Resource Management Plan
for
Santa Margarita Preserve
San Diego County





June 2012

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

SANTA MARGARITA PRESERVE

RESOURCE MANAGEMENT PLAN

June 29, 2012

Approved by:

Brian Albright, Director
County of San Diego
Department of Parks and Recreation

6/30/12
Date

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LIST OF ACRONYMS

AMSL	above mean sea level
ASMD	area-specific management directive
BMP	Best Management Practice
CAL FIRE	California Department of Forestry and Fire Protection
Cal-IPC	California Invasive Plant Council
CDFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
DPR	County of San Diego Department of Parks and Recreation
FESA	Federal Endangered Species Act
MSCP	Multiple Species Conservation Program
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NOAA	National Oceanic and Atmospheric Administration
PAMA	Pre-Approved Mitigation Area
RMP	resource management plan
SANDAG	San Diego Association of Governments
SDGE	San Diego Gas and Electric
SDMMP	San Diego Management and Monitoring Program
SRA	State Responsibility Area
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VCM	Vegetation Classification Manual
VMP	Vegetation Management Plan

1.0 INTRODUCTION

In 1992 and 2007, the County of San Diego Department of Parks and Recreation (DPR) acquired the 210-acre[1] Santa Margarita Preserve (Preserve). The Preserve contributes to a larger network of preserved lands in the area including 90 acres owned by the Bureau of Land Management, properties owned by the Fallbrook Public Utility District including an 11-mile trail system, and 240 acres owned by the San Diego State University managed as part of the Santa Margarita Ecological Reserve. The Preserve is included in the proposed North County Plan preserve system and consists of habitats ranging from low to very high in value, as well as areas that have been marginally impacted by human activities. Currently, the Preserve is open to the public

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 Plan and the Draft North County Plan Framework Resource Management Plan (Draft Framework RMP) (County 2009a).

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; and

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

It is recognized that County-owned land is only a small portion of the North County Plan preserve system. The County does ensure management of other lands that are dedicated as a conservation easement for discretionary project mitigation through requiring land developers to prepare Resource Management Plans. The

[1] The assessor's parcel data list the Preserve to be 220.53 acres; however, calculations generated from GIS data show the Preserve as 210 acres. Therefore, this RMP references the property as 210 acres.

County will spearhead a larger coordinated effort to ensure that other conserved lands in the area that make up the North County Plan preserve are also being monitored and managed consistent with this RMP, and the overall goals of the Draft North County Plan once it is finalized.

1.1.1 Draft North County Plan

The Draft North County Plan 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. The Draft North County Plan is being prepared 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). The Preserve is owned and operated by the County and is included within the Draft North County Plan preserve system.

The Draft North County Plan will expand the County's MSCP into the northwestern unincorporated areas of the County. The Draft North County Plan will help conserve habitat that benefits numerous species, including the 63 species planned for coverage, as well as provide passive recreational and educational opportunities to residents in the region. The Draft North County 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.

1.1.2 Draft North County MSCP Framework RMP and ASMDs

As part of the Draft North County Plan, the County prepared the Draft Framework RMP, which is intended to provide general direction for all preserve management and biological monitoring within the Draft North County Plan preserve system. The Draft 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. Chapter 5 of this RMP includes ASMDs for the Santa Margarita Preserve, which were developed in accordance with the Draft Framework RMP using the information gained during baseline biological and cultural resources surveys. The ASMDs will be revised once the Draft North County Plan, including the Draft Framework RMP, is finalized.

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, as defined in the Draft North County Plan, is "…a decision process that promotes flexible decision making, which can be adjusted in the face of uncertainties as outcomes from management actions and other events are better understood. Careful monitoring of these outcomes advances scientific understanding and allows for the adjustment of policies and/or operations as part of an interactive learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity." Adaptive management 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 species proposed for coverage under the Draft North County Plan are currently being developed and are subject to change based on the approval and adoption of the Final North County Plan documents.

It is anticipated that this RMP will be reviewed and revised at least 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, or finalization and approval of the Draft North County Plan.

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 Draft North County Plan preserve system. The Preserve is fully owned and operated by DPR and the DPR District Park Manager assigned to the Preserve is the land manager. The District Park Manager and Resource Management Division staff will be responsible for the implementation of the RMP.

The Preserve is located in the management district of one Senior Park Ranger, one Park Ranger, one Park Maintenance Worker, and three seasonal employees. Park Rangers patrol the Preserve on a daily basis, twice a day during the week and three to four times a day during the weekend. 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 the daily operations of 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 Funding Mechanism

The County allocates general funds for costs to implement the MSCP, including funding for land management, stewardship, and adaptive management and monitoring. The County Board of Supervisors approved approximately $4.7 million of General Fund allocations for implementation of the MSCP for fiscal years 2009-10 and 2010-11 (County 2010a). Base funding for land management costs will be maintained for baseline preserves owned by the County and will be increased as lands are acquired in the future.

The County estimates that current funding levels will provide for adaptive management and monitoring on all currently owned preserve lands. Future regional funding sources are also anticipated to fund adaptive management and monitoring activities throughout the preserve system.

2.0 PROPERTY DESCRIPTION

2.1 Property Location

The Preserve is located in northern San Diego County approximately 5.5 miles west of Interstate 15 (I-15), approximately nine (9) miles north of State Route 76 (SR-76), and approximately two (2) miles northwest of downtown Fallbrook, California (Figure 1). Specifically the Preserve is located directly west of Sandia Creek Drive, just east of the northeastern portion of Camp Pendleton Marine Corps Base and the southern portion of the Preserve is bisected by De Luz Road. The Preserve lies within Sections 12 and 13 of Township 9 South and Range 4 West on the USGS 7.5 minute Fallbrook and Temecula quadrangles (Figure 2). The Preserve consists of assessor's parcel numbers 102-160-17, 102-160-49, 102-160-27, and 103-010-67).

2.2 Geographical Setting

The Preserve is located in the upper Santa Margarita River Valley, which consists of a deep basin surrounded by steep hills and rocky rises ranging in elevation from approximately 90 meters (m) (300 feet [ft]) above mean sea level (AMSL) along the valley floor, to over 275 m (900 ft) AMSL in the hills north and south of the river bottom (Figure 2). The Preserve is situated within the southern Santa Ana Mountains, south of Temecula Valley, west of Rainbow Valley, and west of Gavilan Mountain.

2.2.1 Site Access

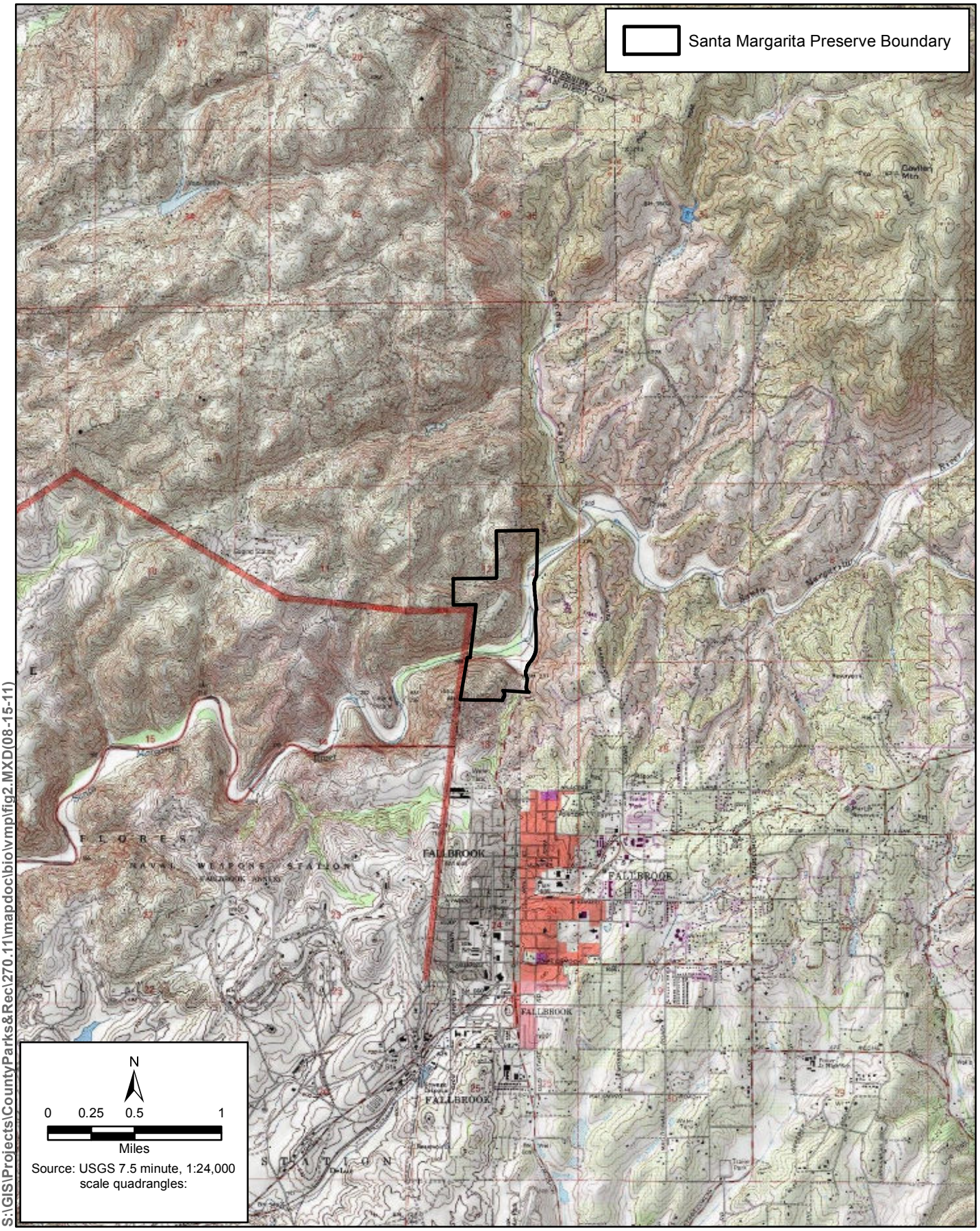
The Preserve can be accessed by the public off of De Luz Road at the staging area. Access to the Preserve trail system for ranger patrol purposes can utilize Sandia Creek Drive.



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Figure 1
Regional Location
Santa Margarita Preserve



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Figure 2
Preserve Vicinity Map
Santa Margarita Preserve

2.2.2 Draft North County Plan Context

The Preserve is located in the Draft North County Plan area within the designated Santa Margarita Core Area. The Preserve is designated as a "Preserve Area" (Figure 3). Adjacent properties include open space to the north and northeast designated as Special District; vacant/undeveloped land and rural residential to the south designated as Pre-Approved Mitigation Area (PAMA); vacant/undeveloped land, rural residential, and orchard/vineyard to the east designated as PAMA and Outside of PAMA; and Camp Pendleton to the west.

2.2.3 County of San Diego General Plan Context

The Preserve is located within the Fallbrook Community Plan area. The Fallbrook Community Plan includes goals to preserve plant and animal habitats and wildlife corridors, provide a well balanced system of recreational facilities, and to provide ample preserved open space.

2.3 Physical and Climatic Conditions

2.3.1 Geology and Soils

The Preserve lies within the Peninsular Ranges geomorphic province of California. Northwest-trending faults and structural blocks, with intervening valleys, characterize this physiographic region. Regional geologic maps for the area indicate that materials underlying the Preserve are primarily Mesozoic granite, quartz monzonite, granodiorite, and quartz diorite (Geologic Map of California 2010).

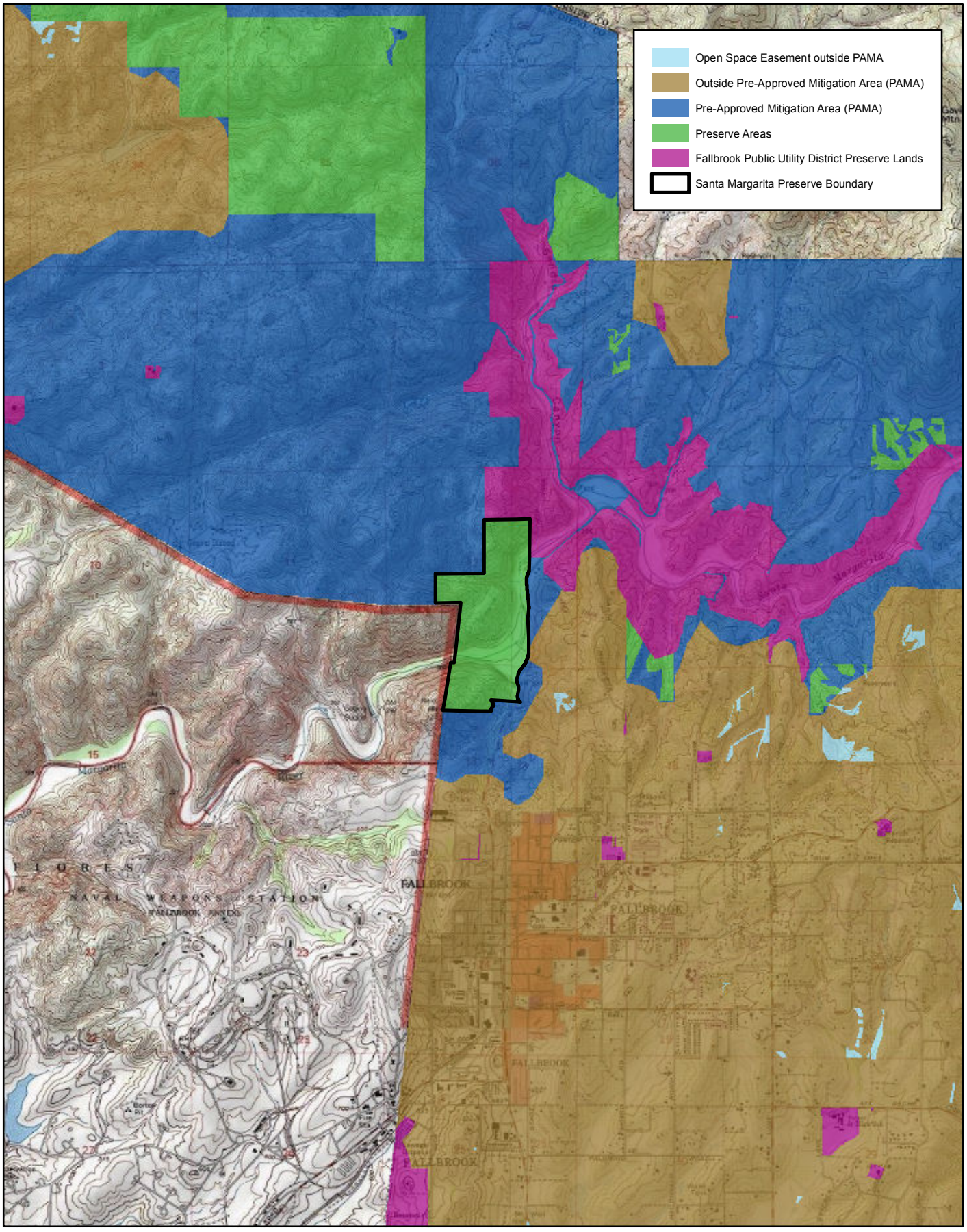
Within the Preserve, two principal soil types are represented. The majority of the soil, located on slopes of 30-75%, consists of Cieneba very rocky, coarse, sandy loam. The other major soil type present within the Preserve is alluvial riverwash, located in the Santa Margarita Creek bed (Figure 4) (Bowman 1973). A brief description of each soil type that occurs on the Preserve is provided below.

Cieneba Series

The Cieneba series consists of very shallow and shallow, somewhat excessively drained soils that formed in material weathered from granitic rock.

Riverwash

Riverwash soils occur in areas with active stream channels or flood plains, and adjacent to drainage ways. In addition to the Riverwash soils two additional soils are found within the Santa Margarita River. These soils include Ramona, sandy, loam and Visalia, sandy, loam. The Ramona soils are comprised of fine loams while the Visalia soils are primarily comprised of coarse loams.

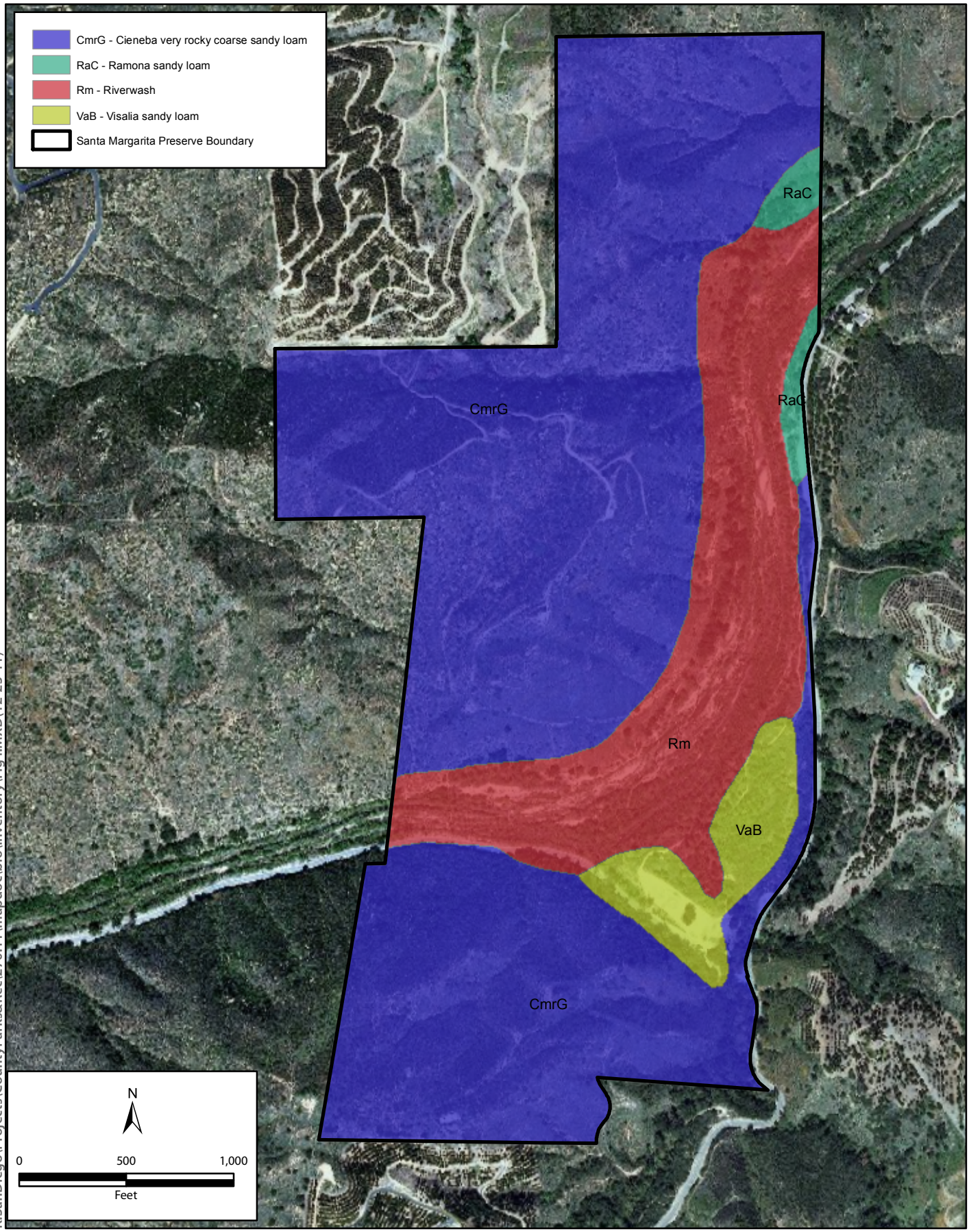


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0 0.25 0.5
Miles

N

Figure 3
Proposed North County Plan Designations
Santa Margarita Preserve



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Figure 4
Soils Map
Santa Margarita Preserve

2.3.2 Climate

A semi-permanent, high-pressure cell located over the Pacific Ocean dominates San Diego climate. This cell drives the dominant onshore circulation, maintaining clear skies for much of the year. Summers at the Preserve are typically warm and dry, while winters are mild with occasional rain (NOAA 2011).

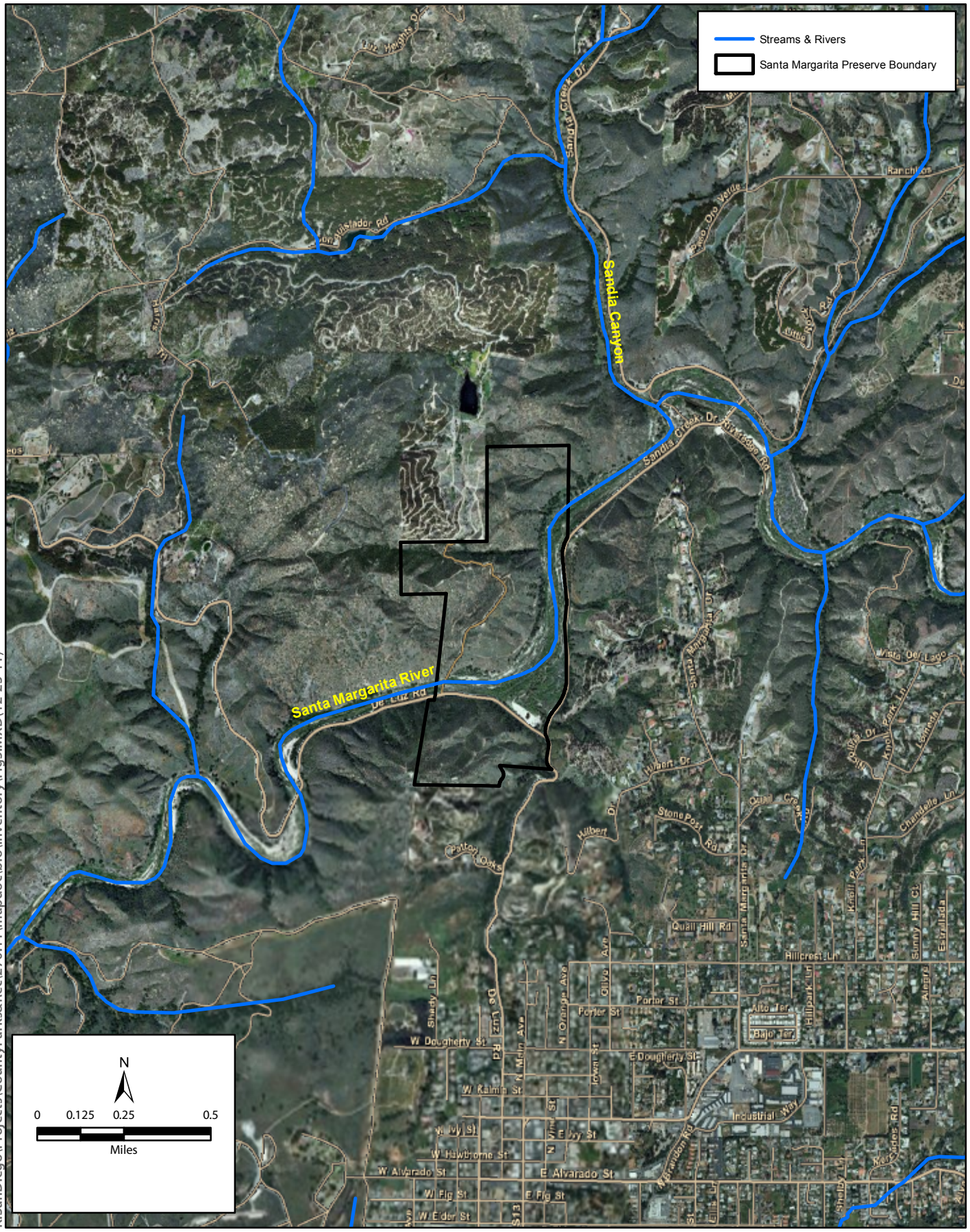
The Preserve lies within the Coastal Climate Zone of San Diego County according to Mapping San Diego (City Data 2011), with average summer temperatures of 70-80 F, summer afternoon relative humidity of 60%, and summer afternoon sea breezes of 6-8 miles per hour.

