4.9 BIOLOGICAL RESOURCES

The purpose of this section is to identify existing biological resources within the project area, analyze potential project-related impacts, and to recommend mitigation measures to reduce the significance of identified impacts. Information in this section is based on the Biological Constraints Survey for the Carbon Canyon Project Site, Orange County, California Letter, dated February 3, 2003;Spring Botanical Survey for the Carbon Canyon project Site, Orange County, California Letter, dated August 28, 2003; Results of Focused Surveys for the Coastal California Gnatcatcher for the Carbon Canyon Pipeline Project Site, Orange County California Letter, dated September 23, 2003; Results of Focused Surveys for the Southwestern Willow Flycatcher, Least Bell's Vireo, and Yellow-billed Cuckoo for the Carbon Canyon Pipeline Project, Orange County, California Letter, dated September 23, 2003; and the Results of Survey for Nesting Raptors for the Carbon Canyon Pipeline Project Site, Orange County, California Letter, dated September 26, 2003. All letters were prepared by BonTerra Consulting. Refer to Appendix C, Biological Resources Letters.

***Note To Reader -** The alignment of the sewer pipeline has been slightly altered since the time of the original biological resources surveys. A maintenance access road over the proposed pipeline in Carbon Canyon Regional Park was added at the northern end of the alignment and the proposed pipeline was realigned at the southern terminus to extend to the intersection of Rose Drive and Vesuvius Drive. As a result of the realignment of the southern segment of the pipeline, a portion of the new alignment (approximately 100 feet) falls outside of the biological resources study area. This section of the alignment would be installed under an existing paved access road and therefore no further biological resources study would be required.*

EXISTING CONDITIONS

Carbon Canyon Regional Park has 124 acres, of which 60 acres are developed and 64 acres are open space. Pepper trees, sycamores, eucalyptus and pines have been planted throughout the Park, as well as a ten-acre grove of coastal redwoods (Sequoia sempervirens)[1]. The Park is surrounded by private property on most sides. However, Chino Hills State Park now links with Carbon Canyon at the very east end of the Park entrance adjacent to the Monterey Pine parking lot.[2]

PLANTS

VEGETATION ASSOCIATIONS

The project site is comprised of a combination of native and non-native vegetation types and the unvegetated disturbed/developed mapping unit. Many of the native areas have scattered ornamental plants, however, they would still be considered high-quality habitats. Vegetation types are discussed briefly below and shown on Exhibit 4.9-1 *Habitats in Project Area*.

Coastal Sage Scrub

The following vegetation types are included in coastal sage scrub: sagebrush scrub, sagebrush scrub with rocky outcroppings, disturbed sagebrush scrub, southern cactus scrub, and southern

[1] http://www.ocparks.com/carboncanyon/default.asp?Show=Introduction, accessed on November 23, 2004
[2] http://www.ocparks.com/carboncanyon/default.asp?Show=History, accessed on November 23, 2004

cactus scrub/Mexican elderberry woodland. Coastal sage scrub is primarily located on the hill above the access road. It also occurs in the area near the end of the proposed microtunnel, and in small

Exhibit 4.9-1 Habitats in Project Area

patches near the dam. The coastal sage scrub vegetation is dominated by California sagebrush (*Artemisia californica*); other species occurring at lower densities are California buckwheat (*Eriogonum fasciculatum*) and coastal goldenbush (*Isocoma menziesii*). Native needlegrass (*Nasella* sp.) is the dominant understory species within most of the sagebrush scrub. The area of coastal sage scrub north of the end of the proposed microtunnel also includes patches of coastal prickly-pear cactus (*Opuntia littoralis*) and scattered Mexican elderberry (*Sambucus mexicana*). Disturbed coastal sage scrub has a lower density of sage scrub species and an annual grass (*Avena* spp. and *Bromus* spp.) understory.

Chaparral

The following vegetation types are included in the chaparral vegetation type: sumac chaparral, sumac chaparral/Mexican elderberry woodland, sumac chaparral/Mexican elderberry woodland/ ornamental, sumac chaparral/Mexican elderberry woodland/ornamental/annual grassland, sumac chaparral/ornamental, and sumac savannah/ornamental. Laurel sumac (*Malosma laurina*) and Mexican elderberry occur scattered throughout the project site. In some areas they occur in dense patches to form a woodland, while in other areas they are scattered at lower densities among annual grassland. In some areas they occur in monotypic stands of either Mexican elderberry or laurel sumac, and in some areas these species occur within a stand. In some areas, ornamentals such as Peruvian pepper (*Schinus molle*) and gum (*Eucalyptus* sp.) trees also occur within a stand. The understory of this vegetation type is typically annual grasses or leaf litter.

Annual Grassland

The annual grassland vegetation type is dominated by wild oat and brome species; other species are shortpod mustard (*Hirschfeldia incana*) and castor bean (*Ricinus communis*). Annual grass is in the area west of the dam and appears to be mowed regularly, while the annual grass along the rest of the access road is not regularly mowed.

Riparian

The only riparian vegetation type on the project site is an extensive willow riparian forest that is very high quality. The mature woodland comprises primarily willows (*Salix* spp.), with some scattered non-native ornamental species such as Peruvian pepper, gum, and giant reed (*Arundo donax*). The presence of these ornamental species does not lower the quality of this vegetation type.

Agricultural Fields

The irrigated row and field crops are located west of the dam, near the end of the microtunnel. They consist of regular disced fields that are planted with row crops, including Christmas trees (*Pinus* sp.). At the time of the survey, most of the fields had been recently disced.

Disturbed/Developed

The disturbed/developed mapping unit is primarily dirt and paved roads, other developed areas such as parking lots, the dam, and bare ground.

