee Valley in Riverside County, with at least 25 separate localities identified. Currently, populations of the SBKR are limited to seven widely separated locations in San Bernardino and Riverside counties, four of which (City Creek, Etiwanda, Reche Canyon, and South Bloomington) support only small, remnant populations. The Santa Ana River, Lytle Creek and Cajon Wash, and San Jacinto River support the largest extant concentrations of SBKR and suitable habitat (approximately 3,200 acres of occupied habitat). This largest remaining block of habitat occurs across a mosaic of approximately 13,700 acres of potentially suitable habitat; however, 3,400

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acres of this habitat is currently more mature than the open, early successional habitat type required by the SBKR (USFWS 1998b).

In response to habitat losses resulting from sand and gravel mining operations, flood control, water conservation projects, and urban/agricultural development, an emergency rule listing the SBKR as endangered was issued by the U.S. Fish and Wildlife Service (USFWS) on January 27, 1998, pursuant to the Endangered Species Act of 1973, as amended (USFWS 1998a). The emergency rule provided federal protection to this species for a limited time period (expiring on September 24, 1998). The SBKR subsequently was listed as endangered on 24 September 1998 (USFWS 1998b). Much of the following summary on the status and natural history of this species come from the emergency and final rules.

The habitat disturbances described above have reduced the historic range of the SBKR by approximately 96 percent. In most or all river wash systems presently harboring SBKR, these disturbances have impacted the species by directly removing habitat and/or by fragmenting remaining occupied habitat patches. In addition, disturbances promoting higher vegetation cover in alluvial scrub communities further reduce habitat suitability for the SBKR. Such factors primarily include the construction of levees and dams for flood control or water percolation purposes, which precludes or greatly reduces the frequency of scouring and sand deposition events in vegetation communities away from the primary active river channels. Similarly, suitable habitat along the Santa Ana River, which supports the largest remaining population of SBKR, is currently at risk due to changes in hydrology expected to result from the construction of the Seven Oaks Dam.

General natural history features and habitat requirements of the SBKR are relatively well known. The species is found primarily on sandy and sandy loam substrates, where they can readily excavate simple, shallow burrows. Within the range of SBKR, this type of substrate is typically associated with alluvial fan sage scrub vegetation, a relatively uncommon desert-influenced vegetation type in southern California that develops on alluvial fans and floodplains subjected to scouring and deposition during periodic flood events. Also, SBKR have been found to occur in *Encelia*-dominated sage scrub where soils are suitably sandy.

The SBKR prefers open habitats characterized by a low stature, relatively open shrub canopy cover (typically less than 22% cover). Occupied SBKR habitat also typically exhibits a reduced herbaceous cover with a low abundance of European grasses (i.e., primarily brome species). This type of habitat is typical of early- and intermediate-phase alluvial sage scrub communities, which are subjected to relatively frequent flooding/scouring. The open vegetation structure of these communities supports the highest densities of SBKR. The amount of rock in the soil is also an important determinant of a habitat's suitability for this species. In general, soils exhibiting high densities of rocks and boulders, with a corresponding scarcity of open sandy substrate, are very rarely occupied by SBKR, presumably due to the difficulty of excavating burrows in such armed soils (S. J. Montgomery, unpubl. data).

Mature-phase alluvial fan scrub communities, which typically are located on higher terraces above the more active river channels, are rarely affected by flooding events and subsequently develop a higher density of shrub and non-native grass cover, as well as occasional trees. SBKR

rarely occur in the mature phase of this vegetation type. However, some confusion has arisen regarding the definition of "mature phase" alluvial scrub; thus, it is necessary to clearly define the conditions prevailing in any alluvial scrub community under study, before its suitability for SBKR can be ascertained. SBKR have been trapped in mature alluvial scrub, and the relative importance of this community type to the long-term viability of SBKR populations has yet to be determined.

The SBKR is granivorous and often stores quantities of seeds in surface caches similar to other kangaroo rats. Other important food sources include insects and green vegetation. Home ranges for the Merriam's kangaroo rat average 0.8 acres for males and females; SBKR are assumed to have similar home range size. The SBKR breeding season extends primarily from January through late November, with peak reproduction occurring in late June. During years of typical rainfall, it is likely that only one litter is produced per year, with an average of only two to three young per litter. However, multiple litters undoubtedly are produced during years of abundant rainfall.