The Fallbrook area has experienced summer high temperatures over 100 F and strong Santa Ana winds in the fall that reduces relative humidity to dangerous levels. The largest and most destructive wildfires have occurred in the fall and winter during these wind events.

Camp Pendleton is the most complete National Oceanic and Atmospheric Administration (NOAA) record of precipitation with complete records from 1966 to 1993. During this time, the maximum precipitation recorded within a given year was 19.2 inches, the low was 4.75 inches, and the mean was 11.83 inches. Mapping San Diego provides a precipitation range for the northern portion of the Preserve as 18-21 inches per year and the southern portion as 15-18 inches per year (City Data 2011).

2.3.3 Hydrology

The Preserve is located within the Santa Margarita Watershed and the Santa Margarita River flows through the eastern and southern portions of the Preserve (Figure 5). Project Clean Water (County 2000) describes the Santa Margarita Watershed as follows, “The Santa Margarita River watershed encompasses approximately 750 square miles in northern San Diego and southwestern Riverside counties. The watershed contains a variety of nearly intact habitats including chaparral-covered hillsides, riparian woodlands, and coastal marshes. Of the total watershed area, approximately 27% is within San Diego County. The Santa Margarita River is formed near the City of Temecula in Riverside County at the confluence of the Temecula and Murrieta Creek systems. Once formed, the majority of the Santa Margarita River main stem flows within San Diego County through unincorporated areas, the community of Fallbrook, and the Marine Corps Base Camp Pendleton. The lower river and estuary have largely escaped the development typical of other regions of coastal southern California, and are therefore able to support a relative abundance of functional habitats and wildlife.”



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Figure 5
Hydrology Map
Santa Margarita Preserve

2.3.4 Fire History

The Preserve was impacted by three fire events during the past century (Figure 6). The earliest recorded fire that impacted the Preserve occurred in 1911 and burned 4,800 acres including the entire Preserve boundary (USGS/California Fire Alliance 2011). In 1945, a 37,000-acre fire burned a small portion of the northwest half of the Preserve. The Gavilan Fire of February 2002 burned a total of 5,600 acres during a Santa Ana wind event; the exterior boundary of the fire included the entire Preserve.

The Preserve is classified as a Very High Fire Hazard Severity Zone by the California Department of Forestry and Fire Protection (CAL FIRE 2011). The Preserve is designated a state responsibility area (SRA), which means the financial responsibility of preventing and suppressing fires is primarily the responsibility of the State. The Preserve is located within the service area of the North County Fire Protection District.

2.4 Land Use

2.4.1 On-Site Land Use

The Preserve is currently open to the public with a 2.5 mile multi-use trail system and a 7-acre staging area including a corral, portable restroom, and picnic benches.

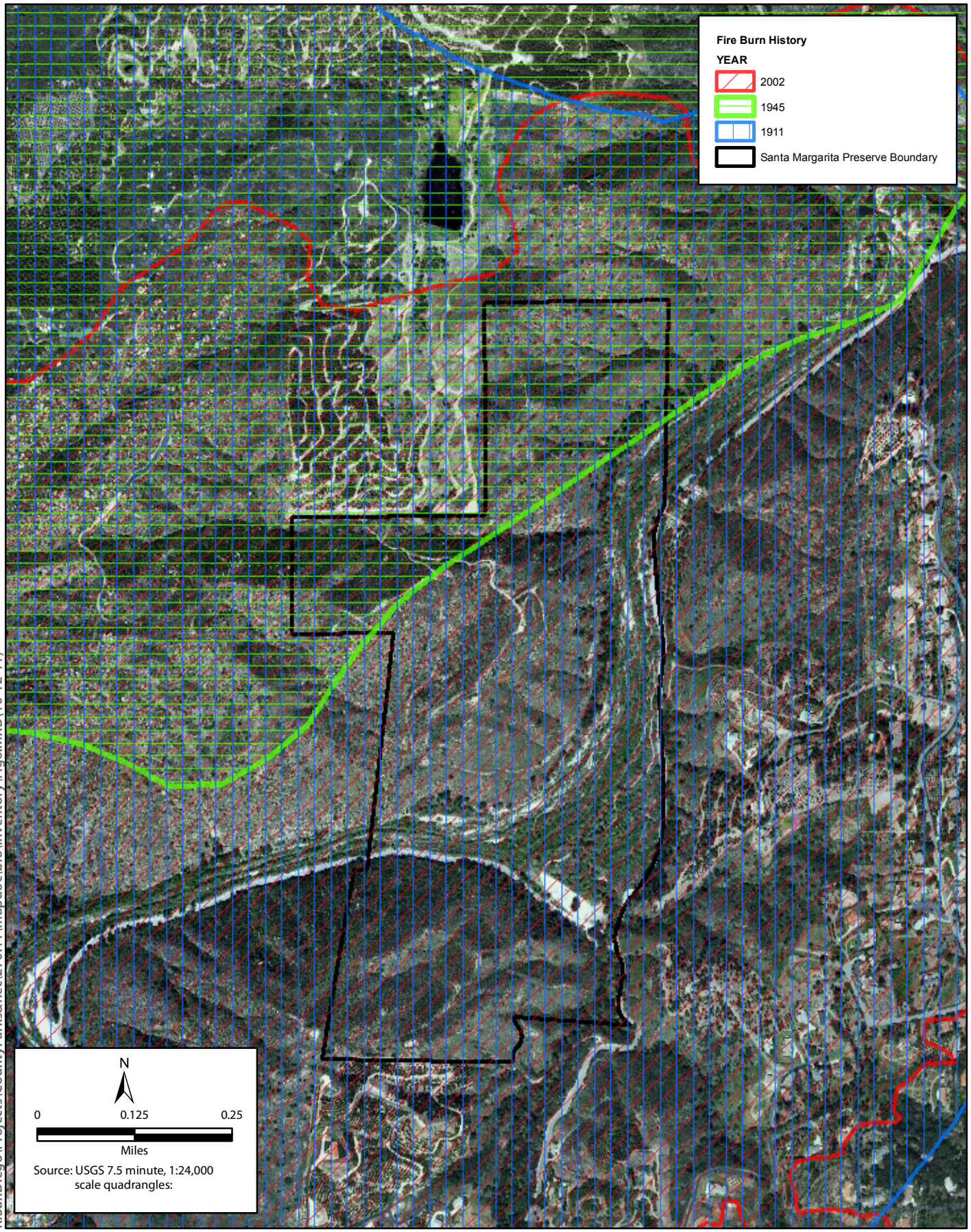
2.4.2 Adjacent Properties

Adjacent properties to the Preserve include open space to the north and northeast owned by the Fallbrook Public Utility District; privately owned vacant/undeveloped land and rural residential to the south; privately owned vacant/undeveloped land, rural residential, and orchard/vineyard to the east; and Camp Pendleton to the west.

2.4.3 Easements, Rights or Restrictive Covenants

San Diego Gas & Electric

San Diego Gas & Electric (SDGE) retains an easement for two overhead power lines that traverse the Preserve from east to west through the central portion of the Preserve and from north to south in the western portion. SDGE also operates a transmission easement that runs north to south along the western Preserve boundary where the Preserve abuts Camp Pendleton. SDGE conducts operation and maintenance activities for their facilities consistent with the SDGE Subregional Natural Community Conservation Plan (NCCP) (SDGE 1995). The SDGE NCCP was approved by the Wildlife Agencies and is compatible with this RMP.



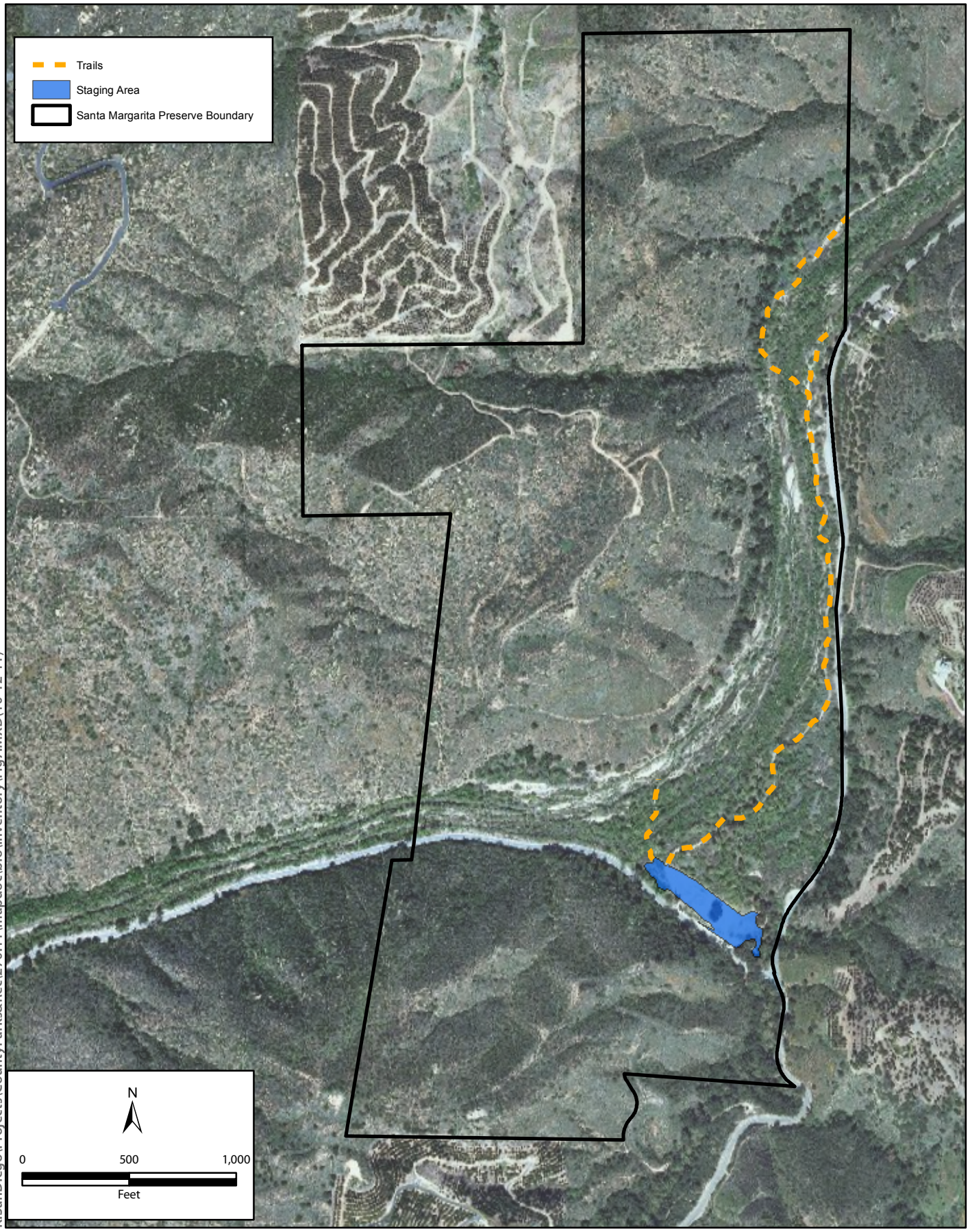
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Figure 6
Fire History Map
Santa Margarita Preserve

2.5 Trails

The Preserve is open to the public for hiking, biking, and equestrian uses. There are approximately 2.5 miles of existing trails on the Preserve, with a staging area that is approximately seven (7) acres (Figure 7). The County operates the trail system in a partnership with the Fallbrook Land Conservancy which manages 11.2 miles of trail east of the Preserve on lands owned by the Fallbrook Public Utility District (Fallbrook Land Conservancy 2011).



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Figure 7
Trails Map
Santa Margarita Preserve

3.0 BIOLOGICAL RESOURCES

In 2011 ICF conducted baseline biological resources surveys of the Preserve. The results of these surveys can be found in the biological resources report entitled *Baseline Biodiversity Report Santa Margarita Preserve*, dated January 2012, and attached as Appendix B. The results of these baseline inventory surveys were used in the preparation of this RMP.

The surveys documented 13 plant alliances or associations and 339 species within the Preserve. The species detected included 214 plant species and 125 wildlife species. Of these species, two (2) plants are considered special status and will also be covered by the Draft North County Plan; 20 special-status wildlife species were detected during the surveys of which seven (7) are proposed to be covered by the Draft North County Plan.

3.1 Vegetation Communities/Habitat

The Property consists of 13 plant alliances or associations (Table 1; Figure 8). These vegetation community types are described below and organized as they are in the classification key by functional group (e.g., drought deciduous shrublands, riparian shrublands, and riparian woodlands\forest and woodlands). The Vegetation Classification Manual (VCM) for Western San Diego County does not include unvegetated habitat (e.g. disturbed habitat, urban/developed, agriculture, and non-vegetated channel); therefore, unvegetated habitat is described using the Oberbauer-modified Holland classification system (Oberbauer et al. 2008, Holland 1986).

Until the VCM was finalized in 2011, MSCP preserve lands were generally mapped using the Holland classification system. To ensure consistency with previous mapping efforts, the Property map data layer was cross-walked to the Holland system pursuant to the VCM (AECOM et al. 2011; Table 1).

Table 1. Vegetation Communities/Land Cover Types within the Preserve

VCM Code	VCM Alliance/Association	VCM Common Name	Holland Code	Holland Classification	Acres
Drought Deciduous Shrublands					
4.1.2	*Adenostoma fasciculatum-Eriogonomum fasciculatum-Artemisia californica* Association	Chamise-Buckwheat-California Sagebrush Association	37G00	Coastal Sage-Chaparral Transition	26.7
4.2.1	*Ademostoma fasciculatum – Xyloccocus bicolor – Quercus berberidifolia* Association	Chamise-Mission Manzanita-Scrub Oak Association	37903	Southern Mixed Chaparral	9.3
4.38	*Quercus berberidifolia – Adenostoma fasciculatum* Alliance	Scrub Oak-Chamise Alliance	37903	Scrub Oak Chaparral	42.7
4.43.2	*Salvia apiana – Artemisia californica* Association	White Sage-California Sagebrush Association	32501	Diegan Coastal Sage Scrub	44.0
4.7.1	*Artemisia californica – Eriogonum fasciculatum – Malosma laurina* Association	California Sagebrush-Buckwheat-Laurel Sumac Association	32501	Diegan Coastal Sage Scrub	21.8
	Total Drought Deciduous Shrublands				***144.5***
Riparian Shrublands					
4.11.1	*Baccharis sarothroides* Association	Mule Fat Association		Mule Fat Scrub	0.8
	Total Riparian Shrublands				***0.8***
Riparian Woodland/Forest					
3.4.2	*Platanus racemosa – Populus fremontii – Salix lasiolepis* Association	Western Sycamore-Cottonwood-Arroyo Willow Association	62500	Southern Riparian Woodland	3.1
3.4.3	*Platanus racemosa – Quercus agrifolia* Association	Western Sycamore-Coast Live Oak Association	61300	Southern Riparian Forest	4.3
3.6.3	*Quercus agrifolia – Salix lasiolepis* Association	Coast Live Oak-Arroyo Willow Association	61310	Southern Coast Live Oak Riparian Forest	1.2
3.9.1	*Salix laevigata* Association	Red Willow Association	63720	Southern Willow Scrub	35.4
	Total Riparian Woodland/Forest				**44.0**
Woodland					
3.6.1	*Quercus agrifolia – Artemisia californica* Association	Coast Live Oak-California Sagebrush Association	71160	Coast Live Oak Woodland	3.0
3.6.2	*Quercus agrifolia – Quercus (berberidifolia x acutidens)* Association	Coast Live Oak-Scrub Oak Association	71160	Coast Live Oak Woodland	3.5
3.6.4	*Quercus agrifolia – Toxicodendrum diversilobum* Association	Coast Live Oak-Poison Oak-Association	71160	Coast Live Oak Woodland	6.9
	Total Woodland				***13.4***

VCM Code	VCM Alliance/Association	VCM Common Name	Holland Code	Holland Classification	Acres
Unvegetated[1]					
N/A	N/A	N/A	18100	Agriculture	0.1
N/A	N/A	N/A	11300	Disturbed Habitat	3.2
N/A	N/A	N/A	12000	Urban/Developed	1.9
N/A	N/A	N/A	64200	Non-Vegetated Channel	2.4
	Total Unvegetated				***7.6***
	TOTAL LAND COVER				**210.3**

Drought Deciduous Shrublands

Chamise-Buckwheat-California Sagebrush Association (4.1.2)

Chamise – Buckwheat – California Sagebrush Association is a vegetation community comprised of a mixture of herbaceous and shrubby species that forms a community with features of both coastal sage scrub and chaparral. Within the Preserve, this community appears to be a post-fire successional community. Dominant species include spiny redberry (*Rhamnus crocea*), chamise (*Adenostema fasciculatum*), black sage (*Salvia mellifera*), California buckwheat, coastal sagebrush, foxtail chess, slender wild oat, deerweed, golden bush (*Hazardia squarrosa*), white sage, and short-pod mustard (*Hirchfeldia incana*). Within the Preserve, this vegetation association occurs primarily along the ridge tops located north of the Santa Margarita River.

Chamise-Mission Manzanita-Scrub Oak Association (4.2.1)

Chamise-Mission Manzanita-Scrub Oak Association is a broad-leaved sclerophyll shrub community forming dense often impenetrable vegetation dominated by chamise, mission manzanita (*Xylococcus bicolor*), lilac (*Ceanothus oliganthus*), and scrub oak (*Quercus berberidifolia*). Other species observed during the field surveys included Rainbow Manzanita (*Arctostaphylos rainbowensis*), Ramona lilac (*Ceanothus tomentosus*), laurel sumac, Mexican elderberry (*Sambucus mexicanus*), poison oak (*Toxicodendron diversilobum*), sugar bush (*Rhus ovata*), and toyon (*Heteromeles arbutifolia*). On the Preserve this Association occurs on the north facing slopes both north and south of the Santa Margarita River and is one of the more diverse vegetation communities observed.

Scrub Oak-Chamise Alliance (4.38)

The Scrub Oak-Chamise Alliance is a vegetation community comprised of dense, evergreen perennial shrubs up to 6 m (20 ft) tall, dominated by scrub oak (*Quercus berberidifolia*) and chamise. There are few understory plants and typically the understory consists of a substantial accumulation of leaf litter. Other species associated with this community include Rainbow Manzanita, toyon, and sugar bush. This Alliance occurs on the north facing slopes of the Preserve.

White Sage-California Sagebrush Association (4.43.2)

White Sage-California Sagebrush Association is typically characterized by low, woody subshrubs that grow up to 1 m (3 ft) in height. Dominant species within this Association include California buckwheat (*Eriogonum fasciculatum*), coastal sagebrush (*Artemisia californica*), laurel sumac (*Malosma laurina*), deerweed (*Lotus scoparius*), and white sage (*Salvia apiana*). Other species noted on site include non-native grasses such as slender wild oat (*Avena barbata*), foxtail chess (*Bromus madritensis*), and fescue (*Vulpia myuros*). This vegetation Association occurs primarily on the south facing slopes of the Preserve.

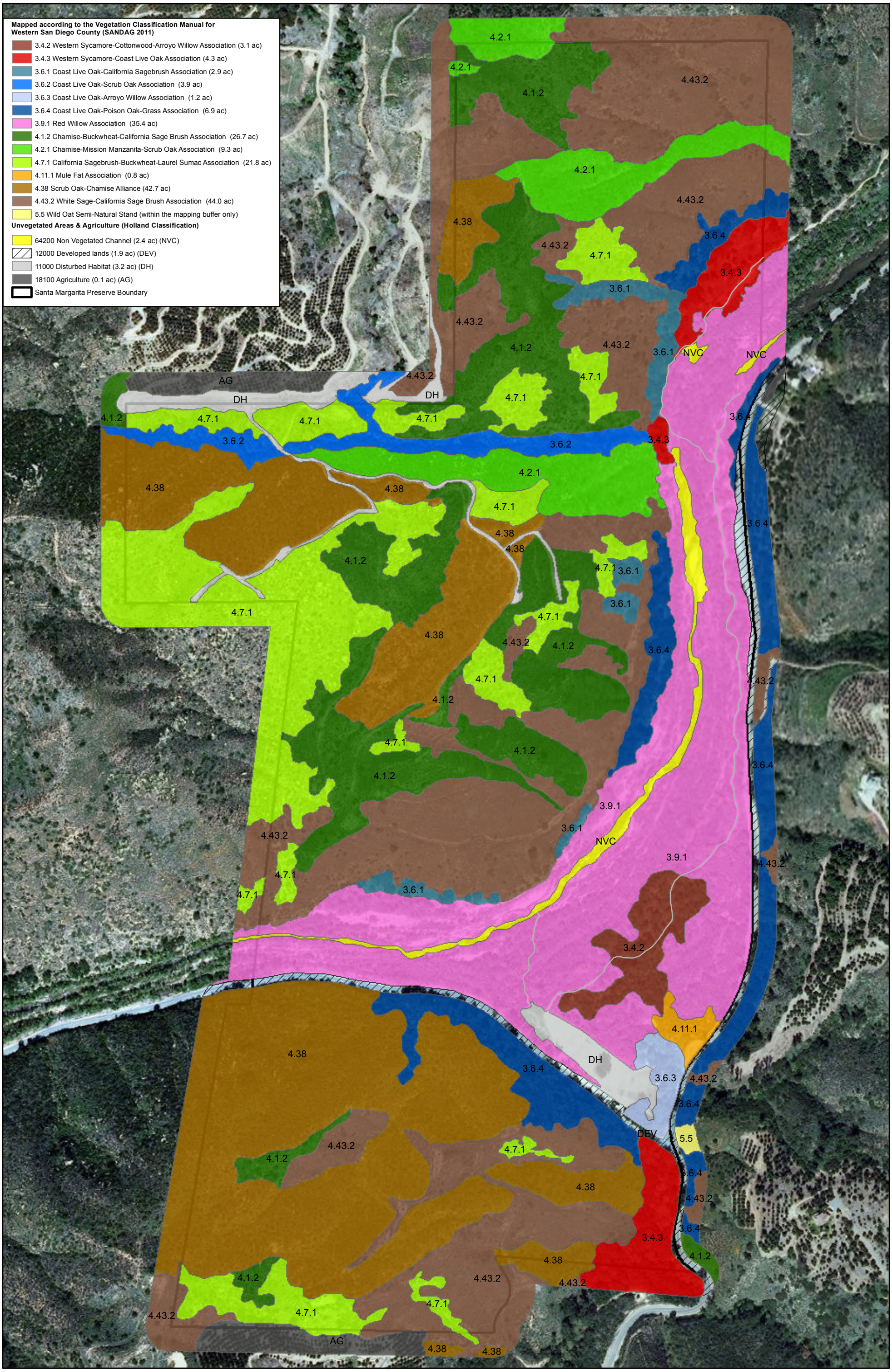


Figure 8
Vegetation Communities
Vegetation Classification Manual for Western San Diego County
Santa Margarita Preserve

California Sagebrush-Buckwheat-Laurel Sumac Association (4.7.1)

California Sagebrush-buckwheat-Laurel Sumac Association is similar to the White Sage- California Sagebrush Association as it is typically characterized by low, woody subshrubs that grow up to 1 m in height. The main difference in this community is the co-dominant presence of laurel sumac which can grow up to 3 m in height. Within the Preserve this Association occurs primarily on the south facing slopes.

