DOCKETED

Docket Number:	15-AFC-01
Project Title:	Puente Power Project
TN #:	204220-4
Document Title:	Appendix D Biological Resources
Description:	AFC Volume II
Filer:	Sabrina Savala
Organization:	NRG Oxnard Energy Center, LLC
Submitter Role:	Applicant
Submission Date:	4/16/2015 11:22:10 AM
Docketed Date:	4/15/2015

APPENDIX D

BIOLOGICAL RESOURCES

APPENDIX D-1

CALIFORNIA NATURAL DIVERSITY DATABASE QUERY

Appendix D-1
California Natural Diversity Database Querry Results (Querry Date: January 2015)
Source: California Department of Fish and Wildlife

SCIENTIFIC NAME	COMMON NAME	QUAD NAME	SITE DATE	LOCATION	LOCATION DETAILS	ECOLOGICAL INFORMATION
Astragalus pycnostachyus var. lanosissimus	Ventura Marsh milk-vetch	Ventura	19870830	VENTURA.	EXACT LOCATION NOT KNOWN. MAPPED IN THE GENERAL AREA OF THE CITY OF VENTURA.	
Danaus plexippus	monarch butterfly	Ventura	19991115			ROOST TREES ARE PINES WITHIN A MIXED GROVE OF TREES, INCLUDING EUCALYPTUS, CYPRESS, AND PITTOSPORUM. SITE MAY HAVE BEEN ALTERED SINCE 1985, BUT OUTWARDLY APPEARS UNCHANGED.
Southern Riparian Scrub	Southern Riparian Scrub	Fillmore	19861210	SANTA CLARA RIVER BED FROM NEAR CONFLUENCE CALUMET CANYON D/S TO VICINITY OF SATICOY.	SEEN IN 1986 AERIALS.	MAPPED BY WIESLANDER SURVEY AS SCRUB W/DOMINANTS BACCHARIS VIMINEA, NICOTIANA GLAUCA, LEPIDOSPARTUM SQUAMATUM, ERIOGONUM FASCICULATUM, CORETHROGYNE FILAGINIFOLIA, GRASSES AND WILLOWS. DOMINANCE CHANGES ALONG STREAM COURSE.
Oncorhynchus mykiss irideus	southern steelhead - southern California DPS	Matilija	19930104	VENTURA RIVER & TRIBUTARIES, UPSTREAM OF VENTURA.	FROM MOUTH AT OCEAN TO BASE OF LAKE CASITAS (COYOTE CREEK) & LAKE MATILIJA (MATILIJA CREEK), INCLUDING NORTH FORK MATILIJA CREEK, SAN ANTONIO CREEK & TRIBUTARIES LION, THACHER & REEVES CREEKS.	MATILIJA CREEK WAS THE MAJOR HISTORIC SPAWING AREA UNTIL MATILIJA DAM WAS BUILT. A PROVISION IN THE DAM WAS SAID TO HAVE BEEN INCLUDED TO CAPTURE STEELHEAD BELOW MATILIJA DAM AND MOVE THEM UPSTREAM TO SPAWN (NOTHING DONE AS OF 5/90).
Southern California Steelhead Stream	Southern California Steelhead Stream	Matilija	199005XX	LOWER VENTURA RIVER, VENTURA COUNTY.	FROM MOUTH AT OCEAN TO BASE OF LAKE CASITAS (COYOTE CREEK) & LAKE MATILIJA (MATILIJA CREEK), INCLUDING NORTH FORK MATILIJA CREEK, SAN ANTONIO CREEK & TRIBUTARIES LION, THACHER & REEVES CREEKS.	STEELHEAD AND PACIFIC LAMPREY SPAWNING STREAM. PARTIALLY ARMORED STICKLEBACK (ABUNDANT IN LOWER REACH), PRICKLY SCULPIN AND TIDEWATER GOBY (FOUND IN LAGOON NEAR MOUTH) ALSO OCCUR.
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	Fillmore	20071017	SANTA CLARA RIVER FROM JUST WEST OF HWY 118, EAST TO MOUTH OF SAN FRANCISQUITO CREEK, EAST OF I-5. LA & VENTURA COUNTIES	INCLUDES REFUGE AREA DESIGNATED IN 1991 JUST NORTH OF MAGIC MOUNTAIN PARKING LOT ALONG BLUFF. HIGHER NUMBERS OF FISH BETWEEN 2003 & 2007 HAVE BEEN IN THE EASTERN PART OF THE FEATURE IN THE VICINITY OF I-5.	MANY SURVEYS IN DIFFERENT PARTS OF THE RIVER OVER THE YEARS.
Antrozous pallidus	pallid bat	Ventura	19060601	VENTURA.	MAPPED ACCORDING TO LAT/LONG COORDINATES GIVEN IN MANIS, WITH UNCERTAINTY OF 2414.016M.	
Chaetodipus californicus femoralis	Dulzura pocket mouse	Ventura	XXXXXXXX	WELDON.	EXACT LOCATION NOT KNOWN. MAPPED IN THE GENERAL VICINITY OF WELDON.	
Eumops perotis californicus	western mastiff bat	Ventura	19070820	WELDON.	EXACT LOCATION UNKNOWN. MAPPED IN THE GENERAL VICINITY OF WELDON.	
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Point Mugu	19810402	PERIMETER ROAD, POINT MUGU, PACIFIC MISSILE TEST CENTER.	EXACT LOCATION ALONG PERIMETER ROAD UNKNOWN. MAPPED BY CNDDB AS BEST GUESS CENTERED ON PERIMETER ROAD IN VICINITY OF MARSH AREA AND DUCK PONDS WHICH IS APPROPRIATE HABITAT FOR SPECIES.	
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Ventura	18950513	VENTURA.	EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN THE VICINITY OF VENTURA AND THE VENTURA RIVER.	
Choeronycteris mexicana	Mexican long-tongued bat	Ventura	19941115	VENTURA.	EXACT LOCATION UNKNOWN. LOCATION ONLY GIVEN AS VENTURA. MAPPED IN THE GENERAL VICINTY OF VENTURA.	
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Oxnard	19840823	SANTA CLARA RIVER, NEAR OXNARD.	EXACT LOCATION NOT KNOWN. MAPPED NEAR MOUTH OF RIVER IN VICINITY OF MCGRATH STATE BEACH. A 1901 DAVY COLLECTION FROM "NEAR PUMPING STATION- OXNARD, PATTERSON RANCH" ALSO ATTRIBUTED TO THIS SITE.	
Southern Coastal Salt Marsh	Southern Coastal Salt Marsh	Oxnard	1976XXXX	SANTA CLARA RIVER MOUTH, SOUTH OF VENTURA.	75 ACRES MARSH (CNACC 1976).	SPP INCLUDE CORDYLANTHUS MARITIMUS SSP MARITIMUS. ASSOC VEG: RIPARIAN COMMUNITY.
Panoquina errans	wandering (=saltmarsh) skipper	Point Mugu	198206XX	MUGU LAGOON SALT MARSHES.	ADULTS ARE OCCASIONALLY SEEN NECTARING ON FLOWERS ON THE BARRIER BEACH SAND DUNES OR IN UPLAND AREAS. FOUND IN CLOSE ASSOCIATION WITH SALT GRASS (THE LARVAL FOODPLANT).	

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Passerculus sandwichensis beldingi	Belding's savannah sparrow	Point Mugu	20060420	MUGU LAGOON SALT MARSHES.	BIRDS OBSERVED IN EAST, CENTRAL & WEST PORTIONS OF LAGOON. THIS IS THE LARGEST POPULATION AT ANY SOUTHERN CALIF MARSH. IN 2002 THIS SITE WAS 27.8% OF THE TOTAL STATE POPULATION. IN 2006 IT WAS 33.2% OF THE STATE POPULATION.	RESTORATION PROJECTS HAVE RESULTED IN LIMITED TIDAL ACCESS TO MANY FORMERLY ISOLATED PATCHES OF MARSH. ALSO, INTENSIVE PREDATOR MANAGEMENT PROGRAM SINCE 1996.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Oxnard	19770722	SANTA CLARA RIVER FROM THE MOUTH TO THE VICINITY OF MONTALVO.		SITE IS A SANDY FLOODPLAIN BETWEEN LEVEES; MOST VEGETATION IS DENUDED, PROBABLY BY ORV TRAFFIC. SOME WILLOWS OCCUR IN NARROW, INTERMITTENT STRIPS, BUT COVER IS SPARSE (20%).
Suaeda esteroa	estuary seablite	Point Mugu	19800910	MUGU LAGOON.	LOCATION DESCRIBED AS EAST ARM OF MUGU LAGOON, 0.6 MILE WEST OF RT 1 & 1.2 MILE SOUTHEAST OF LAS POSAS RD, PACIFIC MISSLE TESTING CENTER, POINT MUGU NAVAL AIR STATION. UNABLE TO LOCATE LAS POSAS RD WEST OF RTE 1; ENTIRE MUGU LAGOON MAPPED.	
Southern Coastal Salt Marsh	Southern Coastal Salt Marsh	Point Mugu	198706XX	MUGU LAGOON.	BOUNDARY IS GENERALIZED.	LOW MARSH DOMINATED BY SALICORNIA SPP W/LITTLE SPARTINA FOLIOSA. UPPER MARSH VEG IS MORE DIVERSE. TIDAL FLOW TO WEST-ARM MARSHES WAS ENHANCED IN 1979 AND SALICORNIA INCREASING.
Microtus californicus stephensi	south coast marsh vole	Point Mugu	19410921	POINT MUGU SALT MARSH	ALL SPECIMENS MAPPED AT POINT MUGU SALT MARSH.	
Buteo regalis	ferruginous hawk	Point Mugu	19910114	MUGU LAGOON.		HABITAT CONSISTS OF COASTAL SALTMARSH VEGETATED WITH SALICORNIA.
Sorex ornatus salicornicus	southern California saltmarsh shrew	Point Mugu	19410921	POINT MUGU, VENTURA COUNTY.	EXACT LOCATION NOT KNOWN. MAPPED AT POINT MUGU SALT MARSH.	
Southern Riparian Scrub	Southern Riparian Scrub	Saticoy	19861210	SANTA CLARA RIVER BED FROM RIVER MOUTH U/S TO VICINITY OF SATICOY.	SEEN IN 1986 AERIALS.	MAPPED BY WIESLANDER SURVEY AS SCRUB OF BACCHARIS VIMINEA AND NICOTIANA GLAUCA OVER GRASSES.
Vireo bellii pusillus	least Bell's vireo	Ventura	20100503	FOSTER MEMORIAL PARK, ALONG VENTURA RIVER, JUST SOUTH OF CASITAS SPRINGS, 2.5 MILES NNW OF ORTONVILLE.	MAPPED TO PROVIDED COORDINATES AND LOCATION DESCRIPTIONS OF "FOSTER PARK, CASITAS SPRINGS" AND "FOSTER MEMORIAL PARK." MAPPED GENERALLY TO ENCOMPASS FOSTER PARK BOUNDARY.	WILLOW-MULEFAT RIPARIAN. 1919 NEST CONSTRUCTED ON "FORK OF DEAD WILLOW TWIG, TWO FEET ABOVE GROUND."
Eremophila alpestris actia	California horned lark	Camarillo	20020516	SW OF CCAMARILLO AIRPORT AND NORTH OF HWY 34, 3.5 MILES EAST OF OXNARD.		HABITAT CONSISTS OF AN AGRICULTURAL FIELD. SURROUNDING LAND IS AGRICULTURE.
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Oxnard	19270828	SILVER STRAND BEACH, PORT HUENEME.		
Astragalus pycnostachyus var. lanosissimus	Ventura Marsh milk-vetch	Oxnard	19270828	SILVER STRAND BEACH NEAR HUENEME.	EXACT LOCATION NOT KNOWN; MAPPED AT CNDDB TO INCLUDE SILVER STRAND AREA NORTH OF THE MOUTH OF PORT HUENEME HARBOR.	
Pelecanus occidentalis californicus	California brown pelican	Point Mugu	2000XXXX	MUGU LAGOON ESTUARY.	ROOST NUMBER VN 4.0	ROOST HABITAT IS DYNAMIC IN NATURE, SINCE WINTER STORMS AND FLOODS ALTER THE CONFIGUATION OF ISLETS AND SANDBARS AT THE MOUTH WHERE THE PELICANS CONCENTRATE.
Emys marmorata	western pond turtle	Oxnard	1987XXXX	SANTA CLARA RIVER MOUTH, SOUTH OF VENTURA.		COMMUNITY TYPE MAPPED AT THIS LOCATION IS SOUTHERN RIPARIAN SCRUB.
Vireo bellii pusillus	least Bell's vireo	Santa Paula	20130704	SANTA CLARA RIVER, ABOUT 2.5 MILES ENE OF HWY 126 AND WELLS RD INTERSECTION, SATICOY.	MAPPED TO PROVIDED MAPS & COORDINATES. 4 PAIRS & 1 TERRITORIAL MALE DETECTED AT AN UNKNOWN DATE IN THE 1990'S, LIKELY AFTER 1986. 1981 DETECTION LOCATION WAS STATED AS "SATICOY." SURVEY AREA WAS "UP/DOWNSTREAM OF US FREEMAN DIVERSION DAM."	LARGE, DENSE WILLOW AND MULEFAT SCRUB PATCH BETWEEN URBAN DRAIN OUTLETS. NESTS CONSTRUCTED PREDOMINANTLY IN ARROYO WILLOW, MULEFAT, BLACKBERRY, SANDBAR WILLOW, AND ARUNDO SPP. SURROUNDING LAND USE INCLUDED AGRICULTURE.

