

2009
Focused Least Bell's Vireo (*Vireo bellii pusillus*) Survey
of the Rancho de Valencia Project, TTM34760
in the
City of Corona
Riverside County, California

Prepared for:

Paseo de Valencia
1253 Enterprise Court
Corona, CA 92882

Prepared by:

Michael D. Misenhelter
Norco, California

July 27, 2009

TABLE OF CONTENTS

INFORMATION SUMMARY	1
INTRODUCTION.....	2
METHODS	2
Table 1. Summary of Visit Conditions.....	3
SITE DESCRIPTION AND VEGETATION	4
RESULTS.....	4
CONCLUSION	5
Table 2. Species Identified in Survey Area.....	6
Figure 1. Site Location	11
Figure 2. Site Vicinity.....	12
Figure 3. Project and Habitat Map.....	13
REFERENCES.....	14
APPENDIX: SITE PHOTOS	15

INFORMATION SUMMARY

Report Date: July 27, 2009

Owner/Applicant: Paseo de Valencia
1253 Enterprise Court
Corona, CA 92882

Principle Investigators: Michael D. Misenhelter
Norco, California
mdmconsult@earthlink.net

Principle Author: Michael Misenhelter

This report presents the results of a U.S. Fish and Wildlife Service (Service) protocol focused survey for the least Bell's vireo (*Vireo bellii pusillus*) (Vireo) at the site of the Rancho de Valencia residential development in the City of Corona (Figures 1 and 2). The survey was conducted for areas on site and adjacent to the Project footprint in which willow trees and/or large patches of mulefat scrub exist. The project footprint covers approximately 50 acres consisting of an active citrus orchard and native chaparral scrub. Irrigation of the orchard has resulted in the growth of willow species in two portions of the orchard (0.07 in the central drainage and 0.02 acres in the eastern drainage) as well as one area adjacent to the property (0.2 acres) to the east. A moderate sized patch (approximately 1.0 acres) of mulefat scrub mixed with coastal sage scrub and chaparral species exists adjacent to the site to the west. These three areas are minimally suitable for Vireo use and were surveyed during this survey effort. In total, the core survey area covers approximately 0.29 acres plus an unquantified area incidentally included in the chaparral scrub and orchard surrounding these areas.

The least Bell's vireo is associated primarily with dense riparian habitats ranging from riparian scrubs through riparian forests. It was listed as threatened by the U.S. Fish and Wildlife Service in May 1986 and by the State of California in October 1980. Focused surveys to determine presence/absence of the least Bell's vireo are required when Vireo habitat occurs within the boundaries of a proposed project.

Eight survey visits were conducted between the dates of April 29 and July 16, 2009. No Vireo were detected.

INTRODUCTION

Mr. Michael Misenhelter was retained by Mr. Manuel Valencia of Paseo de Valencia to conduct a focused survey for the least Bell's vireo (*Vireo Bellii pusillus*) (Vireo) in suitable habitat within the vicinity of the proposed Ranch de Valencia Project (TTM34760). The proposed project is the construction of a residential tract consisting of 34 single-family homes. The Project site is situated on the southwestern border of the City of Corona in Riverside County. The site is located at the north-eastern foot of the Santa Ana Mountains (Figures 1 & 2). The surveyed area is located within the southwestern quarter of Section 11 and the northwestern quarter of Section 14, Township 4 South and Range 7 West (San Bernardino Base and Meridian) (Figure 2).

Background

The least Bell's vireo is a small, olive-colored, migratory songbird that nests and forages almost exclusively in riparian scrub and woodland habitats. Vireo nesting habitat typically consists of well-developed overstories, and understories with low densities of aquatic and herbaceous cover below 2,000 feet in elevation. The undercover frequently contains dense shrub or subshrub thickets which are often dominated by mulefat (*Baccharis salicifolia*) and/or willow (*Salix*) species. The breeding season of this bird typically lasts from mid-March to late September. Nesting territories range in size from 0.5 to 7.5 acres.

The Vireo was common and even locally abundant until the 1940's. Its decline has been attributed to severe brood parasitism by the non-native brown-headed cowbird and the loss of riparian habitat to development and agriculture. Widespread habitat losses have fragmented and severely decreased remaining populations. At the time of its listing by the State of California there were an estimated 300 pairs statewide.

