Resource Management Plan
for
Lawrence and Barbara Daley Preserve
San Diego County





June 2011

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

LAWRENCE AND BARBARA DALEY PRESERVE

RESOURCE MANAGEMENT PLAN

June 30, 2011

Approved by:

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

Date

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1.0 Introduction

Lawrence and Barbara Daley Preserve (Preserve) consists of approximately 597-acres[1] located in the south central portion of San Diego County, in the community of Dulzura (Figure 1). The County acquired the Preserve in 2000 for inclusion in the South County Multiple Species Conservation Program (MSCP) preserve system. The majority of the habitat within the Preserve is rated as very high to high value with the remainder ranging from low to medium in value. However, due to the 2007 Harris wildfire and the current recovery stage of coastal sage scrub habitat, the current habitat value on-site is considered low. Currently, the Preserve is not 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 County's Multiple Species Conservation Program (MSCP) Subarea Plan (County 1997), Framework Management Plan (County 2001), and Sections 10.9A and 10.9B of the Implementing Agreement (County 1998). These sections specify that the County will be responsible for managing lands which it owns or acquires within the MSCP preserve system.

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;

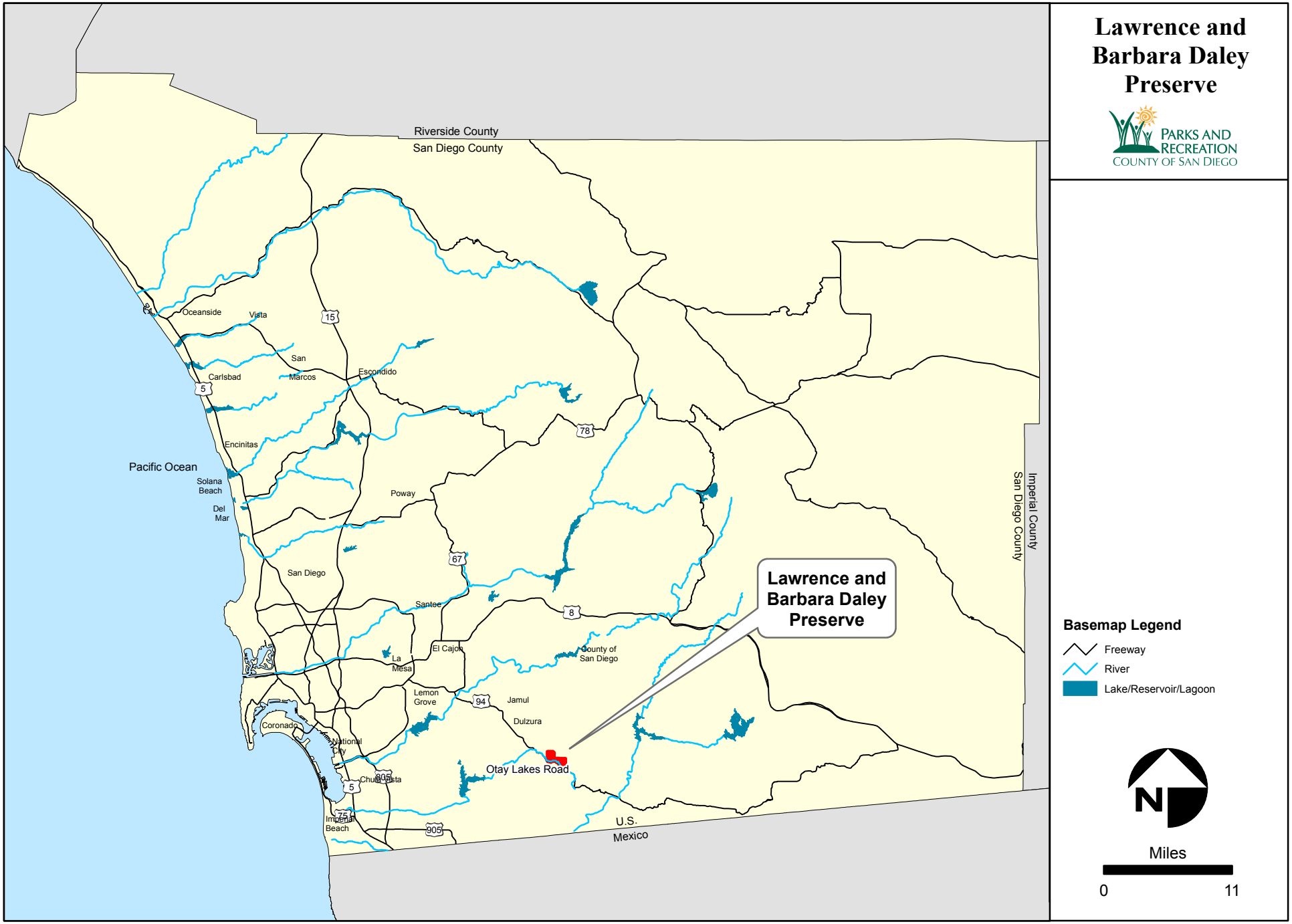
c) provide a descriptive inventory of the vegetation communities/habitats, plant and animal species, and the archaeological and/or historical resources that occur on this property, and;

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.

Chapter 5 of this RMP includes ASMD's for Lawrence and Barbara Daley Preserve.

[1] The assessor's parcel data reports the Preserve to be 604 acres; however, calculations generated from the SanGIS parcel database show the Preserve as 597 acres. Therefore, this report references the Preserve as 597 acres.



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Regional Location Map

Figure 1

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Date: Sep 20, 2010

It is recognized that the County owned land is only a small portion of the MSCP 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 County will spearhead a larger coordinated effort to ensure that other conserved lands in the area that make up the MSCP Preserve are also being monitored and managed consistent with this RMP and the overall goals of the MSCP Plan and County's MSCP Subarea Plan when a regional funding source is identified pursuant to Section 10.9C of the Implementing Agreement.

1.1.1 MSCP Background

The MSCP is a cooperative habitat program that encompasses 582,000 acres and establishes a 172,000-acre preserve system in southwestern San Diego County. The MSCP covers 85 plant and animal species and 23 vegetation communities. Agencies participating in the MSCP include the County, other local jurisdictions, the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). Local jurisdictions and special districts implement their respective portions of the MSCP Plan (City of San Diego 1998) through Subarea plans, which describe specific implementing mechanisms for the MSCP. The combination of the subregional MSCP Plan and Subarea plans serve as a Multiple Species Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA), the Natural Community Conservation Planning (NCCP) Program pursuant to the California NCCP Act of 1991 and the California Endangered Species Act (CESA). Lawrence and Barbara Daley Preserve is owned and operated by the County and is included under the County of San Diego South County MSCP Subarea Plan (County of San Diego, 1997).

1.1.2 County Subarea Plan

The South County MSCP Subarea Plan (MSCP Subarea Plan) was adopted in October 1997. The MSCP Subarea Plan is subdivided into three segments: Lake Hodges, South County, and Metro-Lakeside-Jamul, with Lawrence and Barbara Daley Preserve located in the Metro-Lakeside-Jamul segment. In this segment, preserve boundaries were not designated; rather, pre-approved mitigation areas consisting of high-value habitats were identified and a set of preserve design goals and criteria for cores and linkages were established for consideration during project review.

1.1.3 Framework Management Plan and Area-Specific Management Directives

According to Section 6.3.1 of the MSCP Plan and as a condition of the Implementing Agreement with the Wildlife Agencies (Section 10.10), the County was required to prepare a Framework Management Plan for the portion of the MSCP Preserve within the MSCP Subarea Plan's boundaries. The document was submitted to the Wildlife Agencies on August 31, 2001. The Framework Management Plan sets forth

management goals and objectives, along with general management directives that apply to all areas of the MSCP Subarea Plan.

The Framework Management Plan states that appropriate recreational activities shall be accommodated in concurrence with the goals of the MSCP and MSCP Subarea Plan, as follows:

a) Public access and passive recreation are permitted uses within specified areas of the preserve. Access points, new trails and facilities, and a public control plan will be included in the specific framework habitat management plans and the area-specific management directives.

b) Riding and hiking trails will be allowed within the preserves to allow passive recreational opportunities for the public. Passive recreation includes hiking, scientific research, bird watching, and under specified conditions and locations identified in approved projects and or management plans, mountain biking, horseback riding, sailing, sun bathing, fishing, and swimming. Equestrian, hiking, and bicycles may be allowed when in accordance with approved management plans and are consistent with the County of San Diego Subarea Plan. All recreational activities will be required to avoid impacts to narrow endemics or unique critical populations of specific species, unless the activities are in "take" authorized areas as identified or allowed under the MSCP.

The Framework Management Plan incorporates a requirement for the subsequent preparation and implementation of ASMDs. These directives are required to be developed following baseline surveys using generally accepted practices and procedures for management of biological preserves, and in compliance with the criteria established by the Framework Management Plan and Table 3-5 of the MSCP Plan. They are intended to be specific management actions that are appropriate for the habitats and species found in a local area and take into account the particular circumstances of the given area. In addition to addressing the general directives of the Framework Management Plan and species-specific management requirements of MSCP Table 3-5, ASMDs are required to address fuel management activities. Chapter 5 of this RMP includes ASMDs for Lawrence and Barbara Daley Preserve.

1.2. Implementation

1.2.1 Management Approach

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

communities, and landscapes in a manner that provides data to allow informed management actions and decisions.

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

1.2.2 Responsible Parties/Designation of Land Manager

The County is responsible for management, biological monitoring, and meeting the conditions of MSCP coverage on County-owned lands conserved as part of the MSCP Preserve system within the County's jurisdiction, which includes County-owned land. The Preserve is operated, administered, and managed by the County Department of Parks and Recreation (DPR) and the DPR District Park Manager assigned to the Preserve is the land manager. DPR (District Park Manager and staff of the Resources Management Division) will also be responsible for the implementation and enforcement of the RMP.

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

1.2.3 Regulatory Context

The County's park rangers manage County parks 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 these sections is guilty of a misdemeanor as provided in Sections 11.116, 11.117, and 11.118 of this Code, punishable by fines up to $2,500 a day for each day the person violates these sections. The park rangers will contact law enforcement who will cite the offending individual. In addition, if an individual does not comply with signs within a facility and

ignores park ranger instructions, the individual could potentially be charged with a misdemeanor by law enforcement.

1.2.4 Limitations and Constraints

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

2.0 Property Description

2.1 Legal Description

The Preserve property is specifically located just north and east of Highway 94 and south of Honey Springs Road. The Preserve is located in the Dulzura U.S. Geological Survey (USGS) quadrangle within the southwest ¼ of Section 29, the north ¼ of Section 32 and northwest ¼ of Section 33 in Township 17 South, Range 2 East (Figure 2). The Assessor's Parcel Numbers for the Preserve are 600-090-27; 600-150-07; 600-150-08; and 600-160-17.

2.2 Geographical Setting

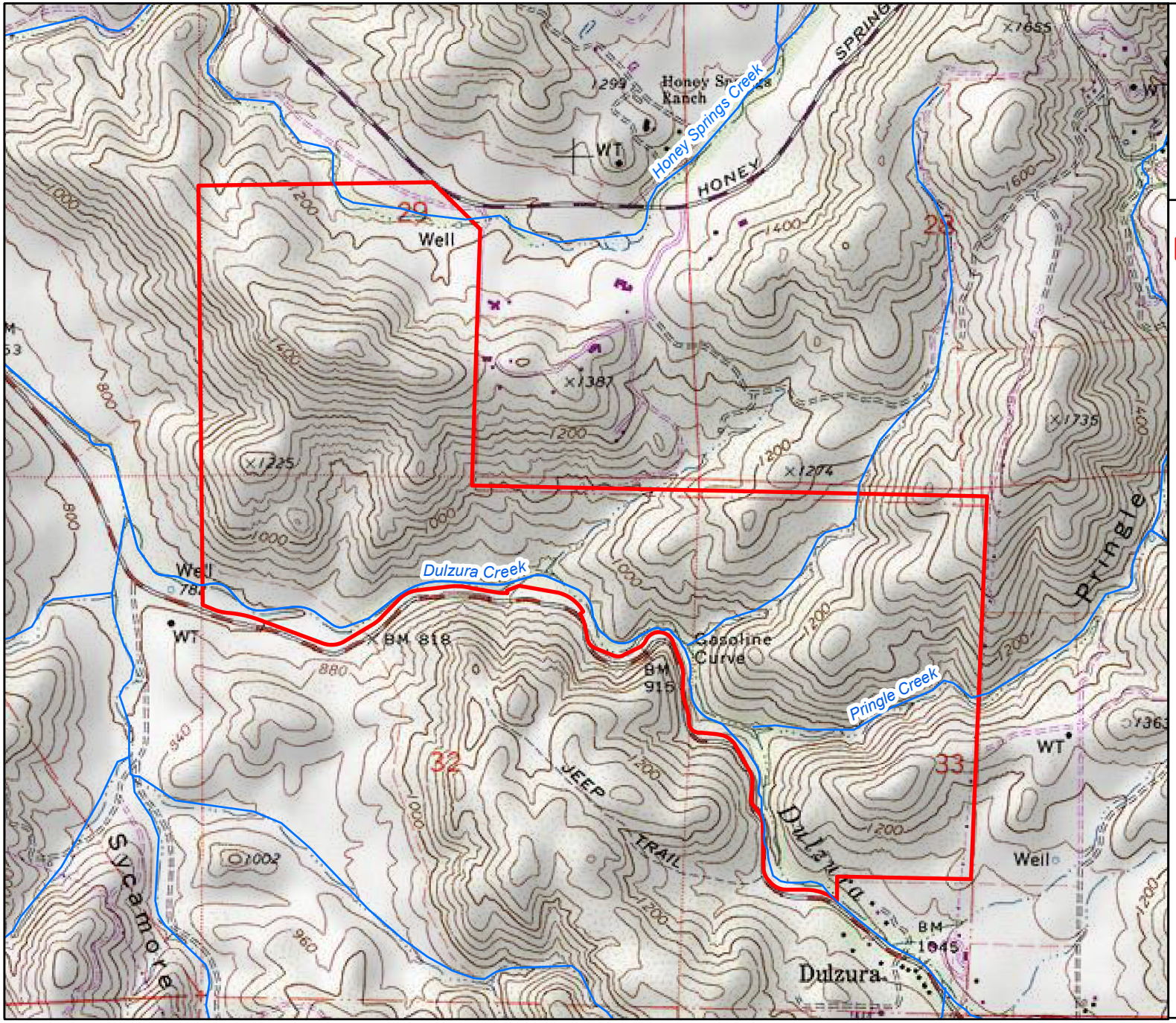
The Preserve is southeast of the junction of Dulzura Creek and Honey Springs Creek. Dulzura Creek follows the southern and western boundary of the Preserve forming a narrow canyon. Honey Springs Creek forms a drainage along the northern edge of the Preserve. The Preserve itself includes these two canyon drainages but is dominated by steeply sloped granitic ridges. These ridges make up the dominant landforms within the Preserve and they are separated by small steeply dropping westerly and southern trending seasonal drainages. The Preserve is at an elevation between approximately 780 to 1,560 feet above mean sea level (AMSL).

2.2.1 Site Access

The Preserve only has one access point (see Figure 6): a gate at the Honey Springs Road entry point in the northern portion of the Preserve.

2.2.2 MSCP Context

The footprint of the Preserve was originally not identified as planned conserved lands in the South Metro-Lakeside-Jamul segment of the MSCP Subarea Plan. However, it was added to the County's South County MSCP preserve system upon acquisition (Figure 3). Rural residential development is located directly to the northeast and east and is designated as Unincorporated Land in Metro-Lakeside-Jamul; the community of Dulzura to the south designated as Unincorporated Land in Metro-Lakeside-Jamul. The adjacent U.S. Department of the Interior Bureau of Land Management (BLM) land to the south is designated as Unincorporated Land in Metro-Lakeside-Jamul and Pre-approved Mitigation Area. The adjacent California



Lawrence and Barbara Daley Preserve

PARKS AND RECREATION
COUNTY OF SAN DIEGO

Legend

Preserve Boundary

N

Feet

0 1,460

Project Vicinity

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Figure 2

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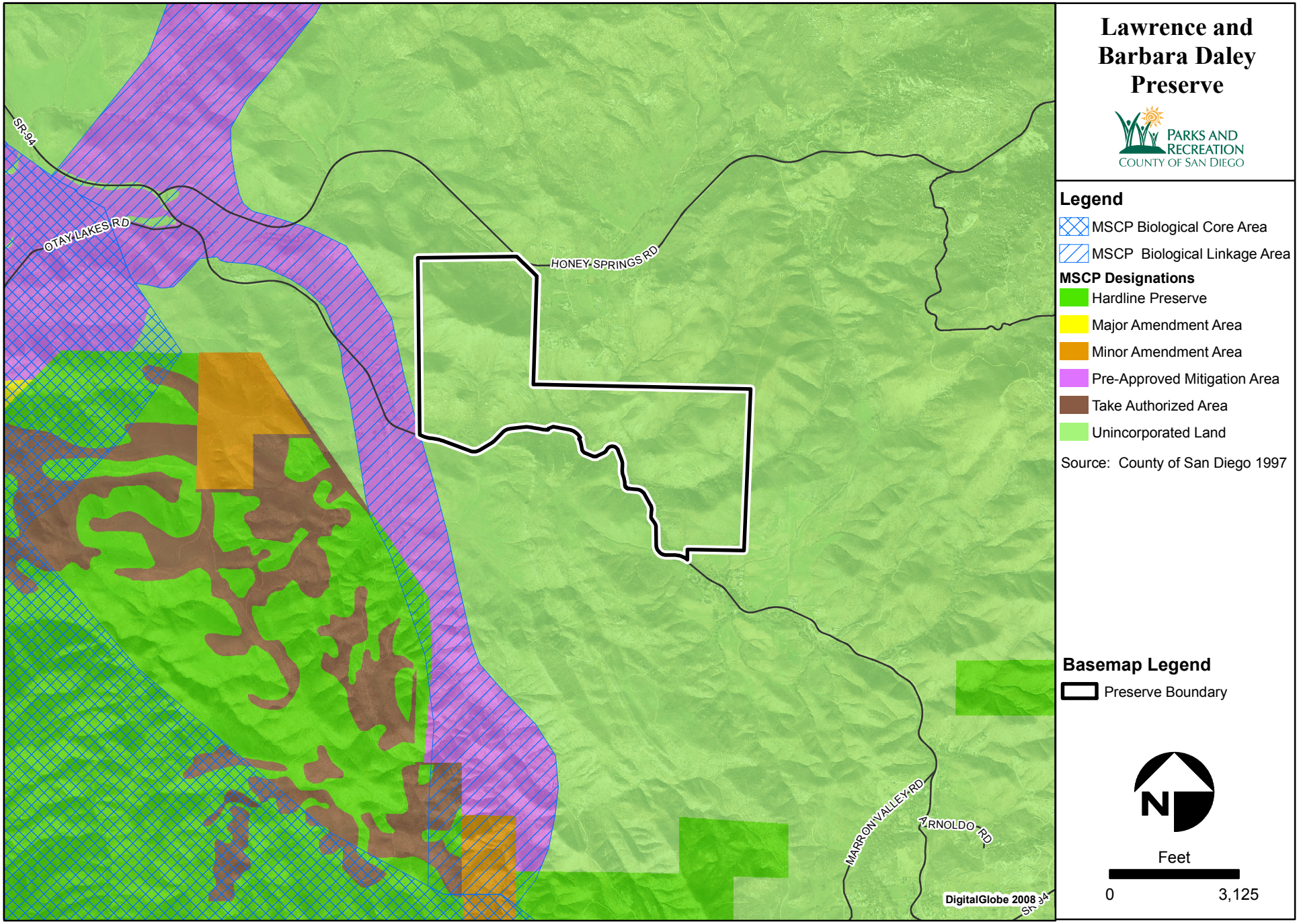
Date: Dec 15, 2010



Lawrence and Barbara Daley Preserve

PARKS AND RECREATION
COUNTY OF SAN DIEGO

Legend

- MSCP Biological Core Area
- MSCP Biological Linkage Area

MSCP Designations

- Hardline Preserve
- Major Amendment Area
- Minor Amendment Area
- Pre-Approved Mitigation Area
- Take Authorized Area
- Unincorporated Land

Source: County of San Diego 1997

Basemap Legend

- Preserve Boundary

N

Feet

0 3,125

Technology Associates International Corporation

County of San Diego MSCP Preserve System

Figure 3

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Date: Oct 01, 2010

Department of Fish and Game (CDFG) land to the north is designated as Unincorporated Land in Metro-Lakeside-Jamul and Pre-approved Mitigation Area.

2.3 Physical and Climatic Conditions

2.3.1 Geology and Soils

The geomorphology of the Preserve is a product of the region's geologic history. During the Jurassic and late Cretaceous (>100 million years ago) a series of volcanic islands paralleled the current coastline in the San Diego region. After the ocean receded, the remnants of these volcanic islands became Double Peak, Black Mountain, and the Jamul Mountains among others. At about the same time, a granitic and gabbroic batholith was being formed under and east of these Jurassic and late Cretaceous-age volcanoes. This batholith was uplifted and forms the granitic rocks and outcrops of the Peninsular Range and the foothills to the west of this range (California Division of Mines and Geology 1975).

Seven different soil series are represented on the Preserve (Figure 4): Cieneba, Escondido, Fallbrook, Friant, Ramona, Visalia, and Vista (USDA Soil Survey 1973).

Cieneba Series

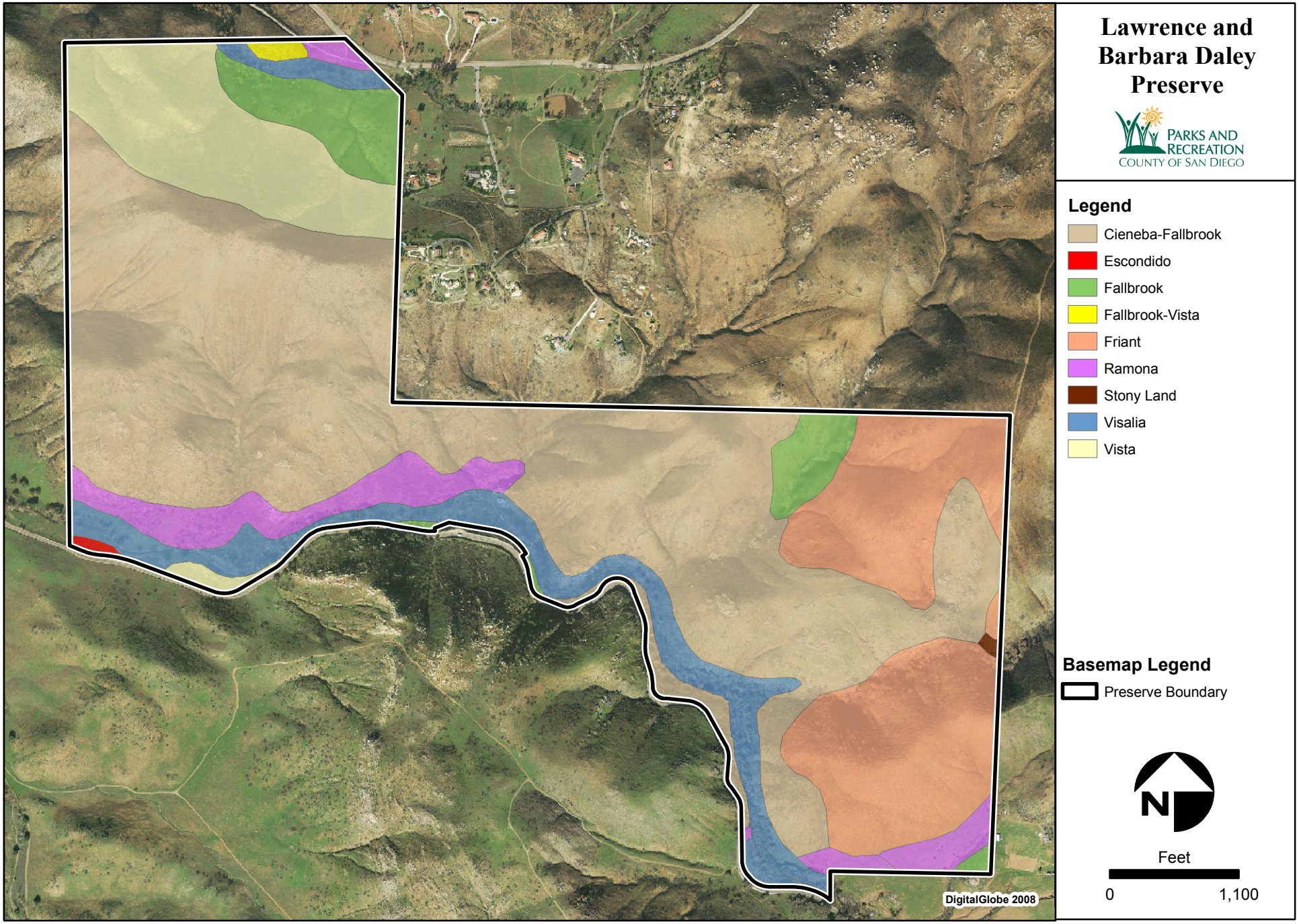
Cieneba series soils tend to be excessively drained, very shallow, to shallow coarse sandy loams (USDA Soil Survey 1973). These soils are from weathered granitic rock. They are usually found on rolling to mountainous uplands with slopes ranging from 5 to 75 percent. Cieneba-Fallbrook rocky sandy loams are mix of coarse sandy loams and sandy loams. Rock outcrops cover about 5% of the surface and large boulders about 10 percent. The soil is very well drained with moderate erosion.

