

SANTA CLARA VALLEY WATER DISTRICT

Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan

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November 2015

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I. BACKGROUND

1.0 INTRODUCTION

1.1 Purpose of Property Purchase

In December 2015, the Santa Clara Valley Water District (SCVWD) will purchase the Rancho Cañada de Pala Preserve (Preserve) from The Nature Conservancy (TNC) in part for the purpose of providing mitigation in perpetuity for impacts associated with the SCVWD's 2002 Multi-Year Stream Maintenance Program (SMP) under the Stream and Watershed Protection Program (S&WPP). The Preserve may also provide mitigation for other SCVWD projects to be identified in the future, pending prior agency approval. The agencies that required the mitigation (Permitting Agencies) associated with the 2002 S&WPP are the California Department of Fish and Wildlife (CDFW), U.S. Army Corps of Engineers (Corps), and San Francisco Regional Water Quality Control Board (SF RWQCB).

The Preserve is divided into three Areas (Areas 1, 2, and 3) that collectively total 1,758 acres (Figure 1). Area 3, which encompasses 320 acres, is the subject of this Long-term Management Plan (LTMP) and includes 6.6 miles of S&WPP-designated streams (waters of the U.S./State and California Fish and Game Code Section 1600 jurisdiction) and their associated buffers (220.60 acres with 0.71 acres subtracted for the existing road alignments); these are the acreages and resources for which SCVWD is claiming 2002 SMP mitigation credit. Information about the S&WPP and mitigation credits is provided in Section 1.5; Appendix C includes a detailed accounting of the S&WPP crediting.

In 2000, an easement on a portion of the Preserve (Area 1) was transferred by the Kammerer family to Catellus Land Development Corporation to be used as mitigation for impacts on the California tiger salamander (CTS; *Ambystoma californiense*) elsewhere (G. Kammerer pers. comm.; SF RWQCB 1999). Catellus Land Development Corporation recorded a Conservation Easement (CE) on the approximately 840-acre Area 1 of the Preserve in favor of TNC (as the Grantee). Two years later, TNC purchased the underlying fee from the Kammerer family, and TNC now owns the entire Preserve. The SCVWD will obtain ownership of the Preserve (including Areas 1, 2, and 3), with a perpetual CE held by TNC on Area 1. Because a CE is already present on Area 1, this portion of the Preserve will not provide mitigation for current or future SCVWD projects.

No existing CEs are present within Areas 2 and 3 of the Preserve. The SCVWD is in the process of recording a CE on the entire Area 3 to provide mitigation for the 2002 SMP, as described above. The SCVWD is not recording any CEs on Area 2 at this time; however, Area 2 may provide mitigation for other SCVWD projects, either currently identified or to be identified in the future. If Area 2 is proposed for future mitigation, it would be subject to the requirements of the regulatory agencies governing that mitigation. It is anticipated that a separate CE and LTMP would be prepared for Area 2.

1.2 Purpose of this Long-term Management Plan and Relationship to Conservation Easement

The purpose of this LTMP is to ensure that Area 3 of the Preserve is monitored, maintained, and managed in a manner that preserves its conservation values in perpetuity and is consistent with both the Area 3 CE and the SCVWD's mitigation goals.

The conservation values of Area 3, in accordance with the SCVWD's mitigation goals and the physical characteristics of Area 3, are as follows:

1. Over 5.4 miles of seasonal streams and 1.2 miles of perennial stream
2. A mosaic of open rangeland and varied vegetation types (i.e., California annual grassland, foothill pine/oak woodland, mixed oak forest, mixed riparian forest, northern mixed/chamise chaparral, and valley oak savanna) that provide habitat for a wide variety of birds, mammals, reptiles, amphibians, and invertebrates
3. Potential breeding and upland dispersal habitat for the federally threatened California red-legged frog (CRLF; *Rana draytonii*), also a state species of special concern; potential upland dispersal habitat for the state and federally threatened California tiger salamander (CTS; *Ambystoma californiense*) and foraging and potential breeding habitat for the foothill yellow-legged frog (FYLF; *Rana boylei*), western pond turtle (WPT; *Emys marmorata*), and potential breeding and foraging habitat for the American badger (*Taxidea taxus*), all of which are state species of special concern
4. Ecological connectivity to the surrounding open space and watershed land network

Aside from the seasonal and perennial streams and associated watershed protection buffers, the SCVWD is not claiming mitigation credit for conservation of these resources within Area 3.

This LTMP establishes objectives, priorities, and tasks to monitor, manage, maintain, and report on the waters of the U.S./State and 1600 jurisdiction and overall conservation values within Area 3, which will be managed according to the LTMP. In addition, this LTMP is a binding and enforceable instrument, implemented by the CE that will cover Area 3. The areas that will be covered by the approximately 320-acre 2015 CE for Area 3 are defined in the CE, and consist of the 219.9 acres of Stream and Watershed Protection Buffers (adjusted for the presence of roads) for 18.3 freshwater wetland mitigation credits, which is more than the remaining 15.2 mitigation credits required under the S&WPP for impacts associated with the SMP. The CE establishes the prohibited activities within these applicable areas. The CE and LTMP together will provide for the long-term protection, maintenance, and management of this CE area and its conservation values.

The LTMP Goals are to:

- Meet the compensatory mitigation requirements of the SCVWD's 2002 SMP
- Preserve and allow for the improvement of the conservation values of Area 3
- Provide coordinated, unified management for Area 3
- Provide feasible and effective conservation guidelines, standards, and priorities for resource management, monitoring, and adaptive management
- Be compatible with and promote cooperation among the various land owners/managers within the upper ends of the Upper Penitencia Creek and Alameda Creek watersheds (e.g., with respect to grazing regimes and invasive species control) and to help ensure

the survival of viable populations of sensitive species and healthy biotic communities in the area as a whole

- Provide flexibility as needed to adapt management practices in response to monitoring and field observations, and to meet revised or newly established mitigation goals for Area 3 over time

Also included within this document, though not part of long-term management per se, nor required to satisfy the terms of SCVWD mitigation, are discretionary initial site improvement actions (Section 4.0) to rehabilitate one degraded road crossing associated with a stream in Area 3 and to repair a headcut at a second location in order to repair minor erosion issues. These initial site improvements are also intended to ensure the long-term function of the Area 3 infrastructure and to facilitate land management.

1.3 CE Holder and Responsibilities

TNC will serve as the CE holder for the CE that will be placed on the entire 320 acres that comprise Area 3 of the Preserve. The CE holder is responsible for ensuring that the terms of the CE are met so that the conservation values of Area 3 are preserved or improved. The CE holder will be responsible for annual monitoring for and reporting on compliance with the terms of the CE. The CE holder will perform, at least once annually, compliance monitoring inspections of Area 3 of the Preserve to identify any prohibited uses. The CE holder will prepare reports on the results of the compliance monitoring inspections and provide these reports to SCVWD. SCVWD shall provide these reports to the Permitting Agencies as a part of the annual LTMP reporting process described in Section 9.0.

1.4 Land Manager and Responsibilities

The land manager (Land Manager) is the SCVWD. The SCVWD will implement this LTMP, managing and monitoring Area 3 in perpetuity to preserve its habitat and conservation values. As the Land Manager, the SCVWD will be responsible for maintaining Area 3 in a condition at least as good as its current condition consistent with the CE, although it is anticipated that LTMP implementation will result in improved environmental conditions. The SCVWD may implement additional, optional resource management activities not included in this LTMP that further improve environmental conditions beyond the requirements of this LTMP. These may include site improvement projects or long-term management activities that enhance or improve habitat for particular species or communities. If such additional activities are proposed within the CE area, these will need to be consistent with the restrictions and allowed uses in the CE, and may require written approval of the Permitting Agencies. The addition of new management or enhancement activities may require an LTMP amendment approved in writing by the Permitting Agencies; whether such a formal amendment is necessary will be determined in consultation with the Permitting Agencies. In response to changing conditions, and as part of adaptive management, the SCVWD may employ new or different management techniques to meet the objectives of this LTMP. Any new subsequent grading or alteration of the site's hydrology and/or topography by the Land Manager or its representatives would be for restoration or enhancement purposes and will require amendment to this LTMP and the necessary permits, such as a Streambed Alteration Agreement with the CDFW, a California Endangered Species Act 2081 Incidental Take Permit, a Clean Water Act Section 404 permit from the Corps, and/or a Clean Water Act Section 401 certification from the SF RWQCB.

1.5 Stream and Watershed Protection Program (S&WPP or Program) and SMP Mitigation Credits

The S&WPP provides out-of-kind, stream mitigation for wetland mitigation credit for the 2002 SMP. The S&WPP Mitigation Monitoring Plan (MMP) is provided in Appendix J of the 2002 SMP Final Environmental Impact Report (SCH# 2000102055).

The S&WPP provides a standard crediting formula for acquisition properties. Mitigation credit units are determined as follows:

- Maximum credit: 10:1 (acres:credit) - including land nearest to the stream. For every 10 acres of area preserved within 50 feet (ft) of the centerline on first-order streams and within 150 ft of centerline on second-order and larger streams, 1 acre is credited.
- Minimum credit: 15:1 (acres:credit) - including watershed land farther from the stream. For every 15 acres of area preserved within 150 to 500 ft of the centerline of second-order and larger streams, 1 acre is credited.

The S&WPP map is depicted on Figure 10 (Appendix C), which shows the Area 3 streams, their alpha and/or numeric designations, and their associated buffers. Table 6 (Appendix C) presents the corresponding stream order, lengths, buffer acreages, and resulting S&WPP credit data. Streams within Area 3 were mapped using the Bay Area Aquatic Resource Inventory stream mapping data from the San Francisco Estuary Institute. S&WPP 50-foot, 150-foot and 500-foot stream buffers were mapped and acreages determined using GIS, per the methods described in the S&WPP MMP. Subsequently, the existing roads (10-foot width) were subtracted from the buffer areas.

In summary, the Area 3 S&WPP credit area includes 219.9 acres for 18.3 wetland mitigation credits; 35.9 and 74.1 acres are within 50- and 150-foot buffers, respectively, for 11.0 credits, and 109.9 acres are within 500-foot buffers for 7.3 credits.

2.0 PROPERTY DESCRIPTION

2.1 Location, Setting, Topography, Hydrology, and Soils

2.1.1 Location and Setting

Area 3 of the Preserve is approximately 320 acres, and is located 9 miles northeast of downtown San José in unincorporated Santa Clara County (Figure 1) on all of parcel 042-20-010 and portions of parcels 041-07-022 and 042-07-019. Area 3 lies on east and south-facing slopes of the Diablo Range, approximately 5.5 miles northwest of Mt. Hamilton. The Diablo Range extends 180 miles from Mt. Diablo in the northwest to the Polonio Pass in the southeast. The Diablo Range is largely undeveloped and supports a diverse mix of grassland, scrubland, and woodland communities. Cattle ranching and passive recreation are the predominant human uses throughout most of the Diablo Range. Permanent protection of Area 3 will add to a growing and increasingly contiguous swath of open space and conservation lands in the Mt. Hamilton region that currently include San Francisco Public Utilities Commission lands to the north; Santa Clara County Open Space Authority's (OSA) lands, the SCVWD's Upper Penitencia Creek Property, and the City of San José's Cherry Flat Reservoir to the west; and the University of California's (UC's) Blue Oak Ranch Reserve (BORR) and Santa Clara County's Joseph D. Grant County Park to the south (Figure 1).

2.1.2 Topography and Hydrology

Elevations on Area 3 range from approximately 1400 feet National Geodetic Vertical Datum (NGVD) 29 along Arroyo Hondo, a perennial stream that runs along the eastern edge of Area 3, to 2900 feet NGVD29 in the southwest corner (Figure 2). Area 3 is primarily composed of the steeply sloping hillsides of Poverty Ridge, which are bisected by ephemeral and intermittent drainages that flow into Arroyo Hondo (Figure 3). Arroyo Hondo drains a large portion of the watershed on the slopes of Mt. Hamilton; its mainstem originates at the confluence of Isabel Creek and Smith Creek at the northern tip of Joseph D. Grant County Park, 1.5 miles southeast of Area 3. The drainage then flows northward through a deep gorge, bound by Oak Ridge to the east and Poverty Ridge to the west, for approximately 13 miles and drains to Calaveras Reservoir. Calaveras Dam was constructed in 1913 in response to the increasing demand for drinking water in the San Francisco Bay Area at the turn of the 20th century. The reservoir is now the San Francisco Bay Area's largest local drinking water supply, and along with Calaveras Creek, Arroyo Hondo is one of its principal tributaries.

The estimated 30-year (1981-2010) mean annual precipitation at Area 3 is 24.83 inches (PRISM 2015), most of which occurs between the months of November and April. Precipitation is the main source of water for the ephemeral and intermittent streams within Area 3; however, natural seeps and springs at the headwaters of drainages where the groundwater table approaches or tops soil surface are present on adjacent portions of Area 1.

2.1.3 Soils

Area 3 is underlain by three soil types within the Gaviota Series and Los Gatos-Gaviota Complex: (1) Gaviota loam, 30 to 75 percent slopes; (2) Gaviota gravelly loam, 30 to 75 percent slopes, severely eroded; and (3) Los Gatos-Gaviota complex, 50 to 75 percent slopes (Figure 4). These soils are derived from hard sandstone and shale from the Franciscan formation and younger (Miocene age) marine sediments. The Gaviota series consists of shallow soils that are well-drained and somewhat excessively drained, moderately to severely eroded, and of low fertility, and that may be subject to burning. Serpentine soil inclusions of the Henneke series are common throughout (Natural Resources Conservation Service [NRCS] 2015), in addition to inclusions of the Los Gatos and Vallecitos series (U.S. Soil Conservation Service 1974). The Los Gatos-Gaviota complex generally includes soils within the Gaviota series on ridges and south-facing slopes, as well as soils within the Los Gatos series on north-facing slopes. The Los Gatos series is well-drained, subject to sheet erosion, and moderately fertile. This complex may also include small areas of Vallecitos rocky loam, Los Osos clay loam, and Altamont clay. Rock outcrops and talus slopes occur throughout portions of Area 3, and much of what underlies the eastern-facing slope down to Arroyo Hondo is unstable *mélange*, an assortment of rock fragments of all sizes that have been arranged by earthflow landslides.