The California Department of Fish and Game listed the species as endangered in 1980 and the U.S. Fish and Wildlife Service (Service) listed it as endangered in 1986 (USFWS 1986). Critical habitat for this species was designated by the U.S. Fish and Wildlife Service in February 1994 (USFWS 1994). The Service designated critical habitat for the vireo in ten areas encompassing about 15,200 hectares (38,000 acres) in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, and San Diego Counties. About 49 percent of the vireo population in the United States occurred within these ten areas in 1994. The species has responded positively to protection and in 1998 the estimated number of pairs in the State had climbed to 2,000.

METHODS

This survey was conducted in compliance with U.S. Fish and Wildlife Service least Bell's vireo survey guidelines (USFWS 2001) by Mr. Michael Misenhelter. Eight survey visits were conducted at least ten days apart from April through July, 2009 (Table 1).

Three small survey areas were established on the Project site corresponding with the location of three areas of suitable habitat (Figure 3). A small, approximately 0.07 acres area consisting of a willow tree and small patch of mule fat exists near the center of the Project site; an approximately 0.2 acre willow woodland area overlaps the eastern

Project boundary; and an approximately 1.0 acre mix of mule fat and upland scrub exists off site and adjacent to the western Project boundary. Each area was surveyed for 45 to 60 minutes during each of the site visits. Surveys were conducted by walking along existing access roads adjacent to these areas. The order in which each of the areas was visited was reversed every other visit in order to avoid temporal effects on the survey results. That is, to avoid consistently visiting any one site later in the morning when birds may be less active. Bird identification was determined using 10x40 binoculars and by listening for bird vocalizations.

Survey Visit (week & section)	Date	Begin-End Time (PST)	Beginning/End % Cloud Cover, Temperature, & Average Wind Speed	No. of acres surveyed	No. acres/hour
1	April 29, 2009	0812-1104	90%/50% cover, 58/61F, 1 mph/2 mph	1.27	0.44
2	May 9, 2009	0808-1051	100%/0% cover, 62/80F, 0 mph/1 mph	1.27	0.47
3	May 21, 2009	0814-1100	0%/0% cover, 65/78F, 1 mph/2 mph	1.27	0.46
4	June 5, 2009	0719-1043	85%/95% cover, 64/67F, 0 mph/2 mph	1.27	0.37
5	June 16, 2009	0720-1048	10%/60% cover, 60/68F, 1 mph/2 mph	1.27	0.37
6	June 26, 2009	0728-1039	0%/0% cover, 73/79F, 0 mph/1 mph	1.27	0.4
7	July 6, 2009	0737-1038	0%/0% cover, 69/75F, 0 mph/2 mph	1.27	0.42
8	July 16, 2009	0711-1039	0%/0% cover, 73/92F, 0 mph/1 mph	1.27	0.37
Average				1.27	0.41

Wind speed and air temperature were measured using a Kestrel 2000 Pocket Thermo Wind Meter. Wind speed shown is the average wind speed measured over at least a one minute time period at the beginning and end of each site visit and rounded to the nearest whole number. Along with weather conditions during each survey visit, Table 1 shows the average rate at which each survey area was surveyed.

SITE DESCRIPTION AND VEGETATION

The survey area is located in the foothills on the northeastern edge of the Santa Ana Mountains in the City of Corona. Site topography consists mostly of steep hills at an elevation of approximately 1,250 to 1,600 feet above mean sea level (Figure 2). The Project site is made up mostly of an active lemon/avocado orchard but also encompasses areas dominated by natural chaparral vegetation. The chaparral is dominated by toyon (*Heteromeles arbutifolia*) and sugar bush (*Rhus ovata*) with elements of coastal sage scrub dominated by black sage (*Salvia mellifera*) and California sagebrush (*Artemisia californica*). Remnants of an old olive orchard exist within portions of the chaparral vegetation. Scattered western sycamore (*Platanus racemosa*) and coast live oak (*Quercus agrifolia*) trees are located in the larger drainages of the site vicinity. Mule fat (*Baccharis salicifolia*) is found scattered in the smaller and larger drainages.

Irrigation runoff from the orchard drip irrigation system has collected in two of the drainages on site resulting in the establishment of willow trees in two portions of the orchard (Figure 3):

Survey area 1 is located in the eastern most drainage crossing the site where an approximately 0.2 acres willow woodland has developed on the edge of the property (mostly off site). The woodland is dominated by tall arroyo willows (*Salix lasiolepis*) with a few black willows (*S. gooddingii*) and little to no scrub understory in a small arroyo dominated by chaparral on its sides.