Riparian Shrublands

Mule Fat Association (4.11.1)

The Mule Fat Association is a depauperate, herbaceous riparian scrub dominated by mule fat (*Baccharis salicifolia*). This riparian vegetation association is usually found in intermittent stream channels with fairly coarse substrate and moderate depth to the water table and requires frequent flooding. If frequent flooding does not occur, mule fat scrub commonly succeeds to more mature riparian woodland or forest association/alliances. Within the Preserve the Mule Fat Association occurs along the outer portion of the riparian vegetation associated with the Santa Margarita River.

Riparian Woodland/Forest

Western Sycamore-Cottonwood-Arroyo Willow Association (3.4.2)

Western Sycamore-Cottonwood-Arroyo Willow Association is a mature riparian woodland community consisting of tall trees including western sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*) and arroyo willow (*Salix lasiolepis*). There is one patch of this vegetation Association within the Santa Margarita River channel directly north of the Preserve staging area.

Western Sycamore-Coast Live Oak Association (3.4.3)

The western Sycamore-Coast Live Oak Association is a riparian woodland habitat dominated by western sycamore and coast live oak (*Quercus agrifolia*). Within this Association the coast live oak trees form an open canopy interspersed by tall winter deciduous riparian trees (*Platanus racemosa, Salix* sp.). There are three patches of this vegetation Association within the Santa Margarita River channel.

Coast Live Oak-Arroyo Willow Association (3.6.3)

Coast Live Oak-Arroyo Willow Association is a riparian forest typically found in bottomlands and outer floodplains along larger streams, on fine-grained rich alluvium. It consists of a dense evergreen riparian forest dominated by coast live oaks, with associated species of willow (*Salix* spp.). Within the Preserve this Association occurs just east of the staging area along the outer portion of the riparian vegetation associated with the Santa Margarita River.

Red Willow Association (3.9.1)

The Red Willow Association is a vegetation community that is almost entirely comprised of red willow (*Salix leavigata*). Within the Preserve, the Red Willow Association is one of the dominant riparian vegetation communities found along the Santa Margarita River.

Woodland

Coast Live Oak-California Sagebrush Association (3.6.1)

The Coast Live Oak-California Sagebrush Association is a woodland vegetation community dominated primarily by coast live oak with an understory element containing California sagebrush. This Association is found along the edge of the riparian canopy and quickly transitions to an upland habitat above the influence of the river.

Coast Live Oak-Scrub Oak Association (3.6.2)

The Coast Live Oak-Scrub Oak Association is a vegetation community comprised of a mixture of coast live oak and scrub oak (*Quercus berberidifolia*). Within the Preserve this Association primarily occurs within the steep ravines adjacent to the Santa Margarita River.

Coast Live Oak-Poison Oak Association (3.6.4)

Coast Live Oak-Poison Oak Association is a woodland vegetation community comprised of a dense tree canopy dominated by coast live oak. The understory element of this community typically consists of a dense bramble of poison oak (*Toxicodendon diversilobum*). Within the Preserve this habitat occurs adjacent to the Santa Margarita River.

Unvegetated

Non-vegetated Channel (64200)

Non-vegetated channel is comprised of open water and exposed sand associated with the Santa Margarita River active floodway on-site. Within the Preserve, this landcover type is subject to repetitive hydrologic scouring which prevents plants from inhabiting these areas

Disturbed Habitat (11300)

Disturbed habitat within the Preserve consists of the staging area, multi-use trails and San Diego Gas and Electric's transmission line access roads. These areas consist of mostly bare ground.

Urban/Developed Lands (12000)

Urban/developed land typically consists of existing paved roads, buildings, and other infrastructure. On the Preserve, the only areas mapped as developed are the paved roads and road shoulders associated with De Luz Road and Sandia Creek Drive.

Agriculture (18000)

A small amount (0.1 acre) of agriculture is mapped along the southern boundary of the Preserve.

3.2 Plant Species

3.2.1 Plant Species Present

A total of 214 plant species were documented within the Preserve during the 2011 baseline surveys. Appendix B provides a 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 (a) listed, or proposed for listing, as threatened or endangered, or otherwise designated as "listed", "candidate", "sensitive" or "species of concern" by federal and/or state agencies; (b) assigned a California Rare Plant Rank (CRPR) by the California Native Plant Society (CNPS); included on the County's Sensitive Plant List (County 2010b); or (d) proposed for coverage under the Draft North County Plan.

Special-status plant species observed within the Preserve (Figure 9) consist of Engelman oak (*Quercus engelmannii*) and Rainbow Manzanita (*Arctostaphylos rainbowensis)*.

Engelmann Oak (Quercus engelmannii)

CRPR 4.2, San Diego County List D, Draft North County Plan

Engelmann oak is commonly found in the foothills between 500 and 4,000 ft (152 and 1,219 m). Growing to 40 ft tall (12 m), this tree has flat, grey-blue-green leaves and tolerates less water than coast live oak. Larger oaks are sometimes found growing in savannah grasslands but it may also occur as a shrubby element within



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Figure 9
Special Status Plant Species
Santa Margarita Preserve

chaparral. Engelmann oaks are still relatively abundant throughout their range in southern California. One Engelmann oak was observed along the western bank of the Santa Margarita River.

Rainbow Manzanita (Arctostaphylos rainbowensis)

CRPR 1B.1, San Diego County List A, Draft North County Plan

Rainbow Manzanita can be a dominant plant where it occurs. The range of this Manzanita is northern San Diego County and southwestern Riverside County. This species is commonly found in southern mixed chaparral and co-occurs with mission Manzanita and chamise. Rainbow Manzanita is a co-dominant shrub within the chaparral habitats at the Preserve. It was estimated that the Preserve contains approximately 200 individuals of Rainbow Manzanita.

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

Two (2) special-status plant species have a high potential to occur within the Preserve as described below. Additional information on these species can be found in Appendix B.

White Rabbit-tobacco *(Pseudognaphalium leucocephalum)*

CRPR 2.2

White rabbit-tobacco is a perennial herb that occurs in chaparral, cismontane woodland, riparian woodland and coastal scrub. The blooming period for this species is from July through December. White rabbit-tobacco is known to occur along the Santa Margarita River drainage and is considered to have high potential to occur on site due to the presence of suitable habitat.

Payson's Caulanthus (Also known as Payson's Jewelflower) *(Caulanthus simulans)*

CRPR 4, San Diego County List D

Payson's caulanthus is an annual herb associated with chaparral and coastal sage scrub communities (CNPS 2011). This species was not observed on the Preserve in 2011 but it was mapped as occurring on the Preserve by the CNDDB in 1985. The Preserve has a high potential to support Payson's caulanthus due to the abundance of suitable habitat on site.

3.2.4 Non-Native and/or Invasive Plant Species

Twenty-seven (27) invasive, non-native plant species of concern were identified in the Preserve during the baseline surveys (Table 2). With the exception of poison hemlock (*Conium maculatum*), most of these species appear as isolated individuals or small patches of individuals.

Table 2. Non-native Invasive Plants within the Preserve

Scientific Name	Common Name	Cal-IPC Rating
Avena fatua	Wild Oat	Moderate
Bromus diandrus	Ripgut Grass	Moderate
Bromus hordeaceus	Soft Chess	Limited
Bromus madritensis ssp. rubens	Red Brome	High
Carduus pycnocephalus	Italian Thistle	Moderate
Centaurea melitensis	Tocalote	Moderate
Conium maculatum	Poison Hemlock	Moderate
Cynodon dactylon	Bermuda Grass	Moderate
Erodium cicutarium	Red-Stemmed Filaree	Limited
Foeniculum vulgare	Sweet Fennel	High
Hirschfeldia incana	Short-Podded Mustard	Moderate
Hypochaeris glabra	Smooth Cat's Ear	Limited
Lepidium latifolium	Perennial Pepperweed	High
Ludwigia hexapetala	Six-Petal Water-Primrose	High
Lythrum hyssopifolia	Grass-Poly	Limited
Medicago polymorpha	California Burclover	Limited
Nicotiana glauca	Tree Tobacco	Moderate
Piptatherum miliaceum	Smilo Grass	Limited
Plantago lanceolata	English Plantain	Limited
Polypogon monspeliensis	Annual Beard Grass	Limited
Raphanus sativus	Wild Radish	Limited
Ricinis communis	Castor Bean	Limited
Rumex crispus	Curly Dock	Limited
Schismus barbatus	Common Mediterranean Grass	Limited
Tamarix ramosissima	Tamarisk	High
Vinca major	Greater Periwinkle	Moderate
Vulpia myuros var. hirsuta	Hairy Rat-tail Fescue	Moderate

Inventory Categories (Cal-IPC 2010)

High: Species have severe ecological impacts, are conducive to moderate to high rates of dispersal/establishment, and most are widely spread.

Moderate: Species have substantial and apparent, but generally not severe, ecological impacts, are conducive to moderate to high rates of dispersal, although establishment is generally dependent on ecological disturbance, and distribution may range from limited to widespread.

Limited: Species are invasive, but their ecological impacts are minor on a statewide level (or there was not enough information to justify a higher score), they have low to moderate rates of invasiveness, and are generally limited but may be locally persistent and problematic.

Seven (7) invasive non-native plant species identified on the Preserve (Figure 10) have been determined to be “target species” for removal based on their current extent; their highly invasive nature and the ability to reproduce quickly; and their potential effects on the environment. These species are listed below:

- Italian thistle
- Tocalote
- Poison hemlock
- Short-podded mustard
- Perennial pepperweed
- Tamarisk
- Castor bean

A description of the seven target species is below. It should be noted that Table 2 details the presence of three additional Cal-IPC “High” rated invasive plants but these species are not targeted for removal\control because either they are naturalized (red-brome) or do not currently present a significant risk to the biological resources within the Preserve (i.e. sweet fennel and six-petal water-primrose).

Italian Thistle

Italian thistle is a winter annual which varies in height from 1 to 6 feet. A native of the Mediterranean area and the Middle East, it is now widespread worldwide. It reproduces strictly from two types of seeds: brown seeds which stay with the plant inflorescences and silver seeds which are spread primarily by wind. Seeds can remain viable in the soil for up to 10 years. Italian thistle forms dense stands and outcompetes native plants for nutrients, space and sunlight. It grows best on disturbed soils, and is generally not eaten by livestock. Italian thistle was observed during 2011 surveys in the northern area of the Preserve within the river streambed and south of De Luz Road.

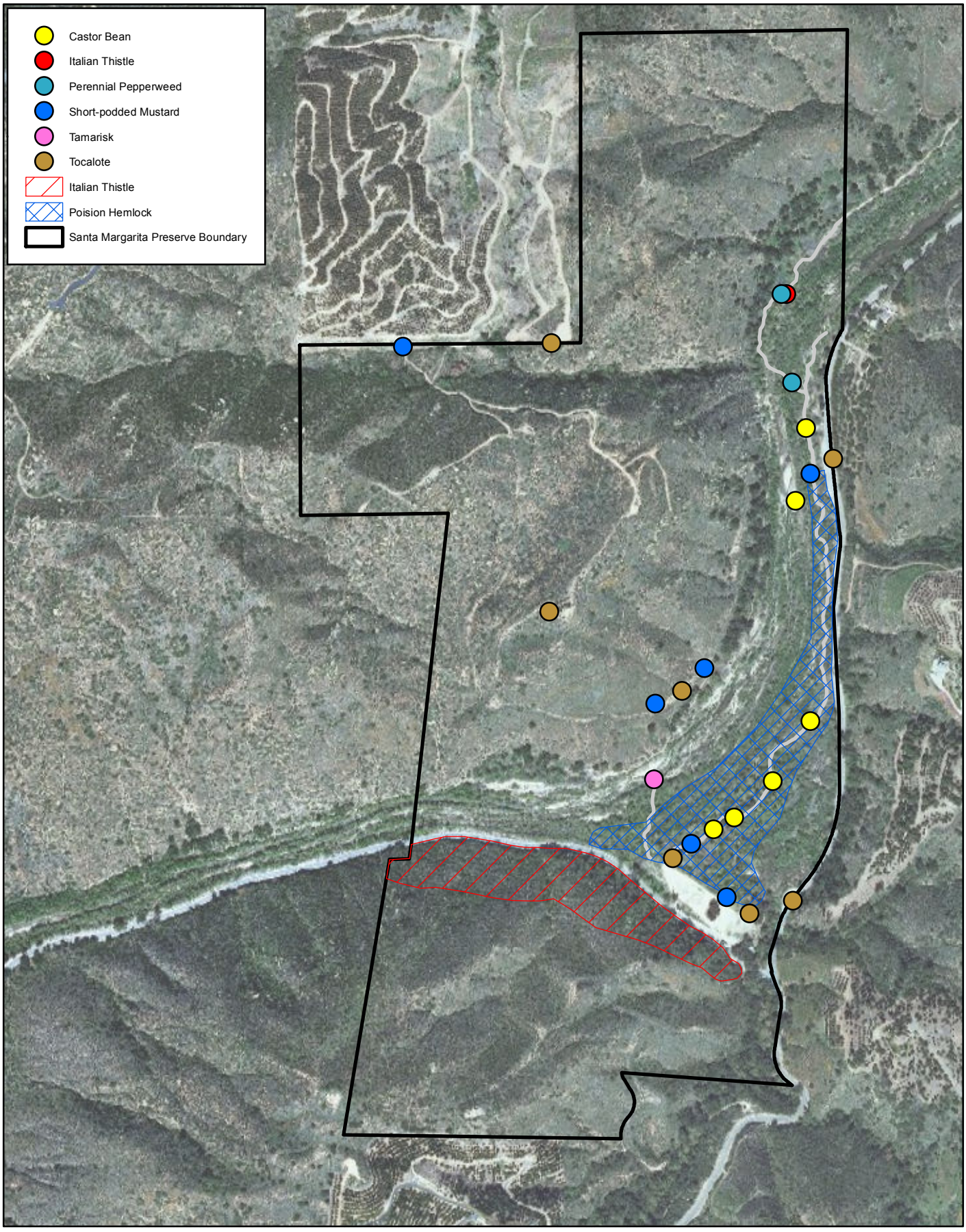


Figure 10
Invasive Plant Locations
Santa Margarita Preserve

Tocalote

Tocalote, or Maltese starthistle, is a winter annual which varies from about 1 to 3 feet in height. Resembling yellow starthistle (*C. solsitalis*), it is sometimes mistaken for it, but blooms about a month ahead of it. It reproduces from seeds which germinate following fall rains, and forms basal rosettes until sending up inflorescences in the early spring. Flowering occurs during the late spring and early summer. As with many thistle-like invasive plants, tocalote takes valuable resources that would otherwise be available to native species. Tocalote is widely scattered in the Preserve with concentration occurring along old trails/roads that are primarily vegetated with native species.

Poison Hemlock

Poison hemlock, also known as poison parsley, is a common, introduced biennial herbaceous shrub. Native to Europe, Africa and Asia, during the 1800s this attractive plant was introduced into America as a garden plant (UN 2007). It is most often found growing in disturbed sites, usually with moist soils. The plant's main energy reserves are stored in its taproot. As the name implies, poison hemlock is highly poisonous to humans and livestock, and is famous as the agent used for the execution of Socrates (Parsons & Cuthbertson 1992 *from* UC Press 2000).

Hemlock reproduces by seeds, with inflorescences forming in early to mid-spring, and seeds becoming mature in early summer (UC Press 2000). Seeds remain viable in the soil for up to three years (Baskin & Baskin 1990 *from* UC Press 2000).

Poison hemlock is the most common invasive species at the Preserve. Found along the banks of Santa Margarita River, two large areas support substantial stands.

Short-podded Mustard

Short-podded mustard, also known as summer mustard, Mediterranean mustard or Buchan weed, is an herbaceous biennial or perennial weed. It has become widespread in sunny, disturbed sites throughout Southern California, especially fallow agricultural or previously developed sites where it can produce greater than 1,000 seeds per square meter (Cal-IPC 2011). It often forms dense stands, shading out native species and competing with them for resources. In the last summer as their stalks and leaves dry, the mustard can carry wildfires quickly. Further, short-podded mustard is often found growing with other invasive species (e.g., red broom (*Bromus madritensis rubens*), rip-gut *(B. diandrus*) and contributes to thick thatch layers which further shade out and compete with native species.

Short-podded mustard is typically a naturalized herb found occurring throughout most of the upland habitats in southern California. However, on site it was observed along sides of trails and roads on the Preserve.

Perennial Pepperweed

As the name implies, perennial pepperweed is a perennial herb which ranges from 3 to 8 feet in height. Also referred to as broad-leafed peppergrass, it often forms dense colonies, especially in disturbed riparian areas. Originally from western Asia, it is now found across Europe and as far east as the Himalayas. In the western hemisphere, it is found throughout the United States and Mexico, and was introduced into California in 1936 (UC Press 2000). It is usually found in wetter places, such as seeps and riparian areas.

Extremely invasive, perennial pepperweed reproduces quickly from either seeds or pieces of underground stems (rhizomes) to form thick stands, thereby usurping habitat for native species. It has been reported that it has appropriated habitat for several sensitive plant species (Skinner and Pavlik 1994), as well as habitat for some bird and rodent species as well.

Currently one small population of perennial pepperweed is found in the northern portion of the Preserve within the Santa Margarita River streambed.

Tamarisk

Tamarisk is one of the most well-known and extremely invasive species found throughout the world. *T. ramosissima* is one of five invasive tamarisk species known in California (Baum 1978 as reported in UC Press 2000). Native to central Asia, it is thought to have been introduced by the Spaniards. It is generally a small tree, which produces feathery pink inflorescences with copious numbers of seeds. It is reported that one plant can produce up to 500,000 seeds (DiTomaso 1996). The thin leaves have salt glands, and it's often possible to observe salt crystals on them. It can reproduce from either seeds or vegetatively from broken-off pieces of leaves and stems.

The effects of tamarisk are many, and include the changing of soil chemistry by the release of salt as the leaves degrade. This in turn can inhibit germination and growth of many plants (Anderson 1996). It re-sprouts quickly following fires, and as a result, can quickly dominate riparian habitats (UC Press 2000).

Tamarisk is a phreatophyte. These plants quickly send down a deep tap root to the water table, at which point secondary roots spread laterally (UC Press 2000). As a result, tamarisk has significant effects on local water resources.

Tamarisk represents a major threat to the riparian habitat along Santa Margarita River within the Preserve. Tamarisk was sighted during 2011 surveys in the southern portion of the Preserve within the river streambed.

Castor Bean

Castor bean is a commonly encountered invasive shrub which can vary from 3 to 15 feet in height. It is easily recognized by its large, palmately-lobed leaves. A native of Asia and Africa, it is most often found growing in wet areas, especially along drainage ditches and near highway culverts. Its seeds are exceedingly poisonous, and as few as two seeds ingested can be fatal to humans (Cooper and Johnson 1984). It is spread by seeds, and will re-sprout if cut.

Surveys located castor bean growing primarily along the riparian trails and within sandy openings adjacent to Santa Margarita River within the Preserve.

3.3 Wildlife Species

3.3.1 Wildlife Species Present

A total of 125 wildlife species were documented within the Preserve during the 2011 baseline inventory surveys, including 15 butterfly species, 3 invertebrates, 1 fish, 4 amphibians, 11 reptiles, 63 birds, and 28 mammals. Appendix A provides a complete list of all wildlife species observed during the surveys.

3.3.2 Rare, Threatened or Endangered Wildlife Present

A special-status wildlife species is one (a) listed, or proposed for listing, as threatened or endangered, or otherwise designated as “listed”, “candidate”, “sensitive” or “species of concern” by federal and/or state agencies; (b) included on the County’s Sensitive Animal List (County 2010b); or (d) proposed for coverage under the Draft North County Plan.

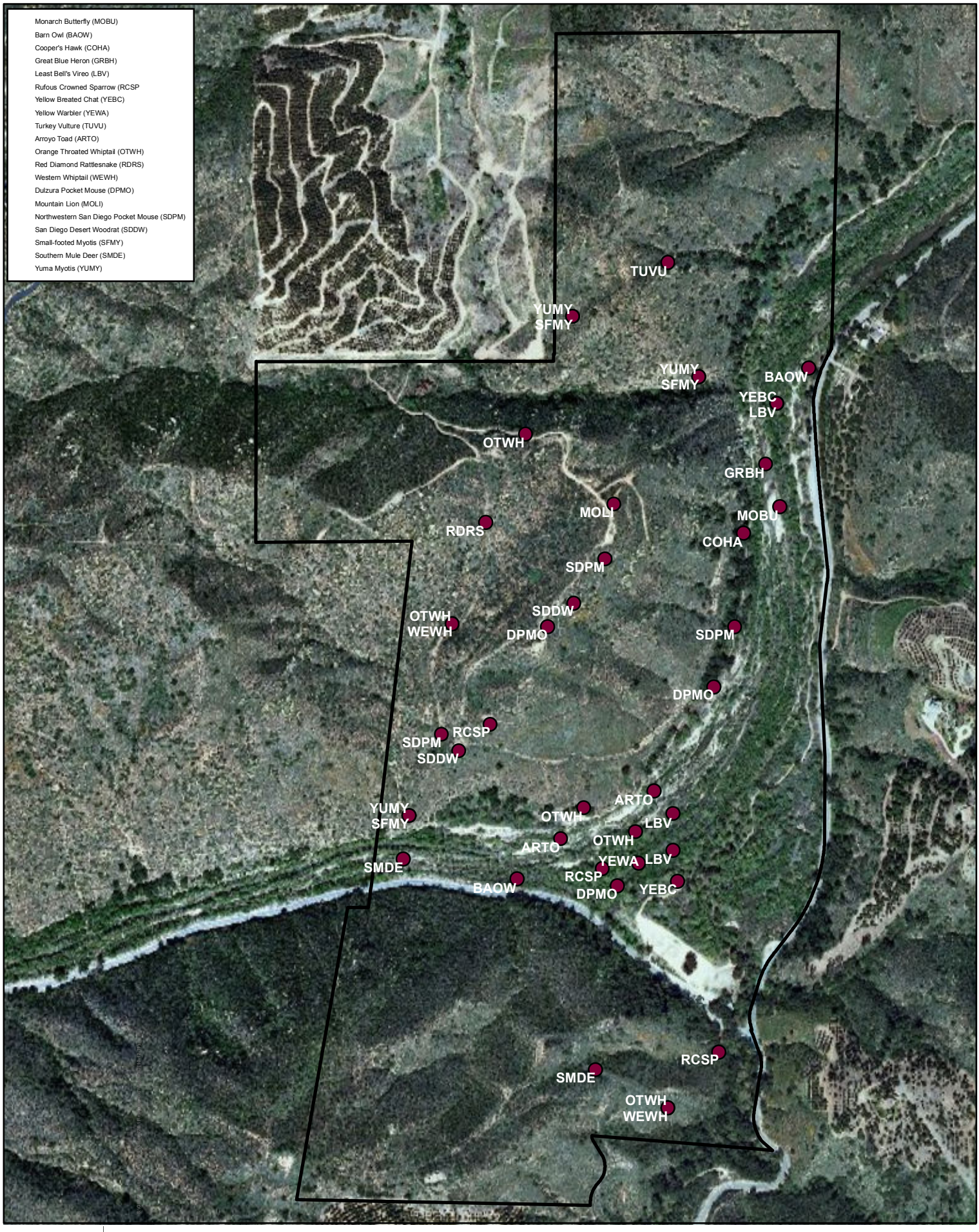
A total of 20 special-status wildlife species were observed or detected within the Preserve during the baseline surveys (Figure 11). Information on each of these species is provided below.