Ornamental

The ornamental vegetation type includes non-native vegetation typically planted for ornamental purposes. In the northern portion of the project site, the park is landscaped with turf grass species and scattered ornamental trees approximately 30 to 40 feet tall. These trees include Peruvian

pepper, jacaranda (*Jacaranda mimosifolia*), gum, London plane (*Platanus acerifolia*), and native western sycamore (*Platanus racemosa*). Along the access road, ornamental trees occur individually or in small stands that may include native shrubs or trees, such as Mexican elderberry and laurel sumac. Larger stands of ornamentals form woodlands with an understory primarily of leaf litter. One of these woodlands is a monotypic stand of Peruvian pepper trees, while another is composed of a mix of species including Peruvian pepper, Brazilian pepper (*Schinus terebinthifolius*), gum, and Pampas grass (*Cortaderia* sp.).

SPECIAL STATUS PLANT SPECIES

Plants may be considered to have special status due to declining populations, vulnerability to habitat change, or restricted distributions. Certain special status species have been listed as Threatened or Endangered under state and/or federal Endangered Species Acts (ESA). The U.S. Fish and Wildlife Service (USFWS) protects listed species, (endangered and threatened) species under the Federal Endangered Species Act (FESA). Endangered species are defined, as a species in "danger of extinction throughout all or a significant portion of its range", while a threatened species is likely to become endangered in the foreseeable future.[3] The USFWS also tracks species that are candidates for listing as federally proposed endangered species. Although there is no formal protection for these species, consultation with the USFWS regarding candidate species can prevent project delays that could occur if the species is emergency-listed prior to project completion.

Twenty-eight special status plant species are known to occur in the project region; these species are listed on Table 4.9-1, *Special Status Plant Species Known to Occur In The Project Region.* Eleven of these species are not expected to occur on the project site because it lacks suitable habitat.

Of the 17 plant species with potential to occur on the project site, none is State or Federally listed as Threatened or Endangered. Therefore, none would cause the need for a State or Federal permit if impacted. This means that none of these species would be a project constraint. Nine of these 17 species are CNPS list 1B or 2 species, and are considered rare, threatened, or endangered. These species are:

- Chaparral sand-verbena
- Coulter's saltbush
- Plummer's mariposa lily
- Intermediate mariposa lily
- Smooth tarplant
- Many-stemmed dudleya
- Robinson's peppergrass
- Matilija poppy
- Rayless ragwort

[3] "Take" of listed species is prohibited under Section 9 of the FESA. "Take" is to harass, harm, pursue, hunt, shoot, wound, trap, capture, or collect or attempt to engage in any such conduct. Harm is further defined as significant habitat alteration that results in death or injury to listed species by significantly impairing behavior patterns such as breeding, feeding, or sheltering. "Take" of listed species incidental to otherwise lawful activities can be permitted by the USFWS. Procedures for obtaining a permit for incidental take are described under Section 7 of the FESA for federal actions and Section 10 for non-federal actions.

Impacts to these nine species may be considered significant by the Lead Agency if they are present within the impact footprint of the project, and if the size and status of the population warrant a finding of significance under CEQA. Mitigation for significant impacts may include avoidance, relocation with monitoring, or purchase of offsite habitat areas containing the affected species to complement existing open space areas. Impacts on CNPS List 3 and 4 species are typically considered less than significant and do not require mitigation.

TABLE 4.9-1
SPECIAL STATUS PLANT SPECIES KNOWN TO OCCUR IN THE PROJECT REGION

Species	Status			Likelihood For Occurrence	Survey Results
	USFWS	CDFG	CNPS		
Abronia villosa var. aurita Chaparral sand-verbena	C	C	List 1B	Low potential to occur on Project site	Not observed
Astragalus brauntonii Braunton's milk-vetch	FE	C	List 1B	Not expected to occur; lack of suitable habitat and /or associated species	Not observed
Atriplex coulteri Coulter's saltbush	C	C	List 1B	Low potential to occur	Not observed
Atriplex pacifica South coast saltscale	C	C	List 1B	Not expected to occur; lack of suitable habitat	Not observed
Atriplex parishii Parish's brittlescale	C	C	List 1B	Not expected to occur; lack of suitable habitat	Not observed
Atriplex serenana var. davidsonii Davidson's saltbush	C	C	List 1B	Not expected to occur; lack of suitable habitat	Not observed
Calochortus catalinae Catalina mariposa lily	C	C	List 4	Potential to occur	Not observed
Calochortus plummerae Plummer's mariposa lily	C	C	List 1B	Potential to occur	Not observed
Calochortus weedii var. intermedius Intermediate mariposa lily	C	C	List 1B	Potential to occur	Not observed
Calystegia sepium binghamiae Santa Barbara morning-glory	C	C	List 1A	Not expected to occur; lack of suitable habitat	Not observed
Centromadia parryi ssp. australis Southern tarplant	C	C	List 1B	Not expected to occur; lack of suitable habitat	Not observed
Centromadia pungens ssp. laevis Smooth tarplant	C	C	List 1B	Low potential to occur	Not observed
Convolvulus simulans Small-flowered morning-glory	C	C	List 4	Potential to occur	Not observed
Dudleya multicaulis Many-stemmed dudleya	C	C	List 1B	Potential to occur	Not observed
Eriastrum densiflorum ssp. sanctorum Santa Ana River woollystar	FE	SE	List 1B	Not expected to occur; lack of suitable habitat	Not observed
Harpagonella palmeri Palmer's grapplinghook	C	C	List 4	Potential to occur	Not observed
Helianthus nuttallii ssp. parishii Los Angeles sunflower	C	C	List 1A	Not expected to occur; lack of suitable habitat	Not observed
Holocarpha virgata ssp. elongata	C	C	List 4	Potential to occur	Not observed