Survey area 2 is located in the central portion of the site along an orchard access road that separates the orchard from adjacent chaparral vegetation. A single medium sized black willow tree with a small patch of mule fat (approximately 0.07 acres total) has become established next to the road where a small catch basin has been constructed.

Survey area 3 is located off site but adjacent to the Project site in a blue line stream running along the western Project boundary. No runoff from the orchard enters this site but a fairly dense stand of mule fat mixed with sage scrub species exists in the lower portion of this drainage just before the drainage empties into a large, cleared flood debris basin. PVC pipes and sprinkler heads criss-cross this area suggesting that it was irrigated at one time. A large coast live oak and sycamore exist in the center of this area.

See the species list (Table 2) for a complete listing of plants and animals observed during the survey effort.

RESULTS

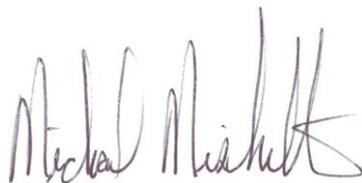
No least Bell's vireo were detected on or adjacent to the proposed project site. All plant and animal species detected during the surveys were recorded and are listed in Table 2.

CONCLUSION

A focused survey for the least Bell's vireo was conducted for the proposed Rancho de Valencia residential Project. The project site is located at the base of the northeastern corner of the Santa Ana Mountains in the City of Corona. Vegetation onsite is dominated by a lemon/avocado orchard and native chaparral vegetation. A small amount of willow habitat has developed on site in response to orchard irrigation and a relatively dense stand of mule fat has developed in an adjacent blue line stream presumably as a result of past irrigation (unrelated to the orchard irrigation) of the blue line stream. These three areas (a total of approximately 1.27 acres) were surveyed for this survey effort. No least Bell's vireos were observed or otherwise detected during the survey effort. Development of the proposed project is not expected to impact the least Bell's vireo. The habitat surveyed is small and isolated and not as vegetationally diverse as habitat typically associated with this species. Lacking either a distinct upper (Survey Area 3) or lower (Survey Area 1) story. Survey Area 2 contains a lower story of mule fat and an upper story of willow but is smaller (approximately 0.07 acres) than typical Vireo breeding territories.

CERTIFICATION STATEMENT

"I certify that the information in this survey report and attached exhibits fully and accurately represents my work."



Signature:
Michael Misenhelter
Principal Biologist and Report Author

Date: July 27, 2009

Attachments: species list, site maps, site photos

Table 3. Species Observed On Site	
Scientific Name	Common Name
PLANTS	
Amaranthaceae	Amaranth Family
<i>Amaranthus albus</i> *	White tumbleweed
Anacardiaceae	Sumac Family
<i>Malosma laurina</i>	Laurel sumac
<i>Rhus ovata</i>	Sugar bush
<i>Schinus molle</i> *	Peruvian pepper tree
<i>Toxicodendron diversilobum</i>	Western poison oak
Apiaceae	Carrot Family
<i>Foeniculum vulgare</i> *	Fennel
Asteraceae	Aster Family
<i>Artemisia californica</i>	California sagebrush
<i>Artemisia douglasiana</i>	Mugwort
<i>Baccharis salicifolia</i>	Mule fat
<i>Centaurea melitensis</i> *	Tocalote
<i>Cnicus benedictus</i> *	Blessed thistle
<i>Conyza canadensis</i>	Horseweed
<i>Encelia californica</i>	Encelia
<i>Eriophyllum confertiflorum</i>	Golden-yarrow
<i>Gnaphalium californicum</i>	California everlasting
<i>Gnaphalium canescens beneolens</i>	White everlasting
<i>Helianthus gracilentus</i>	Slender sunflower
<i>Lactuca serriola</i> *	Prickly lettuce
<i>Senecio vulgaris</i> *	None
<i>Sonchus asper</i> *	Prickly sow thistle
<i>Sonchus oleraceus</i> *	Common sow thistle
Brassicaceae	Mustard Family
<i>Brassica tournefortii</i> *	Sahara mustard
<i>Hirschfeldia incana</i> * (<i>Brassica geniculata</i>)	Short-pod mustard
<i>Raphanus sativus</i> *	Wild radish
<i>Sisymbrium irio</i> *	London rocket
<i>Sisymbrium orientale</i> *	Mustard weed
Caprifoliaceae	Honeysuckle Family
<i>Lonicera subspicata</i>	Honeysuckle
<i>Sambucus mexicana</i>	Blue elderberry
Caryophyllaceae	Carnation (Pink) Family
<i>Spergularia marie</i>	Sand-spurrey
Chenopodiaceae	Goosefoot Family
<i>Chenopodium sp.</i>	Goosefoot
Convolvulaceae	Morning-glory Family
<i>Calystegia macrostegia</i>	Finger-leaf morning-glory
Cucurbitaceae	Gourd Family
<i>Cucurbita palmata</i>	Coyote melon
<i>Marah macrocarpus</i>	Wild cucumber
Fabaceae	Pea Family
<i>Lotus scoparius</i>	Desert deerweed
<i>Lotus strigosus</i>	Lotus