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Eucyclogobius newberryi	tidewater goby	Oxnard	19990313	SANTA CLARA RIVER ESTUARY, FROM MOUTH TO 3.0 MILES UPSTREAM, BETWEEN VENTURA AND OXNARD.	SITE OCCUPIES 75-100 ACRES.	
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Ventura	19861210	CANADA LARGA, FROM HWY 33 U/S BEYOND CANADA DE ALISO & ALSO UP CANADA DE ALISO.	CANADA LARGA: EXTIRPATED, ORCHARD, RANCH IN 1986 PHOTOS. CANADA DE ALISO: LOWEST 0.8 MILE EXTIRPATED, ORCHARDS. U/S OF THAT EXTANT IN 1986 AERIALS.	CANADA LARGA: WAS OPEN WOODLAND OF QUERCUS AGRIFOLIA PER WIESLANDER SURVEY. CLOSED CANOPY Q. AGRIFOLIA PER WIESLANDER. CANADA DE ALISO: CLOSED CANOPY Q. AGRIFOLIA PER WIESLANDER.
Coelus globosus	globose dune beetle	Point Mugu	198206XX	POINT MUGU NAVAL AIR STATION.	FOUND IN THE SAND DUNES OF THE BARRIER BEACH ALONG THE ENTIRE LENGTH OF THE AIR STATION. IT BURROWS BENEATH THE SURFACE OF THE SAND AND IS MOST COMMON UNDER NATIVE DUNE VEGETATION.	
Cicindela senilis frosti	senile tiger beetle	Point Mugu	198206XX	SALT MARSHES ON THE SOUTH SIDE OF THE WEST ARM OF MUGU LAGOON.	FOUND IN THE MIDDLE/UPPER SALT MARSH.	THE MIDDLE/UPPER MARSH HABITAT EXTENDS FROM THE MEAN HIGH TIDE TO THE EXTREME HIGH TIDE LINE. PLANTS INCLUDE SALICORNIA, DISTICHLIS, AND FRANKENIA.
Riparia riparia	bank swallow	Oxnard	1976XXXX	SANTA CLARA RIVER ESTUARY.		
Danaus plexippus	monarch butterfly	Ventura	19991115	TAYLOR RANCH, WEST OF THE VENTURA RIVER AND NORTH OF MAIN STREET, IN THE VENTURA RIVER FLOODPLAIN.		ROOST TREES CONSIST OF A EUCALYPTUS WINDROW SURROUNDING AN ORCHARD.
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Point Mugu	20050630	MARSH NW OF MUGU LAGOON; MOSTLY BETWEEN ARNOLD RD AND RUNWAY, PACIFIC MISSLE TEST CENTER, POINT MUGU.	NUMEROUS COLONIES IN THIS VICINITY. PORTIONS OF SITE DISTURBED AND DEGRADED.	BACK DUNES AND SALTMARSH IN AREA HIGH IN SAND SILT AND CLAY. WITH SALICORNIA VIRGINICA, DISTICHLIS SPICATA, JAUMEA CARNOSA, FRANKENIA GRANDIFOLIA, LIMONIUM CALIFORNICUM, LASTHENIA GLABRATA, POLYPOGON MONSPELIENSIS, ATRIPLEX PATULA, ETC.
Charadrius alexandrinus nivosus	western snowy plover	Point Mugu	1988XXXX	U.S. NAVY POINT MUGU NAS/PACIFIC MISSILE TEST CENTER.	CURRENT POLYGONS TAKEN FROM 2 U.S. NAVY MAPS RECEIVED IN 1992. IN ADDITION TO THE NESTING AREAS, THE AREAS SURROUNDING MUGU LAGOON ARE IMPORTANT FEEDING AREAS.	
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Ventura	19861210	CANADA DE RODRIGUEZ, EXTENDING U/S FROM HWY 33 FOR MORE THAN 2 MILES.	MAPPED PER INTERPRETATION OF 1986 AERIAL PHOTOS. NOT SHOWN ON 1981 NWI MAPS.	OPEN WOODLAND OF QUERCUS AGRIFOLIA ACCORDING TO WIESLANDER SURVEY.
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Ventura	19861210	CANADA DEL DIABLO, ABOUT 1.4 MILES WEST OF HWY 33 U/S FOR ABOUT 1.75 MILES, ALSO TRIBUTARY TO NORTH.	MAPPED PER INTERPRETATION OF 1986 AERIAL PHOTOS. ONCE EXTENDED FARTHER ACCORDING TO WIESLANDER & NWI MAPS.	QUERCUS AGRIFOLIA ACCORDING TO WIESLANDER SURVEY; WEST PART W/CLOSED CANOPY; EAST PART OVER GRASS.
Sternula antillarum browni	California least tern	Oxnard	1996XXXX	FROM THE SANTA CLARA RIVER MOUTH SOUTH TO MCGRATH LAKE.	SITE INCLUDES "SANTA CLARA RIVER MOUTH", "MCGRATH BEACH" & MCGRATH LAKE SITES.	
Cicindela hirticollis gravida	sandy beach tiger beetle	Oxnard	20040422	MCGRATH STATE BEACH, JUST SOUTH OF THE SANTA CLARA RIVER MOUTH.		INHABITED CLEAN, DRY, LIGHT-COLORED SAND IN THE UPPER ZONE.
Charadrius alexandrinus nivosus	western snowy plover	Oxnard	1978XXXX	MCGRATH STATE BEACH.		NESTING AREA IS A DUNE-BACKED BEACH.
Rallus longirostris levipes	light-footed clapper rail	Point Mugu	20070607	MUGU LAGOON MARSHES.	928 ACRES OF MARSH IN 1985. CURRENT POLYGON DRAWN FROM 1992 U.S. NAVY MAP OF OCCUPIED HABITAT. ACCORDING TO 2007 REPORT THERE ARE 2,500 ACRES OF JURISDICTIONAL WETLANDS IN POINT MUGU.	SOME MARSH RESTORATION IN 1985. IN 2007 SALICORNIA VIRGINICA IS DOMINATE WITH SCATTERED STANDS OF JUNCUS ACUTUS SSP. LEOPOLDII. MARSH IS SUBJECT TO NEARLY FULL TIDAL ACTION IN CENTRAL & EASTERN ARMS.
Eucyclogobius newberryi	tidewater goby	Ventura	1995XXXX	VENTURA RIVER, FROM MOUTH TO ABOUT 2.0 MILES UPSTREAM, AT THE NORTHERN EDGE OF VENTURA.	SITE OCCUPIES 2-25 ACRES.	HABITAT INCLUDES THE SOUTHERN CALIFORNIA COASTAL LAGOON COMMUNITY AT THE MOUTH AND PART OF THE SOUTHERN CALIFORNIA STEELHEAD STREAM COMMUNITY ALONG THE VENTURA RIVER.
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	Ventura	19610523	PIERPONT BAY BOULEVARD, VENTURA.	MAPPED BY CNDDB AS BEST GUESS ALONG PIERPONT BLVD.	

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Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Ventura	19861210	MANUEL CANYON, FROM ABOUT 0.3 MILE EAST OF HWY 33 U/S FOR OVER 1.5 MILES.	MAPPED PER INTERPRETATION OF 1987 AERIAL PHOTOS.	OPEN STAND OF QUERCUS AGRIFOLIA ACCORDING TO WIESLANDER SURVEY.
Atriplex serenana var. davidsonii	Davidson's saltscale	Oxnard	20010919	DISTURBED AREA BESIDE VENTURA BLVD NORTH OF VENTURA FREEWAY, EL RIO.	EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB ALONG VENTURA BLVD IN THE VICINITY OF EL RIO.	SANDY LOAM, FULL SUN, ROADSIDE.
Tryonia imitator	mimic tryonia (=California brackishwater snail)	Point Mugu	19790717	WEST ARM OF MUGU LAGOON.		
Vireo bellii pusillus	least Bell's vireo	Ventura	20100810	VENTURA RIVER, ABOUT 0.5 MILES W OF VENTURA AVE & SENECA ST INTERSECTION, 2.2 MILES N FROM RIVER MOUTH, NW OF VENTURA.	MAPPED TO PROVIDED COORDINATES. 2009 & 2010 COORDINATES WERE IDENTICAL AND WERE CONSIDERED GENERAL DETECTION LOCATIONS RATHER THAN SPECIFIC POINTS.	OVERSTORY OF LARGER ARROYO WILLOW AND RED WILLOW INTERMIXED WITH YOUNGER WILLOWS, COTTONWOOD, AND VARIOUS NATIVE AND NON-NATIVE UNDERSTORY PLANTS INCLUDING ARUNDO, POISON OAK, AND MUGWORT.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	Oxnard	20060523	ORMOND BEACH WETLANDS, 1 MI SE OF PORT HUENEME.	1986: 2 PRS IN MARSH BTWN POWER PLANT & NW FENCELINE OF PT MUGU TRAINING CENTER; 18 PRS IN MARSH BTWN EDISON & HALECO PROPERTIES. 2001: 6 PRS ALONG BEACH, 27 PRS BTWN EDISON & HALECO. 2006: 31 PRS ALONG BEACH, 19 PRS BTWN EDISON & HALECO.	ABOUT AN 8 HA SALTMARSH. MARSH MAINTAINED BY SEEPAGE & DRAINAGE. THIS AREA IS UPCOAST & CONTIGUOUS WITH THE MUGU LAGOON HABITAT. 1991: AT LEAST 2 ACRES OF PICKLEWEED HABITAT WAS DISKED. 1998: SALTMARSH DISTURBED AT NORTHERN END.
Coelus globosus	globose dune beetle	Ventura	19540925	VENTURA.	MAPPED ALONG THE BEACH AREA	
Charadrius alexandrinus nivosus	western snowy plover	Ventura	1978XXXX	VENTURA BEACH.	MAPPED ALONG THE BEACH AREA AT VENTURA.	
Gila orcuttii	arroyo chub	Camarillo	20000606	REVOLON SLOUGH, 0.1 MILE UPSTREAM TO 0.9 MILE DOWNSTREAM FROM HUENEME ROAD, 5.5 MILES SSW OF CAMARILLO.	UCLA 2000 STUDY SITES 160, 187, 292, 312 THESE ARE 4 OF THE 16 SITES SAMPLED THROUGHOUT THE CALLEGUAS CREEK WATERSHED. A TOTAL OF 1091 INDIVIDUALS CAUGHT/TRAPPED WITHIN THIS WATERSHED. MAPPED TO PROVIDED MAP.	ARROYO CHUBS WERE FOUND TO BE COMMON IN CALLEGUAS WATERSHED, ESPECIALLY IN VICINITY OF WATERCRESS OR OTHER SURFACE VEGETATION.
Catostomus santaanae	Santa Ana sucker	Oxnard	20031008	SANTA CLARA RIVER, W OF HWY 101 DOWNSTREAM TO THE NATURE CONSERVANCY AT STRATHMORE, 1.9 MILES W OF EL RIO, VENTURA.	JUST N/NE OF RIVER RIDGE GOLF CLUB. LOCATION IN REPORT GIVEN AS "VENTURA COUNTY, SANTA CLARA RIVER FROM U.S. HWY 101 FREEWAY TO ONE MILE DOWNSTREAM." MAPPED ACCORDING TO LOCATION STATED IN REPORT.	RIVER FLOW INTERMITTENT. "STICKLEBACK ONLY NATIVE FISH TAKEN WITH ABUNDANT NON-NATIVE FISH: GREEN SUNFISH, MOSQUITOFISH, ARROYO CHUBS, SANTA ANA, AND OWENS SUCKERS." HOWEVER, IT IS UNDETERMINED WHETHER THEY ARE NATIVE OR INTRODUCED HERE.
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Oxnard	1980XXXX	ALONG MCWANE ROAD NEAR OXNARD DRAIN, ABOUT 0.7 MILE SOUTH OF SANTA CLARA HIGH SCHOOL, OXNARD.	END OF ROAD IN AREA OF COUNTY OWNED WETLANDS.	ASSOCIATED WITH SALICORNIA VIRGINICA, FRANKENIA GRANDIFOLIA, JAUMEA CARNOSA AND LIMONIUM CALIFORNICUM.
Oncorhynchus mykiss irideus	southern steelhead - southern California DPS	Santa Paula	20080507	SANTA CLARA RIVER, ABOUT 1.1 MILES S OF HIGHWAY 126 AND TODD RD UNDERPASS, 2.5 MILES ENE OF SATICOY.	MAPPED TO AREA OF NATURAL WATER FLOW AS WELL AS DIVERSION CHANNEL. PROVIDED COORDINATES ARE FOR STRUCTURE NEAR CHANNEL. UNCLEAR AS TO EXACT LOCATION OF CAPTURES. OBSERVER STATES THAT "SMOLTS ARE TRAPPED AND TRANSPORTED DOWNSTREAM."	
Vireo bellii pusillus	least Bell's vireo	Oxnard	20040722	SANTA CLARA RIVER, JUST SOUTH OF THE HWY 101 BRIDGE, ABOUT 1.1 MILES SSE OF MONTALVO, N OF OXNARD.	MAPPED ACCORDING TO UTM COORDINATES AND MAP. DRAINAGE PATTERN OF SANTA CLARA RIVER IS CREATING HIGHLY SUITABLE, LUSH RIPARIAN HABITAT FOR LBV ON THE JOHNSON DR SIDE. 0 DETECTED AT AN UNKNOWN DATE, LIKELY IN THE 1990'S.	HABITAT DOMINATED BY WILLOWS AND MULEFAT. DOMINANT EXOTIC PLANT IS ARUNDO SPP. CANOPY HEIGHT = 7M. SURFACE WATER OR SATURATED SOIL WAS PRESENT AT SITE. POPULATION WITHIN THIS SURVEY AREA HAD INCREASED SINCE PREVIOUS YEAR.
Agelaius tricolor	tricolored blackbird	Ventura	19930512	ALONG THE VENTURA RIVER, 1 MILE UPSTREAM FROM HWY 101, VENTURA.	40 TRICOLORED'S OBSERVED NESTING ON ONE SIDE OF MARSH AND 50 REDWING'S OBSERVED NESTING ON THE OPPOSITE SIDE.	HABITAT CONSISTS OF A TYPHUS/SCIRPUS FRESHWATER MARSH, LOCATED ADJACENT TO A COASTAL SAGE SCRUB HILLSIDE.
Danaus plexippus	monarch butterfly	Ventura	19850221	MOUTH OF VENTURA RIVER, BETWEEN SEASIDE WILDERNESS AREA & SURFERS PT, VENTURA.		ROOST TREES WERE PINES, CYPRESS, AND PALMS.