Species	Status			Likelihood For Occurrence	Survey Results
	USFWS	CDFG	CNPS		
Graceful tarplant					
Hordeum intercedens Vernal barley	C	C	List 3	Potential to occur	Not observed
Juglans californica var. californica Southern California walnut	C	C	List 4	Observed on the project site	Observed
Lepidium virginicum var. robinsonii Robinson's peppergrass	C	C	List 1B	Potential to occur	Not observed
Microseris douglasii var. platycarpha Small-flowered microseris	C	C	List 4	Potential to occur	Not observed
Pentachaeta aurea Golden-rayed pentachaeta	C	C	List 4	Potential to occur	Not observed
Piperia cooperii Chaparral rein orchid	C	C	List 4	Not expected to occur; lack of suitable habitat	Not observed
Polygala cornuta var. fishiae Fish's milkwort	C	C	List 4	Not expected to occur; lack of suitable habitat	Not observed
Romneya coulteri Matilija poppy	C	C	List 4	Potential to occur	Not observed
Senecio aphinactis Rayless ragwort	C	C	List 2	Potential to occur	Not observed
Sidalcea neomexicana Salt spring checkerbloom	C	C	List 2	Not expected to occur; lack of suitable habitat	Not observed

Status Definitions

USFWS (U.S. Fish and Wildlife Service)

FE: Species designated as Endangered under the Federal Endangered Species Act (FESA); Endangered = any species in danger of extinction throughout all or a significant portion of its range.

FT: Species designated as threatened under the Federal Endangered Species Act. Threatened = a species likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range.

FPE: Proposed for federal listing as Endangered.

FPT: Proposed for federal listing as Threatened.

C: Candidate for federal listing as Threatened or Endangered.

CDFG (California Department of Fish and Game)

ST: Threatened = a species that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by the Act (California Endangered Species Act).

SE: Endangered = a species is endangered when its prospects of survival and reproduction are in immediate jeopardy from one or more causes.

CNPS (California Native Plant Society)

1A Plants Presumed Extinct in California
1B Plants Rare, Threatened, or Endangered in California and elsewhere
2 Plants Rare, Threatened, or Endangered in California but more common elsewhere
3 Plants about which we need more information - A review list
4 Plants of Limited Distribution - A watch list

Observations were made in a Spring Botanical Survey, conducted April 24 and June 16, 2003 by Bon Terra

WILDLIFE

The project site provides high-quality habitat for wildlife species. Common reptiles observed on the project site included the western fence lizard (*Sceloporus occidentalis*) and western rattlesnake (*Crotalus viridis*). Other reptile species expected to occur on the project site include the side

blotched lizard (*Uta stansburiana*), southern alligator lizard (*Elgaria multicarinata*), and gopher snake (*Pituophis catenifer*). Common amphibian species expected to occur on the site include the western toad (*Bufo boreas*), California treefrog (*Hyla cadaverina*) and Pacific treefrog (*Hyla regilla*).

Common bird species observed during the biological survey included California quail *(Callipepla californica*), mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), Nuttall's woodpecker (*Picoides nuttallii*), northern flicker (*Colaptes auratus*), western scrub-jay (*Aphelocoma californica*), black phoebe (Sayornis nigricans), Cassin's kingbird (*Tyrannus vociferans*), bushtit (*Psaltriparus minimus*), wrentit *(Chamaea fasciata*), northern mockingbird (*Mimus polyglottos*), yellow-rumped warbler (*Dendroica coronata*), spotted towhee (*Pipilo maculatus*), California towhee (*Piplio crissalis*), white-crowned sparrow (*Zonotrichia leucophrys*), and house finch (*Carpodacus mexicanus*). Raptors observed on the project site included the red-tailed hawk *(Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), and American kestrel (*Falco sparverius*).

Mammal species or evidence of their presence observed on the project site included the coyote (*Canis latrans*) and cottontail *(Sylvilagus audubonii).* Other species expected to occur include the Virginia opossum (*Didelphis virginianus*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), house mouse (*Mus musculus*), deer mouse (*Peromyscus maniculatus*), common raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and bobcat (*Lynx rufus*). Several bat species are also expected to forage on the project site, such as the California myotis (*Myotis californicus*), western pipistrelle (*Pipestrellus hesperus*), big brown bat (*Eptesicus fuscus*), and pallid bat (*Antrozous pallidus*).

SPECIAL STATUS WILDLIFE SPECIES

Animals may be considered to have special status due to declining populations, vulnerability to habitat change, or restricted distributions. Certain special status species have been listed as Threatened or Endangered under state and/or federal Endangered Species Acts (ESA).

Several special status wildlife species are known to occur in the region; however, only Threatened or Endangered species would require compensatory mitigation if impacted. Six Federally or State-listed Threatened or Endangered species are known to occur in the project region. In addition, various raptors likely inhabit areas in and adjacent to the project site. The Santa Ana sucker (*Catostomus santaanae*) is not expected to occur on the project site due to lack of suitable habitat. The Swainson's hawk (*Buteo swainsoni*) may forage as an uncommon migrant, but does not nest in southern California. The state Endangered Species Act lists only nesting Swainson's hawks. The remaining four species and nesting raptors are discussed below.

Coastal California Gnatcatcher

The coastal California gnatcatcher was listed by the U.S. Fish and Wildlife Service (USFWS) as a Threatened species in 1993[4] and is also listed as a California Species of Special Concern. Historically the coastal California gnatcatcher occurred in California from the Santa Clara River valley and northern San Fernando Valley south through the coastal foothills of San Diego County[5]. Habitat loss and fragmentation from expanding development and agriculture has been a major

[4] U.S. Fish and Wildlife Service. 1993. Endangered and threatened wildlife and plants; determination of threatened status for the coastal California gnatcatcher. Federal Register 58: 16742-16757.
[5] Garrett, K. and J. Dunn. 1981. Birds of Southern California: Status and Distribution. Los Angeles Audubon Society, Los Angeles.

factor in the decline of this species in southern California[6]. On April 24, 2003, the USFWS proposed revised critical habitat for the coastal California gnatcatcher[7].