Escondido Series

Escondido series soils tend to be dark brown and slightly acid, well-drained, and moderately permeable. Horizons vary with “A” horizons generally consisting of very fine sandy loam and B2 horizons consisting of very fine sandy loam over hard metamorphic bedrock. These soils are found in hilly areas and foothills at 400-2,800 feet in elevation (USDA Cooperative Soil Survey 2010).

Fallbrook Series

Fallbrook series soils consist of deep, well drained soils that are formed from weathered granitic rocks. These soils are found on rolling hills at slopes of 5-75 percent. Fallbrook sandy loams are usually a yellow-brown color at the surface with subsoils ranging from reddish-browns to light brown or brown (USDA Cooperative Soil Survey 2010).



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Soils

Figure 4

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Friant Series

Friant series soils consist of shallow and very shallow, well-drained fine sandy loams (USDA Soil Survey 1973). These are usually found on mountainous uplands and have formed from weathered fine-grained metasedimentary rock such as mica schist, quartz schist and gneiss. Friant fine sandy loams are a steep soil and are found on moderate slopes and range in color from dark brown to brown. Slopes range from 9-75 percent and elevations from 500-3,500 feet (USDA Cooperative Soil Survey 2010).

Ramona Series

Ramona series soils are generally brown, slight to medium acidity, and sandy loam to fine sandy loam for the A horizons. B horizons are generally reddish brown and yellowish red, slightly acid, sandy clay loam. Soils tend to be well-drained with slow to rapid runoff. Soils are moderately permeable and found at elevations of 250-3,500 feet (USDA Cooperative Soil Survey 2010).

Stony Land

Stony land occurs at the base of cliffs or below steep rocky slopes. Stony land is usually strongly sloping to very steep. The material consists mainly of large quantities of stones, boulders, and cobblestones, and some finer material (USDA Soil Survey 1973).

Visalia Series

Visalia series soils consist of moderately well drained, very deep sandy loams derived from granitic alluvium (USDA Soil Survey 1973). These soils are usually on alluvial fans and flood plains. In areas the soil is gravelly throughout. The gravelly sandy loams are moderately sloping and with about 15% gravel. Runoff is slow with little erosion. Visalia sandy loams are found on more level areas or on flood plains with slopes less than 2 percent.

Vista Series

Vista series soils consist of well-drained, moderately deep coarse sandy loams formed from decomposed granitic rocks. These soils are usually found on uplands and with slopes ranging from 2 to 75 percent. These soils range in color form dark grayish-brown to dark brown and yellowish-brown at deeper layers. Soils have slow to rapid runoff and moderately rapid permeability (USDA Cooperative Soil Survey 2010).

2.3.2 Climate

Cismontane portions of San Diego County and Southern California largely have a Mediterranean climate. This is characterized by mild winters with modest precipitation and arid, warm to hot summers according to the Koppen Classification System[2] (Pryde 2004). The Preserve is located far enough inland to frequently minimize marine influence and keep summer temperatures warm to hot. Also due to lessened marine influence, winter low temperatures can occasionally drop to the freezing range. Monthly mean temperature data recorded at a weather station in Dulzura (N 32.6°; W 116.8°) from 1 January 2009 to 30 December 2009 are presented in Table 1. Precipitation data are presented in Table 2 (Weather Underground 2010).

Table 1. Monthly Mean High and Low Temperatures (2009) for Dulzura, California

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average High Temperature (°F)	69	67	68	78	67	70	76	84	82	75	68	64
Average Low Temperature (°F)	47	47	51	53	60	62	66	65	67	56	52	47

Table 2. Monthly Mean Precipitation in inches (2009) for Dulzura, California

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Total Precipitation (in.)	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16

The climate data shown in Table 2 highlights the generally arid precipitation regime characteristic of the region. Precipitation in minimal amounts can occasionally occur in summer from tropical weather systems but the majority comes from winter storms originating in the middle to high latitudes of the North Pacific Ocean.

2.3.3 Hydrology

Hydrology within the Preserve is typical for the region's semiarid climate and is, other than Dulzura Creek, restricted to small ephemeral drainages. Located in the south-eastern portion of the Otay River watershed bordering onto the Tijuana River watershed, the Preserve is drained by Honey Springs Creek on the northwest, Dulzura Creek along almost the entire southwestern boundary, and to a lesser extent, Pringle Creek in the extreme southeast portion (Figure 2). Pringle Creek merges with Dulzura Creek northwest of the town of Dulzura and Honey Springs merges with Dulzura Creek west of the Preserve in the vicinity of Otay Lakes Road. Two unnamed blue-line drainages flow southward into Dulzura Creek near the

[2] The Koppen Classification System is based on the concept that native vegetation is the best expression of climate. Thus, the system delineates climate zone boundaries based on vegetation distribution. The climate zones are also defined by average annual and monthly temperatures and precipitation, and the seasonality of precipitation.

central portion of the Preserve. In addition to local runoff, Dulzura Creek receives regulated flow from Cottonwood Creek and its watershed by way of the Dulzura Conduit (City of San Diego 2006). Dulzura Creek then flows into Lower Otay Reservoir.

2.3.4 Fire History

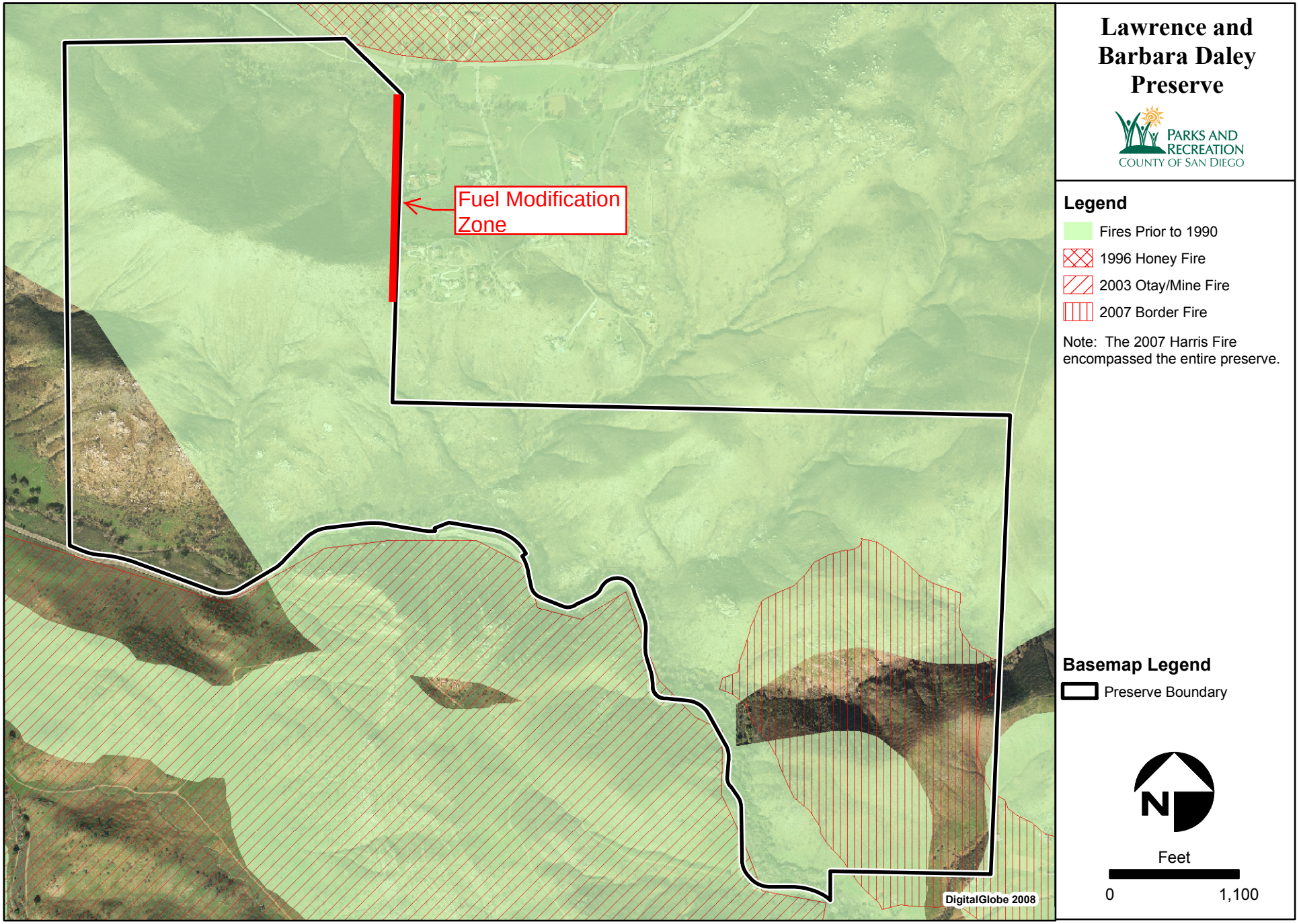
Wildfire is a natural disturbance cycle which has historically shaped the Preserve and the surrounding region. Plant species found in local vegetation communities (i.e. chaparral communities) have developed the ability to survive naturally spaced recurrent fires by producing seeds that require a fire-related cue to stimulate germination and/or by stump sprouting after being burned. The return frequency of wildfire on the Preserve is not well known, specifically as in recent years, the return cycle has increased due to human-caused fires exacerbated by Santa Ana wind conditions. The most recent firestorms in San Diego were human-caused (as are most wildfires); in addition, the sources of wildfires have shifted over time, and the effects (including size and intensity) of these fires have increased compounded by drought and Santa Ana wind conditions. Historically, fires have occurred more frequently in more populated coastal environments, where the climate is moister and Santa Ana winds don't proliferate. However, populations in the County's interior has increased, and recent fires have ignited in the dryer eastern parts of the County, where they burned vast areas east to west driven by Santa Ana winds.

The most recent noteworthy wildfire recorded on the Preserve was in the 2007 Harris Fire. This fire consumed the entire Preserve, although damage to riparian areas along Honey Springs, Dulzura, and Pringle Creeks was somewhat minimized by their moisture retention and substantial degree of fire resistance (Figure 5). The Otay Fire of 2003 was contained south of the Preserve along SR 94 and did not harm land within the Preserve, but likely caused a major influx of animal species into the Preserve and northward. Recently, a majority of scrublands in the foothills of San Diego County have experienced more frequent fires than historically was the case.

2.4 Land Use

2.4.1 On-Site Land Use

The Preserve is currently not open to the public; however, there is evidence of illegal use including unauthorized immigrants using an unofficial trail in the northernmost portion of the Preserve. Presence of unauthorized use in the form of campsites and garbage has been reported by rangers who patrol this area and the consultant who surveyed the property from 2009-2010. There is an existing vehicle gate at the Honey Springs Road entry point on the north side of the Preserve and a gate opposite the California Department of Forestry station on State Route 94 just southeast of the Preserve.



Lawrence and Barbara Daley Preserve

PARKS AND RECREATION
COUNTY OF SAN DIEGO

Legend

- Fires Prior to 1990
- 1996 Honey Fire
- 2003 Otay/Mine Fire
- 2007 Border Fire

Note: The 2007 Harris Fire encompassed the entire preserve.

Basemap Legend

- Preserve Boundary

N

Feet

0 1,100

Technology Associates International Corporation

Fire History

Figure 5

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Date: Oct 01, 2010

2.4.2 Adjacent Properties

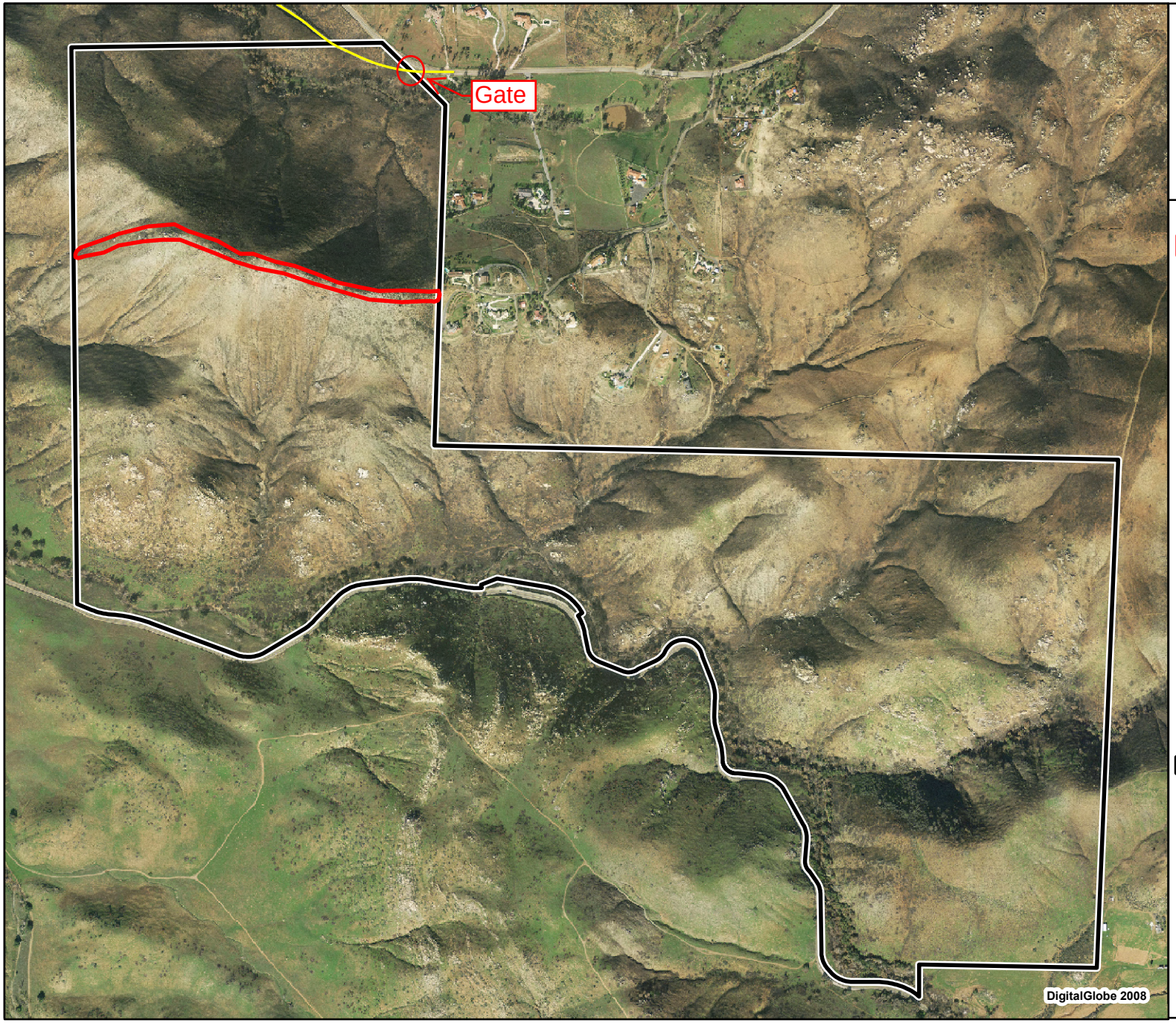
Open space lands surround the Preserve, with the exception of sparse rural residential development to the north and northeast, and the community of Dulzura to the southeast. California Department of Fish and Game owns the adjacent open space parcels to the west, north, and northeast of the Preserve. The Bureau of Land Management owns the open space parcels located to the south and southwest of the Preserve. The open space parcels located to the east of the Preserve are privately owned.

2.4.3 Easements or Rights

San Diego Gas & Electric (SDG&E) retains a distribution easement for overhead power lines that traverse the Preserve from east to northwest through the eastern portion of the Preserve. SDG&E conducts operation and maintenance activities for their facilities consistent with the SDG&E Subregional Natural Community Conservation Planning (NCCP) (SDG&E 1995). The SDG&E NCCP was approved by the wildlife agencies and is compatible with this RMP.

2.5 Trails

Currently, no official trails exist on the Preserve with the exception of an unofficial trail in the northernmost portion of the site, adjacent to Honey Springs Road (Figure 6). Small walking paths have been created by unauthorized immigrants that traverse the Preserve.



Lawrence and Barbara Daley Preserve

PARKS AND RECREATION
COUNTY OF SAN DIEGO

Legend

- Accumulated Trash*
- Trail

* Scattered trash, clothing, shoes, packs, etc.

Basemap Legend

- Preserve Boundary

N

Feet

0 1,100

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Site Features - Trail and Access Point

Figure 6

File: T:\projects\DaleyRanch\Plots\Figures\Site Features.mxd

Date: Nov 29, 2010

3.0 Biological Resources Description

In 2009-2010 Technology Associates International Corporation (TAIC) conducted baseline biological resources surveys of the Preserve. The results of these surveys can be found in the biological resources report entitled, *Biological Diversity Baseline Report for the Lawrence and Barbara Daley Preserve*, dated January 2011, and attached as Appendix A. The survey results were used in the preparation of this RMP.

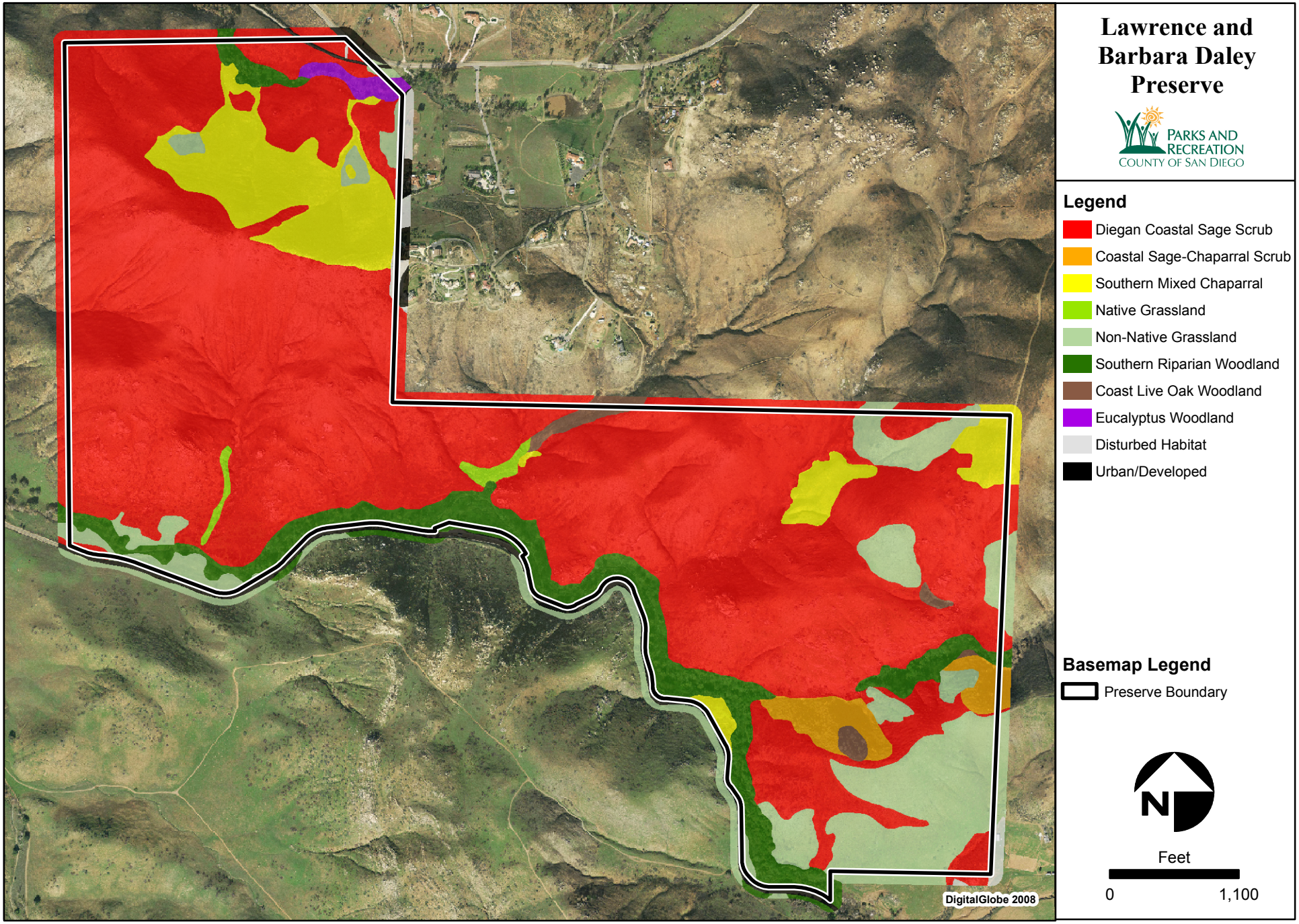
The surveys documented ten vegetation communities and 483 species within the Preserve. The surveys detected 355 plant species, 71 bird species, 29 mammal species (eight bats, nine small mammals, and seven medium and large mammals), 15 herptiles (three amphibian and ten reptiles), and 13 invertebrate species. Thirty special-status species were detected during baseline surveys, of which seven are MSCP-covered species (six wildlife species and one plant).

3.1 Vegetation Communities/Habitat

Vegetation communities and land cover types present within the Preserve consist of southern riparian woodland, diegan coastal sage scrub, coastal sage-chaparral scrub, southern mixed chaparral, native grassland, non-native grassland, coast live oak woodland, eucalyptus woodland, disturbed habitat, and urban/developed (Figure 7, Table 1). A description of the vegetation communities and the dominant plant species detected during the survey are found below. A complete list of plant species observed within the Preserve is provided as Appendix A. A description of the vegetation communities and the dominant plant species detected during the survey are found below.