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Passerculus sandwichensis beldingi	Belding's savannah sparrow	Oxnard	20060417	MCGRATH STATE BEACH; NORTH EDGE OF BEACH ON SOUTH SIDE OF SANTA CLARA RIVER MOUTH.		THE MARSH IS CLOSED TO TIDAL ACTION. WETLAND TRANSITIONS BETWEEN FRESHWATER MARSH AND PICKLEWEED. BELDINGS DETECTED WHEN PICKLEWEED PRESENT. POPULATION CONSIDERED EXTIRPATED IN 1986, BUT 1 POSTED BIRD OBSERVED HERE IN 1991.
Astragalus pycnostachyus var. lanosissimus	Ventura Marsh milk-vetch	Oxnard	19870802	ALONG HARBOR BLVD ACROSS ROAD FROM ENTRANCE TO MCGRATH STATE BEACH, MOUTH OF SANTA CLARA RIVER.		NO HABITAT REMAINS AT THIS LOCATION WHICH IS OVERGROWN WITH INTRODUCED PLANTS.
Danaus plexippus	monarch butterfly	Ventura	19891226	SEAWARD AVENUE, ADJACENT TO HWY 101 JUNCTION, VENTURA.		ROOST TREES WERE EUCALYPTUS.
Danaus plexippus	monarch butterfly	Saticoy	19991201	CAMINO REAL PARK, NE OF THE JUNCTION OF HWY 126 & HWY 101, SAN BUENAVENTURA, EAST OF VENTURA.	LOCALS RECALL MONARCHS USING THIS SITE EVERY YEAR FOR MANY YEARS. 1989 - 1990: "NEW" ROOST SITE USED.	SITE IS LOCATED IN A CREEK BED; ROOST TREES ARE EUCALYPTUS IN THE "BARRANCA."
Danaus plexippus	monarch butterfly	Saticoy	19991201	ARUNDELL BARRANCA SITE, APPROXIMATELY 100M NORTH OF TELEGRAPH ROAD, EAST OF VENTURA.	IN 1994-95, MONARCHS CLUSTERED ~100M NORTH OF THE NORMAL ROOST LOCATION. IN 1999, MONARCHS CLUSTERED 30M NORTH OF NORMAL ROOST LOCATION.	HABITAT IS A CONCRETE-LINED CREEK CHANNEL, BORDERED ON EITHER SIDE BY EUCALYPTUS WINDROWS. JAN 1999: ROOST SITE ALTERED - UNDERSTORY REMOVED, TREES TRIMMED.
Danaus plexippus	monarch butterfly	Saticoy	19990109	THILLE STREET SITE, APPROXIMATELY 1 MILE ENE OF THE JUNCTION OF HWY 118 AND HWY 101, EAST OF VENTURA.	SITE IS LOCATED BETWEEN HWY 26 AND TELEPHONE ROAD, EAST OF HWY 101.	ROOST TREES ARE EUCALYPTUS.
Danaus plexippus	monarch butterfly	Saticoy	19990110	HARMON BARRANCA, SOUTH END OF BARRANCA VISTA PARK, 0.5 MILES NE OF MONTALVO.		ROOST TREES ARE A GROVE OF 50-60 EUCALYPTUS TREES AS WELL AS SOME NATIVE VEGETATION IN THE BARRANCA ADJACENT TO THE PARK.
Danaus plexippus	monarch butterfly	Oxnard	19850210	"BLUE GUM GROVE" SITE, W END OF ETTING RD AT OLDS RD, JUST E OF PLEASANT VALLEY RD, OXNARD.		ROOST TREES ARE EUCALYPTUS, PLANTED IN A TIGHT ROW, FORMING A WINDBREAK.
Atriplex coulteri	Coulter's saltbush	Ventura	19630602	COASTAL BLUFF APPROXIMATELY 1.5 MILES WEST OF VENTURA RIVER.	EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN VICINITY OF COASTAL BLUFFS ALONG HIGHWAY 101, FROM 1 TO 2 ROAD MILES NORTHWEST OF VENTURA RIVER.	DRY, SANDY-CALCAREOUS SLOPE OF COASTAL BLUFF, WITH PLANTAGO INSULARIS.
Aphanisma blitoides	aphanisma	Ventura	19630601	NEAR VENTURA, ABOUT 1.5 MILES WEST OF VENTURA RIVER.	AT THE BASE OF BULLDOZED COASTAL BLUFF OF TAYLOR RANCH. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN VICINITY OF COASTAL BLUFFS ALONG HIGHWAY 101, FROM 1 TO 2 ROAD MILES NORTHWEST OF VENTURA RIVER.	SURFACE OF A SAND AND GRAVEL DETRITUS DUMP AT THE BASE OF BULLDOZED COASTAL BLUFF.
Cicindela hirticollis gravida	sandy beach tiger beetle	Point Mugu	1982XXXX	POINT MUGU NAVAL AIR STATION, NEAR JUNCTION OF BEACH ROAD AND L AVENUE.	FOUND IN MOIST DEPRESSIONS IN THE DUNES. SLIGHTLY MOIST SAND NOT AFFECTED BY WAVE ACTION IS THE PREFERRED MICROHABITAT OF THE SUBTERRANEAN LARVAE.	INHABITS CLEAN, DRY, LIGHT-COLORED SAND IN THE UPPER ZONE OF THE BEACH DUNES, USUALLY CLOSE TO NON-BRACKISH WATER. ADULTS OF THIS POPULATION ARE ACTIVE IN SPRING, UNLIKE ALL OTHER SOUTHERN CA POPULATIONS, WHICH ARE ACTIVE IN SUMMER/FALL.
Vireo bellii pusillus	least Bell's vireo	Oxnard	20040722	SANTA CLARA RIVER JUST NORTH OF THE HWY 101 BRIDGE, ABOUT 1.7 MILES SE OF MONTALVO.	MAPPED ACCORDING TO MAP PROVIDED. DRAINAGE PATTERN OF SANTA CLARA RIVER IS CREATING HIGHLY SUITABLE, LUSH RIPARIAN HABITAT FOR LBV ON THE JOHNSON DR SIDE. 0 DETECTED AT AN UNKNOWN DATE, LIKELY IN THE 1990'S.	HABITAT DOMINATED BY WILLOWS (BLACK, SANDBAR, ARROYO), COTTONWOOD (FREEMONT & BLACK) AND MULEFAT. DOMINANT EXOTIC PLANT WAS ARUNDO SPP. CANOPY HEIGHT = 7M. SURFACE WATER OR SATURATED SOIL WAS PRESENT AT SITE.
Charadrius alexandrinus nivosus	western snowy plover	Oxnard	19980505	ORMOND BEACH, APPROX 1.5 MILES SW OF PORT HUENEME	SITE CONTAINS FENCED-OFF LEAST TERN HABITAT.	NESTING AREA IS A DUNE-BACKED BEACH.

Appendix D-1
California Natural Diversity Database Querry Results (Querry Date: January 2015)
Source: California Department of Fish and Wildlife

Sternula antillarum browni	California least tern	Oxnard	19980505	ORMOND BEACH, GENRERALLY BETWEEN THE SOUTHERN CALIFORNIA EDISON PLANT AND PERKINS RD.	THE ORMOND BEACH SITE HAS TWO SUB-SITES, "PERKINS ROAD" & "EDISON". SOME YEARS THE DATA IS REPORTED SEPARATELY & SOME YEARS THE DATA IS COMBINED.	
Charadrius alexandrinus nivosus	western snowy plover	Oxnard	1978XXXX	MOUTH OF SANTA CLARA RIVER.		NESTING AREA IS A DUNE-BACKED BEACH.
Malacothrix similis	Mexican malacothrix	Oxnard	19250419	HUENEME BEACH.	AMONG SAND DUNES BACK OF BEACH. EXACT LOCATION UNKNOWN. MAPPED IN VICINITY OF PORT HUENEME BEACH PARK.	
Coelus globosus	globose dune beetle	Oxnard	19260717	HUENEME.	MAPPED AT BEACH BY PORT HUENEME, BUT MIGHT HAVE BEEN COLLECTED ALONG ORMAND BEACH JUST TO THE SOUTHEAST.	
Cicindela hirticollis gravida	sandy beach tiger beetle	Oxnard	1979XXXX	PORT HUENEME.		INHABITED CLEAN, DRY, LIGHT-COLORED SAND IN THE UPPER ZONE, USUALLY CLOSE TO NON-BRACKISH WATER.
Charadrius alexandrinus nivosus	western snowy plover	Oxnard	20030709	HOLLYWOOD BY THE SEA (OXNARD BEACH), NORTH OF INLET TO CHANNEL ISLAND HARBOR, 4 MILES SOUTHWEST OF OXNARD.	BEACH WITH LOW DUNES NORTH OF HARBOR INLET.	1997: NESTING TO 200 YARDS NORTH OF HARBOR INLET, WINTERING AREA TO 1000 YARDS. 2003: 2 NESTS FOUND FURTHER NORTH ON HOLLYWOOD BEACH
Sternula antillarum browni	California least tern	Point Mugu	1996XXXX	NORTHWEST STRETCH OF PT MUGU NAS/PACIFIC MISSILE TEST CENTER.	TERNS HAVE NESTED HERE SINCE ABOUT 1931. CURRENT POLYGON OF BREEDING LOCATION TAKEN FROM U.S. NAVY MAP RECEIVED IN 1992. IN ADDITION TO THIS BREEDING AREA THE SALT MARSHES AND NEAR-SHORE AREAS ARE IMPORTANT FEEDING AREAS.	
Sternula antillarum browni	California least tern	Oxnard	19970627	HOLLYWOOD BY THE SEA (OXNARD BEACH), NORTH OF INLET TO CHANNEL ISLAND HARBOR, 4 MILES SOUTHWEST OF OXNARD.	BEACH WITH LOW DUNES NORTH OF HARBOR INLET.	NESTING, TO 200 YARDS NORTH OF HARBOR INLET.
Eucyclogobius newberryi	tidewater goby	Oxnard	1995XXXX	OXNARD DRAIN ("J" STREET CANAL), ORMOND BEACH AREA, SE OF PORT HUENEME	0.75 TO 2.5 ACRES OF HABITAT.	AN INTERMITTENT POPULATION. IN THE LAST 10-15 YEARS IT AT TIMES IS APPARENTLY EXTIRPATED OR AT UNDETECTABLE LEVELS.
Tryonia imitator	mimic tryonia (=California brackishwater snail)	Oxnard	200703XX	OXNARD DRAIN (J STREET CANAL), ORMOND BEACH AREA, SE OF PORT HUENEME	LOCATIONS GIVEN AS "OXNARD DRAIN, IN A DRAINAGE AREA" AND "J STREET DRAIN, IN A DRAINAGE AREA IN A LAGOON JUST DOWNSTREAM OF A CONCRETE CHANNEL AND A CONSTRUCTION SITE".	
Southern Coast Live Oak Riparian Forest	Southern Coast Live Oak Riparian Forest	Ventura	19861210	INTERMITTENT STREAM WEST OF ORTONVILLE.	MAPPED PER INTERPRETATION OF 1986 AERIAL PHOTOS. NOT SHOWN ON NWI MAPS.	OPEN STAND OF QUERCUS AGRIFOLIA ACCORDING TO WIESLANDER SURVEY.
Vireo bellii pusillus	least Bell's vireo	Ventura	20130625	LOWER VENTURA RIVER, JUST NORTH & SOUTH OF THE MAIN STREET BRIDGE, ABOUT 0.5 MILES N OF RIVER MOUTH, VENTURA.	MAPPED TO PROVIDED COORDINATES. LOCATION DESCRIBED AS BEING "UPSTREAM AND DOWNSTRAM OF MAIN ST BRIDGE." NEST NEAR "SAN BUENAVENTURA" IN 1872. ACTIVE COWBIRD TRAPPING IN 2013 ATTRIBUTED WITH NESTING SUCCESS, TRAPPING PROPOSED FOR 2014.	RIPARIAN HABITAT WITH OLDER WILLOWS IN OVERSTORY AND THICKER UNDERSTORY OF YOUNG WILLOWS INTERMIXED WITH OTHER NATIVE SPECIES INCLUDING POISON OAK, MULEFAT, AND NON-NATIVES SUCH AS ARUNDO, POISON HEMLOCK, CASTOR BEAN, AND MUSTARD.
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	Oxnard	197612XX	MCGRATH LAKE, 4 MILES NW OF OXNARD.		TYPICAL MARSH VEG. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.
Athene cunicularia	burrowing owl	Oxnard	20020222	JUST SOUTH OF MCGRATH STATE BEACH CAMPGROUNDS, OXNARD	BURROW IS LOCATED AT THE EDGE OF A GRAVEL PILE, LOCATED ABOUT 500' SOUTH OF THE CAMPGROUND, AT THE END OF A SERVICE ROAD.	HABITAT CONSISTS OF THE EDGE OF REAR-DUNES/ANNUAL GRASSLANDS; SANDY SOILS. SITE IS SURROUNDED BY THE STATE BEACH AND AGRICULTURAL LANDS.
Atriplex pacifica	south coast saltscale	Ventura	19720610	SOUTHERN PACIFIC RAILROAD R-O-W AT FREEWAY OVERPASS, APPROXIMATELY 1.5 MILES WEST OF VENTURA RIVER.	MAPPED AS BEST GUESS BY CNDDB AT THE HWY 1 OVERPASS OF THE RAILROAD. ADDITIONAL LOCALITIES ATTRIBUTED HERE INCLUDE "COASTAL BLUFF ~1.5 MI W OF VENTURA RIVER ESTUARY" AND "~100 YDS FROM BEACH AND 1.5 MI W OF VENTURA RIVER ESTUARY."	DRIED MUD FLAT, NEAR FOOT OF MARITIME BLUFF. DRY, SANDY-CALCAREOUS SLOPE OF COASTAL BLUFF.

Appendix D-1
California Natural Diversity Database Querry Results (Querry Date: January 2015)
Source: California Department of Fish and Wildlife

Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Oxnard	20090803	ORMOND BEACH, JUST BEHIND DUNES IN THE VICINITY OF THE SCE POWER GENERATION FACILITY, OXNARD.		BACK DUNES AND UPPER SALTMARSH. ON SAND TO SANDY LOAM SOILS, SOMETIMES WITH SALT CRUST. ASSOCIATED WITH UPPER SALTMARSH VEGETATION; SALICORNIA VIRGINICA, DISTICHLIS SPICATA, MONANTHOCLOE, POLYPOGON, FRANKENIA, JAUMEA CARNOSA, CUSCUTA.
Chloropyron maritimum ssp. maritimum	salt marsh bird's-beak	Point Mugu	198408XX	W END OF MUGU LAGOON; ON BOTH SIDES OF L AVE, PACIFIC MISSLE TEST CENTER, POINT MUGU.	MAPPED BY CNDDB AS 3 POLYGONS ACCORDING TO SEVERAL MAPS FROM THE EARLY 1980S.	LOWER MARSH. SANDY BASE WITH THIN SILTY CLAY LAGOON DEPOSIT. SALICORNIA SP, DISTICHLIS SPICATA, LIMONIUM CALIFORNICUM, FRANKENIA GRANDIFOLIA, JAUMEA CARNOSA, CARPOBROTUS SP.
Taxidea taxus	American badger	Santa Paula	20081029	SOUTH MOUNTAIN, ABOUT 2.2 MI NORTH OF HWY 118 (LOS ANGELES AVE) AT SANTA CLARA AVE, ABOUT 9 MI EAST OF VENTURA.	MAPPED APPROXIMATELY TO TRS AND POINTS GIVEN IN MAP.	ARTEMISIA CALIFORNICA/SALVIA MELLIFERA. SANDY CLAY SOILS OF ELEVATED PLIOCENE SEAKNOLL, SW TERMINUS OF S MTN, LOCALLY CALLED "BUTLER HILL." ASPECTS NORTHERLY AND SOUTHEASTERLY, MOSTLY RIDGELINE LOCATIONS. SLOPE VERY LOW TO MODERATELY STEEP.
Danaus plexippus	monarch butterfly	Ventura	19991115	JUST EAST OF HARBOR BLVD, BETWEEN HWY 101 & ARUNDELL BARRANCA, VENTURA.		HABITAT CONSISTS OF TWO OR THREE WINDROWS OF EUCALYPTUS; AGRICULTURAL FIELDS ARE LOCATED ON THE EAST SIDE OF THE EUCALYPTUS WINDROWS.
Vireo bellii pusillus	least Bell's vireo	Oxnard	20090529	ON SOUTHERN BANK OF SANTA CLARA RIVER ABOUT 0.25 MILES WEST OF VICTORIA AVE, 1.4 MILES SW OF MONTALVO POST OFFICE.	MAPPED TO PROVIDED COORDINATES. IDENTICAL FIELD SURVEY FORMS FOR 20 APR, INCLUDING COORDINATES, WERE SUBMITTED TO CNDDB WITH THE ONLY DIFFERENCE BEING THE YEAR. DATA SEEMS SUSPECT AND SHOULD BE INTERPRETED CAREFULLY.	WILLOW RIPARIAN SCRUB AND GIANT REED.
Athene cunicularia	burrowing owl	Camarillo	20090224	1 MILE NW OF PLEASANT VALLEY RD AT WOOD RD, W END OF RUNWAY, CAMARILLO AIRPORT.	CENTER OF SECTION 32. MAPPED TO COORDINATES.	HORNED LARKS ALSO OBSERVED FORAGING IN VICINITY. NUMEROUS GROUND SQUIRREL BURROWS IN AREA. SURROUNDING LAND COMPRISED OF AGRICULTURE, INDUSTRIAL, AND AN AIRPORT.
Astragalus pycnostachyus var. lanosissimus	Ventura Marsh milk-vetch	Oxnard	2009XXXX	VICINITY OF MANDALAY BEACH. NE OF INTERSECTION OF HARBOR BLVD AND WEST FIFTH STREET, NEAR MCGRATH STATE PARK, OXNARD.	NORTH SHORE SITE. 2 POPULATIONS ABOUT 30 FT APART; ONE ON THE OUTER EDGE OF A LARGE BASIN THAT WAS USED IN THE PAST (1955-1981) FOR DUMPING OIL SLUDGE. 1901 AND 1925 COLLECTIONS FROM 'OXNARD' ARE PROBABLY FROM THIS VICINITY.	DEGRADED COASTAL DUNE ON IMPORTED FILL. WITH BACCHARIS PILULARIS, B. SALICIFOLIA, SALIX LASIOLEPIS, AND MYOPORUM LAETUM. PATCHES OF CARPOBROTUS, AMMOPHILA ARENARIA, BROMUS RUBENS, CENTAUREA, CORTADERIA, AND POLYPOGON MONSPELIENSIS.
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Oxnard	20020308	AT TERMINUS OF MCWANE BLVD, ~0.5 MILE SOUTH OF HUENEME ROAD AND SAVIERS ROAD INTERSECTION, PORT HUENEME, ORMOND BEACH.	IN THE NW 1/4 SW 1/4 SECTION 27.	MOIST, SILTY LOAM, BORDERS OF SALINE HARD-PANS. DISTURBED SALT MARSH/MUD FLATS WITH POLYPOGON MONSPELIENSIS, SALICORNIA SP., SUAEDA SP., AND SPERGULARIA SP. BELDINGS SAVANNAH SPARROW REPORTED FROM THIS AREA.
Anniella pulchra pulchra	silvery legless lizard	Oxnard	20041010	EAST OF MCGRATH LAKE AND WEST OF HARBOR BOULEVARD, NORTH OF THE ENERGY PLANT, WNW OF OXNARD	SITE IS LOCATED WITHIN A PRIVATELY-OWNED DUNE AREA SURROUNDED BY MCGRATH STATE PARK.	HABITAT CONSISTS OF DEGRADED DUNES.
Vireo bellii pusillus	least Bell's vireo	Oxnard	20090708	ABOUT 0.35 MI E OF W 5TH ST & HARBOR BLVD INTERSECTION, JUST SOUTH OF 5TH ST BRIDGE, 1.5 MI SE OF MCGRATH LAKE, OXNARD.	MAPPED TO PROVIDED COORDINATES AND LOCATION DESCRIPTION OF "IMMEDIATELY WEST OF WATER CANAL... 0.35 MILES EAST OF HARBOR BLVD & WEST FIFTH ST INTERSECTION." BIRD HEARD JUST SOUTH OF W 5TH ST BRIDGE OVER SOUTHERN CA EDISON CO CANAL, W BANK.	MYOPOPUM SHRUBS AND WILLOW TREES FORMING A DENSE MULTI-LEVEL CANOPY. MYOPORUM/WILLOW THICKET WAS ON UNDEVELOPED PRIVATELY OWNED PROPERTY SURROUNDED BY DUNE SCRUB HABITAT WITH OCCASIONAL STABILIZED SAND DUNES APPROXIMATELY 35 FT HIGH.
Anniella pulchra pulchra	silvery legless lizard	Oxnard	20041007	JUST NORTH OF WEST FIFTH STREET AND EAST OF HARBOR BOULEVARD, WEST OF OXNARD	MOST INDIVIDUALS OCCURRED NEAR THE ROAD, ~300-400' SE OF THE LOCATIONS OF THE MILK VETCH; NONE WERE FOUND IN ASSOCIATION WITH ICEPLANT DESPITE EXTENSIVE SEARCHING.	HABITAT CONSISTS OF DEGRADED DUNES IN AN ABANDONED OIL FIELD. THIS OIL FIELD ALSO CONTAINS A NATURALLY-OCCURRING POPULATION OF VENTURA MILK VETCH
Athene cunicularia	burrowing owl	Camarillo	20090315	SOUTH OF RUNWAY & NORTH OF SERVICE ROAD, 0.5 MI N OF PLEASEANT VALLEY RD AT WOOD RD, CAMARILLO AIRPORT.	MAPPED TO COORDINATES.	FOUND SOUTH OF THE AIRPORT TARMAC. NUMEROUS SQUIRREL BURROWS IN THE AREA. RUDERAL WEED SPECIES THAT ARE MAINTAINED (MOWED) TO A HEIGHT OF 6 INCHES. SURROUNDING LAND COMPRISED OF AGRICULTURE, INDUSTRIAL, AND AN AIRPORT.
Athene cunicularia	burrowing owl	Camarillo	20090114	ALONG FENCE LINE 0.8 MI NNW OF PLEASANT VALLEY RD AT WOOD RD, JUST N OF RUNWAY, CAMARILLO AIRPORT.	MAPPED TO COORDINATES.	COOPERS HAWK OBSERVED IN VICINITY IN NOV AND DEC 2008. SURROUNDING LAND COMPRISED OF AGRICULTURE, INDUSTRIAL, AND AN AIRPORT.

Appendix D-1
California Natural Diversity Database Querry Results (Querry Date: January 2015)
Source: California Department of Fish and Wildlife

Thamnophis hammondii	two-striped garter snake	Ventura	20080910	0.28 MILES WEST OF VENTURA RIVER, 2.25 MILES NORTH OF VENTURA, FROM STATE ROUTE 1 AND STATE ROUTE 33 JUNCTION.	ALONG MILL CANYON ROAD NORTH OF DEVIL'S CANYON ROAD INTERSECTION. MAPPED TO PROVIDED COORDINATES.	UPLAND AREA SUPPORTING MULEFAT SCRUB ON ONE SIDE OF THE ROAD AND COASTAL SAGE SCRUB ON OPPOSITE SIDE OF ROAD. OIL LEASE LANDS WITH MOSTLY OPEN SPACE WITH A FEW OIL WELLS ON-SITE AND GRADED ROADS.
Aspidoscelis tigris stejnegeri	coastal whiptail	Saticoy	20080929	SEXTON CANYON, 4 MILES NORTHEAST OF VENTURA.	JUST WEST OF UNPAVED ROADWAY, 2.9 ROAD MILES NORTH JUNCTION OF SEXTON CANYON ROAD AND FOOTHILL ROAD.	HABITAT CONSISTS OF COASTAL SAGE SCRUB. ACCESS ROADS AND OIL LEASE LANDS IN SURROUNDING AREA.
Emys marmorata	western pond turtle	Camarillo	20130620	ALONG REVOLUTION SLOUGH NEAR BEARDSLEY SLOUGH, VICINITY OF WEST END OF CAMARILLO AIRPORT (OXNARD AFB), CAMARILLO.	SOUTHERN PORTION OF CAMARILLO HILLS DRAIN. MAPPED TO PROVIDED COORDINATES.	HABITAT DESCRIBED AS DEGRADED POND HABITAT IN NON-VEGETATED PORTION OF THE CAMARILLO HILLS DRAIN WITH ROCK RIPRAP SLOPES AND SILT BOTTOM CHANNEL. AREA SURROUNDED BY AGRICULTURE AND AIRPORT. SITE WILL BE DE-WATERED FOR CONSTRUCTION.
Athene cunicularia	burrowing owl	Camarillo	20100408	WEST NORTHWEST OF THE INTERSECTION OF N 3RD ST AND F AVE, POINT MUGU NAVAL AIR STATION.	MAPPED TO PROVIDED COORDINATES.	ON ABANDONED GOLF COURSE ADJACENT TO AIRSTRIP. HABITAT CONSISTED OF A "MIXTURE OF ANNUAL WEEDS, SOME COASTAL SCRUB, AND ORNAMENTAL TREES FROM GOLF COURSE."
Taxidea taxus	American badger	Santa Paula	20090805	ALONG HIGHWAY 126 (SANTA PAULA FWY) ABOUT 0.3 MI NE OF EDWARDS RANCH RD, 0.2 MI NNW OF BENCH MARK 194.	FOUND DEAD ON THE WESTBOUND SIDE OF HIGHWAY 129 BETWEEN ELLSWORTH BARRANCA & TODD BARRANCA. MAPPED TO PROVIDED COORDINATES.	PAVED HIGHWAY BISECTING CITRUS ORCHARDS AND EUCALYPTUS WINDROWS.
Anniella pulchra pulchra	silvery legless lizard	Ventura	20010501	ANACAPA STREET, IN VENTURA	SITE IS LOCATED ON THE SW PORTION OF THE PROPERTY LOCATED AT 511 S. ANACAPA STREET, VENTURA, 4 METERS FROM RAILROAD TRACKS AND 18 METERS FROM A REMNANT BARRANCA.	HABITAT CONSISTS OF A DEGRADED RESIDENTIAL COMMUNITY.
Athene cunicularia	burrowing owl	Point Mugu	20091105	SOUTHEAST OF THE INTERSECTION OF 17TH & L STREETS, POINT MUGU NAVAL AIR STATION.	MAPPED TO PROVIDED COORDINATES.	WINTERING OCCURRENCE AT "EDGES OF SALT MARSH (PICKELWEED) SURROUNDED BY INTERTIDAL MUDFLATS AND VEGETATED MARSH AND ROADS INTERSECTING ESTUARY."
Vireo bellii pusillus	least Bell's vireo	Ventura	20110615	LOWER VENTURA RIVER, JUST WEST OF WESTERN END OF RAMONA ST, ABOUT 0.6 MILES N OF MAIN ST BRIDGE, NW OF VENTURA.	MAPPED TO PROVIDED COORDINATES AND MAP. PROVIDED LOCATION DESCRIPTION WAS "LOWER VENTURA RIVER NORTH OF MAIN STREET BRIDGE."	RIPARIAN HABITAT WITH OLDER WILLOWS IN OVERSTORY AND THICKER UNDERSTORY OF YOUNG WILLOWS INTERMIXED WITH OTHER NATIVE SPECIES INCLUDING POISON OAK, MULEFAT, AND NON-NATIVES SUCH AS ARUNDO, POISON HEMLOCK, CASTOR BEAN, AND MUSTARD.
Southern California Coastal Lagoon	Southern California Coastal Lagoon	Ventura	1984XXXX	VENTURA RIVER NEAR MOUTH, VENTURA COUNTY.	FROM MOUTH TO ABOUT 1/4 MILE UPSTREAM TO RAILROAD CROSSING.	TIDEWATER GOBY, STEELHEAD, PACIFIC LAMPREY, PRICKLY SCULPIN & PARTIALLY ARMORED THREESPINE STICKLEBACK CAN BE FOUND HERE.
Phrynosoma blainvillii	coast horned lizard	Oxnard	19950818	SOUTH OF THE SANTA CLARA RIVER, SW OF THE INTERSECTION OF LELAND STREET, AUTO CENTER DRIVE, AND VENTURA ROAD, EL RIO.	SPECIMEN LOCATED ON THE RIVER SIDE OF THE EXISTING LEVEE.	HABITAT CONSISTS OF RUDERAL VEGETATION, MOSTLY BRASSICA GENICULATA, WITH SOME STAR THISTLE. OPEN, SANDY TO CLAY SUBSTRATE; ABOUT 20 FEET FROM WILLOW RIPARIAN WOODLAND.

APPENDIX D-2

RESUMES OF BIOLOGISTS CONDUCTING SURVEYS

Qualifications for AECOM biologists who performed field surveys and prepared Section 4.2, Biological Resources, are listed below. Résumés are attached.

Name/Title	Education	Experience	Expertise
Christopher Julian, Principal Environmental Scientist	BS, Aquatic Biology, University of California, Santa Barbara	13 years	CEQA/NEPA compliance, permitting, wetlands delineation, special-status species surveys
Julie Love, Senior Restoration Ecologist and Biologist	MESM, Environmental Science, University of California, Santa Barbara	12 years	Botany surveys and vegetation mapping, special-status wildlife surveys, wetland delineations, biological resource evaluations
Elihu Gevirtz, Senior Project Biologist	BA, Environmental Studies, University of California, Santa Barbara	26 years	Botany and plant ecology, wildlife biology

Christopher Julian
Principal Environmental Scientist

Professional History

2014 – Present: AECOM, Santa Barbara, Principal Environmental Scientist
2003 – 2014: URS Corporation, Santa Barbara, increasingly responsible positions from Staff Biologist to Principal Environmental Scientist Regulatory Specialist
2001–2003: Entrix, Inc., Ventura, Staff Biologist
2000–2001: UC Santa Barbara, Laboratory Technician/Field Assistant

Education

BS/Aquatic Biology/2001/University of California, Santa Barbara

Years of Experience

With AECOM: 11 Years
With Other Firms: 2 Years

Technical Specialties

Multidisciplinary project management
CEQA/NEPA environmental analysis
Caltrans natural environment studies
Section 404/1600 permitting
Delineation of streams and wetlands
Wetlands functional assessment
404(b)(1) alternatives analysis
Section 7 consultation
CESA incidental take permitting
Stream ecology and bio-assessment
Environmental compliance Monitoring
Protocol surveys for plant and wildlife species

Training

2013: Mojave Desert Tortoise Workshop presented by Desert Tortoise Council in Ridgecrest, California. Exam score 97.8%.
2013: California Red-Legged Frog training presented by Elkhorn Slough Coastal Training Program in Moss Landing, California
2012: California Rapid Assessment Method (CRAM) Estuarine Module,

Mr. Julian oversees the Biological Services group at AECOM's Central Coast Operations and has more than 13 years of postgraduate work experience as an environmental consultant, including 8 years as an interdisciplinary project manager. His technical emphases include environmental analyses under NEPA and CEQA, all aspects of state (California) and federal stream and wetlands permitting (including agency coordination and negotiations, jurisdictional determination, wetlands functional assessment, and 404(b)(1) analysis), and endangered species permitting. He has effectively assisted clients with designing projects to ensure compliance with agency regulations, and has managed and prepared highly complex CEQA, NEPA, and ESA documents. Mr. Julian also has an extensive stream ecology background, encompassing lake and stream bio-assessments, surveys for common and special-status aquatic wildlife species, and mapping of aquatic habitats.