The coastal California gnatcatcher is a resident (non-migratory) songbird that nests and forages in moderately dense stands of coastal sage scrub occurring on arid hillsides, mesas, and washes. Coastal sage scrub vegetation types dominated by California sagebrush, California buckwheat, and white sage (*Salvia apiana*) seem to be preferred by this species, but shrub composition in occupied areas across the species' range varies, as does shrub community structure (height, density, etc.). For example, coastal California gnatcatcher populations in inland areas may occur in more open scrub habitats, inhabit scrub communities dominated by black sage (*Salvia mellifera*), occur at higher elevations (up to 2,640 feet), and tend to have larger home ranges than populations in coastal areas where denser scrub habitats are used, scrub habitats dominated by black sage are largely avoided, lower elevations are preferred (up to 1,485 feet), and home range sizes tend to be smaller[8].

On October 24, 2000, the USFWS published a final rule to designate 513,650 acres of land as critical habitat for the coastal California gnatcatcher. These lands encompass portions of Los Angeles, San Bernardino, Orange, Riverside, and San Diego counties in California. Critical habitat refers to specific geographic areas that are essential for the conservation of a Threatened or Endangered species and that may require special management considerations. These areas do not necessarily have to be occupied by the species at the time of designation. A critical habitat designation does not set up a preserve or refuge and only applies to situations where federal funding or a federal permit is involved. A Section 7 consultation with USFWS is required for any federal action (i.e., issuance of an ACOE permit) that is likely to result in the adverse modification or destruction of critical habitat. The project site is not located within areas designated as critical habitat of the USFWS final rule.

The coastal sage scrub habitat on the project site has potential to support gnatcatchers. As the presence of this species on or adjacent to the project site would present a significant project constraint, a focused survey was conducted to determine the presence or absence of gnatcatchers on or adjacent to the project site. All surveys followed the presence/absence protocol[9] for jurisdictions outside an approved or interim Natural Communities Conservation Program (NCCP) area. Refer to Appendix C, *Biological Resources*, for a copy of the letter documenting the survey methodology and results.

Although four occurrences of the coastal California gnatcatcher were recorded in the CNDDB[10], and coastal California gnatcatchers are known from the immediate vicinity, no coastal California gnatcatchers were observed in coastal sage scrub habitat in the study area. The coastal California gnatcatcher did not nest within the pipeline route and respective buffer area in Spring/Summer 2003.

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[6] Atwood, J.L. 1993. California gnatcatchers and coastal sage scrub: the biological basis for endangered species listing. Pages 149-169 in Keeley, J.E. Interface between ecology and land development in California. Southern California Academy of Science, Los Angeles.
[7] *ibid*
[8] Atwood, J. and D. Bontrager. 2001. California Gnatcatcher (*Polioptila californica*). The Birds of North America, No. 574. (A. Poole and F. Gill eds.).
[9] U.S. Fish and Wildlife Service. 1997. Survey protocol for the coastal California gnatcatcher. U.S. Fish and Wildlife Service, Carlsbad Field Office, Carlsbad, California. Revised 28 July 1997. 5pp.
[10] California Department of Fish and Game, Natural Diversity Data Base (CDFG). 2003. Rarefind electronic data base of special status species locations for the Yorba Linda USGS 7.5 minute series quadrangle. California Department of Fish and Game, Natural Heritage Division, Sacramento.

At the end of Spring/Summer 2003, a family group of gnatcatchers was incidentally observed foraging approximately 1,500 feet southeast of the proposed pipeline (upstream of the dam).

Southwestern Willow Flycatcher

The southwestern willow flycatcher (*Empidonax traillii extimus*) is listed as Federally (U.S. Fish and Wildlife Service [USFWS] 1995) and State Endangered. The willow flycatcher was formerly a common summer resident in suitable habitat throughout California[11]. It has now been extirpated as a breeding bird from most of its California range, and is seriously threatened in southern California primarily due to habitat loss and degradation, and brood parasitism by the brown-headed cowbird (*Molothrus ater*)[12].

The southwestern willow flycatcher breeds in riparian habitats along rivers, streams, or other wetlands in floodplains and broader canyons, preferring dense riparian thickets near surface water[13], often with adjacent open areas for foraging. Vegetation structure, composition, and extent vary widely but generally include extensive areas dominated by dense stands of willows (*Salix* spp.), mule fat, or other tree species (including tamarisk [*Tamarix* spp.] in some areas), usually with scattered cottonwood (*Populus* spp.) overstory[14]. These riparian areas provide both nesting and foraging habitat. Southwestern willow flycatchers will nest in areas with suitable habitat regardless of the elevation (from sea level to high mountains).

On July 22, 1997, USFWS published the final critical habitat designation for this species. Approximately 99.8 river miles in Kern, Riverside, San Bernardino, and San Diego counties were designated for the southwestern willow flycatcher. The project site is not located within the designated critical habitat area for this species.

The presence of this species on or adjacent to the project site would present a significant project constraint. Therefore, a focused southwestern willow flycatcher survey was conducted by a Federally permitted biologist, to determine the presence or absence of this species on or adjacent to the project site. Because this species is a migrant, these surveys can only be conducted during the breeding season (May 15 to July 17 according to the USFWS protocol).

The surveys for the southwestern willow flycatcher followed the mandatory protocol developed by *Sogge et. al* (1997) and the subsequent addendum protocol developed by the USFWS (2000). Refer to Appendix C, *Biological Resources Letters*, for a copy of the letter documenting the survey methodology and results.

No nesting southwestern willow flycatchers were reported in the vicinity of the project site in the California Natural Diversity Data Base[15]. Only a few southwestern willow flycatcher territories have

[11] Grinnell, J. and A.H. Miller. 1944. *The Distribution of the Birds of California*. Pacific Coast Avifauna 27 (reprinted 1986 by Artemisia Press, Lee Vining, Calif.).
[12] Garrett, K. and J. Dunn. 1981. *Birds of Southern California: Status and Distribution*. Los Angeles Audubon Society, Los Angeles.
[13] Sogge, M., R. Marshall, S. Sferra, and T. Tibbitts. 1997. A southwestern willow flycatcher natural history summary and survey protocol. USGS Biological Resources Division, Colorado Plateau Research Station, Northern Arizona University. 36 pp. plus appendix.
[14] U.S. Fish and Wildlife Service. 1994. Endangered and threatened wildlife and plants; designation of critical habitat for the least Bell's vireo. Federal Register 59:4845-4867.
[15] California Department of Fish and Game, Natural Diversity Data Base (CDFG). 2003. Rarefind electronic data base of special status species locations for the Yorba Linda USGS 7.5 minute series quadrangle. California Department of Fish and Game, Natural Heritage Division, Sacramento.

been identified in Orange County in recent years, including a pair in Canada Gobernadora, a singing male at Laguna Lakes, and one individual at the San Juan River[16]. In addition, there are approximately three to four nesting pairs annually at Prado Basin approximately ten miles east[17].