2.2 General History and Land Use of Area 3

Area 3 is undeveloped and has minimal existing infrastructure. Similar to the rest of the region, Area 3 has historically been used for cattle grazing. Information on historic grazing in the region and recent grazing activity within Area 3 is provided for context below.

2.2.1 Historic Land Management in the Region

Livestock grazing has existed in Santa Clara County, including in the foothill areas of the Diablo Range, for over 200 years. During the Spanish Period (1722-1822), lands outside of the missions and pueblo settlements in the county were utilized primarily for grazing of livestock and limited agriculture (County of Santa Clara 2004).

With the establishment of large private land grants during the Mexican Period (1822-1846), local residents were able to own and oversee immense acreages of land (a “rancho”), typically thousands of acres in size. Large herds of cattle were allowed to range freely across these immense tracts of land on a year-round basis and were rounded up twice a year during rodeo. Within a rancho, only the existing infrastructure (e.g., house, corral, garden, small orchard) was fenced, and the remainder of the ranch where the cattle roamed was unfenced (County of Santa Clara 2004).

Rancho land ownership continued until this system was challenged by frontier settlers during the American Period (1846-1900). As smaller farms were established throughout the County, open range methods changed, pasture land was reduced, and cattle ranching became concentrated in the foothills. This period included more intensive cattle operations with fencing and water developments being installed, as well as intensive stock farming, with cattle being moved from foothill pastures to valley feed yards to await marketing. With these more intensive methods, hay production became a necessity (County of Santa Clara 2004). Year-long grazing was probably conducted in most areas.

From the end of the American Period until more recently, year-long and/or seasonal grazing is presumed to have been the strategy of many area ranches with extensive fencing and water developments to utilize all available feed that grew annually. Maximizing livestock numbers was the objective of many area ranches. This strategy still exists on many local ranching operations.

2.2.2 Recent Land Use of Area 3

From 1976 until 2001, Area 3 was part of a 2,000-acre ranch owned by the Kammerer family. The Kammerer family used the ranch primarily for cattle grazing, but also enjoyed the ranch for wildlife-related uses, including fishing and hunting. Grazing activity on the ranch consisted of a relatively conservative grazing regime (G. Kammerer pers. comm.). In the six years prior to 2001, grazing activity on the ranch consisted of the following:

1995 – 59 cow/calf pairs
1996 – 73 cow/calf pairs, 4 yearlings, 4 bulls
1997 – 47 cow/calf pairs, 4 yearlings, 4 bulls
1998 – 45 cows, 39 calves, 3 bulls
1999 – 45 cows, 39 calves, 3 bulls
2000 – 45 cows

Because the Preserve was obtained by TNC, a grazing regime at or below 50 animal units (AUs) per year has been maintained on the Preserve as a whole (including Areas 1, 2, and 3 collectively) per the requirements of the Management Plan (Exhibit C) of the CE for Area 1 (TNC 2000). No fencing currently separates Area 3 from Areas 1 and 2 (Figure 5), and therefore livestock grazing is managed for all three areas as a single unit.

2.3 Existing Infrastructure

The existing infrastructure in Area 3 is shown on Figure 5. One main drivable dirt road, which represents the easternmost portion of a larger loop road that extends into Area 3 from Area 1, traverses the westernmost portion of Area 3. This road skirts the western boundary of Area 3 from its midpoint south until it turns west back into Area 1. The total length of the portion of this road that traverses Area 3 is 0.51 miles.

The drivable road in Area 3 crosses ephemeral and intermittent streams at five locations (SC 1–5, Figure 5). These stream crossings are not associated with any infrastructure, such as culverts; rather, they are ford crossings. The drainages are shallowly incised at each stream crossing. Water travels across the road as sheet flow, and when it is present, it is very shallow (a few inches deep at most) (Photo 1, Appendix B, Figure 6). However, a collapsed wooden retaining wall was observed at SC 4 during the field surveys. Previously, the wall functioned to stabilize the stream banks, and has since been damaged by high water flows and erosion (Photo 2, Appendix B, Figure 6). At the same location, a headcut and gully have formed on the downstream side of the road. At the time of the May–June 2015 surveys, SC 4 was impassable by vehicles and this prevented driving along the entirety of the road within Area 3 (Photo 3, Appendix B, Figure 6), although all portions of this loop road were accessible from adjacent Area 1. Only one additional erosional feature was noted at the stream crossings on Area 3: a small headcut beginning to form on the downstream side of SC 5 (Photo 4, Appendix B, Figure 6).

One abandoned road and one trail are also present within Area 3. The abandoned road has not been driven in the recent past, and the trail also consists of an abandoned road that has not been driven recently (but has been used for pedestrian access). The abandoned road runs in a northwest-southeast direction and provides access to the southeastern portion of Area 3, and the trail currently serves as a foot trail leading downslope to Arroyo Hondo.

There are various fences (e.g., 4- and 5-strand barbed wire fence and pig fence) present along portions of the boundaries of and within Area 3 (Figure 5). Barbed wire fencing is present along the northern boundary of Area 3, and pig fencing is present near the southern boundary of Area 3 between Area 3 and the BORR to the south. A small section of barbed wire fencing is present along the trail to Arroyo Hondo at the top of the Arroyo Hondo gorge to exclude cattle from potentially entering the steep gorge; otherwise, extremely steep topography (and in some areas, very dense vegetation) precludes cattle access to the Arroyo Hondo canyon. The western boundary of Area 3 is not separated from Area 1 by fencing, and no additional internal fencing bisects Area 3 (Figure 5). No gates were observed along the fences within or bordering Area 3. Portions of the northern and southern fence lines within Area 3 were mapped using aerial photography, and the condition of this fencing is unknown. However, all fencing seen on the site during the field survey was observed to be in good condition.

No ponds are present within Area 3, and no cattle troughs are present within this Area. However, a water trough is located immediately adjacent to Area 3 within Area 1, along the loop road which enters Area 3 near its middle. A second water trough is present approximately 950 feet west of the northern portion of Area 3 within Area 1, and a seasonal pond is present approximately 530 feet west of the southern portion of Area 3 within Area 1.

2.4 Existing Easements

Area 3 of the Preserve contains one existing right of way easement – the drivable road depicted on Figure 5. All the roads in Figure 5 have been subtracted from any mitigation credit calculation.

2.5 Adjacent Land Uses

Most properties in the general vicinity of Area 3 are undeveloped and have been used long-term for cattle grazing; however, not all properties in the vicinity continue to implement cattle grazing. Lands adjacent to Area 3 include a combination of public and private ownership for private ranching, parks, research, and mitigation purposes (Figure 1).

Several protected open space areas abut Area 3, including Area 1 of the Preserve, which is located immediately west of Area 3. In addition, the UC's BORR is located immediately to the south of Area 3, and the SCVWD's Upper Penitencia Creek Property, which is protected by a CE, is located west of the Preserve. The remaining properties to the north and east of Area 3 are owned by private landowners who use those lands for cattle ranching (Figure 1).

2.5.1 Blue Oak Ranch Reserve

The BORR, which is a part of the UC Natural Reserve System (NRS), abuts the southern boundary of Area 3 (Figure 1). The 3,260-acre BORR has been administered by the UC Regents and UC Berkeley as a teaching and research area because the BORR became a part of the NRS in 2007 (University of California at Berkeley [UCB] 2013). TNC holds a CE on the property and the County of Santa Clara has an open space agreement with the UC for the area as well (BORR 2013).

Habitats at the BORR are similar to those within Area 3 and include non-native and native grassland, oak woodland/savanna (e.g., blue oak, valley oak, black oak and coast live oak) and scrub. In addition, the BORR has extensive riparian habitat, a series of streams, and 17 ponds (UCB 2013).

Livestock grazing is no longer used as a management tool at BORR. Prescribed burning, conducted in collaboration with the California Department of Forestry and Fire Protection (CAL FIRE), is used instead, as necessary, to reduce thatch accumulation and protect against large, damaging fires; to control invasive plant species; and to enhance wildlife habitat (M. Hamilton pers. comm.).

2.5.2 Rancho Cañada de Pala Preserve Areas 1 and 2

Vegetation types within Areas 1 and 2 of the Preserve are similar to those within Area 3 and include large tracts of oak forests and woodland, valley oak savanna, and California annual grassland, and small patches of chaparral habitat. Dominant tree, shrub, and herbaceous species are similar across the entire Preserve, although portions of Areas 1 and 2 to the west of Poverty Ridge (i.e., within Area 2 and approximately half of Area 1) lack foothill pine (*Pinus sabiniana*), which is a major component of the tree canopy to the east of the ridgeline. Ephemeral and intermittent streams in Areas 1 and 2 are similar to those in Area 3, and lack much distinctive riparian tree development. Streams to the west of Poverty Ridge drain into Upper Penitencia Creek, and streams to the east (i.e., within Area 3 and approximately half of Area 1) drain into Arroyo Hondo, the only perennial stream on the Preserve. Because of the

steep gradient and rocky slopes leading down to Arroyo Hondo as well as the dense woody vegetation within much of Area 3, livestock more heavily utilize Areas 1 and 2. As a result, both human- and livestock-related activities are greater, and occurrences of nonnative invasive plant species are more frequent, on Areas 1 and 2 of the Preserve. In addition, water features utilized by cattle are more abundant on Areas 1 and 2, some of which have been artificially created to support ranching activities. Eight cattle troughs and 10 seasonal and perennial ponds are present within Areas 1 and 2. Wetlands are often associated with these ponds, and further, some seeps and springs occur on Areas 1 and 2 of the Preserve.

TNC has implemented a managed grazing program within all areas of the Preserve since 2001. With the exception of livestock grazing, TNC has not implemented other measures (e.g., use of herbicides) to manage invasive vegetation or weed infestations (S. Gennet pers. comm.).

2.5.3 Upper Penitencia Creek Property

From 1976 until December 2012, the 222-acre Upper Penitencia Creek Property was part of the larger 2,000-acre ranch owned by the Kammerer family. In December 2012, the OSA purchased this 222-acre area surrounding the upper end of Cherry Flat Reservoir with the intention of partnering with the SCVWD. Ownership was transferred to the SCVWD in December 2014 for the purpose of providing mitigation in perpetuity for impacts associated with the SCVWD's 2002 Multi-Year SMP under the S&WPP. The SCVWD retains ownership of the Upper Penitencia Creek Property, with a perpetual CE held by OSA on an approximately 201-acre portion of the property.

Similar to the Preserve, the Upper Penitencia Creek Property was historically used for cattle grazing. From the mid-1970s (or earlier) until December 2012, no formal grazing regime was implemented on the property, and it was lightly grazed using a seasonal grazing strategy. One perennial pond, three seasonal ponds, and one developed spring are present on the Upper Penitencia Creek Property. The property is currently managed by OSA per the 2014 LTMP and CE (SCVWD 2014). Cattle grazing Areas 1 and 2 of the Preserve also graze the eastern side of the Upper Penitencia Creek Property, which is not separated from the Preserve by fencing.

2.5.4 Other Surrounding Lands

Area 3 of the Preserve is bordered by private ranch lands to the north and east (Figure 1). In the larger surrounding area, the Preserve is surrounded by private ranch lands and a growing, increasingly contiguous swath of open space and conservation lands in the Mt. Hamilton region that currently includes San Francisco Public Utilities Commission lands to the north, OSA lands to the west, and Joseph D. Grant County Park to the south (Figure 1). These conservation lands include the OSA's Moore Property located downstream of Cherry Flat Reservoir, purchased in part for the S&WPP, and with a CE held by the SCVWD.

3.0 HABITAT AND SPECIES DESCRIPTIONS

3.1 Vegetation Types

The majority of Area 3 is characterized by steep hillsides dominated by oak forest and woodland and interspersed with more open grassland, chaparral, and savanna. The hillslopes are bisected by 17 ephemeral and intermittent streams that flow into Arroyo Hondo (Figure 3). In addition, riparian forest occurs within the deep gorge of Arroyo Hondo that runs along the

eastern border of Area 3. The vegetation types within Area 3 are provided in Table 1 and depicted on Figure 7.

Table 1. Vegetation Types

Vegetation Type	Overall Acreages (acre)
Mixed Riparian Forest	6.0
Mixed Oak Forest	114.9
Foothill Pine/Oak Woodland	140.3
Valley Oak Savanna	26.2
California Annual Grassland	9.8
Northern Mixed/Chamise Chaparral	22.8
Total acreage	320.0

The vegetation map (Figure 7) and vegetation type descriptions below are based on surveys conducted by H. T. Harvey & Associates in May and June 2015. In addition to field observations, vegetation signatures visible on aerial photographs (Google Inc. 2015) and information from the Santa Clara Valley Habitat Plan (VHP; ICF International 2012) were used to assist in the creation of the vegetation map and vegetation type descriptions for Area 3. The *Jepson Manual, second edition* (Baldwin et al. 2012) was the principal taxonomic reference used for the botanical work. The vegetation type descriptions that follow also indicate the corresponding habitat classifications designated by the VHP (ICF International 2012), Holland (1986), and the California Wildlife Habitat Relationships System (CWHR) (California Department of Fish and Game [CDFG] 1988), where appropriate. Holland’s (1986) habitat classifications were developed as a “coarse filter” to capture the majority of the state of California’s biota for the purpose of including natural communities in the California Natural Diversity Database (CNDDDB), and it is patterned after TNC’s Natural Heritage Program methodology. The CWHR System is a wildlife information system and predictive model for the state’s common amphibian, reptile, bird, and mammal species (CDFG 1988).