Table 3. Vegetation Communities within the Preserve

Vegetation Community	Acres
Southern Riparian Woodland	46.70
Diegan Coastal Sage Scrub	417.20
Coastal Sage-Chaparral Scrub	10.34
Southern Mixed Chaparral	49.58
Native Grassland	2.85
Non-native Grassland	61.57
Coast Live Oak Woodland	4.23
Eucalyptus Woodland	2.73
Disturbed Habitat	1.55
Urban/Developed	0.73
TOTAL	**597.47**



Technology Associates International Corporation

Vegetation Communities

Figure 7

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Date: Oct 01, 2010

Southern Riparian Woodland (Holland Code 62500)

Southern riparian woodland occurs along rivers, creeks, or drainages and is dominated by a mixture of coast live oak (*Quercus agrifolia* var. *agrifolia*), western sycamore (*Platanus racemosa*), willows (*Salix* spp.) and Freemont's cottonwood (*Populus fremontii*). Unlike riparian forests, this community does not tend to have a well-developed riparian understory. Within the Preserve, this community occurs along Dulzura and Pringle Creeks, and along a small tributary just south of Honey Springs Road. Small patches of giant reed (*Arundo donax*) are prevalent along Dulzura creek. The understory generally consists of non-native grasses and other exotics, as well as a number of sensitive species, such as southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), San Diego sagewort (*Artemisia palmeri*), and Fish's milkwort (*Polygala cornuta* var. *fishiae*). Within the Preserve, there are 46.70 acres of Southern riparian woodland.

Diegan Coastal Sage Scrub (Holland Code 32500)

Diegan coastal sage scrub is an endemic, fire-adapted drought-deciduous community typically dominated by coastal sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*). Other species characteristic of this vegetation community include black and white sage (*Salvia mellifera* and *Salvia apiana*), lemonadeberry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), deerweed (*Lotus scoparius*), and California encelia (*Encelia californica*). Diegan coastal sage scrub is typically low in stature and occurs on steep, xeric slopes or on clay soils that are slow to release stored water. Formerly widely distributed in the region, Diegan coastal sage scrub has lost much of its historic range to residential development and agricultural conversion. Diegan coastal sage scrub frequently intergrades with chaparral vegetation communities at higher elevations.

Diegan coastal sage scrub covers approximately 417.20 acres on the Preserve. Around the large granite outcrops, the dominant native species are laurel sumac, bee plant (*Scrophularia californica*), odora (*Porophyllum gracile*), many-flowered bushmallow (*Malacothamnus densiflorus*) and coast range melic (*Melica imperfecta*). Other native species in these areas include San Diego needlegrass (*Achnatherum diegoensis*), California wishbone plant (*Mirabilis californica)* and wild cucumber (*Marah macrocarpus* var. *macrocarpus*). On the southwestern portion of the Preserve, two small north-facing slopes on the south side of the ridge just west of the rural development consisted of deerweed and/or yellow bush penstemon and little else. The rest of the coastal sage scrub in the Preserve (e.g., the majority of this vegetation community) is dominated by grassland communities. Overall, San Diego sunflower (*Bahiopsis* [*Viguiera*] *laciniata*) and deerweed (*Lotus scoparius*) were the dominant species observed in CSS habitat within the Preserve. Subdominant species include shrub species, which varied by location, included deerweed, yellow bush penstemon (*Keckiella antirrhinoides*), coastal sagebrush, and California buckwheat and California wishbone plant. San Diego needlegrass

(*Agnatherum diegoensis*) was observed in rocky outcrops within the sage scrub habitat.

Within the Preserve, Diegan coastal sage scrub is moderately to highly disturbed and of marginal quality. Much of the sage scrub onsite intergrades with the surrounding grassland communities. Areas showing the greatest level of disturbance (e.g., highest cover of non-native species) are located in the southeastern corner of the Preserve. The dominant non-native species include non-native grasses such as oats (*Avena spp.*), bromes (*Bromus* spp.), Mediterranean schismus (*Schismus barbatus*) and rat-tail fescue (*Vulpia myruos*), and forbs such as filarees (*Erodium* spp.), smooth cat's ear (*Hypochaeris glabra*), and short-pod mustard (*Hirschfeldia incana*).

Coastal Sage-Chaparral Scrub (Holland Code 37G00)

Coastal sage-chaparral scrub (CSS/CHP) is an ecotonal habitat with dominant species characteristic of both Diegan coastal sage scrub and southern mixed chaparral. The presence of this ecotonal habitat on the Preserve could be due to high fire frequency, which can be damaging to some chaparral species that require sufficient time to recover before being able to withstand another fire (Zedler et al, 1983). Chaparral species that are dependent on fire for seed germination may lose substantial cover to other functional types, including drought deciduous coastal sage scrub shrubs and non-native annual grasses, if fires are too frequent (Syphard et al. 2006). This scenario might also explain the absence of chaparral habitat on most of the north-facing slopes within the project area. A total of 10.34 acres of coastal sage-chaparral scrub occurs on a north-facing slope in the southeastern portion of the Preserve. Based on the native species diversity, shrub cover, and the age structure of the plant, it appears that this area may not have burned in 2007. Invasion by non-native species was fairly low in this area.

Southern Mixed Chaparral (Holland Code 37120)

As described by Holland (1986), southern mixed chaparral is a dense, shrub-dominated community widely distributed on arid landscapes in coastal southern California, generally below 3,000 feet in elevation. The dominant shrub cover in this community consists of evergreen, sclerophyllous (hardened leaves) woody shrubs approximately one to three meters tall, often with a closed canopy and undeveloped understory. Characteristic species include chamise (*Adenostoma fasciculatum*), manzanitas (*Arctostaphylos* spp.), mission manzanita (*Xylococcus bicolor*), ceanothus species (*Ceanothus* spp.), toyon (*Heteromeles arbutifolia*), and redberry (*Rhamnus crocea*).

A total of 49.58 acres of southern mixed chaparral occur on the Preserve in small, isolated patches, mostly on north-facing slopes. The area on the northern portion of the Preserve occurs on reddish, clayey soils, much of which is bare between stump-sprouting shrubs. This area is dominated by mission manzanita, chamise and laurel sumac. Other species in this area included yellow bush-penstemon, deerweed,

redberry, coast spice bush (*Cneoridium dumosum*). Although there are non-native grasses in this area, the level of invasion was fairly low. Other chaparral areas were dominated by chamise and mission manzanita. Yellow-bush penstemon was typically subdominant. These areas were heavily infested by non-native grasses and the diversity of native annuals and perennials appeared to be fairly low.

Native Grasslands (Holland Code 42100)

Native grassland is mid-height (to two feet) grassland dominated by native perennial grasses such as needlegrasses (*Nassella* spp.). Native and non-native grasses and annuals commonly co-occur and often outnumber the native grasses; however, these areas are considered native grassland as long as there is at least 20 percent cover of native grasses. Within the Preserve, native grassland is limited to the edges of dry drainages adjacent to coastal sage scrub and/or oak woodland habitat in two locations. These areas tend to have native and non-native grasses, low growing forbs, such as smooth cat's ear, patches of open ground, and isolated shrubs. It is possible that these areas were once a component of the coastal sage scrub vegetation community, and the recent fires caused the shrub cover to decline to the point that grasses and forbs became dominant. Although non-native species in these areas are dominant, several species of native grasses were also observed, including coast range melic, San Diego needlegrass and other species of needlegrasses (*Nassella pulchra*, *Nassella cernua*, and *Nassella lepida*). Native forbs included dot-seed plantain (*Plantago erecta*), white pincushion (*Chaenactis artemisiifolia*) and California poppy (*Eschscholzia californica*). Native grasslands make up 2.85 acres of the Preserve.

Non-Native Grasslands (Holland Code 42200)

Non-native grasslands occur in disturbed areas and are dominated by non-native grasses, non-native forbs, or both. Within the Preserve, 61.57 acres of non-native grassland occur in isolated patches and integrate readily with the adjacent coastal sage scrub habitat, especially on the eastern portion of the Preserve. The dominant species on the Preserve, which are typical of this vegetation community, are slender oat, (*Avena barbata*), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), red brome (*Bromus rubens*), soft chess (*Bromus hordeaceus*), rat-tail fescue, and short-pod mustard. Small to moderate amounts of native forbs such as California poppy, wild hyacinth (*Dichelostemma capitatum*), San Diego bird's foot trefoil (*Lotus hamatus*), and California wishbone plant.

One patch of non-native grassland appears to be on a small clay lens and has a very different character than the surrounding coastal sage scrub and the rest of the non-native grassland on site. This area is the westernmost patch located on the north-facing slope west of the rural development on the northern end of the Preserve. Although dominated by short non-native grasses and filarees, this area also has a prevalence of native perennials such as Padre's shooting star

(*Dedecatheon clevelandii* ssp. *clevelandii*), chocolate lily (*Fritillaria biflora* var. *biflora*), and Johnny jump-ups (*Viola pedunculata*).

Coast Live Oak Woodland (Holland Code 71160)

Coast live oak woodland is dominated by coast live oak, an evergreen oak that reaches roughly 10 to 25 meters in height. Coast live oak woodland is characterized by poor understory development and low species diversity. The shrub layer may include toyon, laurel sumac or Mexican elderberry (*Sambucus nigra* ssp. *caerulea*). Most of the coast live oaks within the Preserve are intermixed with western sycamore, willows, and cottonwood within the southern riparian woodland habitat. However, a couple of areas consist of coast live oak alone or intermixed with a few Engelmann oak trees. The understory in these areas is generally dominated by non-native grasses and forbs intermixed with native shrubs. Coast live oak woodland occurs in a small clump upslope from Dulzura Creek, and along a dry drainage in the north central portion of the Preserve. Approximately 4.23 acres of this community occur on the Preserve.

Eucalyptus Woodland (Holland Code 79100)

As described by Holland (1986), eucalyptus woodland is typically characterized by dense monotypic stands of eucalyptus trees (*Eucalyptus* spp.). Plants in this genus, imported primarily from Australia, were originally planted in groves throughout many regions of coastal California as a potential source of lumber and building materials for their use as windbreaks, and for their horticultural novelty. They have increased their cover through natural regeneration, particularly in moist areas sheltered from strong coastal winds. Gum trees naturalize readily in California and, where they form dense stands, tend to completely supplant native vegetation, greatly altering community structure and dynamics.

Within the Preserve, a small patch of eucalyptus woodland occurs along a small tributary between a rural development area to the east and southern riparian woodland to the west. Approximately 2.73 acres of eucalyptus woodland composed of river red gum (*Eucalyptus camaldulensis*) occurs on the Preserve within this patch.

Disturbed Habitat (Holland Code 11300)

Disturbed habitat is any land on which the native vegetation has been significantly altered by agriculture, construction, or other land-clearing activities, and the species composition and site conditions are not characteristic of the disturbed phase of one of the plant associations within the study region. Such habitat is typically found in vacant lots, roadsides, construction staging areas, or abandoned fields, and is dominated by non-native annual species and perennial broadleaf species. Disturbed habitat covers approximately 1.55 acres on the Preserve and is located along the boundary with the residential development on the northern portion of the Preserve.

Urban/Developed (Holland Code 12000)

Urban/Developed areas are found where habitat has been altered by human activities to a state beyond the potential for recovery to a natural state. In general, free standing structures and surrounding areas that are paved, armored, or landscaped are considered developed. Within the Preserve, approximately 0.73 acre of Urban/Developed area occurs within a small section of an old paved road that enters the Preserve off of Honey Springs Road.

3.2 Plant Species

3.2.1 Plant Species Present

Floristic inventories detected 355 plant species at the Preserve. The Biological Diversity Baseline Report (Appendix A) includes the complete list of all plant species observed during the surveys.

3.2.2 Rare, Threatened, or Endangered Plant Species Present

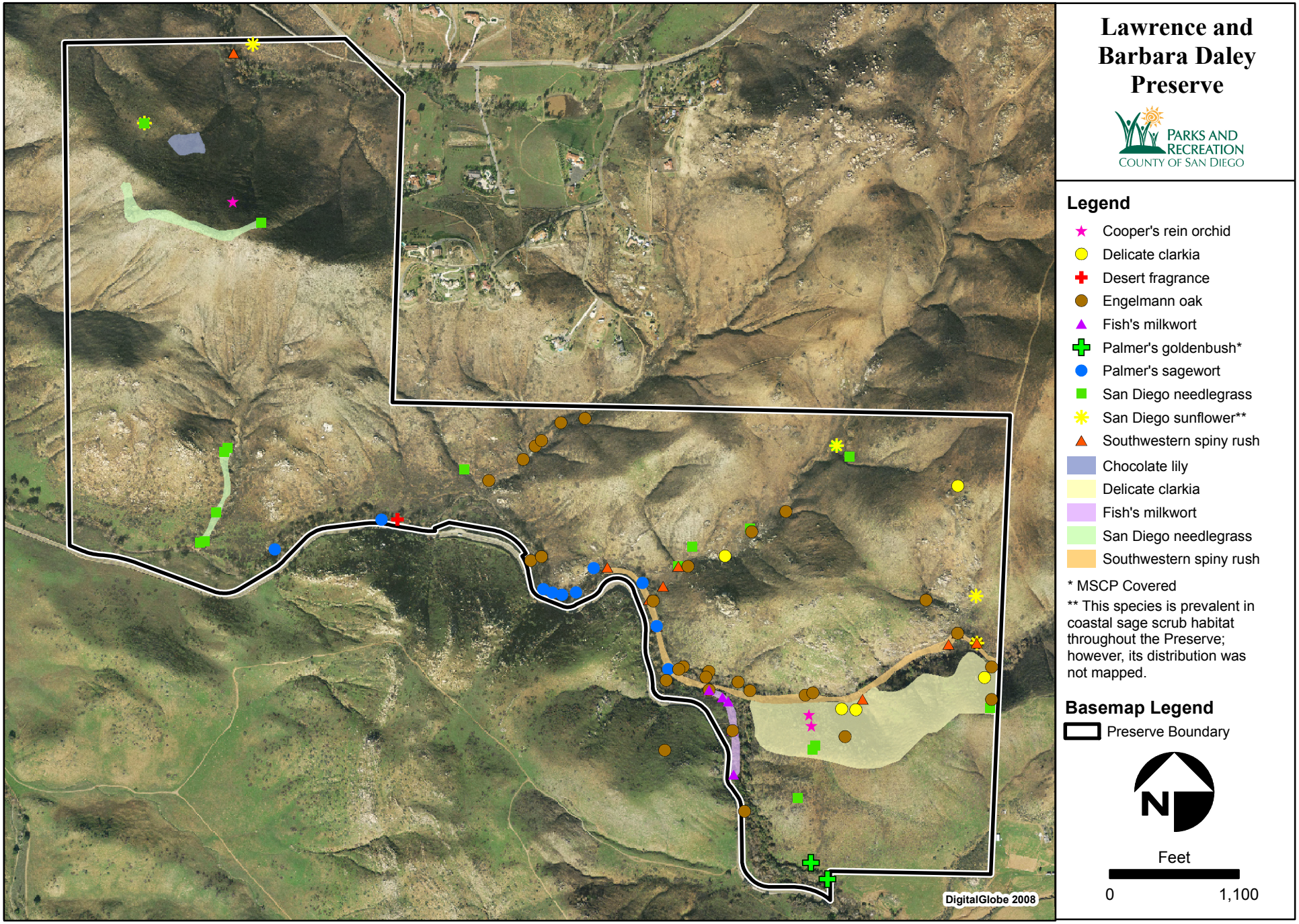
The following section discusses special-status plant species observed within the Preserve. A special-status plant species is one listed by federal or state agencies as threatened or endangered; considered to be of special status by one or more special interest groups, such as the California Native Plant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

Special-status plant species observed within the Preserve (Figure 8) consist of desert fragrance (*Ambrosia monogyra*), San Diego needlegrass, Palmer's sagewort (*Artemisia palmeri*), San Diego sunflower, delicate clarkia (*Clarkia delicata*), Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*), chocolate lily, southwestern spiny rush, Cooper's rein orchid (*Piperia cooperi*), Fish's milkwort (*Polygala cornuta* var. *fishiae*), and Engelmann's oak (*Quercus engelmannii*).

Desert fragrance (*Ambrosia monogyra*)

CNPS List 2.2

This species occurs in Riverside County, San Bernardino County, San Diego County, Arizona, New Mexico, Texas, Nevada and Baja California, Mexico. Within San Diego County, Desert fragrance occurs in chaparral habitat below approximately 500 meters in elevation. Desert fragrance is a perennial shrub that blooms from August to November. Three shrubs were observed onsite along the fence line separating the southern boundary of the Preserve from State Highway 94.



Technology Associates International Corporation

Sensitive Plant Species

Figure 8

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Date: Oct 01, 2010

San Diego needlegrass (*Achnatherum diegoensis*)

CNPS List 4.2, San Diego County List D

This native bunch grass occurs in southwestern San Diego County, Baja California, Mexico, and on various off-shore islands. The preferred habitat type of this species is coastal sage scrub or chaparral-coastal sage scrub ecotone (Reiser 1994). During the fall when many native grasses have senesced, this species can look very similar to other native needlegrasses (e.g., *Nassella* spp.). This species was observed in coastal sage scrub habitat throughout the Preserve, almost always in association with rocky outcrops.

Palmer's sagewort (*Artemisia palmeri*)

CNPS List 4.2, San Diego County List D

Palmer's sagewort is found distributed along creeks and drainages or occasionally in mesic chaparral habitat in western San Diego County and Baja California, Mexico. It often occurs in shaded understory of riparian woodland or forest trees, such as willows, sycamore or cottonwood. Within the Preserve, this species was found in a few locations along Dulzura Creek.

San Diego sunflower (*Bahiopsis laciniata*)

CNPS List 4.2, San Diego County List D

San Diego sunflower occurs throughout southern San Diego County and in Baja California, Mexico. It occurs in coastal sage scrub habitat on a variety of soil types and is often a dominant component of the landscape where it occurs, as is the case within the Preserve. This species is the dominant shrub in most areas of coastal sage scrub on the Preserve. Because it was so widespread, San Diego sunflower was not mapped within the Preserve.

Delicate clarkia (*Clarkia delicate*)

CNPS List 1B.2, San Diego County List A

Delicate clarkia occurs in San Diego County and Baja California, Mexico. It often occurs at the periphery of oak woodlands or in chaparral habitat. Due to its relatively narrow blooming period (approximately April 23 – June 13) this species may be missed during surveys because it can be difficult to see when not in bloom. Within the Preserve, this species was very widespread throughout a large north-facing slope within chaparral-coastal sage scrub ecotone or coastal sage scrub habitat in the southeastern portion of the Preserve. Most of the population in this area had not

started blooming yet during the 2010 surveys; however enough individuals were in bloom to confirm the species' identity in the field.

Palmer's goldenbush (*Ericameria palmeri* var. *palmeri*)

CNPS List 1B.1, San Diego County List B, South County MSCP Covered Species, Narrow Endemic

Palmer's goldenbush occurs in San Diego County and Baja California, Mexico. The preferred habitat of this large shrub is along coastal drainages or moist areas within chaparral, although it has also been documented from coastal sage scrub habitat. Approximately 40 Palmer's goldenbush shrubs were observed onsite in two locations next to one another near the eastern border of the Preserve just south of Pringle Creek.

Chocolate lily (*Fritillaria biflora* var. *biflora*)

San Diego County List D

Chocolate lily is distributed from Mendocino County to San Diego County and Baja California, Mexico. The preferred habitat of this species is in mesic openings of coastal sage scrub, chaparral, and grassland habitats. It is often found on clay soils, although it occurs on other soils as well, and it is often found in association with small seeps. This species is locally abundant within the Preserve on a small clay lens in non-native grassland habitat, surrounded by coastal sage scrub. Padre's shooting stars were also common on this clay lens.

Southwestern spiny rush (*Juncus acutus spp. leopoldii*)

CNPS List 4.2, San Diego County List D

Southwestern spiny rush occurs in the counties of Los Angeles, San Diego, Santa Barbara, Ventura, Orange, and San Luis Obispo as well as Baja California, Mexico. This species is generally associated with riparian drainages, wet meadows and marsh habitat. Within the Preserve, southwestern spiny rush was found scattered throughout the creek beds of Dulzura and Pringle Creeks.

Cooper's rein orchid (*Piperia cooperi*)

CNPS List 4.2, San Diego County List D

Cooper's rein orchid occurs in Los Angeles County, Orange County, Riverside County, San Bernardino County, Santa Catalina Island, San Diego County, Ventura County and Baja California, Mexico. This species is a perennial herb that blooms from March through June. The preferred habitat for Cooper's rein orchid is chaparral, cismontane chaparral, and grassland habitat. A total of five orchids were found onsite. Two were found on the north-facing slope west of the adjacent rural development in chaparral habitat, and three were found on the north-facing slope in the southeastern portion of the Preserve in chaparral-coastal sage scrub ecotone habitat.

Fish's milkwort (*Polygala cornuta* var. *fishiae*)

CNPS List 4.3, San Diego County List D

Fish's milkwort occurs in cismontane southern California and northwestern Baja California, Mexico. The species is known to occur in San Diego, Orange, Los Angeles, Riverside, and Ventura counties and Baja California, Mexico at elevations between 100 and 1,000 m. Fish's milkwort is often associated with shaded areas within cismontane woodland and riparian woodlands with coast live oak, although it also occurs in xeric and mesic chaparral habitats. Because this species is easily overlooked when not in bloom, it can be missed during plant surveys and may be more widespread than suspected. Within the Preserve, this species was observed in shady areas within the riparian woodland habitat along Dulzura Creek in the southeastern portion of the Preserve.

Engelmann's oak (*Quercus engelmannii*)

CNPS List 4.2, San Diego County List D

Engelmann's oak occurs in San Diego, Orange, and Riverside counties, on Santa Catalina Island, and in Baja California, Mexico. This species of oak may occur as isolated individuals within chaparral habitat, in southern oak woodlands where canopy cover ranges from ten to fifty percent, or in riparian woodlands where there is a closed canopy of mixed hardwood species along canyon bottoms and watercourses (Scott 1990). The Engelmann oak is often associated with alluvial fans, interior valleys, and occasionally slopes with mesic aspect (Roberts 1995). Poor reproduction is an apparent problem with this species and overgrazing, herbivory, browsing from deer, and a need for specific weather conditions for seedling establishment exacerbate this issue. Within the Preserve, more than 130 Engelmann oaks were observed on the banks of dry creeks in scrub habitat, or mixed with coast live oaks and/or riparian tree species along Dulzura Creek.

3.2.3 Rare, Threatened, or Endangered Plant Species not Observed but with High Potential to Occur

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

Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*)

CNPS List 1B.2, San Diego County List A

Robinson's peppergrass is an annual herb that grows in openings in chaparral and coastal sage scrub. Appropriate habitat for Robinson's peppergrass occurs throughout most of the Preserve.

Dehesa beargrass (*Nolina interrata*)

State Endangered, CNPS 1B.1, San Diego County List A, South County MSCP Covered Species, Narrow Endemic

Dehesa beargrass is a perennial herb that can be found in open chaparral, coastal sage scrub and on gabbro soils. This plant species responds well to fire. Appropriate habitat for Dehesa beargrass is found on the Preserve.

Morena currant (*Ribes canthariforme*)

CNPS List 1B.3, San Diego County List A

Morena currant is a shrub that is found in moist areas in southern interior chaparral. Appropriate habitat for this plant occurs in a small area of southern mixed chaparral found in the southwest portion of the Preserve along Dulzura Creek.

Munz's sage (*Salvia munzii*)

CNPS List 2.2, San Diego County List B

Munz's sage is found in chaparral and coastal sage scrub habitat. When found this plant is often the dominant plant of the area. Appropriate habitat for Munz's sage occurs throughout most of the Preserve.

Parry's tetracoccus (*Tetracoccus dioicus*)

CNPS List 1B.2, San Diego County List A, South County MSCP Covered Species

A low-growing chaparral, with moderately dense canopy cover is the typical habitat of Parry's tetracoccus. The plant species is found growing on gabbro and

metavolcanic soils. Appropriate habitat for Parry's tetracoccus occurs within the Preserve.