One willow flycatcher was observed in the Carbon Canyon basin during the first survey on May 23, 2003. However, this bird was not observed within the 500-foot buffer area, and was not observed on subsequent surveys.

Migrant willow flycatchers are expected to occur in the area in small numbers during spring and in higher numbers during fall migration[18]. However, migrant flycatchers in the project region are almost always the more common northern subspecies *(E.t. brewsteri and E.t. adastus)*, and not the federally Endangered southwestern subspecies *(E.t. extimus)*[19]. The first two survey periods (May 15 to 31 and June 1 to 21) are conducted during a time when migrant willow flycatchers of all three California subspecies might occur in the project area. Unless nesting behavior is observed during these first two surveys, it is the final survey period (June 22 to July 17) in which detected birds are likely either breeding birds or non-breeding resident floaters (non-paired birds). Migrant willow flycatchers are typically no longer moving through the southwest during this third survey period. Because the flycatcher observed in the study area was found on the first survey and not subsequent surveys, it is recognized as a migrant.

Least Bell's Vireo

The least Bell's vireo (*Vireo bellii pusillus*) is a State and Federally listed Endangered species[20]. This subspecies was once widespread throughout the Central Valley and other low elevation riverine areas of California[21]. The widespread loss of riparian habitat and brood parasitism by the brown-headed cowbird are the major causes of the decline of this species[22]. About 76 percent of the U.S. population is found in just five localities. The breeding population in California has increased dramatically because of cowbird trapping efforts in breeding areas, and they are thought to be expanding their current range[23].

The least Bell's vireo is migratory and only occurs in this region during the breeding season. The males arrive sometime in late March to April and establish breeding territories, and the females arrive shortly thereafter. Nests are constructed (usually in willow trees) only about three to four feet off the ground where the female will lay typically three to four eggs. The least Bell's vireo usually returns to the wintering grounds sometime in August to September. Preferred habitat is willow riparian woodland that supports dense understory thickets of scrubby willows and mule fat, especially within three to six feet of the ground[24].

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[16] Daniels, Brian. 2003. Personal communication.
[17] Leatherman, Brian. 2003. Personal communication.
[18] Garrett, K. and J. Dunn. 1981. *Birds of Southern California: Status and Distribution*. Los Angeles Audubon Society, Los Angeles.
[19] Unitt, P.K. 1987. *Empidonax traillii extimus*: An endangered species. Western Birds 18(3) 137-162.
20U.S. Fish and Wildlife Service. 1986. Endangered and threatened wildlife and plants; determination of endangered status for the least Bell's vireo. Federal Register 51:16474-16482.
[21] Grinnell, J. and A.H. Miller. 1944. *The Distribution of the Birds of California*. Pacific Coast Avifauna 27 (reprinted 1986 by Artemisia Press, Lee Vining, Calif.).
[22] Garrett, K. and J. Dunn. 1981. *Birds of Southern California: Status and Distribution*. Los Angeles Audubon Society, Los Angeles.
[23] U.S. Fish and Wildlife Service. 1998. Draft Recovery Plan for the least Bell's vireo (*Vireo bellii pusillus*). U. S. Fish and Wildlife Service, Region 1, Portland, OR. 139 pp.
[24] *ibid*

On February 2, 1994, USFWS published the final critical habitat designation for the least Bell's vireo, designating approximately 37,560 acres of land in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, and San Diego counties, California. The project site is not located within the designated critical habitat area for this species.

The willow riparian forest on the project site has potential to support this species. The presence of this species on or adjacent to the project site would present a significant project constraint. Therefore, a focused least Bell's vireo survey by a qualified biologist was conducted to determine the presence or absence of this species prior to development of this site. Because this species is a migrant, these surveys can only be conducted during the breeding season (April 10 to July 31 according to the USFWS protocol).

Survey methods for the least Bell's vireo followed the guidelines developed by the USFWS[25]. Refer to Appendix C, *Biological Resources Letters*, for a copy of the letter documenting the survey methodology and results.

No occurrences for least Bell's vireo were recorded in the CNDDB[26]; however, least Bell's vireos were observed throughout the basin within Carbon Canyon Regional Park (i.e., the riparian area upstream of the dam). The distribution of least Bell's vireos within the basin and in the study area was not static through the breeding season. One singing male was observed within the 500-foot buffer area on the initial survey on April 11. Then, despite the documentation of six least Bell's vireo territories in the basin, none was observed within the study area until the last survey on July 8, when a pair of vireos was observed foraging near the bore location behind the dam. On July 15, during the final survey for southwestern willow flycatcher and yellow-billed cuckoo, another singing vireo was observed adjacent to the pipeline route in the study area. The locations of the observations within the study area are shown on Exhibit 4.9-2, *Least Bell's Vireo Locations.*

Portions of the Carbon Canyon basin are dominated by black willow riparian forest and portions are dominated by giant reed, an invasive non-native species. The vireo territories tended to be associated with the higher quality habitat represented by the black willow forest, most of which is located on the east side of the basin. The study area, which is located on the west side of the basin, is along an area where black willow forest and giant reed are intermixed, and therefore represents suitable but lower-quality habitat for the vireo than that available elsewhere in the basin. The observations of singing males and a pair within the study area lead to the conclusion that the habitat is occupied for foraging, even though pairs did not apparently breed successfully within the study area.