3.3.2.1 *Invertebrates*

Monarch Butterfly (*Danaus plexippus*)

San Diego County Group II

The monarch butterfly is one of the most recognized and studied insects in North America. The species is known to migrate great distances and the monarch regularly uses habitats in Canada, United States and Mexico. The primary host plant for the monarch larvae are plants in the milkweed genus (*Asclepias* sp.). During the summer months monarchs can have up to four (4) generations that live from 2-5 weeks during which they mate and lay eggs. The last generation of butterflies is considered to be in a state of reproductive diapause and these butterflies migrate south along the Pacific Ocean where they overwinter.



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Figure 11
Special Status Wildlife
Santa Margarita Preserve

Some monarchs can live as long as nine (9) months.

In San Diego County monarchs can occur along the coast where they cluster in eucalyptus groves. They typically mate in January and then leave for their spring migration. Second generation hatches will occur in the Sierra Nevada foothills. Third and fourth generation hatches are known to occur well into the mountains of Oregon, Nevada and Arizona.

During 2011 biological surveys one monarch butterfly was observed at the Preserve. This individual was likely a second generation butterfly migrating north.

3.3.2.2 *Herpetofauna*

Arroyo Toad (*Anaxyrus californicus*)

Federally Endangered, California Species of Special Concern, San Diego County Group I, Draft North County Plan

The arroyo toad is endemic to the coastal plains, mountains, and desert slopes of central and southern California and northwestern Baja California from near sea level to about 2,400 m (8,000 ft). Within these areas, the arroyo toad is found in both perennial and intermittent rivers and streams with shallow, sandy to gravelly pools adjacent to sand or fine gravel terraces. This species has evolved in a system that is inherently dynamic, with marked seasonal and annual fluctuations in rainfall and flooding. Breeding habitat requirements are highly specialized. Specifically, arroyo toads require shallow slow-moving stream and riparian habitats that are naturally disturbed on a regular basis, primarily by flooding (USFWS 2000).

The breeding period occurs from late January or February to early July, although it can be extended in some years depending on weather conditions. Breeding in mountainous habitats may commence later (May–June) and last longer (to August) than in the coastal portion of the range. Breeding occurs in quiet, clear backwaters of streams as waters recede from the floods of the wet season. When water temperatures reach 57°F (14°C), adult males advertise with a soft, high- whistled trill. Males call from suitable breeding habitat at night. Receptive females seek out calling males based on the size of the male and the sound of his call. Little is known about movements or other behavior in the non-breeding season (USFWS 2000). Adult arroyo toads spend most of the year in burrows in upland habitat near washes and streams. Non-breeding habitat includes sage scrub, mixed chaparral, and oak woodland.

Adult and juvenile arroyo toads were observed within the Santa Margarita River during 2011 surveys. Sections of the river contain high quality habitat as defined by the habitat assessment protocol detailed in the Marine Corps Base Camp Pendleton Arroyo Toad Monitoring Protocol (Atkinson et al 2002). This model uses three physical characteristics to assess the potential to support breeding arroyo toad: 1)

channel substrate type being predominantly composed of sand; 2) the presence of flat sandy terraces immediately adjacent to channel; and 3) having a watercourse of braided channels.

Orange-throated Whiptail (*Aspidoscelis hyperythra beldingi*)

California Species of Special Concern, San Diego County Group II, Draft North County Plan

The orange-throated whiptail is a medium-sized lizard that ranges from southern California (specifically Corona del Mar in Orange County and Colton in San Bernardino County) southward to the tip of Baja California, Mexico. Historically, most populations of the orange-throated whiptail were found on floodplains or terraces along streams in brushy areas with loose soil and rocks (McGurty 1980). Habitat types they are known to use include chaparral, non-native grassland, coastal sage scrub, juniper woodland, and oak woodland. California buckwheat (*Eriogonum fasciculatum*) is an important indicator of appropriate habitat for orange-throated whiptail (Dudek 2000). This plant species is a colonizer of disturbed, sandy soils and usually indicates open shrub spacing that is required for whiptail foraging and thermoregulatory behavior. Orange-throated whiptails appear to be dietary specialists with most (> 85%) of their prey being termites (Dudek 2000). The decline of orange-throated whiptails is likely due to loss of habitat to agriculture and urban development. On the Preserve, this species was captured at the southern and central arrays and observed during active surveys in the chaparral and scrub habitats. This species is presumed to be abundant within the Preserve.

Western Whiptail (*Aspidoscelis tigris*)

San Diego County Group II

Western whiptail is a medium-sized slender lizard that is found in arid and semiarid desert to open woodlands where the vegetation is sparse so running is easy (Stebbins 2003). Its range includes coastal southern California and western Baja California. The decline of western whiptails is likely due to loss of habitat to agriculture and urban development. On the Preserve, this species was captured at southern and central arrays. This species is presumed to be abundant within the Preserve.

Red Diamond Rattlesnake (*Crotalus ruber*)

California Species of Special Concern, San Diego County Group II, Draft North County Plan

The red diamond rattlesnake is a large, heavy-bodied rattlesnake that has a wide tolerance for varying environments and can be found in a variety of vegetation types, but it is most commonly seen in areas with heavy brush and cacti, rocks, or boulders (Stebbins 2003). The known range extends from San Bernardino County along the coastal and desert slopes southward to Baja California. Adult red diamond rattlesnakes eat mostly squirrels and rabbits, but lizards, specifically the western whiptail, are a significant food source for juveniles (Jennings and Hayes 1994). Urban development and the trend towards planting orchards on steeper rocky hillsides have significantly decreased the amount of appropriate habitat for this species (Jennings and Hayes 1994). During 2011 surveys, this species was observed in the central portion of the Preserve. This species has potential to occur throughout the upland habitats that occur in the Preserve.

3.3.2.3 *Birds*

Great Blue Heron (*Ardea herodias*)

San Diego County Group II

The great blue heron is a large water bird that can be found in any type of wetland and is typically a colonial breeder that nests in trees near water (Unitt 2004); however, breeding has been documented by isolated pairs and in the absence of trees. Great blue herons will nest in bushes, on the ground, or in artificial structures (Butler 1992, Unitt 2004). This species is non-migratory in southern California but is migratory in other parts of its range (Unitt 2004). Great blue herons forage diurnally in estuaries and beaches but are also commonly seen on dry land (Unitt 2004, K. Fischer Personal Observation). Great blue herons were sporadically observed overhead along the river during 2011 surveys. This species does not breed at the Preserve. It may use the Preserve for foraging.

Turkey Vulture (*Cathartes aura*)

San Diego County Group I

Turkey vultures are often seen foraging over woodlands and nearby open country (Unitt 2004). They prefer dry, open country and ranch lands and often occur along roadsides where carrion is common. They nest in crevices among granite boulders (Unitt 2004). The turkey vultures' range has been retracting from the coast due to human disturbance, loss of foraging habitat, and pesticide contamination (Unitt 2004). Turkey vultures were observed foraging over the Preserve during 2011

surveys. There is no suitable breeding habitat for this species on the Preserve. This species is common in the undeveloped areas of San Diego County.

Cooper's Hawk (*Accipiter cooperii*)

San Diego County Group I

The Cooper's hawk is a resident of riparian deciduous habitats and oak woodlands but in recent times has become adapted to urban park environments (Unitt 2004). They hunt their primary source of food, passerines, in broken woodlands and forest margins, and they are also known to take fish and mammals. The Cooper's hawk population declined due to hunting and loss of habitat; however, this species is making a comeback through its adaptation to the urban environment (Unitt 2004). Cooper's hawk was not regularly detected at the Preserve during 2011 surveys; however, the Preserve supports breeding and foraging habitat for the species. This species is widespread throughout the County.

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 (Unitt 2004). Even though this species is tolerant of human development, dense housing communities do not provide suitable nesting habitat, and increased traffic has had a negative effect on the species (Unitt 2004). Barn owls were detected in two locations at the Preserve and a power pole appears to be a commonly used perch for the species as evidenced by the large number of pellets below the pole. Breeding was not confirmed, but can be assumed. This species is widespread throughout the County.

Least Bell's Vireo (*Vireo belli pusillus*)

Federally Endangered, State Endangered, San Diego County Group I, Draft North County Plan

Historically, the least Bell's vireo was a common to locally abundant species found in lowland riparian habitats from northern California to coastal southern California. Loss of riparian habitats and the effects of brown-headed cowbird (*Molothrus ater*) parasitism have resulted in a large decline in the population. The population was estimated at 300 pairs in 1986 when listed by the USFWS. Currently, the population is limited to mid- to southern California. The majority of the population is found in San Diego County. Since listing, least Bell's vireo numbers have increased six-fold. In 1998, the population was estimated at 2,000 pairs (Kus 2002). Nests are typically placed within 1 meter (m) of the ground in dense shrubby riparian habitat.

Up to three males were detected during the 2011 surveys of the Preserve. One male was regularly detected near point count station 2 adjacent to Santa Margarita River in the southern area of the Preserve and a second was regularly detected near point count station 3 adjacent to Santa Margarita River in the northern area of the Preserve. An additional male was detected in May near point count station 2 but he was only detected during the one survey period. Scolds were detected during this survey indicating the presence of a female or a male protecting a nest. Even though breeding was not confirmed, due to the temporal regularity of their detection (three out of four sampling periods), and based on the level of loquaciousness (periods of male song followed by periods of silence), breeding can be assumed for the two males.

Yellow Warbler (*Dendroica petechia*)

California Species of Special Concern, San Diego County Group II

The yellow warbler is a small insectivorous migratory passerine that inhabits lowland and foothill mature riparian woodlands (Unitt 2004, Dudek 2000). Preferred plant species include cottonwoods (*Populous* spp.), willows (*Salix* spp.), and other small trees and shrubs typically found in open-canopy riparian woodlands. Yellow warblers are usually on their breeding grounds from late March to mid-October. Destruction and degradation of riparian habitat and brood parasitism by the brown-headed cowbird led to the decline of this species (Unitt 2004). Cowbird trapping has caused an increase in the San Diego County population of yellow warblers (Unitt 2004).

Yellow warblers were detected near point count stations 2 and 3, along Santa Margarita River, north and south areas of the Preserve respectively, during 2011 surveys. Breeding can be assumed as the species was detected in April, May, and June. This species is currently considered fairly common in San Diego County (Unitt 2004).

Yellow-breasted Chat (*Icteria virens*)

California Species of Special Concern, San Diego County Group I, Draft North County Plan

The yellow-breasted chat is a common summer breeding visitor that prefers to nest in extensive dense thickets of riparian habitat (Unitt 2004). This species is very secretive so finding their nests is a challenge. The decline of this species is due to the loss of riparian woodlands in the coastal lowland as a result of development, agriculture, and channeling rivers (Dudek 2000). Yellow-breasted chats were detected at point count stations 2 and 3, along Santa Margarita River, north and south areas of the Preserve respectively, in all four sampling months during 2011 surveys. The breeding status of these birds was unknown but can be assumed due

to the presence in suitable breeding habitat throughout the breeding season. This species is still considered a common species in San Diego County.

Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)

San Diego County Group I, Draft North County Plan

The southern California rufous-crowned sparrow is a resident species that is closely associated with coastal sage scrub, steep rocky hillsides, burned chaparral, and openings in mature chaparral (Unitt 2004). Preferring open habitat with approximately 50% shrub cover, this species seeks cover in shrubs, rocks, grass, and forb patches (Dudek 2000, Unitt 2004). The southern California subspecies is restricted to semiarid coastal sage scrub and sparse chaparral from Santa Barbara south to the northwestern corner of Baja California (Dudek 2000). Southern California rufous-crowned sparrows are declining due to loss of appropriate habitat and their sensitivity to habitat fragmentation (Unitt 2004). During 2011 surveys, southern California rufous-crowned sparrows were incidentally detected during other surveys or while surveyors were traveling to the point count stations and were recorded at point count stations 1(southern area of Preserve in scrub oak chaparral vegetation), 2 (south of Santa Margarita River in southern willow scrub habitat), and 4 (north of Santa Margarita River in Diegan coastal sage scrub vegetation) in all four sampling periods. This species is still found throughout San Diego County in large numbers (Unitt 2004).

3.3.2.4 *Mammals*

Small-footed Myotis (*Myotis ciliolabrum*)

San Diego County Group II

The small-footed myotis is found throughout most of western North America, from southwestern Canada south into Mexico (BCI 2008). There is not much information on the habitat requirements of this species, but it has been documented under rock slabs and in crevices, mine tunnels, under loose tree bark, and in buildings (BCI 2008). This species hibernates in caves, typically in small groups. Reasons for decline are poorly understood as there has been little research conducted on this species. Both suitable roosting and foraging habitat for the small-footed myotis occur on site and the species was detected during 2011 surveys at each sampling location indicating widespread use of the Preserve by this species.

Yuma Myotis (*Myotis yumanensis*)

San Diego County Group II

The Yuma myotis is found throughout much of the western U.S. and into Canada (BCI 2008). The species is always found near lakes, creeks, or ponds where the species forages over the water. Typically, individuals skim low over the water and snatch up flying insects, but they can forage in other mesic areas. The species roosts by day usually in buildings or bridges but have been documented using mines or caves (BCI 2008). Yuma myotis are threatened by loss of riparian habitat and the decline in permanent water sources in the southwest. Yuma myotis were detected at each sampling locations during the 2011 sampling sessions.

Dulzura Pocket Mouse (*Chaetodipus californicus femoralis*)

California Species of Special Concern, San Diego County Group II

Dulzura pocket mouse is mainly active on the ground, but also climbs shrubs and small trees when feeding (CDFG 2005). This species can become torpid by day at any time of the year, and is inactive in cold wet weather. It breeds in spring to early summer and occurs from sea level to approximately 2,408 m (7,900 ft) AMSL (CDFG 2005). This species prefers dense chaparral and is less common in dry grassland and desert scrub. During the 2011 trapping program on the Preserve, 25 of the 146 animals captured were Dulzura pocket mice.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)

California Species of Special Concern, San Diego County Group II

The northwestern San Diego pocket mouse is typically found in coastal sage scrub, sage scrub/grassland ecotones, and chaparral (Dudek 2000). It inhabits open, sandy areas of both the Upper and Lower Sonoran areas of southwestern California and northern Baja California (Dudek 2000). This species is sensitive to habitat fragmentation and degradation, which has led to its decline. During the 2011 trapping program on the Preserve, 17 of the 146 animals captured were northwestern San Diego pocket mice.

San Diego Desert Woodrat (*Neotoma lepida intermedia*)

California Species of Special Concern, San Diego County Group II

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). House materials include cacti, sticks, bones, and a variety of debris. Houses provide insulation against excessive heat as well as protection from

predators. This species breeds in late winter or spring, occurs from sea level to approximately 2,591 m (8,500 ft) AMSL in deserts and coastal sage scrub, and prefers areas with rocky outcrops and plentiful succulents (CDFG 2005). During the 2011 trapping program on the Preserve, 4 of the 146 animals captured were San Diego desert woodrats.

Mountain Lion (*Puma concolor*)

San Diego County Group II, Draft North County Plan

Mountain lions prefer rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral (Dudek 2000). Riparian areas also provide protective habitat connections for movement between fragmented habitats. This species is widespread in North and South America and occupy a broad variety of habitats from the northern limit of the Canadian forests to Patagonia in South America. Populations of this species require large areas to sustain themselves, requiring at least 850 square miles to remain stable (Dudek 2000). Habitat fragmentation, loss of large areas of undeveloped land, road kills, indiscriminate shootings, animal control measures, and loss of natural prey base have led to the decline of this species. The Preserve and the surrounding open space provide habitat for mountain lion to use for foraging and cover, and the species was photographed twice along an upper ridgeline within the Preserve.

Southern Mule Deer (*Odocoileus hemionus fuliginata*)

San Diego County Group II

Southern mule deer are common across the western U.S. in a variety of habitats from forest edges to mountains and foothills (Whitaker 1996). Southern mule deer prefer edge habitats, rarely travel or forage far from water, and are most active around dawn and dusk. Some sign of southern mule deer was seen at the Preserve during 2011 surveys, and a few deer were photographed during camera sampling. Southern mule deer was visually observed camera stations 1 (southern area of Preserve) and 2 (adjacent to Santa Margarita River).

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

Eighteen (18) special-status wildlife species have a high potential to occur within the Preserve as described below. Additional information on these species can be found in Appendix B.

3.3.3.1 *Fish*

Arroyo Chub (*Gila orcuttii*)

San Diego County Group I

The arroyo chub is a small fish that is found in slow-moving or backwater sections of warm to cool streams with mud or sand substrates (Moyle et al. 1995). The species breeds from February through August, although most spawning takes place in June and July, in pools or in quiet edge waters (Moyle et al. 1995). Depths are typically greater than 40 centimeters. This species decline has been attributed to introduced species and degradation of streams from urbanization (Moyle et al. 1995). In the 1990's, fish sampling confirmed the presence of this species within one mile of the De Luz Road Bridge crossing of the Santa Margarita River (CDFG 2011). This population is probably extant in the Santa Margarita River but no focused fish sampling was conducted on the Preserve to confirm the current status.

Southern Steelhead (*Oncorhynchus mykiss*)

Federally Endangered, California Species of Special Concern, San Diego County Group I

Southern steelhead is the anadromous, or ocean-going form of the species *Oncohynchus mykiss (*also known as rainbow trout). Historically southern steelhead was the only abundant salmon species that occurred naturally within southern California. Steelhead would enter the rivers and streams of southern California during the winter months when storms produced sufficient runoff to breach the sandbars at the rivers mouths. These fish would continue inland to upstream to spawning habitat.

Anadromous steelhead is not currently known to occur in the Santa Margarita River. However, historically anadromous steelhead was known to occur along the entire length of the Santa Margarita River. According to the Southern California Steelhead Recovery Plan the Santa Margarita River currently supports fair to poor quality habitat for anadromous steelhead. However, the recovery plan purposes the need to develop and implement a restoration and management plan for the Santa Margarita River Estuary that would potentially allow for the recovery of this species throughout the river.

3.3.3.2 *Herpetofauna*

San Diego Horned Lizard (*Phrynosoma blainvillii*)

California Species of Special Concern, San Diego County Group I, Draft North County Plan

The San Diego horned lizard is a large lizard that historically was found in Kern, Los Angeles, Santa Barbara, and Ventura Counties southward to Baja California, Mexico. Horned lizards inhabit a variety of vegetation communities including coastal sage, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest (Stebbins 2003). Loose, fine soils with a high sand content, an abundance of prey, and open areas with limited overstory typify suitable habitat for this species (Jennings and Hayes 1994). The San Diego horned lizard's insectivorous diet consists mostly of native harvester ants (*Pogonmyrmex* sp.), which make up over 90% of its prey; however, it is an opportunistic feeder that will take other insects including termites, beetles, flies, wasps, and grasshoppers (Stebbins 2003, Jennings and Hayes 1994).

This species has disappeared from about 45% of its former range and a number of factors have led to this decline including habitat fragmentation and degradation, loss of native prey to exotic species, and extensive collection for the curio trade (Jennings and Hayes 1994). The specialized diet of harvester ants has made horned lizards especially vulnerable to extirpation since the introduction of Argentine ants (*Linepithema humile*). The San Diego horned lizard was not detected on the Preserve but has potential to occur throughout the scrub and chaparral habitats.

Southwestern Pond Turtle (*Emys marmorata pallida*)

California Species of Special Concern, San Diego County Group I, Draft North County Plan

The southwestern pond turtle is a small turtle with a relatively low carapace (shell) that may exhibit a pattern of dark spots or lines that radiate from the centers of the scutes, or it may be almost patternless olive brown, dark brown, or grayish. Seasonal activity varies geographically and Western pond turtles may be active in every month at some localities. Western pond turtles eat a wide variety of food items, including algae, various plants (including the pods of the yellow water lily), snails, crustaceans (crayfish, Daphnia), isopods, insects, fish, frogs (tadpoles and adults). They prefer live prey, which they capture by opportunistic foraging tactics, but also scavenge carrion; they have been observed feeding on carcasses of mammals, birds, reptiles, amphibians, and fish.

The southwestern pond turtle inhabits slow-moving rivers, streams and ponds, where they seek permanent water. In intermittent streams, the turtles rely on small pools that persist through the dry season. Nests are excavated beyond the

watercourse in banks or in open uplands. This species uses its aquatic habitats primarily for foraging, thermoregulation, and avoidance of predators. Southwestern pond turtles require emergent basking sites.

Southwestern pond turtles are reported from the CNDDB both upstream and downstream from the Preserve. Southwestern pond turtles have a high potential to occur at the Preserve due to presence of suitable habitat.

Coronado Skink (*Plestiodon skiltonianus interparietalis*)

California Species of Special Concern, San Diego County Group II

The Coronado skink is a medium-sized secretive lizard that is typically found in the moister areas of coastal sage, chaparral, oak woodlands, pinon-juniper, riparian woodlands, and pine forests (Jennings and Hayes 1994). Its prey includes small invertebrates found in leaf litter or dense vegetation at the edges of rocks and logs. The Coronado skink is found along the coastal plain and Peninsular Ranges west of the deserts from approximately San Gorgonio Pass in Riverside County south to San Quentin, Mexico (Jennings and Hayes 1994). The Coronado skink was not detected on the Preserve but has potential to occur throughout the scrub, chaparral, woodland, and riparian habitats.

Coastal Rosy Boa (*Charina trivirgata roseofusca*)

San Diego County Group II

Coastal rosy boas are heavy-bodied snakes that inhabit arid scrublands, semi-arid and rocky shrublands, rocky deserts, canyons, and other rocky areas (Stebbins 2003). This species eats rodents, small birds, lizards, small snakes, and amphibians and kills its prey by constriction. Coastal rosy boas occur in southwestern California from the coastal slopes of the San Gabriel and San Bernardino Mountains, and across the peninsular ranges into the desert in San Diego County (Stebbins 2003). Threats to this species include habitat degradation and fragmentation from urban development. The coastal rosy boa was not detected on the Preserve but has potential to occur throughout the scrub habitats and in rocky areas.

San Diego Ringneck Snake (*Diadophis punctatus similis*)

San Diego County Group II

The San Diego ringneck snake is a small, thin snake that prefers moist habitats, including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed coniferous forests, and woodlands (Stebbins 2003). It is secretive in its behavior, usually found under the cover of rocks, wood, bark, boards, and other surface debris. Ringneck snakes eat small salamanders, tadpoles, small frogs, small snakes, lizards, worms, slugs, and insects. This species' range includes San

Diego County along the coast and into the Peninsular Range, southwestern San Bernardino County, and barely south into northern Baja California (Stebbins 2003). Threats to this species include habitat degradation and fragmentation from urban development. The San Diego ringneck snake was not detected on the Preserve but has potential to occur in moist areas on the rocky hillsides, or in the chaparral and woodland habitats.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgutea*)

California Species of Special Concern, San Diego County Group II

The coast patch-nosed snake is a medium-sized, slender snake that is a habitat generalist that makes use of whatever vegetative cover is available and thrives in most environments. It is also a generalist in its diet, opportunistically feeding on anything it can overpower including small mammals, lizards, and the eggs of lizards and snakes. The species ranges from Creston in San Luis Obispo County southward into Baja California (Stebbins 2003). This species' decline is likely due to conversion of habitat to development, agriculture, or non-native plant species. The coast patch-nose snake was not detected on the Preserve but has potential to occur on-site throughout the habitat.

