Resource Management Plan
for
Wilderness Gardens Preserve
San Diego County





June 2010

PARKS AND RECREATION
COUNTY OF SAN DIEGO
Where having fun is natural.

WILDERNESS GARDENS PRESERVE

RESOURCE MANAGEMENT PLAN

June 30, 2010

Approved by:

Renee Hilton, Assistant Director
County of San Diego
Department of Parks and Recreation

6/30/10
Date

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Appendix A Baseline Biodiversity Report for the Wilderness Gardens Preserve in Unincorporated San Diego County, California

Appendix B Cultural Resource Inventory of the Wilderness Gardens Preserve Project for the County of San Diego Parks Department, San Diego County, California

1.0 INTRODUCTION

Wilderness Gardens Preserve (Preserve) is an approximately 732.4-acre[1] open space preserve comprised of six contiguous parcels (707.6 acres) and one separate parcel (24.8 acres). The Preserve is located at 14209 Highway 76, Pala an unincorporated community of San Diego County (County). The County designated the Wilderness Gardens Preserve in 1973 and it is the oldest open space preserve in San Diego County. The Preserve consists of recreational amenities including a staging area, small picnic area and several hiking trails, as well as areas of high value natural communities. The Preserve is included in the County of San Diego's North County Multiple Species Conservation Program (North County MSCP) preserve system.

1.1 Purpose of Resource Management Plan

This Resource Management Plan (RMP) has been prepared as a guidance document to manage and preserve the biological and cultural resources within the Preserve, and to provide Area-Specific Management Directives (ASMDs) pursuant to the requirements of the Draft North County MSCP Plan (North County MSCP Plan) and Draft Framework Resource Management Plan (Framework RMP) (County 2009). More specifically, this RMP will:

a) guide the management of vegetation communities/habitats, plant and animal species, cultural resources, and programs described herein to protect and, where appropriate, enhance biological and cultural values;

b) serve as a guide for appropriate public uses of the property;

c) provide a descriptive inventory of the vegetation communities/habitats, plant and animal species, and the archaeological and/or historical resources that occur on this property;

d) establish the baseline conditions from which adaptive management will be determined and success will be measured;

e) and provide an overview of the operation and maintenance requirements to implement management goals.

Chapter 5 of this RMP includes ASMDs for Wilderness Gardens Preserve.

It is recognized that County-owned land is only a small portion of the MSCP preserve system. The County does ensure management of other lands that are

[1] The assessor's parcel data list the Preserve to be 739.61 acres; however, calculations generated from GIS data show the Preserve as 732.4. Therefore, this RMP references the property as 732.4 acres.

dedicated as a conservation easement for discretionary project mitigation through requiring land developers to prepare Resource Management Plans. The County will spearhead a larger coordinated effort to ensure that other conserved lands in the area that make up the MSCP preserve are also being monitored and managed consistent with this RMP, and the overall goals of the MSCP Plan (City of San Diego 1998) and North County MSCP Plan once it is finalized.

1.1.1 MSCP Background

The MSCP is a comprehensive habitat conservation planning program and one of three subregional habitat planning efforts in San Diego County which contribute to preservation of regional biodiversity through coordination with other habitat conservation planning efforts throughout southern California. Agencies participating in the MSCP include the County, other local jurisdictions, the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). Local jurisdictions and special districts implement their respective portions of the MSCP Plan (City of San Diego 1998) through Subarea plans, which describe specific implementing mechanisms for the MSCP.

The combination of the subregional MSCP Plan and Subarea plans serve as a Multiple Species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA), the Natural Community Conservation Planning (NCCP) Program pursuant to the California NCCP Act of 1991 and the California Endangered Species Act (CESA). Wilderness Gardens Preserve is owned and operated by the County and is included within the North County MSCP Plan preserve system.

1.1.2 North County MSCP Plan

The County is preparing the North County MSCP Plan as a habitat conservation planning effort which will expand the County's MSCP into the northwestern unincorporated areas of the County. This North County MSCP Plan will help conserve habitat that benefits numerous species, including the 63 covered species. This North County MSCP Plan will also enhance the region's quality of life by providing the residents of San Diego County with passive recreational and educational opportunities as well as a functioning natural environment in which to live. The North County MSCP Plan area encompasses approximately 489 square miles in and around the unincorporated communities of Bonsall, De Luz, Fallbrook, Harmony Grove, Lilac, Pala, Pauma Valley, Rainbow, Ramona, Rincon Springs, Twin Oaks Valley, and Valley Center.

The North County MSCP Plan goal is to preserve 106,780 acres of natural lands in a network of preserves. The North County MSCP preserve system will be assembled by a variety of means, beginning with the conservation and management of existing public lands.

1.1.3 Draft Framework Resource Management Plan and Area-Specific Management Directives

According to Section 6.3.1 of the MSCP Plan the County is required to prepare a Framework RMP for the portion of the North County MSCP preserve within the North County MSCP Plan's boundaries. The Framework RMP provides general direction for all preserve management and biological monitoring within the preserve system.

The Framework RMP also incorporates a requirement for the subsequent preparation and implementation of ASMDs to address management and monitoring issues at the site-specific level. ASMDs will be developed in accordance with the Framework RMP using the information gained during the biological and cultural resources baseline surveys. Chapter 5 of this RMP includes ASMDs for Wilderness Gardens Preserve.

1.2 Implementation

1.2.1 Management Approach

A key concept of the MSCP is the use of "Adaptive Management Techniques" directed at the conservation and recovery of individual species. This term refers to modifying management actions when monitoring of the resources indicates that changes are needed. It is particularly useful where there is uncertainty regarding the efficacy of certain management measures and/or the needs of target species. Adaptive management and an associated monitoring program are designed to inform land managers of the status and trends of covered species, natural communities, and landscapes in a manner that provides data to allow informed management actions and decisions.

It is anticipated that the recommended management actions provided in this RMP will be dynamic in nature. Applying adaptive management, the effectiveness and appropriateness of recommended management actions would be determined through review of management goal and objective achievement so that changes can be made to management directives and implementation measures as needed. Adaptive management techniques depend upon the specific issues impacting the resources. Therefore, the techniques herein may be subject to change or revisions when applied. Additionally, the monitoring protocols/requirements for MSCP covered species and habitats are being revisited by participants of the MSCP and are subject to change based on adoption of updated protocols. It is anticipated that this RMP will be revised once every five years, as needed. The RMP may be revised on a shorter time scale if there is a change in circumstance, for example, acquisition of additional Preserve land.

1.2.2 Responsible Parties/Designation of Land Manager

The County is responsible for management, biological monitoring, and meeting the conditions of MSCP coverage on County-owned lands conserved as part of the MSCP preserve system. The Preserve is fully owned and operated by the County

Department of Parks and Recreation (DPR) and the DPR District Park Manager assigned to the Preserve is the land manager. The DPR District Park Manager and Resource Management Division staff will be responsible for the implementation and enforcement of the RMP.

The Preserve is located in the management district of one supervising park ranger, one park ranger, and one seasonal employee. Park rangers patrol the Preserve daily. It is expected that many of the implementation measures, especially the maintenance tasks, will be carried out by the rangers who are most familiar with the site and currently patrol the Preserve.

1.2.3 Regulatory Context

The County's park rangers manage County parks/preserves and enforce Preserve rules and regulations pursuant to San Diego County Code of Regulatory Ordinances Title 4, Division 1, Chapter 1 County Parks and Recreation. In addition, per County Code of Regulatory Ordinance Sec 41.111, 41.112, 41.113, all wildlife, plant, historical artifacts, and geologic features are protected and are not to be damaged or removed. Any person who violates any provision of Sections 41.111, 41.112, 41.113 is guilty of a misdemeanor as provided in Sections 11.116, 11.117, and 11.118 of this Code, punishable by fines up to $2,500 a day for each day the person violates these sections. The park rangers will contact law enforcement who will cite the offending individual. In addition, if an individual does not comply with signs within a facility and ignores park ranger instructions, the individual could potentially be charged with a misdemeanor by law enforcement.

1.2.4 Limitations and Constraints

Implementation and the timing of many of the management directives will be based on funding in any fiscal year and will be determined through the DPR Operations Division who will prioritize park/preserve needs in their work plan for the fiscal year based on the priority of the directives in the RMP for each park/preserve.

2.0 PROPERTY DESCRIPTION

2.1 Property Location

Wilderness Gardens Preserve is located in unincorporated San Diego County at 14209 Highway 76, Pala, California 92059. The Preserve is immediately south of State Route (Highway) 76/Pala Road between Pauma Ridge Road and Pala Mission Road (Figures 1 & 2). The Preserve is within the Pala, California U.S. Geological Survey (USGS) quadrangle, Township 9 South, Range 1 West, Section 31; Township 9 South, Range 2 West, Section 36; and Township 10 South, Range 1 West, Section 6 (Figure 3). The Assessor's Parcel Numbers for the Preserve are: 110-190-04; 110-190-05; 110-190-08; 110-190-12; 110-190-15; 110-190-17; and 111-070-22.

2.2 Geographical Setting

The Preserve is located in northwestern San Diego County in the San Luis Rey River Valley adjacent to Pala Mountain. Pala Mountain extends from the western Preserve boundary sloping downward east to the San Luis Rey River that flows through the northeastern portion of the Preserve. A steep cliff carved by the San Luis Rey River occurs along the northern Preserve boundary. The upper terrace of the river valley occurs to the north and east of the Preserve and is relatively flat and dominated by agricultural fields. The valley floor transitions to rolling hills further to the north and east.

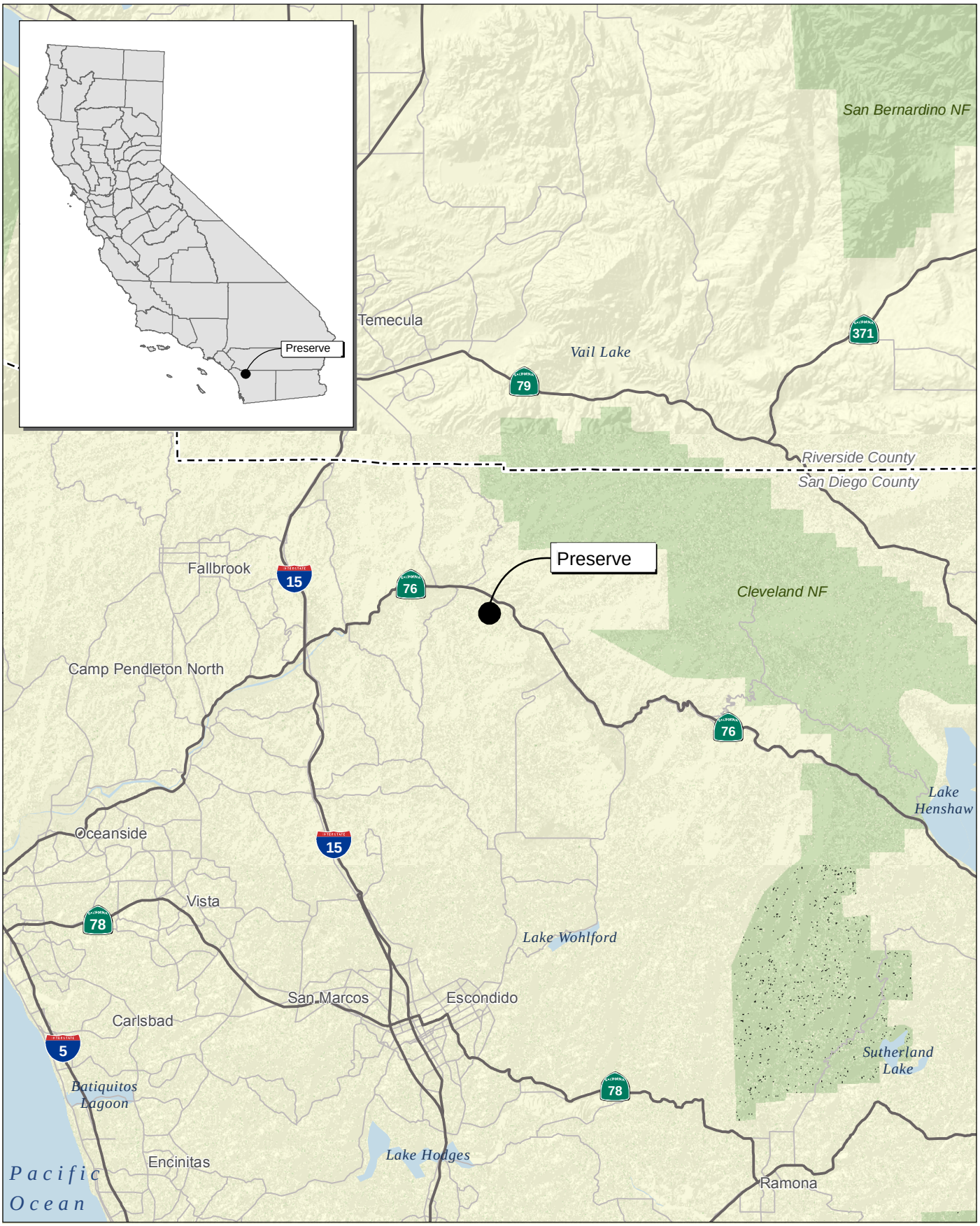
The Preserve ranges in elevation from 500 to 2,000 feet above mean sea level (AMSL) with the lowest elevation occurring along the San Luis Rey River and the highest elevation occurring in the southwestern corner along the ridge of Pala Mountain. A man-made pond occurs near the center of the Preserve, and several historic features are scattered throughout the Preserve. The Preserve is surrounded by vacant undeveloped land within the Pala Indian Reservation on the south and west, and by agricultural land on the north and east.

2.2.1 Site Access

The Preserve is open to the public between 8:00 a.m. and 4:00 p.m. Friday through Monday. The Preserve is closed from August 1 to September 4, annually, due to high temperatures. The main entrance to the Preserve is located along the eastern boundary and is accessible via a private road off of Highway 76/Pala Road, east of Interstate 15.

2.2.2 MSCP Context

The Preserve is located within the Upper San Luis Rey River Linkage and is designated as Pre-Approved Mitigation Area (PAMA) and Hardline Preserve (Figure 4). The Preserve is surrounded by vacant undeveloped tribal lands to the south and



Source: Census 2000 Data, The CaSIL, MBA GIS 2009.

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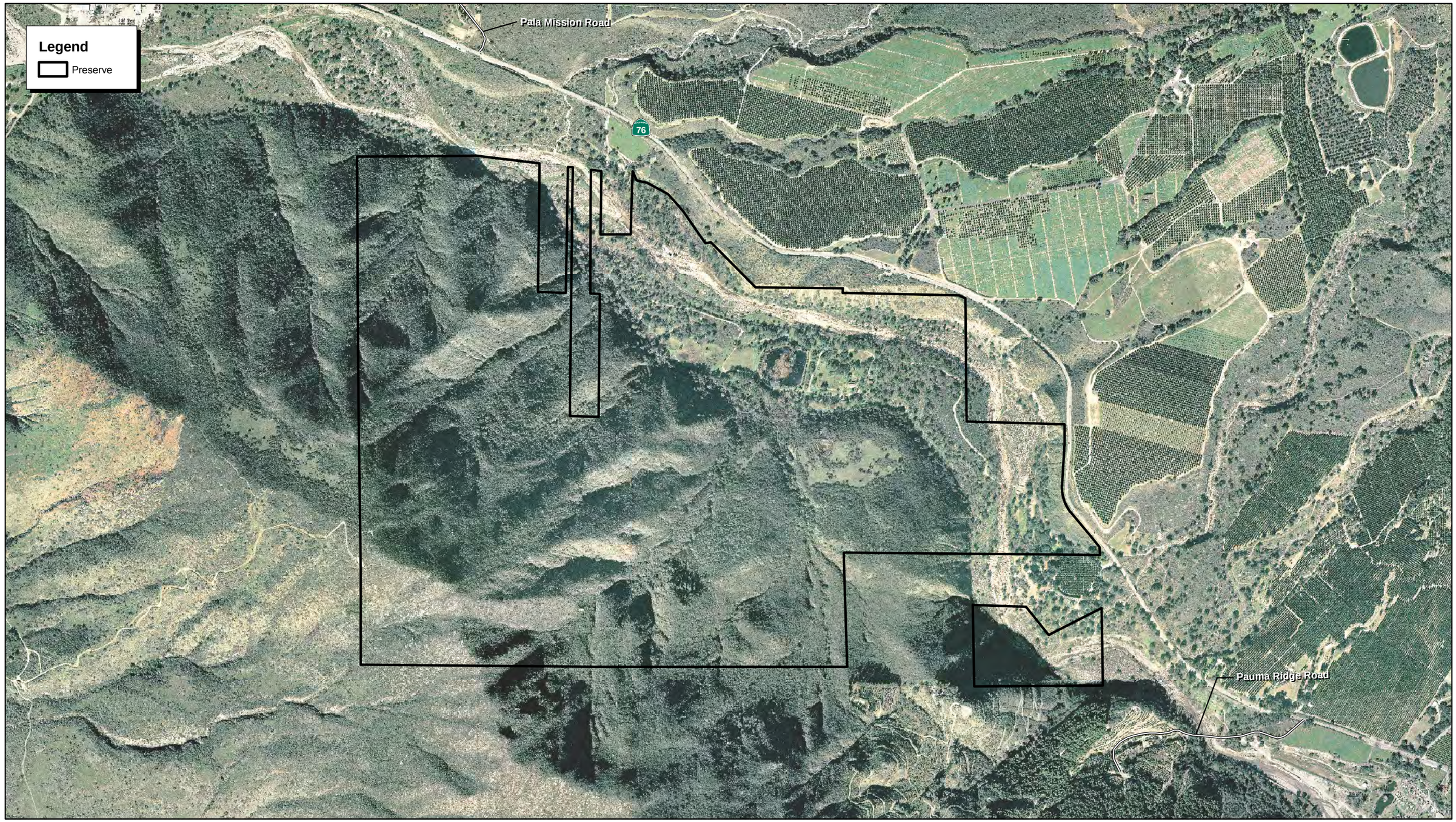
Michael Brandman Associates

Figure 1
Regional Location Map



Source: San Diego North Aerial, 2005.

1,000 500 0 1,000
Feet

Michael Brandman Associates

Figure 2
Local Vicinity Map
Aerial Base

Legend
Preserve

WILDERNESS GARDENS PARK

PARK BOUNDARY

Aqua Tibia Ranch

PALA INDIAN RES

SAN LUIS REY

RIVER

Source: TOPO! USGS Pala (1996) 7.5' DRG.

1,000 500 0 1,000
Feet

Michael Brandman Associates

Figure 3
Local Vicinity Map
Topographic Base

west, and agricultural lands and scattered rural residences designated as PAMA to the northeast and southwest.