[25] U.S. Fish and Wildlife Service. 1999. Least Bell's Vireo Survey Guidelines. Carlsbad Field Office, Carlsbad, California. Letter dated 8 April 8, 1999. 3 pp.
[26] California Department of Fish and Game, Natural Diversity Data Base (CDFG). 2003. Rarefind electronic data base of special status species locations for the Yorba Linda USGS 7.5 minute series quadrangle. California Department of Fish and Game, Natural Heritage Division, Sacramento.

Exhibit 4.9-2 Least Bell's Vireo Locations

Western Yellow-Billed Cuckoo

The yellow-billed cuckoo (*Dendroica petechia brewsteri*) is a state-listed Endangered species that was recently considered for federal listing. The USFWS ruled that yellow-billed cuckoos west of the Rocky Mountains and Continental Divide meet the criteria for listing as a distinct population segment and that listing as Threatened is warranted, but precluded by higher priority listing actions[27]. It is therefore currently considered a Federal Candidate Species[28].

In California, the yellow-billed cuckoo is a rare summer visitor and breeder where it requires large blocks of riparian habitat for breeding[29]. The yellow-billed cuckoo is a migratory bird, generally occurring in the southwestern United States from May to September[30]. In southern California, it usually occurs from early June to late August31. Habitat consists almost exclusively of mature streamside gallery forest with old growth willows and scattered cottonwoods (usually of at least 25 acres), particularly with a dense tangled understory of nettles (*Urtica spp*.), willows, blackberry (*Rubus ursinus*), wild grape (*Vitis spp*.), mesquite (*Prosopis spp*.), and other species[32]. It is rarely seen away from suitable breeding habitat[33]. The yellow-billed cuckoo was formerly fairly common and widespread in the broad lower flood plains of larger rivers in southern California and the Central Valley[34]. Its decline is primarily attributed to widespread habitat loss associated with agriculture, urban development, and flood control projects. The current range of the yellow-billed cuckoo in California is estimated to be about 30 percent of its historical extent, and estimates of the loss of riparian habitat statewide are as high as 91 percent[35].

The willow riparian forest has potential to support western yellow –billed cuckoo. A focused western yellow-billed cuckoo survey was performed to determine the presence or absence of this species on or adjacent to the project site. Because this species is a migrant, these surveys can only be conducted during the breeding season (June to August).

There are no formal survey guidelines for the yellow-billed cuckoo. Therefore, the surveys reported here were based on the protocol for the southwestern willow flycatcher because both species arrive relatively late in the breeding season. Refer to Appendix C, *Biological Resources Letters*, for a copy of the letter documenting the survey methodology and results.

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[27] U.S. Fish and Wildlife Service. 2001a. Endangered and threatened wildlife and plants; 12-Month finding for a petition to list the yellow-billed cuckoo (*Coccyzus americanus*) in the Western Continental United States. Federal Register 66:38611-38626.

[28] U.S. Fish and Wildlife Service. 2001b. Endangered and threatened wildlife and plants; review of plant and animal taxa that are candidates or proposed for listing as endangered or threatened, annual notice of findings of recycled petitions, and annual description of progress on listing actions. Proposed Rule. Federal Register 66:54808-54832.

[29] U.S. Fish and Wildlife Service. 2001a. Endangered and threatened wildlife and plants; 12-Month finding for a petition to list the yellow-billed cuckoo (*Coccyzus americanus*) in the Western Continental United States. Federal Register 66:38611-38626.

[30] Grinnell, J. and A.H. Miller. 1944. *The Distribution of the Birds of California*. Pacific Coast Avifauna 27 (reprinted 1986 by Artemisia Press, Lee Vining, Calif.).

[31] Garrett, K. and J. Dunn. 1981. *Birds of Southern California: Status and Distribution*. Los Angeles Audubon Society, Los Angeles.

[32] *ibid*

[33] *ibid*

[34] *ibid*

[35] U.S. Fish and Wildlife Service. 2001a. Endangered and threatened wildlife and plants; 12-Month finding for a petition to list the yellow-billed cuckoo (*Coccyzus americanus*) in the Western Continental United States. Federal Register 66:38611-38626.

No yellow-billed cuckoos were observed within the study area during the focused surveys and no nesting yellow-billed cuckoos were reported in the vicinity by the CNDDB[36]. Reports of the yellow-billed cuckoo nesting in southern California are scattered and include records from the Santa Ynez River in Santa Barbara, Kern River in Kern County, and the Owens Valley [37]. Yellow-billed cuckoos have not been observed nesting in Orange County since the 1970's[38]. In the past three decades, the nearest known possible nesting occurrence of the yellow-billed cuckoo was at the Prado Basin, approximately ten miles to the east of the project site[39].

Nesting Raptors

The willow riparian forest and ornamental vegetation types on and adjacent to the project site have potential to be used for nesting by raptors. A nesting raptor survey was conducted to determine the presence or absence of nesting raptors on or adjacent to the project site.

The study area was searched using binoculars (8 X 42) to detect raptor activity and to determine areas that provide potentially suitable habitat for raptor nests. Any raptors present were identified to species, age, and sex if possible. The raptors were then monitored to assess behavior for any signs of breeding, such as carrying nesting material, copulation, nests, etc. Areas that potentially supported nests in the study area were walked in order to search more thoroughly for existing nests. Refer to Appendix C, *Biological Resources Letters*, for a copy of the letter documenting the survey methodology and results.

A total of six raptor species were observed in the study area: turkey vulture (*Cathartes aura*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and great horned owl (*Bubo virginianus*). Other species that are known to occur in the study area, but were not observed during these surveys, include the white-tailed kite (*Elanus leucurus*), northern harrier (*Circus cyaneus*), and barn owl (*Tyto alba*). Suitable nesting trees were identified in the study area for the white-tailed kite, Cooper's hawk, red-shouldered hawk, red-tailed hawk, American kestrel, and great horned owl. Evidence of nesting was confirmed for Cooper's hawk, red-shouldered hawk, and red-tailed hawk in the vicinity of the study area, but no nests were observed in trees within the pipeline route.