3.1.1 Mixed Riparian Forest

Mixed riparian forest only occurs in a narrow corridor along Arroyo Hondo, and is bound by steep, rocky slopes directly to the east and west (Photo 5, Appendix B). The overstory of this vegetation type is dominated by small trees and shrubs that are rooted along the edges of the low-flow channel and atop cobble bars, such as white alder (*Alnus rhombifolia*) (Photo 6, Appendix B) and various species of willow, primarily dusky willow (*Salix melanopsis*) and sandbar willow (*Salix exigua*). The understory of riparian forest is sparsely vegetated, as large boulders, exposed bedrock, deep pools, and quickly flowing water preclude plant growth in many areas (Photo 7, Appendix B). Naked sedge (*Carex nudata*) almost exclusively dominates the herbaceous plant community, where its cespitose habit creates large hummocks that rise above the water and can provide a suitable substrate for plants and wildlife that offers protection from floods and herbivory.

Mixed riparian forest is sustained by water from the associated riverine system, which holds water year-round. Woody debris is common throughout this area, providing good habitat and shelter for fish, amphibians, and aquatic invertebrates. As a result of the surrounding terrain, very dense vegetation (chaparral) in some areas, and the small section of barbed wire fence along the only trail that leads to Arroyo Hondo, livestock cannot access the riparian corridor of

Arroyo Hondo, and thus, the area has been left relatively undisturbed and generally lacks non-native vegetation.

The mixed riparian forest vegetation type most closely resembles the mixed riparian forest and woodland habitat type described in the VHP (ICF International 2012), the Central Coast arroyo willow riparian forest/mixed willow series described by Holland (1986), and CWHR montane riparian forest habitat classification (CDFG 1988).

3.1.2 Mixed Oak Forest

Stands of mixed oak forest generally occur along ephemeral and intermittent drainages on the east-facing slopes of Area 3 (Figure 7; Photos 8-9, Appendix B, Figure 6). This vegetation type is distinct from other oak woodland vegetation types in that it has a relatively closed canopy, and the vegetation signature on aerial photographs shows a variety of colors and textures indicative of co-dominant broad-leaved evergreen and deciduous tree species (Google Inc. 2015). The canopy is composed of a variety of evergreen trees, such as interior live oak (*Quercus wislizenii*), coast live oak (*Quercus agrifolia*), and California bay (*Umbellularia californica*), as well deciduous trees including blue oak (*Quercus douglasii*), valley oak (*Quercus lobata*), and black oak (*Quercus kelloggii*). The relative abundance of the dominant species varies according to ecological gradients. For example, coast live oak and California bay are the most shade tolerant; they thrive in mesic conditions and occur toward the interior of stands of mixed oak forest. In contrast, blue oak and valley oak are the least shade tolerant and tend to grow in more open woodland settings on the outer edges of this vegetation type. Blue oak is more tolerant of dry and rocky sites, whereas valley oak requires fertile soils that are common in bottomlands or the lower foothills of the Diablo Range. Interior live oak and black oak are intermediate with regard to shade and moisture tolerance (UC 2015).

The understory cover and composition of shrubs and herbaceous vegetation within Area 3 are variable, with greater cover in areas of less dense overstory. Dominant shrub species include poison oak (*Toxicodendron diversilobum*), various species of snowberry (*Symphoricarpos mollis* and *S. albus* var. *laevigatus*), California coffeeberry (*Rhamnus californica*), and toyon (*Heteromeles arbutifolia*). Common forbs amidst a thick layer of leaf litter include yerba buena (*Clinopodium douglasii*), Pacific sanicle (*Sanicula crassicaulis*), and spreading hedgeparsley (*Torilis arvensis*). Vines are also widespread throughout mixed oak forest on Area 3, including trailing blackberry (*Rubus ursinus*), pink honeysuckle (*Lonicera hispidula*) and western white clematis (*Clematis ligusticifolia*).

The mixed oak forest vegetation type most closely resembles the mixed oak woodland and forest habitat described in the VHP (ICF International 2012), the coastal oak woodland habitat type designated by the CWHR (CDFG 1988), and the coast live oak woodland of Holland (1986).

Because of the topographic position of this vegetation type, which is situated on very steep slopes, features such as rock outcroppings, talus, and unstable mélange intersect patches of the forests mapped within Area 3. Notably, inaccessible rocky areas are present on the east-facing slopes towering above Arroyo Hondo; these areas were also observed within all of the terrestrial habitats described below in Sections 3.1.3 through 3.1.6. Rocky areas support a few shrub species, such as sticky monkeyflower (*Mimulus aurantiacus*), California sage (*Artemisia californica*), and poison oak, as well as forbs such broadleaf stonecrop (*Sedum spathulifolium*), canyon live-forever (*Dudleya cymosa* ssp. *paniculata*), and goldblack fern (*Pentagramma triangularis* ssp. *triangularis*).

3.1.3 Foothill Pine/Oak Woodland

Foothill pine/oak woodland can be distinguished from mixed oak forest by its density and species composition (Figure 7; Photo 10, Appendix B, Figure 6). The tree canopy of this vegetation type is less dense than that of mixed oak forest, and it is dominated by foothill pine, valley oak, and blue oak. Although black oak, interior live oak, and California buckeye (*Aesculus californica*) are not the dominant tree species of this vegetation type, they are quite common throughout. The shrub layer in the understory is also sparse in comparison to the mixed oak forest habitat type, and includes poison oak, California coffeeberry, various species of snowberry, and coyotebrush (*Baccharis pilularis* ssp. *consanguinea*).

Beneath a dense tree canopy and shrub layer, the ground is largely covered by pine needles and oak leaf litter. The composition of vegetation in the herbaceous layer under canopy openings is almost identical to that of the California annual grassland vegetation type described below under Section 3.1.6. Grassy areas are dominated by a suite of non-natives that are common across much of Area 3, such wild oats (*Avena fatua* and *A. barbata*), annual dogtail (*Cynosurus echinatus*), rattail sixweeks grass (*Festuca microstachys*), soft chess (*Bromus hordeaceus*), and Spanish brome (*Bromus madritensis* ssp. *rubens*). Small patches dominated by native grasses are also present in the foothill pine/oak woodland vegetation type, and are composed of wildrye (*Elymus glaucus* and *E. triticoides*), various species of melicgrass (*Melica imperfecta*, *M. torreyana*, and *M. californica*), one-sided bluegrass (*Poa secunda* ssp. *secunda*), purple needlegrass (*Stipa pulchra*), and foothill needlegrass (*Stipa lepida*).

The composition of forbs in the understory will shift throughout the growing season, and at the time of the field surveys, common and identifiable species included spreading hedgeparsley, common Pacific pea (*Lathyrus vestitus* var. *vestitus*), Ithuriel's spear (*Triteleia laxa*), yellow mariposa (*Calochortus luteus*), and gumweed madia (*Madia gracilis*). Serpentine inclusions of the Henneke soil series likely occur within this vegetation type, as foothill pine is tolerant of serpentine edaphic conditions, and several of the common native bunchgrasses observed in Area 3 are serpentine-adapted, including one-sided bluegrass, foothill needlegrass, and purple needlegrass (Holland 1986 and Safford et al. 2005).

Both the VHP and CWHR include a foothill pine/oak woodland habitat (ICF International 2012 and CDFG 1988). Holland (1986) habitat types also include a "digger pine"/oak woodland/blue oak series classification.

3.1.4 Valley Oak Savanna

Valley oak savanna occurs on the south-facing slopes of Area 3, and is characterized by widely scattered trees and a grassy understory (Figure 7; Photo 11, Appendix B). Tree cover is typically 25 percent or less, and is dominated by valley oak, although blue oaks also occur in this vegetation type. Valley oak savanna intergrades with foothill pine/oak woodland, northern mixed/chamise chaparral, and California annual grassland within Area 3. Shrubs are generally lacking in the understory. The herbaceous layer is similar to that of the clearings in foothill pine/oak woodland (Section 3.1.3) and California annual grassland (Section 3.1.6) habitat types.

This vegetation type is classified as valley oak woodland in the VHP (ICF International 2012), Holland (1986), and in the CWHR habitat classification scheme (CDFG 1988). Furthermore, it is considered a sensitive natural community the CDFW and is listed in the CNDDDB (2015).

3.1.5 Northern Mixed/Chamise Chaparral

Chaparral is present on dry south and west-facing slopes and on rocky, well-drained soils (Figure 4; Photo 12, Appendix B, Figure 6). As such, the rock outcroppings described above under Section 3.1.2 are especially common within or adjacent to this vegetation type (Photo 13, Appendix B, Figure 6). Northern mixed/chamise chaparral was mapped in a number of relatively small, discrete stands, but also intergrades with the understory of foothill pine/oak woodland and with California annual grassland in some areas. Very few trees are present in this vegetation type; the shrub layer is a dense thicket of chamise (*Adenostema fasciculatum* var. *fasciculatum*), and the herbaceous layer is dominated by deerweed (*Acmispon glaber* var. *glaber*). In addition, substantial cover of various buckwheat species, including slender woolly buckwheat (*Eriogonum gracile*), and coyote mint (*Monardella villosa* ssp. *villosa*) was observed in the herbaceous layer at the time of the field surveys. Grass species observed in the woodland, savanna, and grassland vegetation types on Area 3 (see Section 3.1.3 above for a detailed description) are also common along the edges of chaparral and in areas lacking shrubs.

The VHP (ICF International 2012) and Holland (1986) also include a northern mixed/chamise chaparral habitat classification that matches the vegetation type description for Area 3, and it most closely resembles the chamise/redshank chaparral habitat classification under the CWHR, which includes impenetrable stands composed entirely of chamise (CDFG 1988).

3.1.6 California Annual Grassland

Only one large contiguous patch of annual grassland occurs within Area 3, on a steep southern-facing slope; however, annual grassland is also a significant component in the understory clearings of foothill pine/oak woodland, valley oak savanna, and northern mixed/chamise chaparral (Figure 7; Photo 14, Appendix B). California annual grassland lacks both trees and shrubs. It is dominated by a suite of non-native grasses including wild oats, rattail sixweeks grass, annual dogtail grass, soft chess, and Spanish brome. As previously mentioned (see Section 3.1.3 above), patches dominated by native grasses, some of which are serpentine-adapted species (such as one-sided bluegrass, purple needlegrass, and foothill needlegrass), are also interspersed within this vegetation type. Many of the forbs in this vegetation type had senesced by the time of the May and June 2015 field surveys; however, small areas of grassland were dominated by California cudweed (*Pseudognaphalium californicum*). In addition, smooth cat's ear (*Hypochaeris glabra*), Ithuriel's spear, yellow mariposa, and gumweed madia were common throughout. Rock outcroppings, talus, and unstable mélange also occur within the large patch of California annual grassland on Area 3.

Overall, grasslands in Area 3 are typical of lightly disturbed grasslands in the region and are similar to the California annual grassland habitat described by the VHP (ICF International 2012), the non-native grassland type described by Holland (1986), and the annual grassland designation in the CWHR habitat classification scheme (CDFG 1988). However, small areas within grasslands on Area 3 are dominated by serpentine-adapted native grasses, such as one-sided bluegrass, purple needlegrass, and foothill needlegrass. These areas would correspond to serpentine bunchgrass grassland habitat described by both the VHP (ICF International 2012) and Holland (1986).

3.2 Stream Corridor Characteristics

3.2.1 Vegetation

Vegetation along streams within Area 3 is described along with the terrestrial habitats described above under Section 3.1. The only perennial stream within Area 3, Arroyo Hondo, runs along the eastern boundary of Area 3 and supports mixed riparian forest, a unique vegetation type that does not occur elsewhere in Area 3 or on the Preserve as a whole (Figure 7, see Section 3.1.1). Ephemeral and intermittent stream networks intersect all of the terrestrial habitats in Area 3, but primarily flow through dense mixed oak forest (Figure 7; see Section 3.1.2). Although stream reaches that traverse stands of chaparral or grassland may support herbaceous species within their channels, the majority of vegetation observed in drainages during the field surveys were native woody species.

3.2.2 Physical Characteristics

Eighteen stream networks consisting of one perennial drainage and 17 ephemeral and intermittent drainages are spread across Area 3, totaling approximately 6.6 miles in stream length (Figure 3). Eleven of these drainages, totaling approximately 2.7 miles, are second-order or higher stream systems. The remaining 3.9 miles are first-order streams. All ephemeral and intermittent stream networks are seasonally wet or convey flows during and immediately following large storm events, but all are usually dry by summer. Representative reaches of these ephemeral and intermittent streams are depicted in Photos 1, 2, and 4 (Appendix B, Figure 6). In contrast, Arroyo Hondo is a perennial stream that conveys flows year-round. The low-flow channel of this stream supported deep pools of water during the May–June 2015 field surveys, which took place at the beginning of the dry season following a below-average year of rainfall (75 percent of normal precipitation) (PRISM 2015). Representative locations along Arroyo Hondo are depicted in Photos 5, 7, and 15–17 (Appendix B).

Ephemeral and intermittent streams within Area 3 generally originate from the top of Poverty Ridge to the west, or mid-slope on the eastern-facing hillsides below the ridgeline. Each stream then flows down the east-facing slopes of Area 3 via creases in the rolling hills, eventually draining to Arroyo Hondo in the steep ravine below. Surface water from precipitation primarily feeds the ephemeral and intermittent streams; however, natural seeps or springs occur at the headwaters (on adjacent portions of Area 1) of some drainages where the groundwater table approaches or tops the soil surface. First-order streams are the smallest on Area 3; these streambeds have a soil substrate with little rock or cobble that may support upland, annual herbaceous vegetation, and most only carry water during and just after storms. Second-order or greater streams are fed by networks of first-order tributaries and are typically higher gradient, steep-sided, and incised. Their beds and banks consist of a mosaic of cobbles and boulders. Exposed roots and woody debris are variously distributed within second-order streams.

The majority of the ephemeral and intermittent streams within Area 3 appear laterally stable. The single drivable road in Area 3 crosses these drainages at five locations (SC 1–SC 5, Figure 5), and these stream crossings are all ford crossings that lack infrastructure, with the exception of one collapsed wooden retaining wall at SC 4 (Photo 2, Appendix B, Figure 6). Previously, the wall functioned to stabilize the stream banks, and has since been damaged by high water flows and erosion. At the same location, a headcut and gully have formed on the downstream side of the road. One headcut was also noted on the downstream side of SC 5 (Photo 4, Appendix B, Figure 6), but the remainder of the stream crossings did not exhibit any significant erosional damage (Photo 1, Appendix B, Figure 6). Limited areas of path formation caused by use by

cattle and wildlife are present on the stream banks and bed, in addition to some evidence of grazed and/or browsed vegetation by cattle and deer were observed during the field surveys.