Rush-like bristleweed (*Xanthisma* (*Machaeranthera*) *juncea*)

CNPS List 4.3

Rush-like bristleweed is a perennial herb that is found in chaparral and coastal sage scrub habitat. This species was observed just outside the Preserve boundary.

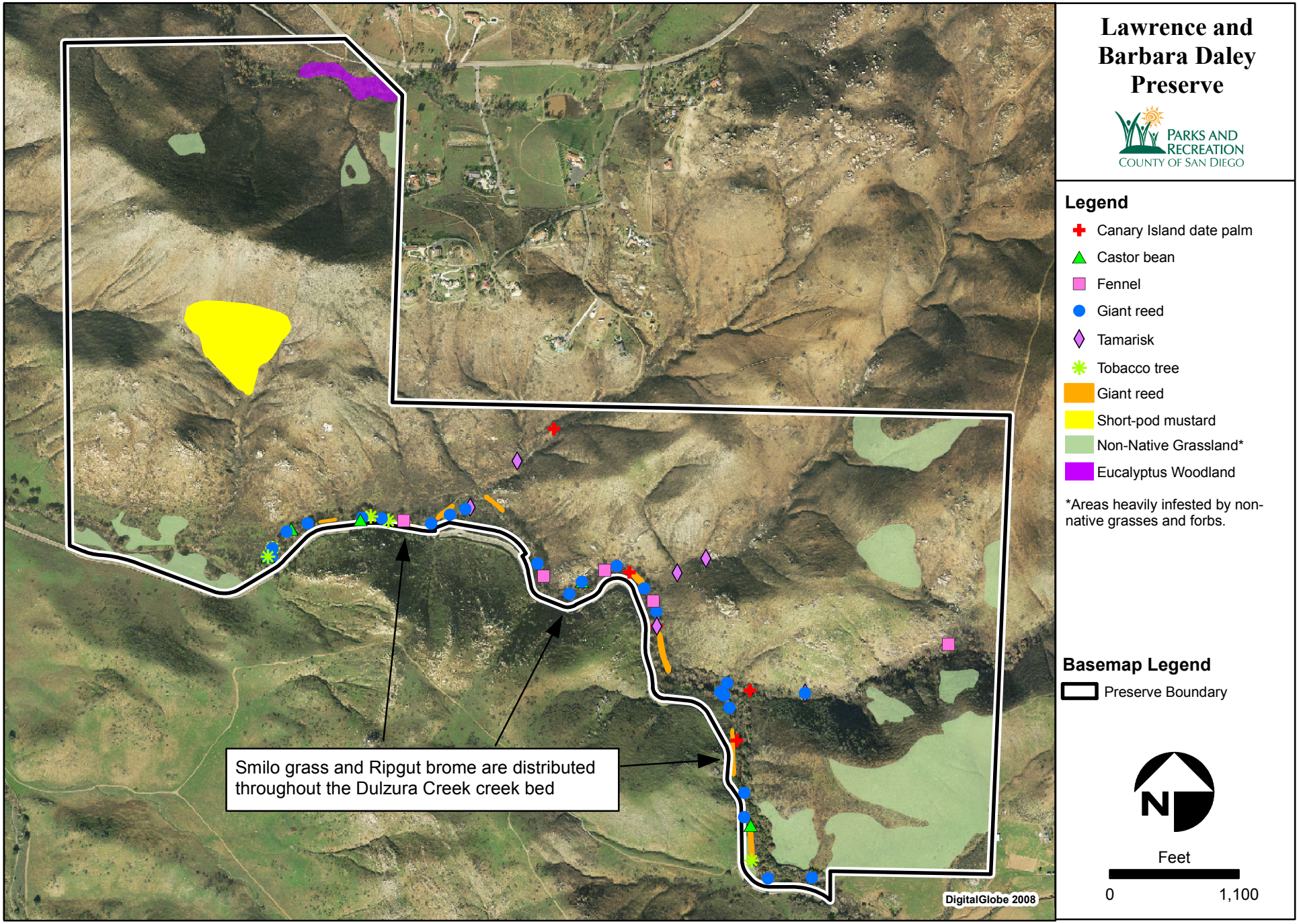
3.2.4 Non-native and/or Invasive Plant Species

A total of 11 moderate to high risk non-native invasive species, as determined by the California Invasive Plant Council (Cal-IPC), were observed on the Preserve (Table 4). With the exception of most of the grass species, the majority of these invasive species were mapped (Figure 9). The complete list of non-native plant species observed in the Preserve is included in Appendix A. Giant reed (*Arundo donax*) poses the greatest threat to the Preserve. There are numerous small to large clumps located along the entire stretch of Dulzura Creek adjacent to the Preserve. Giant reed spreads quickly, forming dense stands in riparian drainages, choking out native species, and changing the hydrological regime by reducing groundwater availability. This, in turn, results in a reduction of habitat and food supply for native birds and aquatic wildlife.

Table 4. Moderate and High Risk Non-Native Invasive Plant Species Observed on the Preserve

Common Name	Scientific Name	Cal-IPC Risk Category
Giant reed	*Arundo donax*	High
Red brome	*Bromus rubens*	High
Fennel	*Foeniculum vulgare*	High
Himalaya blackberry	*Rubus armeniacus*	High
Saltcedar (Tamarisk)	*Tamarix ramosissima*	High
Slender wild oat	*Avena barbata*	Moderate
Wild oat	*Avena fatua*	Moderate
Ripgut brome	*Bromus diandrus*	Moderate
Shortpod mustard	*Hirschfeldia incana*	Moderate
Tree tobacco	*Nicotiana glauca*	Moderate
Rattail fescue	*Vulpia myuros*	Moderate

Other moderate and high risk species mapped along Dulzura Creek include fennel (*Foeniculum vulgare*), Himalaya blackberry (*Rubus armeniacus*), and saltcedar (*Tamarix ramosissima*); however these species only occurred as isolated individuals. Ripgut brome (*Bromus diandrus*) occurred as a thick carpet along the banks of some portions of Dulzura Creek and the riparian tributary on the north side of the



Technology Associates International Corporation

Invasive Plant Species

Figure 9

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Date: Oct 05, 2010

Preserve. This species and other non-native grasses occur throughout the Preserve presumably due to the disturbance caused by the 2007 Harris wildfire. Non-native forbs also occur throughout the Preserve mixed in among the non-native grasses and native annuals and perennials. A large concentration of shortpod mustard (*Hirschfeldia incana*) was observed on the south-facing slope on the western portion of the Preserve.

3.3 Wildlife Species

3.3.1 Wildlife Species Present

Invertebrates

A complete list of invertebrate species identified on the Preserve below the level of family is included in the faunal list of the Biological Diversity Baseline Report (Appendix A). No special-status butterfly species or other invertebrate species were detected during the 2009-2010 surveys and no special-status invertebrate species have high potential to occur at the Preserve.

Butterflies

Butterfly species observed on the Preserve include funereal duskywing (*Erynnis funeralis*), marine blue (*Leptotes marina*), Edward's blue (*Hemiagris ceraunus gyas*), Acmon blue (*Plebejus acmon acmon*), Gold-hunter hairstreak (*Satyrium auretorum*), Callippe fritillary (*Speyeria edwardsii*), common buckeye (*Juonia coenia*), Gabb's checkerspot (*Chlosyne gabbii*), Anise swallowtail (*Papilio zelicaon*), western tiger swallowtail (*Papilio rutulus*), Pacific Sara orangetip (*Anthocharis sara sara*), common (checkered) white (*Pontia protodice*), and cabbage white (*Pieris rapae*).

Two potentially occurring sensitive butterfly species were identified based on habitat preferences and distribution by searching species databases: Quino checkerspot butterfly (Quino, *Euphydryas editha quino*) and Hermes copper butterfly (*Lycaena hermes*). The Harbison dun skipper (*Euphyes vestries harbisoni*) is likely not occurring on the Preserve due to lack of habitat and its host plant, San Diego sedge (*Carex spissa*).

Quino is a federally endangered species with potential to occur on the Preserve. While the Preserve is mostly open and in recovery from fire, there are portions of habitat that are potentially suitable for Quino if host plants were present. Specifically along the ridges and high points in the north where vegetative growth is limited and openness is likely a long-term condition. In addition, the species has been detected historically on the Rancho Jamul Ecological Reserve a short distance west of the Preserve (Technology Associates 2006). Currently, the County is pursuing coverage for the Quino through an amendment to the County Subarea Plan which is expected to be completed by late 2011.

The habitat assessment conducted in March 2010, consisted of floristic and topographic surveys along with focused surveys for the primary host plant for Quino, the dot seed plantain, secondary host plants for Quino, purple owl's clover (*Castilleja exserta*), and the adult nectaring sources for Quino which includes California buckwheat, forget-me-not (*Cryptantha* sp.), and evening snow (*Linanthus* sp.). While most of the chaparral is recovering from the 2007 Harris fire, a majority of it was already too dense to support Quino habitat. Other open habitats were present, but conditions varied. Areas of recovering coastal sage scrub contained very thick stands of non-native grasslands making it unlikely that Quino host plants or nectaring sources would be supported. Only small numbers and sparsely distributed dot seed plantain were detected. Overall, the majority of the survey area is considered low to marginal quality habitat. It is likely that conditions may change in the future as the Preserve recovers further from the effects of the 2007 Harris fire and with the potential for host plants or nectaring resources increasing.

The Hermes copper butterfly occurs primarily in San Diego County, California; a few species have been documented in Baja California, Mexico. It is a small, brightly-colored butterfly that lays eggs on its larval host plant, spiny redberry (*Rhamnus crocea*). Adult butterflies are known to nectar on the flowers of chamise, California buckwheat, slender sunflower (*Helianthus gracilentus*), poison oak, and short-pod mustard located among coastal sage scrub and chaparral habitat. They are rarely seen far from their host plant or nectar source. Potential threats to the butterfly may be attributable to the following factors: wildfire and habitat loss and fragmentation; inadequacy of existing regulatory mechanisms; and natural or manmade threats which include the effects of wildfire on individuals and vulnerability of isolated populations and a restricted geographical range. The species has been detected historically on the Rancho Jamul Ecological Reserve a short distance west of the Preserve (Technology Associates 2006).

Spiny redberry was observed within recovering chaparral habitat on the north-facing slope in the northwestern portion of the Preserve, just west of the rural residential development. Dominant species in this area are mission manzanita and chamise which can provide a nectar resource for this butterfly (USFWS 2010). Other dominant shrubs in this area include bush penstemon, deerweed and spice bush. It has been postulated that Hermes copper butterfly requires mature redberry to complete its lifecycle, and that frequent fires can negatively impact habitat suitability (USFWS 2010). Because the redberry and chamise are in the very early stages of fire recovery and other nectar sources (e.g., California buckwheat, slender sunflower, poison oak and short-pod mustard) were not observed in the area, the suitability of the habitat is currently fairly low. However, this may improve over time as the area recovers.

Other Invertebrates

No other invertebrate species were noted during the 2009 surveys.

Amphibians

Three frog species were identified during the surveys including: Western toad (*Anaxyrus boreas*), California treefrog (*Pseudacris cadaverina*) and Pacific treefrog (*Pseudacris regilla*). All three captures of western toad occurred at array 2 (located in the northwestern area of the Preserve in coastal sage scrub habitat), while the California treefrog and Pacific treefrog were noted during aural and visual surveys. In addition, Western toad tadpoles and treefrog tadpoles were detected in both Dulzura and Pringle Creeks during arroyo toad surveys. Breeding California and Pacific treefrogs were observed (in amplexus) during aquatic (arroyo toad) surveys.

During the aquatic surveys, vegetation within and along the Dulzura and Pringle Creeks was relatively open except for a few stands of giant reed. These creeks are recovering from the 2007 Harris Fire and typically support denser vegetation than what was observed during 2009-2010 aquatic baseline surveys.

Dulzura and Pringle Creeks were surveyed for the federally endangered arroyo toad. No toads were detected during three focused surveys along these creeks on the Preserve. Habitat suitability ranges from poor to moderate, with short stretches having secondary channels and deposits of sandy sediment. Both Dulzura and Pringle Creeks have small, intermittent pockets of sandy shore habitat, preferred by toads during the breeding season. Pringle Creek is within a narrow canyon, with little to no upland habitat for toads to forage in. Along Dulzura Creek, the canyon is slightly wider within the Preserve and contains short stretches with sandy benches and some secondary braiding of the main creek channel. These benches are heavily vegetated, lacking the open sandy habitat preferred by arroyo toads. The western, downstream section of Dulzura Creek becomes deeply channelized as the canyon opens up, making stream access unsuitable to arroyo toads. Water flowed continuously in both Dulzura and Pringle Creeks due to good rainfall during the first two surveys. During the third survey in June, Dulzura Creek exhibited little to no flow towards the western boundary of the Preserve.

Although there are historic records in Dulzura for arroyo toads (most likely in Dulzura Creek) (Madden-Smith et al. 2005), only marginal quality arroyo toad habitat exists within the Preserve. The hydrology of Dulzura Creek was altered by the completion of the Dulzura conduit in 1909, which was engineered to transport water from Cottonwood Creek (now Barrett Lake) within the Tijuana River watershed over the Dulzura summit to the Otay River watershed. Water is diverted into Dulzura Creek, via the conduit, on a “as need basis” and is not regulated to mimic natural flow. It is likely these changes in Dulzura Creek hydrology have reduced habitat quality for the arroyo toad over the years.

Significant arroyo toad populations do not exist along either Dulzura or Pringle Creeks. Arroyo toad movement across adjacent conserved open space into the Preserve is unlikely due to the channelized nature of the western portion of Dulzura Creek. Deeply channelized streams prevent secondary braiding to occur, have restrictive high banks,

and allow vegetation to become established along the stream margins. Within the Preserve, there is a lack of continuous suitable habitat, steep topography (especially in Pringle Creek) and unpredictably dynamic hydrological gradient. Arroyo toad breeding habitat appears to be minimal and, therefore, a self-sustaining population on the Preserve would be unlikely.

Reptiles

During the 2009-2010 sampling at the Preserve, seven reptile species were detected including: orange-throated whiptail (*Aspidocelis hyperythra*), western whiptail (*Aspidocelis tigris*), southern alligator lizard (*Elgaria multicarinata*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), granite night lizard (*Xantusia henshawi*), and western skink (*Plestiodon skiltonianus*).

Snake species detected within the Preserve during the 2009-2010 sampling period included: western rattlesnake (*Crotalus oreganus*), red diamond rattlesnake (*Crotalus ruber*), rosy boa (*Lichanura trivirgata*), gophersnake (*Pituophis catenifer*), common kingsnake (*Lampropeltis getula*), western threadsnake (*Leptotyphlops humilis*), Baja California coachwhip (*Masticophis fulginosus*),California whipsnake (*Masticophis lateralis*), and two-striped gartersnake (*Thamnophis hammondii*).

Birds

In total, 71 bird species were detected during the point counts and nocturnal surveys. Species most frequently detected during point count surveys include the California quail (*Callipepla californica*) (169 detections), house finch (*Carpodacus mexicanus*) (66 detections), white-crowned sparrow (*Zonotrichia leucophrys*) (50 detections), house wren (*Troglodytes aedon*) (42 detections), and California towhee (*Melozone crissalis*) (25 detections). These species, except house wren, represent a high degree of adaptability in usage of different habitats. The California quail, white-crowned sparrow, and California towhee have been found to respond positively to fire elsewhere in San Diego County (Unitt 2010). The house wren, a cavity nester and thus obligate woodland species, is a prolific breeder although somewhat affected by fire; drought can also limit their reproductive rate (Unitt 2010).

A total of 21 species were detected only once. These included many common migrant or widespread resident species of expected occurrence but frequently low detectability, such as the green heron (*Butorides virescens*) at Station 5 along Dulzura Creek. From a conservation standpoint, the most notable of these were northern harrier, Cooper's hawk, and grasshopper sparrow. The yellow warbler (*Dendroica petechia*) was detected twice, both on late April counts at Station 5, but due to lack of mature willows within the Preserve, may migrate through rather than breed on-site. The oak titmouse (*Baeolophus inornatus*), another cavity nester and thus somewhat averse to early post-fire conditions, was detected at five stations as were the acorn woodpecker (*Melanerpes formicivorus*) and Nuttall's woodpecker (*Picoides nuttallii*). All three are generally non-migratory and as such, their presence at multiple stations indicates

recovery of oak riparian forest. Six stations also reported ash-throated flycatcher (*Myiarchus cinerascens*), another cavity nester; however, this species frequently forages in areas where it does not nest (Unitt 2004). A total of 10 western scrub-jay (*Aphelocoma californica*) detections over three stations is not unusual for this nomadic species and may reflect offsite incursion since it is somewhat averse to post-fire conditions. The common yellowthroat (*Geothlypis trichas*) was detected only at Station 5 on Dulzura Creek. This species is considered a resident in the county although there is evidence of some degree of migration. Giant reed found along Dulzura Creek is largely avoided by birds but anecdotal evidence of common yellowthroat usage of this invasive species exists (Greaves 2007).

The Preserve has a minimal amount of open native grassland, mostly located in the southeast corner of the site, south of Pringle Creek, in an area that also has recovering sage scrub. Species detected in this area were rufous-crowned sparrow (*Aimophila ruficeps canescens*), Brewer's sparrow (*Spizella breweri*), savannah sparrow (*Passerculus sandwichensis* [*nevadensis* Group]), grasshopper sparrow (*Ammodramus savannarum*), blue grosbeak (*Passerina caerulea*) and western meadowlark (*Sturnella neglecta*). Also occurring in this location but detected from one other station were Cassin's kingbird (*Tyrannus vociferans*), western kingbird (*Tyrannus verticalis*), rock wren (*Salpinctes obsoletus*), and lark sparrow. A single grasshopper sparrow was detected near the Preserve boundary on 24 March at Station 6 (eastern boundary on the ridge south of Pringle Canyon).

The nocturnal survey detected two additional species, the common poorwill (*Phalaenoptilus nuttallii*) and great horned owl (*Bubo virginianus*). Station 2 produced the highest number of birds with two (2) great horned owls and three (3) common poorwills. The male/female pair of great horned owls was in coast live oak along the Honey Springs Creek drainage while the common poorwills were to the south, upslope in recovering sage scrub vegetation. Finding the male and female owls both at this location at this time of year suggests that they nested in the trees on the Preserve. At the time of the observation they could have been attending dependant young (Geoffrey Rodgers pers. comm.). Common poorwill is expected in local scrubland habitats, but seasonal status of this species in the county is not well understood. Some migrate while others become somewhat torpid with the onset of cold weather and minimal insect supply. Wetter, warmer winters, as occur in El Nino years, may prompt these individuals to call and attempt feeding thus revealing their presence (Unitt 2004). No birds were detected at Station 4. Station 6 produced only a flyover barn owl but a common poorwill was detected to the east just off the Preserve. The barn owl (*Tyto alba*) was also detected, but had been found in daylight on an earlier date. This detection is nearly a mile from the one at Station 3 and may represent a different individual. Personal comments from Mr. Garth Camp, an owner of property adjacent to the Preserve, referenced frequent sightings of barn owls at the east end of the Preserve.

Mammals

A complete list of mammal species observed within the Preserve during the 2009-2010 surveys is included in the faunal list of the Biological Diversity Baseline Report (Appendix A).

Small Mammals

In total, 14 small mammal species were recorded at the Preserve during small mammal trapping and other surveys. Of the 12 species captured using Sherman traps, San Diego pocket mouse (*Chaetodipus fallax fallax*) was the most frequent (104 captures), deer mouse (*Peromyscus maniculatus*) was second most frequent (68 captures), while the Dulzura kangaroo rat (*Dipodomys simulans*) was third (65 captures). The California mouse (*Peromyscus californicus*) was captured 53 times. In addition to these species, other captures included the cactus mouse (*Peromyscus eremicus*) (14 captures), California vole (7 captures), western harvest mouse (6 captures), California pocket mouse (*Chaetodipus californicus*) (2 captures), and brush mouse (*Peromyscus boylii*) (9 captures). The Bryant's woodrat (*Neotoma bryanti*) was captured 19 times and big-eared woodrat (*Neotoma macrotis*) seven (7) times.

Pitfall traps, used primarily for herptofauna sampling, also sample for small mammals not readily captured by Sherman traps. The desert shrew was captured once, by bucket, at Array 3 located adjacent to Dulzura Creek. The California vole was detected at Plots 3, 9, 12 and 13. This is another species that is mostly captured in pitfalls.

Medium and Large Mammals

A total of five medium and large mammal species were detected in the Preserve through camera stations, tracks, sign, and nocturnal surveys: California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), desert cottontail (*Sylvilagus audubonii*), coyote (*Canis latrans*), raccoon (*Procyon lotor*), and southern mule deer (*Odocoileus hemionus fuliginata*). The number of species detected was less than anticipated, possibly due to the 2007 Harris Fire. This fire burned approximately 20% of the Preserve; the majority of the southwestern portion.

Bats

A total of 12 bat species were detected using passive Anabat surveys during the three seasons of bat monitoring. The most active species included the big brown bat (*Eptesicus fuscus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), and Yuma myotis (*Myotis yumanensis*). Sensitive bat species detections included the Townsend's big-eared bat (*Corynorhinus townsendii*), western red bat (*Lasiurus blossevillii*), pocketed free-tailed bat and western mastiff bat (*Eumops perotis*).

The Preserve supports a high number of bat species including multiple sensitive species. Two of the three foliage roosting bat species (bats of the genus *Lasiurus*) found in San Diego County was detected on site. Crevice and cave roosting species, such as Mexican free-tailed bat, was detected as well. The variety of bat species with diverse ecological needs detected on site indicates the Preserve is quite supportive of bats in general. This is likely due to the presence of a diversity of undisturbed habitats on site that bats are known to utilize in southern California (Krutzsch 1948, Stokes et al 2005). These habitats include riparian woodland, oak woodland, exposed rocky outcrops, cliffs, boulder caves, scrub-covered hillsides and ridges, and a near-permanent water source -Dulzura Creek.

3.3.2 Rare, Threatened, or Endangered Wildlife Species Present

This section discusses special-status wildlife species observed at the Preserve (Figures 10 and 11). A special-status wildlife species is one listed by federal or state agencies as threatened or endangered; is included on the County's Sensitive Animal List (Group 1 or 2 Species); or is covered under the South County MSCP. Nineteen special-status wildlife species were detected at the Preserve. Each of these 19 species is addressed below in more detail.