JURISDICTIONAL WATERS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The United States Army Corps of Engineers (ACOE) Regulatory Program regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA), and Section 10 of the Rivers and Harbors Act. The California Department of Fish and Game (CDFG) regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Water Quality Control Board (RWQCB) regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Act.

RBF Consulting (RBF) delineated the proposed impact area for the Carbon Canyon Dam Sewer Pipeline Project. The delineation was designed to document the regulatory authority of the Corps

[36] California Department of Fish and Game, Natural Diversity Data Base (CDFG). 2003. Rarefind electronic data base of special status species locations for the Yorba Linda USGS 7.5 minute series quadrangle. California Department of Fish and Game, Natural Heritage Division, Sacramento.
[37] Daniels, Brian. 2003. Personal communication.
[38] Garrett, K. and J. Dunn. 1981. *Birds of Southern California: Status and Distribution*. Los Angeles Audubon Society, Los Angeles.
[39] Leatherman, Brian. 2003. Personal communication.

and CDFG, however only regulatory agencies can make a final determination of jurisdictional boundaries. Refer to Appendix C, for a copy of the letter documenting the survey methodology and results. Note that RBF Consulting will be updating the delineation prior to the application process to reflect the changes in regulations that have occurred since the original document was drafted in January 2003.

U.S. ACOE jurisdictional wetlands are delineated using the methods outlined in the Corps of Engineers *Wetland Delineation Manual* (1987). The methodology set forth in the 1987 Manual is based on the following three indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within these three parameters.

ACOE non-wetland waters of the U.S. are delineated based on the limits of the ordinary high water mark (OHWM) as determined by erosion, the deposition of vegetation or debris, and changes in the vegetation. The CDFG jurisdiction is defined to the top of bank of the stream/channel or to the limit of the adjacent riparian vegetation.

ACOE WETLAND DETERMINATION

As previously noted, an area must exhibit all three of the wetland parameters described in the *Corps Wetland Delineation Manual* to be considered a jurisdictional wetland. Based on the results of the field investigations, it was determined that no portion of the project site contained all three parameters. Based on the site conditions, no jurisdictional wetlands are present.

ACOE NON-WETLAND DETERMINATION

Areas within the proposed project site exhibited water flow and evidence of hydrology (scouring and cut) sufficient to document the ordinary high water mark (OHWM), thus meeting the criteria for ACOE jurisdictional waters (non-wetland).

Based on the results of the field observations and data collection, 0.019-acres of ACOE jurisdictional “waters of the U.S.” (non-wetland) were identified within the proposed project site. Refer to Appendix C for an illustration of the project site and jurisdictional areas.

CALIFORNIA DEPARTMENT OF FISH AND GAME DETERMINATION

Areas within the proposed project that would come under CDFG jurisdiction are identical to the areas under the jurisdiction of the ACOE.

IMPACTS

SIGNIFICANCE CRITERIA

Significance thresholds in this section are based on the CEQA Guidelines (Environmental Checklist Form).

A potentially significant impact on biological resources would occur if the project caused one or more of the following:

- A substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- A substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- A substantial adverse effect on federally protected wetlands as identified by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal etc.) through direct removal, filling, hydrological interruption, or other means.
- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- A conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

IMPACT DISCUSSION:

WOULD THE PROJECT?

SPECIAL STATUS SPECIES

(a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?* ***Less Than Significant Impact with Mitigation Incorporated.***

Candidate, Sensitive or Special Status Plant Species

Only one special status plant, the southern California black walnut (*Juglans californica*), was observed on the project site. This species is a CNPS List 4 species, which is a species of limited distribution. This species is endemic to southwestern California, from Santa Barbara to San Diego County, and inland to western San Bernardino and Riverside counties. On the project site, it is scattered within the annual grassland. These trees would be avoided, therefore impacts on candidate, sensitive, or special status plant species would be reduced to a level of less than significant with this mitigation incorporated.

Candidate, Sensitive, or Special-Status Wildlife Species

Eight candidate, sensitive, or special-status wildlife species were observed during wildlife surveys. Seven were observed within the study area and one was observed within the project vicinity.

Raptors A total of six raptor species were observed in the study area; other raptors are known to occur in the study area, but were not observed during the biological resources surveys. This is a potentially significant impact that would require mitigation.

Coastal California Gnatcatcher Although the gnatcatcher is absent from the proposed pipeline alignment and immediate vicinity in 2003, a preconstruction survey would be conducted to determine the location of any gnatcatchers within the pipeline route, or within 500 feet of the proposed pipeline route if construction would occur during the nesting season (between March 15 and August 15). This is a potentially significant impact that would require mitigation.

Least Bell's Vireo At least six least Bell's vireo territories occur in the basin within Carbon Canyon Regional Park (i.e., the riparian area upstream of the dam), but only three observations of vireos were made within the study area. The habitat within the study area (i.e., pipeline route and 500-foot buffer area) is therefore considered occupied, even though nesting within the survey area was not documented. This is a potentially significant impact that would require mitigation

The project site is not located within the designated critical habitat area for this species, therefore no impacts on least Bell's vireo would occur due to habitat modification.

(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? ***Less Than Significant Impact with Mitigation Incorporated.***

The project site contains seven vegetation types (Refer to Exhibit 4.9-1). Of the vegetation types located on the project site, only 5.76 acres of riparian habitat are regulated by the CDFG and / or the USFWS. Only .05 acres of the 5.76 acres would be permanently impacted by the proposed project.

In addition to impacts to riparian habitat, impacts to both waters of the State and waters of the U.S. would occur. As mentioned previously, these activities are regulated by the ACOE, CDFG, and RWQCB. The impacts and required permits are discussed below.