Two-Striped Garter Snake (*Thamnophis hammondii hammondii*)

California Species of Special Concern, San Diego County Group I, Draft North County Plan

Two-striped garter snake occurs west of the deserts and Central Valley from Salinas, Monterey County, south into Baja California, and at elevations from sea level up to about 2,438 m (8,000 ft) in the San Jacinto Mountains (Jennings and Hayes 1994). It is often in water and rarely found far from it, though it is also known to inhabit intermittent streams having rocky beds bordered by willow thickets or other dense vegetation (Jennings and Hayes 1994). Two-striped garter snake will also inhabit large riverbeds such as those of the Santa Ana and Santa Clara Rivers if riparian vegetation is available, and even will occur in artificial impoundments if both aquatic vegetation and suitable prey items (small amphibians and fish) are present (Jennings and Hayes 1994). Declines are attributable directly to loss of riparian habitats. The two-striped garter snake was not detected on the Preserve but has potential to occur in the Santa Margarita River.

3.3.3.3 *Birds*

White-Tailed Kite (*Elanus caeruleus*)

California Fully Protected Species (nesting), San Diego County Group I

The white-tailed kite is found in lower elevations in open grasslands, agricultural areas, wetlands, and oak woodlands. Their primary source of food is the California vole (*Microtus californicus sanctidiegi*) (Unitt 2004). It typically forages in open,

undisturbed habitats and nests in the top of a dense oak, willow, or other large tree (Unitt 2004). The white-tailed kite population is on the decline mostly due to urban sprawl; however, this species is still considered fairly widespread throughout the foothills of San Diego County (Unitt 2004). White-tailed kites are known to occur in the vicinity and the Preserve does provide the large trees required for nesting; however, the grasslands they prefer to forage over are not present.

Northern Harrier (*Circus cyaneus*)

California Species of Special Concern (nesting), San Diego County Group I, Draft North County Plan

The northern harrier is associated with open grassland and marshes. This species typically forages in open, undisturbed habitat and nests on the ground in areas of dense low-growing vegetation to help conceal the nest. Nesting harriers are now considered rare and the known breeding population in San Diego County is estimated at 25 to 75 pairs (Unitt 2004). As with other ground nesting grassland birds, the northern harrier population is on the decline due to urban sprawl (Unitt 2004). The Preserve does not provide optimal nesting habitat; however, the species may occasionally forage and winter there.

Sharp-shinned Hawk (*Accipiter striatus*)

San Diego County Group II

Sharp-shinned hawks breed in young coniferous forests with high canopies. This species has not been documented breeding in San Diego; however, some summer sightings have been recorded (Unitt 2004). It is considered a fairly common migrant and winter resident, except in areas with deep snow (Dudek 2000). The known population breeding within California is very small and is vulnerable to impacts from falconry and logging. This species has high potential to occur as a migrant within the Preserve.

Red-shouldered Hawk (*Buteo lineatus*)

San Diego County Group I

The red-shouldered hawk was once an uncommon breeder of lowland riparian woodlands but has been thriving in urban environments with large trees such as eucalyptus (Unitt 2004). On the west coast, this species is found in California and northern Baja California and is common throughout San Diego County. Red-shouldered hawks have high potential to occur on the Preserve. This species is widespread throughout the County.

Swainson's Hawk (*Buteo swainsoni*)

State Threatened, San Diego County Group I

Swainson's hawks are rare migrants over San Diego County and are typically seen inland such as Lakeside, Lake Cuyamaca, and Borrego Valley. In 2011, two groups of Swainson's hawks were observed migrating near the Santa Margarita River valley. One group was documented by local birders on March 8, 2011 and a second group was observed by ICF biologists K. Fischer and D. Allen on 30 March, 2011. The second group was observed on Naval Weapons Station Seal Beach Detachment Fallbrook and was moving in the direction of the Preserve. This species has high potential to migrate through the Preserve and use the ridgetop updrafts for migration.

Ferruginous Hawk (*Buteo regalis*)

San Diego County Group I

The ferruginous hawk is an uncommon winter visitor to San Diego County that is mostly found foraging in open grasslands (Unitt 2004). Development of the grasslands they forage over caused the decline in this species (WRI 2007). Ferruginous hawks have potential to be detected at the Preserve during migration.

Golden Eagle (Aquila chrysaetos)

State Fully Protected Species, San Diego County Group I, Draft North County Plan

Golden eagles nest on cliff ledges or trees on steep slopes and forage in grasslands, sage scrub, or broken chaparral (Unitt 2004). Development of the grasslands they forage over has taken a toll on the numbers of this species present in San Diego County. A territory averages 36 square miles so removal of foraging habitat will have significant impacts on this species (Unitt 2004). In 2011, a golden eagle individual was detected in spring at Naval Weapons Station Seal Beach Detachment Fallbrook and has high potential to use the Preserve for foraging. There is no habitat suitable for nesting on the Preserve.

Merlin (*Falco columbarius*)

San Diego County Group II

The merlin is most often seen in grasslands but has the potential to occur in any vegetation community except dense woodland (Unitt 2004). This species is a rare winter visitor to San Diego County that feeds mostly on small birds and can be found where small birds flock (Unitt 2004). This species has high potential to occur as a migrant within the Preserve.

Bell's Sage Sparrow (*Amphispiza belli belli*)

California Species of Special Concern, San Diego County Group I, Draft North County Plan

The Bell's sage sparrow is a resident species that is usually found in chaparral and coastal sage scrub in southern California and Baja California. This mostly ground-dwelling species prefers open chaparral and sage scrub and is one of the first species to inhabit recently burned habitat (Unitt 2004). This species occurs along the coastal lowlands, inland valleys, and in the lower foothills of the local mountains in southern California and south into Baja California (Dudek 2000). The decline of this species can be attributed to fire suppression, invasion by exotic plant species, loss of habitat to agriculture and urban development, and population isolation due to habitat fragmentation (Unitt 2004, Dudek 2000). Bell's sage sparrows were not observed during the 2011 surveys, but there is high potential for the species to occur as it has been recorded in the immediate vicinity (Unitt 2004).

3.3.4 Non-native and/or Invasive Wildlife Species

Nine (9) non-native animal species were documented during the current survey effort including red swamp crayfish (*Procambarus clarkia*), cabbage white (*Pieris rapae*), common carp (*Cyprinus carpio*), bullfrog (*Lithobates catesbeiana*), red junglefowl (*Gallus gallus*), rock pigeon (*Columba livia*), European starling (*Sturnus vulgaris*), brown-headed cowbird, and Virginia opossum (*Didelphis virginiana*).

The two invasive species seen in large numbers were bullfrog and common carp. Both of these species are direct threats to arroyo toads and their breeding. Therefore, removal of bullfrog and common carp could improve arroyo toad habitat and increase the success of recruitment within the Preserve. However, because populations of bullfrog and carp occur within the entire Santa Margarita River watershed, efforts to eradicate and control these two species within the Preserve is likely infeasible.

Non-native bird species observed were in low numbers and were not seen as imminent threats to the listed avian species present at the Preserve. Virginia opossums were observed in the southern portion of Santa Margarita River near De Luz Road.

3.4 Overall Biological and Conservation Value

The Preserve is located within the Santa Margarita Core Area of the Draft North County Plan. The Santa Margarita Core consists of 8,211 acres north of Fallbrook. Santa Margarita watershed boundary forms the southeastern boundary and Interstate 15 forms the eastern boundary. Approximately 74% of this core area contains natural vegetation communities. Coastal sage scrub and chaparral are the two dominant communities. Chaparral occurs mainly on the eastern half of the segment where mafic soils occur. There is also a patch of grassland (~ 200 acres)

that may contain significant biological resources. There are known populations of Parry's tetracoccus on soils in this area. The Santa Margarita River is host to several sensitive species including arroyo toad, least Bell's vireo, southwestern willow flycatcher, western spadefoot toad, and California newt.

According to the MSCP Habitat Evaluation Model, the Preserve consists of areas of very high, high, medium to very low value habitats. The Draft North County Plan species-specific habitat evaluation model for arroyo toad designates habitat within the Preserve as very high in value for this federally endangered species. The species-specific habitat evaluation model for coastal California gnatcatcher designates small areas of habitat within the Preserve varying from very high in value to moderate. In addition, designated USFWS Critical Habitat for arroyo toad, least Bell's vireo, southwestern willow flycatcher, and coastal California gnatcatcher occurs within the Preserve.

3.4.1 Wildlife Linkages and Corridors

The Preserve is located within the Santa Margarita Core Area, which is directly adjacent to the Del Luz Core Area to the west. The Preserve serves as an important corridor for wildlife movement between the Del Luz and Santa Margarita Core Areas (Figure 12). The major wildlife movement feature located within the Preserve is the Santa Margarita River, which provides access and concealment to wildlife species of all sizes. The Santa Margarita River provides access from the Preserve to Camp Pendleton directly west of the Preserve and northeast towards the open space properties owned by the Fallbrook Public Utility District. Larger mammals such as coyotes regularly move on, off of, and across the Preserve, to and from adjacent open space. In addition, mountain lion were detected on the Preserve during surveys performed in 2011.

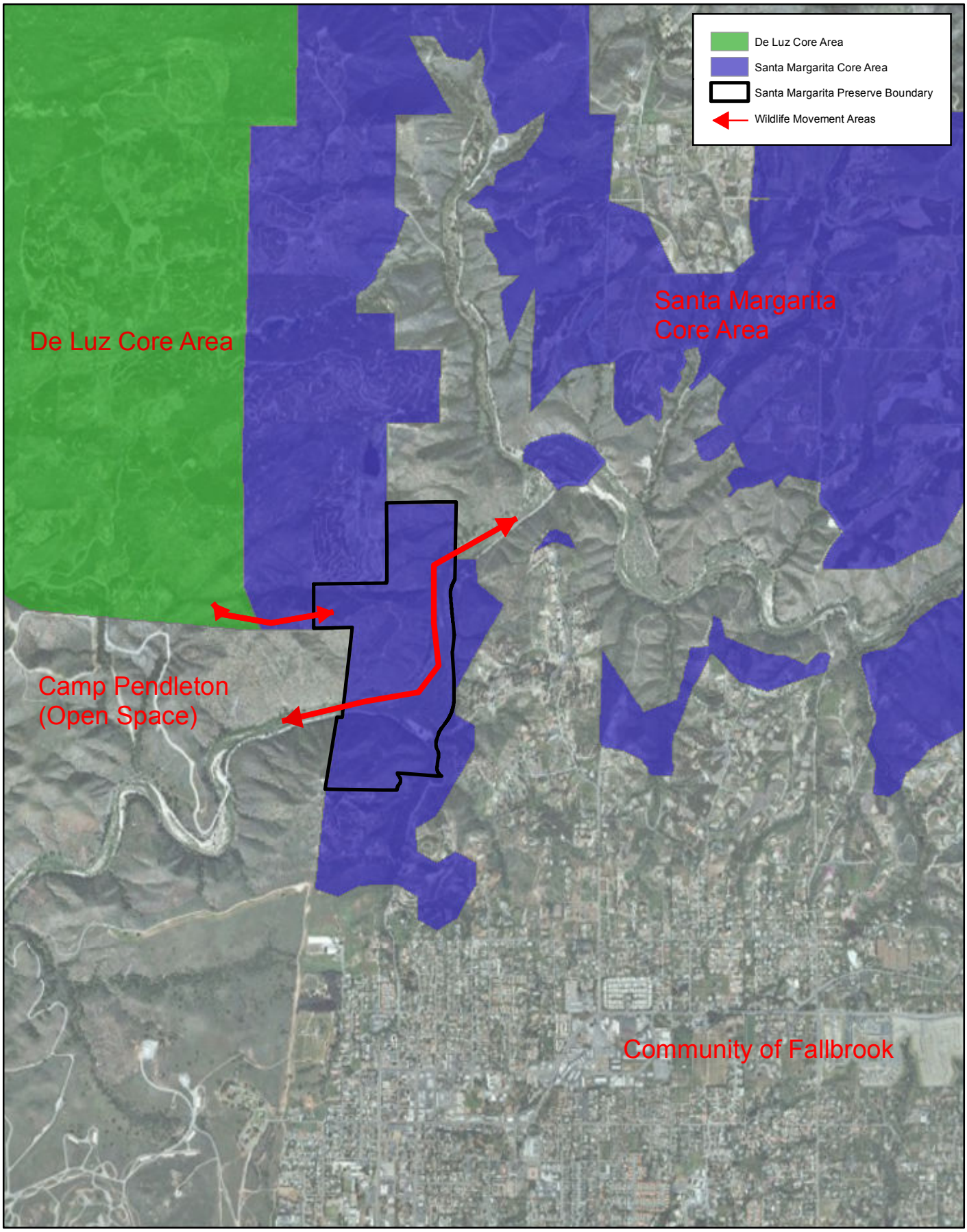


Figure 12
Wildlife Corridor Movement Areas
Santa Margarita Preserve

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 sites, historic structures, artifacts, photographs, oral histories, Native American oral traditions and public documents. This RMP identifies the known cultural resources within Santa Margarita Preserve and describes areas of potential resources.

In 2011, an archaeological survey and site inventory was completed for the Preserve in compliance with the Resource Protection Ordinance, and County Cultural Resources guidelines (County 2007) 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 Survey and Inventory for the Santa Margarita Preserve, San Diego County, California* (ICF 2011) attached as Appendix C. This Phase I inventory involved site records searches, literature reviews, Native American consultation, historic map reviews, 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 Pre-Contact

In the San Diego area, the Late Prehistoric Period has been described as a time characterized by an increased number of sites, and “many technological innovations, and new patterns in material culture and belief systems” (McDonald and Eighmey 1998:III-1). This description, in fact, aptly describes the period for the entire San Diego County area. Changes in tool and ornament types, burial practices, and site location choices, from those documented for the earlier periods, are well documented in the archaeological record and are described below.

As with the earlier periods, archaeologists have defined distinctive complexes for the Late Prehistoric Period prehistoric cultures of the area. Two complexes have been defined for the protohistoric occupants of the area. One, designated as "San Luis Rey,” is identified in the southern Orange, western Riverside, and northern San Diego Counties area; the other, "Cuyamaca," is identified in southern San Diego County (Meighan 1954; True 1966, 1970; True et al. 1974). The San Luis Rey complex is believed to be the progenitor of the Shoshonean-speaking peoples (Luiseño/Juaneño culture) living in the area at the time of historic contact in northern San Diego County (referred to as San Luis Rey of Shoshonean origin) (cf. Koerper 1979). Those of southern San Diego County (Cuyamaca, Yuman), are believed to be the ancestors of the Hokan-speaking Diegueño or Kumeyaay (Ipai/Tipai) occupying southern San Diego County at contact. The demarcation line between the San Luis Rey complex and the Cuyamaca complex is believed to be near the historic separation of the tribal territories of the Luiseño/Juaneño and Diegueño. It is highly unlikely, however, that the boundary remained static over time. During Late

Prehistoric times, the Preserve would have been within the area commonly associated with the archaeologically-defined San Luis Rey complex.

The San Luis Rey complex has been separated into two time periods, designated as San Luis Rey I and San Luis Rey II (Meighan 1954). San Luis Rey I sites date from circa A.D. 500 to A.D. 1200 and San Luis Rey II, from circa A.D. 1200 to historic contact, about A.D. 1769. Archaeologically, San Luis Rey II site assemblages are similar to those of San Luis Rey I sites, but with the distinctive addition of ceramics.

Hearths documented for southern San Diego County sites are often clay-lined, yet this type of hearth is not found in the northern County sites. The Luiseño/Juaneño of southern Orange and northern San Diego Counties appear to have primarily practiced cremation (Kroeber 1925), but may also have occasionally buried the dead by inhumation. The use of special burial urns for cremations, however, was apparently not commonly practiced.

4.1.2 Post-Contact

4.1.2.1 *Spanish Period*

The historic period in California began with the early explorations of Juan Cabrillo in 1542. Cabrillo came ashore on what is now Point Loma to claim the land for Spain and gave it the name San Miguel. Sixty years passed before another European, Sebastían Vizcaíno, entered the bay on November 10, 1602 and gave it the name San Diego (Pourade 1960:49, 66). Although both expeditions encountered native inhabitants, there appears to have been little or no interaction. None of the coastal sites occupied during this protohistoric period have yielded European trade items or evidence of depopulation due to epidemic diseases, nor does Kumeyaay oral tradition offer a native perspective on these encounters.

The original Spanish settlement in San Diego began in 1769 on Presidio Hill and consisted of a presidio (fort) and a chapel that also served as Alta California's first mission. In that same year, an expedition headed by Gaspar de Portolá traveled north from the Presidio de San Diego to extend the Spanish Empire from Baja California into Alta California by seeking out locations for a chain of presidios and missions in the area. The Spanish period extended to 1821 and encompassed early exploration and subsequent establishment of the San Diego presidio, as well as the San Diego, San Luis Rey, and San Juan Capistrano missions between 1769 and 1821. From its original outpost on what is now Presidio Hill, Mission San Diego de Alcalá was moved to roughly its current site in Mission Valley in 1774. In November 1774, the mission was attacked by Tipay warriors from south of the San Diego River who razed the mission and killed Father Luis Jayme and two others. The San Diego mission was rebuilt in 1775, and while one of the least successful missions in the chain of California missions, it firmly established Spain's presence in the region. During this period, Spanish colonists introduced horses, cattle, sheep, pigs, corn,

wheat, olives and other agricultural goods and implements, as well as new architecture and methods of building construction (Englehardt 1920:60-64).

Spanish explorers first encountered the Santa Margarita River during Portola's 1769 expedition from San Diego to Monterey. Portola and his party passed through the river's lower valley and estuary. Friar Juan Crespi, who documented the expedition in his dairy, described the lower valley as "beautiful in its verdure and replete with alders and smaller trees." Arriving on the day of Saint Margaret of Antioch, the party baptized the river and named it for Saint Margaret (Crespi in Shapiro 1997:10; Pourade 1960:138.)

The next documented Spanish entry into the Santa Margarita River area took place almost two decades later, in 1795. That year Friar Juan Mariner and Captain Grijalva led a military scouting party from the San Diego Presidio in search of a potential mission site. After traveling up the San Diego River through Sycamore Canyon to Santa María Valley (also known as Pamo Valley), Mariner and Grijalva passed into the Warner's Hot Springs area and continued down the San Luis Rey River. Venturing north, their party then passed through Santa Margarita and Las Flores on route to San Juan Capistrano. Their expedition informed the choice of the site for the next mission to be developed in present-day San Diego County. (Pourade 1961:115).

Dedicated on June 13, 1798, Mission San Luis Rey was developed on the north side of the San Luis Rey River valley, 40 miles north of San Diego and east of present-day Oceanside. The new mission was founded by Friar Fermín Francisco De Lausén, and its construction and development were husbanded by Friar Antonio Peyri. The mission church was completed in 1801-1802 with adobe bricks made and placed by neophytes among the region's Luiseño Indian population, upon whom the mission's Christianization efforts focused (Pourade 1961:115-117). With San Luis Rey serving as the center of Spanish authority in the northern San Diego region, two *asistencias* (mission extensions) were established during subsequent decades; San Antonio de Pala on the upper San Luis Rey River (1810), and Las Flores on the coast between San Clemente and Oceanside (1922). This latter *asistenci*a would subsequently become Rancho Santa Margarita y Las Flores (Pourade 1961:122; Moyer and Pourade 1968:25-26). Mission *asistencias* were also established to the east. San Luis Rey friars exploring the region east and northeast of the mission settled on the Temecula Valley as the site for one. This area became Mission San Luis Rey's major grain production center. Mission officials built a granary, a chapel, and house at the easterly *asistenci*a site, which would come to be known as the Temecula rancho (Bibb 1972; Farnbach n.d.).

Despite such expansion, and amid the growing wealth accumulated by the missions, Spanish colonists maintained an ultimately tenuous grip on the region. While missions such as San Luis Rey flourished economically, threats from within and without increasingly undermined political stability. Indigenous populations declined dramatically due to disease, overwork, and the missions' campaigns to end native

ways of life. Instances of native resistance to Spanish authority multiplied across Alta California. Mariners with allegiances to competing colonial powers and trapper-explorers from the east and north increasingly challenged the authority of officials and priests whose problems were of little interests to officials in Spain, which was embroiled in European conflict and declining as a major power (Pourade 1961:176-177; Rawls and Bean 2003:48-52, 54-56).

4.1.2.2 *Mexican Period*

Following Mexico's independence from Spain in 1821, the Mexican period began in San Diego County and lasted until 1848, ending with the conclusion of the Mexican-American War. During this period most Spanish laws and practices continued until shortly before secularization of Mission San Luis Rey, Mission San Juan Capistrano, and Mission San Diego de Alcalá. In 1824, when Frenchman Duhaut-Cilly visited Mission San Luis Rey and described its church as having the "look of a palace," announcing itself across the landscape with "brilliant whiteness," the so-called "King of the Missions" was thought to be the largest building in California (Sherman 2001:22). By then, however, San Luis Rey and most other California missions were already in decline. Indeed, by 1822, 17 of the missions had no resident priest (Pourade 1961: 176). During the 1820s, the region's economic activity centered upon agriculture and livestock-raising for subsistence and localized markets, and hide and tallow production for the international market (Pourade 1961:182-183; Sherman 2001:230).

After years of political instability and several failed efforts to secularize the missions, in 1834 Governor José Figueroa issued a proclamation defining the terms of the secularization process that would be instituted over the following two years. Provisions for assuring that Indians would receive mission land, however, proved of little or no practical benefit to the region's Native Americans. Limits on the slaughter of mission cattle were often ignored by priests who sought immediate profit on the hide market. Mission lands were distributed mainly to officials and retired soldiers. Approximately 500 private rancho land grants were made under Mexican rule. Governors Juan Batista Alvarado, Manuel Micheltorena, and Pío Pico made most of these grants after secularization (Rawls and Bean 2003:58-63). Mission San Luis Rey was secularized in 1834. Only the mission church remained under Catholic authority. There Friar Francisco Ibarra attempted to administer to the remaining Native Americans. Many of the San Luis Rey buildings were dismantled for materials to be used in construction efforts on the new ranchos (Sherman 2001:23). Three ranchos were established south of the Santa Margarita River in present-day northwestern San Diego County. Former mission administrator and governor, Pío Pico, and his brother, Andrés Pico, were awarded the largest rancho: Rancho Santa Margarita y Las Flores, comprising 133,400 acres along the coast near Mission San Luis Rey. In 1845, as governor, Pico granted Rancho Guajome to two Indian brothers, Andrés and José Manuel Guajome. Located northeast of Rancho Guajome and nearer to the Santa Margarita River and Temecula Canyon, the 13,322-acre Monserrate Rancho was granted to Don Ysidro María Alvarado in 1846,

during the waning days of Mexican rule in California (Moyer and Pourade 1969:28-29, 69; Sherman 2001: 27). To the north and northeast, land grants resulted in the creation of additional ranchos in the vicinity of the Santa Margarita River. Juan Morena received the 47,815-acre Santa Rosa Rancho, situated on the north side of the Santa Margarita River and Temecula Canyon. To the east, the 26,608-acre Big Temecula Rancho was granted to Felix Valdez in 1844. Marking a rare instance in which a Native American acquired a rancho, Pablo Apis swore allegiance to Mexico, requested land, and was promised the small (2,283 acres) but impressively fertile Little Temecula Rancho, which adjoined the Big Temecula Rancho (Bibb 1972; Farnbach n.d.).