SITE DESCRIPTION

The Martin Ranch property and secondary access route is located southeast of the northern junction of Interstates 15 and 215, at the base of the San Bernardino Mountains. The current study area of the secondary access route lies along the mid-section of Meyers Road (approx. 1/3 mile long) and then heads southwest along a dirt road (approx. 1/2 mile long) through Cable Creek to Interstate 215 (Figure 1). The elevation ranges from about 1900 to 2200 feet above sea level. The terrain is mildly sloping from north to south with one steep drop down from the mesa to Cable Creek. Sparse residential development, open space, and Interstate 215 surround the site.

Habitat along the secondary access route consists largely of mature-phase alluvial fan sage scrub because it has not experienced a recent scouring by floods. Before the construction of Interstate 215 (and some residential developments) Cable Creek connected with the Cajon Wash alluvial fan/floodplain. During this time, Cable Creek undoubtedly experienced more frequent scouring associated with its connection to the larger Cajon Wash system. Currently, Cable Creek is rather stable because it is disconnected from Cajon Wash, has a levee built along part of it, and is fed by few tributaries, which are probably too small to create a large enough flood to scour the vegetation. Furthermore, Cable Creek has been channelized east of Little League Drive.

The habitat within Cable Creek is mature alluvial fan sage scrub that is relatively dense (at least 50% cover) and tall structured. Common shrubs characterizing the area include: yerba santa (*Eriodictyon trichocalyx*), California sagebrush (*Artemisia californica*), scalebroom (*Lepidospartum squamatum*), California buckwheat (*Eriogonum fasciculatum*), skunkbrush (*Rhus trilobata*), pinebush (*Ericameria pinifolia*), white sage (*Salvia apiana*), black sage (*S. mellifera*), Our Lord's candle (*Yucca whipplei*), California matchweed (*Gutierrezia californica*), prickly pear cactus (*Opuntia littoralis*), and deerweed (*Lotus scoparius*). Within the creek there are also patches of typical riparian species such as western sycamores (*Platanus racemosa*), cottonwoods (*Populus fremontii*), and mule fat (*Baccharis salicifolia*). The open patches within the scrub are fairly well covered with exotic species including bromes (*Bromus* spp.) and filaree

(*Erodium* sp.). Other herbaceous species including California croton (*Croton californicus*), popcornflower (*Plagiobothrys* sp.), phacelia (*phacelia* sp.), sun cups (*Camissonia* sp.), fiddlenecks (*Amsinckia* sp.), and lupines (*Lupinus* sp.) can be found throughout the wash. The substrate in this area is typical sandy and sandy loam alluvial soils.

The vegetation gradually becomes more typical Riversidean sage scrub north of Cable Creek along the access route. This community is dense (at least 85% cover) sage scrub dominated by deerweed, California buckwheat, and California matchweed. The high concentration of deerweed may indicate a past disturbance (e.g., fire). The herbaceous cover includes western wallflower (*Erysimum capitatum*), croton, popcornflower, sun cups, and common sunflower (*Helianthus annuus*). The herb layer and exotics such as wild oat (*Avena* sp.), mustard (*Brassica* sp.), bromes, and filaree are found throughout the shrubs but are more common in open areas and along the roadside. The soil consists of a sandy loam with a moderate gravel and rocky overlay.

A small olive orchard occurs on the upper mesa long the access route. Habitat along Meyers Road, east of Martin Ranch Road, was considered unsuitable for SBKR and consists of ruderal/disturbed fields, eucalyptus or ornamental trees, and bare/scraped ground.

METHODS

Trapping was conducted according to the survey protocol established for SBKR by the U.S. Fish and Wildlife Service. This protocol generally requires five consecutive nights of trapping (or until SBKR are captured), during relatively mild weather conditions, and preferably during the new (dark) phase of the moon. The survey consisted of thoroughly trapping the project site in areas containing appropriate habitat and/or soils from 25-30 March 2002. Two trap lines of 120 and 100 traps were set in suitable habitat for a total of 1100 trap-nights (Figure 1). Trap line 1 covered the southern section of the survey area (along the dirt road that traverses Cable Creek to Interstate 215). Trap line 2 covered the northern section of the survey area (along the dirt road from Cable Creek north to and along Meyers Road). Traps were placed on the ground in areas that maximize capture probability of kangaroo rats (e.g., at burrow entrances, along trails, near sign, or in likely foraging micro-habitats).