Table 3. Species Observed On Site	
Scientific Name	Common Name
<i>Lupinus truncatus</i>	Chaparral lupine
<i>Medicago polymorpha</i> *	California burclover
<i>Melilotus indica</i> *	Sour clover
<i>Spartium junceum</i> *	Spanish broom
<i>Vicia villosa</i> *	Winter vetch
Fagaceae	Oak Family
<i>Quercus agrifolia</i>	Coast live oak
<i>Quercus berberidifolia</i>	Scrub oak
Geraniaceae	Geranium Family
<i>Erodium cicutarium</i> *	Red-stemmed filaree
Grossulariaceae	Gooseberry Family
<i>Ribes californicum</i> ?	Hillside gooseberry
<i>Ribes indecorum</i> ?	White-flowering currant
Hydrophyllaceae	Waterleaf Family
<i>Eriodictyon trichocalyx</i>	Yerba santa
<i>Eucrypta chrysanthemifolia</i>	None
Juglandaceae	Walnut Family
<i>Juglans californica</i>	California black walnut
Lamiaceae	Mint Family
<i>Marrubium vulgare</i> *	Horehound
<i>Salvia mellifera</i>	Black sage
Liliaceae	Lily Family
<i>Yucca whipplei</i>	Our Lord's candle
Malvaceae	Mallow Family
<i>Malva parviflora</i> *	Cheeseweed
Moraceae	Mulberry Family
<i>Ficus carica</i> *	Edible fig
Oleaceae	Olive Family
<i>Olea europea</i> *	Olive tree
Onagraceae	Evening Primrose Family
<i>Camissonia bistorta</i>	California sun cup
<i>Camissonia californica</i>	Mustard-like evening prim rose
<i>Camissonia hirtella</i>	None
Platanaceae	Sycamore Family
<i>Platanus racemosa</i>	Western sycamore
Poaceae	Grass Family
<i>Avena barbata</i> *	Slender wild oats
<i>Avena fatua</i> *	Wild oats
<i>Bromus diandrus</i> *	Common ripgutgrass
<i>Bromus hordeaceus</i> *	Soft chess
<i>Bromus madritensis rubens</i> *	Foxtail chess
<i>Festuca myuros</i>	Foxtail fescue
<i>Hordeum murinum</i> *	Mouse barley
<i>Leptochloa uninervia</i>	Mexican sprangle-top
<i>Leymus condensatus</i>	Giant wild ryegrass
<i>Phalaris minor</i> *	None
<i>Polypogon monspeliensis</i> *	Rabbit's foot grass
<i>Schismus barbatus</i> *	Mediterranean schismus