Orange-throated Whiptail (*Cnemidophorus hyperythrus beldingi*)

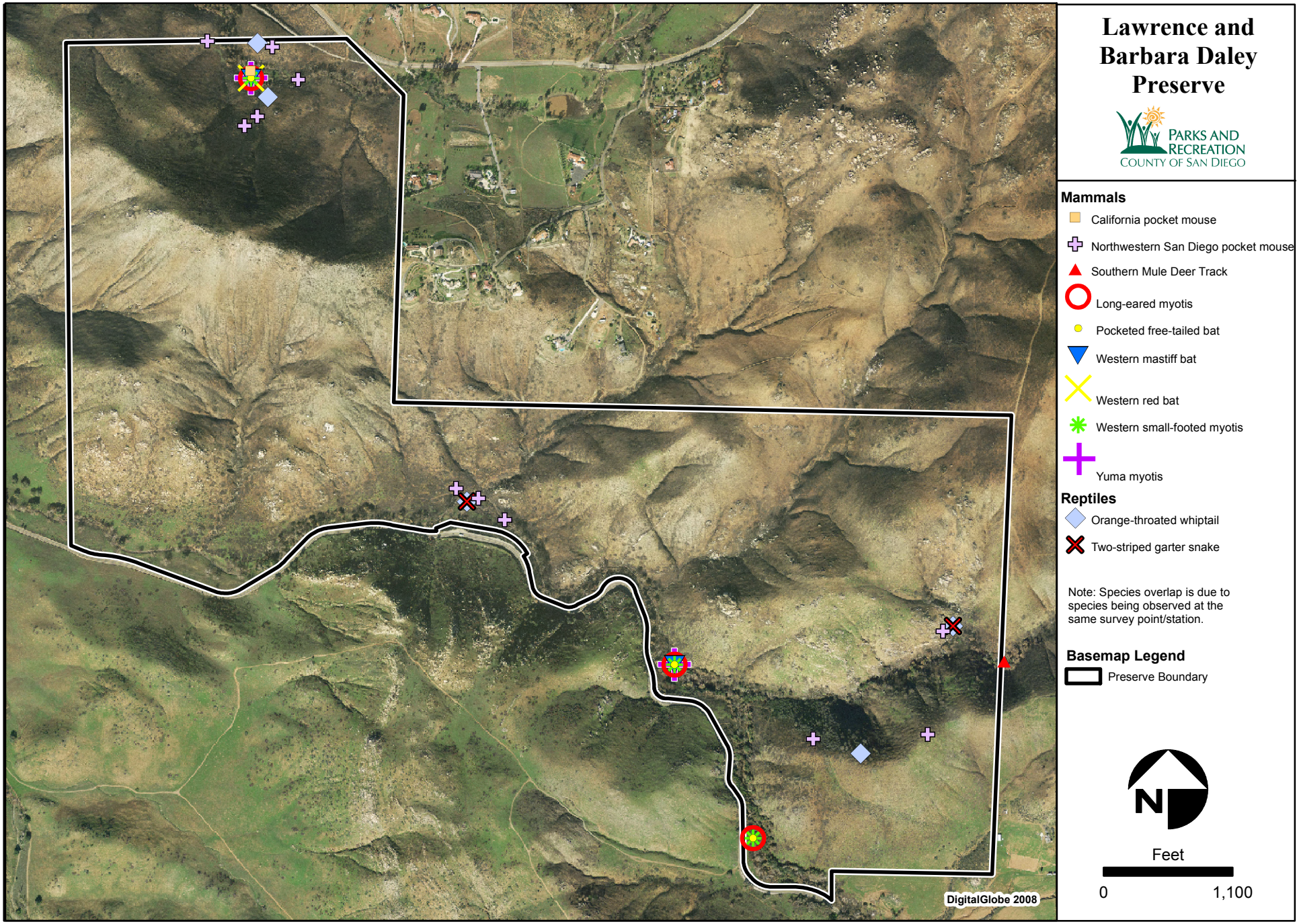
State Species of Special Concern, San Diego County Group 2, South County MSCP Covered Species

The orange-throated whiptail inhabits low-elevation coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitats. This species is restricted to the extreme southwest of California and northwest of Baja California Norte, Mexico (Stebbins 2003). In California, it is found on the west side of the Peninsular Ranges between sea level and 3,000 feet, in Los Angeles, San Bernardino, Orange, Riverside and San Diego counties (Zeiner et al. 1988). It is still locally common in many areas where it remains. The principal threat to the orange-throated whiptail is degradation and loss of habitat, however it is also impacted by off-road vehicle activity, over-grazing by livestock, and predation by introduced predators (e.g., cats and dogs) (San Diego Herpetological Society 1988). A limiting factor to the species' range is the availability of its primary food item, the termite (*Reticulitermes hesperus*). Within the Preserve, the orange-throated whiptail was captured at all pitfall arrays.

Red diamond rattlesnake (*Crotalus ruber ruber*)

State Species of Special Concern, San Diego County Group 2

Although red diamond rattlesnake is recorded from a number of vegetation types, it is most commonly associated with heavy brush with large rocks or boulders. Dense chaparral in the foothills, cactus or boulder associated coastal sage scrub, and desert slope scrub associations are known to carry populations of red diamond rattlesnake,



Technology Associates International Corporation

Sensitive Reptile and Mammal Species

Figure 10

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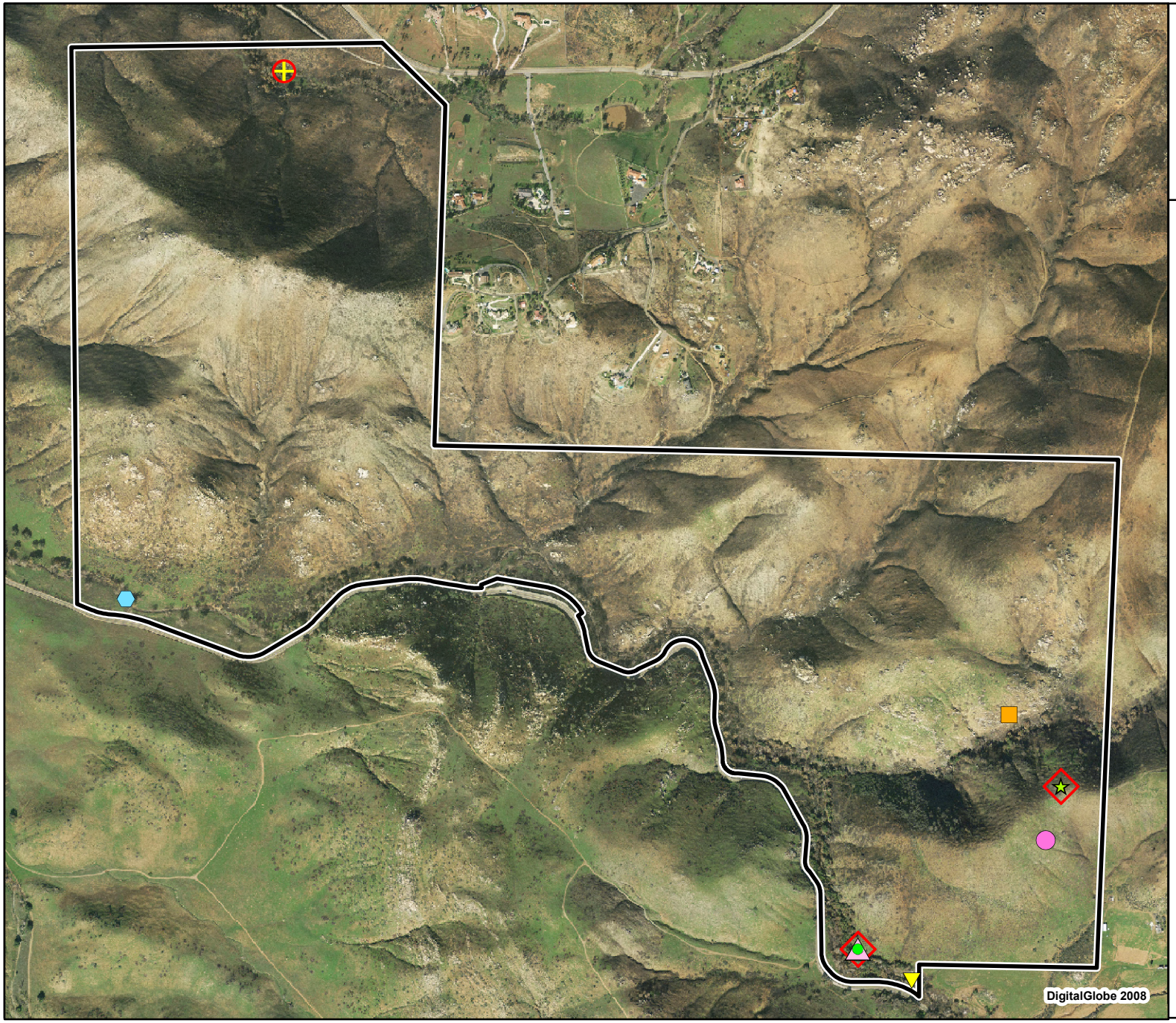
Date: Jan 04, 2011



Lawrence and Barbara Daley Preserve

PARKS AND RECREATION
COUNTY OF SAN DIEGO

Legend

- Barn owl
- Cooper's hawk
- Grasshopper sparrow
- Great horned owl nest
- Green heron
- Northern harrier
- Red-shouldered hawk
- Southern California rufous-crowned sparrow
- Western bluebird
- Yellow warbler

Note: Species overlap is due to species being observed at the same station.

Basemap Legend

- Preserve Boundary

N

Feet

0 1,100

Technology Associates International Corporation

Sensitive Bird Species

Figure 11

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Date: Jan 04, 2011

however, chamise and red shank associations may offer better structural habitat for refuges and food resources for this species than other habitats. The known range of red diamond rattlesnake extends from Pioneertown and Morongo Valley in San Bernardino County southward on both coastal and desert sides of the Peninsular Ranges and the Santa Ana Mountains in California southward to Loreto, Baja California.

The elevation range of the species is from near sea level to 4,987 feet (1,520 meters) (Palomar Mountain), though it is most frequently encountered below 3,937 feet (1,200 meters). Rattlesnakes inhabiting high altitudes are characteristically smaller than lowland forms. The red diamond rattlesnake observed at the Preserve was a road-kill observation along Honey Springs Road. This incidental observation was not recorded by GPS; therefore the species is not displayed on the sensitive species figure.

Two-striped gartersnake (*Thamnophis hammondii*)

State Species of Special Concern, San Diego County Group 1

The two-striped gartersnake is distributed from central California to Baja California (SDNHM 2008). In southern California it occurs from the coast to the mountains and is usually found in riparian habitat in or near sources of freshwater, including streams, ponds, and lakes. Its preferred diet consists of small fish, tadpoles, frogs, toads, and insect larvae. However, small mammals and invertebrates such as leeches and earthworms are also taken (Fitch 1941, Nussbaum et al. 1983, Rathburn et al. 1993). The breeding season for this live-bearing species begins in April or May, and continues through the summer (SDNHM 2008). The species is now common only in eastern San Diego County and populations are threatened by habitat elimination, predation by raptors, and introduced species including bullfrogs, fish, and feral pigs (Jennings and Hayes 1994). Within the Preserve, two striped gartersnakes were captured at arrays 3 and 5 (central and eastern areas respectively).

Barn owl (*Tyto alba*)

San Diego County Group 2

The barn owl is the most widely distributed species of owl and is ubiquitous in North America. This bird is a nocturnal hunter preying on small mammals, especially mice, rats and other rodents. A cavity nester and year round resident (non-migratory), this bird prefers open grassland habitat, marshes, deserts, agricultural fields, or any open area that would support populations of small mammals. The barn owl was observed along Dulzura Creek in the western portion of the Preserve.

Cooper's hawk (*Accipiter cooperii*)

State Watch List, San Diego County Group 1, South County MSCP Covered Species

The Cooper's hawk is distributed throughout much of the United States from southern Canada to northern Mexico. It is a regular nesting species in San Diego County. This

species has previously been closely associated with oak woodland, and the densely foliaged crowns of the coast live oak remain a favored site for Cooper's hawks to place their nests. Recently, however, Cooper's hawks have adapted to the urban environment and often nest in eucalyptus trees. Additionally, they can be observed foraging in many types of upland and riparian habitats. Habitat loss, pesticide contamination, and human disturbance at the nest site limit this species population sizes (Remsen 1978). Within the Preserve, Cooper's hawk was observed at point count station 5 (southwest area).

Grassshopper sparrow (*Ammodramus savannarum*)

State Species of Special Concern, San Diego County Group 1

The grasshopper sparrow is an inconspicuous species of open grassland (Vickery 1996). Males of the species are easily seen during breeding season when they sing from prominent stalks of grass or occasionally shrubs within grassland. Historically, in southern California, they were found with perennial bunchgrasses, which have now been largely converted to annual, non-native grasses. The species adapted to this new habitat in many cases, but non-native grasslands have now been lost to urban development thus leaving the grasshopper sparrow greatly reduced in number (Unitt 2004). Its status outside of breeding season is not clear and winter records away from breeding areas are frequent enough to indicate some degree of migration (Unitt 2004). Within the Preserve, a single grasshopper sparrow was detected along the eastern boundary near the southeast corner near Station 6 (eastern area).

Green Heron (*Butoroides striatus*)

Federal Migratory Bird Treaty Act, San Diego County Group 2

A terrestrial bird which forages in water, the green heron constructs nests in trees (i.e. willow) and shrubs along the edges of marshes, larkes, rivers or ponds (Ehrlich et al. 1988). Mature riparian forests are needed as habitat for these species. The diet of the green heron includes aquatic invertebrates (such as crawfish), fish, earthworms, snakes and even small mammals (such as mice). While the green heron in migratory in other parts of North America (including the east coast), it is a year-round resident in southern California. The species was observed at point count station 5 (southwest area).

Northern harrier (*Circus cyaneus*)

State Species of Special Concern, San Diego County Group 1, South County MSCP Covered Species

The northern harrier is distributed throughout North America and Eurasia (Johnsgard 1988). Northern harriers breed from northern Alaska and Canada, south into roughly the northern two-thirds of the western United States, and the northern one-third of the eastern United States. Wintering harriers utilize the southern portion of the breeding

range and extend farther south into Central America. San Diego County lies at the southwest edge of the harrier's breeding range in North America (Johnsgard 1988). Northern harrier is an uncommon to fairly common winter visitor and rare and local summer resident in the coastal lowlands of San Diego County (Unitt 2004). Harriers breed in marshes and grasslands and forage in grasslands, agricultural fields, wetlands, and open coastal sage scrub. Home ranges and breeding territories are variable in size and probably reflect differing habitat resources (Johnsgard 1988). Harriers have declined in California in recent decades but can be locally abundant where suitable habitat remains free of disturbance, especially from intensive agriculture (Zeiner et al. 1990). The breeding population, especially in coastal southern California, is reduced because of destruction of native wetland, meadow, and grassland habitats, and burning and plowing of nesting areas during early stages of the breeding cycle (Remsen 1978). The species was observed in the southeastern portion of the Preserve on a south-facing slope foraging in non-native grassland.

Red Shouldered Hawk (*Buteo lineatus*)

San Diego County Group 1

The red-shoulder hawk has a wide distribution across the eastern United States but in the west is limited to the coastal areas. This raptor feeds primarily on small mammals and reptiles (including snakes and lizards). Nesting occurs in tall trees (such as sycamore or non-native eucalyptus) and open grasslands are required for foraging. This species is widely distributed throughout San Diego County and often found in association with the closely related red-tailed hawk. The species was observed in the southwestern portion of the Preserve.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)

State Watch List, San Diego County Group 1, South County MSCP Covered Species

The southern California rufous-crowned sparrow is a common resident of scrub habitats of the coastal plain and foothills of southern California and Baja California, Mexico. It is locally common in open coastal sage scrub in San Diego County, and often occurs on slopes that are steep, sparsely vegetated, and rocky or recently burned. Urban development is greatest threat to this species due to the loss, degradation, and fragmentation of coastal sage scrub habitat and associated edge effects. Within the Preserve, southern California rufous-crowned sparrow was detected on the rocky slopes north of Pringle Creek near Station 6 (eastern area).

Western bluebird (*Sialia mexicana*)

San Diego County Group 2, South County MSCP Covered Species

The western bluebird is a common cavity-nesting songbird of oak woodland and pine forests throughout the western United States. It breeds in open woodlands of oaks,

riparian deciduous trees, or conifers with herbaceous understory, and winters in a wide variety of open habitats at elevations below 4,000 feet. Bluebirds breed from the eastern reaches of lowland coastal valleys such as Lake Hodges, along the San Diego River east of Santee, and drainages east of Otay Reservoir, up through the foothills and montane areas where suitable habitat occurs. This species is vulnerable to competition with more aggressive introduced species (e.g., European starling, and house sparrow, *Passer domesticus*) for scarce nesting cavities (McLaren 1963, Zeleny 1969, Patterson 1979). However, in San Diego County, this species appears to be extending its range, successfully colonizing urban areas and adapting to novel nest sites such as nest boxes and certain species of palms (Unitt 2004). Within the Preserve, western bluebird was observed at point count station 2 (northern area).

Yellow warbler (*Dendroica petechia*)

State Species of Special Concern, County Group 2

The yellow warbler breeds throughout most of San Diego County (Green 2005). In southern California, yellow warblers breed in riparian woodlands in the lowlands and foothill canyons (Garrett and Dunn 1981, Lehman 1994, Roberson and Tenney 1993, Unitt 2004). They typically occur in riparian forests that contain cottonwoods, sycamores, willows, or alders (Stephenson and Calcarone 1999). The breeding season of yellow warbler generally begins in May and can last to August. Available data show a strong tendency for breeding- and wintering-site fidelity over successive years (Lowther et al. 1999). Nest parasitism by brown-headed cowbirds has been strongly implicated as a cause of yellow warbler population declines in coastal lowland and foothill riparian areas of southern California (Garrett and Dunn 1981, Stephenson and Calcarone 1999, Unitt 2004). Within the Preserve, yellow warbler was detected at point count station 5 (southwestern area).

California pocket mouse (*Chaetodipus californicus femoralis*)

State Species of Special Concern, San Diego County Group 2

The California pocket mouse is distributed from San Francisco Bay south to the border of Mexico, east to the edge of the Central Valley and from Auburn south along the foothills of the Sierra Nevada, and west across the Tehachapi Mountains to the coast (Brylski 2005). It is found in a variety of habitats year-round, including coastal scrub, chamise-redshank and montane chaparral, sagebrush, annual grassland, valley foothill hardwood, valley foothill hardwood-conifer, and montane hardwood habitats at elevations from sea level to 7,900 feet (2,400 m) (Brylski 2005). The species occurs in brushy areas but probably is attracted to grass-chaparral edge (Brylski 2005). Grazing of grassland by domestic stock has eliminated cover necessary for predator avoidance (Brylski 2005). The species was captured in the northern portion of the study area on a north-facing slope by a small strip of the oak woodland, under oaks in leaf litter and sparse patches of grass/forbs.

Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)

State Species of Special Concern, San Diego County Group 2

The northwestern San Diego pocket mouse distribution area includes the eastern San Gabriel Mountains in the interior to near San Onofre on the coast (Lackey 1996), and south into Baja California. It is found in coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland habitats (Brylski 2005). The availability of shelter provided by rocky slopes or habitats may increase species abundance (Lackey 1996). The San Diego pocket mouse generally exhibits a strong microhabitat affinity for moderately gravelly and rocky substrates (Bleich 1973, Price and Waser 1984). San Diego pocket mouse appears to be sensitive to habitat fragmentation and degradation. Data collected by Bolger et al. (1997) suggests that isolated habitat patches must be at least 62 acres (25 ha) to 198 acres (80 ha) to sustain native rodent populations. The species is abundant across the Preserve.

Long-eared myotis (*Myotis evotis*)

San Diego County Group 2

The long-eared myotis is a small brown bat of the *Vespertilionidae* family with long black ears. This bat is often found roosting in caves and crevices and also in man-made structures such as mines, bridges, and drainage culverts. Often referred to as “evening bats” this species, like other *Myotis,* emerges at dusk and feeds primarily on small insects and spiders. Small maternity colonies are formed in the spring and bats will care for a single young. The long-eared myotis was detected at all three Anabat stations during passive surveys.

Pocketed free-tailed bat (*Nyctinomops femorosaccus*)

State Species of Special Concern, San Diego County Group 2

The pocketed free-tailed bat is rare in California, but is found in Riverside, San Diego, and Imperial counties (Harris 2005). Habitats frequently used by this species include pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oasis (Harris 2005). The pocketed free-tailed bat prefers rock crevices in cliffs as roosting sites (Harris 2005). The pocketed free tailed bat was confirmed during both fall and summer bat surveys at all Anabat stations. This is indicative of active foraging throughout the Preserve.

Western Small-footed Myotis (*Myotis ciliolabrum*)

San Diego County Group 2

The western small-footed myotis is distributed throughout most of the western U.S. and into Mexico. This bat is generally a solitary rooster with the exception of maternity colonies which form in the spring. This species roosts in rock crevices, abandoned mines, caves, or buildings. The western small-footed myotis has an insectivorous diet and feeds primarily on beetles and moths. This species, like most bats, requires open water for drinking and foraging. It is often found associated with chaparral vegetation communities. This species was found at all three Anabat stations during passive surveys.

Townsend's big-eared bat (*Corynorhinus townsendii*)

State Species of Special Concern, San Diego County Group 2

The Townsend's big-eared bat occurs throughout the western United States, including California, Nevada, Idaho, Oregon, and Washington, from near sea level to elevations well above 10,367 feet (3,160 m) (Nagorsen and Brigham 1993, Pearson et al. 1952). In California, the details of its distribution are not well known (Harris 2005). The species is most abundant in mesic habitats (Harris 2005). The Townsend's big eared bat roosts in caves, mines, tunnels, buildings, or other human-made structures (Harris 2005). The species may use separate sites for night, day, hibernation, or maternity roosts (Harris 2005). A high degree of site fidelity (more than 80 percent) has been noted for this species (Humphrey and Kunz 1976, Pierson et al. 1999). This species is extremely sensitive to disturbance of roosting sites and a single visit may result in abandonment of the roost (Harris 2005). This species has a very low (kHz) call compared with many other species of bat. For this reason, the frequency range of a stationary anabat detector is often set too high. Often found at the bottom range of detections, Townsend's big eared bat can be hard to distinguish; a confirmed call is rarely collected by a stationary anabat detector. The best way to confirm presence of this species is to perform focused surveys using an active survey technique (usually a walking survey) with an anabat with sensitivity set to a lower frequency. An echolocation call resembling this species was recorded at Anabat Station 1 and 2 during passive surveys. However, because these are not confirmed identifications, they are not displayed on Figure 10.

Western mastiff bat (*Eumops perotis*)

State Species of Special Concern, San Diego County Group 2

The western mastiff bat is primarily known from low to mid elevations in southern and central California southeast to Texas and south to central Mexico (Best et al. 1996). This species is a year-round resident in California (Philpott 1997). The species is found in desert scrub, chaparral, mixed conifer forest, giant sequoia forests, and montane meadows (Philpott 1997). The western mastiff bat is non-migratory and a year-round

resident, though, in San Diego, it does not enter torpor in the winter like other non-migratory species. It requires large bodies of flat water for drinking sites. Day roosts are generally found in areas with rugged, rocky canyons and cliffs (Best et al. 1996). Western mastiff bat populations in California are believed to have undergone significant declines in recent years, due primarily to extensive loss of habitat by urbanization and widespread use of insecticides (Williams 1986). Other factors likely contributing to their decline include loss of large open water drinking sites, pest control operations in structures and activities that disturb or destroy cliff habitat (e.g. water impoundments, highway construction, quarry operations, recreational climbing) (Texas Parks and Wildlife 2003). The western mastiff bat was detected within the Preserve during fall surveys at Anabat Stations 1 and 2 (northern and southwestern areas).

Western red bat (*Lasiurus blossevillii*)

State Species of Special Concern, San Diego County Group 2

The western red bat occurs in western Canada, western United States, western Mexico, and Central and South America (Harvey et al. 1999). There is little information on the distribution and relative abundance of this species in southern California, but it is a migratory species (Stephenson and Calcarone 1999). This bat is associated with large deciduous trees in riparian habitat and often occurs in streamside habitats dominated by cottonwood, oaks, sycamore, and walnut (Bolster 1998, Harvey et al. 1999). This species is primarily a solitary species that roosts in the foliage of trees and shrubs in habitats bordering forests, rivers, cultivated fields, and urban areas (Harvey et al. 1999). The western red bat forages over a wide variety of habitats including grasslands, scrublands, open woodlands and forests, and croplands (Harris 2005). The species does not form colonies and is difficult to find and census. The western red bat was detected within the Preserve at Anabat Station 1 during summer surveys and may have been detected at Anabat Stations 2 and 3 during fall surveys based on recorded echolocation calls resembling this species. This species has a call that can sometimes be confused with other species and it can be hard to confirm detection. Western red bat was confirmed from Anabat Station 1 which is displayed on Figure 10. Because detections at Anabat Stations 2 and 3 were inconclusive, these are not displayed on Figure 10.