2.3 Physical and Climatic Conditions

2.3.1 Geology and Soils

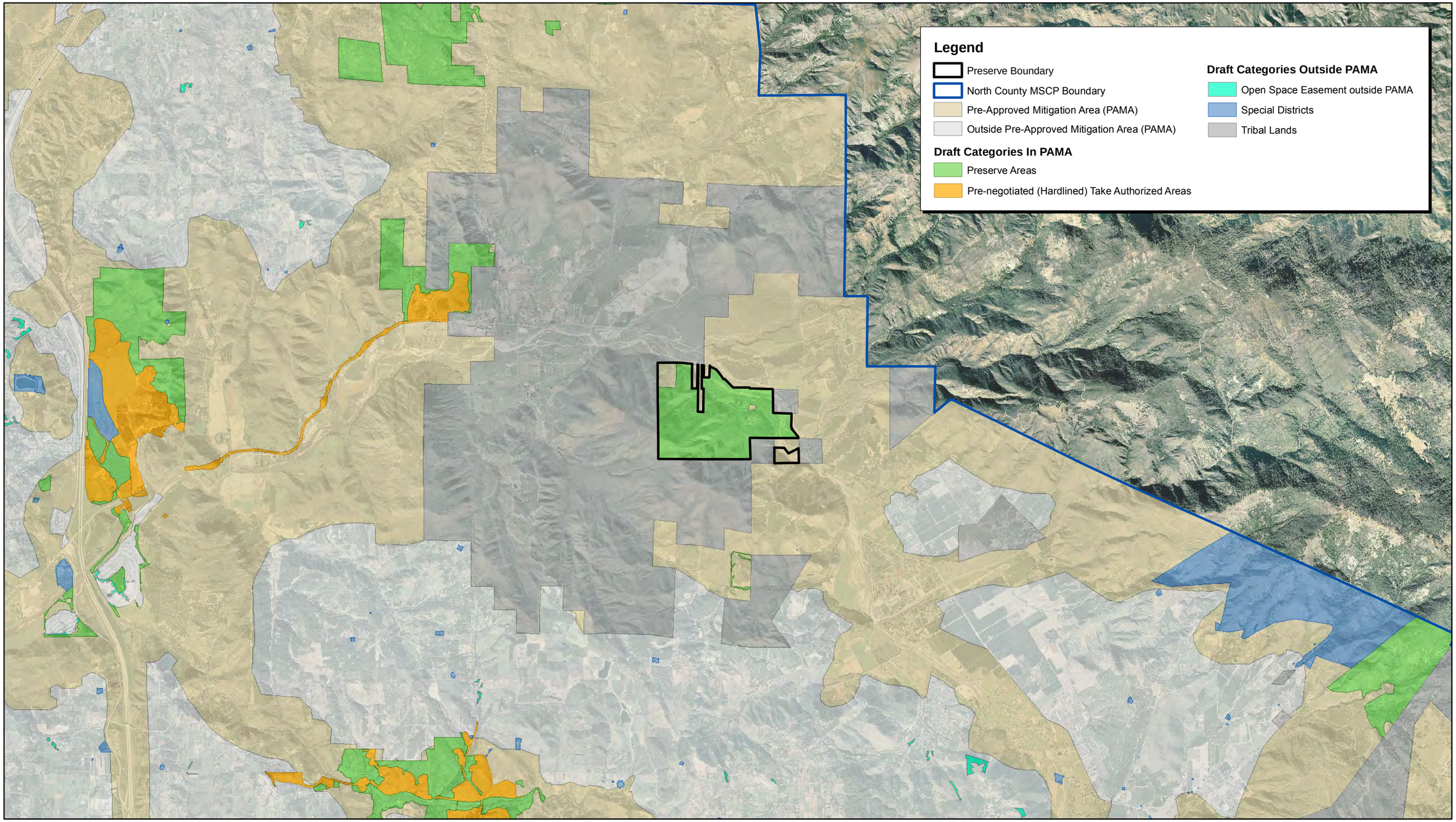
The Preserve contains a segment of the San Luis Rey River and floodplain that are filled with Holocene alluvial deposits. During the historic period, the San Luis Rey River exhibited continual flows and grassy bottomlands all the way to Pala (Wolcott 1976), but is now an intermittent stream. Many sections of the floodplain in the Preserve are now stabilized because of a reduction in flooding potential due to upstream flood control structures, such as the dam at Lake Henshaw, and diversion for agricultural use.

Steep canyon sides lead to benches to the north and east. These benches consist of older Pleistocene fans and landslide slumps, and many significant prehistoric sites have been found on them. The river generally exhibits water only during the rainy season. This is due to increased water usage upstream to supply irrigation water to the numerous farms and orchards throughout the valley. The sides and ridge tops of Pala Mountain may exhibit mineral-bearing deposits given its nearness to the mineralized dikes of Tourmaline Queen Mountain to the north, but because the property has remained in the hands of the State, Tribal and Federal governments, access to mineral resources discoveries is limited.

The Preserve contains eight soil-mapping units belonging to six soil series (USDA 1973). The majority of the Preserve consists of Cieneba-Fallbrook rocky sandy loam (Figure 5). A brief description of each soil series and associated soil mapping unit that occur on the Preserve is provided below.

Anderson Series

The Anderson series consists of somewhat excessively drained very gravelly sand loams that formed in stony, cobbly, and granitic and schist alluvium. Soils in this series occur on fans, flood plains and valley foot slopes, and vary in texture from gravelly loam to very gravelly sandy loam. The soil mapping unit found within the Preserve, Anderson very gravelly sand loam 5 to 9 percent slopes, exhibits slow to medium runoff with moderately rapid permeability. This soil series occurs within the central portion and northeast corners of the Preserve and supports native grassland and Diegan coastal sage scrub habitat.



Source: San Diego North Aerial, 2005. SANGIS Data. MBA Field Survey and GIS Data, 2009.

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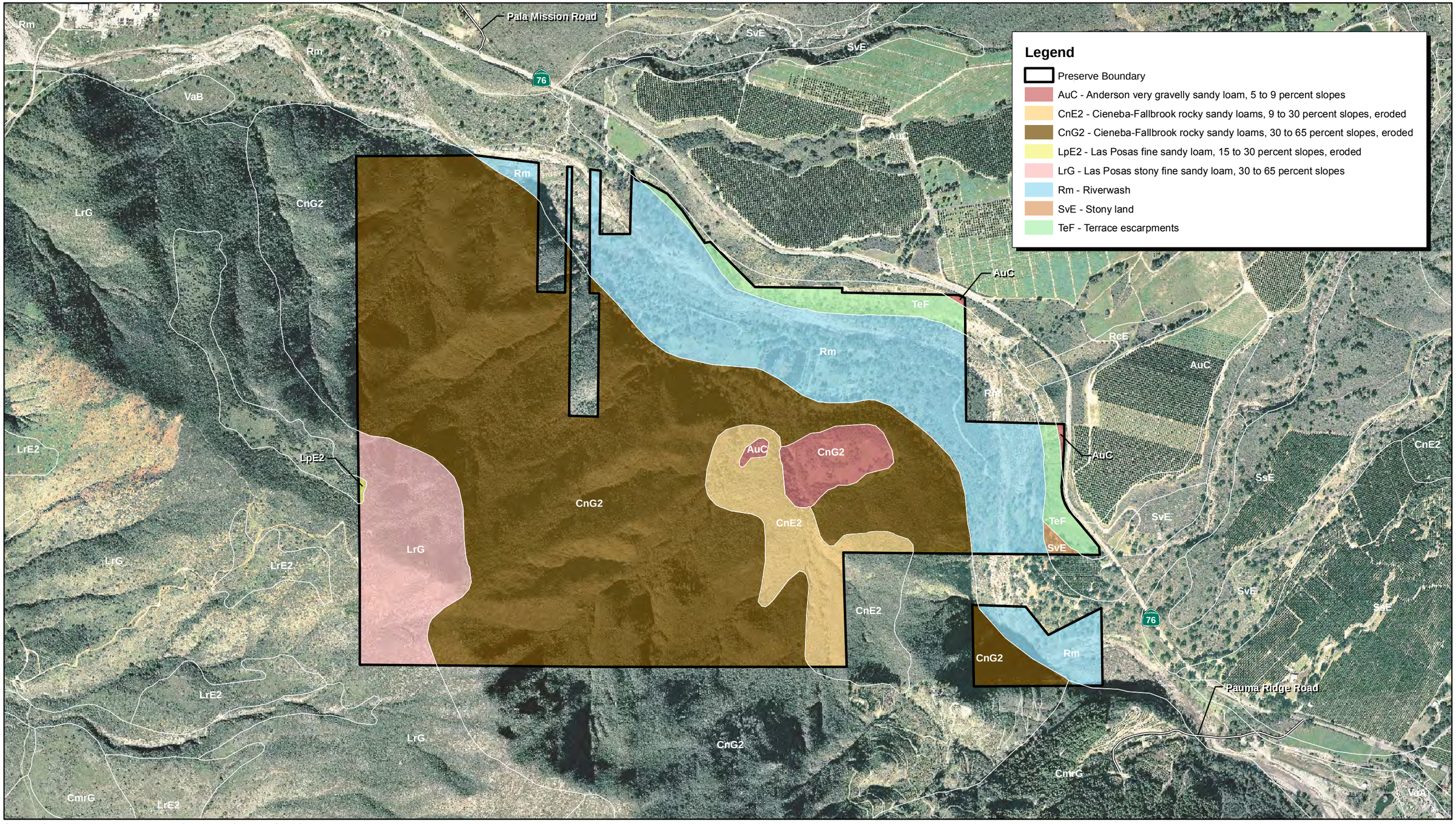
Miles

Michael Baker International Associates

Figure 4
North County MSCP Designations and Conserved Lands



Source: San Diego North Aerial, 2005. San Diego County USDA Soils Data.

NORTH

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Michael Brandman Associates

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Figure 5
Soils Map

COUNTY OF SAN DIEGO PARKS • WILDERNESS GARDENS PRESERVE

Cieneba Series

The Cieneba series consist of excessively drained, very shallow to shallow coarse sandy loams. These soils formed in material weathered in place from granitic rock. They are on rolling to mountainous uplands, have slopes of 5 to 75 percent, and occur on uplands in mountainous terrain with shallow to steep slopes. The Preserve contains two soil mapping units of the Cieneba series: Cieneba-Fallbrook rocky sandy loams, 9 to 30-percent slopes; and Cieneba-Fallbrook rocky sandy loams, 30 to 65-percent slopes. On the Preserve, these soil mapping units support dense stands of southern mixed and granitic chamise chaparral at the top of Pala Mountain.

Las Posas Series

The Las Posas series consists of well-drained, moderately deep stony fine sandy loams that have clay subsoil. These soils occur on uplands in mountainous terrain with shallow to steep slopes. This soil series varies in texture from fine sandy loam to heavy clay and may have stony sections. Las Posas soils exhibit medium to rapid runoff with slow permeability. The Preserve contains two soil mapping units of the Las Posas series: Las Posas fine sandy loam, 15 to 30-percent slopes; and Las Posas stony fine sandy loam, 30 to 65-percent slopes. On the Preserve, this soil series supports dense stands of southern mixed chaparral along the ridgeline of the Pala Mountains in the southwest corner of the Preserve.

Riverwash

Riverwash occurs in intermittent stream channels and consists of material that is typically sandy, gravelly, or cobbly. It is excessively drained and rapidly permeable. While many riverwash areas are barren, alluvial plant species may be scattered throughout the channel, and scattered trees and shrubs may be present on the banks. On the Preserve, riverwash is located within the San Luis Rey River and floodplain, which supports low growing alluvial scrub and scattered mule fat (*Baccharis salicifolia*) in the channel, with western sycamore (*Platanus racemosa*) and Freemont cottonwood (*Populus fremontii*) trees lining the banks.

Stony Land

Stony land consists of areas with stones, boulders, and cobble, but little or no vegetation. Stony land is often found at the base of cliffs on strongly sloping to very steep sloping landforms. Stony land occurs as a small intrusion in the southeast corner of the Preserve on a very steep slope adjacent to the San Luis Rey River.

Terrace Escarpments

Terrace escarpments consist of steep to very steep escarpments and escarpment-like landforms with little or no vegetation, and high potential for erosion. Terrace

escarpments occur on the nearly even fronts of terraces and escarpment-like landforms occur between narrow floodplains and adjoining uplands. On the Preserve, terrace escarpments bound the eastern border of the San Luis Rey River floodplain, and support a very sparse mixture of sage scrub species.

2.3.2 Climate

San Diego County has a Mediterranean to semi-arid climate, which is characterized by warm, dry summers and mild wet winters. Although temperatures can drop below freezing, it is typically for a short time and it is not likely that this area sustains any significant snowstorms. The growing season is generally considered to be year round.

Regional temperature data recorded at the Temecula (KCATEMEC5) weather station (coordinates: +33.302763, -117.01255) for 2006 through 2009 average between a low of 25 degrees Fahrenheit (°F) and a high of 85°F for the month of January. The month of June ranges from a low of 48°F to a high of 101°F. The average precipitation ranges from 0.15 and 5.90 inches in January to a range of 0.00 to 0.20 inches in June.

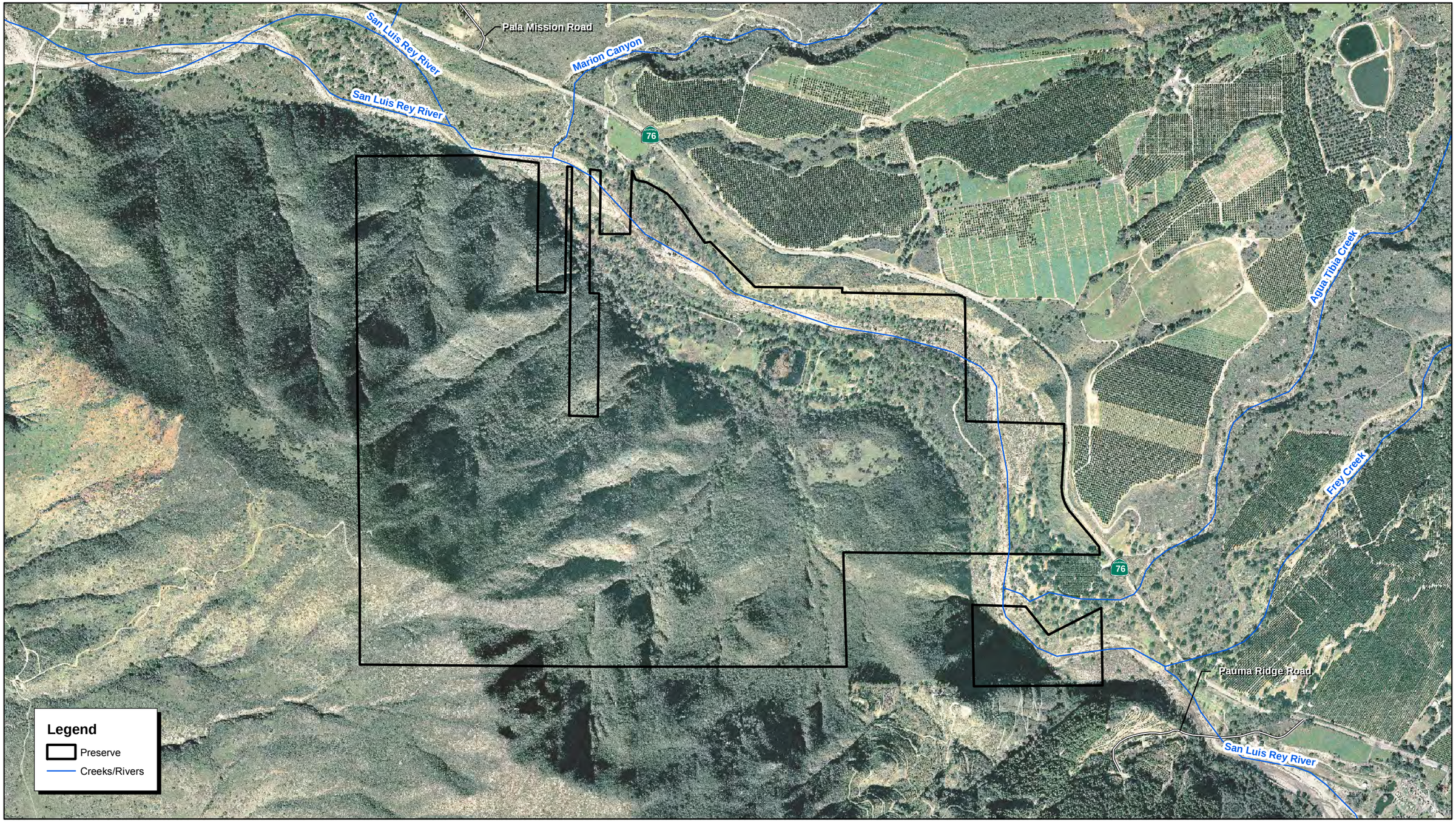
Generally, the prevailing wind patterns flow in a southwest to westerly pattern under the typical Pacific high-pressure system. However, in this southern California location, Santa Ana winds generally result from a large high-pressure cell over the Great Basin and a low-pressure trough located off the southern California coast.

Winds generated from this combination of events create the Santa Ana winds that are very hot and dry. Wind velocities can reach speeds greater than 60 miles per hour (Sugihara et al. 2006). These winds are often erratic in direction and velocity, but generally flow in a north, northeasterly, and/or eastern direction.

The fire season for the region generally runs June through October. This period can be extended as Santa Ana wind conditions occur later in the season. While the typical wind conditions usually occur during September and October, November and December can be additional months for such winds, extending the fire season to much later in the year.

2.3.3 Hydrology

The Preserve is located within the San Luis Rey River Watershed. Specifically, the Preserve lies within the Pala (903.21) and Pauma (903.22) hydrologic subareas of the Monserate hydrologic area. The San Luis Rey River is the main drainage feature and flows through the Preserve along the northern boundary. Frey Creek and Agua Tibia Creek flow into San Luis Rey River just upstream of the Preserve from the north. Marion Canyon Creek flows into San Luis Rey River just downstream of the Preserve also from the north (Figure 6).



Source: San Diego North Aerial, 2005. SANDAG and SANGIS Data. MBA Field Survey and GIS Data, 2009.

1,000 500 0 1,000
Feet

Michael Baker International

Figure 6
Hydrology Map

Designated beneficial uses for the San Luis Rey River in this area include: municipal and domestic supply; agricultural supply; industrial service supply; industrial process supply; contact and non-contact water recreation; warm freshwater habitat; cold freshwater habitat; and wildlife habitat (California RWQCB 1994).

2.3.4 Fire History

The Preserve has experienced one major wildfire in 1953, which burned 696 acres leaving only two small unburned areas along the river bottom (Figure 7). No wildfires of major consequence have occurred since. The Preserve is located within a fuel management priority area (San Luis Rey West) as identified by the Forest Area Safety Task Force (County of San Diego 2009c). The California Department of Forestry and Fire Protection (CAL FIRE) is the responsible agency for fire suppression within the Preserve.

2.4 Land Use

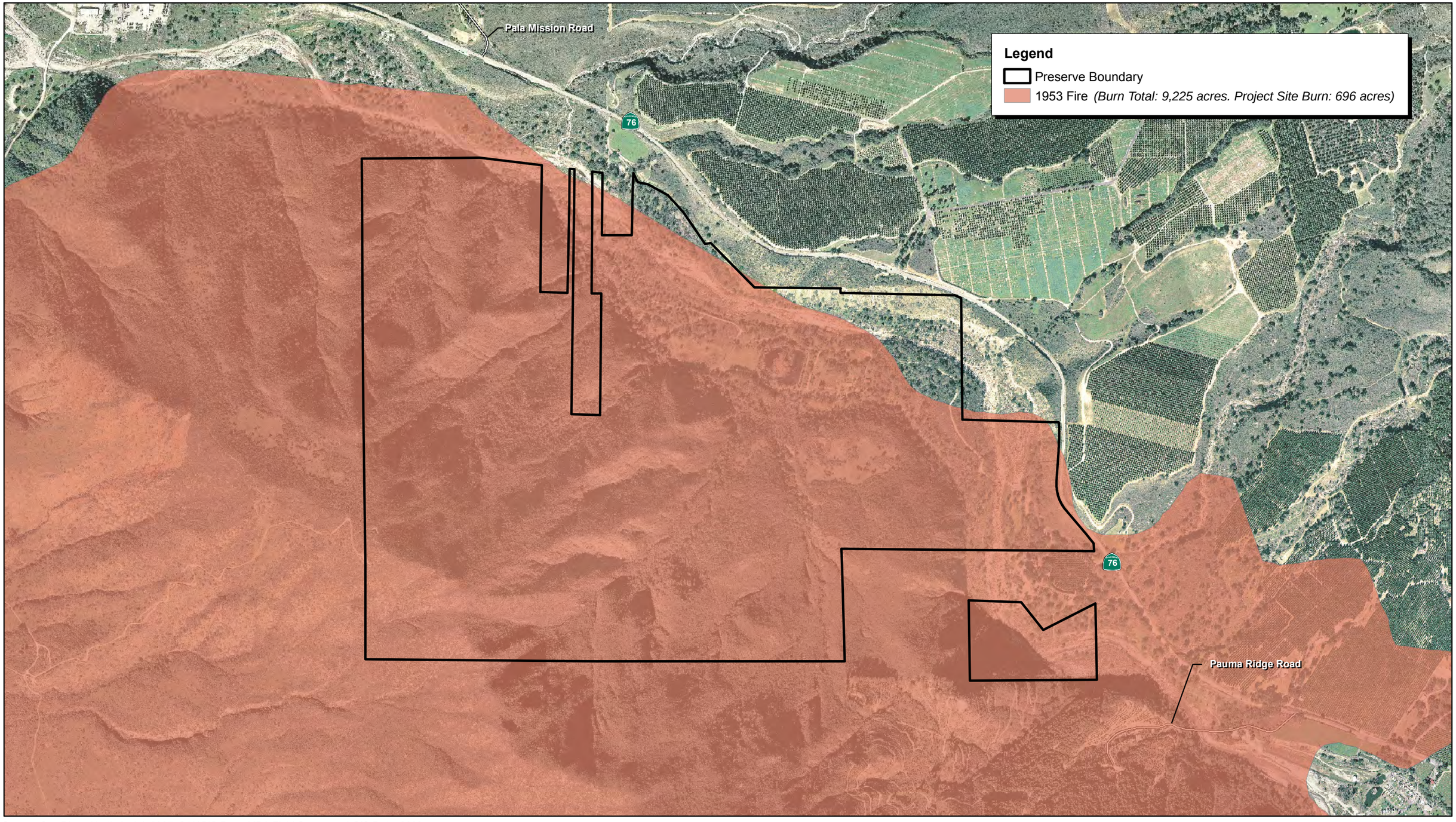
2.4.1 On-Site Land Use

The Preserve is an approximately 732.4-acre open space preserve. The Preserve contains natural boundaries or existing fencing. The majority of the northern boundary has steep, highly eroded cliffs and a barbed-wire fence that runs along the Highway 76 right-of-way outside the Preserve's boundary. There is an old remnant fence along portions of the western boundary of the Preserve. The gated vehicle entrance is located at the eastern corner of the property along a private road off of Highway 76/Pala Road and provides access to the day-use area of the Preserve. Chain link fencing runs from the entrance gate to the highway. In addition, there is fencing along the southern boundary adjacent to the Preserve entrance which is owned and maintained by the adjacent landowner.