As Americans began to take control of California in 1846, Pío Pico fled to Mexico. Don Juan Forster, Pico's brother-in-law, assumed management of the San Luis Rey y Las Flores Rancho, over which Pío Pico had acquired complete ownership several years earlier. Andrés Pico led the local *Californio* defense against invading American forces during the Mexican-American War. Some of war's bloodiest events in California occurred in present-day north San Diego County. In the battle of San Pasqual, which took place in the San Pasqual Valley east of Escondido, Pico and his men fought a contingent 100 U.S. troops led by General Stephen W. Kearny after an exhausting march into southern California. Twenty-two men died in the battle or soon afterward from injuries, most of them Americans. In 1847, a group of *Californio*s and *Cahuillas* massacred 38 Temecula and Pauma Indians at Aguanga east of Temecula. After Kearny and his men, the next major U.S. contingent to pass through the region was the Marmon Battalion, sent by the U.S. to establish a wagon road from Fort Leavenworth to San Diego. The Mormon Battalion spent six weeks camped at a then abandoned Mission San Luis Rey. Mexico ceded California to the United States on February 2, 1848 with the signing of the Treaty of Guadalupe Hidalgo, and California became a state on September 9, 1850 (Rawls and Bean 2003: 93-95; Sherman 2001: 29-30; Shapiro 1997: 14).

4.1.2.3 *American Period*

After the Mexican-American War, land ownership in California became hotly contentious. Proof of rancho land ownership with the new government often meant years of effort to obtain a federal patent, and many rancheros had difficulty maneuvering through the process. Capitalizing on the uncertainty of those transitional years, Anglo settlers increasingly squatted on land that belonged to *Californios* and began challenging the validity of Spanish-Mexican claims (Garcia 1975). An influx of Anglo squatters and new government taxes severely hindered *Californio* rancho owners, and by 1860, most did not retain their original land holdings. Unimproved farmland and substantial, often unconfirmed, ranchos characterized the largely uninhabited San Diego County (Garcia 1975).

Fallbrook

The Fallbrook area was first homesteaded in 1869 by Vital and Anthony Reche, who settled in western Fallbrook (now Live Oak) and named the area for their Pennsylvania hometown of Fall Brook. In 1878, Henry H. Grid built a frame house on the 5,500 acres of Mosserrate Rancho land he purchased from one of Thomas Alvarado's daughters. The town of Fallbrook, however, developed around the community's first school house, which was built on land provided by members of the Reche and Lamb families (Carrico and Flanigan 1991; Sherman 2001: 45). Population growth and economic development in Fallbrook received a major boost from construction of the California Southern Railroad line along the Santa Margarita River and through Temecula canyon during the 1880s (discussed in more detail below). Reports from the period estimate the town's population at 600 by 1882. These early residents were served, in addition to railroad facilities, by a post office, three stores, blacksmith and wagon shops, and two churches. By 1890, Fallbrook also had millinery and jewelry shops, a lumber yard, and a steam mill for grinding grains and corn. By 1900, the Fallbrook area had become well-known for production of olives, lemons, oranges, grapefruits, and honey, in addition to grain and hay (Carrico and Flanigan 1991; Marquis 1977: 12, 54-56).

Old and new economic activities significant in California history were undertaken in the Fallbrook region from the 1890s through the 1940s. "Gold fever" periodically broke out in the 1890s, sending prospectors into Temecula Canyon in search of quick wealth. Several mining operations were attempted in the area between Fallbrook and DeLuz Valley. Agriculture, however, continued to drive the larger regional economy and provide the surer means to economic advancement. Avocados gradually became an important feature of the region's agricultural production during the first half of the twentieth century. H.B. McCormac planted the first avocado trees on the William Moore property in 1912, and William Lord planted additional trees later that decade. Early avocado-growing efforts suffered from fruit with thick skin and low oil content. During the 1920s, B.M McDonald and A.H. Anthony planted increasing acreage in avocado trees. Avocado production grew rapidly thereafter, facilitated in part by the California Avocado Association, formed in 1915, and the establishment of California standards for oil content (Carrico and Flanigan 1991; Marquis 1977: 56-58).

Due to repeated disasters involving the railroad line and the rise in automobile ownership, Fallbrook citizens increasingly pressed for paved roads between their community and Oceanside. Fallbrook residents celebrated the 1919 approval of a $40,000,000 highway bond issue for construction of paved roads serving the town and other communities in northern San Diego County (Marquis 1977: 27-28, 42). Indeed, in the areas of transportation and water, the community of Fallbrook had a complex, often difficult relationship with the Santa Margarita River.

The California Southern Railroad (Fallbrook Branch of the Atchison, Topeka, and Santa Fe Rail Railroad)

The economic promise of a railroad line providing San Diego with a connection to the transatlantic system via Colton and San Bernardino would fuel the region's boom-to-bust real estate economy in the 1880s. That promise would also lead to poor decision making and planning among the railroad men whose financing, surveying, and building efforts brought such a line into existence on the eastern and northern outskirts of Fallbrook, along the Santa Margarita River and through Temecula Canyon.

In 1880, after the Atchison, Topeka, and Santa Fe Railroad (Santa Fe) frustrated San Diego railroad promoters with its decision to forego development of a southerly route linking San Diego to its transatlantic system, local boosters organized the California Southern Railroad (CSR). This syndicate would develop a line stretching from a terminal with waterfront access at National City north to Colton outside of San Bernardino. The route would stretch up the coast to Oceanside, turn inland to follow the Santa Margarita River, enter the Temecula Valley northeast of Fallbrook, and continue north. Infamously, the company's eastern surveyors and engineers ignored Fallbrook citizens who warned that the grade constructed through Temecula Canyon largely by Chinese laborers was within reach of potential flood waters. The line was completed to Fallbrook Station in January 1882, extended to Temecula Station by March 1882, and completed to Colton in August. During the winter of 1883-1884, torrential rains flooded the canyon, destroying eight miles of track between Deluz and Temecula. The Santa Fe agreed to finance reconstruction of the railroad and service was restored on January 6, 1885. In 1891, however, winter floods again destroyed miles of track. With the California Central Railroad line along the coast completed between Oceanside and Santa Ana, financial support for reconstruction of the CSR between Fallbrook and Temecula never materialized; that portion of the railroad was not reconstructed (Carrico and Flanigan 1991; Duke and Kister 1963: 26-27; Marquis 1977: 29-30; Pourade 1964: 157-58, 164).

Between Oceanside and Fallbrook Station, the railroad continued to operate as the Fallbrook branch line after 1891. Tracks on four "floating" bridges (discussed in more detail below) and several roller-coaster-like grade changes and turns carried the railroad through Temecula Canyon between Deluz and Fallbrook Station. The branch line operated until 1916 when rains flooded the canyon, stripping the river bed of its 20-foot-deep sediment layer to bedrock, and exposed Native American millingstones (Middlebrook 1957: 3-4).

After the 1916 event, the branch line was once again reconstructed to Fallbrook, but on a new alignment skirting Temecula Canyon. The old railroad bed was retained from the junction at Oceanside to the Santa Margarita ranch house. From there, workers constructed a new line to Fallbrook over a steep grade located east of the older washed-out line (Marquis 1977: 31-32; Middlebrook 1957:4).

Water, Fallbrook, and the Santa Margarita River

Although the Fallbrook area proved itself early as a productive agricultural region of San Diego County, growth increasingly exhausted the local water supply during the late nineteenth and early twentieth century. In 1891, 55 local farmers pressed San Diego County officials for approval of the Fallbrook Irrigation District (FID). Partial owner of Rancho Santa Margarita, Richard O'Neill, and J. G. Martin opposed the proposal to include 2,000 acres of Rancho Santa Margarita and 325 acres of Martin's land in the district. Although voters approved the district in 1892, lawsuits undermined implementation of the FID's plans, and eventually led to California's irrigation-centered Wright Act being declared unconstitutional. Backed by the findings of a state engineer, Fallbrook farmers waged a second attempt to form an irrigation district in 1924, presenting a 10,000-acre district proposal to the county officials. Upon approval, the district hired engineers who developed a plan that would include a 35,000-acre reservoir, extensive pumping facilities, and delivery pipe with an estimated cost of $2,220,000. However, in 1926 the O'Neills and the Vail Family ranching interests, who had acquired both of the Temecula Ranchos and the Santa Rosa Rancho north of Fallbrook after the turn of the century, owned riparian rights to the Santa Margarita River and filed suit against the district. In 1928, the FID responded with a condemnation suit targeting unused Rancho Santa Margarita riparian rights (Rivers 2001: 66-69).

In 1930, the FID received approval of its plans to develop 35,000 acre-feet of Santa Margarita water resources for storage and a maximum of 15,000 acre-feet for annual use. In 1934, however, federal authorities denied the district's application with the Depression-era Public Works Administration for financial assistance to construct a dam on the Santa Margarita River. The federal government also rejected subsequent district application for San Luis Rey River water development. In April 1937, the San Diego Board of Supervisors voted to incorporate the FID into the Fallbrook Public Utility District, formed in 1922, and to provide for the pumping of San Luis Rey River water to serve agricultural producers in the Fallbrook area. Wells and pumping facilities soon delivered 1,000 gallons per minute. Meanwhile, the district's original permit to extract 2½ cfs from the Santa Margarita River was converted into a license by the State Water Board in 1933, which helped to supplement the district's supply after limits were placed on San Luis Rey extraction in the 1950s. Subsequent acquisition of water rights north and northeast of Fallbrook enhanced the district's supply into the 1970s (Rivers 2001: 70-75).

4.1.3 Historic Overview of the Santa Margarita Preserve

Spanish and Mexican colonists doubtlessly followed the example of local Luiseños Indians and used the Santa Margarita River as a travel corridor, particularly during the prevailing dry seasons. However, the main road through the Fallbrook area during the period between the 1850s to the 1870s was aligned south of the study area. This road followed the generally northeast-southwest course of the Santa Margarita River between the Santa Margarita ranch house and Fallbrook Creek,

where it stretched east toward the southern slope of Red Mountain and on to the Emigrant and Butterfield Mail route. By the early 1880s, several roads connected Fallbrook to the Santa Margarita River north and east of the town. One private road known as the "Ely Grade" accessed the river from Fallbrook east of the study area. Built during the early 1880s, the California Southern Railroad's Fallbrook Station stood on the south side of the Santa Margarita River, at the site of the present-day Preserve staging area immediately northwest of the intersection of De Luz Road and Sandia Creek Drive. The station was accessed from Fallbrook by a road built through the property of homesteader William B. Hayden. This road continued beyond the Santa Margarita River, extending north along Sandia Creek (the road appears to have followed the present-day alignments of De Luz Road and Sandia Creek Drive) (Ale 2003: Map & Notes; *Fallbrook Enterprise* 1985; USGS 1901 [culture surveyed 1891]).

Fallbrook Station was constructed in the early 1880s on land originally homesteaded by Hayden and later acquired by the California Southern (Carrico and Flanigan 1991). The facility consisted of a depot, turn-table, engine house, side tracks, a boarding house for railroad workers, and a water tank and associated cistern (Middlebrook 1957:3). Although the coming of the railroad gave Fallbrook farmers easier access to distant markets, transporting produce to the station at the bottom of the river-carved canyon floor proved to be no easy task. One historian has described the process: "wagons drawn by four, six or eight mules and horses wound around sharp curves and steep grades with loads of baled hay, grain, packed lemons and oranges, comb honey and many other products to be shipped" (Marquis 1977:55). After the floods of 1891, the Temecula Canyon segment of the Fallbrook Branch line maintained by the Santa Fe was carried by four so-called "floating bridges" built to lengths of between 50 and 100 feet, two of which formed a famously treacherous horseshoe curve.

During the heavy rains and floods of 1916, the Santa Margarita River washed away much of the Santa Fe's property in the canyon, although a major portion of the Fallbrook Station facilities (the engineer's house, watchman's house, water tank, and turntable), an engine, and several train cars remained intact or stranded when the waters receded (Marquis 1977: 31). Railroad interests opted to salvage the equipment and materials left in the washed-out canyon. In 1917, contractor W. I. Basore & Company removed four-hundred tons of material from the canyon. Following the flood of 1916, the Fallbrook Branch was reconstructed on an alignment south of the canyon (Marquis 1977: 31-32; Middlebrook 1957:4). The only remaining traces of the original Fallbrook Station are the lower walls (originally a cistern) of the concrete-walled and wood-frame roofed building at the eastern edge of the Preserve staging area.

Early Land Ownership and Uses

Even before the railroad was constructed through the Canyon north of northeastern Fallbrook, several homesteaders had claimed land within the study area, in

T9S/R4W. William B. Hayden claimed 160 acres in the southwest quarter of the southeast quarter of Section 12, and in both west half of the northeast quarter and the northwest quarter of the southeast quarter of Section 13. This portion of Hayden's claim was patented in April 1882. Whether through luck or foresight, Hayden chose his land well. Not only did the California Southern Railroad acquire a portion of his land to build Fallbrook Station, the road into the canyon also passed through his land. By 1892, Hayden had sold all of this land. J.E. Tracy homesteaded the east half of the northeast quarter of section 13 (Ale 2003: Map & Notes; Fallbrook Historical Society Homestead Records: T9S/R4W; San Diego County 1892: T9S/R4W).

Edmund W. King homesteaded land immediately north of Hayden's land. In 1885, King received a patent for the northwest quarter of the southeast quarter of section 12 in T9S/R4W, located on the west side of the Santa Margarita River segment running north-south through the southeast quarter of section 12. Edmund King, a railroad pastry chef and brother of James E. King, homesteaded land in section 13 of T9S/R4W. Edmund King also homesteaded land northeast of the homestead in the southeast quarter of section 12, the latter of which was located near the present-day south gate of the Preserve (Ale 2003: Map & Notes; Fallbrook Historical Society Homestead Records:T9S/R4W).

Records of land ownership within and nearby the study area during the decades after the 1884 flood bear out King's report of newcomers replacing many of the first homesteaders. By 1892, much of the land homesteaded within the study area had changed hands. By then Asa W. Hubbard (possibly Hebbard) had acquired 34 acres in the southwest quarter of the southeast quarter of section 12 (near the Fallbrook Station), 78 acres in the west half of the northeast quarter of section 13, and 35 acres in the northwest quarter of the southeast quarter of section 13. By 1892, small plots of land had also been acquired by O.H. Sundell (2 acres) and J. E. Tracy (unspecified acreage) in the west half of the northeast quarter of section 13, and by Caroline E. Richardson in the northwest quarter of the southeast quarter of section 13 (San Diego County 1892:T9S/R4W).

By 1910, some of this land had again changed hands. While Hubbard retained all of his land in the study area west of the road between Fallbrook and Fallbrook Station, A. M. Stewart had acquired much of the land through which the road was aligned as well as land to the east of the road (western half of the northeast quarter of section 13). By 1910, A. J. Hutton had acquired land in the study area originally homesteaded by Edmund King (northwest quarter of the southeast quarter of section 12), while J. K. Chalmers had acquired 80 acres in the east half of the southeast quarter of section 12 and 40 acres in the northeast quarter of the northeast quarter of section 12 (San Diego County 1910:T9S/R4W).

After the floods of 1916 and the removal of railroad property, trains ceased to travel the Santa Margarita River canyon north of Fallbrook, and ranching dominated human activity at and around the current site of the Preserve into the late twentieth

century. In Fallbrook, *Yesterday and Today*, Fallbrook Historian Harold H. Marquis notes that in the area where Sandia Creek converges with the Santa Margarita River, William Thurber established a 640-acre ranch where he raised turkeys and poultry and developed a breed of guinea pigs known as “cavies” for pelts and meat. The latter effort did not prove successful. By the 1960s, this ranch served mainly as a recreational site for organizations such as the Boy Scouts and for members of the Thurber family. Site P-37-013739 consists of the remnants of a building that may have been part of Thurber’s ranch (Enriquez Pers. comm 2011; Marquis 1977:43).

Ranching operations within the canyon north of Fallbrook had declined by the latter half of the twentieth century. Human activity in the vicinity of today’s Preserve during the second half of the century increasingly centered on recreational pursuits such as hiking, horse riding, and off-road-vehicle operation. Latter-twentieth-century landowners in the Preserve area included Fred Salberg, Floyd and Vida Fields, and Roger Lang. Conservation efforts led to the establishment of the Preserve in the 1990s. The County of San Diego acquired much of the current Preserve from the Lang family in 1992. Additional Preserve land on the south side of De Luz Road was purchased by the County of San Diego in 2007(Enriquez Pers. comm 2011; Whipps Pers. comm 2011).

4.2 Native American Consultation

A letter was sent to the Native American Heritage Commission (NAHC) on April 15, 2011, requesting a review of the Sacred Lands files. A response letter from Mr. Dave Singleton of the NAHC, dated April 15, 2011, was received via fax on May 10, 2011. The search of the Sacred Lands files by the NAHC did not indicate the presence of Native American sacred lands within the vicinity of the Preserve.

The NAHC response also included a list of local Native American contacts. On May 12, 2011, letters were sent to the 11 listed Native American contacts requesting further consultation and participation in the cultural resources study. On May 20, 2011, a letter was received from Pala Band of Mission Indians requesting project updates and information on any known or newly recorded cultural resources within the Project Area. On May 25, 2011, a letter was received from Rincon Band of Luiseño Indians requesting project updates and a copy of the survey report. On June 3, 2011, a voicemail was received from Anna Hoover, Cultural Analyst from Pechanga Band of Luiseño Indians, requesting consultation. Through further negotiation, the Pechanga were retained contractually to provide Native American monitoring services for the field survey.

4.3 Cultural Resource Descriptions

Four (4) cultural resources have been recorded within the Preserve, including a newly discovered prehistoric bedrock milling station; a previously recorded residential structure, now largely demolished; a newly recorded bridge; and a newly recorded concrete water storage structure. No isolates, resources of unknown age,

multi-component sites, or other objects, infrastructure or locations of historic activities were identified.

4.3.1 Prehistoric Resources

CA-SDI-20440/P-37-032250

Discovered during the current survey, CA-SDI-20440/P-37-032250 consists of the remnants of a milling slick measuring 12 cm by 2 cm, located on top of a boulder that measures approximately 3 meters by 5 meters and is approximately 1.5 meters high. The slick is approximately 1 to 1.5 centimeters in depth and milling wear is located in the center and outside edges of the slick only. No associated artifacts were found.

4.3.2 Historic Resources

P-37-013739

Originally recorded in 1994 by Susan Hector and Noel Parr on behalf of DPR, this site is the remnants of a 1920's residence, renovated in the 1940's. The site is extremely overgrown with vegetation obscuring most of the remains of the site. Visible remains consist of three walls, possibly of the original 1920s portion of the house. The walls make up the western portion of the house with the eastern portion completely destroyed. The northern-most wall measures approximately 13 feet and runs east-west. Attached are the remains of another wall buried in the ground and measuring approximately 3.6 feet also running east-west. A third wall runs north-south and measures approximately 11 feet. On the south side of the structure, two parallel walls measuring approximately 7 feet long and 3 feet apart form what used to be the staircase to the basement. The northern end of the basement is approximately 5 feet deep from surface level, and at the southern end the basement is approximately 4 feet deep.

The main construction method of the remaining walls is brick and mortar. Debris surrounding the structure includes mesh with plaster, stone rubble, plumbing pipes and electrical conduit and wire. Located 12 feet northwest of the structure is a large rubble pile of brick and cinderblock measuring approximately 6 feet in diameter and 5.5 feet in height. Also located 12 feet north of the basements northernmost wall is the remnants of a driveway or walkway constructed of flat stones and brick. The oleander tree is still present approximately 2 feet east of the structure.

Although once recorded as a structure, P-37-013739 has been almost entirely demolished and is now best considered a historical archaeological site with limited standing structural remains.

P-37-032251

P-37-032251 is an abandoned bridge running north to south and measuring approximately 75 feet in length, and 8 feet 10 inches wide. It is made of steel or iron. Old large tires stacked 3 to 4 high and located 3 feet northeast of the north end of the bridge probably acted as a support structure in the past. Located 7 feet southeast of the bridge is a large concrete block approximately 5 feet in length and 4 feet in height. It too probably served as support for the bridge. Identification markers are located on the bridge's northwest, west and east sides. Numbering located on the northwest side of the bridge's upper portion reads "101419." On the underside of the bridge is lettering and numbering which reads, in subsequent lines: TTY 101419, REPA[unidentifiable] Painted, 3-4-69, PS (RA or HA), Bethlehem USA. The age of the resource is unknown, but it is likely greater than 50 years old.

P-37-032252

P-37-032252 is a rectangular building measuring approximately 40 feet long and 25 feet wide. The building's walls consist of board-form concrete. Narrow board-form marks are visible at exposed portions of the building's lower, partially day-lighting concrete walls. This lower portion of the building appears originally to have functioned as a cistern storing water for the train station that formerly stood at the site, which served the Fallbrook Branch Line of the Santa Fe. The upper elevation walls have a smooth skim coat and the building is topped by a wood-frame roof covered with corrugated metal. The smooth upper walls and roof appear to have been added in recent decades, transforming the original cistern structure into a building. Access to the structure is provided by a steel door installed during more recent decades at the lower portion of the northeastern elevation. As it stands today, the building is a product of recent alterations diminishing its integrity as the cistern of the former Fallbrook Station, which operated from the mid 1880s to 1916, when floods destroyed it and much of the railroad track through the canyon.

4.4 Resource Significance

Four cultural resource were identified in the Preserve (Table 3), including a prehistoric milling slick, a demolished historical residence and associated debris pile, a historical iron bridge, and a modified concrete storage structure, possibly part of the Fallbrook Station complex. None of the four resources on the Preserve has been previously evaluated for importance. According to the scope of work for this project, resource evaluation was not conducted as part of this survey and inventory effort. However, according to the County's guidelines, in the absence of significance testing and evaluation, these resources must be considered significant. Consequently, it is recommended that any of the sites that cannot be preserved through avoidance will be tested and evaluated for importance. Table 3 lists the four resources on the Preserve and provides a preliminary assessment of their potential significance.

Table 3. Potential Significance of Cultural Resource within the Preserve

Resources #	Resources Description	Potential Significance
P-37-013739	Collapsed cobble walls and debris from residential building	Low
CA-SDI-20440/ P-37-032250	Bedrock milling station with degraded milling slick	Low
P-37-032251	Iron bridge	Low
P-37-032252	Modified, concrete water storage structure associated with the Fallbrook Station	Low

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 goals and objectives of both the County and the Draft North County Plan.

5.1.1 Draft North County Plan Goals

The Draft North County Plan provides general and planning segment-specific goals and objectives. The Preserve is located within the Santa Margarita Core area. The overall MSCP goal is to maintain and enhance biological diversity in the region and conserve viable populations of endangered, threatened, and key sensitive species and their habitat, thereby preventing local extirpation and ultimate extinction.

5.1.2 Management Directives and Implementation Measures

Based on the above goals and objectives, recommended management directives have been identified. 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 Draft North County Plan. Priority designations are as follows:

> ***Priority 1***: Directives that protect the resources in the Preserve and the Draft North County Plan preserve, including management actions that are necessary to ensure that special-status species are adequately protected.
>
> ***Priority 2***: Directives other than those required for special-status species and other long-term items that may be implemented during the life of the Draft North County Plan as funding becomes available.