Project Experience

Project Manager for Newhall Land's Resource Management and Development Plan EIS/EIR, Santa Clarita Valley, California: Oversaw an interdisciplinary team of professionals preparing a joint EIS/EIR supporting federal and state authorizations related to jurisdictional waters, streambeds, and endangered species for a large, master-planned housing development in Los Angeles County, California. He personally drafted many sections of the EIS/EIR document. The project also included preparation of several stand-alone documents to support the EIS/EIR, including a Biological Assessment, Wetlands Functional Assessment, Section 404(b)(1) Alternatives Analysis, and Historic Properties Treatment Plan. The project received state approval in 2010, and federal approvals were granted in 2011. Mr. Julian's involvement is ongoing.

Technical Manager for South Coast Marine Protected Areas EIR: Managed preparation of a Draft EIR on behalf of the California Department of Fish and Game supporting the expansion of California's network of State Marine Reserves and State Marine Conservation Areas, consistent with the requirements of the Marine Life Protection Act. Key concerns included environmental impacts associated with displacement of existing commercial and recreational marine fishing efforts, as well as potential for vessel traffic hazards and increased demands on law enforcement.

Lead Biologist/Permitting Specialist for Nextlight's AV Solar Ranch One Project, Los Angeles County, California: Managed preparation of the Biological Resources section of an EIR for a proposed PV solar generating facility in Antelope Valley, California. Because the site was partially located within a Significant Ecological Area as designated by the County, preparation of a stand-alone Biota Report was also required. As

presented by UC Davis Extension in Costa Mesa, California
2012: California Rapid Assessment Method (CRAM) Practitioner Training and Riverine Module, presented by UC Davis Extension in Costa Mesa, California
2010: Workshop for Biologists, presented by the County of San Luis Obispo, California
2009: Blunt-Nosed Leopard Lizard Workshop, presented by The Wildlife Society in Bakersfield, California
2008: Workshop for Biologists, presented by the County of San Luis Obispo, California
2008: Clean Water Act Regulatory Updates, presented by the Association of Environmental Professionals in Ventura, California
2006: CEQA Workshop Series, presented by the Association of Environmental Professionals in Ventura, California
2005: Wetland Plant Identification, presented by Wetland Training Institute in San Diego, California
2004: Wetland Delineation Training (40 hour), presented by Wetland Training Institute in San Diego, California

the task leader, Mr. Julian was the primary author and responsible party for both the Biota Report and the Biological Resources section of the project EIR. Key issues of concern included loss of wildflower field habitat, loss of foraging habitat for sensitive grassland birds, and modifications to an existing ephemeral streambed within the site.

Lead Biologist for Santa Barbara Ranch Final EIR, Santa Barbara County, California: Oversaw preparation of responses to biology-related public comments on the Draft EIR for a complex and highly controversial housing development near Goleta, California. Key biological issues of concern raised by the public included loss of native grasslands, loss of foraging habitat for the white-tailed kite, degradation of coastal streams and wetlands, and consistency with the policies of the California Coastal Act and Santa Barbara County Coastal Land Use Plan. Responding to comments required extensive analysis of applicable policies, including the General Plan, Coastal Land Use Plan, and Zoning Ordinance, as well as applicable regulations protecting biological resources. Worked with Santa Barbara County staff and counsel to identify appropriate solutions in policy overlap scenarios.

Lead Biologist/Permitting Specialist for Ekwill Street and Fowler Road Extensions Project EIR, Goleta, California: Reviewed and finalized an EIR Biological Resources section and biological technical studies prepared by AECOM biologists for a capital improvement project involving the extension of two arterial roadways in the City of Goleta's Old Town. The project was federally funded, with Federal Highway Administration funds administered by Caltrans through the Local Assistance Program. Documents involved included a City of Goleta EIR, as well as a Caltrans Natural Environment Study. Mr. Julian responded to public and agency comments on the biological resources analysis in the Draft EIR, and incorporated necessary revisions into the Final EIR. An addendum to the project's Natural Environment Study was prepared, to address a new alternative developed in response to stakeholder input on the project. As required by Section 7 of the Endangered Species Act, Mr. Julian prepared an evaluation of the project's effects on the least Bell's vireo, a species listed as endangered. The City of Goleta approved the project in 2011, and Mr. Julian is currently working with the City of Goleta to obtain necessary approvals from the U.S. Army Corps of Engineers, the California Department of Fish and Wildlife, and the California Coastal Commission.

Lead Technical/Regulatory Reviewer for Ventura County Maintenance Program EIR, Ventura County, California: Responsible for cover-to-cover senior technical review of a Program EIR prepared in support of an updated flood control manual for the Ventura County Watershed Protection District. The project included preparing a comprehensive inventory of the District's flood control facilities, and identifying requirements relative to biological, cultural, and other resources that would apply to maintenance of each facility. The intent of the project was to facilitate comprehensive federal and state permitting for impacts to jurisdictional waters that would occur during maintenance activities.

Lead Biologist/Permitting Specialist for Hollister Avenue Bridge Replacement Project, Goleta, California: Supervised preparation of all biological environmental documentation necessary to support replacement of an aging concrete roadway bridge across San Jose Creek in Old Town Goleta, California. Documents prepared included a Natural Environment

Study to Caltrans' specifications, a biological impacts analysis to satisfy CEQA (MND), and permit applications to the U.S. Army Corps of Engineers, California Department of Fish and Wildlife, and Central Coast Regional Water Quality Control Board. Project approval by these agencies is currently pending.

Project Manager and Lead Biologist for Point Pedernales Pipeline Biological Surveys, Santa Barbara County, California. Oversaw a team of ten field biologists and subcontractors performing focused surveys for Vandenberg monkeyflower and El Segundo blue butterfly along a pipeline corridor extending from the coast through Vandenberg Air Force Base to an oil processing facility near Lompoc, California. Butterfly surveys included mapping of the host plant *Eriogonum parviflorum* with high-accuracy GPS, as well as surveys for adult butterflies during the flight season. Oversaw preparation of a technical report presenting the survey results to regulatory agencies, and worked with multiple jurisdictions to identify ways to allow ongoing pipeline maintenance activities to occur in compliance with the Endangered Species Act.

Lead Biologist for Antelope Solar Farm Project, Los Angeles County, California: Assumed the lead biological technical role on a 20-MW photovoltaic solar project in the Antelope Valley, in the west Mojave Desert. Conducted meetings and negotiations with regulatory agencies, and directed all biological field survey efforts and associated documentation. Field efforts included protocol-level surveys for Swainson's hawks, burrowing owls, and rare plants, as well as nesting and wintering bird surveys and general wildlife surveys.

Lead Biologist for Phase V Expansion of the Arroyo Grande Oil Field, San Luis Obispo County, California. Oversaw comprehensive biological field surveys and associated reporting associated with expansion of an oil field near Arroyo Grande, California. Field efforts performed included full-coverage floristic surveys for terrestrial and aquatic plants, distributed point count surveys for passerine birds, focused raptor surveys, protocol surveys for California red-legged frogs, and a delineation of jurisdictional waters. Key biological issues on the project included presence of steelhead trout, red-legged frogs, and Pismo clarkia, as well as oak woodlands and jurisdictional waters. The Biological Resources Assessment Report for the project was prepared in accordance with San Luis Obispo County guidelines, and included impacts analysis consistent with requirements for environmental review under CEQA.

Lead Biologist for Arroyo Grande Oil Field Thermal Oxidizer Project, San Luis Obispo County, California. Managed field investigations and biological resources reporting associated with adding a thermal oxidizer to an oil field near Arroyo Grande, California. The thermal oxidizer was needed to facilitate disposal of sour gas, thereby allowing an increase in production. A Biological Resources Assessment Report for the project was prepared in accordance with San Luis Obispo County guidelines, and included impacts analysis consistent with requirements for environmental review under CEQA.

Field Biologist for Calico Solar Project, Tessera Solar North America, San Bernardino County, California: Performed protocol-level Mojave desert tortoise surveys on a 8,230-acre proposed concentrated solar power site and 23,000-acre tortoise relocation area in the Mojave Desert near

Yucca, California. Personally documented presence of more than 30 adult and sub-adult tortoises, as well as active burrows, palates, carcasses, tracks, and scat.

Field Biologist for Rio Mesa Solar Project, BrightSource Energy, Riverside County, California: Performed biological field surveys for a proposed approximately 4,000-acre solar thermal generating site in the Sonoran/ Colorado Desert near Blythe, California and along an associated 10-mile electrical transmission line. Investigations included full-coverage, protocol-level surveys for the Mojave desert tortoise, as well as surveys for the Mojave fringe-toed lizards using a customized survey protocol. Two desert tortoises and numerous fringe-toed lizards were observed during the surveys.

Lead Biologist for Biological Assessment for the Newhall Ranch Resource Management and Development Plan, Santa Clarita Valley, California: Directed preparation of a Biological Assessment on behalf of the U.S. Army Corps of Engineers evaluating the potential effects of a proposed long-term, Individual Section 404 Permit on federally listed wildlife species in the Santa Clara River and adjacent uplands. The direct and indirect effects of the proposed action included construction of flood control improvements and urban development. Effects on seven listed species were identified, including the unarmored threespine stickleback, arroyo toad, California red-legged frog, least Bell's vireo, southwestern willow flycatcher, California gnatcatcher, and California condor. The Biological Assessment was submitted to the U.S. Fish and Wildlife Service, and AECOM received only minor editorial comments on the submittal.

Biological Assessment for Point Pedernales Pipeline Repair Project, Vandenberg Air Force Base, California: Oversaw preparation of a Biological Assessment on behalf of Vandenberg Air Force Base evaluating the effects of a pipeline repair project on the federally listed California red-legged frog, southwestern willow flycatcher, and El Segundo blue butterfly. Key issues included mapping and quantification of impacts to seacliff buckwheat (the butterfly's larval host plant), as well as identification of suitable red-legged frog and flycatcher habitat within the Action Area. Vandenberg Air Force Base Natural Resources staff commended the quality of the Biological Assessment, and requested only minimal revisions.

Biological Assessment for Point Arguello Pipeline Repair Project, Santa Barbara County, California: Directed a Biological Assessment prepared on behalf of the U.S. Army Corps of Engineers evaluating the effects of a pipeline excavation, inspection, and repair project crossing a coastal streambed on the federally listed Gaviota tarplant and its designated critical habitat. Reviewers at the Corps had no comments on the document, and provided the Biological Assessment to the USFWS without revision. Mr. Julian worked with the applicant, Corps, and USFWS personnel during the Section 7 consultation process to achieve expeditious and reasonably conditioned authorizations.

Lead Permitting Specialist for Newhall Ranch Resource Management and Development Plan, Santa Clarita Valley, California: Managed delineation of all Corps-jurisdictional waters of the U.S., including wetlands, and CDFG-jurisdictional streambeds within the 12,000-acre Newhall Ranch site in the Santa Clarita Valley, California. All jurisdictional features were delineated in the field using a GPS unit capable of sub-meter accuracy, and nearly 100 wetland delineation data forms were completed. The results of

the delineation were provided to the Corps and CDFG, and both agencies concurred with the delineated boundaries, which were utilized as the environmental baseline during environmental analysis of comprehensive permitting proposals on the site. Mr. Julian also prepared an alternatives analysis, performed pursuant to the EPA's Section 404(b)(1) Guidelines, determining the Least Environmentally Damaging Practicable Alternative for the project. The analysis used the seven alternatives evaluated in the EIS/EIR as a starting point, and undertook a finer-scale evaluation to ascertain which alternative would be least damaging to the aquatic ecosystem in the project area's several sub-watersheds. All factors required by the 404(b)(1) Guidelines were considered, including those required by NEPA and CEQA and those unique to the Clean Water Act permitting process. Ultimately, an alternative was selected that was very similar to one of the alternatives evaluated in the EIS/EIR, but that contained minor modifications to further reduce impacts while practicably achieving the overall project purpose.

Permitting Specialist for Marine Corps Base Camp Pendleton Infrastructure Improvement Projects: Was responsible for senior technical review of permit applications and supporting materials submitted to the U.S. Army Corps of Engineers and San Diego Regional Water Quality Control Board for two projects (P-1093 and P-1094) seeking to improve aging electrical, telecommunications, water, wastewater, and natural gas distribution infrastructure within Marine Corps Base Camp Pendleton in San Diego County, California. Key issues on the project included presence of listed species, including spreading navarretia, San Diego button celery, least Bell's vireo, southwestern willow flycatcher, tidewater goby, arroyo toad, California gnatcatcher, yellow-billed cuckoo, and two listed fairy shrimp taxa.

Chevron EMC Idle Pipeline Removal Project: Oversaw preparation of a large-scale delineation of jurisdictional waters and wetlands supporting removal of approximately 30 idled oil and water pipeline segments in northern Santa Barbara County, California. Coordinated with regulatory agency personnel regarding appropriate permitting pathways for removing the pipelines efficiently. Oversaw preparation of regulatory permit application materials.

Project Manager and Lead Biologist for Entrada Development Project, Los Angeles County, California: Directed delineation and condition assessment of jurisdictional waters and streambeds within a 515-acre site in northern Los Angeles County proposed for residential and commercial development. All hydrologic features within the site, which included three ephemeral stream systems and one wetland, were delineated in accordance with applicable protocols and assessed using the California Rapid Assessment Method (CRAM). Mr. Julian is currently supporting the applicant in obtaining federal and state approvals related to jurisdictional waters and listed species for the project.

Project Manager and Lead Biologist for Legacy Development Project, Los Angeles County, California: Supervised delineation and condition assessment of jurisdictional waters and streambeds within a 1,730-acre site in the upper Santa Clara River watershed under consideration for residential development. All features within the site were delineated per federal and state guidelines and assessed using the California Rapid Assessment Method (CRAM); features assessed included perennial, intermittent, and ephemeral streams and several adjacent wetlands.