The day-use area is comprised of only a small, perhaps 100-acre, section along the south side of the river. A paved road leads from the entrance to the staging area which provides picnic tables, portable restrooms, and access to the existing trail system (Figure 8). The four-mile trail system consists of dirt roads and nature trails that allow the public to access the northcentral portion of the Preserve, which contains a man-made pond and the historic Sickler's grist mill. There is also a ranger station on site as well as several structures referred to as the Long-Boddy Complex (see Section 4.0). The mountainous landscape south of this area is not accessible, is extremely steep, and contains dense native vegetation.

2.4.2 Adjacent Properties

The south and west boundaries of the Preserve are immediately adjacent to vacant, undeveloped Pala Indian Reservations lands. The community of Pala and Pala Resort and Casino are approximately one mile west of the Preserve. Agricultural lands, primarily orchards/vineyards and limited field crops, and scattered rural residences are located northeast and southwest of the Preserve.



Source: San Diego North Aerial, 2005. SANGIS Data. MBA Field Survey and GIS Data, 2009.

Michael Baker Jr. Inc. Michael Baker International Associates

1,000 500 0 1,000
Feet

Figure 7
Fire History Map

2.4.3 Easements or Rights

Three SDG&E distribution easements cross through the north central and eastern boundaries of the Preserve within APN 110-190-17. SDG&E conducts operation and maintenance activities for their facilities in accordance with the SDG&E Subregional NCCP (SDG&E 1995). The SDG&E NCCP was approved by the Wildlife Agencies and is consistent with this RMP.

2.5 Trails

The DPR currently maintains five active trails within the Preserve that provide approximately four miles of easy to moderate hiking within the north central portion of the Preserve south of the river (Figure 8). These trails include several paved and unpaved dirt roads which also serve to provide vehicle access to the administrative buildings and for maintenance by park rangers.

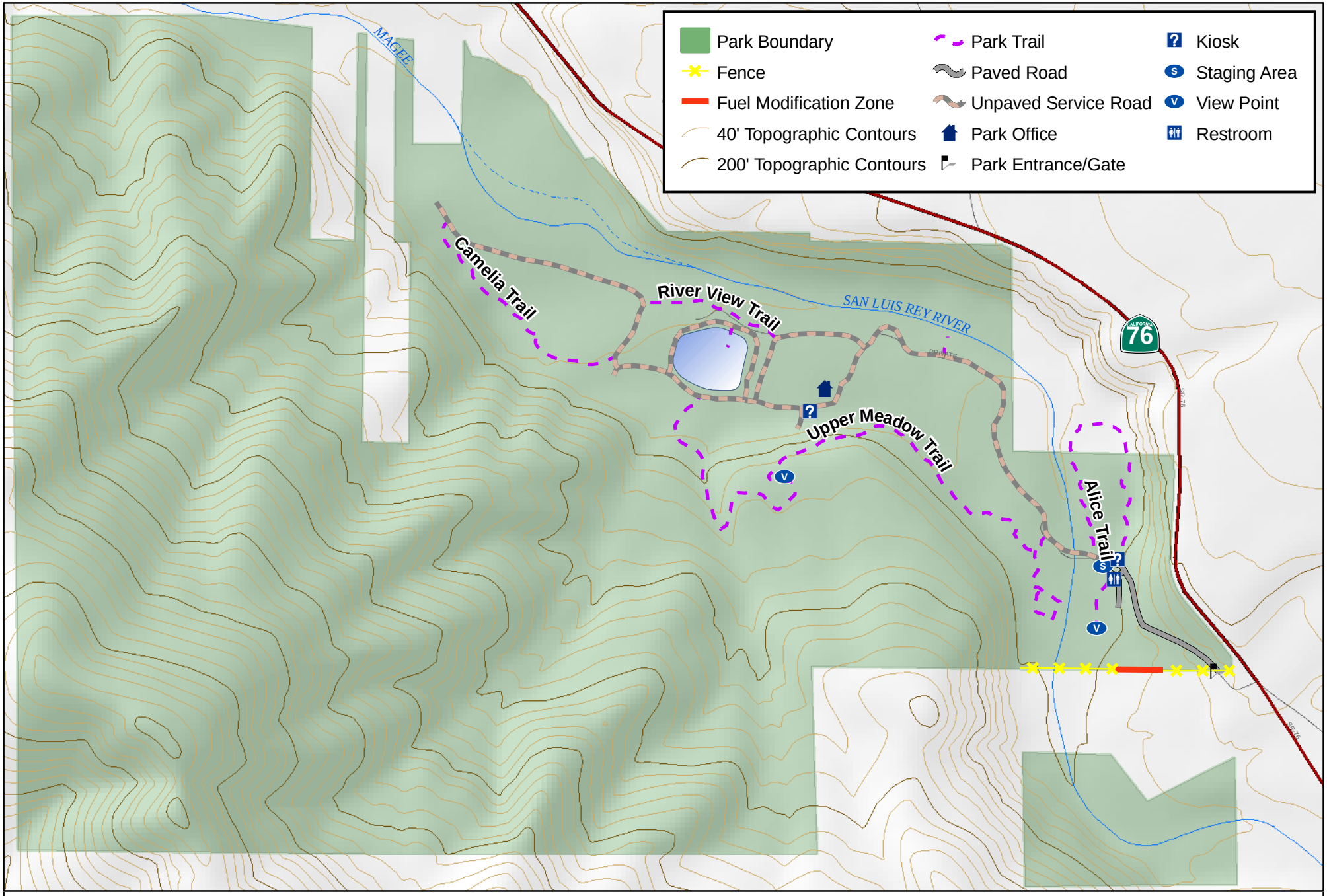


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Figure 8
Land Use Map
Wilderness Gardens

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3.0 BIOLOGICAL RESOURCES

Baseline biological surveys were conducted on the Preserve in the late spring and summer of 2009 (May through September) by Michael Brandman Associates (MBA). The results of these surveys can be found in the biological resources report entitled, *Baseline Biodiversity Report for the Wilderness Gardens Preserve in Unincorporated San Diego County, California*, dated April 16, 2010, and attached as Appendix A. The survey results were used in the preparation of this RMP.

The 2009 surveys documented 15 land cover types within the Preserve. Plant surveys detected a total of 169 plant species including two sensitive species, one of which is covered under the North County MSCP. Wildlife surveys, along with incidental observations, documented 161 wildlife species including 11 butterfly species, 68 other invertebrate species, one amphibian species, 11 reptile species, 47 bird species, and 23 mammal species. A total of 10 sensitive wildlife species were detected, including two covered under the North County MSCP.

3.1 Vegetation Communities/Habitat

Vegetation communities and land cover types present within the Preserve consist of chamise chaparral, dense coast live oak woodland, Diegan coastal sage scrub, disturbed habitat, freshwater marsh, mule fat scrub, native grassland, non-native grassland, non-vegetated channel, open coast live oak woodland, open water, non-native vegetation, southern mixed chaparral, southern riparian forest, and developed land (Figure 9, Table 1). A description of the vegetation communities and the dominant species detected are found below.

Table 1. Vegetation Communities/Habitat Types within the Preserve

Vegetation Community (Holland Code)	Acreage
Southern Mixed Chaparral (37120)	473.11
Granitic Chamise Chaparral (37210)	42.47
Dense Coast Live Oak Woodland (71162)	28.23
Open Coast Live Oak Woodland (71161)	74.90
Diegan Coastal Sage Scrub (32500)	38.08
Native Grassland (42100)	1.84
Non-Native Grassland (42200)	40.49
Southern Riparian Forest (61300)	2.12
Mule Fat Scrub (63310)	0.34
Freshwater Marsh (52400)	2.37
Non-Vegetated Channel (64200)	18.75
Open Water (64100)	1.05

Vegetation Community (Holland Code)	Acreage
Non-Native Vegetation (11000)	1.64
Disturbed Habitat (11300)	5.90
Developed Land (12000)	1.11
Total	**732.4**

The Preserve is dominated by southern mixed chaparral habitat with small inclusions of chamise chaparral. The northeastern portion of the Preserve is dominated by coast live oak woodland, Diegan coastal sage scrub, and non-native grasslands. The relatively homogenous chaparral habitat is strongly associated with similar soil structure and a lack of significant disturbance, such as fire, for approximately 50 years. The northeastern portion of the Preserve has a greater diversity of habitats as a result of previous disturbance.

Southern Mixed Chaparral (Holland Code 37120)

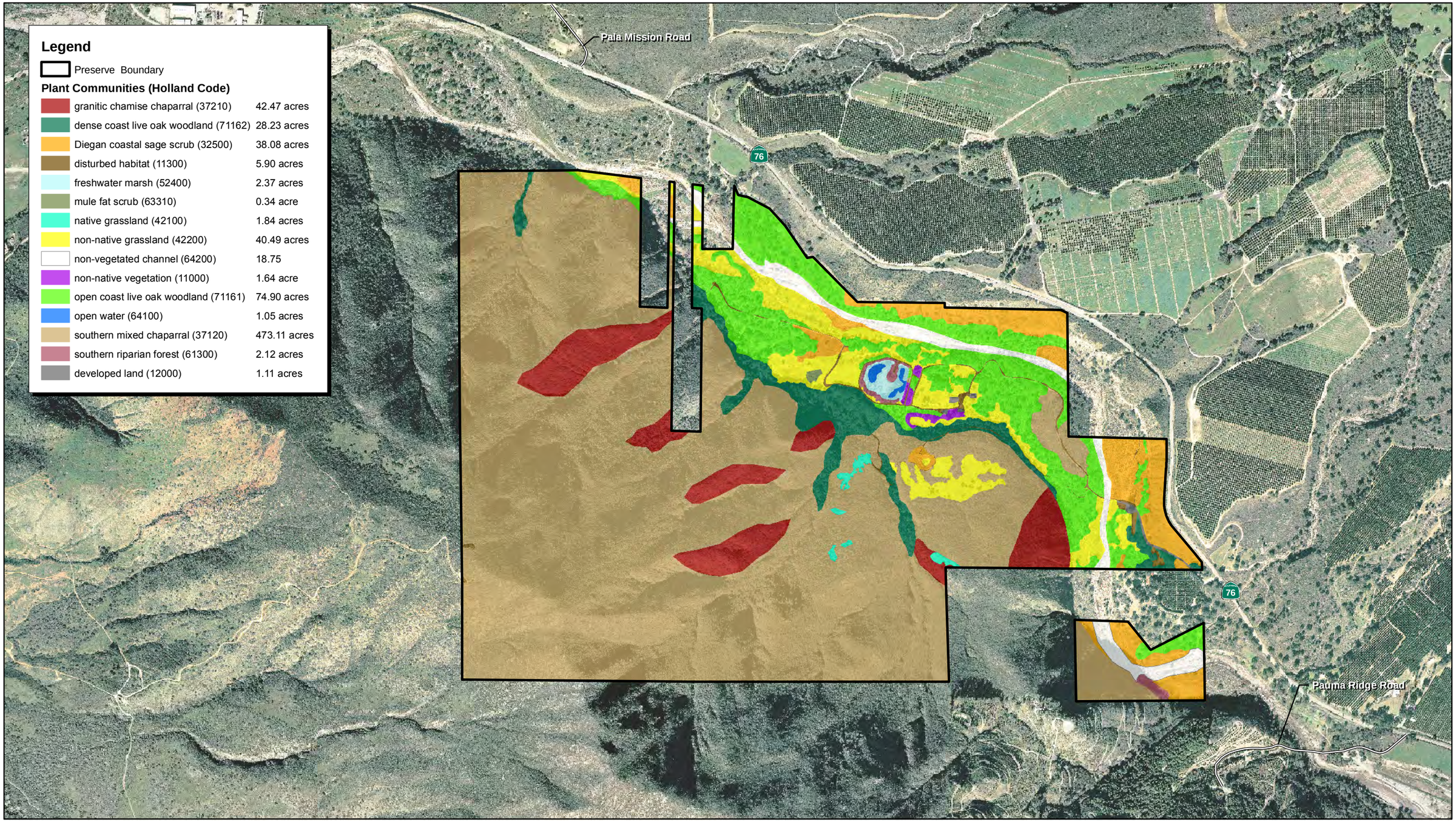
Southern mixed chaparral is a densely vegetated, tall-growing, shrub community that occurs on coastal and inland hillsides in Southern California. The community occurs in xeric climates and the vegetation typically reaches heights between five- and nine-feet high. Southern mixed chaparral is considered a Tier III Habitat under the North County MSCP (County of San Diego 2009b).

The Preserve is predominantly comprised of southern mixed chaparral totaling 473.11 acres. An absence of recent burn events or other disturbances has allowed the vegetation to grow very dense and tall. Plant species within this community on the Preserve are generally well mixed and commonly include: chamise (*Adenostoma fasciculatum*), scrub oak (*Quercus berberidifolia*), sugar bush (*Rhus ovata*), toyon (*Heteromeles arbutifolia*), mountain mahogany (*Cercocarpus montanus* var. *glaber*), Our Lord's Candle (*Hesperoyucca whipplei*), hoary leaf ceanothus (*Ceanothus crassifolius*), Eastwood's manzanita (*Arctostaphylos glandulosa*), bigberry manzanita (*Arctostaphylos glauca*), thick-leaved yerba santa (*Eriodictyon crassifolium*), California buckwheat (*Erigonum fasciculatum*), and virgins bower (*Clematis ligusticifolia*).

This vegetation community provides high quality habitat for various native species characteristic to Southern California, including wrentit (*Chamaea fasciata*), San Diego desert woodrat (*Neotoma lepida*), and southern Pacific rattlesnake (*Crotalus oreganus helleri*).

Granitic Chamise Chaparral (Holland Code 37210)

Granitic chamise chaparral is a relatively sparse one- to three-meter tall chaparral community strongly dominated by chamise and found on granitic soil. Granitic chamise chaparral often occurs throughout mid-elevations in the southern California region on xeric slopes and ridges, with adjacent more mesic sites. Granitic chamise



Source: San Diego North Aerial, 2005. MBA Field Survey and GIS Data, 2009.

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Michael Brandman Associates

Figure 9
Vegetation Communities Map

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COUNTY OF SAN DIEGO PARKS • WILDERNESS GARDENS PRESERVE

chaparral is considered a Tier III Habitat under the North County MSCP (County of San Diego 2009b).

The Preserve contains approximately 42.47 acres of granitic chamise chaparral, predominantly on north-facing slopes on the face of Pala Mountain. The granitic chamise chaparral within the Preserve is characterized by a strong dominance of chamise, scrub oak and sugar bush. Other common species observed in this community include toyon, mountain mahogany, Our Lord's Candle, California buckwheat, thick-leaved yerba santa, and bigberry manzanita.

This community provides suitable habitat for common ground and shrub nesting avian species such as wrentit and California towhee (*Pipilo crissalis*). In general, the habitat quality on site is considered moderate, and provides nesting and foraging opportunities for common wildlife species. This community is locally and regionally widespread and is generally not associated with any endemic species that are narrowly distributed or rare.

Dense Coast Live Oak Woodland (Holland Code 71162)

The dense coast live oak woodland plant community typically consists of moderate to densely vegetated woodland dominated by coast live oak trees (*Quercus agrifolia*). These evergreen trees reach 30 to 80 feet in height and usually occur on north-facing slopes or south-facing slopes within shaded ravines. Dense coast live oak woodland is considered a Tier I Habitat under the North County MSCP (County of San Diego 2009b).

The Preserve contains 28.23 acres of dense coast live oak woodland, occurring within several stands of oak trees along the northeastern facing slopes near the base of Pala Mountain. Coast live oak trees dominate the tree canopy, which subsequently provides a deep layer of leaf litter beneath; however, several shrub and herbaceous plant species persist in the lower canopy. The species observed include toyon, creeping snowberry (*Symphoricarpos mollis*), and poison oak (*Toxicodendron diversilobum*).

The coast live oak woodland on the Preserve provides suitable habitat for native wildlife species common in dry, wooded areas, such as acorn woodpecker (*Melanerpes formicivorus*), western scrub jay (*Aphelocoma californica*), and great horned owl (*Bubo virginianus*).

Open Coast Live Oak Woodland (Holland Code 71161)

The open coast live oak woodland plant community typically consists of moderate to sparsely vegetated woodland dominated by coast live oak trees. This community is similar to the dense coast live oak woodland only it has a much more open canopy. Open coast live oak woodland is considered a Tier I Habitat under the North County MSCP (County of San Diego 2009b).

The Preserve contains a large stand of open coast live oak woodland, totaling 74.90 acres, along the upper terrace above the active San Luis Rey River channel. The tree canopy is dominated by coast live oak trees, which subsequently provides a much thinner layer of leaf litter than the closed canopy woodland. The species observed in the understory are commonly associated with non-native grasslands and include short-podded mustard (*Hirschfeldia incana*), California brome (*Bromus carinatus*), ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), foxtail brome (*Bromus rubens*) and rat-tail fescue (*Vulpia myuros*).

The open coast live oak woodland on the Preserve provides suitable habitat for acorn woodpecker, Nuttall's woodpecker (*Picoides nuttallii*), American kestrel (*Falco sparverius*), red-shouldered hawk (*Buteo lineatus*), and western fence lizard (*Sceloporus occidentalis*).

Diegan Coastal Sage Scrub (Holland Code 32500)

Diegan coastal sage scrub consists of low-growing, drought-deciduous and evergreen shrubs that occur in foothills throughout coastal southern California south into Baja California, below 3,000 feet AMSL. This community is typically located on sites with low moisture availability, such as steep, xeric slopes or clay-rich soils that release stored moisture slowly. Diegan coastal sage scrub is considered a Tier II Habitat under the North County MSCP (County of San Diego 2009b).

Several areas of Diegan coastal sage scrub, totaling 38.08 acres, are located throughout the Preserve adjacent to the San Luis Rey River. Dominant species observed within this community include California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), California buckwheat, and saw-toothed goldenbush (*Hazardia squarrosa*). Other species observed include deerweed (*Lotus scoparius*), white sage (*Salvia apiana*), and Our Lord's Candle. Scattered non-native species were observed within this community including foxtail brome and slender oat (*Avena barbata*).

The Diegan coastal sage scrub throughout the Preserve is considered moderate-quality habitat for wildlife species, including the blue-grey gnatcatcher (*Polioptila caerulea*), California towhee, and desert cottontail (*Sylvilagus audubonii*).

Native Grassland (Holland Code 42100)

Native grassland is a plant community with a vegetative cover comprised of native grasses. Native grassland is considered a Tier I Habitat under the North County MSCP, and is considered an RPO sensitive land (County of San Diego 2009b).

Five isolated stands of native grasslands, totaling 1.84 acres, occur within the southern portion of the Preserve on north-facing slopes. Some non-native grasses, including bromes and slender oats were also observed scattered throughout this

community. Native grasslands are increasingly rare because many non-native annual grasses have invaded these areas and out-compete the native grass species following a significant disturbance event. Native grasslands provide suitable habitat for several native plant species that cannot generally compete against dense stands of non-native grass species.

Non-Native Grassland (Holland Code 42200)

Non-native grassland is described as a dense to sparse cover of non-native annual grasses often associated with numerous weedy species and native annual forbs (wildflowers), especially in years with plentiful rain. Seed germination occurs with the onset of winter rains. Some plant growth occurs in winter, but most growth and flowering occurs in the spring. Plants then die in the summer and persist as seeds in the uppermost layers of soil until the next rainy season. Non-native grassland is considered a Tier III Habitat under the North County MSCP (County of San Diego 2009b).