Table 3. Species Observed On Site	
Scientific Name	Common Name
Polygonaceae	Buckwheat Family
<i>Eriogonum fasciculatum</i>	California buckwheat
Portulacaceae	Purslane Family
<i>Claytonia perfoliata</i>	Miner's lettuce
Primulaceae	Primrose Family
<i>Anagallis arvensis*</i>	Scarlet pimpernel
Rhamnaceae	Buckthorn Family
<i>Rhamnus ilicifolia</i>	Holly-leaf redberry
Rosaceae	Rose Family
<i>Adenostoma fasciculatum</i>	Chamise
<i>Heteromeles arbutifolia</i>	Toyon
Rubiaceae	Madder Family
<i>Galium aparine</i>	Goose grass
Rutaceae	Citrus Family
<i>Citrus limon*</i>	Lemon tree
Salicaceae	Willow Family
<i>Salix gooddingii</i>	Goodding's black willow
<i>Salix lasiolepis</i>	Arroyo willow
Scrophulariaceae	Figwort Family
<i>Keckiella antirrhinoides</i>	Bush penstemon
<i>Mimulus aurantiacus</i>	Bush monkeyflower
Solanaceae	Nightshade Family
<i>Nicotiana glauca*</i>	Tree tobacco
<i>Solanum douglasii</i>	White nightshade
<i>Solanum xanti</i>	Purple nightshade
Tamaricaceae	Tamarisk Salt cedar Family
<i>Tamarisk spp.*</i>	Salt cedar spp.
Typhaceae	Cattail Family
<i>Typha sp.</i>	Cattails sp.
ARTHROPODS	
Anthophoridae	Digger Bee Family
<i>Xylocopa varipuncta</i>	Valley carpenter bee
Apidae	Bee Family
<i>Apis mellifera*</i>	Honey bee
<i>Bombus sonorus</i>	Sonoran bumble bee
<i>Bombus vosnesenskii</i>	Yellow-faced bumble bee
Coccinellidae	Ladybird Beetle Family
<i>Adalia bipunctata</i>	Two-spotted ladybird beetle
<i>Hippodamia convergens</i>	Convergent ladybird beetle
Hesperiidae	Skipper (butterfly) Family
<i>Pyrgus albescens</i>	Western checkered skipper
Lycaenidae	Blue and Hairstreak Butterfly Family
<i>Strymon melinus</i>	Common hairstreak
Mutillidae	Velvet Ant Family
<i>Dasymutilla sp.</i>	Velvet ant
Papilionidae	Swallowtail Butterfly Family
<i>Papilio eurymedon</i>	Pale swallowtail

Table 3. Species Observed On Site	
Scientific Name	Common Name
<i>Papilio rutulus</i>	Western tiger swallowtail
Pieridae	White and Sulfur Butterfly Family
<i>Anthocaris sara</i>	Sara orange-tip
<i>Artogeia rapae</i> *	Cabbage butterfly
<i>Pontia protodice</i>	Common white
Sphecidae	Thread-waisted Wasp Family
<i>Chalybion californicum</i>	Blue mud wasp
REPTILES	
Phrynosomatidae	none
<i>Sceloporus occidentalis</i>	Western Fence Lizard
<i>Uta stansburiana</i>	Side-blotched Lizard
Colubridae	Colubrids
<i>Pituophis melanoleucus</i>	Gopher Snake
BIRDS	
Cathartidae	New World Vultures
<i>Cathartes aura</i>	Turkey Vulture
Accipitriidae	Hawks, Old World Vultures, and Harriers
<i>Accipiter cooperi</i>	Cooper's Hawk
<i>Buteo jamaicensis</i>	Red-tailed Hawk
Odontophoridae	New World Quail
<i>Callipepla californica</i>	California Quail
Columbidae	Pigeons and Doves
<i>Zenaida macroura</i>	Mourning Dove
Cuculidae	Typical Cuckoos
<i>Geococcyx californianus</i>	Greater Roadrunner
Trochilidae	Hummingbirds
<i>Archilochus alexandri</i>	Black-chinned Hummingbird
<i>Calypte anna</i>	Anna's Hummingbird
<i>Calypte costae</i>	Costa's Hummingbird
<i>Selasphorus sasin</i>	Allen's Hummingbird
<i>Selasphorus spp.</i>	Unidentified selasphorus hummingbird
Picidae	Woodpeckers and Wrynecks
<i>Picoides nuttallii</i>	Nuttall's Woodpecker
Tyrannidae	Tyrant Flycatchers
<i>Empidonax difficilis</i>	Pacific-Slope Flycatcher
<i>Sayornis nigricans</i>	Black Phoebe
<i>Myiarchus cinerascens</i>	Ash-throated Flycatcher
Vireonidae	Typical Vireos
<i>Vireo gilvus</i>	Warbling Vireo
Corvidae	Jays, Magpies, and Crows
<i>Aphelocoma californica</i>	Western Scrub-Jay
<i>Corvus corax</i>	Common Raven
Hirundinidae	Swallows
<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow
Aegithalidae	Bushtit
<i>Psaltriparus minimus</i>	Bushtit