Julie Love
Senior Restoration Ecologist and Biologist

Professional History

1/06 – present: AECOM Corporation, Santa Barbara, California
3/04 – 6/06: Coal Oil Point Reserve, UC. Santa Barbara, Santa Barbara, California
1/04 – 6/06: Santa Barbara County Land Trust, Santa Barbara, California
1/04 – 6/06: Independent Contractor, Habitat Restoration Biologist, Santa Barbara, California

Education

MESM/Environmental Science and Management/2003/Bren School of Environmental Science and Management, University of California, Santa Barbara
BS/Marine Biology/2000/University of California, Los Angeles

Years of Experience

With AECOM: 8+ Years
With Other Firms: 4 Years

Technical Specialties

Project manager
Restoration planning, implementation, and monitoring (coastal sage scrub, riparian, wetland, grassland, bioswales)
Wetland delineations and jurisdictional determinations
Biological resource evaluation
Botanical surveys and vegetation mapping
Special-status wildlife surveys
Stormwater monitoring
Stream monitoring (algae and water quality)
Fish relocation
Marine biology

Training

California Rapid Assessment Method (CRAM) Estuarine Module, presented by UC Davis Extension, October 2012
California Rapid Assessment Method

Ms. Love's combined work experience and education provide a wide range of ecological training with more than 12 years of experience working in the fields of habitat restoration, botany, marine biology, terrestrial and aquatic wildlife, and ecosystem inventory, assessment, and monitoring. Ms. Love's position at AECOM involves managing and coordinating habitat restoration planning and monitoring, wetland delineations and jurisdictional determinations, biological resource evaluations, botanical surveys and mapping, special-status wildlife surveys, stormwater monitoring, stream and algae monitoring, fish relocation, and database management.

Project Experience

Habitat Restoration

Santa Barbara Airport Airfield Safety Projects Restoration Project, City of Santa Barbara, Santa Barbara, California, 2007–2013: Project Manager. Assisted in planning and implementing restoration for 65 acres of wetland, coastal sage scrub, and riparian habitats. Organized and implemented monitoring program consisting of point-intercept transect data collection and maintenance monitoring. Managed and analyzed resulting data. Organized native seed collection. Lead author for annual and quarterly reports detailing restoration success. Three restoration sites have been completed and met or exceeded permit issued performance criteria.

Santa Barbara Airport Tidal Basin Restoration Project, City of Santa Barbara, Santa Barbara, California, 2007 – Present: Project Manager. Assisted in planning and implementing restoration for the Tidal Basin consisting of 14 acres of newly created tidally influenced habitat. Organized monitoring program consisting of point-intercept transect data collection and maintenance monitoring. Managed and analyzed resulting data. Aided with benthic macroinvertebrate sampling. Created water quality monitoring program. Lead author for annual reports detailing restoration success. Co-author of Biological Assessment. Lead author of Storm Water Pollution Prevention Plan. Currently, the restoration site has met or exceeded permit issued performance criteria.

Arroyo Burro Estuary Restoration Project, City of Santa Barbara Creeks Division, Santa Barbara, California, 2006–2012: Assisted in implementing the creek and estuary restoration aimed at modifying a concrete apron on Arroyo Burro Creek to facilitate fish passage, which could potentially encourage natural repopulation of the federally endangered southern steelhead; expanding the estuary to enhance habitat for the federally endangered tidewater goby and other estuarine species; stabilizing and revegetating the downstream banks of Arroyo Burro estuary and the newly created banks of Mesa Creek with genetically local riparian and wetland

(CRAM) Practitioner Training and Riverine Module, presented by UC Davis Extension, March 2012
Desert Tortoise Council Handling Workshop, presented by the Desert Tortoise Council, November 2011
Santa Barbara Airport AOA Badge, January 2006 – Present
Flat-tail Horned Lizard Training, Bureau of Land Management, July 2010 – present
Basic Wetland Delineation Training (40-hour), presented by the Wetland Training Institute, August 2008
American Red Cross First Aid and CPR Certified, 2006 – present
NAUI Scuba Certified, September 1998 – present
NAUI Scuba Certified Research Diver Certified, 1998–1999

vegetation; and creating trails and interpretive signs at the site. Aided with monitoring program consisting of point-intercept transect data collection. Co-author for annual reports detailing restoration success. Currently, the restoration site has met or exceeded permit issued performance criteria.

Antelope Valley Solar Ranch One, Exelon, Antelope Valley, California, August 2014 – Present: Project Manager. Manager of the Habitat Enhancement and Vegetation Management Plan for a 2,100-acre site in the western portion of the Antelope Valley. Manage the 5-year maintenance and monitoring to ensure successful achievement of the performance criteria. Manage maintenance of the landscaped area along State Route 138.

Antelope Valley Solar Ranch One, First Solar, Antelope Valley, California, April 20112014: Co-author of the Habitat Enhancement and Vegetation Management Plan for a 2,100-acre site in the western portion of the Antelope Valley. The document was developed in accordance with the requirements of the Final EIR and included habitant enhancement implementation, revegetation monitoring plan, vegetation maintenance plan, and performance criteria. Habitats include rubber rabbitbrush scrub, California annual grassland, wildflower field, and Joshua tree woodland.

Bohnett Park Creek Restoration Project, City of Santa Barbara Creeks Division, Santa Barbara, California, 2003–2008: Aided with monitoring program consisting of point-intercept transect data collection. Co-author for annual reports detailing restoration success. The restoration site met or exceeded permit issued performance criteria after 5 years of monitoring and maintenance.

Fess Parker Waterfront Hotel Restoration Project, Fess Parker, Santa Barbara, California, 2008: Authored Habitat Restoration Plan for 2 acres of wetland and coastal sage scrub habitat. Performed biological survey detailing existing conditions of the site and lead author for summarization report.

Ellwood Grassland and Lot 67 Restoration Project, City of Goleta, Goleta, California, 2008–2013: Assistant Project Manager. Assisted in planning and implementing restoration for 3 acres of native grassland and vernal pool habitat. Organized and implemented monitoring program consisting of point-intercept transect data collection and maintenance monitoring. Managed and analyzed resulting data. Organized native seed collection. Lead author for annual and quarterly reports detailing restoration activities.

Santa Barbara Airport Safety Area Restoration Project, City of Santa Barbara, Santa Barbara, California, 2006–2007: Organized monitoring program consisting of point-intercept transect data collection. Managed and analyzed resulting data. Aided with annual reports detailing restoration success. The restoration site has met and/or exceeded permit issued performance criteria.

Revegetation California Valley Solar Ranch, SunPower Corporation Systems, California Valley, California, 2009: Co-author of the revegetation plan for a 4,575-acre site in the Carrizo Plain. Habitats included California annual grassland. Developed mitigation measures for construction activities and a monitoring plan for revegetation.

Former Hercules Gas Plant, Shell Exploration and Production Company, Gaviota, California, 2009: Lead author for the revegetation

plan for a 2-acre site along Cañada de la Huerta. Habitats included coastal sage scrub and willow scrub. Developed mitigation measures for construction activities and a monitoring plan for revegetation.

Wetland Delineations/Assessments and Jurisdictional Determinations

Point Pedernales Repair Site, Freeport-McMoRan Oil and Gas, Vandenberg Air Force Base, California, 2013: Field crew leader and lead author for the wetland delineation/jurisdictional determination of three <1-acre sites along three drainages intersecting a pipeline repair site.

Arroyo Grande Oilfield Phase V, Freeport-McMoRan Oil and Gas, Arroyo Grande, California, 2013: Field crew leader and lead author for the wetland delineation/jurisdictional determination of Pismo Creek and several unnamed drainages within the Arroyo Grande Oilfield.

Gaviota Road Repair Site, Freeport-McMoRan Oil and Gas, Gaviota, California, February 2013: Field crew leader and lead author for the wetland delineation/jurisdictional determination of a <1 acre site along an unnamed tributary to Gaviota Creek intersecting a pipeline repair site.

Mission Village Project, Newhall Land and Farming Company, Santa Clarita Valley, California, 2012: Field crew leader and lead author for the wetland delineation/jurisdictional determination of several canyons in the Santa Clara River watershed within the vicinity of the 12,000-acre Newhall Ranch site in the Santa Clarita Valley, California. Assessed the condition of the canyons using California Rapid Assessment Method (CRAM) and a methodology that was based on a combination of three established methods (CRAM, Hydrogeomorphic Approach [HGM], and Special Area Management Plan Landscape Level Functional Assessment [SAMP LLFA]).

Former Hercules Gas Plant, Shell Exploration and Production Company, Gaviota, California, July 2012: Field crew leader and lead author for the wetland delineation/jurisdictional determination of a <1-acre site along Cañada de la Huerta.

Resource Management and Development Plan Environmental Impact Study/Environmental Impact Report, Newhall Land and Farming Company, Santa Clarita Valley, California, July and August 2010: Assessed the condition of reference-quality sites, as well as a number of existing compensatory mitigation sites, in the Santa Clara River watershed within the vicinity of the 12,000-acre Newhall Ranch site in the Santa Clarita Valley, California. The assessment methodology was based on a combination of three established methods (CRAM, HGM, and SAMP LLFA).

San Jose Creek Bikeway, City of Goleta, Goleta, California, 2009: Field crew leader and lead author for the wetland delineation/jurisdictional determination for a 0.5-acre site in Goleta Slough.

Former Hercules Gas Plant, Shell Exploration and Production Company, Gaviota, California, 2009: Field crew leader and lead author for the wetland delineation/jurisdictional determination for a 2-acre site along Cañada de la Huerta for the project's Streambed Alteration Agreement and Section 404 Permit.

Resource Management and Development Plan Environmental Impact Study/Environmental Impact Report, Newhall Land and Farming Company, Santa Clarita Valley, California, 2008: Assisted with the wetland delineation and mapping of jurisdictional waters within the 12,000-acre Newhall Ranch site in the Santa Clarita Valley, California. Assisted with the wetland delineation report.

Santa Barbara Airport Airfield Safety Radar Project, City of Santa Barbara, Santa Barbara, California, 2007: Performed a wetland delineation for a 2-acre site within Goleta Slough. Developed mitigation measures for construction activities. Authored summarization report.

Antelope Valley Solar Ranch One, NextLight, Antelope Valley, California, January 2009: Performed jurisdictional determination and mapping for a 2,000-acre site in the Mojave Desert near Lancaster, California. Lead author for Jurisdictional Determination Report. Lead author in sections of the Biota Report.

California Valley Solar Ranch, SunPower Corporation Systems, California Valley, California, Spring 2009: Performed jurisdictional determination and mapping for a 4,575-acre site in the Carrizo Plain. Lead author for Jurisdictional Determination Report. Lead author in sections of the Biological Technical Report.

Biological Resource Evaluation

Mission Creek Fish Passage Project at the Caltrans Channels, City of Santa Barbara Creeks Division, Santa Barbara, California, 2011: Prepared a biological assessment report for a fish passage project to significantly improve fish passage for steelhead trout (*Oncorhynchus mykiss*) on Mission Creek in Santa Barbara, California. The project proposed to modify 1.1 miles of concrete channel to create a low flow channel and resting areas within the bed of the concrete channel to allow for fish passage.

Loma Alta Drive Sidewalk Expansion Project, City of Santa Barbara, Santa Barbara, California, 2007: Performed Biological Resource Study. Mapped vegetation types using the Holland Classification System along a portion of Loma Alta Drive. Documented existing plant species and monitored for rare plant species. Developed mitigation measures for construction activities. Authored report detailing findings.

Botanical Surveys and Mapping

Botanical Survey, Rio Mesa Solar Project, Sonoran/Colorado Desert, California, Bright Source Energy, Spring 2011: Performed focused botanical surveys for a solar site in the Sonoran/Colorado Desert near Blythe, California. Documented existing vegetation and rare plant occurrences in compliance with USFWS and CDFG botanical survey protocol.

Master Environmental Assessment, City of Santa Barbara, California, 2008: Aerial mapped and field-verified vegetation types using the Holland Classification System throughout various parts of the City. Dominant vegetation types included oak woodland, riparian, and ruderal. Aided in the production of GIS based maps. Aided in authoring technical use reports.

California Valley Solar Ranch, SunPower Corporation Systems, California Valley, California, April 2008 – October 2009: Performed focused botanical surveys for a 4,575-acre site in the Carrizo Plain. Documented existing vegetation in compliance with USFWS and CDFG botanical survey protocol. Mapped vegetation communities. Aided in authoring botanical report.

Antelope Valley Solar Ranch One, First Solar, Antelope Valley, California, Spring 2009: Performed focused botanical surveys, vegetation mapping, and Joshua Tree mapping for a 2,000-acre site in the Mojave Desert near Lancaster, California. Documented existing vegetation in compliance with USFWS and CDFG botanical survey protocol. Mapped vegetation communities.

Calico Solar Project, Tessera Solar North America, Mojave Desert, California, Spring 2010: Performed focused botanical surveys for an 8,230-acre site in the Mojave Desert near Newberry Springs, California. Documented existing vegetation and rare plant occurrences in compliance with USFWS and CDFG botanical survey protocol. Mapped California Native Desert Plant Act species.

Special-Status Wildlife Surveys

Rio Mesa Solar Project, Bright Source Energy, Sonoran/Colorado Desert, California, April – May 2011: Performed USFWS protocol 100 percent coverage desert tortoise surveys on a solar site in the Sonoran/ Colorado Desert near Blythe, California. Also, performed presence/ absence surveys for Mojave Fringe-Toed Lizard.

Desert Tortoise Survey, Calico Solar Project, Tessera Solar North America, Mojave Desert, California, 2007 and 2010: Team Leader. Performed surveys for desert tortoise sign on a 8,23-acre site and 23,000-acre relocation area in the Mojave Desert near Yucca, California. Responsible for data collection and analysis as team leader. Mapped, photographed, and cataloged habitat suitability and vegetation types. Mapped jurisdictional drainages.

California Red-Legged Frog Habitat Survey, Federal Emergency Management Agency, Santa Barbara, California, 2006: Performed survey to assess habitat quality for California red-legged frog in Winchester Canyon. Mapped, photographed, and cataloged habitat suitability and vegetation types.

Tidewater Goby Presence/Absence Survey, Basin E/F Tidal Basin Restoration Project, City of Santa Barbara, Santa Barbara, California, October 2010 and 2011–2012: Performed presence/absence USFWS protocol surveys for tidewater goby in Tecolotito Creek, Foxtrot Drain, and an existing tidal basin adjacent to the creek prior to construction. Medium water body protocol. Installed and monitored block nets downstream of the work area. Performed post-construction presence/absence USFWS protocol surveys for tidewater goby in Tecolotito Creek and a constructed tidal basin.

Tidewater Goby and Fish Relocation, Laguna Channel Tidal Gate Repair Project, City of Santa Barbara, Santa Barbara, California, October – December 2006: Captured and relocated tidewater gobies and other fish species from Laguna Channel, Santa Barbara. Monitored

construction activities to prevent impacts to tidewater goby. Included as a permitted handler on USFWS Biological Opinion 1-8-06-F-29. Assisted in authoring the final report.

Western Snowy Plover Monitor, Coal Oil Point Reserve, University of California, Santa Barbara, Santa Barbara, California, 2004–2006: Assisted the Snowy Plover Docent Program as a chick monitor, a docent on Sands Beach, and as a supervisor for the abandoned egg nursery.