The approximately 40.49 acres of non-native grassland within the Preserve is associated with human disturbance and adjacent developments. The northernmost stands are located near the residential development adjacent to the Preserve. These stands are mowed regularly for protection against potential wildfire events. The other stands on the Preserve are located adjacent to the remnant Long-Boddy structures. The non-native grassland community has colonized areas formerly cleared by the former residents of the structures. The plant species that occurred in all the stands on the Preserve include short-podded mustard, California brome, ripgut brome, soft brome, foxtail brome, common Mediterranean grass (*Schismus barbatus*), and rat-tail fescue.

Despite being comprised of non-native plant species, the non-native grassland plant community has been established within the United States for many generations and is considered by many to be a naturalized plant community. As such, it provides moderately suitable habitat for common, native bird species, such as horned lark (*Eremophila alpestris*), and reptile species, such as western rattlesnake (*Crotalus helleri*).

Southern Riparian Forest (Holland Code 61300)

Southern riparian forests commonly occur in association with watercourses and water bodies. The representative plant species are typically well adapted to a hydrological regime ranging from semi-permanent inundation to occasional soil saturation on or near the surface during at least a portion of the growing season. This community typically consists of a relatively dense tangle of broad-leaved, winter-deciduous riparian thickets dominated by willow species. Southern riparian forest is considered a Tier I Habitat under the North County MSCP (County of San Diego 2009b).

This community occurs in one 2.12-acre isolated location associated with the man-made pond. This community surrounds the freshwater marsh. The small ring of southern riparian forest supports arroyo willow (*Salix lasiolepis*), desert wild grape (*Vitis girdiana*), and cottonwood (*Populus fremontii*). Non-native species, such as castor bean (*Ricinus communis*) and Peruvian pepper tree (*Schinus molle*), also occur in this area. The southern riparian forest provides moderate quality habitat for acorn woodpecker, Nuttall's woodpecker, American goldfinch (*Carduelis tristis*), and common yellow-throat (*Geothlypis trichas*).

Mule Fat Scrub (Holland Code 63310)

The mule fat scrub community often occurs in small patches and narrow ribbons along streambeds and washes that tend to dry out quickly after storm events. In areas where mule fat (*Baccharis salicifolia*) is particularly dense or where substantial scouring has occurred, the understory component of this habitat may be sparsely vegetated or absent. Mule fat scrub is considered a Tier I Habitat under the North County MSCP (County of San Diego 2009b).

The 0.34-acre mule fat scrub community on-site occurs in an area previously used as a pond for agricultural and landscape purposes. The vegetation community consists of a monotypic stand of mule fat. Wildlife species associated with this area include lesser goldfinch (*Carduelis psaltria*), yellow-rumped warbler (*Dendroica coronata*), and house finch (*Carpodacus mexicanus*).

Freshwater Marsh (Holland Code 52400)

Freshwater marsh is a vegetation community typically dominated by perennial, emergent monocots that form dense, closed canopies. This community often occurs in permanently flooded freshwater areas with a very low current. Freshwater marsh is considered a Tier I Habitat under the North County MSCP (County of San Diego 2009b).

Approximately 2.37 acres of a freshwater marsh is located in the north central portion of the Preserve on and around the existing pond. The community is predominantly comprised of arroyo willow, narrowleaf cattail (*Typha angustifolia*), scrub oak, and laurel sumac (*Malosma laurina*). Common wildlife species observed within this community include western scrub jay, mallard (*Anas platyrhynchos*), American coot (*Fulica americana*), great egret (*Casmerodius albus*), green heron (*Butorides virescens*), and red-winged black bird (*Agelaius phoeniceus*).

Non-Vegetated Channel (Holland Code 64200)

Non-vegetated channel is a habitat type that is virtually devoid of vegetation due to continual scouring from a flowing channel. Generally, vegetation occurs along the periphery of this habitat, often transitioning into a riparian associated scrub community.

Non-vegetated channel occurs along the northern and eastern portion of the Preserve, and is mapped as the San Luis Rey River channel. This habitat type occupies 18.75 acres of the Preserve. This observed habitat contains sparse vegetation along the banks of the channel consisting of mule fat, tree tobacco (*Nicotiana glauca*), castor bean, cocklebur (*Xanthium strumarium*), and salt cedar (*Tamarix ramosissima*). The substrate is sandy with rocky outcrops, and provides suitable habitat for common avian and reptilian wildlife species as well as the federally endangered arroyo toad (*Bufo californicus*).

Open Water (Holland Code 64100)

The open water portion of the Preserve is associated with the 1.05-acre man-made pond in the north central portion of the Preserve. This area is surrounded by freshwater marsh and provides suitable habitat for a number of waterfowl such as mallard and American coot as well as bullfrog (*Rana catesbeiana*).

Non-Native Vegetation (Holland Code 11000)

The non-native vegetation that occurs in the north central portion of the Preserve is limited to 1.64 acres of a windrow of eucalyptus trees (*Eucalyptus* sp.) and a dense stand of Peruvian pepper tree. The tree species commonly planted in non-native vegetation habitats are generally much taller than common native tree species in the area. Therefore, this community provides suitable perching opportunities for common raptor species, such as red-tailed hawk (*Buteo jamaicensis*), and nesting opportunities for common non-native bird species, such as European starlings (*Sturnus vulgaris*). This habitat may also provide roosting habitat for bat species.

Disturbed Habitat (Holland Code 11300)

The disturbed habitat within the Preserve, totaling 5.90 acres, is predominantly limited to the existing trails, dirt access roads, and remnant structures. These areas are mainly compacted with little vegetation, except on the periphery, often transitioning into non-native grassland or woodland habitats. Common species observed within this habitat consist of foxtail brome, ripgut brome and Bermuda grass (*Cynodon dactylon*). This habitat type provides very poor quality habitat for native plant and wildlife species; however, several insect species were observed in these areas during sampling surveys, including antlion (*Brachynemurus* sp.).

Developed Land (Holland Code 12000)

The developed areas within the Preserve, totaling 1.11 acres, consist of paved roads, existing buildings and infrastructure. Both the roads and the structures are currently maintained and both have experienced significant use over the years. The developed areas contain little to no vegetation and are generally considered very poor habitat.

3.2 Plant Species

3.2.1 Plant Species Present

A total of 169 plant species were observed on the Preserve during the 2009 baseline surveys. The Baseline Biodiversity Report (Appendix A) includes the complete list of all plant species observed during the surveys.

3.2.2 Rare, Threatened or Endangered Plants Present

A special-status plant species is one listed by federal or state agencies as threatened or endangered; considered to be of special status by one or more special interest groups, such as the California Native Plant Society (e.g., CNPS List 1, 2, 3, and 4 Plant Species); is included on the County's Sensitive Plant list (Group A, B, C, or D Listed Plants); or is covered under the MSCP.

Two special-status plant species were observed during the 2009 baseline surveys (Figure 10) including heart-leaved pitcher sage and thread-leaved brodiaea. Each of these species is addressed below in more detail.

Heart-Leaved Pitcher Sage (*Lepechinia cardiophylla*)

CNPS List 1B.2, County Group A

Heart-leaved pitcher sage is a perennial shrub that blooms between April and June and has an elevation range between 1,560 and 4,110 feet AMSL. This species typically occurs on metavolcanic soils in openings in chaparral, closed-cone coniferous forest, and cismontane woodland habitats.

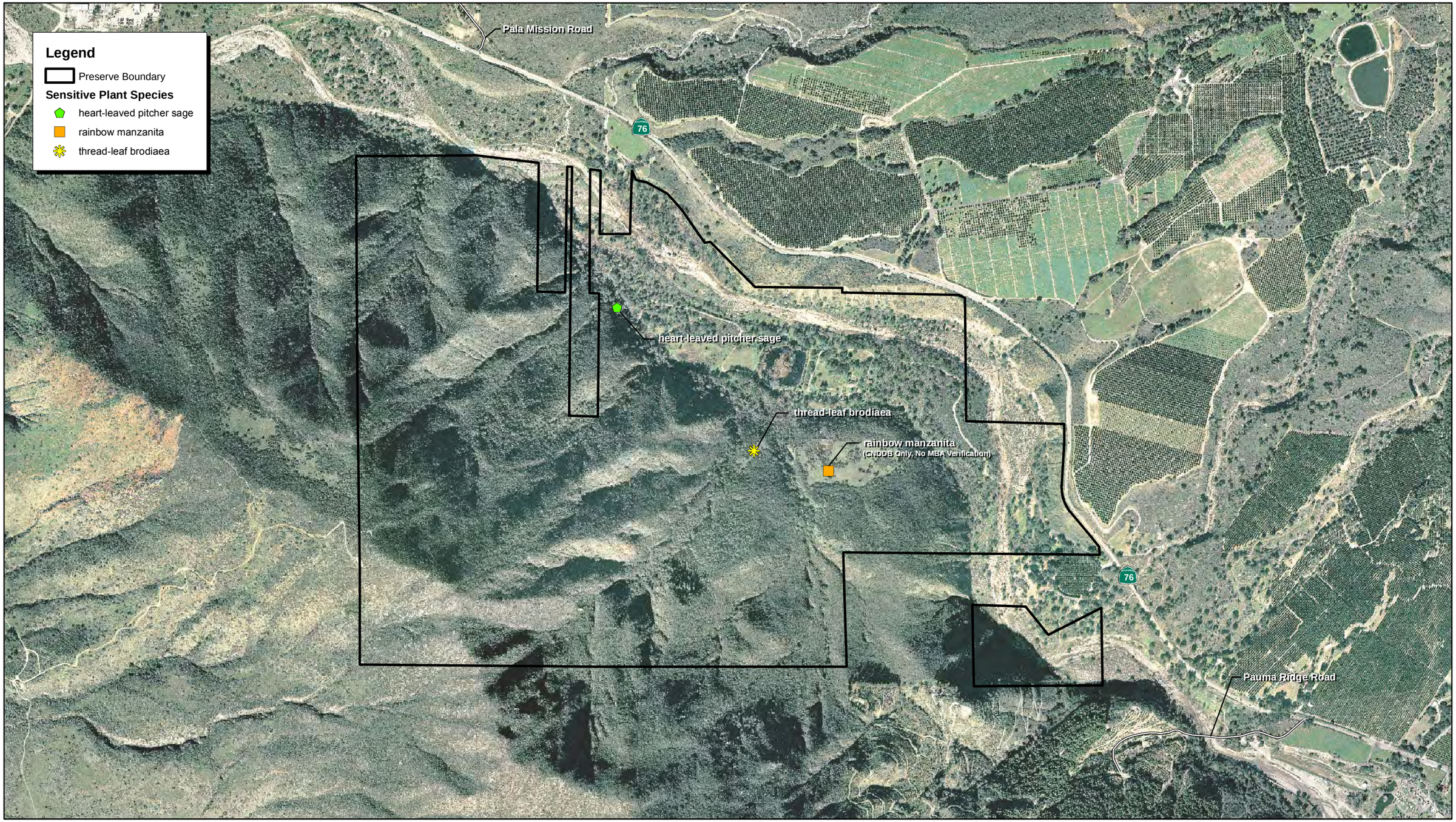
This species was observed within the dense coast live oak woodland at the base of Pala Mountain in the northern portion of the Preserve. The observed population was estimated between 20 and 50 individuals.

Thread-Leaved Brodiaea (*Brodiaea filifolia*)

Federally Threatened, State Endangered, CNPS List 1B.1, County Group A, North County MSCP

Thread-leaved brodiaea is a perennial bulbiferous herb that blooms between March and June, and has an elevation range between 75 to 2,500 feet AMSL. This species generally occurs in coastal scrub, cismontane woodland, annual grasslands and vernal pool habitats.

A population of thread-leaved brodiaea, between approximately 20 and 50 individuals, was observed in the native grassland area in the central portion of the Preserve.



Source: San Diego North Aerial, 2005. MBA Field Survey and GIS Data, 2009.

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Michael Brandman Associates

Figure 10
Sensitive Plant Species Map

3.2.3 Rare, Threatened or Endangered Plants with High Potential to Occur

Three special status plants have a high potential to occur within the Preserve: rainbow manzanita (*Arctostaphylos rainbowensis*), Orcutt's brodiaea (*Brodiaea orcuttii*) and Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*). Additional information on these species can be found in the Baseline Biodiversity Report (Appendix A).

Rainbow Manzanita (*Arctostaphylos rainbowensis*)

CNPS List 1B.1, County Group A, North County MSCP

Rainbow manzanita was previously recorded within the Preserve, but this occurrence was not verified during the 2009 survey efforts. Based on the previous observations and the presence of suitable habitat, this species is assumed to be present within the Preserve. The previously recorded occurrence was located within the ecotone between southern mixed chaparral and non-native grassland.

Orcutt's Brodiaea (*Brodiaea orcutti*)

CNPS List 1B.1, County Group A, North County MSCP

Orcutt's brodiaea was not observed within the Preserve during the 2009 surveys; however, due to suitable habitat within the native grassland area in the central portion of the Preserve, and the presence of another *Brodiaea* species, this species has a high potential to occur on-site.

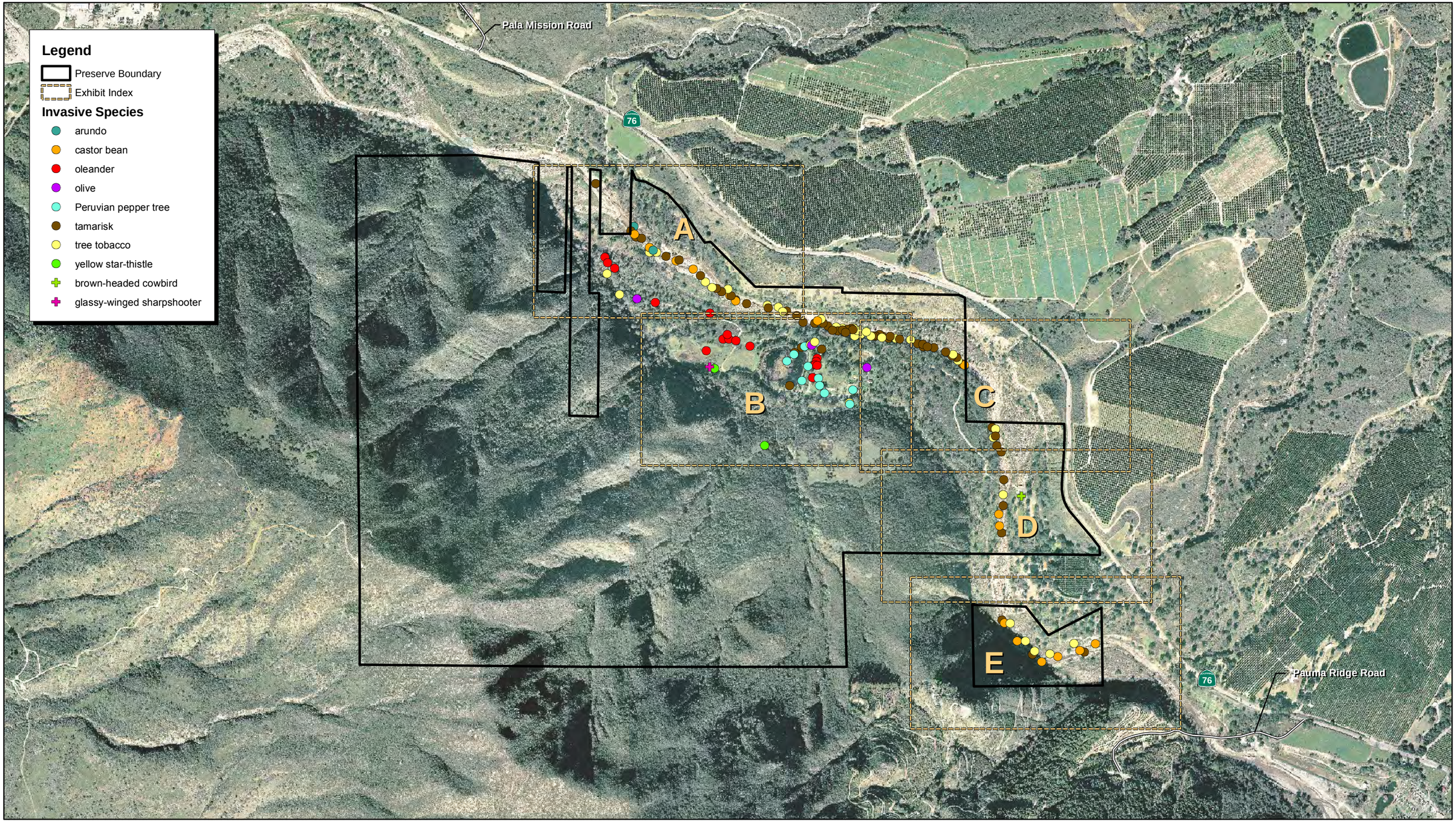
Robinson's Pepper-Grass (*Lepidium virginicum var. robinsonii*)

CNPS List 1B.2, County Group A

Robinson's pepper-grass has been recorded within five miles of the Preserve. The vast majority of the Preserve, specifically the slopes of Pala Mountain, contains suitable habitat for Robinson's pepper-grass.

3.2.4 Non-Native and/or Invasive Plant Species

The majority of the significant stands of invasive plant species observed are located within the active channel of the San Luis Rey River. The vegetation within the channel is widely spaced with large areas of open space between individual plants. There is also a significant amount of invasive plant species surrounding the pond. The majority of these plants are considered ornamental and were planted many years ago as part of the original landscape plan for the area. The following non-native, invasive plant species were observed within the Preserve (Figure 11):



Source: San Diego North Aerial, 2005. MBA Field Survey and GIS Data, 2009.

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Michael Baker International

Figure 11
Invasive Species Index Map



Source: San Diego North Aerial, 2005. MBA Field Survey and GIS Data, 2009.

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Michael Baker International

Figure 11a
Invasive Species Location Map



Source: San Diego North Aerial, 2005. MBA Field Survey and GIS Data, 2009.

190 95 0 190

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Michael Baker International

Figure 11b
Invasive Species Map



Source: San Diego North Aerial, 2005. MBA Field Survey and GIS Data, 2009.

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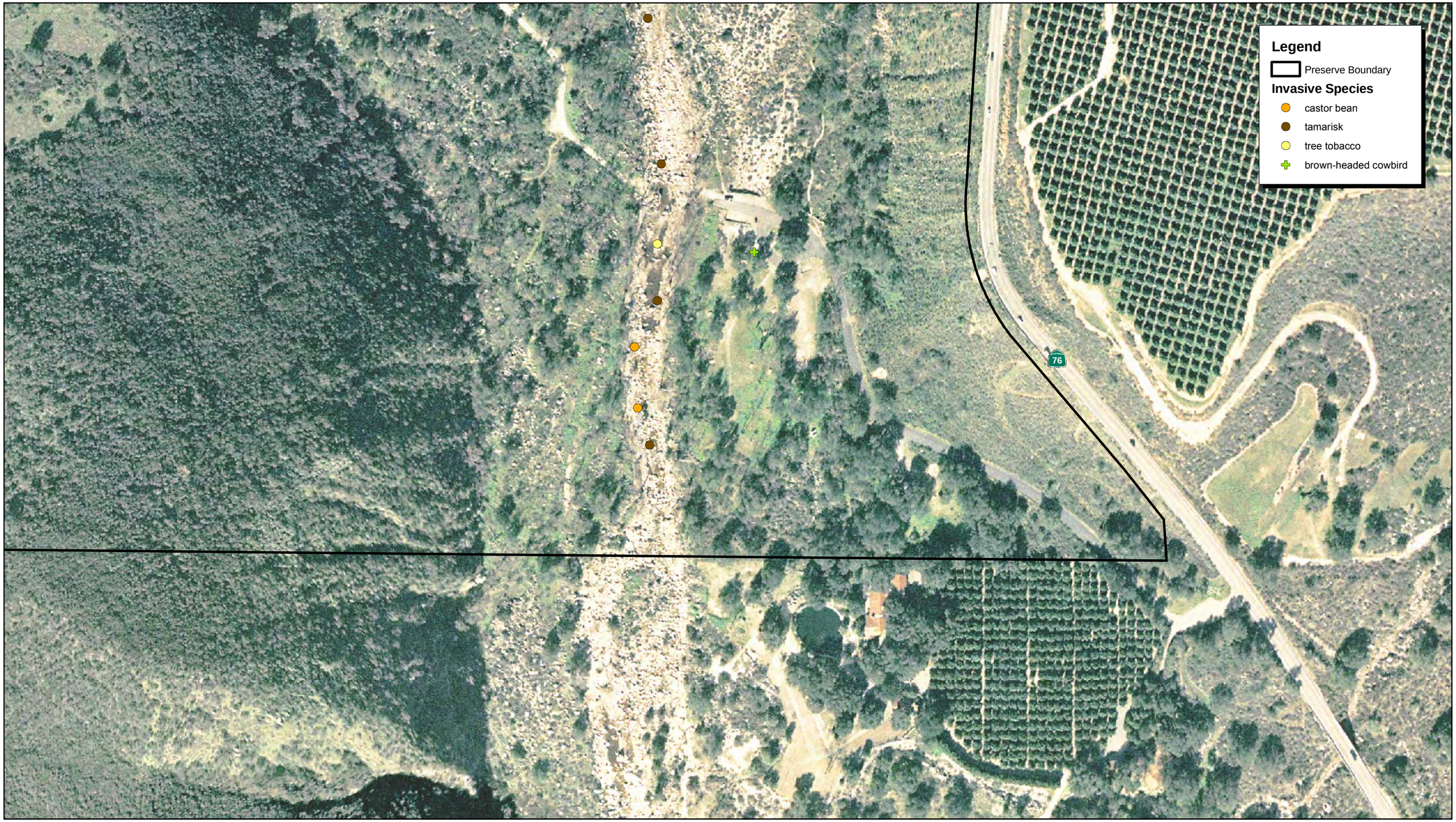
Michael Baker International Associates

Figure 11c
Invasive Species Map



Source: San Diego North Aerial, 2005. MBA Field Survey and GIS Data, 2009.