Arroyo Hondo, a perennial stream, receives surface flows from the ephemeral and intermittent drainages on Area 3. In addition, it drains a large portion of the watershed on the slopes of Mt. Hamilton. It is one of the principal tributaries that supply water to Calaveras Reservoir; the mainstem of the drainage originates at the confluence of Isabel Creek and Smith Creek at the northern tip of Joseph D. Grant County Park to the southeast, and then flows northward through a deep gorge. The substrate of the stream is largely composed of boulders and exposed bedrock that help to shape the step-pool and cascade morphology of the stream. As such, waterfalls and pools that retain water at a significant depth year-round are present in this drainage. Cobble bars and areas of sediment deposition likely shift annually as they are transported by high flows during the wet season and flood events. Mixed riparian forest (see Section 3.1.1 above) is sustained by the year-round water supply, and native woody species and hydrophytes are scattered along the edge of the low-flow channel and on cobble bars where adequate amounts of soil have been deposited for plant growth. Steep ravines on either side of Arroyo Hondo prevent the channel from meandering, and wet season water depths generally range from 9 to 15 feet, with flows from 2,030 to 7,340 cubic feet per second (Stream Gauge # 11173200, USGS 2015). Woody debris is common throughout this area, providing good habitat and shelter for fish, amphibians, and aquatic invertebrates. As a result of the surrounding terrain and fencing across the only trail that leads to the top of the canyon, cattle cannot access Arroyo Hondo or its riparian corridor, and thus, the area has been left relatively undisturbed and generally lacks non-native vegetation. Moreover, little to no evidence of anthropogenic disturbance was observed in and around Arroyo Hondo during the field surveys.

The *San Francisco Bay Basin (Region 2) Water Quality Control Plan* identifies the following beneficial uses within Arroyo Hondo: cold freshwater habitat, preservation of rare and endangered species, fish spawning habitat, and wildlife habitat (California Regional Water Quality Control Board 2015). The stream habitat in Arroyo Hondo in Area 3 supports resident rainbow trout (*Oncorhynchus mykiss*) (Leidy et al. 2005, Smith 2013) that use these habitats, but does not support anadromous salmonids or other rare and endangered fish species (see Section 3.3 below).

3.3 Sensitive Species

There are several sensitive species known or expected to utilize Area 3, including the CTS, a state and federally threatened species; the CRLF, a federally threatened species and a state species of special concern; and the FYLF, WPT, and American badger, which are California species of special concern.

The federally threatened Central California Coast steelhead occurred historically in Arroyo Hondo, Isabel Creek, and Smith Creek (Leidy et al. 2005). However, Calaveras Dam, which was constructed in 1913, is an impenetrable barrier to the upstream migration of anadromous fish to streams above the dam, including Arroyo Hondo, Isabel Creek, and Smith Creek. As a result, anadromous fish such as steelhead no longer occur upstream of the dam, and are absent from Area 3 (Leidy et al. 2005, Smith 2013). Critical habitat for steelhead is not designated within any streams above Calaveras Reservoir (NMFS 2005).

3.3.1 California Tiger Salamander (CTS)

The CTS, which is state and federally listed as threatened, was observed (eggs and larvae) in ponds in adjacent Areas 1 and 2 in January 2015 (L. Serpa pers. comm.). This species is known to occur in the surrounding region (CNDDDB 2015), and most of Area 3 includes U.S. Fish and Wildlife Service (USFWS) designated critical habitat for this species (Unit 5, Poverty Ridge Unit; Figure 8). However, no ponds are present within Area 3, and there are no known records of CTS within Area 3. The streams within Area 3, including Arroyo Hondo, do not provide suitable breeding habitat for CTS; ephemeral and intermittent streams do not provide water long enough for larval development, and flow in all streams on the Preserve is flashy enough that eggs or larvae would be washed away if eggs were laid in the streams.

Several known occurrences of CTS are located within 1.3 miles (the maximum known dispersal capabilities of this species) of Area 3. CTS have been recorded in ponds in Areas 1 and 2 of the Preserve as recently as January 2015 (L. Serpa pers. comm.), including a pond in Area 1 as close as 530 ft west of Area 3. In January 2015, visual surveys around the edges of ponds in Areas 1 and 2 detected both eggs and larvae (L. Serpa pers. comm.). CTS are also known to occur on the adjacent BORR (CNDDDB 2015, M. Hamilton pers. comm.). Based on the May–June site surveys and a review of aerial topography, no major barriers or substantial impediments to dispersal occur between these ponds and Area 3. Thus, CTS have the potential to disperse between these nearby ponds and Area 3.

CTS depend on burrows of California ground squirrels (*Spermophilus beecheyi*) and Botta's pocket gophers (*Thomomys bottae*) to provide moist subterranean refugia during the non-breeding (dry) season as well as during overland movements to and from breeding areas during the wet season. The uplands within Area 3 consist of woodland habitats interspersed with grasslands. Burrows of California ground squirrels and Botta's pocket gophers were observed in low abundance within Area 3 during the May–June 2015 site visits, likely because of the high-density wooded vegetation present in Area 3 and the extremely steep slopes. However, numerous burrows of these species are present in the immediately adjacent Area 1, which is characterized by more open habitats.

Some CTS likely disperse onto Area 3 from breeding habitats on adjacent lands, as no barriers to dispersal are present between nearby occurrences and Area 3.

3.3.2 California Red-legged Frog (CRLF)

The CRLF, a federally threatened species and a state species of special concern, is known to occur in the surrounding region (CNDDDB 2015), although no CRLF have been documented within Area 3 or the larger Preserve (S. Gennet pers. comm.). Area 3 does not overlap USFWS-designated critical habitat for this species, but critical habitat for CRLF is present within Areas 1 and 2 to the west (Unit STC-1; Figure 8).

CRLF have been documented in a number of locations within dispersal distance¹ of Area 3 (Figure 8). CRLF are known to occur in at least one pond at the BORR property immediately

¹ The USFWS considers one mile to be typical of the CRLF's dispersal capabilities (USFWS 2005), although CRLF have been recorded dispersing more than 2 miles between aquatic habitats (Bulger et al. 2003).

south of Area 3 (M. Hamilton pers. comm.). Based on review of aerial topography, no major barriers or substantial impediments to dispersal occur between Area 3 and known CRLF occurrences or other potential breeding ponds in the vicinity of the Preserve. Thus, if CRLF are present in the vicinity of Area 3, they could disperse to Area 3 from adjacent areas.

No ponds are present within Area 3 to provide suitable breeding habitat for CRLF. Arroyo Hondo provides at least marginal-quality breeding habitat, as this species could attempt breeding in pools, but flashy flows during rain events may disrupt egg masses and wash them downstream. Arroyo Hondo does provide high-quality non-breeding aquatic foraging and dispersal habitat, as its perennial nature in an otherwise relatively dry landscape would be attractive to CRLF. The ephemeral and intermittent streams within Area 3 provide potentially non-breeding foraging and dispersal habitat and aquatic refugia for CRLF when they contain water. Although dense vegetative cover is absent from most of these stream reaches, rock crevices and debris provide suitable refugia for CRLF. During the wet season, when most CRLF dispersal occurs, these streams would facilitate dispersal of CRLF across the landscape. In addition, upland habitat surrounding streams and ponds within Area 3 includes some cracks and small mammal burrows which could be used by CRLF for upland refugia. As described above for CTS, only small numbers of small mammal burrows are present within Area 3. Nevertheless, cracks and woody debris provide sufficient refugia for dispersing CRLF within Area 3.

Based on the known occurrences of CRLF near Area 3, and the lack of barriers to dispersal between these occurrences/ponds and Area 3 streams, it is likely that CRLF occur within Area 3.

3.3.4 Foothill Yellow-legged Frog (FYLF)

The FYLF, a state species of special concern, is known to occur in Arroyo Hondo at the southeast corner of Area 3 and within the BORR to the south (CNDDDB 2015, Figure 8) and has been observed by TNC staff along the entire section of Arroyo Hondo within Area 3 (L. Serpa pers. comm.).

The section of Arroyo Hondo within Area 3 provides high-quality habitat for FYLF, as this fast-moving perennial stream contains many pools and areas of riffles and runs of varying depth suitable for breeding and foraging FYLF. The ephemeral and intermittent streams within Area 3 provide potential nonbreeding habitat for FYLF when they contain water. No pools were observed along these streams during the May–June 2015 site visit; however, if pools were present along these streams, which may occur in wet years and/or during the wet season, they would provide suitable dispersal and foraging habitat for FYLF. FYLF are known to travel up ephemeral and intermittent streams when there is abundant water, and they may use small, isolated pools for foraging and predator avoidance. Thus, FYLF may occur along these streams to some extent when water is present, although they are expected to occur in Area 3 primarily along Arroyo Hondo.

3.3.5 Western Pond Turtle (WPT)

The WPT, a state species of special concern, is known to occur in lower reaches of Arroyo Hondo far downstream from the site, and a record from Isabel Creek is present approximately 4.1 miles to the southeast upstream of Area 3 in Isabel Creek (CNDDDB 2015). Based on a review of aerial topography, WPT in Arroyo Hondo or Isabel Creek, which is tributary to Arroyo Hondo, could disperse along these streams to Area 3. This species has been observed along the entire reach of Arroyo Hondo within Area 3 by TNC staff (L. Serpa pers. comm.).

The section of Arroyo Hondo within Area 3 provides high-quality habitat for WPT, as this perennial stream contains many pools of varying depth suitable for foraging and rocks suitable for basking. Potentially suitable nesting habitat for WPT occurs along the banks of Arroyo Hondo within Area 3, but due to the steep, rocky terrain on the site, if WPT nest on the site they likely do so very close to Arroyo Hondo. Similarly, WPT are unlikely to disperse along the ephemeral and intermittent streams within Area 3 due to the extremely steep terrain. Nevertheless, these streams and the upland portions of Area 3 provide potential dispersal habitat for WPT when they contain water, and if pools were present along these streams in wet years they would provide limited foraging habitat for this species. Thus, WPT may occur in upland portions of Area 3 and along ephemeral and intermittent drainages when dispersing or nesting, but are primarily expected to occur along or near Arroyo Hondo.

3.3.6 American Badger

The American badger, a state species of special concern, has been observed in Area 2 of the Preserve by TNC staff (L. Serpa pers. comm.). Suitable denning and foraging habitat for badgers is present in open habitats within Area 3, although higher-quality habitat for badgers occurs to the west in Areas 1 and 2, where more expansive open grasslands and higher concentrations of California ground squirrels (one of the principal prey of the badger) are present. Badgers denning in the vicinity could potentially occur within Area 3 year-round.

3.3.7 Other Sensitive Species

Twelve special-status plant species have the potential to occur in Area 3 for the following reasons: (1) suitable habitat for the species is present, (2) specific edaphic requirements, possibly including serpentine soils, are present, (3) the species is known to occur within the vicinity of Area 3 (defined as a 5-mile radius surrounding the Preserve), and (4) Area 3 is within the known elevation range of the species. Potentially occurring special-status plant species and their corresponding federal and state listing and the California Native Plant Society rank (CRPR) are presented in Table 2.

Historically, arcuate bush mallow (*Malacothamnus arcuatus*) and fragrant fritillary (*Fritillaria liliacea*) have been recorded approximately 3–4 miles west of Area 3 near Alum Rock Park and Upper Penitencia Creek (CNDDDB 2015). Other historical records of special-status plant species in the vicinity of Area 3 include Mount Day rockcress (*Boechea rubicundula*), known from only one population on Oak Ridge near the summit of Mount Day, directly east of Arroyo Hondo (CNDDDB 2015). In addition, hospital canyon larkspur (*Delphinium californicum* ssp. *interius*) was historically recorded along Kincaid Road near Mount Hamilton, to the southeast of Area 3. The current status of these historical populations is not known, as the majority of the steep hillsides and ravines of Mount Hamilton and the surrounding mountains are privately owned, and thus survey effort on these lands has been low. There is some potential for arcuate bush mallow and Mount Day rockcress to be present on rocky slopes or chaparral vegetation types on Area 3, whereas fragrant fritillary may occur in open grassy areas, seeps, or on serpentine inclusions, as it is a weak indicator of serpentine soils. Hospital canyon larkspur may occur in open woodland vegetation types, such as foothill pine/oak woodland and/or valley oak savanna.

Extant populations of several special-status plant species have been recorded in the vicinity of Area 3 more recently (i.e., within the past two decades) (CNDDDB 2015). Santa Clara red ribbons (*Clarkia concinna* ssp. *automixa*) has been observed on the Preserve by TNC staff (L. Serpa pers. comm.). Santa Cruz mountain pussy paws (*Calyptidium parryi* var. *hesseae*) is known

from fewer than 20 occurrences across the state of California, and an extant population occurs near Black Mountain to the northeast of Area 3. Several extant populations of most-beautiful jewelflower (*Streptanthus albidus* ssp. *peramoenus*) have also been observed to the north of Area 3 in the Arroyo Hondo canyon. Along Kincaid Road to the southeast of Area 3, near the Lick Observatory and Mount Hamilton, showy madia (*Madia radiata*), bent-flowered fiddleneck (*Amsinckia lunaris*), chaparral harebell (*Campanula exigua*), and Santa Clara red ribbons have all been recently documented (CNDDDB 2015). Chaparral harebell has been recently observed at several other locations in the vicinity of Area 3; on Furtado Open Space Preserve near Alum Rock Falls Road to the west, in the vicinity of Mount Day and Oak Ridge, and on the BORR (CNDDDB 2015, Bainbridge 2008). Other special-status plants found on the BORR include Santa Clara red ribbons, Santa Clara thorn mint (*Acanthomintha lanceolata*), and serpentine leptosiphon (*Leptosiphon ambiguus*) (Bainbridge 2008).