Traps were baited with a mixture of commercial birdseed (including sunflower seeds) and oats and set in the late afternoon on all trap days. Traps were checked near midnight and again the following morning, at which time all traps were closed for the day. All captured animals were identified to the species level, recorded, and released unharmed where captured. All trapping was conducted under the authority of federal (USFWS) Permit TE 796271-3, issued to Shana C. Dodd, allowing the capture and handling of SBKR. As required by this permit, the results of this survey will be submitted to the Carlsbad Field Office of the USFWS.

RESULTS AND DISCUSSION

Weather conditions during the trapping study varied. Early morning temperatures were in the high 40s to mid-50s°F and daily temperatures were in the 60s and low 70s°F. The daytime skies

in the early part of the week were sunny and clear. On the 28th a light rain passed over the area; however, the system passed by the time the traps were baited so trapping was not delayed. During the latter part of the week a thick marine layer covered the skies during the day and night. The moon phase was close to full, but was not visible most nights because of the cloud cover.

No SBKR were captured during the trapping study. As discussed previously, habitat conditions on the site are generally considered lower quality due to the mature-phase alluvial fan sage scrub present in Cable Creek and its distance from occupied/high-quality habitat (e.g., Cajon Wash). However, if a source population in Cajon Wash was still connected to the study area in the near vicinity, occasional dispersing individuals could potentially be found in the area. However, due to the fact that development (i.e., I215, railroad, houses, etc.) has totally disconnected Cable Creek from Cajon Wash an occurrence such as this is unlikely.

Eight other species were captured during the trapping survey including (Table 1): Dulzura kangaroo rat (*Dipodomys simulans*), San Diego pocket mouse (*Chaetodipus fallax fallax*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), deer mouse (*Peromyscus maniculatus*), western harvest mouse (*Reithrodontomys megalotis*), San Diego desert wood rat (*Neotoma lepida intermedia*), and California vole (*Microtus californicus*). The Los Angeles pocket mouse, San Diego pocket mouse, and San Diego desert wood rat are considered sensitive and are on the California Department of Fish and Game Mammal Species of Special Concern list (CDFG 1998). Domestic dogs were also commonly observed along the road.

Table 1. Capture Results of Live-trapping Surveys (Trap line 1 was located along Cable Creek and Trap line 2 was on the upper mesa).

Trap Lines	Dates	# Traps	Species Captured*							
			DKR	SDPM	LAPM	DM	CAM	WHM	SDDW	CV
1	26 Mar 02	120	7	19	0	16	5	0	4	0
	27 Mar 02	120	5	13	0	16	3	1	5	0
	28 Mar 02	120	10	12	0	10	5	1	6	0
	29 Mar 02	120	6	11	0	10	7	0	6	0
	30 Mar 02	120	8	13	0	13	10	4	5	0
2	26 Mar 02	100	1	13	8	24	1	7	0	0
	27 Mar 02	100	1	11	3	27	1	6	0	0
	28 Mar 02	100	0	24	3	28	1	3	0	0
	29 Mar 02	100	0	20	1	28	1	4	0	1
	30 Mar 02	100	1	16	3	26	0	0	0	1
Totals	5 nights	1100	39	152	18	198	34	26	26	2

*DKR = Dulzura kangaroo rat (*Dipodomys simulans*);

SDPM = San Diego pocket mouse (*Chaetodipus fallax fallax*);

LAPM = Los Angeles pocket mouse (*Perognathus longimembris brevinasus*);

DM = deer mouse (*Peromyscus maniculatus*);

CAM = California mouse (*Peromyscus californicus*);

SDDW = San Diego desert wood rat (*Neotoma lepida intermedia*);

CV = California vole (*Microtus californicus*)

LITERATURE CITED

California Department of Fish and Game. 1998. 1998 List of Special Animals. March.

McKernan, R. L. 1997. The Status and Known Distribution of the San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*): Field surveys conducted between 1987 and 1996. Report prepared for the U.S. Fish and Wildlife Service, Carlsbad Field Office.

PCR Services Corporation. 1999. Biological Resources Assessment of the Martin Ranch property. Report prepared for Dave Tanner and Associates, Newport Beach, California. February 1999.

U.S. Fish and Wildlife Service. 1998a. Emergency Rule to list the San Bernardino Kangaroo Rat, San Bernardino and Riverside Counties in Southern California, as Endangered. Federal Register 63(17):3835-3843.