"Waters of the U.S.," Non-Wetland Determination (ACOE) Based on the results of field observations and data collection, 0.019-acres of ACOE jurisdictional Awaters of the U.S.@ (non-wetland) were identified within the proposed project site. All of the ACOE jurisdictional areas (0.019-acres) would be impacted by the proposed project. Refer to Exhibit 4.9-3, *Jurisdictional Map*, for an illustration of the project site and jurisdictional areas.

The ACOE regulates discharges of dredged fill materials into "waters of the United States" pursuant to Section 404 of the Clean Water Act (CWA). Since improvements associated with the proposed project would result in the discharge of material within the ACOE' jurisdiction, a permit will be required from the Los Angeles District Office.

Based on the amount of jurisdictional impacts (0.019-acre temporary impacts), it is anticipated that the proposed improvements can be authorized via an ACOE NWP 12, Utility Line Activities. Prior to

issuance of any ACOE permit, a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB) would be obtained.

California Fish and Game Code Sections 1600-1616 Determination Based on the results of field observations, the CDFG jurisdiction pursuant to Sections 1600-1616 is identical to the ACOE's jurisdictional boundaries. All of the CDFG's jurisdictional areas (0.019-acres) would be permanently impacted by the proposed project. Since improvements associated with the proposed project would impact CDFG Jurisdiction, a 1602 Streambed Alteration Agreement (SAA) would be obtained. CEQA compliance is necessary in order for the SAA to be issued.

Regional Water Quality Control Board (RWQCB) For the ACOE 404 NWP to be approved, a 401 Water Quality Certification from the Santa Ana RWQCB would be required. The RWQCB requires that a California Environmental Quality Act (CEQA) compliance certification be obtained prior to starting the ACOE permit process. Additionally, any 401 Certification application submitted to the RWQCB should incorporate the use of Best Management Practices (BMPs) for the treatment of pollutants carried by urban storm water runoff in order to be considered a complete application. The RWQCB also requires a 401 Certification Application Fee of $2,250.00 for projects that impact one acre or less.

The proposed project shall be required to obtain the above-mentioned permits and mitigate impacts at a ratio of no less than 1:1.

Exhibit 4.9-3 Jurisdictional Map

(c) Have a substantial adverse effect on federally protected wetlands as identified by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal etc.) through direct removal, filling, hydrological interruption, or other means? ***No Impact.***

Wetland Determination (Corps) An area must exhibit all three (3) of the wetland parameters described in the *Corps Wetland Delineation Manual* to be considered a jurisdictional wetland. Based on the results of the field investigations, no portion of the project site contained all three parameters. Based on the site conditions, no jurisdictional wetlands are present. Therefore, no impacts to federally protected wetlands would occur as a result of the proposed project.

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? ***Less Than Significant Impact.***

As indicated in the Vegetation and Wildlife Corridors Map of the *City of Brea General Plan* Open Space and Conservation Element, a wildlife corridor exists at the northernmost extent of the project area. Project construction has the potential to interfere with localized wildlife movement within the vicinity of the project. Long-term impacts would be limited to the aggregate base access roads. Therefore, impacts on the movement of fish and wildlife would be less than significant.

(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? ***No Impact.***

No local policies or ordinances protecting biological resources exist within the boundaries of the project site. Thus, impacts in this regard would not occur.

(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? ***No Impact.***

The project area is not located within a habitat conservation plan, natural community conservation plan or other approved local, regional or State habitat conservation plan[40]. Thus, impacts in this regard would not occur.

MITIGATION MEASURES

B-1 Prior to construction, a qualified biologist shall survey the project site and visibly mark any California black walnut (*Juglans californica*) tree(s) within 500 feet of the pipeline alignment. These trees shall be avoided during construction activities. If avoidance is not possible, the trees shall be replaced at a ratio of no less than 1:1. All tree replacement shall be coordinated with the CDFG and a monitoring plan that identifies survival rates shall be developed.

B-2 If construction occurs during the raptor-nesting season (February 1 to June 30), a raptor nesting survey shall be conducted approximately seven days prior to commencement of construction to confirm the absence of nests within the proposed alignment or within 500 feet of the pipeline route. If nesting raptors are present, construction activities within 500

[40] Based on a telephone conversation between Bill Rice, Project Environmental Analyst, RBF Consulting and Ms. Amber Oneal, Project Manager/Ecologist for BonTerra Consulting at 10:10 AM, Monday, December 16, 2002.

feet of the nest shall be limited to activities whose noise levels are no greater than 60dba during nesting season.

B-3 A pre-construction survey shall be conducted to determine the location of any gnatcatchers within the proposed alignment or within 500 feet of the proposed pipeline if construction would occur during the nesting season (between March 15 and August 15). If gnatcatchers are present construction activities within 500 feet of the area of gnatcatcher activity shall be limited to activities that produce noise levels no greater than 60dba during nesting season.

B-4 A preconstruction survey shall be conducted to determine the location of any least Bell's vireo within the proposed alignment or within 500 feet of the proposed pipeline if construction would occur during the nesting season (between March 15 and September 15). If vireos are present within the 500-foot buffer area, construction activities within 500 feet of the area of vireo activity shall be limited to activities that produce noise levels no greater than 60dba during nesting season.

B-5a Prior to construction activities the Orange County Sanitation District shall consult with the CDFG to determine the appropriate mitigation (contribution to a mitigation bank or dedication of land) for impacts to riparian habitat. Riparian habitat impacted by the proposed project shall be replaced at a ratio of no less than 1:1

B-5b Prior to construction activities the Orange County Sanitation District shall obtain a 1602 Streambed Alteration Agreement (SAA) from the California Department of Fish and Game. Impacts to lands of jurisdiction shall be mitigated by the dedication of replacement habitat at a ratio of no less than 1:1.

B-5c Prior to construction activities the Orange County Sanitation District shall obtain a 404 permit from the ACOE. Impacts to "waters of the U.S." shall be mitigated by the dedication of replacement habitat at a ratio or no less than 1:1.

UNAVOIDABLE SIGNIFICANT IMPACTS

No unavoidable significant impacts have been identified