This RMP includes management directives and implementation measures to meet Draft North County Plan 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 on site to gather information that will assist DPR in making land management decisions to conform to Draft North County Plan 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. Baseline inventory surveys of the Preserve have been conducted and the results are included as Appendix B. On-going monitoring is expected to commence in 2016. 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 individual 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 species proposed for coverage under the Draft North County Plan (in accordance with the Draft 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 San Diego Association of Governments (SANDAG) land management working group has been formed. This group, known as the San Diego Monitoring and Management Program (SDMMP), is intended to assist jurisdictions in coordinating monitoring programs and analyzing data, as well as provide other information and technical assistance. The County is an active participant in the development of monitoring methods for the Draft North County Plan. Once these methods are fully developed, and as feasible, these methods will be adapted for the Preserve.

Currently, DPR will follow the habitat- and species-specific monitoring requirements outlined in the Draft North County Plan. Additionally, DPR will prioritize species for monitoring based on the Draft North County Plan conservation analysis, and follow USGS rare plant monitoring protocols (McEachern et al. 2007), San Diego State University (SDSU) 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 individual preserve level, and management directives for specific species. When the Draft North County Plan is finalized, this RMP will be revised to include updated monitoring methodology.

Management Directive A.1 – Meet the biological monitoring requirements of the Draft North County Plan (*Priority 1*)

***Implementation Measure A.1.1*:** DPR will conduct habitat monitoring at five-year intervals to document the status of vegetation communities and relative cover of native plant species within the Preserve. The monitoring effort will identify any adverse changes in vegetation community distribution and habitat quality and indicate if modifications to current management actions are needed. More frequent monitoring may be required following a significant fire within the Preserve.

***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.

***Implementation Measure A.1.3*:** DPR will conduct monitoring for invasive, non-native plant species at five-year intervals to assess invasion or re-invasion by invasive, non-native plants within the Preserve. Surveys will be focused in areas where invasive, non-native plants have been detected in the past and in the vicinity of special-status species, but will also look for new occurrences in the Preserve. The surveys will document the location of invasive, non-native plants and quantify the numbers/acreages of individual species within the Preserve.

***Implementation Measure A.1.4*:** DPR will conduct corridor monitoring at five-year intervals along the major movement corridor in the Preserve, Santa Margarita River, to monitor corridor usage by target large mammals including mountain lion and southern mule deer. 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).

***Implementation Measure A.1.5*:** DPR will prepare a biological monitoring report that summarizes the monitoring goals, objectives, methodology and results of the biological monitoring efforts described in implementation measures A.1.1 through A.1.4. The report will also address the effectiveness of current stewardship and management actions, identify the need for corrective actions, and include recommendations for adaptive management.

5.2.2 Draft North County Plan 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 will be sufficient to protect and manage optimal habitat conditions for most, if not all, species to maintain and/or thrive within the Preserve.

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

Management Directive A.2 - Provide species-specific management and monitoring of proposed Draft North County Plan Covered Species (*Priority 1*)

DPR will implement the habitat-based and, in some cases, species-specific management and monitoring guidelines as outlined in the Draft Framework RMP and conservation analysis for all proposed Draft North County Plan 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 proposed covered species, and the corresponding management directives or implementation measures intended to address these factors.

- ***Invasive, non-native plants***: Management directives B.1 & B.2, and implementation measures A.1.1 and A.1.3
- ***Invasive, non-native animals***: Management directive A.3
- ***Fire***: Management directive B.3
- ***Human Disturbance***: Management directives C.1, C.2, C.3 and C.4 and implementation measure C.3.1
- ***Edge effects***: Management directives D.6 & D.7
- ***Hydrological Management***: Management directive D.3

Engelmann Oak (Quercus engelmannii)

Monitoring: Status Monitoring (Low Priority)

Monitoring efforts include habitat monitoring, general wildlife and rare plant surveys, and monitoring for invasive plant species (see implementation measures A.1.1, A.1.2 and A.1.3).

Management: Habitat Maintenance

The occurrence of this species on the Preserve consists of a solitary tree; impacts on the individual tree will be avoided, and the habitat will be managed to reduce the threat of invasive non-native plants. Monitoring of invasive non-native plants is addressed through implementation measure A.1.3. The tree will also be inspected for infestation by gold-spotted oakborer (see implementation measure A.5.2).

Rainbow Manzanita (Arctostaphylos rainbowensis)

Monitoring: Trend Monitoring (Medium Priority)

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

> **Implementation Measure A.2.1:** DPR will conduct surveys of the Rainbow Manzanita population within the Preserve to determine the number, size, variability, and health status (e.g., new vegetative growth, flowering, etc.). These surveys will also document the status of invasive non-native plant species near Rainbow Manzanita individuals, observed pollinators, the condition of soils and evidence of soil disturbance, such as cracking and trampling by humans, and hybridization with Mission Manzanita, also found within the Preserve. These surveys will be conducted at 5-year intervals in conjunction with the habitat monitoring and general rare plant surveys (as described in implementation measures A.1.1 and A.1.2).

Management: Population/Habitat Maintenance/Enhancement

Control invasive non-native plants as necessary based on monitoring (as described in implementation measure A.1.3).

Arroyo Toad (*Anaxyrus* [=*Bufo*] *californicus*)

Monitoring: Trend Monitoring (High Priority)

Monitoring efforts include habitat monitoring (as described in implementation measure A.1.1), monitoring of non-native invasive wildlife species (as described in

implementation measure A.3.2 below), and the species-specific monitoring described in the implementation measure below.

> ***Implementation Measure A.2.2:*** DPR will conduct focused surveys to determine the distribution of the arroyo toad population and the proportion of occupied river segments within the Preserve. These surveys will be conducted at five-year intervals in conjunction with the monitoring efforts indicated above (implementation measures A.1.1, A.1.2 and A.1.3).

Management: Population and Habitat Maintenance

The current management approach for this species is to protect and manage suitable breeding (riparian areas and wetlands) and upland foraging and aestivation habitat (coastal sage scrub) within the Preserve. These habitats will be managed to reduce the threat of fire and invasive, non-native species, and maintain hydrology.

Orange-Throated Whiptail (*Aspidoscelis hyperythra*)

Monitoring: Status Monitoring (Low Priority)

Monitoring efforts include habitat monitoring; general wildlife and rare plant surveys, and monitoring for invasive non-native plant species (see 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 (coastal sage scrub) within the Preserve. This habitat will be managed to reduce the threat of fire and invasive, non-native species.

Red Diamond Rattlesnake (*Crotalus ruber ruber*)

Monitoring: Status Monitoring (Low Priority)

Monitoring efforts include habitat monitoring, general wildlife and rare plant surveys, and monitoring for invasive non-native plant species (see A.1.1, A.1.2 & A.1.3).

Management: Habitat Maintenance

The management approach for this species is maintenance of suitable habitat (coastal sage scrub near rocks or boulders) within the Preserve. These habitats will be managed to reduce the threat of fire and invasive, non-native species.

Least Bell's Vireo (*Vireo bellii pusillus*)

Monitoring: Trend Monitoring (Medium Priority)

Monitoring efforts include habitat monitoring, general wildlife and rare plant surveys, and monitoring for invasive non-native plant species (see A.1.1, A.1.2 & A.1.3) and the species-specific monitoring described in the implementation measure below.

***Implementation Measure A.2.3*:** DPR will conduct focused surveys of least Bell's vireo to determine the status of the breeding population and proportion of suitable habitat occupied. The focused surveys will also document the observed level of urban-related predator impacts. These surveys will be conducted at five-year intervals in conjunction with implementation measures A.1.1, A.1.2 and A.1.3.

Management: Population/Habitat Maintenance/Enhancement

The management approach for this species is maintenance of the population and suitable habitat (riparian areas) within the Preserve and, when necessary, enhancement. These habitats will be managed to reduce the threat of fire and invasive, non-native species, and maintain hydrology.

Yellow-Breasted Chat (*Icteria virens*)

Monitoring: Status Monitoring (Low Priority)

Monitoring efforts include habitat monitoring, general wildlife and rare plant surveys, and monitoring for invasive non-native plant species (see implementation measures A.1.1, A.1.2 and A.1.3), as well as the species-specific monitoring described in the implementation measure below.

> ***Implementation Measure A.2.4*:** DPR will conduct focused surveys of yellow-breasted chat to determine the status of the breeding population and proportion of suitable habitat occupied. The focused surveys will also document the observed level of urban-related predator impacts. These surveys will be conducted at five-year intervals in conjunction with 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 (riparian areas) within the Preserve. These habitats will be managed to reduce the threat of fire and invasive, non-native species, and maintain hydrology.

Southern California Rufous-crowned Sparrow (*Aimophila ruficeps canescens*)

Monitoring: Trend Monitoring (Medium Priority)

Southern California rufous-crowned sparrow will benefit from habitat-based monitoring within coastal sage scrub and chaparral habitat (as described in implementation measure A.1.1) and the species-specific monitoring described in the implementation measure below.

> ***Implementation Measure A.2.5*:** Every 5 years, DPR will qualitatively survey for southern California rufous-crowned sparrow noting the location and number. These surveys will be conducted in conjunction with implementation measures A.1.1, A.1.2 and A.1.3.

Management: Habitat Maintenance

Southern California rufous-crowned sparrow will benefit from coastal sage scrub and chaparral habitat-based management actions. Threats to this species include wildfires and invasive non-native plant species. The habitat will be managed to reduce the threat of invasive nonnative plant species and wildfires.

Mountain Lion (*Puma* [=*Felis*] *concolor*)

Monitoring: Status Monitoring (Low Priority)

Monitoring efforts include habitat monitoring, general wildlife (including status of prey populations) and rare plant surveys, and monitoring for invasive non-native plant species (see A.1.1, A.1.2 & A.1.3) as well as corridor monitoring (see A.1.4).

Management: Habitat Maintenance

This species would benefit from maintenance of wildlife corridors within the Preserve including chaparral, oak woodland, and riparian woodland habitat. The habitat will be managed to reduce the threat of invasive non-native plant species and wildfires.

5.2.3 Non-Native and/or Invasive Wildlife Species Control

The Draft North County Plan-wide and habitat-specific management and monitoring guidelines for invasive, non-native species control were used to develop the management directives and implementation measures provided below, in order to meet this goal.

Management Directive A.3 – Reduce, control, or where feasible, eradicate non-native and/or invasive wildlife known to be detrimental to native species and/or the local ecosystem (*Priority 2*)

As discussed in Section 3.3.4, non-native and/or invasive species of management concern detected within the Preserve include red swamp crayfish, cabbage white, red junglefowl, rock pigeon, European starling, brown-headed cowbird, and Virginia opossum. Although not observed within the Preserve, Argentine ant and gold-spotted oakborer are other invasive, non-native species known to adversely affect sensitive species that occur within the Preserve.

> ***Implementation Measure A.3.1*:** DPR will conduct surveys for the presence of non-native and/or invasive wildlife species of management concern, including red swamp crayfish, cabbage white, red junglefowl, rock pigeon, European starling, brown-headed cowbird, Virginia opossum, Argentine ants, and gold-spotted oakborer at five-year intervals in conjunction with habitat monitoring and general wildlife surveys (see implementation measures A.1.1 and A.1.2). If any of these species are detected DPR will coordinate with regional control efforts.

5.2.4 Future Research

The Draft North County Plan 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. In addition, research on vegetation associations and habitats, natural regeneration, restoration, fragmentation, edge effects, genetics, viability, predation, wildlife movement, and much more, is useful to provide information on the health and dynamics of this open space system as well as how to improve conditions. The County encourages research within the Preserve in order to gain valuable information unavailable through other means.

Management Directive A.4 – Allow for future research opportunities within the Preserve (*Priority 2*)

> ***Implementation Measure A.4.1*:** DPR will accept and review proposals for scientific research, monitoring, and habitat restoration and enhancement activities, which are permitted within the Draft North County Plan 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 Draft North County Plan provides plan-wide and habitat-specific management and stewardship guidelines for invasive non-native species control, habitat restoration, and fire and vegetation management. In addition, a Vegetation Management Plan (VMP) was developed for Santa Margarita Preserve (ICF 2012b) in conjunction with the baseline surveys. The VMP 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 Draft North County Plan, habitat restoration on preserve lands is not typically required, but is encouraged if resources are available. As stated in the Vegetation Management Plan for the Preserve (ICF 2012b), no habitat restoration is currently proposed within the Preserve. Passive restoration primarily in the form of invasive plant species control is discussed under management directive B.1.

5.3.2 Invasive, Non-Native Plant Species Removal and Control

One of the restoration priorities for the Santa Margarita Core Area includes the removal of invasive, non-native plant species along Santa Margarita River. The following management directives and implementation measures are intended to meet this goal. In addition, invasive, non-native plant removal serves the dual purpose of vegetation thinning for fire suppression.

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

As described in Section 3.2.4, 27 Cal-IPC rated invasive, non-native plant species were identified within the Preserve. Seven (7) invasive non-native plant species including Italian thistle, tocalote, poison hemlock, short-podded mustard, perennial pepperweed, tamarisk, and castor bean have been identified as the principle target species with top priority for removal.

> ***Implementation Measure B.1.1*:** DPR will coordinate with Department of Environmental Health for the treatment of the seven target species (Italian thistle, tocalote, poison hemlock, short-podded mustard, perennial pepperweed, tamarisk, and castor bean) identified in the Vegetation Management Plan (ICF 2012b). Poison hemlock will be the priority species for removal as it is the most common invasive species in the Preserve with two large stands along the banks of Santa Margarita River.

Implementation Measure B.1.2: Park Rangers will routinely pull weeds or remove any invasive, non-native plants in early stages of growth observed during patrols along trails or access roads.

***Implementation Measure B.1.3*:** DPR will assess and pursue mitigation opportunities that implement invasive, non-native plant removal within the Preserve. Precedence will be given to those areas occupied by species identified as high priority, followed by moderate and then low priority species.

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

***Implementation Measure B.2.1*:** DPR will identify and assess upstream sources of invasive, non-native plants on adjacent properties that have the potential to expand into the Preserve. DPR will coordinate with the adjacent land owners and managers of those properties and encourage them to treat and control the invasive, non-native plants on their property.

5.3.3 Fire Prevention, Control, and Management

As described in Section 2.3.4, the Preserve is classified as a Very High Fire Hazard Severity Zone by California Department of Forestry and Fire Protection (CAL FIRE 2011).

No habitable structures are currently adjacent to the Preserve so there are no fuel modification zones within the Preserve. Adequate emergency access roads are found within the Preserve in the form of existing trails/dirt roads.

Management Directive B.3 – Provide for necessary fire management activities that are sensitive to biological and cultural resources protection (*Priority 1*)

***Implementation Measure B.3.1*:** The existing dirt roads/trails within the Preserve acting as access roads will be maintained annually to keep them fuel free. In addition, DPR will continue to coordinate with CAL FIRE to determine what improvements need to be made to make fire response feasible throughout the Preserve.

Implementation Measure B.3.2: Park Rangers will manage the annual grasses within the staging area to minimize potential ignitions and the spread of fire from vehicles and other sources.

***Implementation Measure B.3.3*:** DPR will continue to coordinate with the North County Fire Protection District and CAL FIRE to ensure that the fire response and implementation measures outlined in this RMP and in the VMP (ICF 2012b) 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. In addition, refer to Implementation Measure E.2.1.

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

5.4.1 Public Access

The Preserve is currently open to the public for hiking, biking, and equestrian uses. There are approximately 2.5 miles of trails on the Preserve, with a staging area that is approximately seven (7) acres.

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

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

a. Off-road or cross-country vehicle and public off-highway recreational vehicle activity (except for law enforcement, Preserve management, and/or emergency purposes)

b. Hunting or discharge of firearms (except for law enforcement, and/or emergency purposes)

c. Poaching, collecting or otherwise adversely impacting plant or animal species, archaeological or historical features, artifacts or fossils.

d. Fishing, swimming, and wading in rivers, streams, or creeks

e. Camping (including homeless and itinerant worker camps)

f. Feeding wildlife

g. Domestic animals, except horses and leashed dogs

h. Smoking

i. Campfires/Open Flames

j. Off-trail biking, equestrian use, or hiking

k. Littering/Dumping

l. Trespassing

***Implementation Measure C.1.2*:** Park Rangers will ensure that prohibited uses are clearly specified on posted signage.

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

***Implementation Measure C.2.1*:** DPR has identified and mapped sensitive vegetation communities, special-status plant and wildlife species (including narrow endemics and County-listed species), and cultural sites in the Preserve so that these areas can be avoided and/or monitored. Updated information on sensitive resources in the vicinity of access points (i.e., existing access roads) will be obtained in conjunction with on-going monitoring efforts (see implementation measures A.1.1, A.1.2, C.5.1, D.3.2 and E.2.3).

***Implementation Measure C.2.2*:** DPR has provided 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. The appropriate types of barriers to be used will be determined based on location, setting and use.

5.4.2 Fencing and Gates

Existing fencing within the Preserve consists of concrete split-rail fencing along the southern portion of the staging area adjacent to Del Luz Road. Gates have been placed in the following locations within the Preserve: 1) entrance to the staging area; 2) entrance to the trail system; and 3) eastern border of Preserve where trail system connects to the off-site Fallbrook Public Utility District trail system.

Management Directive C.3 – Install and maintain fencing and gates within the Preserve (*Priority 1*)

***Implementation Measure C.3.1*:** Park staff will install fencing and/or gates at points of unauthorized public access as appropriate. Points of unauthorized access will be identified in conjunction with trail monitoring activities (as described in implementation measure C.4.1).

***Implementation Measure C.3.2*:** Park staff will regularly inspect and maintain all fencing and gates within the Preserve. Fencing segments and gates will be repaired or replaced as necessary.

5.4.3 Trail and Access Road Maintenance

Management Directive C.4 – Properly maintain trails for user safety and to protect biological and cultural resources (*Priority 1*)

***Implementation Measure C.4.1*:** Park ranger staff will monitor trails for degradation and off-trail access and use, and provide necessary

repair/maintenance per the Community Trails Master Plan (County 2009b). See also implementation measure B.4.2.

***Implementation Measure C.4.2*:** 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 public meeting announcements. An implementation schedule will 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 temporary closure (e.g., erosion issues, and sensitive biological resource impacts). Finally, signs will 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 will 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.4.3*:** DPR will restore degraded habitats and reduce detrimental edge effects through 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 per the Community Trails Master Plan (County of San Diego 2005) and approved Best Management Practices (BMPs).

***Implementation Measure C.4.4*:** If unauthorized trail formation is observed by ranger staff, those specific areas will be posted with clear signage reminding the public to remain on authorized trails. Also see management directive C.5.

5.4.4 Signage

Management Directive C.5 – Install and maintain appropriate signage to effectively communicate Preserve rules and regulations (*Priority 1*)

Current posted signs in the Preserve include the following rules and regulations: Off-roading and ATV Vehicles Prohibited 41.130 and 76.101(a), Dogs on Leash At All Times 41.123(c), Weapons and Fireworks Prohibited 41.117, All Plants and Animals Are Protected 41.111 and 41.112, and No Open Flames 41.118.

***Implementation Measure C.5.1*:** 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.

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*:** Trash receptacles are located in the staging area and are designed to be secure from intrusion by wildlife species. Park staff will regularly empty trash receptacles on a daily basis.

***Implementation Measure D.1.2*:** DPR prohibits the permanent storage of hazardous and toxic materials within the Preserve. Any temporary storage will 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 and Park Rangers will ensure that regulations regarding littering/dumping are clearly posted on signs throughout the Preserve, with an emphasis in areas where illegal dumping has been observed. See also implementation measure C.1.3.

***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

Native habitats in the Draft North County Plan Preserve have evolved, in part, on the distribution and flow characteristics of water. Draft North County Plan Preserve property will be managed to maintain existing natural drainages and watershed and to restore or minimize changes to natural hydrological processes. Proposed structures and activities will be evaluated for effects on hydraulics, and remedial actions will be taken as needed. Best Management Practices (BMPs) will be used both within and outside the preserve system to maintain water quality.

Santa Margarita River flows through the eastern and southern portions of the Preserve (Figure 5).

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

***Implementation Measure D.3.1*:** DPR will conduct visual assessments of the Santa Margarita River channel conditions in conjunction with habitat monitoring (see 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 determine appropriate measures to stabilize banks and control erosion.

5.5.3 Emergency, Safety and Police Services

Management Directive D.4 – 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.4.1*:** 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, including the interested Luiseño tribes, 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.5 – Provide for a safe recreational experience for Preserve visitors (*Priority 1*)

***Implementation Measure D.5.1*:** In the event of a natural disaster, such as a fire or flood, Park Ranger staff 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, adjacent properties to the Preserve include open space to the north and northeast owned by the Fallbrook Public Utility District; privately owned vacant/undeveloped land and rural residential to the south; privately owned vacant/undeveloped land, rural residential, and orchard/vineyard to the east; and Camp Pendleton to the west. The establishment of the MSCP preserve system does not include regulatory authority on properties adjacent to the Preserve; however, the County will require adjacent property owners to follow permitting conditions when planning and implementing uses and activities can be regulated.

Management Directive D.6 – Coordinate with adjacent open space landowners and land managers (*Priority 1*)

Implementation Measure D.6.1: DPR will coordinate with the Fallbrook Public Utility District (in association with their contiguous open spaces) on an annual basis, or more regularly as needed, to ensure contiguous preserved land is managed consistently and in accordance with the Draft North County Plan.

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

***Implementation Measure D.7.1*:** DPR and Park Rangers will enforce, prevent, and/or remove illegal intrusions into the Preserve (e.g., orchards, decks) on an annual and complaint basis.

Management Directive D.8 – Educate residents in surrounding areas about Preserve adjacency issues (*Priority 2*)

***Implementation Measure D.8.1*:** DPR will post the RMP on the DPR website (www.sdparks.org) to inform surrounding residents of Preserve adjacency issues including access, invasive plant impacts and appropriate landscaping, construction or disturbance within the Preserve boundaries, pet intrusion, and fire management. See also implementation measure B.3.1.

5.6 Cultural Resources Element (E)

The goal of this section of the RMP is long-term preservation of cultural resources, public interpretation of 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 any new cultural resources discovered within the Preserve (*Priority 1*)

As stated in the *Cultural Resources Survey and Inventory for the Santa Margarita Preserve, San Diego County, California*, dated December 2011 (ICF 2011; Appendix C), only 50 acres of the 210-acre Preserve showed slopes of less than 20%; however, only 39 acres could be surveyed due to difficulty in accessing the areas or dense vegetation. Resources could exist in the unsurveyed areas. Although not currently planned, if future facilities, such as trails, or other construction are proposed in these areas, significant adverse effects on these potentially significant unknown resources could occur.

> ***Implementation Measure E.1.1*:** DPR will identify and record cultural resource sites in previously unsurveyed areas of the Preserve where, if in the future, trails are constructed, vegetation is thinned or removed as a result of wildfire or planned ground disturbing activities including clearing, grubbing or other related activities associated with invasive non-native plant removal efforts and fire management efforts as well as after large flood events. Any new resources identified will be evaluated for significance, or significance will be assumed if testing is not conducted. Surveys will be conducted in accordance with the California Environmental Quality Act (CEQA) (when applicable) and the County Cultural Resources guidelines (County 2007) and shall include a tribal monitor from one or more interested Luiseño tribes. See also Implementation Measure E.4.1.
>
> ***Implementation Measure E.1.2*:** DPR will conduct site-specific cultural resources surveys to determine the presence/absence of cultural resources within the Area of Potential Effect for all future development projects proposed in the Preserve including, but not limited to, new multi-use trails and staging/parking areas. Surveys will be conducted in accordance with CEQA and County Cultural Resources guidelines (County 2007), and will include a Luiseño Native American monitor. Any new resources identified will be evaluated for significance, in consultation with local Native American tribes, or significance will be assumed if testing is not conducted. See also E.2.1 & E.4.1.
>
> ***Implementation Measure E.1.3*:** In the event that human remains are discovered during archaeological surveys or testing, DPR will immediately stop all work and notify the County Coroner. If the Coroner determines the remains are Native American, the Most Likely Descendant, as identified by

the NAHC, will be contacted in order to determine proper treatment and disposition of the remains. Per County guidelines, any time human remains are encountered, the site is considered significant (County 2007).