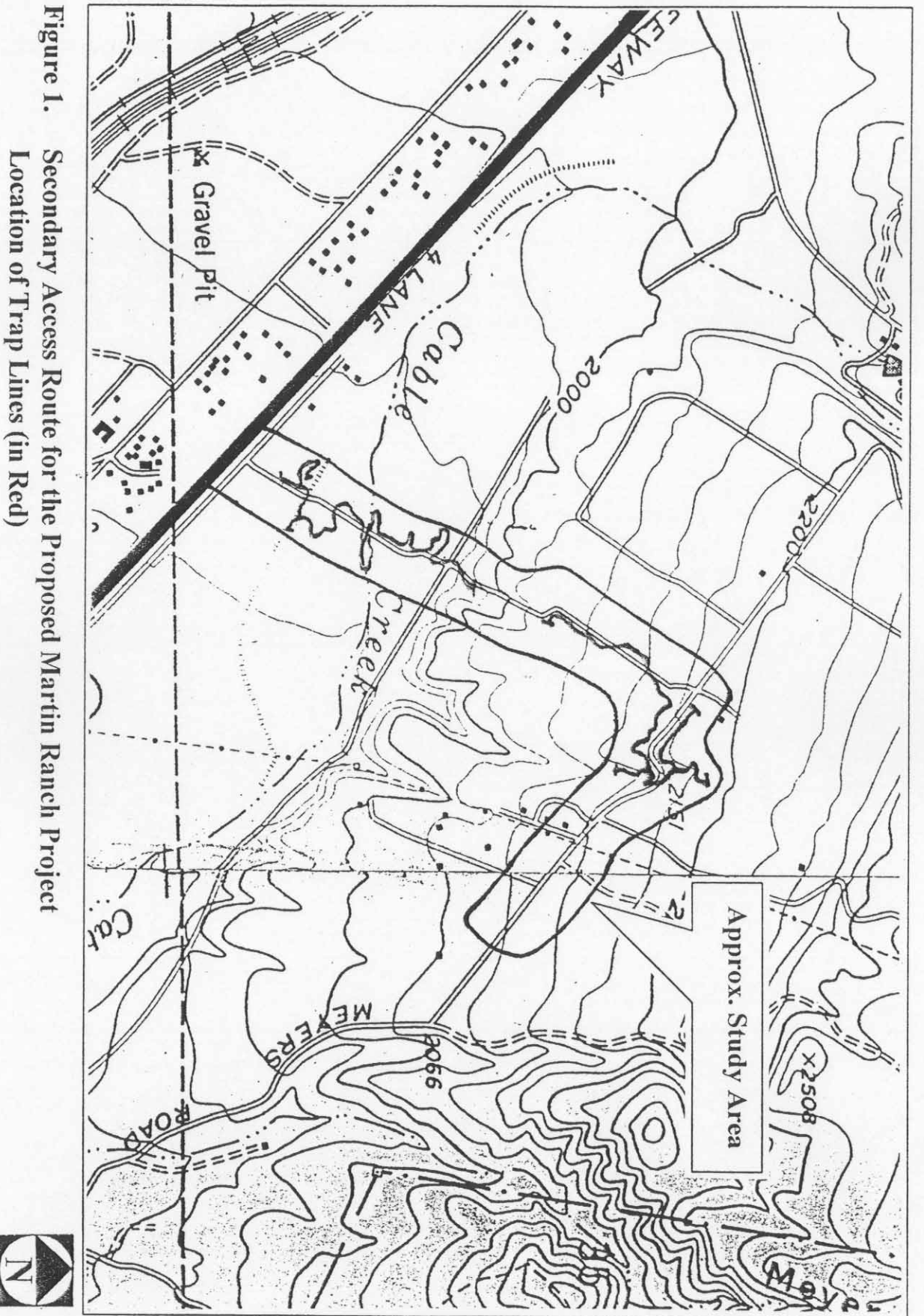
U.S. Fish and Wildlife Service. 1998b. Final Rule to list the San Bernardino kangaroo rat as endangered. Federal Register 63(185):51005-51017.

Please contact me if you have any questions regarding any aspect of this report or the associated survey.