Table 3. Species Observed On Site	
Scientific Name	Common Name
Troglodytidae	Wrens
<i>Thryomanes bewickii</i>	Bewick's Wren
<i>Troglodytes aedon</i>	House Wren
Sylviidae	Old World Warblers
<i>Poliophtila caerulea</i>	Blue-gray Gnatcatcher
Timaliidae	Babblers
<i>Chamaea fasciata</i>	Wrentit
Mimidae	Mockingbirds and Thrashers
<i>Mimus polyglottos</i>	Northern Mockingbird
<i>Toxostoma redivivum</i>	California Thrasher
Ptilogonatidae	Silky Flycatchers
<i>Phainopepla nitens</i>	Phainopepla
Parulidae	Wood Warblers and relatives
<i>Wilsonia pusilla</i>	Wilson's Warbler
<i>Icteria virens</i>	Yellow-breasted Chat
Thraupidae	Tanagers
<i>Piranga ludoviciana</i>	Western Tanager
Emberizidae	Emberizines
<i>Pipilo maculatus</i>	Spotted Towhee
<i>Pipilo crissalis</i>	California Towhee
<i>Spizella atrogularis</i>	Black-chinned Sparrow
<i>Melospiza melodia</i>	Song Sparrow
Cardinalidae	Cardinals, Grosbeaks & Allies
<i>Pheucticus melanocephalus</i>	Black-headed Grosbeak
Icteridae	Blackbirds, Orioles & Allies
<i>Molothrus ater</i>	Brown-headed Cowbird
<i>Icterus cucullatus</i>	Hooded Oriole
Fringillidae	Finches
<i>Carpodacus mexicanus</i>	House Finch
<i>Carduelis psaltria</i>	Lesser Goldfinch
MAMMALS	
Leporidae	Rabbits and Hares
<i>Sylvilagus audubonii</i>	Audubon's Desert Cottontail
Sciuridae	Squirrels, Chipmunks, and Marmots
<i>Spermophilus beecheyi</i>	California Ground Squirrel
Canidae	Foxes, Wolves, and relatives
<i>Canis latrans</i>	Coyote
Cervidae	Deer, Elk, and relatives
<i>Odocoileus hemionus</i>	Mule Deer