Management Directive E.2 – Preserve and protect significant cultural resources to ensure that sites are available for present and future generations (*Priority 1*)

Potential impacts to cultural resources within the Preserve are most likely to result from fire suppression, maintenance activities and public use. In order to protect these resources, it is necessary that impacts be prevented, reduced, eliminated, or adverse effects mitigated.

***Implementation Measure E.2.1*:** DPR and Park Rangers will avoid and protect cultural sites with an appropriate buffer, which buffer shall be determined on a project or site-specific basis when conducting management and maintenance activities within the Preserve including, but not limited to, fire management, trail maintenance and placement of fencing and gates. If access to cultural sites is necessary, manual methods will be used to the maximum extent possible, and any ground disturbance will be monitored by a County-approved archaeologist and Luiseño Native American monitor.

***Implementation Measure E.2.2*:** Park Rangers will enforce the protection of known cultural resource sites from vandalism and other forms of human impact in accordance 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. If a person(s) is suspected of vandalism to cultural resources, Park Rangers will notify the appropriate law enforcement authorities. If vandalism and damage continue or increase, DPR will coordinate with the appropriate authorities and local Native American tribal representatives to develop additional measures to protect cultural resources, as needed.

***Implementation Measure E.2.3*:** DPR will note the condition and status of known cultural resources within the Preserve as part of on-going monitoring efforts conducted on a five-year basis (or on a more frequent basis as determined by DPR and the interested Luiseño tribes). If damage is noted, DPR will notify and consult with Native American tribal representatives to assess the damage and develop appropriate remedial measures if needed. Monitoring activities will also include photo-documentation of site conditions so that comparisons can be made over time. Monitoring of the sites in the Preserve will follow County Cultural Resources guidelines (County 2007), and 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.

Management Directive E.3 – Promote the interpretation of and education about cultural resources (*Priority 2*)

***Implementation Measure E.3.1*:** DPR will develop off-site, and when possible, on-site interpretive programs for Native American heritage, local and regional history, and prehistory appropriate to the Preserve in coordination with Luiseño tribal representatives. 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 or Parks and Recreation and the Luiseño tribal representatives. The plan will include supervision by a County-approved 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 tribal representatives who may have knowledge of the Preserve area, including those representing the Rincon Band of Luiseño Indians and Pechanga Band of Luiseño Indians, in order to keep them informed of activities associated within the Preserve. Consultation is required pursuant to Section 65352.3 of the Government Code (Senate Bill 18 (SB-18) [2004]) for any project that involves a General Plan Amendment, Specific Plan, or Specific Plan Amendment. Additionally, the County consults with Native American groups outside of the requirements of SB-18 in accordance with County Cultural Resources guidelines (County 2007). Specifically, the County requires a Native American monitor for surface and subsurface investigations (survey, significance testing, and data recovery) and grading in areas with potential presence of cultural resources, and conducts consultations for projects that have a positive finding for the presence of cultural resources (see Implementation Measures E.1.1, E.1.2 and E.2.1).

DPR will also consult with interested Luiseño Native American tribes and encourage their participation in development of interpretive programs, and the protection and preservation of cultural resources including, but not limited to, development of long-term management or preservation plans (see Implementation Measures E.1.1, E.1.2, E.2.2 and E.2.3). Consultation will be conducted frequently in order to identify appropriate management of Native American cultural resources. All consultation will be coordinated through the County of San Diego Tribal Liaison.

***Implementation Measure E.4.2*:** DPR will open the Preserve to traditional uses by the Rincon Band of Luiseño Indians, Pechanga Band of Luiseño Indians, and other Luiseño tribes which may have traditionally used the Preserve area. All activities by Native Americans in the Preserve shall be

conducted under a Hold Harmless Agreement or a Right-of-Entry permit specifically designed for the Preserve.

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APPENDIX A

Management Directive and Implementation Measure Summary Table
Santa Margarita Preserve

Management Directives	Implementation Measures	Timeframe	Responsible Party*
	BIOLOGICAL RESOURCES ELEMENT (A)		
A.1 Meet the biological monitoring requirements of the Draft North County Plan (*Priority 1*)	*A.1.1*: DPR will conduct habitat monitoring at five-year intervals to document the status of vegetation communities and relative cover of native plant species within the Preserve. The monitoring effort will identify any adverse changes in vegetation community distribution and habitat quality and indicate if modifications to current management actions are needed. More frequent monitoring may be required following a significant fire within the Preserve.	Every 5 years	RMD
	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.	Every 5 years	RMD
	A.1.3: DPR will conduct monitoring for invasive, non-native plant species at five-year intervals to assess invasion or re-invasion by invasive, non-native plants within the Preserve. Surveys will be focused in areas where invasive, non-native plants have been detected in the past and in the vicinity of special-status species, but will also look for new occurrences in the Preserve. The surveys will document the location of invasive, non-native plants and quantify the numbers/acreages of individual species within the Preserve.	Every 5years	RMD
	A.1.4: DPR will conduct corridor monitoring at five-year intervals along the major movement corridor in the Preserve, Santa Margarita River, to monitor corridor usage by target large mammals including mountain lion and southern mule deer. 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).	Every 5 years	RMD
	A.1.5: DPR will prepare a biological monitoring report that summarizes the monitoring goals, objectives, methodology and results of the biological monitoring efforts described in implementation measures A.1.1 through A.1.4. The report will also address the effectiveness of current stewardship and management actions, identify the need for corrective actions, and include recommendations for adaptive management.	Every 5 years	RMD
A.2 Provide species-specific management and monitoring of proposed Draft North County Plan Covered Species (*Priority 1*)	DPR will implement the habitat-based management and monitoring guidelines as outlined in the Draft Framework RMP and conservation analysis for all proposed Draft North County Plan covered species within the Preserve, as well as the species-specific measures described below.		
	<u>Rainbow Manzanita</u> *A.2.1*: DPR will conduct surveys of the Rainbow Manzanita population within the Preserve to determine the number, size, variability, and health status (e.g., new vegetative growth, flowering, etc.). These surveys will also document the status of invasive non-native plant species near Rainbow Manzanita individuals, observed pollinators, the condition of soils and evidence of soil disturbance, such as cracking and trampling by humans, and hybridization with Mission Manzanita, also found within the Preserve. These surveys will be conducted at 5-year intervals in conjunction with the habitat monitoring and general rare plant surveys (as described in implementation measures A.1.1 and A.1.2).	Every 5 years	RMD
	<u>Arroyo Toad</u> *A.2.2*: DPR will conduct focused surveys to determine the distribution of the arroyo toad population and the proportion of occupied river segments within the Preserve. These surveys will be conducted at five-year intervals in conjunction with the monitoring efforts indicated above (implementation measures A.1.1, A.1.2 and A.1.3).	Every 5 years	RMD
	<u>Least Bell's Vireo</u> A.2.3: DPR will conduct focused surveys of least Bell's vireo to determine the status of the breeding population and proportion of suitable habitat occupied. The focused surveys will also document the observed level of urban-related predator impacts. These surveys will be conducted at five-year intervals in conjunction with implementation measures A.1.1, A.1.2 and A.1.3.	Every 5 years	RMD
	<u>Yellow-Breasted Chat</u> *A.2.4*: DPR will conduct focused surveys of yellow-breasted chat to determine the status of the breeding population and proportion of suitable habitat occupied. The focused surveys will also document the observed level of urban-related predator impacts. These surveys will be conducted at five-year intervals in conjunction with implementation measures A.1.1, A.1.2 and A.1.3.	Every 5 years	RMD
	<u>Southern Rufous-crowned Sparrow</u> *A.2.5:* Every 5 years, qualitatively survey for southern California rufous-crowned sparrow noting the location and number. These surveys will be conducted in conjunction with implementation measures A.1.1, A.1.2 and A.1.3.	Every 5 years	RMD

Management Directives	Implementation Measures	Timeframe	Responsible Party*
A.3 Reduce, control, or where feasible eradicate non-native and/or invasive wildlife known to be detrimental to native species and/or the local ecosystem (*Priority 2*)	*A.3.1*: DPR will conduct surveys for the presence of non-native and/or invasive wildlife species of management concern, including red swamp crayfish, cabbage white, red junglefowl, rock pigeon, European starling, brown-headed cowbird, Virginia opossum, Argentine ants, and gold-spotted oakborer at five-year intervals in conjunction with habitat monitoring and general wildlife surveys (see implementation measures A.1.1 and A.1.2). If any of these species are detected DPR will coordinate with regional control efforts.	Every 5 years	RMD
A.4 Allow for future research opportunities within the Preserve (*Priority 2*)	*A.4.1*: DPR will accept and review proposals for scientific research, monitoring, and habitat restoration and enhancement activities, which are permitted within the Draft North County Plan 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.	On-going	DM & RMD
VEGETATION MANAGEMENT ELEMENT (B)			
B.1 Reduce, control, or where feasible eradicate non-native plants that are known to be detrimental to native species and/or the local ecosystem (*Priority 1*)	*B.1.1*: DPR will coordinate with Department of Environmental Health for the treatment of the seven target species (Italian thistle, tocalote, poison hemlock, short-podded mustard, perennial pepperweed, tamarisk, and castor bean) identified in the Vegetation Management Plan (ICF 2012b). Poison hemlock will be the priority species for removal as it is the most common invasive species in the Preserve with two large stands along the banks of Santa Margarita River. *B.1.2:* Park Rangers will routinely pull weeds or remove any invasive, non-native plants in early stages of growth observed during patrols along trails or access roads. *B.1.3*: DPR will assess and pursue mitigation opportunities that implement invasive, non-native plant removal within the Preserve. Precedence will be given to those areas occupied by species identified as high priority, followed by moderate and then low priority species.	On-going On-going As-needed	DM, RMD, DEH Park Rangers DM, DEV, RMD
B.2 Manage and minimize the expansion of non-native, invasive plants within the Preserve (*Priority 2*)	*B.2.1*: DPR will identify and assess upstream sources of invasive, non-native plants on adjacent properties that have the potential to expand into the Preserve. DPR will coordinate with the adjacent land owners and managers of those properties and encourage them to treat and control the invasive, non-native plants on their property.	On-going	DM and RMD
B.3 Provide for necessary fire management activities that are sensitive to biological and cultural resources protection (*Priority 1*)	*B.3.1*: The existing dirt roads/trails within the Preserve acting as access roads will be maintained annually to keep them fuel free. In addition, DPR will continue to coordinate with CAL FIRE to determine what improvements need to be made to make fire response feasible throughout the Preserve. *B.3.2:* Park Rangers will manage the annual grasses within the staging area to minimize potential ignitions and the spread of fire from vehicles and other sources. *B.3.3*: DPR will continue to coordinate with the North County Fire Protection District and CAL FIRE to ensure that the fire response and implementation measures outlined in this RMP and in the VMP (ICF 2012b) 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. In addition, refer to Implementation Measure E.2.1.	Annually On-going On-going	Park Rangers Park Rangers DM & RMD
PUBLIC USE, TRAILS & RECREATION ELEMENT (C)			
C.1 Limit types of public uses to those that are appropriate for the Preserve (*Priority 1*)	*C.1.1*: Park Rangers will enforce the following prohibited uses and restrictions within the Preserve. Park rangers may call the sheriff for legal enforcement, as appropriate. a. Off-road or cross-country vehicle and public off-highway recreational vehicle activity (except for law enforcement, Preserve management, and/or emergency purposes) b. Hunting or discharge of firearms (except for law enforcement, and/or emergency purposes) c. Poaching, collecting or otherwise adversely impacting plant or animal species, archaeological or historical features, artifacts or fossils. d. Fishing, swimming, and wading in rivers, streams, or creeks e. Camping (including homeless and itinerant worker camps) f. Feeding wildlife g. Domestic animals, except horses and leashed dogs h. Smoking i. Campfires/Open Flames j. Off-trail biking, equestrian use, or hiking k. Littering/Dumping l. Trespassing	On-going	Park Rangers

Management Directives	Implementation Measures	Timeframe	Responsible Party*
	C.1.2: Park Rangers will ensure that prohibited uses are clearly specified on posted signage.	On-going	Park Rangers
C.2 Manage access in sensitive biological and cultural resource areas within the Preserve (*Priority 1*)	*C.2.1*: DPR has identified and mapped sensitive vegetation communities, special-status plant and wildlife species (including narrow endemics and County-listed species), and cultural sites in the Preserve so that these areas can be avoided and/or monitored. Updated information on sensitive resources in the vicinity of access points (i.e., existing access roads) will be obtained in conjunction with on-going monitoring efforts (see implementation measures A.1.1, A.1.2, C.5.1, D.3.2 and E.2.3). *C.2.2*: DPR has provided 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. The appropriate types of barriers to be used will be determined based on location, setting and use.	Every 5 years As-needed	RMD DM, RMD & Park Rangers
C.3 Install and maintain fencing and gates within the Preserve (*Priority 1*)	*C.3.1*: Park staff will install fencing and/or gates at points of unauthorized public access as appropriate. Points of unauthorized access will be identified in conjunction with trail monitoring activities (as described in implementation measure C.4.1). *C.3.2*: Park staff will regularly inspect and maintain all fencing and gates within the Preserve. Fencing segments and gates will be repaired or replaced as necessary.	As-needed On-going	Park Rangers Park Rangers
C.4 Properly maintain access road and trails for user safety, and to protect biological and cultural resources (*Priority 1*)	*C.4.1*: Ranger staff will monitor trails for degradation and off-trail access and use, and provide necessary repair/maintenance per the Community Trails Master Plan (County 2009b). See also implementation measure B.4.2. *C.4.2*: 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 public meeting announcements. An implementation schedule will 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 temporary closure (e.g., erosion issues, and sensitive biological resource impacts). Finally, signs will 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 will 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. *C.4.3*: DPR will restore degraded habitats and reduce detrimental edge effects through 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 per the Community Trails Master Plan (County of San Diego 2005) and approved Best Management Practices (BMPs). *C.4.4*: If unauthorized trail formation is observed by ranger staff, those specific areas will be posted with clear signage reminding the public to remain on authorized trails. Also see management directive C.5.	On-going As-needed As-needed As-needed	Park Rangers Park Rangers Park Rangers Park Rangers
C.5 Install and maintain appropriate signage to effectively communicate Preserve rules and regulations (*Priority 1*)	*C.5.1*: 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.	On-going	Park Rangers
OPERATIONS & FACILITY MAINTENANCE ELEMENT (D)			
D.1 Maintain a safe and healthy environment within the Preserve (*Priority 1*)	*D.1.1*: Trash receptacles are located in the staging area and are designed to be secure from intrusion by wildlife species. Park staff will regularly empty trash receptacles on a daily basis. *D.1.2*: DPR prohibits the permanent storage of hazardous and toxic materials within the Preserve. Any temporary storage will be in accordance with applicable regulations, and otherwise designed to minimize any potential impacts.	Daily On-going	Park Rangers DM, RMD and Park Rangers
D.2 Publicize and enforce regulations regarding littering/dumping (*Priority 1*)	*D.2.1*: DPR and Park Rangers will ensure that regulations regarding littering/dumping are clearly posted on signs throughout the Preserve, with an emphasis in areas where illegal dumping has been observed. See also implementation measure C.1.3. *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.	On-going On-going	DM & Park Rangers Park Rangers

Management Directives	Implementation Measures	Timeframe	Responsible Party*
D.3 Retain the Santa Margarita River and floodplain in its natural condition (*Priority 1*)	*D.3.1*: DPR will conduct visual assessments of the Santa Margarita River channel conditions in conjunction with habitat monitoring (see 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 determine appropriate measures to stabilize banks and control erosion.	Every 5 years	RMD
D.4 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*)	*D.4.1*: 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, including the interested Luiseño tribes, to inform field personnel of the locations of particularly sensitive biological and significant cultural resources and how to minimize damage to these resources.	As-needed	DM, RMD & Park Rangers
D.5 Provide for a safe recreational experience for Preserve visitors (*Priority 1*)	*D.5.1* In the event of a natural disaster, such as a fire or flood, Park Ranger staff 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.	As-needed	Park Rangers
D.6 Coordinate with adjacent open space landowners and land managers (*Priority 1*)	*D.6.1*: DPR will coordinate with the Fallbrook Public Utility District (in association with their contiguous open spaces) on an annual basis, or more regularly as needed, to ensure contiguous preserved land is managed consistently and in accordance with the Draft North County Plan.	Annually	RMD
D.7 Enforce Preserve boundaries (*Priority 1*)	*D.7.1*: DPR and Park Rangers will enforce, prevent, and/or remove illegal intrusions into the Preserve (e.g., orchards, decks) on an annual and complaint basis.	Annually	DM & Park Rangers
D.8 Educate residents in surrounding areas about Preserve adjacency issues (*Priority 2*)	*D.8.1*: DPR will post the RMP on the DPR website (www.sdparks.org) to inform surrounding residents of Preserve adjacency issues including access, invasive plant impacts and appropriate landscaping, construction or disturbance within the Preserve boundaries, pet intrusion, and fire management. See also B.3.1.	On-going	RMD
CULTURAL RESOURCES ELEMENT (E)			
E.1 Identify, record, and assess the significance of any new cultural resources discovered within the Preserve (*Priority 2*)	*E.1.1*: DPR will identify and record cultural resource sites in previously unsurveyed areas of the Preserve where, if in the future, trails are constructed, vegetation is thinned or removed as a result of wildfire or planned ground disturbing activities including clearing, grubbing or other related activities associated with invasive non-native plant removal efforts and fire management efforts as well as after large flood events. Any new resources identified will be evaluated for significance, or significance will be assumed if testing is not conducted. Surveys will be conducted in accordance with the California Environmental Quality Act (CEQA) (when applicable) and the County Cultural Resources guidelines (County 2007) and shall include a tribal monitor from one or more interested Luiseño tribes. See also Implementation Measure E.4.1.	As-needed	RMD
	E.1.2: DPR will conduct site-specific cultural resources surveys to determine the presence/absence of cultural resources within the Area of Potential Effect for all future development projects proposed in the Preserve including, but not limited to, new multi-use trails and staging/parking areas. Surveys will be conducted in accordance with CEQA and County Cultural Resources guidelines (County 2007), and will include a Luiseño Native American monitor. Any new resources identified will be evaluated for significance, in consultation with local Native American tribes, or significance will be assumed if testing is not conducted. See also E.2.1 and E.4.1.	As-needed	RMD
	E.1.3: In the event that human remains are discovered during archaeological surveys or testing, DPR will immediately stop all work and notify the County Coroner. If the Coroner determines the remains are Native American, the Most Likely Descendant, as identified by the NAHC, will be contacted in order to determine proper treatment and disposition of the remains. Per County guidelines, any time human remains are encountered, the site is considered significant (County 2007).	As-needed	RMD
E.2 Preserve and protect significant cultural resources to ensure that sites are available for present and future generations (*Priority2*)	*E.2.1*: DPR and Park Rangers will avoid and protect cultural sites with an appropriate buffer, which buffer shall be determined on a project or site-specific basis when conducting management and maintenance activities within the Preserve including, but not limited to, fire management, trail maintenance and placement of fencing and gates. If access to cultural sites is necessary, manual methods will be used to the maximum extent possible, and any ground disturbance will be monitored by a County-approved archaeologist and Luiseño Native American monitor.	As-needed	DM, DEV & RMD
	E.2.2: Park Rangers will enforce the protection of known cultural resource sites from vandalism and other forms of human impact in accordance 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. If a person(s) is suspected of vandalism to cultural resources, Park Rangers will notify the appropriate law enforcement authorities. If vandalism and damage continue or increase, DPR will coordinate with the appropriate authorities and local Native American tribal representatives to develop additional measures to protect cultural resources, as needed.	On-going	Park Rangers
	E.2.3: DPR will note the condition and status of known cultural resources within the Preserve as part of on-going monitoring efforts conducted on a five-year basis (or on a more frequent basis as determined by DPR and the interested Luiseño tribes). If damage is noted, DPR will notify and consult with Native American tribal representatives to assess the damage and develop appropriate remedial measures if needed. Monitoring activities will also include photo-documentation of site conditions so that comparisons can be made over time. Monitoring of the sites in the Preserve will follow County Cultural Resources guidelines (County 2007), and	Every 5 years	RMD

Management Directives	Implementation Measures	Timeframe	Responsible Party*
	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.		
E.3 Promote the interpretation of and education about cultural resources (*Priority 2*)	*E.3.1*: DPR will develop off-site, and when possible, on-site interpretive programs for Native American heritage, local and regional history, and prehistory appropriate to the Preserve in coordination with Luiseño tribal representatives. 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 or Parks and Recreation and the Luiseño tribal representatives. The plan will include supervision by a County-approved archaeologist approved by the Director of Parks and Recreation.	On-going	DM, RMD and Park Rangers
E.4 Honor Native American Heritage and promote Native American ceremonies, gathering, and cultural practices (*Priority 2*)	*E.4.1*: DPR will continue to coordinate and consult with tribal representatives who may have knowledge of the Preserve area, including those representing the Rincon Band of Luiseño Indians and Pechanga Band of Luiseño Indians, in order to keep them informed of activities associated within the Preserve. Consultation is required pursuant to Section 65352.3 of the Government Code (Senate Bill 18 (SB-18) [2004]) for any project that involves a General Plan Amendment, Specific Plan, or Specific Plan Amendment. Additionally, the County consults with Native American groups outside of the requirements of SB-18 in accordance with County Cultural Resources guidelines (County 2007). Specifically, the County requires a Native American monitor for surface and subsurface investigations (survey, significance testing, and data recovery) and grading in areas with potential presence of cultural resources, and conducts consultations for projects that have a positive finding for the presence of cultural resources (see Implementation Measures E.1.1, E.1.2, E.2.1). DPR will also consult with interested Luiseño Native American tribes and encourage their participation in development of interpretive programs, and the protection and preservation of cultural resources including, but not limited to, development of long-term management or preservation plans (see Implementation Measures E.1.1, E.1.2, E.2.2 and E.2.3). Consultation will be conducted frequently in order to identify appropriate management of Native American cultural resources. All consultation will be coordinated through the County of San Diego Tribal Liaison. *E.4.2*: DPR will open the Preserve to traditional uses by the Rincon Band of Luiseño Indians, Pechanga Band of Luiseño Indians, and other Luiseño tribes which may have traditionally used the Preserve area. All activities by Native Americans in the Preserve shall be conducted under a Hold Harmless Agreement or a Right-of-Entry permit specifically designed for the Preserve.	On-going As-needed	DM and RMD DM and RMD

*DEH = Department of Environmental Health
DEV = Development Division Staff
DM = District Manager (Operations Division)
RMD = Resource Management Division Staff

APPENDIX B

Baseline Biodiversity Report
Santa Margarita Preserve
(See www.co.san-diego.ca.us/parks/management_plans.html)

APPENDIX C

Cultural Resources Survey and Inventory for the Santa Margarita Preserve, San Diego County, California (Confidential)

APPENDIX D

Santa Margarita Preserve
Vegetation Management Plan
(See www.co.san-diego.ca.us/parks/management_plans.html)