Michael Brandman Associates

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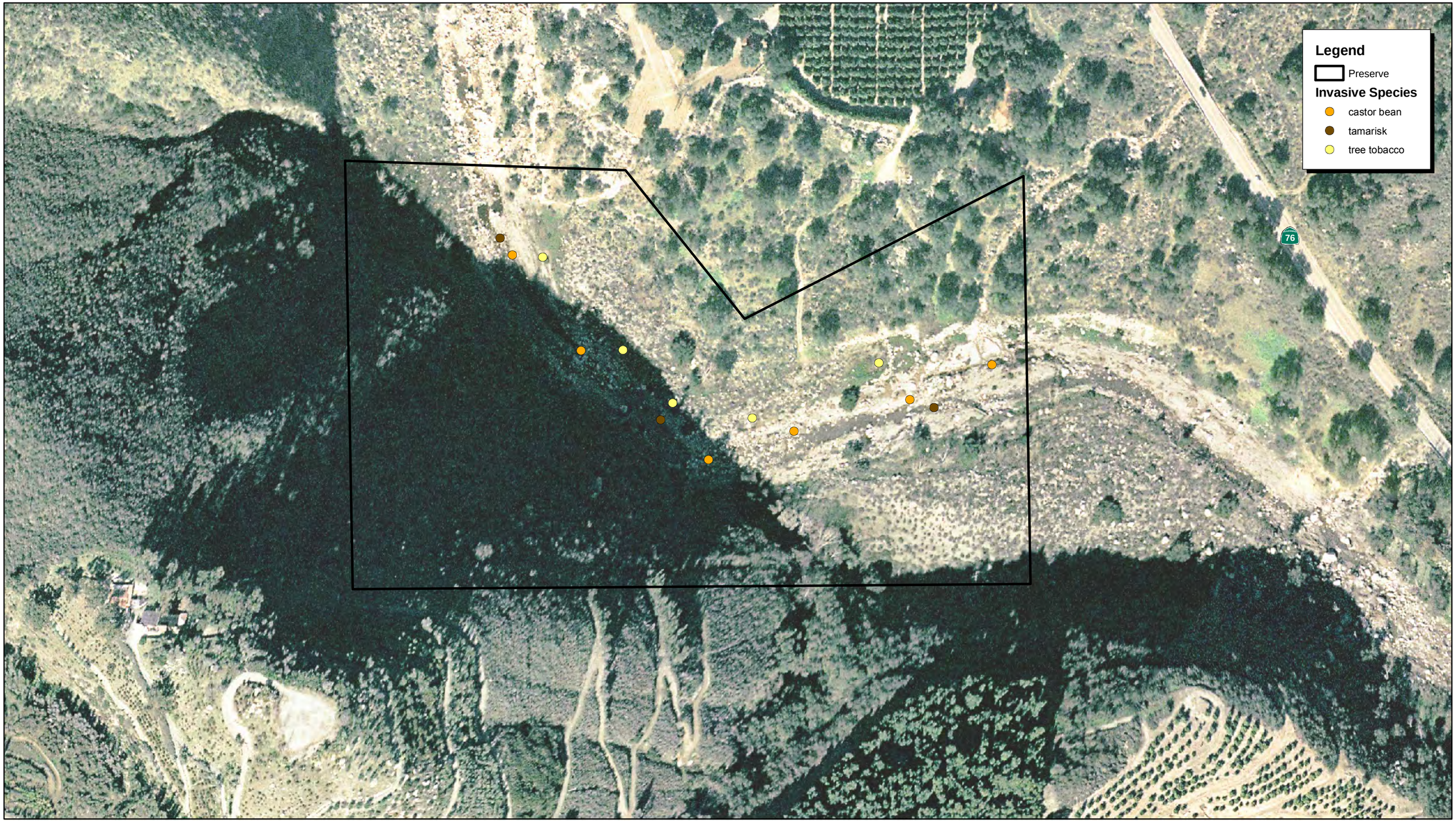
Figure 11d
Invasive Species Map



Source: San Diego North Aerial, 2005. MBA Field Survey and GIS Data, 2009.

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Michael Baker Jr. Inc.
Michael Brandman Associates

Figure 11e
Invasive Species Map

- Arundo (*Arundo donax*)
- Castor bean (*Ricinus communis*)
- Oleander (*Nerium oleander*)
- Olive (*Olea europaea*)
- Peruvian pepper tree (*Schinus molle*)
- Tamarisk (*Tamarix* sp.)
- Tree tobacco (*Nicotiana glauca*)
- Yellow starthistle (*Centaurea solstitialis*)

Seven of these invasive, non-native species (arundo, castor bean, olive, Peruvian pepper, tamarisk, tree tobacco, and yellow starthistle) are considered California Invasive Plant Council (Cal-IPC) listed plants with overall ratings of "limited" to "high." The eighth species, oleander, was evaluated by Cal-IPC, but is not listed. In addition, yellow starthistle is also included on the State Noxious Weed List and is a primary target species of the San Diego Weed Management Area (SDWMA), a collaborative group working together to control selected invasive plant species within San Diego County.

Arundo is a vigorous, invasive perennial plant that displaces native plants and associated wildlife due to the immense stands it forms, competing with native plant species by monopolizing soil moisture and shading. Arundo is also suspected of altering hydrological regimes, reducing groundwater availability, altering channel morphology, and increasing fire hazards. The Cal-IPC inventory categorizes arundo as having an overall rating of "high." A "high" rating signifies species that have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Native to the Ethiopian region of tropical east Africa, castor bean has become naturalized in tropical and warm temperate regions throughout the world, and is becoming an increasingly abundant weed in the southwestern United States. This species is very common along stream banks, riverbeds, bottomlands, and just about any hot area where the soil is well drained and with sufficient nutrients and moisture to sustain growth. The Cal-IPC inventory categorizes castor bean as having an overall rating of "limited." A "limited" rating signifies species that are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Oleander is drought tolerant evergreen shrub native to northern Africa, the eastern Mediterranean basin and southeast Asia. It is extensively used in landscaping along highways and is widely cultivated for ornament in temperate and warm areas due to its showy flowers. This species was evaluated by Cal-IPC but is not listed as it is not

known to be invasive. This species is considered part of the historic landscape of the Preserve.

Olive is a shrub or tree that can produce hundreds of seeds that are spread by birds and mammals. Though commonly grown as a crop in California, it has invaded open space areas in southern California and the Central Valley. The Cal-IPC inventory categorizes olive as having an overall rating of "limited". This species is considered part of the historic landscape of the Preserve.

Peruvian pepper tree is an aromatic, evergreen shrub or tree found in central and southern California. Along with Brazilian pepper tree, Peruvian pepper tree has escaped cultivation to become invasive. It currently has a limited distribution and impacts are largely unknown in California. The Cal-IPC inventory categorizes Peruvian pepper tree as having an overall rating of "limited". This species is considered part of the historic landscape of the Preserve.

Tamarisk was introduced from Eurasia and is now widespread in the United States. The species is found in desert washes, riparian areas, seeps and springs. Tamarisk is associated with dramatic changes in geomorphology, groundwater availability, soil chemistry, fire frequency, and plant community composition. High amounts of leaf litter can increase the frequency of fire where tamarisk is dominant in cover; moreover, this species re-sprouts vigorously following fires. The Cal-IPC inventory categorizes tamarisk as having an overall rating of "high."

Originally from Bolivia and Argentina, tree tobacco has naturalized in the southwestern United States, becoming a common weed. The species is found in wetland-riparian areas, but can be found in non-wetland areas. The leaves of tree tobacco are toxic. The Cal-IPC inventory categorizes tree tobacco as having an overall rating of "moderate." A "moderate" rating signifies species that have substantial and apparent, but generally not severe, ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance.

Yellow starthistle is a bushy winter annual that invades 12 million acres in California. It inhabits open hills, grasslands, open woodlands, fields, roadsides, and rangelands. This species is considered one of the most serious rangeland weeds in the state (Cal-IPC 2010) and is included on the California Noxious Weed List "C." The Cal-IPC inventory categorizes yellow starthistle as having an overall rating of "high." Habitats of concern include grasslands and woodlands. Yellow starthistle has also been targeted by the SDWMA as one of four primary species for mapping and control efforts within the County.

3.3 Wildlife Species

3.3.1 Wildlife Species Present

A total of 161 wildlife species were observed within the Preserve during the 2009 baseline surveys. The Baseline Biodiversity Report (Appendix A) includes the complete list of all wildlife species observed during the surveys.

Invertebrates

A total of 79 invertebrates were observed within the Preserve during the 2009 surveys, none of which are considered sensitive species.

Butterflies

A total of 11 butterfly species were observed from seven different families including swallowtails, whites and sulfurs, blues, brush-foots, milkweeds, skippers, and metalmarks. The most frequently observed butterfly species include pale swallowtail (*Papilio eurymedon*), cabbage white (*Pieris rapae*), dainty sulphur (*Nathalis iole*), acmon blue (*Icaricia acmon*), queen (*Danaus gilippus*), painted lady (*Vanessa cardui*), fiery skipper (*Hylephila phyleus*), Behr's metalmark (*Apodemia mormo virgulti*), and Wright's metalmark (*Calephelis wrightii*).

Although Quino checkerspot butterfly (*Euphydryas editha quino*) larval host plant was observed within the Preserve, it was not identified within the Diegan coastal sage scrub area. Other key habitat components such as rocky outcrops, hilltops, and cryptobiotic soil are not present within the Diegan coastal sage scrub. Based on the habitat requirements for Quino checkerspot butterfly, it is highly unlikely that this species occurs within the Preserve. Based on the vegetation on site and the habitat requirements for sensitive butterfly species occurring in the general area, it is highly unlikely that the Preserve supports dune skipper (*Euphyes vestries harbisoni*).

Other Invertebrates

The most common species captured in the pitfall traps include harvester ant (*Pogonomyrmex californicus*), carpenter ant (*Camponotus* sp.), velvet ant (*Dasymutilla occidentalis*), armored stink beetle (*Coelocnemis californicus*), silverfish (*Lepisma saccharina*), and bristletail (*Trigoniophthalmus alternatus*). The predatory invertebrates commonly observed include wolf spider (*Sosippus californicus*), ground spider (*Zelotus gynethus*), tarantula (*Aphonopelma eutylenum*), and California common scorpion (*Paruroctonus silvestrii*). Several incidental observations were also made including winged species such as tarantula hawk (*Pepsis chrysothemis*) and familiar bluet damselfly (*Enallagma civile*) as well as largid bugs (*Largus cinctus*), bee assassin (*Apiomerus crassipes*), and antlion.

Amphibians

The conditions on the Preserve provide minimal suitable habitat for amphibian species. Aquatic habitat is limited to a small man-made pond in the central portion of the Preserve. In addition, the San Luis Rey River was once a perennial drainage

feature, but is currently an intermittent stream that only flows during significant rain events. Bullfrogs (*Rana catesbeiana*) were detected by call during nighttime avian point count surveys near the pond. No other amphibian species were detected.

Reptiles

A total of 13 reptile species were observed within the Preserve during the 2009 surveys. The pitfall traps captured western blind snake (*Leptotyphlops humilis*) and San Diego ringneck snake. A single chaparral whipsnake (*Masticophis lateralis lateralis*) was captured in a funnel trap. Species detected during incidental observations include southern Pacific rattlesnake (*Crotalus oreganus helleri*), granite spiny lizard (*Sceloporus orcutti*), and side-blotched lizard (*Uta stansburiana*).

Birds

A total of 47 avian species were detected on the Preserve during the 2009 surveys. The dominant plant community within the Preserve is chaparral and the vast majority of avian species observed are known to occur in this community. These species include wrentit (*Chamaea fasciata*), California quail (*Callipepla californica*), California towhee (*Pipilo crissalis*), California thrasher (*Toxostoma redivivum*), western scrub jay (*Aphelocoma californica*), blue-grey gnatcatcher, phainopepla (*Phainopepla nitens*), and spotted towhee (*Pipilo maculatus*).

In addition to the species common in chaparral, several woodland bird species were observed within the northernmost portion of the Preserve. These species include Cooper's hawk (*Accipiter cooperii*), lesser goldfinch (*Carduelis psaltria*), Nuttall's woodpecker (*Picoides nuttallii*), and acorn woodpecker (*Melanerpes formicivorus*). Waterfowl species observed within the pond area include mallard (*Anas platyrhynchos*), western grebe (*Aechmophorus occidentalis*), great egret (*Ardea alba*), and American coot (*Fulica americana*). Nocturnal avian species detected include great-horned owl (*Bubo virginianus*) and barn owl (*Tyto alba*).

Mammals

A total of 23 mammal species were observed or otherwise detected across the Preserve during the 2009 surveys.

Small Mammals

The small mammal species captured during the mammal trapping efforts include dusky-footed woodrat (*Neotoma fuscipes*), San Diego desert woodrat (*Neotoma lepida*), western harvest mouse (*Reithrodontomys megalotis*), brush mouse (*Peromyscus boylii*), California mouse (*Chaetodipus californicus*), California pocket mouse (*Chaetodipus californicus*), San Diego pocket mouse (*Chaetodipus fallax*), and spiny pocket mouse (*Chaetodipus spinatus*). In addition to the trapping effort, one pitfall trap also caught ornate shrew (*Sorex ornatus*). Incidental observations

during the surveys detected desert cottontail (*Sylvilagus audubonii*) and California ground squirrel (*Spermophilus beecheyi*).

Medium to Large Mammals

The scent stations and motion sensor cameras detected fewer medium and large mammals than anticipated. The species detected include coyote (*Canis latrans*), raccoon (*Procyon lotor*), bobcat (*Lynx rufus*), and domestic dog (*Canis familiaris*). Despite the high potential for mule deer (*Odocoileus hemionus*), grey fox (*Urocyon cinereoargenteus*), and mountain lion (*Felis concolor*) to occur on site, no sign was observed in the Preserve.

Bats

The bat acoustical surveys detected six species of bat on the Preserve. The species detected include pallid bat (*Antrozous pallidus*), big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), western pipistrelle (*Pipistrellus hesperus*), Mexican long-tongued bat (*Choeronycteris mexicana*), and Brazilian free-tailed bat (*Tadarida brasiliensis*).

3.3.2 Rare, Threatened or Endangered Wildlife Present

A special-status wildlife species is one listed by federal or state agencies as threatened or endangered; is included on the County's Sensitive Animal List (Group 1 or 2 Species); or is covered under the MSCP. Ten special-status wildlife species were detected at the Preserve (Figure 12). Each of these species is addressed below in more detail.

Orange-Throated Whiptail (*Cnemidophorus hyperythrus beldingi*)

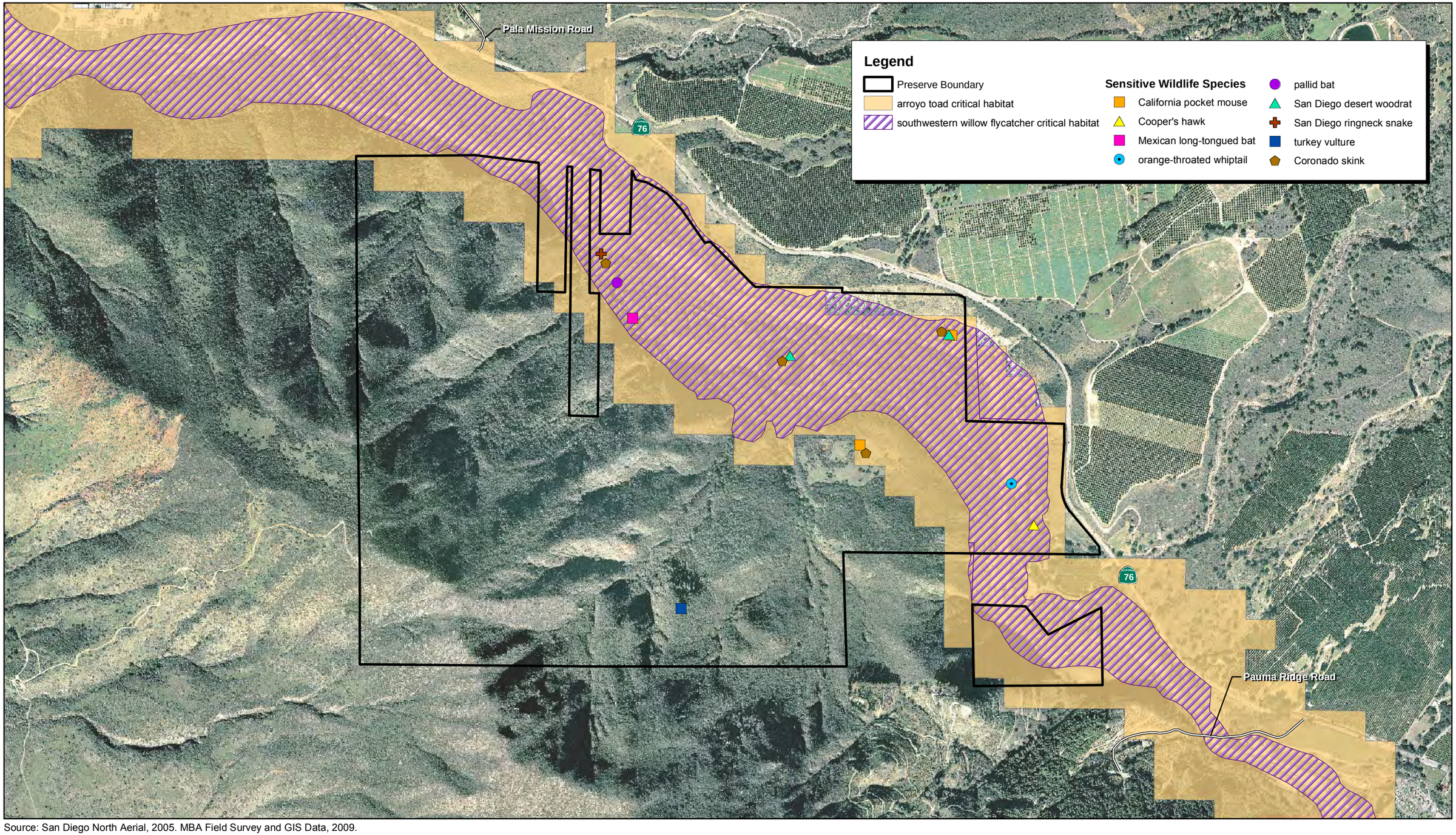
State Species of Special Concern, County Group 2, North County MSCP

The orange-throated whiptail is a medium-sized lizard that occurs in coastal scrub, chaparral, and valley and foothill hardwood habitats. This species prefers washes and sandy areas with patches of brush and rocks. Perennial plants are required to support its primary prey, termites. This species was observed along the San Luis Rey River just northwest of the staging area.