*Non-native Species

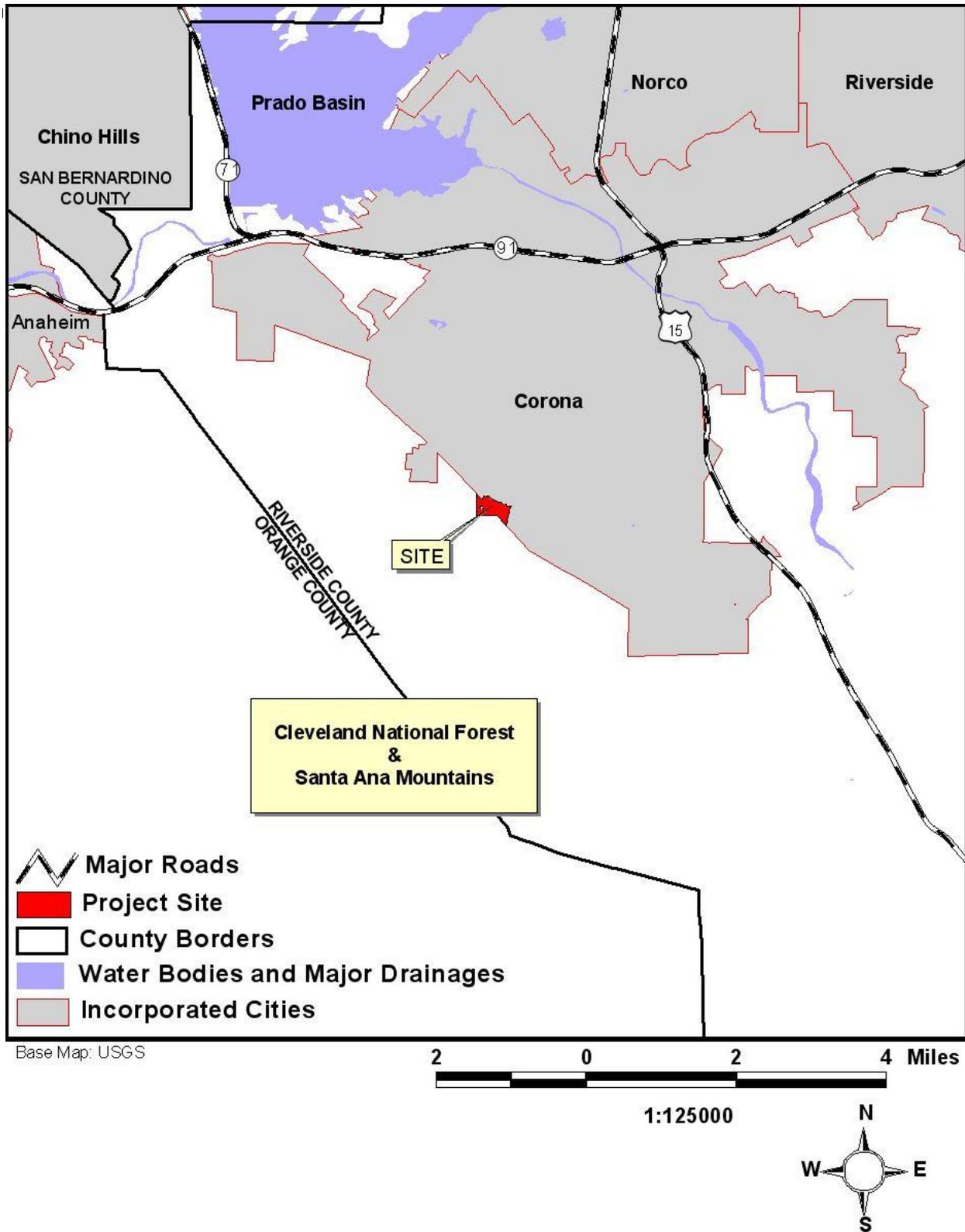
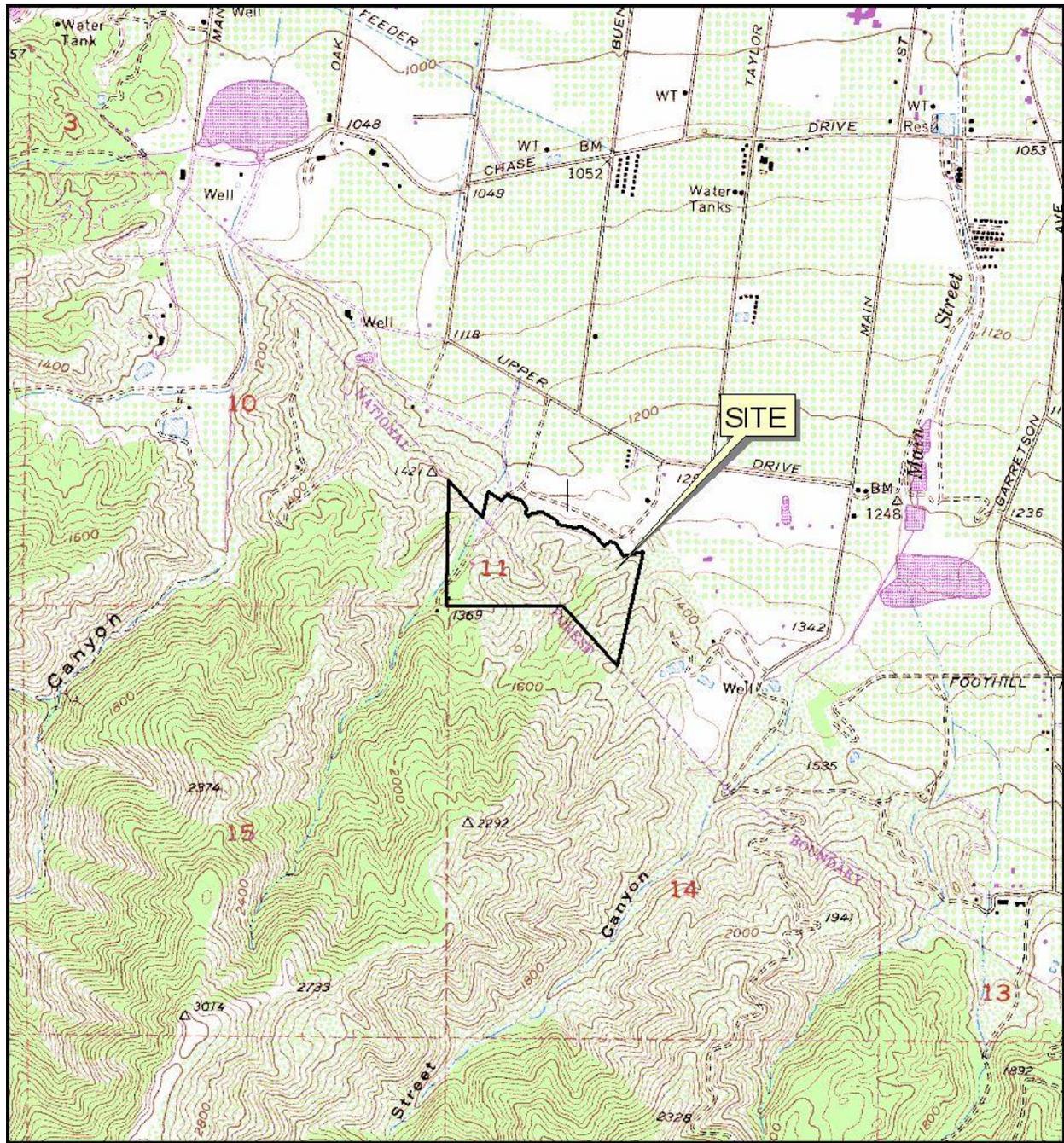