Showy madia has the potential to occur on clayey soils or shale in open grassy areas on Area 3; it is often (but not always) found on serpentine soils (Baldwin et al. 2012). Santa Cruz mountain pussy paws may be present on gravelly soils in woodland and chaparral vegetation types across Area 3, such as such as foothill pine/oak woodland, valley oak savanna, and northern mixed/chamise chaparral. Santa Clara red ribbons could potentially occur in wooded or forested areas of the property. Chaparral harebell, most-beautiful jewelflower, and Santa Clara thorn mint are all strong indicator species of serpentine soils, and may be present on chaparral vegetation types, open grassy areas, or on rock/talus slopes across Area 3. Serpentine leptosiphon is a strict serpentine endemic, and would only be expected to occur on the Henneke soil inclusions within grassy areas on the property.

In addition to the species mentioned above, a number of special-status wildlife species could potentially occur within Area 3, based on the presence of suitable habitat and/or documented occurrences nearby. Table 2 provides a comprehensive list of all special-status plant and wildlife species that may occur within Area 3. Species that have been observed within Area 3 are indicated in bold type.

Table 2. Known and Potential Sensitive Species ¹

Common Name	Scientific Name	Federal Status ²	State Status ²	Other Status ²
AMPHIBIANS				
California tiger salamander	<i>Ambystoma californiense</i>	Threatened	Threatened	
California red-legged frog	<i>Rana draytonii</i>	Threatened	SCC	
Foothill yellow-legged frog	<i>Rana boylei</i>	None	SCC	
REPTILES				
Western pond turtle	<i>Emys marmorata</i>	None	SSC	
BIRDS				
Cooper's hawk	<i>Accipiter cooperii</i>	None	WL	IUCN:LC
Sharp-shinned hawk	<i>Accipiter striatus</i>	None	WL	
Golden eagle	<i>Aquila chrysaetos</i>	BCC	FP	IUCN:LC
Ferruginous hawk	<i>Buteo regalis</i>	BCC	WL	IUCN:LC
Northern harrier	<i>Circus cyaneus</i>	None	SSC	IUCN:LC

Common Name	Scientific Name	Federal Status ²	State Status ²	Other Status ²
White-tailed kite	<i>Elanus leucurus</i>	None	FP	IUCN:LC
Bald eagle	<i>Haliaeetus leucocephalus</i>	BCC	Endangered, FP	IUCN:LC
Osprey	<i>Pandion haliaetus</i>	None	WL	IUCN:LC
Merlin	<i>Falco columbarius</i>	None	WL	IUCN:LC
Prairie falcon	<i>Falco mexicanus</i>		WL	IUCN:LC
American peregrine falcon	<i>Falco peregrinus anatum</i>	BCC	FP	
Vaux's swift	<i>Chaetura vauxi</i>	None	SSC	IUCN:LC
Nuttall's woodpecker	<i>Picoides nuttallii</i>	BCC	None	IUCN:LC
American dipper	<i>Cinclus mexicanus</i>	None	None	IUCN: LC
Loggerhead shrike	<i>Lanius ludovicianus</i>	BCC	SSC	IUCN:LC
Yellow-billed magpie	<i>Pica nuttalli</i>	BCC	None	IUCN:LC
Oak titmouse	<i>Baeolophus inornatus</i>	BCC	None	IUCN:LC
MAMMALS				
Pallid bat	<i>Antrozous pallidus</i>	None	SSC	IUCN:LC
Yuma myotis	<i>Myotis yumanensis</i>	None	None	IUCN:LC
American badger	<i>Taxidea taxus</i>	None	SSC	IUCN:LC
Ringtail	<i>Bassariscus astutus</i>	None	FP	IUCN: LC
PLANTS				
Arcuate bush mallow	<i>Malacothamnus arcuatus</i>	None	None	CRPR 1B.2
Bent-flowered fiddleneck	<i>Amsinckia lunaris</i>	None	None	CRPR 1B.2
Chaparral harebell	<i>Campanula exigua</i>	None	None	CRPR 1B.2
Fragrant fritillary	<i>Fritillaria liliacea</i>	None	None	CRPR 1B.2
Hospital canyon larkspur	<i>Delphinium californicum</i> ssp. <i>interius</i>	None	None	CRPR 1B.2
Most-beautiful jewelflower	<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	None	None	CRPR 1B.2
Mount Day rockcress	<i>Boechera rubicundula</i>	None	None	CRPR 1B.1
Santa Clara red ribbons	<i>Clarkia concinna</i> ssp. <i>automixa</i>	None	None	CRPR 4.3
Santa Clara thorn mint	<i>Acanthomintha lanceolata</i>	None	None	CRPR 4.2
Santa Cruz mountain pussy paws	<i>Calyptridium parryi</i> var. <i>hesseae</i>	None	None	CRPR 1B.1
Serpentine leptosiphon	<i>Leptosiphon ambiguus</i>	None	None	CRPR 4.2
Showy madia	<i>Madia radiata</i>	None	None	CRPR 1B.1

¹ Bold indicates species observed within Area 3

² Status codes –

BCC = USFWS Birds of Conservation Concern;

SSC = California Species of Special Concern;

FP = Fully Protected;

WL= Watch List;

IUCN:LC = The World Conservation Union- Least Concern Species;

CRPR:

Rank 1A = Plants considered extinct.

Rank 1B = Plants rare, threatened, or endangered in California and elsewhere.

Rank 2A = Plants considered extinct in California and elsewhere.

Rank 2B = Plants rare, threatened, or endangered in California but more common elsewhere.

Rank 3 = Plants about which more information is needed - review list.

Rank 4 = Plants of limited distribution - watch list.

These rankings are further described by the following threat code extensions:

- 1: seriously endangered in California.
- 2: fairly endangered in California.
- 3: not very endangered in California

II. INITIAL SITE IMPROVEMENTS

4.0 INITIAL SITE IMPROVEMENT PROJECTS

Although Area 3 in its current condition meets the criteria required to provide mitigation under the SCVWD's S&WPP for the SMP, road rehabilitation at a stream crossing (SC 4) and the repair of a headcut at a second location (SC 5) are proposed in order to repair minor erosion issues (Figure 5; see Sections 4.1 and 4.2 below). These discretionary, voluntary, early implementation projects would likely be conducted within the first 5 years of work under the LTMP, but they are not part of routine long-term management. These actions are included in this document only for the purpose of allowing a comprehensive California Environmental Quality Act (CEQA) analysis of Area 3 activities. Should it be determined that the initiation of management and maintenance actions require agency permits and/or approvals, the SCVWD will obtain all necessary permits and approvals prior to initiating such actions.

4.1 Road Rehabilitation

Road rehabilitation will repair one stream crossing (SC 4) in Area 3 observed to have erosion and potential maintenance issues (Photos 2-3, Appendix B, Figure 6). In this location, the drainage has eroded into the roadbed, which was previously stabilized by a wooden retaining wall that has collapsed. Although these issues are minor, placement of small amounts of 6–12 inch rock just downstream from the stream crossing, and smaller rock within the road bed, will allow for continued use of the road and limit further erosion. Additional repairs at this location are not anticipated to be needed, but the stability of the repair will be monitored as part of the routine road condition monitoring (Section 7.2). Routine road maintenance (i.e., to maintain the road surface and minimize erosion) will be conducted as described in Section 7.2.

4.2 Headcut Repair

A minor headcut is present just downstream of SC 5. This headcut is just beginning to form, but it may create a small amount of erosion within the stream (Photo 4, Appendix B, Figure 6). Although this issue is extremely minor, placement of a few 12–24-inch boulders at this location will buffer the flow of water and prevent further erosion of the headcut. Additional repairs at this location are not anticipated to be needed, but the stability of the repair will be monitored as part of the routine stream condition monitoring. Routine monitoring and management of streams will be conducted as described in Section 6.1.

III. LONG-TERM MANAGEMENT AND MONITORING PLAN

5.0 LONG-TERM MANAGEMENT GOAL AND APPROACH

The overall goal of long-term management is to foster the long-term viability of Area 3's waters of the U.S/State and 1600 jurisdiction and overall conservation values (Section 1.2). This goal will be met through routine monitoring and management of the conditions that support Area 3's biological resources, by maintaining existing infrastructure, and by providing for security as detailed below. The SCVWD will obtain all necessary permits and approvals prior to the initiation of management and maintenance actions requiring such permits and approvals.

The major management practice for Area 3 is the management of sensitive habitats, including streams and riparian corridors. In addition, managed livestock grazing, road maintenance, invasive weed control, monitoring, and adaptive management will occur. These areas of focus are expected to support all conservation values of Area 3. The SCVWD, as owner and manager of Area 3, will monitor the Area's condition as described in the sections below, focusing on aspects that may warrant management actions.

This LTMP has been written with the intent to ensure that the conservation values of Area 3 are protected. The CE holder for Area 3 plays the important role of CE monitoring and reporting to ensure that the terms of the CE recorded on Area 3 of the Preserve are upheld by the Land Manager. The LTMP tasks listed below are all the responsibility of the Land Manager. The CE holder will be responsible for independently assessing and reporting on the Landowner's compliance with the terms of the CE using the property description and natural resource inventory contained in this LTMP as a reference point. Monitoring will verify the Preserve's condition on an annual basis using the Conservation Interest Compliance Monitoring Report included here as Appendix G.

5.1 Adaptive Management

Although it is not anticipated that major additional management actions will be needed, an objective of long-term management and monitoring is to identify any issues that arise and use an adaptive management approach to determine what follow-up actions might be appropriate. Adaptive management is an approach to natural resource management which incorporates monitoring to determine the effectiveness of, and what changes may be needed to enact, appropriate management practices over time, including corrective actions when needed to support Area 3's conservation values.

The management objectives and approaches described in this LTMP were established based on existing information on Area 3's condition and resources, the effects of past management activities, and the experience of natural resource professionals in designing resource management approaches. The management approach described in this LTMP will be adapted as necessary to maintain and improve biological resource value based on monitoring results.

In addition, adaptive management is expected to involve the implementation of new measures to protect natural resource values as new problems are noted, new research and techniques become available, or as problems are noted in new areas. For each of the resource issues described below, specific criteria will be monitored. These criteria are related primarily to resource management issues that are related to the SCVWD's management activities, such as grazing, rather than those outside the SCVWD's control, such as proliferation of feral pigs. The

monitoring results will be reviewed not only in the context of whether or not there are potential management problems, but also in comparison to prior monitoring results to identify trends in resource management issues. Persistent problems or adverse trends will trigger an adaptive management decision-making process. First, based on the type and severity of the problem, and an assessment regarding whether the issue is within the SCVWD's control, experienced land management staff will determine whether an on-the-ground corrective action is necessary, or whether further monitoring (perhaps at an increased frequency) is appropriate to determine the extent or persistence of the problem. Second, if corrective action is needed, those staff will identify the most appropriate adaptive management response, tailored to the resource issue. Those staff chosen to accomplish monitoring and adaptive management decision-making responsibilities will have the knowledge, training, and experience to accomplish these responsibilities. Agencies and the CE Holder will be consulted for approval of any such adaptive management changes or corrective actions. A check-in process with the Permitting Agencies has been built into the annual reporting structure for Area 3 management (see Section 9.0 Element K).

6.0 BIOLOGICAL RESOURCE MANAGEMENT AND MONITORING

Area 3 currently supports sensitive habitats (i.e., streams) and provides habitat for a number of plant and animal species, including special-status species. As a result, monitoring for potential signs of habitat degradation (e.g., erosion at streams) and for sensitive resources (such as sightings of special-status species) will occur. Each of the sections below includes a detailed description of the management and monitoring approaches for individual resources, stressors (such as invasive species), and management measures (such as managed grazing). In addition, more general monitoring for site conditions will occur during quarterly inspections by the Land Manager. A General Site Monitoring Checklist (see Appendix D) will be used during routine (e.g., quarterly) site visits to record information that will be monitored on a quarterly basis and to record incidental observations of species or issues of interest.

6.1 Element A. Streams (Waters of the U.S./State)

Objective: Monitor, conserve, and manage Area 3's streams.

As described above in Section 3.2, ephemeral, intermittent, and perennial streams are present in a number of areas within Area 3. Despite the history of moderate grazing in Area 3, these streams are relatively undegraded and provide habitat for a variety of plants and animals. Arroyo Hondo, a perennial stream, is relatively inaccessible to both humans and livestock, and thus, the drainage and the associated riparian corridor are in pristine condition. Further, the majority of the ephemeral and intermittent streams in Area 3 show little or no evidence of excessive trampling, inappropriate levels of livestock grazing, or other adverse conditions related to livestock grazing management. Erosional features were noted at two locations where ephemeral and intermittent streams cross the drivable road on Area 3 (SC 4 and SC 5, Figure 5; see Section 3.2.2). A collapsed wooden retaining wall, headcut, and gully are present at SC 4, and would need to be repaired to allow vehicles to travel on the road (Photo 2, Appendix B, Figure 6; see Section 4.1). One headcut was also noted on the downstream side of SC 5; it does not hinder vehicle access (Photo 4, Appendix B, Figure 6), but repairing this small headcut is addressed in Section 4.2 above as one of the initial site improvements to be performed. The conditions of Area 3's watercourses will be described in detail, to serve as the baseline for comparison of future monitoring results, as discussed under Task A1.1 below.

The majority of the ephemeral and intermittent streams within Area 3 appear laterally stable. The single drivable road in Area 3 crosses these drainages at five locations (SC 1–SC 5, Figure 5), and these stream crossings are all ford crossings that lack infrastructure, with the exception of one collapsed wooden retaining wall at SC 4 (Photo 2, Appendix B, Figure 6). Previously, the wall functioned to stabilize the stream banks, and has since been damaged by high water flows and erosion. At the same location, a headcut and gully have formed on the downstream side of the road. One headcut was also noted on the downstream side of SC 5 (Photo 4, Appendix B, Figure 6), but the remainder of the stream crossings did not exhibit any significant erosional damage (Photo 1, Appendix B, Figure 6). Limited areas of path formation caused by use by cattle and wildlife are present on the stream banks and bed, in addition to some evidence of grazed and/or browsed vegetation by cattle and deer were observed during the field surveys.