Sincerely,

Shana C. Dodd

Shana C. Dodd



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11 June 2002

Ms. Christine Moen
Regional Permit Coordinator
U.S. FISH AND WILDLIFE SERVICE
2730 Loker Avenue West
Carlsbad, CA 92660

Subject: Results of Focused Presence/Absence Surveys for the Coastal California
Gnatcatcher on the Martin Ranch Access Road Project, Devore, San Bernardino
County

Dear Ms. Moen:

This letter report presents the negative results of a focused survey to evaluate the presence or absence of the coastal California gnatcatcher (*Poliophtila californica californica*) along an alternative access route to the Martin Ranch development project in the City of Devore, San Bernardino County, California. Surveys were conducted according to the 1997 guidelines established by the U. S. Fish and Wildlife Service (USFWS 1997).

Project Location and Description

The project site is located northeast of Interstate 215 near the City of Devore, San Bernardino County, California. The alternative access route for the project, which is the focus of this survey effort, is along a partially paved road originating at Frontage Road (along the I-215) and proceeding northeast until it intersects with Meyers Road approximately three-quarters of a mile away. From there the alternative access route follows Meyers Road (paved) southeast until it intersects with Martin Ranch Road approximately one-half mile away (see enclosed figure).

The project site is shown on the Devore and San Bernardino North U.S. Geological Survey 7.5 minute series quadrangle. The topography of the site is variable with much of the terrain dominated by an alluvial floodplain, a relatively steep upslope, and an upland plateau or alluvial bench. Elevations on the project site range from approximately 1,850 to 2,150 feet above mean sea level.

Vegetation

Below is a brief description of the vegetation and habitats along the alternative access roads. Plant taxonomy follows Hickman (1993) for scientific and common names.

The proposed access route consists of existing paved and unpaved roads. Adjacent habitat is generally coastal sage scrub vegetation growing on the alluvial fans and benches below Cable Canyon and Myers Canyon of the western San Bernardino Mountain foothills, and extending downslope to the Cajon Wash alluvial plain. The alluvial fan is no longer subject to scouring

floods from Cajon Wash due to flood control improvements, raised railroad lines, and the Interstate 215 Freeway. Thus, vegetation on the site was likely typical of "alluvial fan sage scrub" historically, but now its structure and composition are more typical of upland coastal sage scrub of the inland valleys. For example, scalebroom (*Lepidospartum squamatum*), the most characteristic shrub of alluvial fan sage scrub, occurs only occasionally along the route. Instead, shrubland vegetation is dominated by upland coastal sage scrub species including California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*), California sagebrush (*Artemisia californica*). Scattered chaparral shrubs, including chamise (*Adenostoma fasciculatum*) and sugarbush (*Rhus ovata*) also occur. A few California black walnut trees (*Juglans californica*) and Mexican elderberry (*Sambucus mexicana*) emerge above the shrubland canopy.

Cable Creek, where it crosses the proposed route, supports scattered cottonwood (*Populus fremontii*), California sycamore (*Platanus racemosa*), willow (*Salix lasiolepis*), and mulefat (*Baccharis salicifolia*) with poison oak (*Toxicodendron diversilobum*) growing beneath them. No surface water was seen in at the channel crossing, but the stream runs year around about 1.5 miles upstream, where it is diverted into a pipeline.

The northernmost portion of the dirt road is on a plateau or alluvial bench above the level of the more recently scoured southern portion of the road. Vegetation is slightly different on this northern portion, where white sage (*Salvia apiana*), yerba santa (*Eriodictyon trichocalyx*), Douglas wallflower (*Erysimum capitatum*), and deerweed are common. Vegetation along both the northern and southern parts of the unpaved road is best characterized as coastal sage scrub. Vegetation adjacent to the portion of the route along Meyers Road, which is paved, includes some coastal sage scrub, as described above, and windrows of eucalyptus trees.

Background

The coastal California gnatcatcher (*Poliioptila californica californica*) was listed by the USFWS as a threatened species in 1993 (USFWS 1993). Habitat loss and fragmentation from expanding development and agriculture has been a major factor in the decline of this species in southern California (Atwood 1993). The USFWS has not developed a recovery plan for the California gnatcatcher as yet, but critical habitat has been proposed throughout the species range (USFWS 2001).

The coastal California gnatcatcher is restricted to arid, lowland areas from southwestern California to northwestern Baja California. The two other subspecies occur within central and southern Baja California, Mexico. Within the United States, the current range of the California gnatcatcher is generally within San Diego, Orange, Los Angeles, and western Riverside counties. Formerly, this species was common from the San Fernando Valley east along the base of the San Gabriel Mountains to Claremont (Garrett and Dunn 1981). Recently, the gnatcatcher has been rediscovered in the northern portion of its historic range near Simi Valley in southern Ventura County. Habitat for this non-migratory species is generally limited to coastal and inland sage scrub plant communities. This species is typically found at elevations below 820 feet above mean sea level along the coast and below 1,800 feet above mean sea level inland. The current estimate of the number of California gnatcatcher pairs in southern California is about 3,000 pairs (Atwood 2001).