Western Snowy Plover and California Brown Pelican Construction Monitoring, Laguna Channel Tidal Gate Repair Project, City of Santa Barbara, Santa Barbara, California, October – December 2006: Performed clearance survey prior to moving sand from near the launch area at the Santa Barbara Harbor. Monitored for impacts to the birds during construction at the tidal gate.

Burrowing Owl Survey, Agincourt Solar Project, WDG Partners, Antelope Valley, California: Lead Phase III Burrowing Owl Consortium protocol surveys for a solar site in the Mojave Desert near Victorville, California. Lead author for wetland delineation/jurisdictional determination report.

Burrowing Owl Survey, Rio Mesa Solar Project, Bright Source Energy, Sonoran/Colorado Desert, California, May 2011: Performed Phase II Burrowing Owl Consortium protocol surveys for a solar site in the Sonoran/ Colorado Desert near Blythe, California. Mapped potential burrows and documented signs of use such as pellets and whitewash.

Burrowing Owl and Nesting Bird Clearance Surveys, Antelope Valley Solar Ranch One, First Solar, Antelope Valley, California, Spring 2010: Performed burrowing owl and nesting bird clearance surveys prior to construction activities for a 2,000-acre site in the Mojave Desert near Lancaster, California. Phase II Burrowing Owl Consortium protocol survey methodology followed.

Burrowing Owl Survey, Calico Solar Project, Tessera Solar North America, Mojave Desert, California, January – February 2010: 83 hours. Performed Phase II (with Phase III modifications) Burrowing Owl Consortium protocol surveys for an 8,230-acre site in the Mojave Desert near Newberry Springs, California. Mapped potential burrows and documented signs of use such as pellets and whitewash.

Burrowing Owl Survey, Antelope Valley Solar Ranch One, NextLight, Antelope Valley, California, Spring 2009: Performed Phase I and Phase II Burrowing Owl Consortium protocol surveys for a 2,000-acre site in the Mojave Desert near Lancaster, California. Mapped potential burrows and documented signs of use such as pellets and whitewash.

Swainson's Hawk Survey, Ruby Solar, Antelope Valley, California: Two days. Aided with CDFG protocol surveys for Swainson's hawk on a potential solar site.

Elihu Gevirtz
Senior Project Biologist

Professional History

2013 – present: AECOM (URS Corporation), Santa Barbara and Santa Maria, California
2000–2013: Elihu Gevirtz Biological Consulting (formerly Condor Environmental Planning Services, Inc.), Santa Barbara, California
1990–2000: Santa Barbara County Planning and Development Department, Santa Barbara, California
1989–1990: ERC Environmental and Energy Services, Inc., Santa Barbara, California
1987–1988: UCSB Department of Biological Sciences Herbarium, Santa Barbara, California

Education

BA/Environmental Studies/Minor/ Botany and Plant Ecology/1988/ University of California, Santa Barbara

Years of Experience

With AECOM: 1 Year
With Other Firms: 25 Years

Technical Specialties

Wildlife biology
Botany
Habitat restoration
Plant ecology of southern and central California

Training

Native Grass Identification Training Workshop – UCSB, 2007
Oak and Conifer Taxonomy, Identification, and Ecology Workshop – UCSB, 2006
Salmonid Restoration Conference – 2006
Ecological Restoration Seminars – UCSB Center for Biodiversity, 2005, 2006, 2013
Vegetation Mapping and Classification – Ventura County Planning Division, 2005

Elihu Gevirtz has 25 years of professional experience as a wildlife biologist, botanist, habitat restoration ecologist, and land use planner in southern and central California. He has conducted wildlife surveys and botanical surveys, and has surveyed natural lands for threatened and endangered species. He has mapped vegetation over thousands of acres, written wildfire response plans, designed and monitored habitat restoration projects, written invasive species management plans, and written management plans and land use policies regarding development near sensitive biological resources. He has also monitored construction projects to protect threatened species including California red-legged frog, peregrine falcon, coast horned lizard, and others.

Project Experience

Botanist, Purisima Hills, California, 2014: Conducted jurisdictional delineations along drainages in the Lompoc Oil Field.

Botanist, Ventura Hills, California, 2014: Conducted botanical survey for rare plant species in the areas of proposed transmission towers.

Botanist, Vandenberg Air Force Base, California, 2014: Conducted vegetation sampling within a series of quadrats, and systematic botanical surveys within maritime chaparral, coastal sage scrub, coastal dune scrub and other communities.

Botanist, Vandenberg Air Force Base, California, 2014: Prepared 10-Year Vegetation Management Plan and Programmatic Biological Assessment.

Botanist, Lompoc Oil Field, Lompoc, California, 2014: Conducted botanical survey of pipeline access corridor, including detailed inventory of more than 300 native trees and seacliff buckwheat occurrences.

Botanist, Goleta, California, 2013–2014: Prepared NESMI for Caltrans bridge replacement project.

Wildlife Biologist, Vandenberg Air Force Base, California, 2014: Conducted nesting bird survey.

Wildlife Biologist, Arroyo Grande Oil Field, California, 2014: Conducted nesting bird survey.

Wildlife Biologist, Goleta, California, 2013–2014: Conducted weekly raptor surveys along Old San Jose Creek, recording species, location, and behavior.

Vegetation Rapid Plot Assessment – California Department of Fish and Game and California Native Plant Society, 2005
San Joaquin Kit Fox Habitat Evaluation – California Department of Fish and Game and San Luis Obispo County, 2005
Steelhead Trout Ecology – UC Cooperative Extension, 2000
Oak Woodland Restoration – UC Cooperative Extension, 1993–1994

Botanist, Goleta, California, 2013: Conducted jurisdictional delineations in Old San Jose Creek.

Wildlife Biologist and Botanist, Vandenberg Air Force Base, Lompoc, California, 2013: Conducted surveys for plant and animal species including great horned owl, loggerhead shrike, Nuttall's woodpecker, vegetation mapping, and wetland delineations on a 345-acre site. Authored BA and co-authored EA.

Botanist and Wildlife Biologist, SpaceX, Vandenberg Air Force Base, Lompoc, California, 2013: Conducted botanical resources survey for seacliff buckwheat and other species and provided impact analysis and mitigation recommendations.

Wildlife Biologist, Mojave Desert, California, 2013: Protocol surveys for desert tortoise, and incidental observations of other species including burrowing owl.

Botanist, Santa Barbara Airport, Santa Barbara, California, 2013: Quantitative monitoring of wetland restoration sites.

Botanist, Land Trust for Santa Barbara County, Goleta Slough Restoration, Goleta, California, 2009 – present: Directed the implementation of restoration of a 34-acre property owned by the California Department of Fish and Wildlife. Directed and managed implementation of wetland restoration and upland restoration, including estuary, fresh water marsh, and coastal sage scrub. Directed the planting of more than 17,000 plants comprised of more than 50 species. Quantitative monitoring of wetland and upland restoration sites. Quantitative bird surveys of site documenting presence, numbers, and behaviors of more than 50 species of birds over a 5-month period.

Botanist and Wildlife Biologist, Mojave Desert, California, 2013: Botanical and wildlife surveys for species including desert tortoise, bighorn sheep, and others on potential conservation bank site.

Wildlife Biologist, Santa Barbara, California, 2013: Nesting bird survey on private property. Report submitted to Caltrans.

Wildlife Biologist, Purisima Hills, Buellton, California, 2013: Wildlife surveys for sensitive species including coast horned lizard, legless lizard, American kestrel, Northern harrier, white-throated swift, rufous-crowned sparrow, horned lark, yellow-billed magpie, burrowing owl, great horned owl, California pocket mouse, American badger, bobcat, and others.

Botanist and Wildlife Biologist, Ventura County, California, 2009: Botanical survey and impact assessment on private properties for Ventura County. Findings included Catalina mariposa lily, several species of shoulderband snail, and other species.

Biologist, California Department of Fish and Game, Burton Mesa Ecological Reserve, Lompoc, California, 2005–2007: Wrote wildland fire management plan to protect sensitive species and private land, worked with County Fire Department, wrote land management plan re multiple issues including invasive species management for veldt grass, pampas grass, iceplant and others, conducted wildlife surveys for sensitive plant and animal species including silvery legless lizard, coast horned lizard, western whiptail, American badger, desert woodrat, big-eared woodrat, and

others, botanical surveys shagbark manzanita, La Purisima manzanita, Lompoc ceanothus, Santa Barbara ceanothus, straight-awned spineflower, seaside bird's beak, San Luis Obispo wallflower, sand almond, black-flowered figwort, Bishop pine and vegetation mapping over 5,000 acres.

Botanist, Griffith, Santa Barbara, California, 2007: Botanical survey of Maria Ygnacio Creek and coastal sage scrub for species including black-flowered figwort, Santa Barbara honeysuckle, and others.

Biologist, California Department of Parks, La Purisima Mission State Historic Park, Lompoc, California, 2004–2005: Conducted wildlife and botanical surveys for common and sensitive species including shagbark manzanita, La Purisima manzanita, Lompoc ceanothus, Santa Barbara ceanothus, silvery legless lizard, coast horned lizard, western whiptail, American badger, desert woodrat, and big-eared woodrat; vegetation mapping over 1,900 acres; and provided recommendations for invasive species management.

Wildlife Biologist, Capital Pacific Homes, Vandenberg Village, California, 2005: Monitored construction of a large residential subdivision to protect sensitive species including coast horned lizard and legless lizard. Documented first confirmed siting of long-nosed snake on the Burton Mesa, relocated wildlife to safe locations away from construction site. Wrote invasive species management plan.

Botanist, Heidelberger, Goleta, California, 2006: Conducted botanical survey in and along Atascadero Creek.

Biologist, Capital Pacific Homes, Vandenberg Village, California, 2004: Wrote invasive species management plan regarding veldt grass, pampas grass, iceplant, and others.

Biologist and Botanist, California State Parks, Oceano Dunes SVRA, Oceano, California, 2005–2006: Surveyed for rare, threatened, and endangered species, including Nipomo Mesa lupine, San Luis Obispo monardella, Blochman's leafy daisy, dune wallflower, California spineflower, California red-legged frog, coast horned lizard, silvery legless lizard, northern harrier, burrowing owl, loggerhead shrike, and American badger. Evaluated impacts, alternatives, and coastal policy consistency of alternative roads to the state park.

Wildlife Biologist, Caltrans (as Subcontractor to Royal Electric Company), Los Angeles County, California, 2006: Monitored peregrine falcons nesting on the Vincent Thomas Bridge over the Los Angeles Harbor during construction on the bridge.

Wildlife Biologist, Land Trust for Santa Barbara County, Arroyo Hondo Steelhead Passage Restoration Monitor, Gaviota, California, 2007: Monitored construction of fish passage infrastructure in culvert under U.S. Highway 101. Moved more than 40 juvenile California red-legged frogs to a safe location upstream of the project site.

Botanist, Cohen Property, Toro Canyon, California, 2007 – present: Botanical investigation of scrub oak and Santa Barbara honeysuckle on private property, evaluation of potential impacts, and habitat restoration plan and implementation.

Botanist, Ventura Resource Conservation District, Santa Clara River Vegetation and Arundo Mapping, Los Angeles and Ventura Counties, California, 2006: Mapped the vegetation and occurrences of Arundo donax on the tributaries to the Upper Santa Clara River.

Wildlife Biologist, Ventura Regional Sanitation District, Santa Paula, California, 2007 and 2008: Nesting bird surveys, construction monitoring, and wildlife relocation for landfill expansion project. Collected arboreal salamander specimen for museum collection.

Botanist, Hollister Ranch, California, 2005: Botanical survey of private property and impact assessment.

Biologist, Ojai Valley Land Conservancy, Ojai, California, 2004: Wrote wetland restoration plan for Ojai Meadows Preserve.

Biologist and Planner, Santa Barbara County Planning and Development, Santa Barbara, California, 1990–2000: Co-authored General Plan Amendments regarding biological and agricultural resources, reviewed, edited and approved consultant-prepared biological studies and habitat restoration plans for vernal pools, streams and rivers, oak woodlands and others, mapped vegetation, worked with local, state and federal agencies on preservation of endangered species and habitats, worked with County Fire Department, Montecito Fire Department and others on wildland fire planning and vegetation management, co-authored Environmental Impact Reports and Mitigated Negative Declarations.

Environmental Analyst, ERCE, Santa Barbara, California, 1989–1990: Co-authored Environmental Impact Reports and Mitigated Negative Declarations.

Selected Publications

Bird Monitoring at Goleta Slough Restoration January–April 2013. Prepared for The Land Trust for Santa Barbara County. 2013.

Initial Study Biological Assessment of a Proposed Family Housing Development in Piru, California. Prepared for Cabrillo Economic Development Corporation. 2012.

Section 7 Consultation with the U.S. Fish and Wildlife Service: Potential Effect of Construction of Valle Naranjal on Steelhead (Oncorhynchus mykiss) and Piru Creek. Piru, California. Prepared for USDA Rural Development and Cabrillo Economic Development Corporation. 2009.

Stewardship Plan for the Ventura Hillsides. Prepared for the Ventura Hillsides Conservancy. 2007.

Land Management Plan; Burton Mesa Ecological Reserve. Prepared for the State of California Resources Agency Department of Fish and Game. 2007.

Alternative Access Study: Oceano Dunes State Vehicular Recreation Area. Prepared for California State Parks, Oceano Dunes District. 2006.

Ojai Meadows Preserve Habitat Restoration and Flood Control Plan. Prepared for The Ojai Valley Land Conservancy. 2004.

Gaviota Coastal Trail Planning Study. Bacara Resort to Canada San Onofre. Prepared for Santa Barbara County Planning and Development. 2004.

Fire and Vegetation Management Plan; Providence Landing. Vandenberg Village, California. Prepared for Capital Pacific Homes. Santa Barbara, California. 2004.

Ferren, W.R., Jr. and E.M. Gevirtz. Vernal Pool Restoration and Creation: Cookbook Recipes or Complex Science? In *Vernal Pool Plants: Their Habitat and Biology, Schlisinger and Ikeda Editors. California State University at Chico, Studies from the Herbarium. 1990.*

APPENDIX D-3

MIGRATORY BIRDS POTENTIALLY OCCURRING IN THE PROJECT VICINITY

APPENDIX D-3
MIGRATORY BIRDS POTENTIALLY OCCURRING IN THE PROJECT VICINITY PROTECTED BY THE MIGRATORY BIRD TREATY ACT

SOURCES: U.S. Fish and Wildlife Service Migratory Bird Program 2013. List of Migratory Bird Species Protected by the Migratory Bird Treaty Act as of December 2, 2013. ESA 2003. McGrath State Beach Natural Resources Management Plan. Submitted to California Department of Parks and Recreation Channel Coast District.