Proposed initial road rehabilitation, described in Section 4.1, will improve the eroded stream at SC 4 (Photo 2, Appendix B, Figure 6). In this location, the drainage has eroded into the roadbed, which was previously stabilized by a wooden retaining wall that has collapsed. Although these issues are minor, placement of small amounts of 6–12 inch rock just downstream from the stream crossing, and smaller rock within the road bed, will allow for continued use of the road and limit further erosion. Routine road maintenance (i.e., to maintain the road surface and minimize erosion) will also be conducted as described in Section 7.2. No rehabilitation of the minor headcut located downstream of SC 5 is currently proposed, as this erosion is minor and does not hinder vehicle access. Monitoring of the rehabilitation site at SC 4 and the minor erosion at SC 5 will be conducted in conjunction with routine road condition monitoring (Section 7.2).

Four manageable sources of potential impacts on the streams within Area 3 have been identified (though not yet observed): (1) inappropriate livestock use of the watershed, which could lead to increased runoff and erosion; (2) intrusion by cattle into sensitive areas; (3) sediment input into streams from road erosion; and (4) trespassing impacts such as trampling of vegetation. Less controllable impacts to these areas may also occur from use by wildlife, such as deer and feral pigs. Management of these latter, more regional issues is not covered by this LTMP; however, on-site efforts to control nuisance wildlife species that cause damage to resources and/or infrastructure in conjunction with regional efforts and consistent with plan goals and objectives would be allowed (control of feral pigs, for example).

The approach to protecting, managing, and enhancing stream conditions in Area 3 is to:

1. Monitor and maintain residual dry matter (RDM) at levels sufficient to protect the soils (see Section 6.2 below). Ensure sufficient vegetative cover, thus reducing the potential for watershed lands erosion and for increased runoff into streams.
2. Implement a grazing strategy, as presented in Section 6.2, to minimize the potentially adverse effects of livestock grazing during the hot/dry summer season (once grass forage is dried) when livestock tend to congregate near water sources on the adjacent lands of the Preserve (Areas 1 and 2). This will minimize routine cattle intrusion into the vicinity of streams on Area 3. Mineral and protein supplements for cattle will be located well away from sensitive aquatic resources.
3. Conduct annual monitoring of sensitive areas (i.e., streams) that are accessible to cattle to determine that Area 3's identified conservation values are being met.

4. Take additional measures (e.g., installation of mineral and protein supplements) that may be needed to adapt the grazing plan in a manner that better supports Area 3's conservation values.
5. Rehabilitate one existing degraded road area (i.e., the stream crossing that is currently contributing to minor erosion) and institute a regular road maintenance program to properly configure roads to minimize erosion potential (Sections 4.0 and 7.2).

Task A1. Stream condition monitoring. Conduct annual late spring (May–June) qualitative monitoring to assess the condition of streams and associated riparian habitats. Tasks include:

A1.1. Conduct pre-implementation monitoring. Start-up monitoring will begin in late spring 2016. In spring 2016, identify stream areas most susceptible to degradation over the long term. Such areas will include areas accessible to cattle near roads or heavily used cattle paths. Identify and map these monitoring stations with GPS/GIS and prepare a monitoring location base map for use in subsequent years. Photograph each monitoring station and GPS-locate the photo point so that photos taken in subsequent years will be comparable to the baseline photos. Although these monitoring stations will focus on areas most susceptible to degradation, they will also be stratified across Area 3 using the following criteria: (1) proximity to troughs on adjacent lands of the Preserve (i.e., Area 1) and other areas that may concentrate cattle; (2) habitat/vegetation type, such as perennial stream, ephemeral and intermittent stream, and mixed riparian forest, and (3) stream order. These criteria will ensure that aquatic monitoring stations are representative of various conditions across Area 3. It is anticipated that approximately 10 monitoring stations will be established.

At each aquatic habitat monitoring station, an Aquatic Habitat Monitoring Checklist will be completed (see Appendix D). This checklist contains features associated with habitat condition and quality, focusing on presence or absence of potential adverse conditions that are manageable by the SCVWD and that can be used to determine whether problems are occurring over the long term. In combination with comparison of site photos from one monitoring effort to the next, the information on this checklist will allow for site conditions to be tracked over time with minimal error resulting from observer interpretation. The Aquatic Habitat Monitoring Checklist and photos from spring 2016 will serve as the description of the baseline condition of each monitoring station.

Based on these baseline conditions, the SCVWD will identify a general goal for the long-term management of aquatic resources at each station. For stations where baseline conditions are undegraded and existing habitat quality is high, the goal will be to maintain existing conditions over the long term. For stations where some existing problem or degradation is evident, and the source of that degradation can be feasibly managed by the SCVWD, the goal will be to improve habitat conditions. The individual items in the Aquatic Habitat Monitoring Checklist will serve as the measures of habitat condition for purposes of determining management success, as described in Section A1.2.

A1.2. Conduct implementation monitoring. Annual field review of the stream monitoring stations will be conducted in May–June by completing the Aquatic Habitat Monitoring Checklist and taking photos from the same locations and facing the same directions as the baseline photos for each station.

Following each monitoring effort, the Aquatic Habitat Monitoring Checklist and photos for each station will be compared both to the baseline information described in Task A1.1 above and to

the monitoring results from the immediately prior monitoring effort to determine whether any evidence of adverse conditions has appeared, and to determine trends in habitat conditions. Because the individual items in the Aquatic Habitat Monitoring Checklist will serve as the measures of habitat condition, success of management activities will depend on (a) the goal of management (i.e., maintain or improve conditions), (b) the trends in habitat conditions, and (c) whether any observed management issue is within the SCVWD's control, as follows:

- Habitat conditions are being maintained – this would indicate successful management for stations where the goal was maintenance of conditions, but unsuccessful management at stations where the goal was improvement of conditions. If the goal at a given station is improvement of conditions, and improvement in a feature that is manageable by the SCVWD is not noted for two consecutive monitoring periods (i.e., the third monitoring effort after a problem was first noted), this would trigger the need for adaptive management action, as described in Task A2 below.
- Habitat conditions are improving – this would indicate successful management for any station
- Habitat conditions are degrading – if the condition of a manageable issue (i.e., one related to grazing or trespass) is degrading, this would indicate unsuccessful management for any station and would trigger the need for adaptive management action, as described in Task A2 below. If the issue is not within the SCVWD's control (e.g., fire), then the SCVWD will review what management actions it might be able to take, but this would not necessarily indicate unsuccessful management.

In addition, issues pertaining to the condition of aquatic resources, and trends in condition, will be noted incidentally during other monitoring activities and site visits. The General Site Monitoring Checklist contains entries designed to facilitate the recording of observations regarding potential problems related to aquatic resources anywhere on Area 3. Because of the geographic breadth of the various monitoring activities proposed on Area 3, incidental monitoring using the General Site Monitoring Checklist will allow for issues outside of the monitoring stations to be adequately detected and addressed.

Task A2. Stream adaptive management actions. If goals of habitat management in a given area are not being met as determined by monitoring at aquatic resource monitoring stations or incidental observations (i.e., because of degradation of aquatic resource condition relative to baseline levels or persistence of an undesirable condition related to manageable activities), adaptive management activities would be triggered. The precise adaptive management activity employed will depend on a number of factors, including the nature of the problem itself (e.g., erosion, proliferation of invasive species), the cause of the problem (e.g., whether erosion is caused by trespassers), the severity of the problem (e.g., whether the problem warrants an immediate change in management or more frequent monitoring to determine whether the problem will be corrected naturally), and whether the problem is within the SCVWD's management control. Consideration will be given, in particular, to conditions potentially detrimental to streams. For example, relocation of mineral or protein supplements or watering troughs may be adequate to encourage cattle to move away from sensitive areas. Temporary electric fencing may be used to exclude livestock from problematic areas on a short term or seasonal basis. Permanent fencing may be utilized if problems persist, especially in sensitive resource areas based on comparison of monitoring data to baseline conditions and the goals for a given station.

6.2 Element B. Livestock Grazing Management

6.2.1 Objective/Overview

The objective of the LTMP is to implement a livestock grazing strategy that maintains and may improve the conservation values that currently exist within Area 3. Within oak woodland and annual grassland habitats in California, conservative or moderate amounts of livestock grazing have been shown to positively contribute toward a variety of rangeland ecosystem services such as water quality, forage production, habitat for native species of plants and animals including special-status species such as the CTS and CRLF, and other ecosystem services (Hormay 1946, Heady 1956, Bartolome et al. 1980, Barry et al. 2011, Ford et al. 2013). Managed livestock grazing also supports the goals of the S&WPP.

Without livestock grazing, many of the ecosystem services typically provided by California's oak woodland and annual grassland rangelands (described above) could be expected to be adversely affected (Barry et al. 2011). These adverse effects could include reduced grassland species diversity (Heady 1956), increased accumulation of thatch from non-native, annual grasses that would increase wildfire fuel loads and wildfire risk and decreased habitat values for California ground squirrels (Horn and Fitch 1942), whose burrows provide critical aestivation habitat for CTS and refugia for CRLF during the dry season (Barry et al. 2011, Ford et al. 2013, OSA 2013).

As described above in Section 2.2.2, grazing throughout the Preserve (i.e., including Areas 1, 2, and 3) has been held at or below 50 AUs per year since 2001, when the TNC acquired the Preserve from the Kammerer family. No fencing separates Area 3 from Areas 1 and 2, and thus livestock grazing in Area 3 is managed in conjunction with grazing management in these other areas. Such grazing management has appropriately maintained high-quality habitat conditions in all three areas, and thus no changes to the approach (e.g., installation of fencing to allow for grazing management of Area 3 independently of Areas 1 and 2 management) are proposed.

6.2.2 Grazing Management Prescriptions

Grazing management prescriptions for Area 3 are described below. These prescriptions apply to the entire Preserve, because Areas 1, 2, and 3 are contiguous and will thus be grazed as a single unit in conjunction with the grazing prescriptions for the existing CE on Area 1. The Land Manager will work cooperatively with the CE holder and the grazing tenant to ensure that Area 3 is managed consistently with the goals and objectives of this LTMP. Regular RDM monitoring (see Section 6.2.3) will occur in Area 3 to verify that the grazing management objectives defined for Area 3 are being met. In the event that the RDM objective is not being met for this area, the Land Manager will implement remedial measures (such as increased coordination with the CE holder and, if necessary, installation of fencing to allow for management of Area 3 independent of Area 1) to ensure that the objective is achieved.

6.2.2.1 Grazing Intensity

In California's oak woodlands and annual grasslands, grazing intensity is typically measured by RDM that exists in the fall (September–October) prior to fall rains (Bartolome et al. 2006). Because of factors such as variations in topography, soils, rainfall, and patchy forage use, a variety of RDM values are expected, but in general the RDM goal for Area 3 will be 1,000–1,500 pounds per acre (lbs/acre). This RDM goal is approximately twice the recommended minimum RDM level for regions of California with climate and vegetation similar to Area 3 (Bartolome et

al. 2006) and corresponds to Conservative Stocking (see Barry et al. 2011), which is thought to positively contribute to a variety of rangeland ecosystem services and would additionally contribute to the identified livestock grazing management objective (see Section 6.2.1). Conservative stocking rates, as expressed by a target RDM range of 1,000 to 1,500 lbs/acre, would also minimize livestock use of streams in an effort to protect the conservation values of these areas from the potentially adverse effects of inappropriate livestock grazing.

6.2.2.2 Animal Kind and Class

Cow/calf pairs are the recommended kind and class of grazing animals for Area 3. Cow/calf pairs are readily available and are already used to graze Area 3 as well as Areas 1 and 2 of the Preserve.

6.2.2.3 Livestock Grazing Season-of-use

Currently, livestock graze the Preserve year-round, due in part to the difficulty of transporting animals to and from the Preserve and in part because such year-round grazing has not compromised the ecological values of Area 3 (grazing effects on Areas 1 and 2 will be addressed in the separate Rancho Cañada de Pala Preserve Areas 1 & 2 Long-term Management Plan, which is in preparation). Thus, the permitted season of grazing use for the Preserve will be year-round provided that the overall conservation values of Area 3 are being maintained as determined through regular monitoring and minimum RDM standards are met at the end of the grazing season (i.e., September – October, generally).

6.2.2.4 Stocking Rate

Given a recommended fall RDM of approximately 1,000 to 1,500 pounds (lbs)/acre and an approximate average annual forage production of 1,300 to 1,500 lbs/acre across most of Area 3 (NRCS 2014), Area 3 could support approximately nine AUs. However, lower-productivity mixed and live oak forests and woodlands produce less forage than more productive annual grasslands and valley oak savannas. Therefore, the number of AUs appropriate for Area 3 would be far less than nine. Because Area 3 is shared with Areas 1 and 2, and thus will be grazed by the SCVWD's grazing lessee in conjunction with surrounding areas, there is no practical way to ensure a specific stocking rate in Area 3. Continuing year-round grazing of the entire Preserve with up to 50 AUs is proposed, as this stocking rate and seasonality have been maintaining high-quality habitat conditions.

Minor adjustments in stocking rate by the operator may be permitted (taking into account the 50 AU per year limitation) with the prior approval of the Land Manager. Any adjustments in target RDM levels will need to be evaluated by a California-licensed Certified Rangeland Manager (CRM) to determine if the proposed changes will still allow accomplishment of LTMP objectives. Periodic observations of site conditions will be completed by the Land Manager throughout the grazing period to confirm that actual RDM levels are similar to target levels and to proactively identify years where the permitted grazing period may need to be reduced to meet RDM targets.

6.2.2.5 Other Considerations

All existing infrastructure and livestock facilities (Figure 5) will be retained, monitored, and maintained as presented in Section 7.1.

Supplemental feeding of hay will not be allowed within Area 3. Supplemental feeding can concentrate soil disturbance and introduce invasive plants via contaminated hay.