Coronado Skink (*Eumeces skiltonianus interparietalis*)

State Species of Special Concern, County Group 2

The Coronado skink is a medium-sized secretive lizard that occurs in grassland, chaparral, pinyon-juniper and juniper sage woodland, pine-oak and pine forest habitats in the coastal ranges of southern California, particularly San Diego County. The species prefers early successional stages or open areas and is typically found



Source: San Diego North Aerial, 2005. MBA Field Survey and GIS Data, 2009.

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Michael Baker International

Figure 12
Sensitive Wildlife Species Map

in rocky areas close to streams and on dry hillsides. This species was observed in all four pitfall traps.

San Diego Ringneck Snake (*Diadophis punctatus* ssp. *similis*)

County Group 2

The San Diego ringneck snake is commonly found in wet meadows and moist rocky hillsides, gardens, farmlands, grassland, chaparral, mixed coniferous forests, and woodlands. This species was observed in one of the pitfall traps in the north central portion of the Preserve within open oak woodland with dense leaf litter.

Cooper's Hawk (*Accipiter cooperii*)

State Taxa to Watch (Nesting), County Group 1

Cooper's hawk occurs in open, uninterrupted, or marginal type woodlands. Nest sites, which are sensitive, commonly occur in riparian growths of deciduous trees, such as live oaks. It also occurs in other various forest habitats that are near water. Dense woodlands and forests are primary foraging habitat for this raptor. This species was observed in the open oak woodland area in the northeastern portion of the Preserve near the staging area. It is highly likely that this species nests in the oak woodland habitat within the Preserve.

Turkey Vulture (*Cathartes aura*)

County Group 1

Turkey vulture is a scavenger found in open country, woodlands, and near farms, but has wide foraging range that may cover many habitats. The vast majority of the Preserve contains suitable foraging habitat for turkey vulture. This species was observed flying over the southern portion of the Preserve.

San Diego Desert Woodrat (*Neotoma lepida intermedia*)

State Species of Special Concern, County Group 2

San Diego desert woodrat requires large amounts of water, which it obtains from fleshy plants such as *Yucca* species and prickly pear cactus (*Opuntia* sp.). It usually makes a stick house under one of these food plants, or may den among rocks (CDFG 2005). The San Diego desert woodrat is commonly found in open chaparral, desert scrub, and rocky areas. This species was captured in a small mammal trap in an open woodland area near the man-made pond in the north central portion of the Preserve.

California Pocket Mouse (*Chaetodipus californicus*)

State Species of Special Concern, County Group 2

The California pocket mouse occurs in a variety of habitats including coastal scrub, chaparral, and grasslands in San Diego County and is commonly associated with grass-chaparral edges. Individuals of this species were trapped in the northeastern portion of the Preserve.

Pallid Bat (*Antrozous pallidus*)

State Species of Special Concern, County Group 2, North County MSCP

Pallid bats roost in rock crevices, tree hollows, mines, caves and a variety of anthropogenic structures, including vacant and occupied buildings. Tree roosting has been documented in large conifer snags, inside basal hollows of redwoods and giant sequoias, and bole cavities in oaks. They have also been reported roosting in stone piles. Individuals were recorded in the north central portion of the Preserve. Suitable rock crevices, tree hollows, and structures that may provide suitable roosting habitat occur within the Preserve.

Mexican Long-Tongued Bat (*Choeronycteris mexicana*)

State Species of Special Concern, County Group 2

Mexican long-tongued bat may be found in mine tunnels, caves, rock fissures, and even buildings from the lower edge of the oak zone through the pine-oak woodland to the pine-fir belt. Typical vegetation in the vicinity of roost sites includes ocotillo, yucca, agave, manzanita, evergreen oak, and juniper. This bat has a tendency to roost in well-lighted sites. An individual bat was recorded in the north central portion of the Preserve.

Barn Owl (*Tyto alba*)

San Diego County Group II

The barn owl is the owl species that is most tolerant to urban development (Unitt 2004). It will nest in buildings, nest boxes, at the base of the leaves in palm trees, and in cavities in native trees. Barn owl was detected in the Preserve.

3.3.3 Rare, Threatened or Endangered Wildlife with High Potential to Occur

Additional information on the species listed below can be found in the Baseline Biodiversity Report (Appendix A).

Arroyo Toad (*Anaxyrus californicus*)

Federally Endangered, State Species of Special Concern, County Group 1, North County MSCP

The San Luis Rey River located along the northeastern boundary of the Preserve is designated as USFWS Critical Habitat for arroyo toad. Suitable habitat for arroyo toad occurs along the length of the San Luis Rey River channel. Arroyo toad have been previously recorded both upstream and downstream of the Preserve. This species is highly secretive and although not observed during the 2009 survey effort, it is highly likely to occur within the Preserve.

Western Spadefoot (*Spea hammondii*)

State Species of Special Concern, County Group 2, North County MSCP

Western spadefoot has been recorded within five miles of the Preserve. Suitable habitat for this species occurs within the existing man-made pond on site. However, the pond contains a population of bullfrogs, which greatly reduces the likelihood of the Preserve to support a population of western spadefoot.

Northern Red Diamond Rattlesnake (*Crotalus ruber ruber*)

State Species of Special Concern, North County MSCP

Northern red diamond rattlesnake has been recorded within five miles of the Preserve. The vast majority of the Preserve contains suitable chaparral habitat for this species.

San Diego (Coast) Horned Lizard (*Phrynosoma coronatum blainvillei*)

State Species of Special Concern, County Group 2, North County MSCP

San Diego horned lizard has been recorded within five miles of the Preserve. The vast majority of the Preserve contains suitable chaparral habitat for this species.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

Federally and State Endangered, County Group 1, North County MSCP

The San Luis Rey River located along the northeastern boundary of the Preserve is designated as USFWS Critical Habitat for the southwestern willow flycatcher. This species has been recorded within five miles of the Preserve. The Preserve is likely used as a corridor between suitable habitat patches, but is not suitable for foraging or nesting habitat.

Greater Western Mastiff Bat (*Eumops perotis californicus*)

State Species of Special Concern, County Group 2

Greater western mastiff bat has been recorded within five miles of the Preserve. Suitable roosting habitat is located along the cliffs in the northern portion of the Preserve.

Western Red Bat (*Lasiurus blossevillii*)

State Species of Special Concern, County Group 2

Western red bat has been recorded within five miles of the Preserve. This species has potential to occur in the oak woodland and pond area within the Preserve.

Small-Footed Myotis (*Myotis ciliolabrum*)

County Group 2

Small-footed myotis has been recorded within five miles of the Preserve. Marginally suitable habitat occurs throughout the Preserve.

Yuma Myotis (*Myotis yumanensis*)

County Group 2

Yuma myotis has been recorded within five miles of the Preserve. Marginally suitable habitat occurs throughout the Preserve.

Pocketed Free-Tailed Bat (*Nyctinomops femorosaccus*)

State Species of Special Concern, County Group 2

Pocketed free-tailed bat has been recorded within five miles of the Preserve. Marginally suitable habitat occurs throughout the Preserve.

3.3.4 Non-native and/or Invasive Wildlife Species

Three non-native, invasive species were detected on the Preserve during the 2009 surveys (Figure 11): brown-headed cowbird (*Molothrus ater*), bullfrog (*Rana catesbeiana*), and glassy-winged sharpshooter (*Homalodisca vitripennis*). In addition, domestic dog (*Canis lupus familiaris*) was observed within the Preserve. Domestic pets, with the exception of dogs accompanying the unsighted and deaf, are not permitted within the Preserve.

Brown-headed cowbird is a brood parasite, which destroys the eggs in a different avian species' active nest and replaces them with their own eggs. Brown-headed

cowbird parasitism has been attributed as a significant contributor to population declines of several special-status species. The species was detected only once during an avian point count, but the adjacent agricultural areas potentially provide resources for increased populations of this parasitic species.

One common, non-native amphibian species, bullfrog, was detected during nighttime avian surveys near the man-made pond. Native to the eastern United States, the bullfrog was introduced to California and is now widespread and common in the state. The bullfrog is the largest frog in California and preys on, or competes for food and space with, native amphibians such as arroyo toad and western spadefoot toad. Both arroyo toad and western spadefoot toad have been documented along the San Luis Rey River both upstream and downstream of the Preserve and suitable habitat exists on-site; however, the occurrence of bullfrogs greatly reduces the likelihood of the Preserve to support a population of arroyo toad or western spadefoot toad.

Native to southeast United States, the glassy-winged sharpshooter is a large leafhopper that obtains its nutrients by feeding on plant fluids in the water-conducting tissues of a plant (the xylem). This species is considered an agricultural pest due to its ability to spread *Xylella fastidiosa*, the bacterium that causes devastating crop diseases such as Pierce's disease, which is fatal to grapevines.

3.4 Overall Biological and Conservation Value

The Preserve lies within the Upper San Luis Rey River Linkage. This linkage consists of 6,839 acres along the San Luis Rey River between Pala Reservation and Hellhole Canyon Preserve. As the County does not have the ability to ensure connectivity of natural habitats onto or through tribal reservation lands, these areas remain of unknown conservation value.

According to the MSCP Habitat Evaluation Model, the habitat within the Preserve ranges from moderate to very high in value. The most extensive habitat within the Preserve is southern mixed chaparral, which is considered MSCP Tier III habitat and supports a variety of sensitive plant and wildlife species. The other smaller habitat types within the Preserve are considered either MSCP Tier I habitat (oak and riparian woodlands, native grasslands, and wetlands), Tier II habitat (coastal sage scrub) or Tier III habitat (chaparral and non-native grasslands).

The North County MSCP species-specific habitat evaluation model for arroyo toad designates the habitat within the northeastern portion of the Preserve along the San Luis Rey River as very high in value for this species. In addition, the San Luis Rey River is designated as USFWS Critical Habitat for both arroyo toad and southwestern willow flycatcher (Figure 12). While neither of these species were observed during the 2009 surveys, they have been recorded both upstream and downstream of the Preserve, which functions as a valuable corridor between suitable habitat.

3.4.1 Wildlife Linkages and Corridors

The Wilderness Gardens Preserve is just south of a designated linkage between the Santa Ana Mountains and Palomar Mountains, also known as the Santa Ana-Palomar wildlife corridor. However, it is located within the Upper San Luis Rey River Linkage and is an important east-west connection, including a natural land connection, to Palomar Mountain (County of San Diego 2009b).

Most animals seek cover when moving across the landscape and, therefore, often seek out riparian areas as their preferred movement corridors. Although the Preserve does not contain a dense riparian area for movement, the open canopy oak woodland habitat provides some protection during east-west movement along the San Luis Rey River channel. The Preserve contains an extensive oak woodland area that facilitates animal movement along the San Luis Rey River and provides relatively easy movement in an east-west direction. The dense stand of chaparral and the steep cliff along the northern boundary of the Preserve prohibit north-south movement for most terrestrial vertebrates.

During the 2009 surveys, camera tracking stations identified several medium to small mammal species moving through this area including coyote (*Canis latrans*), bobcat (*Lynx rufus*), desert cottontail (*Sylvilagus audubonii*), and raccoon (*Procyon lotor*).

4.0 CULTURAL RESOURCES

San Diego County is characterized by a rich and varied historical past. Cultural resources which reflect this history consist of archaeological remains, historic buildings, artifacts, photographs, oral histories, Native American memories and public documents. This RMP identifies the known cultural resources within Wilderness Gardens Preserve and describes areas of potential resources.

In 2009, an archaeological survey and site inventory was completed for the Preserve in compliance with the California Environmental Quality Act (CEQA) and County environmental guidelines to assist in continued and future land use and resource protection planning. The results of this study can be found in the report entitled, *Cultural Resources Inventory of the Wilderness Gardens Preserve Project for the County of San Diego Parks Department, San Diego County, California*, dated October 22, 2009, and is attached as Appendix B (MBA 2009). This Phase I inventory involved site records searches, literature reviews, Native American consultation, historic map checks, field survey, and resource documentation. The survey and inventory results were used in the preparation of this RMP.

4.1 Site History

4.1.1 The Luiseño

For more than 20,000 years the Luiseño Indians inhabited this area and gathered acorns from oaks growing along the San Luis Rey River. Evidence of this is reflected in the grinding rocks located along the river. The Luiseño were hunter-gatherers who moved from the mountains to the coast through a lush environment. They had a rich and diverse social and religious structure.

4.1.2 Sickler Brothers Pala Mill Period

In 1881 the Sickler Brothers purchased this secluded section of the San Luis Rey River. By November 1881 the brothers were grinding corn and were ready to process wheat. The Sicklers were serious about providing a good product and operated the only mill in northern San Diego County for many years. The grinding stones were made in France and shipped to Missouri and then Oceanside, where they were hauled to Pala by wagon. To turn the stones and grind the flour, water from the river was diverted upstream into a flume and then dropped 20 feet onto the waterwheel installed next to the mill house. The Sicklers devoted ten years to this business. It was highly profitable, but it appears that no one came forward to run the mill after the Sickler Brothers ceased operation in the 1890s.

4.1.3 John Long Period 1930-1940

During the Long period, a Dr. Brigham who resided in Los Angeles purportedly used the land as a vacation retreat and weekend party setting. He asked his niece and

her husband, Mr. and Mrs. John Long, to move onto the property and build a residence. The couple ranched, raised pigs, cattle, owned workhorses and had a garden while raising two children. Long built the barn from box lumber shipped from China to Los Angeles, then hauled it to the property by truck. By 1940, the family had moved off the property. Evidence suggests that by 1946, the landowner (Dr. Brigham?) was probably leasing the property to a local farmer.

4.1.4 Manchester Boddy/Old Mill Ranch Period 1954-1967

The next major owner, Elias Manchester Boddy, was a self-made man with a long career in publishing and horticultural activities. He was the owner, editor and publisher of the *Los Angeles Daily News.* The name Wilderness Gardens developed from his ownership and love of gardens. He bought the property in 1954 and developed a second garden in the wilderness. His first, Descanso Gardens in La Cañada, has been restored and is a Los Angeles County park run by a nonprofit organization. An avid horticulturalist, Boddy planted thousands of camellia, azaleas, rhododendrons, lilacs, and many other shrubs and flowers at Wilderness Gardens.

4.1.5 The Post Boddy Period

After Boddy's death in 1967, a group of San Francisco investors purchased the property and sold the camellia leaves to commercial florists once a year but otherwise did nothing with property. At an undetermined time, a Pauma Valley investment company obtained the land and a variety of projects (golf course, trailer park, and residences) were planned for the acreage. In 1970, the property was put up for sale. Local residents decided that the farm should not be developed into residences or a golf course and began to plan how to purchase the property to save it from development (Kennedy 2000, 8).

The group approached a local activist group, Small Wilderness Area Preserves (SWAP), and DPR. SWAP raised $250,000.00 and DPR matched the funds with grant money and the group took ownership. In 1973, Wilderness Gardens became the first open space preserve in San Diego County. Between 1980 and 1983, the land was cleaned up from years of neglect and vandalism. Unfortunately severe budget shortages resulted in a shutdown, and in 1987, the Preserve was closed. Various plans were made and eventually DPR was able to reopen the property in 1994.

4.2 Native American Consultation

The Native American Heritage Commission was contacted on June 4, 2009 requesting a Sacred Lands File search for traditional cultural properties. The results of the search, dated June 11, 2009, indicated that no known Native American resources are located near the Preserve area. The response letter also provided a listing of Native American contacts that might have knowledge as to whether or not cultural resources known to local Tribes are within the vicinity. For this reason, and to ensure that all potential Native American resources are adequately addressed,

letters to each of the listed tribal contacts were sent on June 19, 2009. One letter response from the Pala Band of Mission Indians and a phone call from the Pauma band was received. The Pala requested that they be kept informed of activities associated with the Preserve including copies of reports, further investigations and information on any sites found. The Pauma Band called Dr. Lord on June 29, 2009 and indicated that they had concerns about any activities at the Preserve. They indicated that they would send a letter with specific comments. No subsequent letter was received and there was no further contact. In addition, Mike Aguilar of the Cupa Cultural Center of the Pala Band of Mission Indians was on site during the survey fieldwork phase.

4.3 Cultural Resource Descriptions

4.3.1 Prehistoric Resources

CA-SDI-513

The site consists of “manos and matates” on a “bluff overlooking the river”. This site was not relocated during the 2009 survey, and it is likely that the few artifacts found were removed and sent to a museum of now-uncertain location when the site was first recorded. It is also possible that the site was destroyed when the reservoir was built sometime between 1954 and 1964.

CA-SDI-10282

Recorded in 1985, the site consists of three bedrock outcrops with five total slicks.

CA-SDI-19469 (P37-030650)

This newly recorded site is an isolated single mortar found on a boulder in the floor of the San Luis Rey River.

CA-SDI-19470 (P37-030651)

This newly recorded site is an isolated, single possible milling surface found on a boulder in the floor of the San Luis Rey River.

4.3.2 Historic Resources

P37-027475: Sickler’s Grist Mill

This site consists of the remnant stone foundation and cast iron water wheel of the Grist Mill (flourmill) that was built in 1881 and run by the Sickler Brothers. The grist mill was granted San Diego County Historic Property listing in 2005.

P37-030646

This site consists of several historic elements of an old access road or wagon road located on the north side of the San Luis Rey floodplain. An eyebolt tie-down embedded in cement near the old road grade suggests that the River was once crossed here. The road remnant consists of a packed grade about 20 feet wide and occasional rock supporting walls built to keep the road surface from collapsing south and onto the bench north of the riverbed.

P37-030864: The Long-Boddy Structure Complex

This site consists of multiple structures, features and landscaping from two period elements and themes associated with a historic homestead (Long period 1930-1940) and a nursery site (Boddy period 1954-1967).

4.4 Resource Significance

Table 2 lists the sites located within the Preserve and includes the reasons for their potential significance. Based on the results of the record searches, background information, and the results of field survey, all prehistoric sites within the Preserve are considered significant by the County Guidelines. In addition, the Sickler Grist Mill has been deemed locally significant.

Table 2. Potential Significance of Sites in the Preserve

Site Number	Significance	Discussion
CA-SDI-513	Prehistoric: Significant	The site is located in an area that was once grazed but the artifacts were likely removed from the site area in 1954. Subsurface testing may reveal additional resources.
CA-SDI-10282	Prehistoric: Significant	Milling slick and mortar sites in the Pala region suggest that villages or encampments may be nearby. Although it is not practical to perform regional subsurface testing, should development on the Preserve excavate ground near this site, archaeological monitoring may uncover additional resources.
CA-SDI-19469 (P37-030650)	Prehistoric: Significant	The existence of milling or mortar surfaces in the bottom of the San Luis Rey are noted, but the area holds little chance that additional resources will be detected. While recordation of the resource has exhausted the archaeological research potential of the site, such sites are typically considered significant from the viewpoint of Native Americans. Such sites should be protected from future impacts.

Site Number	Significance	Discussion
CA-SDI-19470 (P37-030651)	Prehistoric: Significant	The existence of milling or mortar surfaces in the bottom of the San Luis Rey are noted, but the area holds little chance that additional resources will be detected. While recordation of the resource has exhausted the archaeological research potential of the site, such sites are typically considered significant from the viewpoint of Native Americans. Such sites should be protected from future impacts.
P37-027475	Historic: Locally Significant	Sickler's Grist Mill carries historic importance to the North County Area and is a protected historic resource site.
P37-030646	Historic: Not Significant	The resource may represent the original road the Sicklers used to access the property, or the Road built by the County in the late 1800's. A segment about 400 meters long, the remnant has been truncated by erosion
P37-030864	Historic: Not significant	Structures built during the Long-Boddy Period have at least Local significance, as they are part of the historic background of the Preserve. Landscaping and minor features attributable to the Longs and Boddy's have been identified.

5.0 RESOURCE MANAGEMENT

5.1 Management Goals and Objectives

Management of the natural and cultural resources within the Preserve will be guided by the general goals and objectives of both the County and the MSCP.

5.1.1 County-Specific

County-specific goals and objectives used to guide the management of resources within the Preserve can be found in the County Strategic Plan, the DPR Strategic Plan, and the San Diego County General Plan (including the Pala/Pauma Subregional Plan). The County's overall goal or mission, as indicated in the 2009-2014 Strategic Plan, is to provide the residents of San Diego County with superior County services in terms of quality, timeliness and value in order to improve the region's quality of life. The Strategic Plan for Parks and Recreation is closely aligned with the County's strategic initiatives.

The DPR Strategic Plan 2008-2013, outlines the department's priorities for accomplishing its mission over a five-year period. The overall goal or mission of the DPR is to provide opportunities for high quality parks and recreation experiences and to preserve regionally significant natural and cultural resources. The DPR makes this mission a reality through programs that create healthy communities, protect valuable natural and cultural resources, provide recreation opportunities, reduce crime and vandalism, and foster economic development.