Yuma myotis (*Myotis yumanensis*)

San Diego County Group 2

The Yuma myotis is widely distributed across western North America and found as far east as Colorado. This species is very closely associated with open water sources such as streams, ponds, lakes and wells. For that reason they are often found in riparian woodlands but can also be found in deserts regions and juniper woodlands if near a water source. This *Myotis* sp. feeds on insects including moths, beetles, cattisflies and other small insects (Whitaker 1996). The Yuma myotis roosts in a variety of locations including caves, attics, buildings, mines, palm trees (in the skirts), underneath bridges,

and other structures. This species migrates south for the winter, but very little is known about its migration patterns or wintering areas. The Yuma myotis was detected within the Preserve at Anabat Stations 1 and 2 (northern and southwestern areas).

Southern Mule Deer (*Odocoileus hemionus fuliginata*)

San Diego County Group 2, South County MSCP Covered Species

Mule deer are presently widespread throughout undeveloped portions San Diego County, although their numbers may be declining in the county. Deer require relatively large, undisturbed tracts of chaparral, coastal sage scrub, and mixed grassland/shrub habitats. The southern mule deer is not threatened with extinction within its range, but roads are a significant source of direct mortality and habitat fragmentation. Additionally, mule deer are an important prey for mountain lions. Incidental observation of mule deer, including tracks and scat, occurred at many locations throughout the study area, specifically along Dulzura and Pringle Creeks; mule deer tracks were recorded using GPS at the eastern boundary of the Preserve.

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

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

Coronado Skink (*Eumeces skiltonianus interparietalis*)

State Species of Special Concern, San Diego County Group 2

This species has the potential to occur in chaparral habitat found on the Preserve.

Southern Grasshopper Mouse (*Onychomys torridus Ramona*)

State Species of Special Concern, San Diego County Group 1

This species has high potential to occur throughout the Preserve due to historic captures at Dulzura Creek.

Mountain Lion (*Puma concolor*)

San Diego County Group 2, South County MSCP Covered Species

This species has potential to occur within the Preserve because mountain lions have been documented to the west on Rancho Jamul Ecological Reserve. In addition, mountain lions probably use Dulzura Creek as a movement corridor and for foraging.

3.3.4 Non-native and/or Invasive Wildlife Species

Two non-native or invasive bird species were detected during the surveys: brown-headed cowbird (*Molothrus ater*) and European starling (*Sturnus vulgaris*). The brown-headed cowbird was detected once near point count Station 2 along Honey Springs Creek. Brown-headed cowbirds are brood parasites and are known to parasitize more than 220 host species (Muehter 2008). Expansion of the species has resulted in range-wide declines in populations of susceptible songbirds, including the willow flycatcher, Bell's, Cassin's and warbling vireos, blue-gray gnatcatcher, and yellow warbler (Unitt 2004). Cowbirds numbers on the Preserve may increase with post-fire recovery. The European starling is a European bird that has naturalized in the U.S. While it affects cavity nesting birds and can have an impact on the native avifauna it is not considered a threat at the Preserve because it does not occur in abundance and does not seem to have colonized the Preserve.

3.4 Overall Biological and Conservation Value

The Preserve is adjacent to the South County MSCP designated Otay Mountain/Jamul Mountains to Sycuan Peak Habitat Linkage. This linkage provides a connection between the McGinty Mountain/Sequan Peak-Dehesa and Otay Mountain/Marron Valley Conserved Areas. The Preserve provides an important open space linkage between preserved lands, including California Department of Fish and Game's Rancho Jamul Ecological Reserve and Hollenbeck Canyon Wildlife Area to the north of the Preserve, and BLM conserved open space to the south of the Preserve.

The habitat evaluation map ranks habitat areas as Very High, High, Moderate, or Low based on their potential to support priority coastal California gnatcatcher habitat, and wildlife corridors. According to the MSCP Habitat Evaluation Model, the majority of the habitat within the Preserve is rated as very high to high value with the northeast area rated as medium in value. However, due to the 2007 Harris wildfire and the current recovery stage of coastal sage scrub habitat, the current habitat value on-site is considered low.

The native grassland, southern riparian woodland, and coast live oak woodland within the Preserve is considered MSCP Tier I habitat and supports several special status species including Cooper's hawk and southern California rufous-crowned sparrow. Coastal sage scrub is found covering a majority of the Preserve and is considered MSCP Tier II habitat and supports San Diego sunflower, Southwestern spiny rush, Engelmann oak, and northwestern San Diego pocket mouse. Coastal sage – chaparral scrub is located in the southeastern portion of the Preserve and is considered MSCP Tier II habitat and supports Cooper's rein orchard, southwestern spiny rush, Delicate clarkia, Engelmann oak, San Diego needlegrass, San Diego sunflower, and orange-throated whiptail.

3.4.1 Wildlife Linkages and Corridors

The Preserve does not fall within an identified linkage for either the South County MSCP or the South Coast Wildlands Missing Linkages Project. Although it does not fall within a designated linkage area, the Preserve does contribute to overall landscape and habitat connectivity. It is in close proximity to conserved lands, lands which are a priority for conservation, undeveloped, and open space lands. For example, the Preserve provides linkage between sparsely inhabited areas to the east and the Hauser Wilderness Area of the Cleveland National Forest and westward toward Hollenbeck Canyon and the Rancho Jamul Ecological Reserve (Conservation Biology Institute 2003). The Preserve provides optimal topography, and with post-fire recovery will provide habitat for facilitating animal movement across its boundaries.

Most highly mobile animals seek cover when moving across the landscape as well as topographic and vegetative features that offer essential resources. Highly mobile mammals, such as coyote, southern mule deer, bobcat, and raccoon will preferentially travel along riparian corridors because of the vegetative cover and access to water. Dulzura, Honey Springs, and Pringle Creeks run through the Preserve and provide easily-traversed habitat features between lands to the west and east. The three creeks flow westward from private lands to the east and southeast before reaching the Preserve.

In this way, conservation of the Preserve increases the size of the linkage and increases overall landscape permeability while decreasing the edge effects apparent in many linkages (Hilty et al. 2006). Conservation of the Preserve contributes to overall habitat connectivity in the region (Noss and Daly 2006).

4.0 CULTURAL RESOURCES

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

In 2009, an archaeological survey was completed for the Preserve in compliance with the California Environmental Quality Act (CEQA) and County environmental guidelines to assist in continued and future land use and resource protection planning. The results of this study can be found in the report titled *Cultural Resources Phase I Survey and Inventory, Lawrence and Barbara Daley Preserve, Dulzura, San Diego County, California*, dated February 2010, and is attached as Appendix B. This Phase I inventory involved site records searches, literature reviews, Native American consultation, historic map checks, field survey, and resource documentation. The survey and inventory results were used in the preparation of this RMP.

4.1 Site History

The Lawrence and Barbara Daley Preserve is located within the eastern section of the historic Rancho Jamul. When the Spanish first came to the area, many of the natives grouped together in what the newcomers called "rancherias," and among such was a settlement known as Jamul (the Southern California Rancher 1944). The settlement was part of a much larger village dating back before Spanish contact. The place-name Jamul appears on a map of major Indian villages, circa 1790 (Carrico 2008). This is the earliest known use of the name. "Jamul" also appears on a map of the San Diego District dated 1800 (Bancroft 1886). The Jamul Village area is approximately six kilometers to the southwest of the Preserve.

Upon the establishment of the missions in the area, most of the native population was removed from their native lands and relocated to missions for "cultural conversion" (de Barros et al 1998). The Spanish saw the natives as existing without law or religion, living in unorganized settlements with little apparent sense of Spanish moral decency (de Barros et al 1998). By 1820, the native inhabitants of Jamul, specifically, had all been removed to the local mission. In March of 1829, Governor Jose Maria Echeandia allowed padres to provisionally occupy the rancho of Jamul (Bancroft 1886).

Pío Pico received 8,926 acres at Rancho Jamul in 1829 (Brackett 1960), and the grant was confirmed to Pico in 1831. He promptly built an adobe house on site and sent cattle out to graze (Patent 1876). Pico was one of the early revolutionists in California, intending to stand up for the rights of the individual as a means to gain political advancement (Cole 1978). His persistence led to his first land grant at Jamul and thereafter became governor in California (Cole 1978). After the Americans took over control in California, Pico took every opportunity to embrace American ideals and used his money and influence to promote progress and order (Cole 1978). Pico's main residence is located near Los Angeles and it is likely that he spent little time at the ranch house in Jamul (Cole 1978).

Pío Pico still technically owned the rancho in 1850, although Philip Crosthwaite and his father-in-law Bonifacio Lopez occupied the land and built another adobe house further northeast up Jamul Creek from the original and obtained more cattle (de Barros et al 1998). Ownership was cloudy on the property between 1851 and 1853, when Lopez and Crosthwaite sold the ranch to Colonel Henry S. Burton, although the deed still belonged to Pico (de Barros et al 1998). Burton and his wife, María, moved into the house built by Lopez and Crosthwaite, which was located near the junction of Dulzura and Jamul Creeks (de Barros et al 1998). The Burton family lived on the ranch until 1859, when the Colonel was ordered to the east coast.

Rancho Jamul changed hands many times over the next few years with a majority of the land used for livestock grazing and stock farming. There was also a limited amount of grain and hay cultivated on some ranches. Most of the land, however, was left undeveloped except for a few farmhouses, the Burton's adobe and

outbuildings. The entire Rancho came under the control of the Southern California Mountain Water Company (SCMW) in the late 1890s. The company was the part of the John D. Spreckels Empire. The SCMW's focus was agricultural development, and under Spreckels' ownership experiments in cattle feed were conducted (de Barros et al 1998). Spreckels had a special relationship with the area Indians, many of whom worked for him on several Coronado projects, including the construction of the Hotel Del Coronado in 1886. Learning that the Jamul Indians were considered squatters on their own land and that Indians were at risk of becoming homeless, Spreckels deeded land to the Catholic Church to be held in trust for the Jamul Kumeyaay (Carrico 2008). The Jamul Rancho was sold to San Diego Mayor Louis Wilde in 1916, who wanted to convert it into a dude ranch and movie studio and then to R. H. Morey in 1926 (de Barros 1998).

After the failed dude ranch attempt, a portion of the ranch was planted with Turkish tobacco and ownership transferred to Rube Harris (Gunn 1944). Harris sold the property to Judson & Robinson and then to Baron Long in 1924. Gunn (1944) mentions the existence of several other adobe structures on the property in addition to the restored ranch house as part of the original (Pio Pico) occupation, as well as "…a group of very ancient eucalyptis [sic] trees is near the house, as well as one of the oldest and tallest palm trees in all California."

Daley Ranch

Mr. George R. Daley and his wife, Jeanette, started a paving business in 1919, after their marriage the same year (Flanigan 2001). George R. Daley and Jeanette E. Daley purchased a home at 4231 Witherby Street in Mission Hills in 1928 (Flanigan 2001).

Mrs. Daley was a partner in the business and did not hesitate to participate in the everyday workings of the company. The two of them founded the Daley Corporation in 1922, with Jeanette as a full partner and contractor. Jeanette later ran for California State Assembly from the 78th District in 1936, and won. She was easily re-elected in 1938 and 1940 and was important to the creation of over 100 laws and measures in the State Assembly (Flanigan 2001).

The Daley Corporation was essential to the early development of San Diego, as they built roads and sidewalks for the Silver Strand in Coronado, the neighborhood of Mission Hills, and throughout San Diego (Flanigan 2001, SOHO San Diego).

The Daley's purchased the Jamul property in 1929 from the R. H. Morey Organization and had the old ranch house restored in appreciation for the historical value of the structure. The ranch house was even designated as a historical monument by the Native Sons of the Golden West in 1938 (Gunn 1944).

They raised purebred Angus cattle on the ranch, while maintaining the extremely successful paving business in San Diego (Flanigan 2001, de Barros et al 1998). Little of note happened at the ranch until a large fire broke out in 1944. Thousands

of dollars worth of damage resulted from the fire, including the loss of 1,500 tons of hay, which was the main supply for the 1,200 cattle owned by the Daley's on three different ranches in San Diego County (de Barros et al 1998).

The Daley family also owned property in Rancho Bernardo and Escondido in addition to the ranch at Jamul. The property at Rancho Bernardo was originally part of the Mexican land grant for 17,763 acres, which was slowly subdivided and sold until the early 1920's when George Daley began working the land under lease (Rossi 2006). The Rancho Bernardo property was an operating ranch until 1961 (Rossi 2006).

Mr. and Mrs. Daley apparently divorced in 1945 and Jeanette moved to Phoenix and had a Daley Corporation outlet there (Flanigan 2001). Mr. George R. Daley died in October, 1957. His two nephews, Donald and Lawrence, took over the paving business and the ranches, respectively (de Barros et al 1998). Mrs. Jeanette Daley died in November, 1960 in Phoenix, Arizona (Flanigan 2001).

The headquarters of the ranch remain at the complex of buildings currently standing on the north side of Highway 94 (de Barros et al 1998).

Dulzura and Telegraph Canyon

The Preserve is located near the small community of Dulzura, which played a small but important role in east San Diego County. An abbreviated history of the town is presented below.

Dulzura

According to Schmid (1963), before the Indians were moved to more permanent reservations, a small tribe lived at Jamul with an Indian woman who had married an American. There were no permanent Indian homes located in Dulzura, as Indians traveling through the area would stop and work for short periods of time. Schmid (1963) also mentions that, "…Felipe Jamon…would bring his son, Alejandro, and the women when cutting wood. They built huts of saplings (usually sumac) thatched with brush choosing canyon shade in summer and southeast slopes in winter." Small amounts of gold were mined in the area around Dulzura, beginning around 1880 through the early 20th century (Schmid 1963). Indians and Mexicans had been slowly mining gold from the now-called Mine Canyon for years before wind of the discovery made it throughout the county. Mrs. B.R. Sheckler of Dulzura told of times during the 1870's when she made cotton shirts for Mexicans and received small vials of gold nuggets from local canyons as payment (Schmid 1963). Dave Hernandes found a handful of gold nuggets in a small creek near where the Dulzura schoolhouse stood, and eventually recovered about ten thousand dollars' worth from the surrounding soil (McCain 1955). Word finally spread to the rest of the county and country about the gold from Dulzura.

The gold rush in 1908 brought hundreds of prospectors to the area. It was reported that Dulzura would become one of the richest fields in the United States (Schmid 1963). Little to no other gold was actually recovered, and by the end of the year the rush was over (Vezina 1992). The residents depended on other means of income, however, including exporting honey and fruit. Ben and Rosalie Sheckler moved to Dulzura in 1874 and established an apiary producing honey to sell throughout the county. The most successful business in Dulzura, however, focused on selling figs. Frank and Lila Clark started “Clark’s Pickelized Figs,” which sold throughout the country (Vezina 1992).

Telegraph Canyon

In the early days (1873) a telegraph line ran from San Diego to Yuma, traveling through Chula Vista, Telegraph Canyon, and Dulzura (Schmid 1963). In 1863, San Diego County Surveyor James Pascoe designed a stagecoach route for operator John Capron from San Diego to Yuma that ran through the Otay Valley, across the Jamul ranch, then along the Dulzura Creek to Campo (as State Route 94 does today), then through the Milquatay Valley to Jacumba and the Mountain Springs pass. This was one of the main land routes east to Yuma from San Diego until old Highway 80 was built in the 1917. It became known as the San Diego-Fort Yuma Turnpike Company Toll Road and passed along the southern and western sides of the Preserve along the existing route of Highway 94 (Wirth 1978). On May 28, 1869, the U. S. Army announced a plan for a telegraph line from Fort Yuma to San Diego. The schooner *Johanne* arrived August 26, 1873, with poles and wire for the military telegraph line from National City. Captain William E. Dove began construction of the telegraph on October 4, 1873, using a valley south of the Sweetwater Valley to reach Jamul and finally connected to Yuma by November. Frank Kimball named the route out of National City the "Telegraph Road" and had it cleared of brush and widened to 12 feet (Schoenherr 2004). The line was purchased by Mr. Gaskill who converted it into a single line telephone system (Schmid 1963).

4.2 Native American Consultation

Native American involvement in the project included contacting Red Tail Monitoring & Research, Inc. who provided Mr. Justin Linton, Ms. Rachel Leash, and Mr. Ben Leash as the Native American Monitors. Each monitor participated in the field survey.

Laguna Mountain initiated a Sacred Lands check with the California Native American Heritage Commission (NAHC). A letter was received from the NAHC on August 9, 2009. The Sacred Lands Check did indicate the presence of Native American cultural resources within a one-half mile radius of the Preserve, but no specific contact for information regarding this resource was provided. Due to the confidentiality of information held by the NAHC, no further information on this resource is available. Red Tail Monitoring & Research, Inc. had no further information on these resources. Laguna Mountain staff contacted the Native American groups and individuals provided by the NAHC to further investigate if they

had knowledge of Sacred Lands occurring within the Preserve. No responses have been received to date and no concerns related to the Preserve have been identified.

4.3 Cultural Resource Descriptions

4.3.1 Prehistoric Archaeological Resources

Bedrock Milling Sites

CA-SDI-19128

Site CA-SDI-19128 was originally identified by A. Moreno and A. Craft during the State Route 94 Operational Improvement Project survey on August 9, 2007. This prehistoric site was initially recorded as a food processing area consisting of two bedrock milling features (BMF1 and BMF2). The current survey failed to relocate CA-SDI-19128. This was due in part to heavy grass growth on the western end of the site (BMF2), and the fact that the eastern end of the site (BMF1) is in the centerline of Dulzura Creek. Several boulders were found on the creek bank, but they were too rounded and eroded to be positively identified as BMF1.

CA-SDI-19129

This site was originally identified by A. Moreno and A. Craft during the State Route 94 Operational Improvement Project survey on August 9, 2007. Site CA-SDI-19129 was originally recorded as a food processing area consisting of two bedrock milling features (BMF1 and BMF2). CA-SDI-19129 was relocated by the current survey. Only a few high spots of BMF2, however, were identified as the boulder upon which BMF1 had been ground on had completely exfoliated since its original discovery by Moreno and Craft (2007). The overall dimensions of the site did not change, and its depth still remains unknown.

CA-SDI-19143

This site was originally recorded in 2008 by Wilson and DeGiovine. It included four bedrock milling features in a bedrock outcrop area north of Dulzura Creek (Wilson and DeGiovine 2008b). The site was relocated during the 2009 inventory.

CA-SDI-19149

This is previously recorded site originally surveyed in 2008 by Wilson and DeGiovine. The resource consists of six bedrock-milling features with a total of 14 slicks. However, only 12 slicks were relocated during the 2009 survey. There are no associated surface artifacts with this feature.

CA-SDI-19155

The site was first identified by K. Tsunoda, T. Cooley, and A. Craft on October 2, 2007, during a survey for the State Route 94 Operational Improvement Project. CA-SDI-19,155 consisted of two prehistoric loci. Locus A contained 17 bedrock milling features and Locus B contained three additional ones. A large portion of the northeastern section of this temporary camp was relocated during the current inventory. This portion of the site is located as originally mapped. With the exception of the milling features, which were not relocated during the current survey, the cultural material (i.e. debitage fragments and pottery sherds) was very similar. Due to the nature and density of the site, subsurface deposits are highly likely.

CA-SDI-5700

This site was previously recorded in 1978 by Fink and Hightower as two isolated grinding slicks. The site was limited to the rock surface (Fink and Hightower 1978). The site was relocated during the current inventory, and included the identification of additional milling features.

CA-SDI-19678 (DP-S-1 (Includes DP-S-4 and DP-I-2))

Site CA-SDI-19678 includes two bedrock milling stations (Locus A and C) and a locus of scattered lithic material between the milling areas (Locus B). The overall site size is approximately 157 m (meters) north/south by 103 m east/west. No subsurface deposits were evident, but shallow cultural deposits may be present. The site as a whole contains nine (9) bedrock milling features with 13 slicks. Artifacts include one (1) quartz cobble mano, one (1) scraper-plane, one (1) flaked lithic tool fragment, and three (3) debitage fragments.

CA-SDI-19679 (DP-S-2)

This site is a bedrock milling station located on the northeast slope of a smaller ridge. No associated artifacts were observed and subsurface deposits are likely to be shallow if present. The site consists of a single feature with three slicks with well-polished high points, although the rock is much exfoliated.

CA-SDI-19680 (DP-S-3)

Site CA-SDI-19680 is a bedrock milling station with associated artifacts. A shallow subsurface deposit may be present based on the number of artifacts at the site and their partially buried nature. Site CA-SDI-19680 includes five (5) bedrock milling features.

CA-SDI-19681 (DP-S-5)

The site consists of a bedrock milling station with two (2) milling features. It is unknown if a subsurface deposit is present. No surface artifacts were observed at the site although visibility was only moderate.

CA-SDI-19682 (DP-S-6)

CA-SDI-19682 is a bedrock milling station located on a granitic outcrop. The dimensions of the total area are 6 m north/west by 8 m east/west and it is unlikely subsurface artifacts are present.

CA-SDI-19683 (DP-S-7)

Site CA-SDI-19683 is a large artifact scatter and series of bedrock milling stations. The site has been divided into two loci.

CA-SDI-19684 (DP-S-8)

This site consists of a single bedrock milling station located on a moderate-size granitic boulder. The dimensions of the feature and site are 3 m north/south by 3 m east/west. No associated artifacts were observed and it is unlikely a subsurface deposit is present. The feature contains a single slick with well-ground high points. The site appears to be an isolated seed processing station with no associated artifacts.

CA-SDI-19685 (DP-S-9)

Site CA-SDI-19685 is a bedrock milling station. The dimensions of the area are approximately 5 m north/south by 3.5 m east/west. It is unlikely that a subsurface deposit is present based on the shallow rocky soils in the area and an absence of associated surface artifacts. This site consists of single isolated bedrock milling feature. The feature contains a single exfoliated milling slick. Only the high points are polished.

CA-SDI-19689 (DP-S-13)

This site is a small bedrock milling station. The site is limited to a single bedrock milling feature with no associated artifacts. The site and feature is 1.5 by 2.25 m in size. An absence of surface artifacts and shallow soils suggest that a subsurface deposit is unlikely. This site consists of a single feature with a single milling slick on a small granitic boulder. The slick is limited to high points and is eroded and weathered. This slick is on a granitic boulder.

CA-SDI-19690 (DP-S-14)

Site CA-SDI-19690 is a bedrock milling station. The site is approximately 19 m north/south by 13 m east/west. Soils are moderately developed in the area and it is unknown if a subsurface deposit is present. This site is consists of two bedrock milling features on granitic boulders with a single slick each. The features are extremely exfoliated and eroded.

CA-SDI-19691 (DP-S-15)

This site is another small bedrock milling station. The dimensions of the site and the feature are 2 m north/south by 1 m east/west. It is unknown if a subsurface deposit is present in the area. This site consists of a single feature with one milling slick on top of an exfoliated boulder. Grinding is limited to high points on the surface.

CA-SDI-19694 (DP-S-20)

Site CA-SDI-19694 is a bedrock milling station and associated temporary camp. The site includes five bedrock milling features.

CA-SDI-19695 (DP-S-21)

This site includes a bedrock milling station with associated lithic debitage. CA-SDI-19695 includes a single bedrock milling feature with a single slick.

CA-SDI-19696 (DP-S-22)

CA-SDI-19696 is a bedrock milling station located on the north side of Dulzura Creek at the base of a steep slope. The site is a single bedrock milling feature with at least three slicks that range from 20 by 30 cm to 30 by 50 cm.

CA-SDI-19697 (DP-S-23)

The site is a single aplite milling station consisting of one slick. The area is highly eroded with one polished high spot approximately 15 cm by 10 cm in size.

CA-SDI-19699 (DP-S-26)

The site is a single milling feature. There is no depth to the site with regard to any associated surface artifacts.