The placement of salt, other mineral blocks, and molasses or other protein supplements may occur to assist in livestock health and distribution. The placement of mineral supplements will be only at designated sites that are approved by the Land Manager, after surveys are conducted to assure sensitive habitats are avoided and undesirable concentrations of livestock are minimized. Utilization of supplemental elements for purposes of ecological management is discussed further in Section 6.1, Streams.

6.2.3 Livestock Grazing Monitoring

Two types of grazing monitoring will be conducted. First, implementation monitoring will be conducted to determine if the grazing prescriptions are being implemented as presented in the LTMP. Second, grazing intensity (RDM) monitoring will be conducted to determine if RDM goals are being achieved. Monitoring methods are adapted from Wildland Solutions (2008), Guenther (2007) (Appendix E), and practices used on nearby OSA-managed lands (McGraw 2012, OSA 2013).

Monitoring may be performed by a technician, biologist, or the operator if that person has been trained in such monitoring. Although RDM monitoring does not need to be performed by a CRM, a CRM will be involved in decisions regarding long-term changes in management (i.e., revisions to the LTMP, such as stocking rates or timing) made as a result of RDM monitoring. Inter-annual changes in management (such as stocking rates or timing to meet yearly RDM goals) made as a result of RDM monitoring will be made at the judgment of the Land Manager, but will be in conformance with this LTMP.

6.2.3.1 Implementation Monitoring

Task B1. Livestock grazing implementation monitoring. Conduct implementation monitoring to confirm that the grazing strategy is being conducted as specified in the LTMP.

A grazing log will be maintained by the Land Manager staff with the assistance of the grazing lessee. The Land Manager will visually inspect Area 3 quarterly, as access allows, to confirm the presence of cattle and to inspect range conditions.

The log, which will be maintained in a spreadsheet to facilitate use, will include:

1. The number of AUs known on the Preserve (based on records provided from the grazing lessee, if available) and within Area 3 (based on incidental observations of livestock in favored grazing conditions).
2. The quarterly and annual weather conditions (i.e., rainfall)
3. A checklist for the general phenology and productivity of key forage plants (i.e., annual grasses), including the onset of the germinating rains, the date when 1 inch of new growth was observed, and senescence of the forage plants
4. The approximate amount of forage growth and remaining RDM to aid in the determination of proactively reducing the permitted grazing period and/or number of grazing animals to meet the RDM target.

This information can help managers track the various factors that influence inter-annual variability in grazing within Area 3.

6.2.3.2 RDM Monitoring

Information regarding RDM is collected in a practical manner that is adequate to assess how well the RDM goals have been met. The monitoring program is designed to provide the Land Manager useful information on RDM levels as they relate to objectives. The goal is that 80% of Area 3 meets the RDM objective (see Grazing Intensity, Section 6.2.2.1).

Two types of RDM monitoring will be conducted annually: (1) RDM reference plot monitoring and (2) Area 3 RDM status monitoring. For this process to be most useful, the same field personnel must first conduct the reference site monitoring followed by the RDM zone evaluation.

All RDM sampling is conducted once per year in mid to late September or early October, prior to the onset of seasonal rains.

Task B2. RDM reference plot monitoring. Detailed information will be collected at selected RDM reference plot monitoring sites to validate visual RDM estimates collected in Task B3, below. Information collected at the reference sites is not intended to be extrapolated as representing the entirety of Area 3; however, the reference sites will be located in areas expected to receive preferential livestock use (e.g., relatively flat areas of annual grassland or valley oak savanna with adequate water) and reflect the general conditions of the area in which it is located. The information is intended to represent that portion of the field being surveyed and serve as a reference for documenting the RDM status of Area 3.

Three RDM reference plot sites have been identified within Area 3 (Figure 9). These reference sites are located in areas that are as large as possible given surrounding conditions and that are likely to receive typical livestock use (e.g., areas that are relatively flat and open grassland or oak savanna or near water sources). These areas include grassy openings within foothill pine-oak woodland, as the larger patches of California annual grassland in Area 3 are on extremely steep slopes that would preclude cattle grazing (Figure 7). Areas with a dense tree canopy in foothill pine/oak woodland, mixed riparian forest, mixed oak forest, and chaparral vegetation types are unlikely to meet the RDM target even in the absence of livestock grazing, and will thus be excluded from RDM monitoring. Such areas have dense stands of live oaks or brush, which will suppress forage production irrespective of livestock use (Frost et al. 1997) and are typically lightly used by livestock because they provide relatively little forage. However, visual monitoring of cattle use of Area 3 will be conducted concurrently with other monitoring activities to ensure that cattle are not using these densely vegetated areas. If cattle are observed to be regularly using these areas, an additional reference plot will be added that is representative of the areas the cattle are using. The three RDM reference sites are distributed across Area 3 to the extent feasible based on accessibility. The sites are representative of the general grazing area in Area 3, capable of responding similarly to management actions, and capable of producing herbage representative of that area.

At each RDM reference plot:

1. Confirm that the location is representative of the general area that year. If not, relocate to a nearby suitable location. GPS any modified location.

2. Take overview photographs in all four cardinal directions from the sample point from approximately 5' above the ground. This is intended to both record vegetation characteristics in the vicinity of site and to provide overview scenes of Area 3 at standardized locations over time.
3. Photograph the RDM plot using "second step" (Robel pole monitoring) as described in Appendix E.
4. Clip and collect all herbage within a 13.25-inch diameter circular or 12-inch square frame plot. Weigh the herbage in grams and convert to lbs/acre using the following formulas (Wildland Solutions 2008):

Circular 13.25-inch diameter hoop plot:
 (grams clipped) x 100 = lbs/acre of RDM

Square 12-inch frame plot
 (grams clipped) x 96 = lbs/acre of RDM

5. Note the estimated amount of herbage remaining on ground after the plot is clipped.
6. Note the general botanical composition of sample (annual or perennial grasses, forbs, weeds).
7. Air dry any wet or green samples 2–3 days prior to weighing.

Task B3. Area 3 RDM Status Monitoring Protocol. After conducting the RDM reference site monitoring and obtaining the results, the amount of RDM can be visually estimated in Area 3 according to seven RDM classes listed in Table 3.

Table 3. RDM Evaluation Classes for Grazed Area 3 Lands¹

Vegetation type	RDM objective for Site	Residual Dry Matter (RDM) Level		
		RDM range of values		RDM Class
		% of objective for Area 3	Lbs/acre	
Foothill pine/oak woodland and valley oak savanna	1,000 -1,500 lbs/acre RDM	Exceeds 400%	Exceeds 4,000	Very High
		200-400%	2,000-4,000	High
		150-200%	1,500-2,000	Exceeds
		100-150%	1,000-1,500	Meets
		50-100%	500-1,000	Below
		<50%	<500	Low
		<10%	<100	Fire

¹Classes were developed in a manner described in "Monitoring Annual Grassland Residual Dry Matter" (Wildland Solutions 2008).

The general location and extent of those areas within Area 3 at least 20 acres in size (or as large as possible, given the generally forested structure of Area 3) and *not* meeting the target RDM levels will be determined in the field either by field measurement, GPS, or mapping onto paper or other field copy (such as the LTMP vegetation map) and then bringing the info into a GIS system. Vegetation is naturally patchy, and grazing use is patchy as well. The predominant condition in an area will determine that RDM level, despite inclusions of smaller areas with

either higher or lower levels. The goal is that at least 80% of the areas with the potential to meet the RDM target in Area 3 will meet the RDM target. As discussed above, these areas include grassy openings within foothill pine-oak woodland.

Task B4. Grazing adaptive management actions. If less than 80% of Area 3 is at or above the designated goal, an evaluation will be conducted to determine probable causes, assess if the condition is potentially detrimental or not to the stated goals, and determine if any corrective actions are needed. If corrective actions are recommended, they will then be implemented as described. Inter-annual fluctuations will occur because of many factors such as excessive rains, drought, timing of rainfall, variable temperatures, and differences in grazing animals and their knowledge of the site, so results from just one year should not be relied upon heavily.

As described previously, the Land Manager will have limited control over livestock grazing in Area 3 and will rely on cattle grazing the Preserve as a whole to meet the LTMP's livestock grazing management objectives. Because there is no fencing between Areas 1, 2, and 3 and these areas are grazed together as a unit, cattle will not necessarily be present in Area 3 year-round even though the Preserve may be grazed year-round. Further, the CE and CTS Management Plan for Area 1 limit the number of cattle on Area 1 to 50 AUs. Thus, the Land Manager will ensure that the grazing prescription described above (e.g., season of use, utilization target) is followed to the maximum extent practical and will coordinate with the CE holder for Area 1 to ensure that the requirements of the Area 1 CE and CTS Management Plan continue to be met. In the event that the LTMP's grazing management objectives are not met, the Land Manager will attempt to have grazing intensity reduced or increased as necessary, in coordination with the Area 1 CE holder as needed. If RDM values consistently and significantly deviate from Area 3's objectives, the Land Manager may install temporary electric fencing or permanent barbed wire fencing to allow for management of Area 3 independent of Areas 1 and 2.

If any changes to grazing management are proposed in the future, they will be coordinated between the SCVWD, the CE holder for Area 3, the CE holder for Area 1, and with the Permitting Agencies.

6.3 Element C. Non-Native Invasive Plant Species Management

Objective: Minimize the spread of existing non-native invasive plants.

The focus of this objective is:

1. Prevention or control of new introductions of high or moderate-ranked California Invasive Plant Council (Cal-IPC) species to Area 3
2. Control of existing infestations of high-ranked Cal-IPC species
3. Control of those existing Cal-IPC moderate-ranked species that have potential to further degrade Area 3 and have a reasonable potential for successful control.

6.3.1 Invasive Plants

The degree of invasiveness of invasive plants is rated by the Cal-IPC as "limited," "moderate", or "high" based on the severity of their ecological impacts (Cal-IPC 2015). The most effective approach to wildland weed management is to focus on early detection and control of invasive

species populations, prioritizing high-ranked species with the greatest potential to degrade wildlands, and if feasible, control of moderate-ranked species at a minimal level. Two invasive species, Spanish brome and spreading hedgeparsley, are present in several vegetation types in Area 3 (see Section 3.1 *Vegetation Types*). Spanish brome is ranked by the Cal-IPC as “highly” invasive, and occurs as a co-dominant species with other nonnative annual grasses in some open areas within both large and small patches of grassland in foothill pine/oak woodland, valley oak savanna, and California annual grassland vegetation types (Photo 18, Appendix B). Spreading hedgeparsley is considered “moderately” invasive, and was observed in mixed oak forest and foothill pine/oak woodland vegetation types during the May and June field surveys. Although it is not a dominant species, Italian thistle (*Carduus pycnocephalus*; “moderately” invasive) is also present across Area 3, occurring in open grasslands and valley oak savanna (Photo 19, Appendix B).

Spanish brome and spreading hedgeparsley are not specifically included in the invasive species control efforts because their presence in Area 3 reflects a larger, regional invasion that is not feasible to control at a site-wide level for Area 3 (or for any similar site in the region). Because these are common dominant species in grassland and woodland communities in California, their presence does not degrade the habitat on the site, which was observed to be of very high quality, relative to other sites in the region. Further, the majority of the areas within the stream buffers in Area 3 are within the dense mixed oak forest vegetation type (Figures 7 and 10), which has a high cover of native trees and shrubs and a sparse herbaceous layer. Therefore, although these invasive species are present in certain vegetation types in Area 3, they are only present within a small proportion (i.e., less than 20 percent) of the stream buffers in Area 3, which are the focus of the SCVWD’s management efforts. Thus, the management efforts described below are expected to reduce the occurrence of these species within Area 3, even though these species are not the focus of the management efforts.

Other noteworthy invasive species that were observed on Area 3 in lesser quantities include tocalote (*Centaurea melitensis*; “moderately” invasive) and medusahead (*Elymus caput-medusae*; “highly” invasive). Medusahead will be the primary focus of invasive species control efforts because it is considered to be one of the most threatening invasive annual grasses to rangeland production and wildland plant diversity; it often forms near monotypic stands and is an aggressive competitor for soil moisture (DiTomaso 2003). Although it occurs in higher densities on Areas 1 and 2, and in other surrounding lands (SCVWD 2014), than on Area 3, early detection of this species on Area 3 is still possible, as only a few individual medusahead plants were observed. Distributional observations of these species within the Area 3 will be documented, and control will be prioritized based on extent, threat and feasibility.

Integrated Pest Management techniques (biological, mechanical, chemical, combination, etc.) will ensure the most effective control method is utilized for each invasive species and provide the greatest amount of protection to the natural resources within Area 3. Management of particular invasive species will be prioritized based on their potential to cause harm to Area 3’s natural resources as well as the ability to effectively control the species.

If goat or sheep grazing is used for invasive plant control, animals will be brought in during the specific season useful to control the target problematic species. Goats and sheep will be concentrated in a specific location for a short duration, contained by an electric fence or similar means within a relatively small area, and allowed to graze with the coordination and oversight of a professional shepherd in order to achieve the weed control objective.

Livestock grazing has been used effectively to help minimize invasive plants on conservation properties but may not be adequate to address all issues. Where cattle grazing is not sufficient, the next preferred line of defense will be the use of non-herbicide methods (i.e., mechanical and hand removal, goats and sheep, and if available, effective biocontrols approved by the California Department of Food and Agriculture's Biological Control Program). In select areas, herbicides may be used where the type of species, size of population or terrain makes the use of other techniques either hazardous or ineffective. For example, in rocky areas whipping and mowing may damage resources and equipment, and hand pulling can be a safety risk because of uneven, steep ground.