In addition, County specific goals and guidelines can be found in the San Diego County General Plan. Specifically, the Preserve is located within the Pala/Pauma Subregional Plan. One of the goals of the Pala/Pauma Subregional Plan is to protect sensitive biological resources within designated Resource Conservation Areas (RCA). The San Luis Rey River, which flows through the Preserve, is designated as an RCA.

5.1.2 MSCP-Related

The MSCP Plan and the North County MSCP Plan provide both general and segment-specific goals and objectives. The Preserve is included in the North County MSCP preserve system and is located within the Mount Olympus Core Area. "An objective of the MSCP is to conserve a connected system of biologically viable habitat lands in a manner that maximizes the protection of sensitive species and precludes the need for future listings of species as threatened or endangered" (City of San Diego 1998). In order to maintain the biodiversity and ecosystem health in the region while ensuring quality of life and economic growth opportunities, the North County MSCP Plan incorporates the following underlying biological and social goals:

- Develop a preserve system that will preserve ecosystem functions and values, maintain the range of natural biological communities and native species within the Plan area and contribute to the recovery of endangered, threatened, and sensitive species and their habitats.

- Protect the quality of life for residents and visitors by maintaining the scenic beauty, natural biological diversity, cultural resources, and recreational opportunities within the Plan area.

In addition, the North County MSCP Framework Resource Management Plan (Framework RMP) provides specific conservation goals for the Upper San Luis Rey River Linkage including the following which are applicable to the Preserve:

- Minimize impacts to the following sensitive habitats: coastal sage scrub habitat important to the California gnatcatcher, arroyo toad and western spadefoot toad (especially south of Highway 76) habitat (particularly for aestivation), including existing agricultural areas with upland habitat and pastures.

- Minimize impacts to the San Luis Rey River floodplain, particularly south of the river and around Wilderness Gardens Open Space Preserve. Maintain riparian and upland habitat along the San Luis Rey River for water quality and to protect rainbow/steelhead trout, Pacific lamprey, southwestern pond turtle, least Bell's vireo, southwestern willow flycatcher, arroyo toad, San Diego ambrosia, yellowbreasted chat, tricolored blackbird, and white-faced ibis.

- Maintain connectivity through natural and agricultural lands for wildlife movement of large and medium sized mammals between San Luis Rey River and Palomar Mountain.

- Removal of invasive, non-native species (e.g., *Tamarix*, *Arundo*, brown-headed cowbirds, crayfish, bull frogs, etc.) to enhance habitat quality.

- Minimize impacts to Wilderness Gardens Open Space Preserve area to retain high integrity watershed function.

5.1.3 Management Directives and Implementation Measures 

Based on the above management goals and objectives, recommended management directives have been identified. In accordance with the Framework RMP, specific conservation actions that will be performed on the Preserve fall into three categories: land stewardship, adaptive management actions, and biological monitoring. In general, land stewardship consists of the activities necessary for maintaining the integrity (i.e., functional ecosystem and protected resources) of preserved lands. Adaptive management actions include activities that are designed to benefit specific ecological features (e.g., certain species, vegetation communities or ecological

processes) based upon information that has been gained through casual observations or scientific monitoring. Biological monitoring refers to focused assessments of species or vegetation communities.

The ASMDs provided herein have been designated as Priority 1 or Priority 2. This designation recognizes the fact that many of the directives cannot be immediately implemented, but instead will occur over the life of the MSCP. The ability to implement and the timing of many of the management directives will be directly related to the availability of funding in any fiscal year and on the priority. The priorities are, therefore, intended to assist in decisions on where and how to spend limited funds. Priority designations are as follows:

Priority 1: Directives that protect the resources in the Preserve and the MSCP preserve, including management actions that are necessary to ensure that sensitive species are adequately protected.

Priority 2: Directives other than those required for sensitive species status and other long-term items that may be implemented during the life of the MSCP as funding becomes available.

The North County MSCP Framework RMP provides habitat specific management and monitoring guidelines which address the major factors that impact specific habitat types including: Riparian, Marsh and Wet Meadow Habitat; Coastal Sage Scrub, Chaparral, and Grassland Habitat; Oak Woodlands and Coniferous Forest; and Vernal Pools. The major factors that can impact these habitats include: hydrology, invasive non-native plant and animal species, and fire. Species that are most likely to benefit from these habitat based management and monitoring guidelines are detailed for each habitat type. Additionally, the North County MSCP Plan conservation analysis for specific species (such as narrow endemics, threatened or endangered species) provides species specific management and monitoring guidance.

This RMP includes management directives and implementation measures to meet MSCP goals and objectives under the following elements: A) Biological Resources, B) Vegetation Management, C) Public Use, Trails, and Recreation, D) Operations and Facility Maintenance and E) Cultural Resources.

5.2 Biological Resources Element (A)

5.2.1 Biological Monitoring

Biological monitoring will be performed onsite to gather information that will assist DPR in making land management decisions to conform to MSCP goals and objectives, as well as DPR objectives. The biological monitoring that will occur will be designed to guide decisions at the individual preserve level. The first year of monitoring has been conducted (baseline surveys) and the results are included as Appendix A. Additional monitoring results will be incorporated into stand alone

monitoring reports. These reports may recommend revisions to the management directives contained within this RMP.

Monitoring at the preserve scale is focused on obtaining information for management purposes, but can be useful for subregional and ecoregional monitoring assessment as well. DPR will monitor the status and trends of MSCP covered species (in accordance with the Framework RMP) and collect data on key environmental resources within the Preserve to select, prioritize, and measure the effectiveness of management activities. In most instances, the array of threats or stressors on preserved habitats, their mechanisms of action, and the responses of the habitats and associated species are not completely understood at this time. Therefore, ASMDs must comprehensively address resource management issues for each preserve. Information collected within each preserve will be aggregated for analysis at the subregion and ecoregion scales.

The key to successful monitoring at the individual preserve level is: close coordination with stakeholder groups that are performing subregional monitoring; sharing of data, future plans and schedules; and keeping abreast of monitoring methods as they are developed. To ensure uniformity in the gathering and treatment of data, a (SANDAG) land management working group has been formed and has designated a land manager who will assist jurisdictions in coordinating monitoring programs, analyzing data, and providing other information and technical assistance. The County is an active participant in the development of monitoring methods for the MSCP. Once these methods are fully developed, and as feasible, these methods may be adapted for North County MSCP preserves.

DPR will follow the habitat and species specific monitoring requirements outlined in the North County MSCP Plan. Additionally, DPR will follow USGS rare plant monitoring protocols (McEachern et al. 2007), San Diego State University habitat and vegetation community monitoring protocols (Deutschman et al. 2009) and USFWS wildlife monitoring protocols (USFWS 2008). These references will assist DPR in developing monitoring methods at the preserve level, as well as the management directives that are identified for specific species in this document.

Management Directive A.1 – Conduct habitat monitoring to ensure MSCP goals and DPR objectives are met (*Priority 1*)

> ***Implementation Measure A.1.1*:** DPR will conduct habitat monitoring at five-year intervals. On-going monitoring within the Preserve will identify any adverse changes in vegetation community distribution and habitat quality, such as changes from fire, invasion by non-natives or decline of existing species, and indicate if modifications to current management actions are needed. More frequent monitoring may be required following a significant fire within the Preserve. The main product of this monitoring will be a report which will include a discussion of monitoring objectives, monitoring methods to meet those objectives, and an updated vegetation community map.

***Implementation Measure A.1.2*:** DPR will conduct general wildlife and rare plant surveys at five-year intervals utilizing and refining baseline monitoring methods to facilitate trend and distribution status analysis. This information will be included in the monitoring report.

***Implementation Measure A.1.3*:** DPR will conduct monitoring for invasive plant species at five-year intervals to assess invasion or re-invasion by invasive, non-native plant species within the Preserve. These surveys will focus on areas where invasive, non-native plants have been detected in the past, but also look for new occurrences in the Preserve. Particular attention will be paid in the vicinity of the known population of thread-leaved brodiaea. This information will be included in the monitoring report.

Management Directive A.2 – Meet the corridor monitoring requirements of the MSCP (*Priority 2*)

As discussed in Section 3.4, the Preserve is located within the Upper San Luis Rey River Linkage and is an important east-west connection, including a natural land connection, to Palomar Mountain. The Preserve provides for relatively easy east-west movement along the San Luis Rey River. While corridor monitoring within the Preserve will take place at the preserve-level, it anticipated that it will provide data for better understanding wildlife movement on a regional scale.

***Implementation Measure A.2.1*:** DPR will conduct corridor monitoring at five-year intervals in conjunction with habitat monitoring and general wildlife and rare plant surveys (as described in implementation measures A.1.1 and A.1.2). The scope of monitoring will be sufficient to determine if corridors are being utilized, but not to determine the extent of use (i.e., how many individuals of any given species use a corridor). The results of the current assessment of habitat linkage function, including a list of species detected, will be included in the monitoring report.

5.2.2 MSCP Covered Species-Specific Monitoring and Management

Not all species occurring within the Preserve are expected to require species-specific management. It is expected, rather, that other management directives and implementation measures outlined under the Biological Resources and Vegetation Management elements should be sufficient to protect and manage optimal habitat conditions for most, if not all, species to maintain and/or thrive within the Preserve.

The North County MSCP provides habitat-specific management and monitoring guidelines that will benefit certain covered species for the following habitat types: Riparian, Marsh and Wet Meadow Habitat; Coastal Sage Scrub, Chaparral, and Grassland Habitat; Oak Woodlands and Coniferous Forest; and Vernal Pools. The Framework RMP outlines the major factors that are a risk to these specific habitats and discusses management and monitoring to reduce the threats. Additionally the

North County MSCP Plan conservation analysis provides species-specific monitoring and management conditions for covered species that may need more specialized management directives.

Management Directive A.3 - Provide for management and monitoring of North County MSCP Covered Species (*Priority 1*)

DPR will implement the habitat-based and, in some cases, species-specific management and monitoring guidelines as outlined in the North County MSCP Framework RMP and conservation analysis for all proposed North County MSCP covered species within the Preserve.

The recommended guidelines for those species currently known to occur in the Preserve are listed below followed by an explanation of how monitoring and/or management activities in the Preserve will comply.

In order to avoid repetition, the following is a list of the common threats/risk factors to habitats and covered species, and the corresponding management directives or implementation measures intended to address these factors.

- ***Invasive, non-native plants***: Implementation measure A.1.3 and management directives B.2 and B.3.
- ***Invasive, non-native animals***: Management directive A.4
- ***Fire***: Management directives B.2, B.3 and B.4.
- ***Human Disturbance***: Management directives C.1, C.2, C.4 and C.5.
- ***Edge effects*:** Multiple implementation measures under management directives D.7, D.8, and D.9

Thread-Leaved Brodiaea (*Brodiaea filifolia*)

Monitoring: Trend Monitoring (High Priority)

Monitoring efforts include habitat monitoring (as described in implementation measures A.1.1, A.1.2 and A.1.3) and the species-specific monitoring described in the implementation measure below.

> ***Implementation Measure A.3.1*:** DPR will conduct surveys of the thread-leaved brodiaea population within the Preserve to determine the number, size, variability and health status (*e.g.,* new vegetative growth, flowering). These surveys will also document the status of invasive species near thread-leaved brodiaea individuals, and the condition of soils and evidence of soil disturbance, such as cracking and trampling by humans. These surveys will be conducted at five-year

intervals in conjunction with the habitat monitoring and general wildlife surveys (as described in implementation measures A.1.1 and A.1.2).

Management: Population/Habitat Maintenance/Enhancement

The management approach for this species is maintenance of the population and suitable habitat (grasslands) within the Preserve, and if necessary enhancement. Human disturbance will be managed to avoid and minimize impacts to thread-leaved brodiaea. Grassland habitat will be managed to reduce the threat of fire and invasive, non-native plants.

Orange-Throated Whiptail (*Cnemidophorus hyperythrus beldingi*)

Monitoring: Status Monitoring (Low Priority)

Monitoring efforts include habitat monitoring and general wildlife (presence/absence) surveys (as described in implementation measures A.1.1, A.1.2, and A.1.3).

Management: Habitat Maintenance

The management approach for this species is maintenance of suitable habitat (sage scrub, chaparral, grasslands and oak woodlands) within the Preserve. These habitats will be managed to reduce the threat of fire and invasive, non-native plants.

Pallid Bat (*Antrozous pallidus*)

Monitoring: Status Monitoring (Low Priority)

Monitoring efforts include habitat monitoring and general wildlife (presence/absence) surveys (as described in implementation measures A.1.1, A.1.2, and A.1.3).

Management: Habitat Maintenance

The management approach for this species is maintenance of foraging and roosting habitat (grasslands, shrublands, and oak woodlands) within the Preserve. The habitat will be managed to reduce the threat of fire and invasive, non-native plants.

5.2.3 Non-Native Invasive Wildlife Species Control

One of the conservation goals for the Upper San Luis Rey River Linkage is the removal of invasive, non-native species to enhance habitat quality. The North County MSCP Plan-wide and habitat-specific management and monitoring guidelines for non-native, invasive species control were used to develop the management directives and implementation measures provided below, which are intended to meet this goal.

Management Directive A.4 – Reduce, control, or where feasible eradicate invasive, non-native fauna known to be detrimental to native species and/or the local ecosystem (*Priority 2*)

Invasive, non-native species detected within the Preserve during the 2009 surveys include a single flyover by a brown-headed cowbird, bullfrogs, and a single individual glassy-winged sharpshooter. Brown-headed cowbirds do not currently appear to be posing an immediate threat to native species and/or the local ecosystem and thus no management is proposed at this time. However, the occurrence of bullfrogs greatly reduces the likelihood of the Preserve to support a population of arroyo toad and western spadefoot toad, which occur both upstream and downstream of the Preserve. In addition, the presence of glassy-winged sharpshooter in this area could have a devastating effect on the adjacent agricultural lands. Domestic dog was also observed within the Preserve.

***Implementation Measure A.4.1*:** DPR will conduct surveys for the presence of invasive, non-native wildlife species of management concern, including cowbirds and bullfrogs, at five-year intervals in conjunction with habitat monitoring and general wildlife surveys (as described in implementation measures A.1.1 and A.1.2). Subsequent surveys will document and monitor the extent of the bullfrog population, and cowbird parasitism on target species nests, if any, in the Preserve.

***Implementation Measure A.4.2*:** If future monitoring indicates that cowbird parasitism is occurring within the Preserve and having a detrimental effect on native bird species, DPR will consider establishing a cowbird trapping program to increase the nesting success of target species.

***Implementation Measure A.4.3*:** DPR will seek the necessary funding to prepare and implement a bullfrog trapping and removal program, or other means of humane control, in order to protect arroyo toad, western spadefoot toad, and other sensitive species from predation. The trapping effort should be focused at the man-made pond which is currently serving as the source for this invasive predator.

***Implementation Measure A.4.4*:** DPR will coordinate with the County Department of Agriculture, Weights and Measures to determine what, if any, additional monitoring or actions for glassy-winged sharpshooter within the Preserve may be warranted in order to protect the extensive agricultural lands adjacent to the Preserve.

***Implementation Measure A.4.5*:** Park rangers will document any observed evidence of domestic animal use in the Preserve and enforce the restriction of domestic pets. If documentation or monitoring and wildlife surveys (as described in implementation measures A.1.1 and A.1.2) indicate domestic animals in the Preserve are having a negative effect on sensitive biological resources, DPR will

establish an education program for adjacent landowners and recreational users to: educate them of the negative impacts caused by domestic animals; inform them that domestic pets are not allowed within the Preserve; and encourage them to keep pets properly restrained in order to prevent them from wandering onto Preserve property.

5.2.4 Future Research

The MSCP preserve presents a rich array of research opportunities for the academic and professional communities, primarily in disciplines related to biology, ecology, and natural resources management, but also ranging to environmental design, sociology, and park use and administration. The County of San Diego encourages research within the MSCP preserve in order to gain valuable information unavailable through other means.

There are a multitude of unanswered questions posed by the development of a multiple species and habitat system where little literature or previous research exists on the majority of species inhabiting the region. In addition, research on vegetation associations and habitats, natural regeneration, restoration, fragmentation, edge effects, genetics, viability, predation, wildlife movement, and much more, would be useful to provide information on the health and dynamics of this open space system as well as how to improve conditions.

Management Directive A.5 – Allow for future research opportunities for the Academic and Professional Scientific and Biologic Activities within the Preserve (*Priority 2*)

***Implementation Measure A.5.1*:** DPR will accept and review proposals for scientific research, monitoring, and habitat restoration and enhancement activities which are permitted within the MSCP preserve. Proposed research activities will be subject to approval by DPR. All such activities must obtain any necessary permits and shall be consistent with this RMP. Additionally, any person conducting research of any kind within the Preserve shall obtain a Right-of-Entry Permit from DPR, which will outline the precautions to be taken to preserve and protect sensitive biological and cultural resources within the Preserve and require results of any research to be made available to DPR.

5.3 Vegetation Management Element (B)

The North County MSCP provides Plan-wide and habitat-specific management and stewardship guidelines for non-native invasive species control, habitat restoration, and fire and vegetation management. In addition, MBA prepared a *Vegetation Management Report for Wilderness Gardens Preserve* in conjunction with the baseline surveys (MBA 2010b). The report characterizes current site conditions and details recommended measures for invasive species control, habitat restoration, and fire management within the Preserve. These guidelines and recommendations were

used to develop the management directives and implementation measures provided below.

5.3.1 Habitat Restoration

Per the North County MSCP, habitat restoration is not typically required by the Plan permit on preserve lands, but is encouraged if resources are available.

Management Directive B.1 – Restore degraded habitats to protect and enhance populations of rare and sensitive species through stabilization of eroded lands and strategic revegetation (*Priority 2*)

No active restoration is currently needed as the Preserve is relatively undeveloped and undisturbed. However, the areas recommended for invasive, non-native vegetation removal (as described in Section 5.3.2) have potential to be restored to a more natural, ecological state after non-native eradication efforts have been conducted.

> ***Implementation Measure B.1.1*:** DPR will re-assess and prioritize the need for potential restoration activities within the Preserve during habitat monitoring (as described in implementation measures A.1.1 and A.1.3) and trail maintenance activities (as described under management directive C.5). Any proposed restoration activities should utilize current, accepted techniques and avoid/minimize impacts to sensitive species or native habitats. Any proposed revegetation activities should use only local, native species.

5.3.2 Non-Native Invasive Plant Species Removal and Control

One of the conservation goals for the Upper San Luis Rey River Linkage is the removal of invasive, non-native species to enhance habitat quality. The following management directives and implementation measures are intended to meet this goal. In addition, non-native, invasive plant removal serves the dual purpose of vegetation thinning for fire suppression.

Management Directive B.2 – Reduce, control, or where feasible eradicate invasive, non-native flora known to be detrimental to native species and/or the local ecosystem (*Priority 1*)

As described in Section 3.2.4, the majority of the non-native, invasive plant species detected within the Preserve during the 2009 surveys are located within the floodplain of the San Luis Rey River and surrounding the man-made pond. The high priority species targeted for removal include: arundo, tamarisk and yellow starthistle. Tree tobacco and castor bean should also be removed during Preserve maintenance activities or in conjunction with the removal of the high priority invasive plant species, if feasible.

***Implementation Measure B.2.1*:** DPR will coordinate with other agencies, non-profit organizations, and/or volunteer groups in order to seek funding and implement non-native, invasive plant removal projects for high priority species, including arundo and tamarisk, along the San Luis Rey River and around the man-made pond in order to enhance habitat quality. See also implementation measure B.4.4.

***Implementation Measure B.2.2*:** DPR will coordinate with the County Department of Agriculture, Weights and Measures, the lead agency of the San Diego Weed Management Area, to implement mapping and control efforts for yellow starthistle within the Preserve.

Management Directive B.3 – Manage and minimize the expansion of invasive, non-native flora within the Preserve (*Priority 2*)

***Implementation Measure B.3.1*:** DPR will implement an educational program for Preserve visitors and adjacent residents in order to discourage the introduction of invasive, non-native plants into the Preserve. Provided information will discuss invasive plants harmful to the Preserve, and prevention methods. The program may also encourage residents to voluntarily remove invasive, non-native plants from their landscaping. See also implementation measure D.8.1.

5.3.3 Fire prevention, control, and management

Because Wilderness Gardens Preserve has not burned in over 55 years, it is considered a high fire risk area. The Preserve is located within the San Luis Rey West Priority Area for fuel management as identified by the Forest Area Safety Task Force (County of San Diego 2009c).