CA-SDI-19701 (DP-S-29)

The site is a milling feature on an apilte boulder. The single slick measures 10 cm by 12 cm, and is highly eroded with very little surface visible. There are no associated artifacts with this feature and no depth to the site.

CA-SDI-19702 (DP-S-31)

This site is an eroded milling slick on top of a granitic boulder. There is evidence of subsurface deposits associated with the feature. The feature is heavily eroded with only a few polished spots remaining.

CA-SDI-19705 (DP-S-34)

The site is a milling station consisting of four milling features all with well-worn slicks and a lithic scatter. There are also seven green SPV flakes, one quartz flake, two cores and one possible deer bone awl.

CA-SDI-19706 (DP-S-35)

CA-SDI-19706 is a milling station consisting of two features. There were no other artifacts observed in association with the features.

CA-SDI-19707 (DP-S-36)

This site consists of two small bedrock milling features. Both features contain a total of 16 milling slicks and five shallow basins.

CA-SDI-19708 (DP-S-37)

This site consists of a single bedrock milling feature. The feature is a single shallow mortar located on the top of a granitic bedrock outcropping.

Lithic Scatters

CA-SDI-14155

This site was originally identified by D. Dominici in 1995 during a Caltrans survey, and relocated by A. Craft and A. Moreno during the State Route 94 Operational Improvement Project survey on August 9, 2007. CA-SDI-14155 was originally identified by D. Dominici as a ceramic and lithic scatter composed of fine grained porphyritic metavolcanic lithics and quartz material (Dominici 1995). Craft and Moreno (2007) relocated this site. The lithic scatter that Dominici originally reported in 1995 was re-identified and quantified by Craft and Moreno. The 2009 survey relocated and expanded the boundaries of site CA-SDI-14155.

CA-SDI-19687 (DP-S-11)

Site CA-SDI-19687 is a lithic scatter. The dimensions of this site are 25 m north/west by 40 m east/west. Surface artifacts are sparse, but a shallow subsurface deposit may be present. No features were observed at the site.

CA-SDI-19698 (DP-S-24)

CA-SDI-19698 is a lithic scatter consisting of 46 flakes. There are possible subsurface deposits. Secondary and interior flakes consist of both green and dark green SPV material, as well as a single piece of clear quartz debitage.

Quarry

CA-SDI-19686 (DP-S-10)

This site is a prehistoric quartz quarry. This site consists of a quartz outcrop with at least 10 quartz flakes. Although much of the outcrop is made up of milky quartz, the flakes are preferentially made out of clearer quartz.

Temporary Camp

CA-SDI-19700 (DP-S-28)

CA-SDI-19700 is a temporary camp with a sparse distribution of artifacts including lithics and a granitic mano fragment. The lithic assemblage includes eight black SPV interior flakes, four green and ten dark green interior flakes. There were also three pieces of debitage.

CA-SDI-19703 (DP-S-32)

CA-SDI-19703 is possibly a temporary camp. The artifacts consist of one fire-affected rock (FAR) and a lithic scatter. There are approximately 16 flakes noted including 10 green Santiago Peak Volcanic (SPV), four dark green SPV and one black volcanic flake. There was also a single piece of angular waste noted.

CA-SDI-19704 (DP-S-33)

The area is a possible temporary camp and maybe associated with CA-SDI-19703. The site consists of nine pieces of debitage. These include one piece of quartz angular waste, three interior SPV flakes and five pieces of SPV angular waste.

Isolates

P-37-02997

This isolate was previously recorded by Craft and Moreno (2007) during their survey of State Route 94 improvements. The isolate was relocated during the 2009 survey.

P-37-031005 (DP-I-1)

P-37-031005 consists of one green aphanitic, Santiago peak volcanic tertiary (interior) flake. The flake has a previously worked tool edge.

P-37-031006 (DP-I-2)

This is an isolated flake. P-37-031006 is a single interior flake fragment with a step fracture on the dorsal side.

P-37-031007 (DP-I-3)

P-37-031007 consists of one rusted can with two church key openings and one green Santiago peak volcanic aphanitic interior flake.

P-37-031008 (DP-I-4)

P-37-031008 consists of a rusted cone top metal can fragment. This artifact consists of the top portion of the vessel and a small amount of the sidewall.

P-37-031009 (DP-I-5)

P-37-031009 consists of one green Santiago peak volcanic porphyritic tertiary flake. The flake had no additional modifications.

P-37-031010 (DP-I-6)

P-37-03110 consists of one secondary green Santiago peak volcanic porphyritic test core. There were at least seven negative flake scars and a little bit of battering on one end.

P-37-031011 (DP-I-7)

P-37-031011 is a possible historic sanitary can with two church key openings and is extremely rusted.

P-37-031012 (DP-I-8)

P-37-031012 consists of a dark green aphanitic Santiago peak volcanic interior flake with at least two negative flake scars due to modification.

P-37-031013 (DP-I-9)

P-37-031013 consists of one green aphanitic interior flake with some oxidation causing an orange like spotting. The flake has no additional modification.

P-37-031014 (DP-I-10)

P-37-031014 consists of a rusty metal can with two church key openings.

P-37-031015 (DP-I-11)

P-37-031015 consists of a possible clear quartz flake. A bulb of percussion and some erraliure scars are visible but not too pronounced. This is an interior flake with a nice platform and a 90-degree angle. The second artifact is a green prophynitic interior flake. No rework is visible in either of the flakes.

P-37-031016 (DP-I-12)

P-37-031016 consists of one aphanitic interior flake and one Tizon Brownware sherd.

P-37-031017 (DP-I-13)

P-37-031017 consists of one possible Tizon Brownware sherd.

P-37-031018 (DP-I-14)

This isolate is a single flake. The debitage is an aphanitic interior, Santiago Peak Volcanic flake. There seems to be no depth or subsurface deposits in the area.

P-37-031019 (DP-I-15)

P-37-031019 is an isolated flake. The artifact is a single interior Santiago Peak Volcanic flake with no subsurface deposits observed.

P-37-031020 (DP-I-16)

Isolate P-37-031020 is a single flake. The artifact is an interior Santiago Peak Volcanic flake, possibly a bifacial thinning flake.

P-37-031021 (DP-I-18)

P-37-031021 is an interior Santiago Peak Volcanic flake. The artifact is a single interior Santiago Peak Volcanic flake.

P-37-031022 (DP-I-19)

This isolate consists of two pieces of debitage. Isolate 1B is a light green, metavolcanic flake that appears to be fire affected. Isolate 2B is a dark green, tertiary, Santiago Peak Volcanic flake.

4.3.2 Historic Sites

CA-SDI-9284H

CA-SDI-9284H consisted of an advertisement painted on a granitic boulder that read "GASOLINE AT HALF PRICE ECONOMY OF HOLMES CARS MAKES THIS POSSIBLE". This historical site was originally recorded by Rebecca McCorkle - Apple and Harry Price in 1982, and re-identified by K. Tsunoda and J. Patterson on August 8, 2008 during a survey for the State Route 94 Operational Improvement Project. The site was relocated during the current inventory.

CA-SDI-19692 (DP-S-18)

This site consists of a well, water pump, and associated watering troughs. The water pump may be of historic age and is lined with a 6 X 6 foot cinder block enclosure that is almost ground level. The markings on the pump read: WX-1 AERMOTOR CO. Chicago, USA. The pump housing is extremely rusted. There is a green water tank located approximately 6 m west of the pump and three water troughs located 4 m south of the tank the troughs appear to be modern. The site appears to include a historic-age well and water pump that has been used for watering livestock until recent times.

Prehistoric and Historic Multi-Component Sites

CA-SDI-8810

This site was previously recorded by R. McCorkle-Apple in 1981 and then updated in 2008. The site was recorded as a bedrock milling station, associated lithic scatter, and a historic component consisting of a rock wall.

It was recorded as a food-processing site consisting of a rock wall and a bedrock milling feature consisting of ten milling slicks and five basins. Associated lithic artifacts were listed and include:

- one (1) metavolcanic flake, six (6) small porphyritic flakes and one possible tool. During the 2008 survey and update, the resource was re-identified and the site boundaries were moved 70 meters to the northwest. In addition, four additional bedrock milling stations consisting of two basins, one incipient mortar, and three slicks were observed. Associated artifacts, lithics and ceramic sherds were observed to the southeast and west of the originally

recorded location.

- During the 2008 survey, 13 additional bedrock milling features were noted. These consisted of 53 milling elements: 27 slicks and 26 basins. Also identified within the extended site boundary area were ceramic vessel sherds, lithic debitage and animal bone fragments. There were also two pre-1960 steel beer cans within the expanded area.

The site was relocated during the 2009 inventory.

CA-SDI-19140

CA-SDI-19140 was originally recorded in 2008 by Wilson and DeGiovine. The site, as recorded, included five rock wall features, three bedrock milling features, pottery and ceramics. This previously recorded resource is a possible temporary camp consisting of a rock feature, bedrock milling station and a lithic and pottery scatter.

The site was relocated during the current inventory, although the associated ceramics were not relocated due to dense grasses. Features include five-stacked rock wall and five bedrock milling features. The milling features include four slicks and one very deteriorated basin. The rock wall feature consists of cleared areas with rocks stacked around each clearing. Only three flakes were relocated including two pieces of angular waste and one SPV flake.

CA-SDI-19688 (DP-S-12)

Site CA-SDI-19688 consists of a prehistoric bedrock milling station and temporary camp in addition to a historic mining prospect. Subsurface deposits are likely within Locus B of the site. CA-SDI-19688 has been divided into two loci. Locus A is focused on two historic mining prospect pits within a segment of a quartz pegmatite dike. Locus B is focused on the prehistoric bedrock milling and temporary camp.

Locus A consists of two adjacent prospect pits within a small quartz pegmatite dike exposure. More than four sanitary cans with church key openings are present within the pits suggesting that while the activity is historic, it is probably from the 20th century. P-37-031008 nearby represents a cone top can and this may or may not be associated with the prospecting activity. The pits have exposed a large amount of milky quartz that is present in the spoils piles around the edges of the pits. Erosion has somewhat filled in the pits and good exposures of bedrock are not present. Locus A is directly adjacent to the prehistoric component of the site and it is likely that some of the quartz from the outcrop was used prehistorically.

Locus B of the site consists of a well-used prehistoric bedrock milling station and temporary camp. The locus is southwest of Locus A and includes a relatively flat ridgetop and rocky ridge edge. The locus includes at least 10 bedrock milling features. Feature A is a large, low rock that is approximately 6 m north/south by 3 m

east/west and 0.4 m high. It includes one (1) mortar, one (1) basin and more than five (5) slicks. Feature B is adjacent to Feature A. It is a small rock. It contains a single basin that had a granitic mano placed in it. The mano looked like it had been placed there relatively recently based on adhering soil. Feature C contains a single well-ground slick. Feature D contains a single slick. Feature E has two slicks. Feature F has three slicks. Feature G has one faint slick with grinding on the high points only. Feature H also has one faint slick with grinding on the high points only. Feature I has one slick with a few high points only. Feature J has one slick that has been ground on the high points only. Artifacts at Locus B include the granitic mano and over 20 Santiago Peak Volcanic flakes and five quartz flakes.

CA-SDI-19693 (DP-S-19)

This site is a large prehistoric temporary camp with associated bedrock milling. Subsurface deposits are likely based on the number of surface artifacts and the presence of artifacts in rodent backdirt. This site is a temporary camp with at least four bedrock milling features. Feature A is a granite boulder with only a small amount of grinding visible. Feature B has a basin that is 0.5 cm deep. Feature C is on a granite boulder. The feature includes a single slick with only high points ground. Feature D has two slicks on a granite boulder. Feature E is a granite boulder. Only high points on the slick were ground.

Artifacts at the site include one scraper, one quartz flake, two green porphyritic Santiago Peak Volcanic secondary flakes, two green aphanitic Santiago Peak Volcanic interior flakes, four black Santiago Peak Volcanic flakes, and one piece of green angular waste. There is also a quartz core and two unifacial mano fragments, one with evidence of end battering. Three historic cans were also recorded along with two shards of amethyst glass.

4.4 Resource Significance

Based on the results of the current inventory, the Preserve appears to contain multiple areas of prehistoric habitation and resource processing locations reflecting relatively intensive prehistoric use. For an area where topography is relatively rugged, the total number of prehistoric sites within the Preserve is relatively high. The relative abundance of sites in the area may be a reflection of the nearly perennial water available along Dulzura and Honey Springs Creeks, and also the use of these drainage systems as prehistoric transportation corridors paralleling their historic transportation use.

No major prehistoric habitation sites are present in the Preserve. This may be a reflection of the more difficult topography of the area and the presence of larger prehistoric habitation sites outside the Preserve at Honey Springs (CA-SDI-4693). The survey of the Preserve identified six (6) prehistoric temporary camps and three additional prehistoric temporary camps with historic components. This indicates that prehistoric use of the Preserve did include short-term occupation, but that larger

habitation sites are elsewhere. Bedrock milling stations were the most frequent resource type representing 25 of the sites within the Preserve. The remaining prehistoric sites included one quartz quarry/prospect, and three lithic scatters.

This temporary occupation and the related temporary processing features suggest that most of the activity in the area was related to dispersed foraging phases of settlement activity. In the continuum from collector to forager (Binford 1980) these small camps and processing stations indicate activity more on the forager end of the spectrum. Bipolar village models (True and Waugh 1982) and fission/fusion models (Carrico 2003) would suggest that most of the activity within the Preserve was related to summer dispersed foraging activity between larger habitation areas where smaller family groups came together.

The prehistoric cultural resources reflect occupation of the Preserve over a relatively long period of time. There is no diagnostic evidence of Late Paleoindian occupation, however further studies at some of the sites may identify a very early component. Site CA-SDI-19683, although lacking diagnostic projectile points, contains a high percentage of large bifacial thinning flakes indicating that large biface production was an important activity at this site. This suggests either a Late Paleoindian or Archaic Period occupation. The scraper-plane at site CA-SDI-19678 also suggests an Archaic Period component at this site. Material diagnostic of Late Prehistoric occupation (Tizon Brown Ware ceramics and arrow points) is present at six of the sites within the Preserve (CA-SDI-8810, CA-SDI-14155, CA-SDI-19140, CA-SDI-19155, CA-SDI-19680 and CA-SDI-19694). This suggests that the majority of the sites within the Preserve are Late Prehistoric in age. The final suite of prehistoric sites within the Preserve lack any specific time-diagnostic attributes. Bedrock milling is often associated with Late Prehistoric acorn processing, but a firm leap to this assumption should not be made without better evidence. These sites may range the gamut between Archaic and pre-ceramic Late Prehistoric. What the limited chronological evidence does indicate is that occupation covers a long range of time, but most evidence suggests a greater abundance of Late Prehistoric activity.

The ubiquity of bedrock milling features within the Preserve indicates that the major activity in the area was the collection and processing of seed resources, including acorns and other hard seeds, such as sage and grasses. Lithic materials were dominated by Santiago Peak Volcanic material which is easily available less than four kilometers west of the Preserve. Eocene-age cobbles were used for groundstone and these are available on the coastal plain roughly 15 kilometers northwest. Quartz was another important lithic resource at the sites and this was both procured at site CA-SDI-19686 and possibly at site CA-SDI-19688 as well as from larger sources in the region to the east.

The overall pattern of prehistoric use of the Preserve is one of seasonal temporary use and movement through the region as part of larger seasonal rounds between bipolar habitation sites (at least in the Late Prehistoric Period). The area was used particularly for extractive purposes (collecting seed resources and quartz) and the

processing of these resources through grinding on bedrock and lithic reduction. Minor evidence of hunting is present, but it may have played a more important role in activities than is visible in the surface archaeological record.

5.0 RESOURCE MANAGEMENT

5.1 Management Goals and Objectives

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

5.1.1 County-Specific

County-specific goals and objectives used to guide the management of resources within the Preserve can be found in the County Strategic Plan, the DPR Strategic Plan, as well as the Jamul-Dulzura Community Plan. The County's overall goal or mission, as indicated in its 2011-2016 Strategic Plan, is to efficiently provide public services that build strong and sustainable communities. The Strategic Plan for Parks and Recreation is closely aligned with the County's strategic initiatives.

The DPR Strategic Plan outlines the department's priorities for accomplishing its mission over a five-year period. The overall goal or mission of DPR is to enhance the quality of life in San Diego County by providing opportunities for high level parks and recreation experiences and preserving regionally significant natural and cultural resources. DPR makes this mission a reality through programs that create healthy communities, preservation and management of natural, historic and cultural resources, maintaining safe and accessible parks and facilities, and creating community.

In addition, the Jamul/Dulzura Community Plan provides goals and policies which are designed to fit the specific or unique circumstances existing within this community. Goals provided in this plan seek to manage environmental resources in the area to maintain them for future needs and improve current recreational facilities in the planning area which will meet the distinctive needs of the Jamul/Dulzura residents. To this end, the plan provides policies and recommendations which are meant to guide the allocation of County resources towards prescribed outcomes consistent with the goals.

5.1.2 MSCP-Related

The MSCP Plan and the County's Subarea Plan provide both general and segment-specific goals and objectives. The Preserve is located within the Metro-Lakeside-Jamul Segment of the MSCP Subarea Plan and, as discussed in Section 3.4, lies adjacent to the South County MSCP designated Otay Mountain/Jamul Mountains to Sycuan Peak Habitat Linkage. This linkage provides a connection between the McGinty Mountain/Sequan Peak-Dehesa and Otay Mountain/Marron Valley Conserved Areas. 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.

This is intended to minimize the need for future listings, while enabling economic growth in the region.

In order to assure that the goal of the MSCP Preserve is attained and fulfilled, management objectives for the County of San Diego MSCP Subarea are as follows:

1. To ensure the long-term viability and sustainability of native ecosystem function and natural processes throughout the MSCP Preserve.
2. To protect the existing and restored biological resources from disturbance-causing or incompatible activities within and adjacent to the MSCP Preserve while accommodating compatible public recreational uses.
3. To enhance and restore, where feasible, the full range of native plant associations in strategic locations and functional wildlife connections to adjoining habitat in order to provide viable wildlife and sensitive species habitat.
4. To facilitate monitoring of selected target species, habitats, and linkages in order to ensure long-term persistence of viable populations of priority plant and animal species and to ensure functional habitats and linkages.
5. To provide for flexible management of the MSCP Preserve that can adapt to changing circumstances to achieve the above objectives.

5.1.3 Management Directives and Implementation Measures

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

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

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

The management directives provided in this RMP have been divided into five elements: A) Biological Resources, B) Vegetation Management, C) Public Use, Trails, and Recreation, D) Operations and Facility Maintenance, and E) Cultural Resources.

5.2 Biological Resources Element (A)

5.2.1 Biological Monitoring

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

It is recognized that subregional monitoring has been designed to answer concerns and objectives on a larger scale. No subregional monitoring is occurring at Lawrence and Barbara Daley Preserve. While objectives of individual preserve and subregional monitoring may be different, subregional monitoring methods that have been developed or are under development may assist monitoring methods and decisions at the preserve level for particular species and habitats.

The key to successful monitoring at the individual preserve level, such that data gathered is not duplicative and meets individual preserve level objectives, 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, San Diego Management and Monitoring Program (SDMMP), this working group assists jurisdictions in coordinating monitoring programs, analyzing data, and providing other information and technical assistance. DPR has been working closely with this group and attending monthly meetings regarding current management and monitoring actions. SANDAG is currently drafting new monitoring survey protocols for South County MSCP covered plant species. DPR will review the new monitoring survey protocols and implement these methods within the Preserve when finalized. In addition, SDMMP is currently evaluating a regional wildlife movement study and monitoring protocol combining genetic studies with field data collection methods. This protocol is expected to be available in 2011 and will be reviewed with relevance to the Preserve.

DPR will follow the habitat- and species-specific monitoring requirements outlined in Table 3-5 of the Subregional MSCP Plan (City of San Diego 1998). Additionally, DPR will follow USGS rare plant monitoring protocols (McEachern et al. 2007), San Diego State University habitat and vegetation community monitoring protocols (Deutschman et al. 2009) and USFWS wildlife monitoring protocols (USFWS 2008). These references will assist DPR in developing monitoring methods at the preserve level, as well as the management directives that are identified for specific species in this document.

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

***Implementation Measure A.1.1*:** DPR will conduct habitat monitoring for coastal sage scrub habitat and other habitat types within the Preserve at five-year intervals. An updated vegetation community map will be developed utilizing the Vegetation Classification Manual (AECOM et.al. 2011). On-going monitoring within the Preserve will identify any adverse changes in vegetation community distribution and habitat quality, such as changes from fire, invasion by non-natives or decline of existing species, and indicate if modifications to current management actions are needed. More frequent monitoring may be required following another significant fire within the Preserve. The main product of this monitoring will be a report which will include a discussion of monitoring objectives, monitoring methods to meet those objectives and an updated vegetation community map.

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

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

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

As discussed in Section 3.4, even though the Preserve does not lie within a primary linkage, it is adjacent to the South County MSCP designated Otay Mountain/Jamul Mountains to Sycuan Peak Habitat Linkage. This linkage provides a connection between the McGinty Mountain/Sequan Peak-Dehesa and Otay Mountain/Marron Valley Conserved Areas. The Preserve provides an important open space linkage between preserved lands, including California Department of Fish and Game's Rancho Jamul Ecological Reserve and Hollenbeck Canyon Wildlife Area to the north of the Preserve, and BLM conserved open space to the south of the Preserve.

Additionally, Dulzura, Honey Springs, and Pringle Creeks run through the Preserve and provide easily-traversed habitat features between lands to the west and east. The three creeks flow westward from private lands to the east and southeast before reaching the Preserve. The riparian habitat on-site is an essential component of wildlife corridors in the Preserve. It provides cover and allows for movement of bird and animal species observed in the Preserve. Invasive non-native plants have been

identified within the riparian habitat of Dulzura Creek and are planned for removal in 2011. Sparse rural residential development surrounding the Preserve does not impede movement across the Preserve to the north and south and east and west. Therefore, while corridor monitoring within the Preserve will take place at the preserve-level, it anticipated that it will provide data for better understanding movement on a regional scale.

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

5.2.2 MSCP Covered Species-Specific Monitoring and Management

Not all species occurring within the Preserve are expected to require species-specific management. It is expected, rather, that the general management directives and implementation measures outlined under the Biological Resources and Vegetation Management elements are sufficient to protect and manage optimal habitat conditions for most, if not all, species to maintain and/or thrive within the Preserve. However, there are some special-status species listed as MSCP-covered and County-listed species, require additional measures. Table 3-5 of the Subregional MSCP Plan (City of San Diego, 1998) provides specific management and/or monitoring measures that are conditions of coverage for South County MSCP-covered species.

In addition, in the document *San Diego Multiple Species Conservation Program Covered Prioritization* (Regan et al., 2006), SDSU has prioritized the MSCP-covered species for monitoring. The species were classified as Risk Group 1 (most endangered), Risk Group 2 (moderately endangered), and Risk Group 3 (less endangered). Next, the threats/risk factors facing the species were identified and ranked as high, moderate, or low degree of threat to the species. Only management conditions addressing high and moderate threats for Risk Group 1 species will be discussed in this RMP. No Risk Group 1 species are currently present on the Preserve.

Management Directive A.3 - Comply with applicable conditions of coverage for South County MSCP Covered Species (*Priority 1*)

DPR will implement habitat based and, in some cases, species specific monitoring and management as outlined in Table 3-5 of the Subregional MSCP Plan and *San Diego Multiple Species Conservation Program Covered Prioritization* (Regan et al., 2006) for all MSCP Covered Species detected within the Preserve. County List A and B plant species detected within the Preserve will also be monitored.