California gnatcatchers occurred in the project region historically. The nearest records are from Devil's Canyon and the City of San Bernardino, approximately 5 to 8 miles to the east-southeast (Atwood 1993). The most recent records for the California gnatcatcher in the region are from the Lytle Creek/Cajon Creek confluence in 1990, and the Santa Ana River floodplain in East Highland in 1995 (Davis et al. 1995), the nearest being approximately 10 miles south. Both of the recent records are from Riversidian alluvial fan sage scrub habitat.

Gnatcatcher Survey Methodology

All surveys for the California gnatcatcher were conducted by Brian Leatherman (permit # TE 827493-3), a wildlife biologist with over ten years of field experience in southern California. Survey methods followed the mandatory protocol developed by USFWS (1997) for surveys conducted between March 15 and June 30 outside an existing NCCP area. Six surveys were conducted between 26 March and 28 May and separated by at least one week. All suitable coastal sage scrub and alluvial scrub habitats were surveyed during each visit, covering not more than 80 acres of habitat per day.

Surveys were generally conducted between dawn and 1100 hours under suitable weather conditions. Weather during the survey on 7 May was overcast with a light mist for much of the morning. However, visibility remained adequate for conducting surveys, bird activity levels were high, and the survey was completed. Weather during the survey on 20 May was overcast with one brief period of drizzle, during which the surveys were suspended (between roughly 1000 and 1030). Survey dates, times and weather data for the focused surveys are shown in Table 1.

Surveys were conducted by slowly walking through all appropriate habitat while listening and watching for gnatcatcher activity. Taped recordings of gnatcatcher vocalizations were played in an attempt to elicit responses from any gnatcatchers present. The frequency of vocalization playback varied, depending on site conditions such as habitat patch size, topography, and ambient noise levels.

Table 1 Summary of Survey Data and Conditions for California Gnatcatcher Surveys

Date	Times	Air Temperature	Wind	Cloud Cover
26-March	0630 – 1030	50 – 77 °F	2 – 6 mph	Hazy early then clear
10-April	0630 – 1100	49 – 72 °F	0 – 4 mph	75 % cirrus cover with some fog, then clear
30-April	0630 – 1030	50 – 62 °F	2 – 6 mph	95% cumulus cover down to 60% with sun through
7-May	0630 – 1000	53 – 55 °F	0 – 2 mph	100% cover with light mist on and off
20-May	0630 – 1100	55 – 57 °F	2 – 6 mph	100% overcast for duration of survey, drizzle
28-May	0600 – 1100	52 – 80 °F	0 – 7 mph	Clear

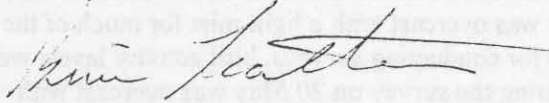
Survey Results

No California gnatcatchers were detected along the alternative access road or approximately 500 feet on either side of it during the focused survey effort. Although California gnatcatchers almost certainly occurred here historically, there are no records for this site in particular, and the nearest known historical locations are approximately 5 miles east. The most recent sighting in the area was from 1995 along the Santa Ana River in East Highland. Based on the negative survey results reported here and the lack of sightings in the area, we conclude that the California gnatcatcher is likely absent from the alternative access road area.

Please contact Brian Leatherman by phone at (714) 701-0863 or by email at bleathermanwlb@aol.com if you have questions or comments. A figure showing the location of the access road and a list of the references used in the letter report are included. Thank you for your time.