Figure 1. Site Location



Map Source: USGS 7.5' Corona South, Calif. Quadrangle

1000 0 1000 2000 Feet

1:24000

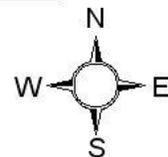


Figure 2. Site Vicinity



Aerial Photo: RCLIS (March 2004)
Topography: Riverside County Flood Control

 **Property Border**
 **City Border**

200 0 200 400 600 Feet

1:5000

This map shows the location of the survey areas within the boundaries of the subject property. The area outlined in red within the larger property boundaries is the Project site. Vegetation is dominated by the orchard for most of the site and chaparral to a lesser extent.

Survey Area 1 is a small willow woodland.
Survey Area 2 is one willow tree and a small patch of mule fat.
Survey Area 3 is dominated by mule fat and coastal sage scrub.

Figure 3. Survey Areas and Habitat Map

REFERENCES

- Hickman, J.C. 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley, California.
- Holland, V.L. and D.J.Keil. 1990. California Vegetation. 4th ed. El Corral Publications, San Luis Obispo, California.
- National Geographic Society. 1987. Field Guide to Birds of North America. 2nd ed. National Geographic Society, Washington, D.C.
- Peterson, R. T. 1990. Peterson Field Guides: Western Birds. 3rd ed. Houghton Mifflin Company, Boston, Massachusetts.
- Peterson, R. T. 1992. Peterson Field Guides: Western Bird Songs. 2nd ed. Houghton Mifflin Company, Boston, Massachusetts.
- Skinner, Mark W. and B.M. Pavlik. eds. 1994. California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California. 5th ed. California Native Plant Society, Sacramento, California.
- USFWS. 1986. Determination of Endangered Status for the Least Bell's Vireo. U.S. Fish and Wildlife Service. May 2, 1986 (51 FR 16474).
- USFWS. 1994. Designation of critical habitat for least Bell's vireo. U.S. Fish and Wildlife Service, February 2, 1994 (59 FR 4845).
- USFWS. 2001. Least Bell's Vireo Survey Guidelines. United States Department of the Interior, Fish and Wildlife Service.

APPENDIX: SITE PHOTOS



Survey Area 1 is the lighter colored area of willow trees in the center of the photo. These willows are growing in a drainage just off site along the eastern Project border. The Project border runs just left of and parallel with the dirt road. The willow trees are surrounded by chaparral dominated by toyon, sugar bush, and bush penstemon. The view is to the south along the eastern Project boundary.



Survey Area 2 is dominated by the willow tree in this photo. A small patch of mule fat (not visible in this photo) is located just behind the tree. Vegetation surrounding the willow is chaparral dominated by toyon, elderberry, and black sage. The view is to the southeast from one of the orchard access roads just north of the survey area.



Survey Area 3 consists of a patch of mule fat mixed with California sage brush. Also visible here are two sycamore trees and chaparral vegetation in the background. The view is to the southwest from the north end of the access road running along the western Project boundary.