In order to avoid repetition, the following is a list of common risk/threats to South County MSCP Covered Species that are found to benefit from habitat based management and the corresponding management directives or implementation measures to address these factors:

- ***Invasive non-native plants*:** Implementation measure A.1.3 and management directives B.2 and B.3

- ***Invasive non-native animals*:** Multiple implementation measures under management directive A.4

- ***Wildfires*:** Multiple implementation measures under management directive B.4.

- ***Edge effects*:** Multiple implementation measures under management directives D.7 and D.8.

Palmer's goldenbush *(Ericameria palmeri* var. *palmeri)*

Monitoring: Table 3.5 – Habitat Based, Photo Plot, and Management Plans/Directives, SDSU - Risk Group 2

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

Implementation Measure A.3.1: Approximately 40 Palmer's goldenbush shrubs were observed onsite in two locations next to one another near the eastern border of the Preserve just south of Pringle Creek. DPR will conduct surveys of this population to monitor the number, size, variability and health status. These surveys will also document the status of invasive non-native plant species in the vicinity of Palmer's goldenbush individuals and the condition of soils and evidence of soil disturbance. These surveys will be conducted at five-year intervals in conjunction with habitat monitoring.

Management Conditions: Table 3-5 states avoidance of impacts to this species. Proposed projects within the Preserve will avoid impacting this species. In addition, DPR will control invasive non-native plants as necessary based on monitoring.

Orange-Throated Whiptail (*Cnemidophorus hyperythrus beldingi*)

Monitoring: Table 3-5 - Site Specific, SDSU - Risk Group 3

Monitoring efforts will include habitat monitoring and general wildlife surveys (as described in implementation measures A.1.1 and A.1.2).

Management Conditions: Table 3-5

The management approach for this species is maintenance of suitable habitat (chaparral, sage scrub and grassland) within the Preserve. These habitats will be managed to reduce the threat of fire and invasive non-native species. In addition, management of these habitats also addresses edge effects as a condition of Table 3-5.

Cooper's Hawk (*Accipiter cooperii*)

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

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

Management Conditions: Table 3-5

The management approach for this species is maintenance of suitable foraging (upland and riparian habitats) and nesting habitat (oak woodland and riparian forest near water) within the Preserve. These habitats will be managed to reduce the threat of fire and invasive non-native plants, and maintain hydrology. In addition, management of these habitats will include 300-foot impact avoidance areas around any active nests, and minimization of disturbance in oak woodlands and riparian forests as a condition of Table 3-5.

No nesting territories were observed within the Preserve during the 2009-2010 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2).

Northern Harrier (*Circus cyaneus*)

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

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

Management Conditions: The management approach for this species is maintenance of suitable habitat (open sage scrub and grassland) within the

Preserve. These habitats will be managed to reduce the threat of fire and invasive non-native plants. In addition, management of these habitats will include 900-foot impact avoidance areas around any active nests as a condition of Table 3-5.

No nesting territories were observed within the Preserve during the 2009-2010 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2).

Western Bluebird (*Sialia mexicana*)

Monitoring: Table 3-5 - Habitat Based, SDSU – Excluded

Monitoring efforts include habitat monitoring, general wildlife and rare plant surveys, and monitoring for invasive non-native plant species (as described in implementation measures A.1.1, A.1.2 and A.1.3) as well as monitoring for European starling (as described in implementation measure A.4.1).

Management Conditions: Table 3-5 does not include any conditions for coverage of this species as its persistence in the County depends largely on conservation of existing large populations on public lands east of the South County MSCP subarea. The management approach for this species is maintenance of suitable nesting (oak woodland and riparian forest) and foraging habitat (chaparral and grasslands) within the Preserve. These habitats will be managed to reduce the threat of fire and invasive non-native plants.

No nesting territories were observed within the Preserve during the 2009-2010 surveys; however future detection will be addressed through general wildlife surveys (as described in implementation measure A.1.2).

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

Monitoring: Table 3-5 - Habitat Based, SDSU - Risk Group 3

Management Conditions: Table 3-5 states area-specific management directives must include maintenance of dynamic processes, such as fire, to perpetuate some open phases of coastal sage scrub with herbaceous components.

Southern California rufous-crowned sparrows were detected in the southeastern area of the Preserve within highly disturbed coastal sage scrub habitat. The entire Preserve was burned during the 2007 Harris Fire and the 417 acres of coastal sage scrub on-site are in different stages of recovery. Currently, the coastal sage scrub habitat on-site has open areas needed by southern California rufous-crowned sparrow.

Southern Mule Deer (*Odocoileus hemionus*)

Monitoring: Table 3-5 - Habitat Based and Corridor Sites, SDSU - Risk Group 3

Monitoring efforts include habitat monitoring, general wildlife surveys (as described in implementation measures A.1.1and A.1.2) as well as corridor monitoring (as described in implementation measure A.2.1).

Management Conditions: Habitat Maintenance

Management Directive A.4 - Provide management and monitoring of other sensitive species listed on the County's Sensitive Plant List (Lists A and B) (*Priority 1*)

The Biological Mitigation Ordinance is the implementing ordinance for the MSCP and requires avoidance of narrow endemic plant species as well as species included in Lists A and B of the County's Sensitive Plant List. List A and B species are considered rare, threatened or endangered in California. The general management directives and implementation measures outlined in this RMP are intended to be adequate for the conservation of these species, and the County will monitor these species to ensure this is the case. Monitoring efforts for List A and List B plants will include the monitoring described in the implementation measure below.

***Implementation Measure A.4.1*:** DPR will conduct surveys of County List A and List B plant species, not covered by the MSCP, within the Preserve including delicate clarkia. Surveys will document the locations of species populations, and quantify the number of individuals and/or the acreage of these populations. These surveys will be conducted at five-year intervals in conjunction with habitat monitoring.

5.2.3 Non-Native Invasive Wildlife Species Control

Management Directive A.5 – Reduce, control, or where feasible eradicate invasive, non-native fauna known to be detrimental to native species and/or the local ecosystem (*Priority 2*)

As discussed in Section 3.3.4, two invasive, non-native species were detected within the Preserve during the 2009-2010 surveys including brown-headed cowbirds and European starlings. These species do not currently appear to be posing an immediate threat to native species and/or the local ecosystem; however, they have potential to out compete native species for valuable resources. Argentine ants and goldspotted oak borer (*Agrilus coxalis*) were not observed on the Preserve, but will be monitored as these invasive species can adversely impact plant and animal species.

***Implementation Measure A.5.1*:** DPR will conduct surveys for the presence of invasive, non-native wildlife species of management concern, including cowbirds, European starlings, Argentine ants, and goldspotted oak borer at five-year intervals in conjunction with habitat monitoring and general wildlife surveys (as described in implementation measures A.1.1 and A.1.2). Subsequent surveys will document and monitor the extent of cowbird parasitism on target species nests, if any, in the Preserve.

***Implementation Measure A.5.2*:** If future monitoring indicates that cowbirds and European starlings parasitism is occurring within the Preserve and having a detrimental effect on native bird species, DPR will consider establishing a trapping program to increase the nesting success of target species.

Implementation Measure A.5.3: When the Preserve is open to the public DPR will encourage the use of in-ground trash receptacles on the Preserve to reduce the accumulation of litter and food waste to reduce the risk and extent of Argentine ant invasion.

Implementation Measure A.5.4: DPR will concentrate monitoring activities for Argentine ant within the more mesic portions of the Preserve and especially along the northeastern edge where there is an interface with private residences that likely support irrigated landscaped areas adjacent to the Preserve.

5.2.4 Future Research

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

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

Management Directive A.6 – Allow for future research opportunities within the Preserve (*Priority 2*)

***Implementation Measure A.6.1*:** DPR will accept and review proposals for scientific research, monitoring, and habitat restoration and enhancement activities which are permitted within the MSCP Preserve. Proposed research activities will be subject to approval by DPR. All such activities must obtain any necessary permits and shall be consistent with this RMP. Additionally, any person conducting research of any kind within the Preserve shall obtain a Right-of-Entry Permit from DPR, which will outline the precautions to be taken to preserve and protect sensitive biological and cultural resources within the Preserve and require results of any research to be made available to DPR.

5.3 Vegetation Management Element (B)

5.3.1 Habitat Restoration

Habitat restoration is not typically required by the South County Subarea Plan, but is encouraged if resources are available.

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

Funding is currently being sought for active restoration of riparian vegetation along Dulzura Creek after invasive non-native plant removal efforts in 2011. Tasks would include site preparation, native plant species propagation and planting, weed control, and supplemental irrigation. Areas of active restoration along Dulzura Creek will be determined based on suitability for the rapid establishment of native riparian woody species and herbaceous understory species. The planting associations and layout will provide a diversity of high quality habitat for targeted wildlife and reduce competition from invasive non-native species.

***Implementation Measure B.1.1*:** DPR will continue to assess and determine the need for additional restoration activities within the Preserve beyond restoration of Dulzura Creek. The need for restoration activities will be determined based on the results of habitat monitoring (as described in implementation measure A.1.1). Any proposed restoration activities should utilize current, accepted techniques and avoid/minimize impacts to sensitive species or native habitats. Proposed revegetation activities should use only local native species. Passive restoration (recovery from fire) is currently ongoing.

Implementation Measure B.1.2: DPR will seek funding to restore and expand Quino checkerspot butterfly habitat on-site by planting appropriate areas with larval host species including dot seed plantain (*Plantago erecta*). The target area for expansion will occur near existing habitat on-site or along a flyway, and

should consist of relatively flat topography and suitable soil, vegetation composition, and structure. Candidate locations include ridges and high points in the northern area of the Preserve where vegetative growth is limited and openness is likely a long-term condition.

A Quino checkerspot butterfly restoration program is currently being implemented in the adjacent Hollenbeck Canyon Wildlife Area owned and managed by CDFG. DPR will coordinate with CDFG regarding their enhancement and restoration efforts.

Implementation Measure B.1.3: DPR will seek funding to restore and expand Hermes copper butterfly habitat on-site by planting appropriate areas with the larval host plant spiny redberry (*Rhammnus crocea*). Candidate locations include the recovering chaparral habitat on the north-facing slope in the northwestern portion of the Preserve, just west of the rural residential development. Spiny redberry was observed in this area during 2009-2010 surveys.

5.3.2 Non-Native Plant Species Removal and Control

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

As described in Section 3.2.4 above, giant reed, fennel, Himalaya blackberry, and tamarisk were found concentrated along the Dulzura Creek and heavy infestations of non-native grassland species including red brome was found in the eastern and southern areas of the Preserve. Giant reed is prevalent in Dulzura Creek.

Invasive non-native plant removal efforts are planned to be performed in 2011 within riparian habitat associated with Dulzura Creek.

***Implementation Measure B.2.1*:** DPR will monitor the effectiveness of the invasive non-native plant removal efforts performed within riparian habitat associated with Dulzura Creek in 2011. If found necessary, DPR will continue to coordinate with other agencies, non-profit organizations, and/or volunteer groups in order to seek funding to continue removal efforts of giant reed, tamarisk, fennel, and Himalaya blackberry.

***Implementation Measure B.2.2*:** DPR will monitor the non-native grasses concentrated in the eastern and southern areas of the Preserve and the large area of short-pod mustard observed on the south-facing slope on the western portion of the Preserve during the 2009-2010 plant surveys to determine if removal efforts are needed. Monitoring will be performed through implementation measure A.1.3.

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

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

5.3.3 Fire prevention, control, and management

Lawrence and Barbara Daley Preserve is located in a wildfire-prone area and the majority of the Preserve has been mapped by CalFire as a "Very High Fire Severity Zone" (CalFire 2011). The portion of the Preserve in the southwestern area was mapped as a "High Fire Severity Zone".

Current fire management activities in the Preserve include one fuel modification zone (Figure 5):

1) 30-40 foot fuel modification zone in the northeast corner of the Preserve where the Preserve abuts private residences (this fuel modification zone on the Preserve provides the adjacent residences a 100-foot buffer as measured from the residential structures).

The intent of the fuel modification zone is to protect habitable structures adjacent to the Preserve from wildfires and provide for safe access for CalFire vehicles and crew when responding to a fire within the Preserve. This area may further protect the resources within the Preserve by absorbing some of the "edge effects" that might otherwise occur within the Preserve.

In the event of a wildfire, the Preserve currently has only a minor road at the periphery of the property that can be used for emergency response. No roads exist in the interior of the Preserve.

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

***Implementation Measure B.4.1*:** DPR staff will maintain the established fuel modification zone on Preserve property adjacent to the existing residential structures that are within 100 feet of the Preserve property boundary. Management of the fuel modification zone will adhere to CalFire requirements.

***Implementation Measure B.4.2*:** DPR will coordinate with CalFire to determine the type of access needed to make fire response feasible throughout the Preserve.

Implementation Measure B.4.3: Vegetation management beyond maintaining the established fuel modification zone in the northeast portion of the Preserve is not a current need within the Preserve to address wildfire issues as vegetation is continuing to recover after the 2007 Harris Fire. The need for vegetation management will be assessed through implementation measure A.1.1. DPR will coordinate with CAL FIRE to assess the future need to develop an integrated Vegetation Management Plan (VMP) that will allow environmental documentation for strategic fuels management to be conducted and when needed. The VMP will also identify likely locations for equipment staging areas and fire breaks, assisting fire fighting activities to avoid sensitive species, riparian habitat and known cultural sites, if feasible. In addition, the VMP will include post-fire management activities to enhance natural plant recovery and succession, restore long-term ecosystem health and processes, and minimize impacts to sensitive biological and cultural resources.

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

********THE PRESERVE IS NOT OPEN TO THE PUBLIC********

5.4.1 Public Access

The Preserve is currently not open to the public; however, there is an unofficial trail in the northernmost portion of the Preserve, adjacent to Honey Springs Road (Figure 6) and small walking paths have been created by unauthorized immigrants. Trash accumulation and other signs of use by unauthorized immigrants exist in many parts of the Preserve, specifically along the eastern half of the ridge top in the northern portion of the property, adjacent to rural residential development (Figure 6).

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

***Implementation Measure C.1.1*:** DPR rangers will patrol and monitor the Preserve for any unauthorized public access. Park rangers will document any illegal access, and inform any unauthorized persons observed on site that the Preserve is not open to the public and request that they leave the property. In addition, they 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 are considered incompatible uses in the MSCP preserve, and are therefore prohibited in the Preserve, except for law enforcement, Preserve management, and/or emergency purposes.

b. Hunting or discharge of firearms is an incompatible use in the MSCP preserve, and is therefore prohibited in the Preserve, except for law enforcement, and/or emergency purposes.

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

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. Littering/Dumping

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

***Implementation Measure C.2.1*:** If, in the future it is decided to open the Preserve to the public, DPR has identified and mapped sensitive vegetation communities, plant and wildlife species, and cultural sites in the Preserve so that these areas can be avoided and/or monitored at proposed public access points. Updated information on sensitive resources in relation to public access areas will be obtained in conjunction with monitoring surveys (implementation measures A.1.1 and A.1.2).

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

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

Management Directive C.4 – Analyze any future proposed public access such that recreational use of the Preserve is consistent with the protection and enhancement of biological and cultural resources (*Priority 2*)

The Preserve is currently not open to the public and there are no immediate plans to open it to the public.

Implementation Measure C.4.1: If, in the future, it is decided to open the Preserve to the public, DPR will develop a Public Access Plan to determine the appropriate level of public access and recreational use within the Preserve, and

provide recommendations for preferred trail alignments and features compatible with the protection and enhancement of biological and cultural resources. DPR will ensure that any proposed trail system is compatible with the South County MSCP objectives and the County-approved Community Trails Master Plan (County of San Diego 2009a).

Implementation Measure C.4.2: DPR will ensure that any future proposed trail system will undergo environmental review in accordance with CEQA prior to public use of the Preserve.

5.4.2 Fencing and Gates

Currently, a gate is located in the northeast portion of the Preserve off of Honey Springs Road allowing access to the Preserve. The Preserve is fenced on the western and northern boundaries and fencing is present along the northeast boundary adjacent to private residences. The remaining eastern boundary of the Preserve is not fenced. Fencing along State Route 94 (western border of Preserve) is maintained by the California Department of Transportation (CalTrans).

Management Directive C.5 – Install and maintain fencing and gates within the Preserve (*Priority 1*)

***Implementation Measure C.5.1*:** Park ranger staff will install re-enforced chain-link fencing along the eastern boundary of the Preserve adjacent to the private residences to discourage unauthorized access. Park ranger staff will also coordinate with Border Patrol regarding unauthorized access in this area.

Implementation Measure C.5.2: Points of unauthorized access and sensitive species impacts will continue to be identified in conjunction with habitat, plant and wildlife, and access road monitoring activities (as described in implementation measures A.1.1, A.1.2, and C.6.1). DPR will ensure that any installation of fences or gates will be designed and located so they do not impede wildlife movement or impact cultural resources.

***Implementation Measure C.5.3*:** Park ranger staff will regularly inspect and maintain fencing and gates in the northern and northeast portions of the Preserve. Fencing segments and gates will be repaired or replaced as necessary.

5.4.3 Trail and Access Road Maintenance

The Preserve is not open to the public. However, it contains one minor access road on the periphery of the Preserve.

Management Directive C.6 – Properly maintain access roads and trails for user safety, and to protect natural and cultural resources (*Priority 1*)

***Implementation Measure C.6.1*:** Park ranger staff will monitor the existing dirt access road in the northeast portion of the Preserve currently used for management purposes for degradation and off-trail access and use. Park ranger staff will provide necessary repair/maintenance as needed.

5.4.4 Signage

A "No Trespassing" sign is currently posted on the existing gate at the northern boundary of the Preserve.

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

***Implementation Measure C.7.1*:** 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*:** DPR prohibits the permanent storage of hazardous and toxic materials within the Preserve. Any temporary storage must be in accordance with applicable regulations, and otherwise designed to minimize any potential impacts.

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

***Implementation Measure D.2.1*:** 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.

Implementation Measure D.2.2: DPR staff will remove the accumulation of trash along the eastern half of the ridge top in the northern portion of the property directly adjacent to the rural residential development identified during TAIC's 2009 surveys (Figure 6).

5.5.2 Hydrological Management

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

Management Directive D.3 – Retain Dulzura Creek in its natural condition (*Priority 1*)

Invasive non-native plant removal efforts are planned to be performed in 2011 within riparian habitat associated with Dulzura Creek. In addition, funding is currently being sought for active restoration of riparian vegetation along Dulzura Creek after invasive non-native plant removal efforts in 2011.

***Implementation Measure D.3.2*:** If funding is not acquired in 2012 for restoration of riparian vegetation along Dulzura Creek, DPR will continue to coordinate with other agencies, non-profit organizations, and/or volunteer groups in order to seek funding for restoration activities.

Management Directive D.4 – Retain Pringle and Honey Springs Creeks in their natural condition (*Priority 1*)

***Implementation Measure D.4.3*:** Monitor potential sites that may erode through implementation measure A.1.1. If deemed necessary, install BMPs to stabilize creek banks.

5.5.3 Emergency, Safety and Police Services

The Framework Management Plan explains that the interface between current and future urban development and MSCP preserve areas requires increased coordination between the preserve managers and agencies responsible for public safety. The MSCP preserve system, including Lawrence and Barbara Daley Preserve, must accommodate access for emergency response and fire control and management. In the event that entry into the Preserve by law enforcement agencies is needed in the routine performance of their duties, use of existing roads should be encouraged. In emergencies where there is a direct threat to public safety, the law enforcement agency should contact DPR whenever feasible.

Law enforcement and fire control agencies, the Border Patrol, and organizations and agencies that respond to natural disasters shall be permitted to perform their activities within any preserve system subject to all applicable requirements of state and federal law.

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

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

5.5.4 Adjacency Management Issues

As described in Section 2.4.2, there is currently open space land surrounding the Preserve, with the exception of sparse rural residential development to the north and northeast, and the community of Dulzura to the southeast. 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 guidelines when planning and implementing uses and activities that can be regulated.

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

***Implementation Measure D.6.1*:** DPR will coordinate with the Bureau of Land Management and California Department of Fish and Game (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 MSCP. Coordination will include discussion of conservation goals; threats; methodology for management, monitoring, restoration, and reintroduction; results of management tasks and scientific research; and potential future projects.

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

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

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

***Implementation Measure D.8.1*:** DPR will post this RMP on the DPR website (www.sdparks.org) to heighten the environmental awareness of adjacent residents, and inform residents of appropriate landscaping, construction or disturbance within the Preserve boundaries, pet intrusion, fire management, and other adjacency issues.

5.6 Cultural Resources Element (E)

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

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

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

***Implementation Measure E.1.1*:** DPR will provide maps of sensitive cultural resources with sufficient buffer around them within the Preserve to the local fire agencies for inclusion in their wildland pre-response plans so that these resources can be avoided to the maximum extent possible.

***Implementation Measure E.1.2*:** All management activities within the Preserve including, but not limited to, routine maintenance and habitat restoration, will take into consideration potential impacts to cultural resources and shall avoid adverse impacts to any cultural resources to the maximum extent possible. No ground disturbing activities will be allowed on or in any cultural resource site within the Preserve until the impacts have been assessed. For those sites already evaluated and determined not significant, no further action is required.

If avoidance of significant sites is not feasible, appropriate mitigation measures will be established in conjunction with consultation with Native American tribes. Removal or disturbance of cultural resources shall not occur prior to completion of an approved mitigation program, such as data recovery and a grading monitoring program consisting of a County approved consultant and Native American representative. Preservation in place is the preferred mitigation measure.

If human remains are discovered, the County Coroner shall be contacted. In the event that the remains are determined to be of Native American origin, the Most

Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains. Mitigation measures will be developed on a case by case basis by the County archaeologist and the archaeological consultant.

***Implementation Measure E.1.3*:** The condition and status of cultural resources on site shall be noted as part of routine monitoring activities conducted on a five-year basis (or on a more frequent basis as determined by DPR) and remedial measures shall be taken if damage is noted. Monitoring activities should also photo-document site conditions so that comparisons can be made over time. Monitoring efforts should focus on known significant resources, resources of recognized importance to local Native American groups, and resources at increased risk of disturbance or vandalism.

Currently, the Preserve is not open to the public and only one minor road in the northern portion of the Preserve is utilized for DPR management purposes. Monitoring should currently be concentrated in the vicinity of the road as resources are crossed by or are in close proximity to the road. It is anticipated that these sites are at greatest risk from public vandalism or inadvertent damage due to DPR staff driving on the road. A figure showing the resources that should be monitored is included in the confidential appendix of the Phase I Cultural Resources Report for the Preserve (Appendix B).

Monitoring of the sites in the Preserve will follow the guidelines found in the County of San Diego *Report Format and Content Requirements, Cultural Resources: Archaeological and Historical Resources* (2007). All site location information will be kept strictly confidential, and will be available only for qualified cultural resource staff and land managers. Site locations will not be shown on maps or divulged to the public.

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

***Implementation Measure E.2.1*:** DPR will continue to coordinate and consult with tribal representatives who may have knowledge of the Preserve area, including those representing the Jamul Indian Village, in order to keep them informed of activities associated with the Preserve. Consultation shall be conducted frequently in order to identify appropriate management of pre-contact and ethnographic cultural resources. The tribes will be encouraged to participate in surveys, evaluation, recordation, protection and preservation of cultural resources.

***Implementation Measure E.2.2*:** DPR will open the Preserve to traditional uses by the Jamul Indian Village and other tribes which may have traditionally used the Preserve area. All activities by Native Americans in the Preserve shall be conducted with a Right-of-Entry permit specifically designed for the Preserve.

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APPENDIX A

Baseline Biological Resources Evaluation
Lawrence and Barbara Daley Preserve
(See www.co.san-diego.ca.us/parks/management_plans.html)

APPENDIX B

Cultural Resources Phase I Survey and Inventory of the Lawrence and Barbara Daley Preserve, San Diego County, California (Confidential)