Sincerely,

WHITE AND LEATHERMAN BIOSERVICES



Brian Leatherman
Wildlife Biologist

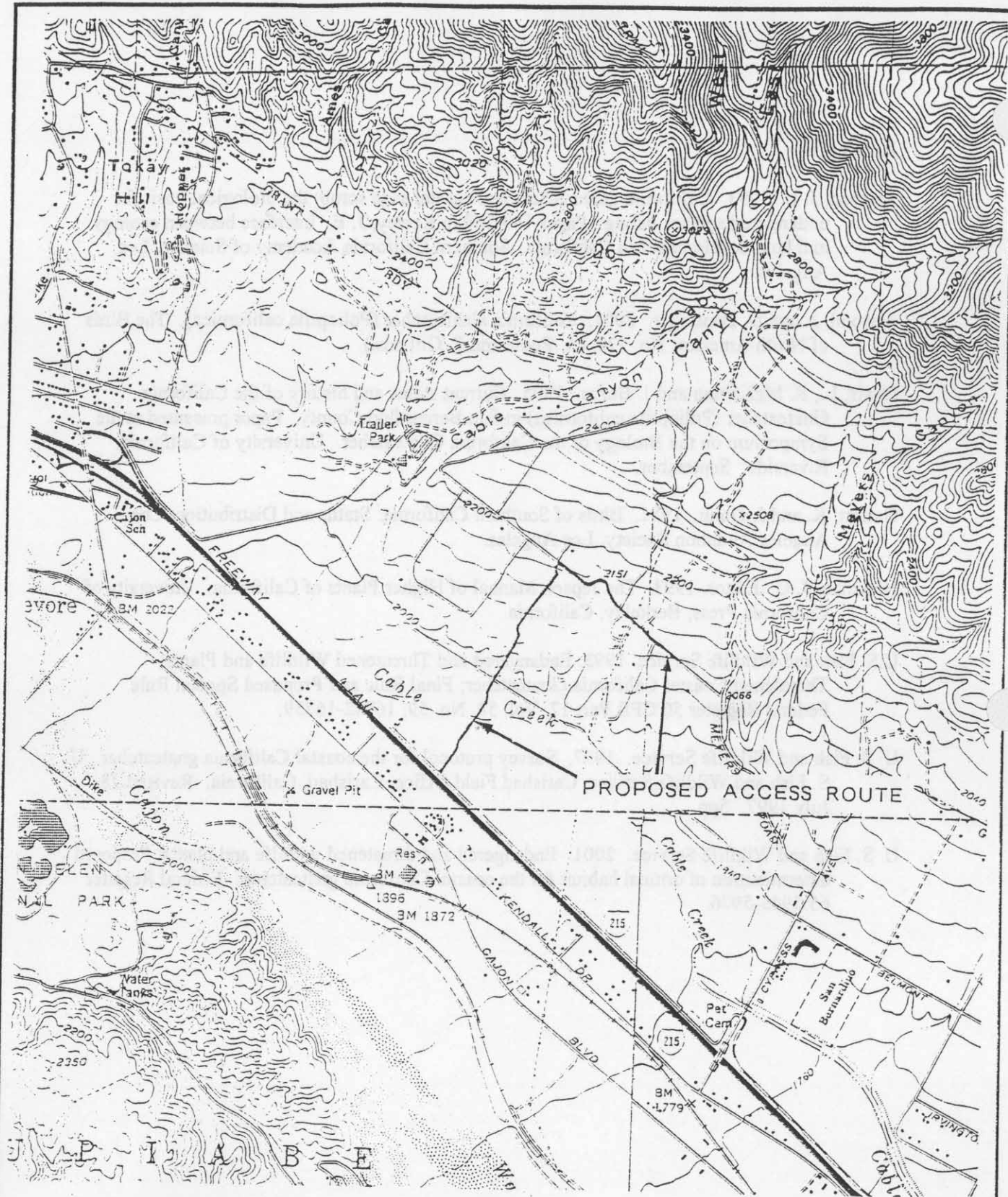
Enclosures

Table 1. Summary of Survey Date and Conditions for California Gnatcatcher Surveys

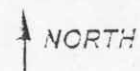
Date	Time	Air Temperature	Wind	Cloud Cover
26-March	0630 - 1030	20 - 71°F	0 - 5 mph	100% overcast
16-April	0630 - 1100	20 - 71°F	0 - 4 mph	75% overcast with some fog then clear
10-April	0630 - 1030	21 - 62°F	0 - 6 mph	100% overcast with some fog then clear
7-May	0630 - 1000	20 - 71°F	0 - 5 mph	100% overcast with light fog then clear
30-May	0630 - 1100	25 - 77°F	0 - 6 mph	100% overcast with some fog then clear
27-June	0600 - 1100	25 - 80°F	0 - 7 mph	Clear

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PROPOSED MARTIN RANCH SECONDARY ACCESS ROUTE



Map source: USGS 7½ minute (1:24000) Devore and San Bernardino North topographic maps
 SDW: 24 April 2002