Order Gaviiformes	
Gavia arctica	arctic loon
Gavia immer	common loon
Gavia stellata	red-throated loon
Order Podicipediformes	
Aechmophorus occidentalis	western grebe
Podiceps auritus	horned grebe
Podiceps nigricollis	eared grebe
Order Pelicaniformes	
Pelecanus occidentalis	brown pelican
Order Ciconiiformes	
Ardea herodias	great blue heron
Butorides virescens	great heron
Botarus lentiginosus	American bittern
Bubulcus ibis	cattle egret
Cathartes aura	turkey vulture
Egretta thula	snowy egret
Ixobrychus exilis	least bittern
Nycticorax nycticorax	black-crowned night heron
Order Anseriformes	
Anser albifrons	greater white-fronted goose
Branta canadensis	Canada goose
Anas acuta	pintail
Anas americana	American wigeon
Anas crecca carolinensis	green-winged teal
Anas cylpeata	northern shoveler
Anas cyanotera	cinnamon teal

Anas discors	blue-wing teal
Anas platyrhynchos	mallard
Anas strepera	gadwall
Aythya affinis	lesser scaup
Aythya americana	redhead
Aythya collaris	ring-necked duck
Aythya marila	greater scaup
Aythya valisineria	canvasback
Bucephala albeola	bufflehead
Bucephala islandica	barrows goldeneye
Clangula hyemalis	long-tailed duck
Histrionicus histrionicus	harlequin duck
Melanitta perspicillata	surf scoter
Order Accipitriformes	
Cathartes aura	turkey vulture
Pandion haliaetus	osprey
Elanus leucrurus	white-tailed kite
Haliaeetus leucocephalus	bald eagle
Circus cyaneus	northern harrier
Accipiter cooperii	Cooper's hawk
Accipiter striatus	sharp-shinned hawk
Buteo jamaicensis	red-tailed hawk
Buteo linneatus	red-shouldered hawk
Order Falconiformes	
Falco peregrinus	peregrine falcon
Falco sparverius	American kestrel
Order Gruiformes	
Laterallus jamaicensis	black rail
Rallus longirostris	clapper rail
Rallus limicola	Virginia Rail
Porzana carolina	sora
Gallinula chloropus	common moorhen
Fulica Americana	American coot

Order Charadriiformes	
Pluvialis squatarola	black-bellied plover
Charadrius alexandrinus	western snowy plover
Charadrius semipalmatus	semipalmated plover
Charadrius vociferus	killdeer
Himantopus mexicanus	black-necked stilt
Recurvirostra americana	American avocet
Tringa melanoleuca	greater yellowlegs
Tringa flavipes	lesser yellowlegs
Tringa solitaria	solitary sandpiper
Catoptrophorus semipalmatus	willet
Heteroscelus incanus	wandering tattler
Actitis macularia	spotted sandpiper
Numenius phaeopus	whimbrel
Numenius americanus	long-billed curlew
Limosa fedoa	marbled godwit
Arenaria interpres	ruddy turnstone
Arenaria melanocephala	black turnstone
Aphriza virgata	surfbird
Calidris canutus	red knot
Calidris alba	sanderling
Calidris mauri	western sandpiper
Calidris minutilla	least sandpiper
Calidris melanotos	pectoral sandpiper
Calidris alpina	dunlin
Limnodromus griseus	short-billed dowitcher
Limnodromus scolopaceus	long-billed dowitcher
Gallinago delicata	Wilson’s snipe
Phalaropus tricolor	Wilson’s phalarope
Phalaropus lobatus	red-necked phalarope
Phalaropus fulicarius	red phalarope
Larus philidelphia	Bonaparte’s gull
Larus heermanni	Heermann’s gull
Larus canus	mew gull

Larus delawarensis	ring-billed gull
Larus californicus	California gull
Larus argentatus	herring gull
Larus thayeri	Thayer's gull
Larus occidentalis	western gull
Larus glaucescens	glaucous-winged gull
Sterna caspia	Caspian tern
Thalseus maximus	royal tern
Thalsseus elegans	elegant tern
Sterna hirundo	common tern
Sterna forsteri	Forster's tern
Sterna albifrons	least tern
Order Colombiformes	
Zenaida macroura	mourning dove
Order Strigiformes	
Tyto alba	barn owl
Megascops kennicottii	western screech-owl
Bubo virginianus	great-horned owl
Asia flammeus	short-eared owl
Order Caprimulgiformes	
Chordeiles acutipennis	lesser nighthawk
Order Apodiformes	
Chaetura pelagica	Vaux's swift
Aeronautes saxatilis	white-throated swift
Archilochus alexandri	black-chinned hummingbird
Calypte anna	Anna's hummingbird
Calypte costae	Costa's hummingbird
Selasphorus sasin	Allen's hummingbird
Order Coraciiformes	
Ceryle alcyon	belted kingfisher
Order Piciformes	
Sphyrapicus ruber	red-breasted sapsucker
Picoides nuttallii	Nuttal's woodpecker
Picoides pubescens	downy woodpecker

Picoides villosus	hairy woodpecker
Colaptes auratus	northern flicker
Order Passeriformes	
Contopus cooperi	olive-sided flycatcher
Contopus sordidulus	western wood-pewee
Empidonax traillii	willow flycatcher
Empidonax hammondii	Hammond's flycatcher
Empidonax oberholseri	dusky flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Empidonax difficilis	Pacific-slope flycatcher
Sayornis nigricans	black phoebe
Sayornis saya	Say's phoebe
Tyrannus vociferans	Cassin's kingbird
Tyrannus verticalis	western kingbird
Lanius ludovicianus	loggerhead shrike
Vireo bellii	Bell's vireo
Vireo cassinii	Cassin's vireo
Vireo huttoni	Hutton's vireo
Vireo gilvus	warbling vireo
Aphelocoma californica	western scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Eremophila alpestris	horned lark
Progne subis	purple martin
Tachycineta bicolor	tree swallow
Tachycineta thalassina	violet-green swallow
Stelgidopteryx serripennis	northern rough-winged swallow
Petrochelidon pyrrhonota	cliff swallow
Hirundo rustica	barn swallow
Baeolophus inornatus	oak titmouse
Psaltriparus minimus	bushtit
Sitta Canadensis	red-breasted nuthatch
Sitta carolinensis	white-breasted nuthatch
Certhia Americana	brown creeper

Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
Troglodytes troglodytes	winter wren
Cistothorus palustris	marsh wren
Regulus satrapa	golden-crowned kinglet
Regulus calendula	ruby-crowned kinglet
Polioptila caerulea	blue-gray gnatcatcher
Polioptila californica	California gnatcatcher
Sialia mexicana	western bluebird
Catharus ustulatus	Swainson's thrush
Catharus guttatus	hermit thrush
Turdus migratorius	American robin
Ixoreus naevius	varied thrush
Chamaea fasciata	wrentit
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
Anthus rubescens	American pipit
Bombycilla cedrorum	cedar waxwing
Vermivora celata	orange-crowned warbler
Vermivora ruficapilla	Nashville warbler
Dendroica petechia	yellow warbler
Dendroica coronata	yellow-rumped warbler
Dendroica nigrescens	black-throated gray warbler
Dendroica townsendi	Townsend's warbler
Dendroica occidentalis	hermit warbler
Dendroica palmarum	palm warbler
Oporornis tolmiei	McGillivray's warbler
Geothlypis trichas	common yellowthroat
Wilsonia pusilla	Wilson's warbler
Icteria virens	yellow-breasted chat
Piranga ludoviciana	western tanager
Pipilo maculates	spotted towhee
Pipilo crissalis	California towhee
Spizella passerine	chipping sparrow

Spizella atrogularis	black-chinned sparrow
Pooecetes gramineus	vesper sparrow
Chondestes grammacus	lark sparrow
Passerculus sandwichensis	Savannah sparrow
Ammodramus savannarum	grasshopper sparrow
Passerella iliaca	fox sparrow
Melospiza melodia	song sparrow
Melospiza lincolnii	Lincoln's sparrow
Zonotrichia albicollis	white-throated sparrow
Zonotrichia leucophrys	white-crowned sparrow
Zonotrichia atricapilla	golden-crowned sparrow
Junco hyemalis	dark-eyed junco
Pheucticus melanocephalus	black-headed grosbeak
Agelaius phoeniceus	red-winged blackbird
Agelaius tricolor	tricolored blackbird
Sturnella neglecta	western meadowlark
Xanthocephalus xanthocephalus	yellow-headed blackbird
Euphagus cyanocephalus	Brewer's blackbird
Quiscalus mexicanus	great-tailed grackle
Molothrus ater	brown-headed cowbird
Icterus cucullatus	hooded oriole
Icterus bullockii	Bullock's oriole
Carpodacus purpureus	purple finch
Carpodacus mexicanus	house finch
Carduelis pinus	pine siskin
Carduelis psaltria	lesser goldfinch
Carduelis tristis	American goldfinch

APPENDIX D-4

WETLAND DELINEATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site:	Mandalay Puente Power Site	City/County:	Oxnard/Ventura	Sampling Date:	3/12/2015 and 4/02/15
Applicant/Owner:	NRG Energy	State:	CA	Sampling Point:	1
Investigator(s):	Julie Love and Elihu Gevirtz	Section, Township, Range:			
Landform (hillslope, terrace, etc.):	Flat	Local Relief (concave, convex, none):	None	Slope (%):	0-1%
Subregion (LRR):	C	Lat: 34.2080839	Long: -119.2512036	Datum:	NAD 83 UTM Zone 11
Soil Map Unit Name:			NWI Classification:		

Are climatic/hydrological conditions on the site typical for this time of the year? ☑ Yes ☐ No

Are Vegetation, ☐ Soil, ☑ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" Present? ☐ Yes ☐ No

Are Vegetation, ☐ Soil, ☑ or Hydrology ☐ naturally problematic? (If needed, explain answers in remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	☑ Yes	☐ No	**Is the Sampled Area within a Wetland?**	☐ Yes	☑ No
Hydric Soil Present?	☐ Yes	☑ No			
Wetland Hydrology Present?	☐ Yes	☑ No			

Remarks:

Typical conditions but drought. Vegetation sampled 3/12/15. Soil and hydrology sampled 4/2/15. Historically disturbed w/ vehicles & equipment. Flooded in 2005 with water from dredge spoils from Mandalay canal that covered site. Water gradually left tubes. Tubes were on site for 2-3 years.

VEGETATION

Tree Stratum (Plot size: 30ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size: 20ft radius)			
1. Baccharis pilularis	5	Y	UPL
2. Suaeda taxifolia	20	Y	FACW
3.			
4.			
5.			
Total Cover:	25		
Herb Stratum (Plot size: 10ft radius)			
1. Salicornia pacifica (NWI: Sarcocornia pacifica)	45	Y	OBL
2. Carpobrotus edulis	20	Y	UPL
3. Mesembryanthemum nodiflorum	23	Y	FAC
4. Salsola tragus (dead/alive)	2	N	FACU
5.			
6.			
7.			
8.			
Total Cover:	90		
Woody Vine Stratum (Plot size: 10ft radius)			
1. N/A			
2.			
Total Cover:			
% Bare Ground in Herb Stratum: 10	% Cover of Biotic Crust:	0	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiplied by:	
OBL species	45	x1 =	45
FACW species	20	x2 =	40
FAC species	23	x3 =	69
FACU species	2	x4 =	8
UPL species	25	x5 =	125
Column Totals:	115 (A)		287 (B)

Prevalence Index = B/A = 2.495652174

Hydrophytic Vegetation Indicators:

☑ Dominance Test is >50%

☑ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? ☑ Yes ☐ No

Remarks:

Suaeda taxifolia/Mesembryanthemum nodiflorum community.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2	100	N/A				SaLo	very gritty

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Soils may be influenced by prior stock piling/storage of estuarine spoils and water that were deposited on the site in 2005 and remained there for 2-3 years. May not be significant anymore? Naturally problematic sandy soil. Shovel refusal at 16 inches due to big rock. Rocks throughout. Maybe asphalt?

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizopheres along Living Roots (C3)
- ☐ Presence Of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? ☐ Yes ☑ No Depth (inches): _____

Water Table Present? ☐ Yes ☑ No Depth (inches): _____

Saturation Present? (Includes capillary fringe) ☐ Yes ☑ No Depth (inches): _____

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC Neutral = 2:2. Conditions are same for 3/12/15 and 4/12/15.

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Investigator(s):	Julie Love and Elihu Gevirtz	Section, Township, Range:			
Landform (hillslope, terrace, etc.):	Flat	Local Relief (concave, convex, none):	None	Slope (%):	0-1%
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SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

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Remarks:

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5.			
Total Cover:	25		
Herb Stratum (Plot size: 10ft radius)			
1. Salicornia pacifica (NWI: Sarcocornia pacifica)	3	N	OBL
2. Carpobrotus edulis	5	N	UPL
3. Mesembryanthemum nodiflorum	15	Y	FAC
4. Salsola tragus (dead/alive)	1	N	FACU
5. Solanum douglasii	1	N	FAC
6. Atriplex semibaccata	2	N	FAC
7. Medicago polymorpha	<1	N	FACU
8.			
Total Cover:	28		
Woody Vine Stratum (Plot size: 10ft radius)			
1. N/A			
2.			
Total Cover:			
% Bare Ground in Herb Stratum: 5	% Cover of Biotic Crust:	0	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiplied by:	
OBL species	3	x1 =	3
FACW species	65	x2 =	130
FAC species	17	x3 =	51
FACU species	3	x4 =	12
UPL species	5	x5 =	25
Column Totals:	93 (A)		221 (B)

Prevalence Index = B/A = 2.376344086

Hydrophytic Vegetation Indicators:

☑ Dominance Test is >50%

☑ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? ☑ Yes ☐ No

Remarks:

Suaeda taxifolia/Mesembryanthemum nodiflorum community.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3.5	10YR 3/2	100	N/A				SaLo	
3.5-4.5	10YR 4/2	100					SaLo	
4.5-12	10YR 2/2	100					SaLo	
4.5-12	Rust	<1					SaLo	Two <1mm specks of rust color on soil clumps/rock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

Soils may be influenced by prior stock piling/storage of estuarine spoils and water that were deposited on the site in 2005 and remained there for 2-3 years. May not be significant anymore? Naturally problematic sandy soil. Shovel refusal at 12 inches. Rocks throughout but not as much as Sample Point 1. Soil is more compacted and harder to get through than Sample Point 1. No asphalt-like rocks. SaLo due to <1 inch ribbon but feels and sticks together like there's a little clay. Lighter layer 3.5-4.5 goes all around the pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizopheres along Living Roots (C3)
- ☐ Presence Of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? ☐ Yes ☑ No Depth (inches): _____

Water Table Present? ☐ Yes ☑ No Depth (inches): _____

Saturation Present? (Includes capillary fringe) ☐ Yes ☑ No Depth (inches): _____

Wetland Hydrology Present? ☐ Yes ☑ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC Neutral = 1:0. Conditions are same for 3/12/15 and 4/12/15.