Current fire management activities within the Preserve include a fuel modification zone found within the eastern portion of the Preserve south of the main entrance where the Preserve abuts a private residence along the southern boundary (Figure 8). In addition, park rangers maintain up to 30 feet of defensible space along both sides of the paved entrance road leading into the parking area and 100 feet of defensible space around the existing structures on site.

In the event of a fire, access to the day-use area of the Preserve is provided by the existing dirt roads. There are no fire breaks within the Preserve.

Management Directive B.4 – Provide for necessary fire management activities that are sensitive to natural and cultural resources protection (*Priority 1*)

***Implementation Measure B.4.1*:** Park ranger staff will maintain the established fuel modification zone on Preserve property adjacent to the existing residential structure within 100 feet of the Preserve property boundary, and defensible space along the entrance road into the Preserve and surrounding the structures

on site. Management of the fuel modification zone and defensible space will adhere to CAL FIRE requirements.

The intent of the fuel modification zones and defensible space is to protect habitable structures within and adjacent to the Preserve from wildfires and provide for safe access for CAL FIRE vehicles and crew when responding to a fire within the Preserve. These areas may further protect the resources within the Preserve by absorbing some of the "edge effects" that might otherwise occur within the Preserve.

***Implementation Measure B.4.2*:** Park ranger staff will maintain the existing dirt roads/trails within the Preserve acting as access roads to the day-use area as needed to keep them fuel free. This may include thinning vegetation along each side of the dirt roads/trails up to two feet, or as needed.

***Implementation Measure B.4.3*:** Park ranger staff will identify and remove any dead snags identified as a hazard. Otherwise, snags will remain for wildlife purposes.

***Implementation Measure B.4.4*:** DPR will coordinate with other agencies, non-profit organizations, and/or volunteer groups in order to seek funding and implement non-native, invasive plant removal projects for high priority species that pose fire hazards within the Preserve. See also implementation measure B.2.1.

***Implementation Measure B.4.5*:** DPR will continue to coordinate with CAL FIRE to ensure that the fire response and implementation measures outlined here and in the Vegetation Management Report (MBA 2010b) are up-to-date and adequate for effective fire response within the Preserve. As part of this effort, DPR will review fire history maps at least once every 10 years to determine if Preserve lands are within natural fire return intervals and for estimation of fuel age class.

5.4 Public Use, Trails, and Recreation Element (C)

5.4.1 Public Access

Management Directive C.1 – Limit types of public uses to those that are appropriate for the site (*Priority 1*)

***Implementation Measure C.1.1*:** Park rangers will enforce the following prohibited public uses and restrictions within the Preserve. Park rangers may call the sheriff for legal enforcement, as appropriate.

a. The unauthorized operation of motor vehicles is prohibited.

b. No person shall use, transport, carry, fire, or discharge any firearms, air guns, archery device, slingshot, fireworks, or explosive device of any kind in the Preserve, except for law enforcement and/or emergency purposes.

c. No person shall remove, deface, or destroy trail markers, monuments, fences, trees, camp or picnic structures or other Preserve facilities.

d. Poaching or collecting plant or animal species, archaeological or historical artifacts or fossils from the Preserve is generally prohibited; however, the County may authorize collecting upon approval for scientific research, revegetation or restoration purposes, or species recovery programs. In addition, impacts to historic features are prohibited except upon approval by the County.

e. Fishing, swimming, and wading in rivers, streams, or creeks is not allowed.

f. Feeding wildlife is not allowed.

g. No intoxicating liquors having more than 20% alcohol by volume are permitted.

h. No smoking.

i. Campfires are prohibited. Stoves allowed only in primitive group camping area.

j. Off-trail biking or hiking is not allowed.

k. No littering.

l. Domestic pets are excluded from the Preserve. Dogs accompanying the unsighted or deaf are excepted.

***Implementation Measure C.1.2*:** DPR will ensure that prohibited uses are clearly specified on kiosks, signage and/or trail maps.

Management Directive C.2 – Manage public access in sensitive biological and cultural resource areas within the Preserve (*Priority 1*)

***Implementation Measure C.2.1*:** DPR has identified and mapped narrow endemics and critical populations, and all covered species populations in the Preserve so that these areas can be avoided and/or monitored. Updated information on sensitive species in relation to public access points will be obtained during general wildlife and rare plant surveys in conjunction with habitat monitoring (as described in implementation measures A.1.1 and A.1.2).

***Implementation Measure C.2.2*:** DPR will provide sufficient signage to clearly identify public access to the Preserve. Barriers such as vegetation, rocks/boulders or fencing may be necessary to protect highly sensitive areas, such as the native grassland, which provides habitat for thread-leaved brodiaea, and the San Luis Rey River channel and floodplain, which provides potential

habitat for arroyo and western spadefoot toads. The appropriate types of barriers to be used will be determined based on location, setting and use.

***Implementation Measure C.2.3*:** Park ranger staff will ensure park users picnic within the designated picnic areas of the Preserve in order to minimize littering, feeding of wildlife, and attracting or increasing populations of exotic or nuisance wildlife (e.g., opossums, raccoons, skunks).

Management Directive C.3 – Provide appropriate interpretive and educational materials (*Priority 2*)

***Implementation Measure C.3.1*:** DPR will share outreach and educational information and notify the public of volunteer opportunities that advance the management, monitoring, and stewardship resources available, and objectives of this RMP. This information will be provided on the DPR website: www.sdparks.org.

***Implementation Measure C.3.2*:** DPR will identify opportunities for educational trail-side signage and educational kiosks within the Preserve. In addition, signage provided at access points and on trails maps provides a form of education. The use of signs that attract attention to sensitive species or cultural resources will be limited as they may invite disturbance. See also implementation measure E.3.1.

***Implementation Measure C.3.3*:** When possible, park rangers assigned to this Preserve should organize and conduct interpretative walks or programs within the Preserve discussing on-site biological and cultural resources. During these interpretative walks or programs, rangers should distribute the "Living Close to Nature" brochure. This brochure discusses how to live in harmony with wildlife. The interpretative walks and programs should be conducted in accordance with park ranger availability.

5.4.2 Fencing and Gates

Currently, there is an electric vehicle access gate at the Preserve entrance. The remainder of the Preserve contains natural boundaries of steep cliffs and dense brush. The existing fencing within Preserve property along the western boundary is a remnant from a previous landowner and does not serve as public access control; therefore, no maintenance is proposed for this fencing. In addition, the fencing along the southern boundary adjacent to the Preserve entrance is owned and maintained by the adjacent property owner and, therefore, is not the responsibility of DPR.

Management Directive C.4 – Install and maintain fencing and gates within the Preserve (*Priority 1*)

***Implementation Measure C.4.1*:** Park ranger staff will install fencing and/or gates as needed to restrict unauthorized access and protect particularly sensitive species or habitats from impacts. Points of unauthorized access and sensitive species impacts will be identified in conjunction with habitat, wildlife, and trail monitoring activities (as described in implementation measures A.1.1, A.1.2, and C.5.1). DPR will ensure that any fences or gates will be designed and located so they do not impede wildlife movement or impact cultural resources.

***Implementation Measure C.4.2*:** Park ranger staff will regularly inspect and maintain the entry gate to the Preserve. The gate will be repaired or replaced as necessary.

5.4.3 Trail and Access Road Maintenance

Currently, there is one private road that provides access to the Preserve entrance and staging area. In addition, there are approximately four miles of trails within the Preserve that include both dirt roads and trails.

Management Directive C.5 – Properly maintain public access roads, staging areas and trails for user safety, to protect natural and cultural resources, and to provide high-quality user experiences (*Priority 1*)

***Implementation Measure C.5.1*:** Park ranger staff will monitor public access roads, staging areas, and trails for degradation and off-trail access and use. Special attention will be paid to access areas through sensitive habitats such as native grassland, which provides habitat for thread-leaved brodiaea, and along the San Luis Rey River, which provides potential habitat for arroyo and western spadefoot toads. If necessary, park ranger staff will provide necessary repair/maintenance in accordance with the Community Trails Master Plan (County of San Diego 2009a). See also implementation measures B.4.2 and D.3.3.

***Implementation Measure C.5.2*:** If temporary closure of a trail is deemed necessary for maintenance or remediation, temporary closure actions will be accompanied by educational support, and public notification through signs and/or public meeting announcements. An implementation schedule should be written by DPR Operations staff when maintenance or remediation is deemed necessary.

The trail will be posted with signage that indicates temporary closure and the primary reason for the closure (e.g., erosion issues, and sensitive biological resource impacts). Finally, signs should provide contact information for anyone wishing to provide input on trail use or gain additional information regarding temporary closure of trails.

Once posted, the trails in need of maintenance should be blocked with A-frame barricades and/or caution tape. Enforcement of the temporary closure of a trail would require increased ranger patrols of these areas and investigations to determine if the barriers are effective.

***Implementation Measure C.5.3*:** DPR will restore degraded habitats, control non-native plant species along trails, and reduce detrimental edge effects through spot treatment of non-native plants, maintenance and stabilization of trails and strategic revegetation. Measures to counter the effects of trail erosion may include the use of stone or wood cross-joints, edge plantings of native grasses, and mulching of the trail in accordance with the Community Trails Master Plan (County of San Diego 2005). See also implementation measures B.1.1 and B.2.1.

***Implementation Measure C.5.4*:** If unauthorized trail formation is observed by park ranger staff, those specific areas will be posted with clear signage reminding the public to remain on authorized trails.

5.4.4 Signage and Lighting

Management Directive C.6 – Develop, install, and maintain appropriate signage to effectively communicate important information to Preserve users (*Priority 1*)

Signs educate, provide direction, and promote sensitive resources and enjoyment of natural areas. Types of signs within the Preserve may include those necessary to: protect sensitive biological and cultural resources (see E.2.4); provide educational and interpretive information (see C.3.2 and E.3.1); explain rules of the Preserve (see C.1.2 and D.2.1); direct public access (see C.2.2, C.5.5 and D.3.3); and, provide Parks operations information (see C.5.2).

Current posted signs include the following: Mountain Lion information; Smoking is Prohibited at all County Parks; Domestic Animals Prohibited; Off-roading and ATV Vehicles Prohibited; Weapons and Fireworks Prohibited; All Plants and Animals Are Protected; No Open Flames; and No Dumping.

***Implementation Measure C.6.1*:** Park ranger staff will regularly inspect and maintain all posted signs within the Preserve in good condition. Signs shall be kept free from vandalism and will be repaired or replaced as necessary.

Management Directive C.7 – Provide and maintain appropriate lighting within the Preserve where essential for roadway, facility use, and safety and security purposes (*Priority 2*)

Existing facility lighting within the Preserve consists of exterior coach lighting at the park office and the existing volunteer pad.

***Implementation Measure C.7.1*:** Park ranger staff will install outdoor light timers on the existing facility lighting to limit its duration during the night. Timers will be set to shut off lights after 10:00 P.M.

5.5 Operations and Facility Maintenance Element (D)

5.5.1 Litter/Trash and Materials Storage

Management Directive D.1 – Maintain a safe and healthy environment for Preserve users (*Priority 1*)

***Implementation Measure D.1.1*:** Park ranger staff will maintain the trash receptacles provided at the parking/staging and picnic areas. The trash receptacles are designed to be secure from intrusion by wildlife species. Ranger staff will regularly empty trash receptacles at least twice a week or more/less as deemed necessary.

***Implementation Measure D.1.2*:** DPR will prohibit the permanent storage of hazardous and toxic materials within the Preserve. Any temporary storage must be in accordance with applicable regulations, and otherwise designed to minimize any potential impacts.

Management Directive D.2 – Publicize and enforce regulations regarding littering/dumping (*Priority 1*)

***Implementation Measure D.2.1*:** DPR will ensure that lists of regulations are provided to Preserve users (e.g., posted on kiosks) clearly stating that littering within the Preserve is illegal, and will provide appropriate DPR contacts to report any littering observed.

***Implementation Measure D.2.2*:** Park rangers will enforce regulations regarding littering/dumping (County Code of Regulatory Ordinance Section 41.116). Penalties for littering and dumping will be imposed by law enforcement officers sufficient to prevent recurrence and reimburse costs to remove and dispose of debris, restore the area if needed, and pay for additional DPR staff time. Areas where dumping recurs will be evaluated for potential barrier placement. Additional monitoring and enforcement will be provided as needed.

5.5.2 Hydrological Management

Conservation goals for the Upper San Luis Rey River Linkage include: minimizing impacts to the San Luis Rey River floodplain (particularly south of the river in the Preserve) to retain high integrity watershed function; and maintaining riparian and upland habitat along the river for water quality. The North County MSCP habitat-specific hydrology management and monitoring guidelines were used to develop the management directives and implementation measures provided below, which are intended to meet these goals.

Management Directive D.3 – Retain the San Luis Rey River and floodplain in its natural condition (*Priority 1*)

***Implementation Measure D.3.1*:** DPR will review the data resulting from the County Watershed Protection Program, which monitors water quality throughout the County annually for pollutants that are likely to be delivered from nearby land use, to identify any potential water quality concerns within the Preserve.

***Implementation Measure D.3.2*:** DPR will conduct visual assessments of the San Luis Rey River channel conditions in conjunction with habitat monitoring (as described in implementation measure A.1.1). Where channel conditions are considered poor (e.g., unstable banks), follow up surveys will be conducted to determine if management actions are necessary. Where necessary, DPR will take measures to stabilize banks and control erosion.

***Implementation Measure D.3.3*:** Park ranger staff will inspect for off-trail access and use adjacent to the San Luis Rey riverbed and floodplain during regular patrols and monitoring (as described in implementation measure C.5.1). If necessary, measures to control public access in these areas, such as installation of signage, may be implemented.

5.5.3 Emergency, Safety and Police Services

Management Directive D.5 – Cooperate with public health and safety personnel to achieve their goals while helping to reduce or eliminate impacts to biological and cultural resources within the Preserve (*Priority 1*)

***Implementation Measure D.5.1*:** DPR will allow law enforcement officials and all medical, rescue and other emergency agencies to access Preserve property as necessary to enforce the law and carry out operations necessary to protect the health, safety, and welfare of the public. DPR will coordinate with the applicable agencies to inform field personnel of the locations of particularly sensitive biological and significant cultural resources and how to minimize damage to these resources.

Management Directive D.6 – Provide for a safe recreational experience for Preserve visitors (*Priority 1*)

***Implementation Measure D.6.1*:** In the event of a natural disaster, such as a fire or flood, park rangers shall evacuate the Preserve and coordinate with the Emergency Operations Center. In addition, staff will coordinate with the local agency in charge of responding to the emergency and, if possible, assist where necessary.

5.5.4 Adjacency Management Issues

As described in Section 2.4.2, there is currently only limited development immediately contiguous to the Preserve. The establishment of the MSCP preserve system does not include regulatory authority on properties adjacent to the Preserve; however, the County requires adjacent property owners to follow permitting conditions when planning and implementing uses and activities that can be regulated when located immediately adjacent to the site.

Management Directive D.7 - Enforce Preserve boundaries (*Priority 1*)

***Implementation Measure D.7.1*:** DPR and park rangers will enforce, prevent, and remove illegal intrusions into the Preserve (e.g., orchards, decks) on an annual basis, in addition to a complaint basis.

Management Directive D.8 – Educate residents of surrounding areas regarding adjacency issues (*Priority 2*)

***Implementation Measure D.8.1*:** DPR will provide information on this RMP to residents adjacent to the Preserve to heighten environmental awareness, and inform residents of access, appropriate landscaping, construction or disturbance within the Preserve boundaries, pet intrusion, fire management, and other adjacency issues. This RMP will also be accessible on the DPR website and will thus be available to adjacent residents and to the general public.

5.6 Cultural Resources Element (E)

The goal of this section of the RMP is long-term preservation, public interpretation of the cultural resources, and interaction with the bands of Native Americans in whose traditional tribal territory this Preserve exists.

Management Directive E.1 – Identify, record, and assess the significance of cultural resources within the Preserve (*Priority 2*)

Implementation Measure E.1.1: DPR will seek funding and partnership opportunities in order to conduct additional research of the barn and other remaining structures associated with the Long-Boddy Structure Complex (site P37-030864) and assess their eligibility as a Historical Landmark, and to the California Resources Historic Register/National Register of Historic Places.

Management Directive E.2 – Preserve and protect significant cultural resources to ensure that sites are available for appropriate uses by present and future generations (*Priority 2*)

***Implementation Measure E.2.1*:** Threats to the cultural resources from natural (e.g., fire, erosion, floods) or human-caused events shall be identified, and impacts prevented, reduced, eliminated, or adverse effects mitigated.

Safeguards against incompatible land and resource uses shall be identified to protect all cultural resources.

***Implementation Measure E.2.2*:** The condition and status of cultural resources shall be noted as part of routine monitoring activities conducted once a year and remedial measures shall be taken if damage is noted. Monitoring activities should also photo-document site conditions so that comparisons can be made over time. Any monitoring of the sites in the Preserve will follow the guidelines found in the County of San Diego *Report Format and Content Requirements, Cultural Resources: Archaeological and Historical Resources* (2007).

All site location information will be kept strictly confidential, and will be available only for qualified cultural resource staff and land managers. Site locations will not be shown on maps or divulged to the public.

***Implementation Measure E.2.3*:** All management activities within the Preserve including, but not limited to, trail construction and maintenance, placement of fencing and gates, and restoration of habitat will take into consideration potential impacts to cultural resources and shall avoid adverse impacts to any cultural resources to the maximum extent possible. No ground disturbing activities will be allowed on or in any cultural resource site within the Preserve until the impacts have been assessed.

If avoidance is not feasible, appropriate mitigation measures will be established. Removal or disturbance of cultural resources shall not occur prior to completion of an approved mitigation program, such as data recovery or recordation. Preservation in place is the preferred mitigation measure.

***Implementation Measure E.2.4*:** Signs shall be posted at kiosks, trail heads and/or throughout the Preserve to notify users that sensitive cultural resources within the Preserve cannot be damaged and that removal of any archaeological material is prohibited by law. The use of signs that attract attention to significant cultural resources will be limited so as to not invite disturbance. Protection and preservation of cultural resources will comply with County of San Diego ordinances (Title 4; Public Property, Division 1; Parks and Beaches, Article 2, Section 41.113), and applicable state and federal laws, which will be enforced by the appropriate law enforcement authorities.

The County will ensure that park ranger staff has sufficient training through the DPR Ranger Academy to actively protect archaeological sites from vandalism and other forms of human impact. If a Preserve user is suspected of vandalism to cultural resources, the appropriate law enforcement authorities shall be notified. More aggressive measures may be needed if vandalism and damage continue or increase.

Management Directive E.3 – Promote the beneficial uses of cultural resources through interpretation and educational programs (*Priority 2*)

***Implementation Measure E.3.1*:** Off-site, and when possible, on-site interpretive programs for Native American heritage, local and regional history, and prehistory will be developed for the Preserve. These may include lectures, walks, kiosks, signs, historic brochures, and displays, but will not include excavations, collecting of artifacts, or disclosure of confidential site locations unless an interpretive plan is developed and approved by the Director of Parks and Recreation. The plan will include supervision by a qualified archaeologist approved by the Director of Parks and Recreation.

Management Directive E.4 – Honor Native American Heritage and promote Native American ceremonies, gathering, and cultural practices (*Priority 2*)

***Implementation Measure E.4.1*:** DPR will continue to coordinate and consult with the Pala Band of Mission Indians, the San Luis Rey Band of Mission Indians, and the Pauma Band of Luiseño Indians in order to keep them informed of activities associated with the Preserve. Consultation shall be conducted frequently in order to identify appropriate management of pre-contact and ethnographic cultural resources. The tribes will be encouraged to participate in evaluation, recordation, protection and preservation of cultural resources.

***Implementation Measure E.4.2*:** The County will open the Preserve to traditional uses, including selective harvesting of native plants, by the Pala Band of Mission Indians, the San Luis Rey Band of Mission Indians, and the Pauma Band of Luiseño Indians. All activities by Native Americans in the Preserve shall be conducted with a Right-of-Entry permit specifically designed for the Preserve.

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APPENDIX A

Baseline Biodiversity Report for the Wilderness Gardens Preserve in Unincorporated San Diego County, California

(See www.co.san-diego.ca.us/parks/management_plans.html)

APPENDIX B

Cultural Resource Inventory of the Wilderness Gardens Preserve Project for the County of San Diego Parks Department, San Diego County, California

(See www.co.san-diego.ca.us/parks/management_plans.html)