Use of herbicides will only be permitted in Area 3 if all of the following standards are met:

- Use occurs specifically for control of invasive, non-native plant species.
- Herbicide use shall be guided by label restrictions and any advisories published by the California Department of Pesticide Regulation or the County Agricultural Commission.
- Only herbicides and surfactants registered for aquatic use by the United States Environmental Protection Agency (USEPA) shall be applied within 20 feet of any waterway.
- All non-target plant species will be avoided.
- Herbicide drift will be minimized by complying with all label restrictions.
- Application will be avoided if significant rainfall is predicted in the subsequent 48-hour period.
- The lowest recommended and efficacious rate of herbicide will be used.
- The USEPA pesticide injunction for use of pesticides in CTS and CRLF habitat will be followed, as applicable.
- Unless specifically justified for a particular species, application will occur between June 15th and October 15th. Application will be made by or under the direct supervision of a state-certified applicator with a minimum of a Qualified Applicator Certificate license that is under the direction of a licensed pest control advisor with a Pesticide Recommendation for Area 3.
- Use will be in accordance with all guidelines and requirements from the Department of Pesticide Regulation.

Prescribed fire can be an effective invasive species management tool and has been successfully employed on other properties, including the adjacent BORR, to control weeds and maintain a natural vegetation mosaic. Typically done in conjunction with other agencies and/or research institutions, prescribed fire may be used as a management tool on Area 3. In such cases protocols established by CAL FIRE will be followed, and the necessary permits will be obtained as required from the Bay Area Air Quality Management District. Prior to instituting the use of fire within Area 3, a proposal for its use will be submitted for review and approval by the agencies overseeing the required mitigation in the subject areas.

Task C1. Invasive plant monitoring. Perform observational surveys to monitor known moderate to high ranking invasive plant species populations and document new occurrences, or new invasive plant species that have been identified by Cal-IPC as new threats.

C1.1. Conduct a comprehensive survey every 5 years beginning in 2016 to identify the locations of invasive plants. Determine the approximate area (square feet) of each occurrence by field measurement of average width and length, GPS polygon mapping, or other suitable means. Estimate percent cover within each occurrence to the nearest cover class (1-10%, 11-25%, 25-50%, 50-75%, 76-100%) and document locations with GPS. Produce an invasive species occurrence GIS map for documentation and use in the field based on the results. Surveys will focus on those areas known to account for the majority of invasive plant introductions and infestations on wildland sites including along roads, trails, and other known impact areas (e.g., cattle troughs, cattle bedding areas). Surveys will be conducted once during the survey year, in late June or early July, timed to occur when the target plants are flowering, making for easy identification and mapping.

C1.2. In intervening years, make incidental observations of invasive plants in conjunction with routine quarterly patrols and other site monitoring. Update the invasive species GIS map annually, as needed.

Task C2. Conduct invasive weed control activities. Conduct control activities at appropriate intervals (annually, if needed) in accordance with the procedures listed above. Prioritize management of particular invasive species based on their potential to cause harm to the site's natural resources as well as the ability to effectively control the species. Following Cal-IPC best management practices to stop the spread of invasive plants to new locations, high-ranked invasive species along roads and trails will be of highest priority. Appropriately document and report control activities to the County Agricultural Commissioner as required.

6.4 Element D. California Tiger Salamander (CTS)

Objective: Conserve and allow for improvement of existing habitat that may be suitable for CTS within Area 3.

The prescribed monitoring and management activities in Elements A–C above will assist in determining whether the aquatic and upland habitats in Area 3 are being maintained in good condition. As discussed in Task A1, damage to sensitive resources will be recorded, and in Task A2 if detrimental effects of livestock are observed in a particular location, various methods may be used to exclude livestock on a short term, seasonal, or permanent basis.

Task D1. Incidental CTS observations. In the course of all monitoring conducted for Elements A-C and quarterly patrols, surveyors will look for CTS via passive observation. Any sightings of CTS will be documented and reported to the CNDDDB. Surveyors will be qualified biologists or other qualified professionals with the training and ability to identify sensitive amphibians in their various life stages.

For the CTS, as well all other resources in Area 3, the SCVWD reserves the right to perform additional monitoring and habitat enhancement activities as required to determine suitability for or compliance with current or future mitigation needs or other regulatory requirements. Such activities would be subject to review and approval by the Permitting Agencies.

6.5 Element E. California Red-Legged Frog (CRLF)

Objective: Conserve and allow for improvement of existing habitat that may be suitable for CRLF within Area 3.

Following the prescribed monitoring and management activities in Elements A–C above will assist in determining whether the aquatic and upland habitat is being maintained in good condition. As discussed in Task A1, damage to sensitive resources will be recorded, and in Task A2 if detrimental effects of livestock are observed in a particular location, various methods may be used to exclude livestock on a short term, seasonal, or permanent basis.

Task E1. Incidental CRLF observations. In the course of all monitoring conducted for Elements A-C and quarterly patrols throughout the Preserve, surveyors will look for CRLF via passive observation. Any sightings of CRLF on the Preserve will be documented and reported to the CNDDDB. Surveyors will be qualified biologists or other qualified professionals with the training and ability to identify sensitive amphibians in their various life stages.

For the CRLF, as well all other resources in Area 3, the SCVWD reserves the right to perform additional monitoring and habitat enhancement activities as required to determine suitability for or compliance with current or future mitigation needs or other regulatory requirements. These activities would be subject to review and approval by the appropriate regulatory agencies.

6.6 Element F. Other Sensitive Species

Objective: Document observations of other sensitive wildlife and plant species within Area 3.

As listed in Table 2, Area 3 supports or has the potential to support several other sensitive wildlife and plant species. Preserve management practices will build upon techniques which have been favorable in the past, and implementation of the prescribed monitoring and management activities in Elements A–E above will ensure that habitat is being maintained in good condition for these species.

Task F1. Sensitive wildlife and plant observations. In the course of all monitoring conducted for Elements A-E and quarterly patrols, note any incidental observations of other sensitive wildlife or plant species. Any occurrences of federally listed, state-listed, or CNPS-Rare Plant Rank 1A or 1B species not previously documented will be reported to the CNDDDB.

7.0 INFRASTRUCTURE AND FACILITIES

The SCVWD will obtain all necessary permits and approvals prior to the initiation of any infrastructure and facilities maintenance actions requiring such permits and approvals.

Construction materials needed in support of infrastructure and facilities management are expected to include items such as base rock for road maintenance, fencing supplies (t-posts, steel posts, barbed wire rolls, electric fencing wire, grounding rods), and possibly troughs. Materials are not brought in until a week before work is to begin, with project extent roughly one month or less. Best management practices for such projects would include silt fencing and wattles around rock and soil piles to prevent materials from leaving the work site, storage of materials in an area that has little to no grade to prevent transport of material, and storage sites

located outside of any sensitive species or habitat areas, as well as any additional best management practices denoted in CEQA or permits covering these actions.

7.1 Element G. Grazing Infrastructure: Fencing, Gates, Troughs

Objective 1: Monitor condition of fences, gates, and troughs to ensure they are maintained to facilitate the grazing regime and management, prevent unauthorized public access, and allow necessary access for quarterly patrols and management of Area 3.

Along the top of the Arroyo Hondo canyon, prohibitively steep topography excludes cattle from accessing the stream, and the only fencing that will be monitored and maintained is the short section of barbed-wire fence that crosses the existing trail to Arroyo Hondo (Figure 5).

Objective 2: Allow for future installation of new, or modification or removal of existing fencing, gates, troughs, and other grazing-related infrastructure if indicated for adaptive management of grazing or other resource-related purpose.

No new fencing, gates or troughs are recommended initially.

Objective 3: Utilize temporary means, such as electric fencing, for short-term exclusion or inclusion needs.

No gates or troughs are currently present on Area 3, and none are currently proposed. Maintenance of gates and troughs as necessary to allow for appropriate grazing management of the entire Preserve, including Area 3, will occur; however, these activities are addressed in a separate LTMP for Areas 1 and 2. Therefore, the remainder of this section pertains only to activities on Area 3.

As part of operations, the grazing tenant conducts routine maintenance of fencing. Fences will be maintained as necessary by replacing posts and/or wires. All replaced or additional fencing will adhere to current wildlife-friendly fencing standards, such as those used in nearby areas by the OSA (Appendix F). Signage will be installed at potential access points to indicate Preserve boundaries and/or areas closed to public access. No areas requiring new fencing are currently known. However, fencing may be added adaptively in the future if necessary to control grazing within Area 3, which is currently open to cattle grazing on adjacent Areas 1 and 2.

BORR maintains the pig fencing along the southern boundary of Area 3 between Area 3 and the BORR. Thus, the only existing fence that the SCVWD will monitor and maintain is the barbed-wire livestock fence along the northern boundary of Area 3.

If any new troughs are placed within Area 3 in the future, they will:

1. Have float valves to minimize water usage;
2. Have protection of the float valves to minimize breakage caused by cattle;
3. Be cleaned, as needed, during the summer and early fall to avoid cleaning during the amphibian breeding season (November–July); and
4. Have mechanisms that allow wildlife to escape and avoid drowning.

5. Any new troughs will be constructed per NRCS Stock Watering specifications (Appendix F).

Low ground pressure, four-wheel all-terrain vehicles (ATVs) may be used off-road for facilities monitoring, maintenance, or installation purposes and for easement monitoring purposes, but are otherwise not permitted for off-road use within Area 3. ATV use would be limited to the dry season when soils would not be impacted, would only be in upland areas, and would not be permitted in sensitive areas (such as along streams, with the exception of existing road crossings).

Task G1. Annual monitoring. Annually assess, in conjunction with grazing tenant, the condition of fences and troughs to confirm that all are properly maintained. Record the location, type, and recommendations if a fence or trough needs repair or replacement.

Task G2. Adaptive management actions. New fencing, gates, troughs, and other grazing-related infrastructure such as weather stations will be installed as needed for further site improvement as indicated by adaptive management, and as funding allows.

7.2 Element H. Roads

Objective: Monitor and maintain roads to provide access and minimize erosion and sedimentation issues

Task H1. Road monitoring. Inspect road conditions annually each May (after the rainy season) to determine the condition of the road surfaces and stream crossings. During year 1 May monitoring, the conditions of all road crossings (i.e., gullies or erosion present,) will be noted for use in subsequent years. The location and nature of issues observed at or away from stream crossings will be noted.

Task H2. Routine road maintenance. Maintain the existing drivable and abandoned roads as frequently as needed to preserve them in good condition. It is expected that the roads will need to be mowed approximately two times a year. It is also expected that the roads will require re-grading approximately once every five years. To maintain the surface, the upper few inches of the roads will be disced, tilled, or otherwise loosened prior to grading, and the loosened material will then be graded back into the road. This will ensure that no spoils are deposited on road edges, all materials will be re-incorporated into the road, and the road elevation will not decline over time. Roads will be out-sloped where appropriate or otherwise graded to facilitate sheet flow and minimize concentration of water and formation of rills and gullies. When necessary, some road segments may be rocked (such as the location described in Section 4.0 *Initial Site Improvements*) or otherwise armored to reduce the potential for erosion. Where erosion is present on the sides of roads these areas may be re-graded and re-shaped to prevent further erosion.

When the roads are wet and tread damage could occur from a vehicle, vehicles will not be used by those parties having vehicle access rights. Alternative means of road access during wet conditions will be used, such as access by foot, horse, or an ATV/SxS (Side by Side vehicle). Following this practice will minimize road damage.

Task H3. Minor woody vegetation removal. Remove or trim live trees, dead trees, brush, and/or woody debris where required by fire protection agencies, for treatment of disease, for public and Land Manager staff safety, for patrol vehicle access, for recreational access as

allowed under this LTMP, or for fire breaks for defensible space purposes at utility lines or at the property lines.

8.0 SECURITY, SAFETY, AND PUBLIC ACCESS

8.1 Element I. Public Access

Objective: Allow public recreation and scientific study consistent with the terms of the conservation easement(s) for Area 3 and the resource management objectives of this LTMP.

Although no public access to Area 3 is planned at this time, the SCVWD may allow public access to Area 3 in the future. Such public access not only provides recreational opportunities to the public but is also important in public education on issues of biodiversity and the importance of conservation, and in allowing scientific research within Area 3. Such access and education helps to maintain public support of conservation and assistance in obtaining public funds and grants for land acquisition and management. Potential future trail locations would only consist of the 2,694 linear feet existing, drivable ranch road within Area 3.

The existing drivable road within Area 3 will be maintained to facilitate site patrol and resource management projects (Section 7.2); however vehicular access to this road will be limited to Land Manager and CE holder staff, contractors, and invitees, and will not be available for public vehicular use. Drivable roads are those roads up to 10 feet wide with natural or baserock surfaces that can accommodate maintenance and emergency vehicles.

The CE holder plans to conduct educational and natural history tours of the Preserve. These tours would occur not more than four times a year and would consist of not more than 30 people each entry.

If public access beyond use by occasional researchers is proposed in the future, the SCVWD would coordinate with the CE Holder and the Permitting Agencies regarding the type and amount of public access and any appropriate conditions, restrictions, or additional monitoring related to public access. Any future public access will be consistent with the CE.

8.2 Element J. Trash and Trespass

Objective 1: Monitor sources of trash and trespass.

Objective 2: Collect and remove trash, repair vandalized structures, and rectify trespass impacts to prevent degradation of Area 3 from unauthorized human uses.

Task J1. Ongoing patrol monitoring. If observed during each site visit, remove and record occurrences of trash and/or trespass; record type, location and management recommendations to avoid, minimize, or rectify impacts. This task will be conducted quarterly. Trash and trespass issues will be monitored using the General Site Monitoring Checklist (Appendix D).

Task J2. Annually remove or rectify problems. Conduct an annual trash and trespass results review, identify any patterns, and determine if adaptive management actions are needed.

9.0 ELEMENT K. REPORTING

Objective: Provide annual report of management tasks conducted and general site conditions within the 2015 Conservation Easement area.

Task K1. Prepare annual report. The SCVWD will prepare an annual report for submittal to the permitting resource agencies (i.e., the Corps, SF RWQCB, and CDFW) by December 31. The annual report template is provided in Appendix G. The report will include a summary of the results of monitoring tasks conducted and management actions taken, and it will make recommendations with regard to (1) any habitat enhancement measures deemed necessary, (2) any problems that need attention and (3) any changes in the monitoring or management program that appear to be warranted. The report will cover the area included within the 2015 CE (Area 3).

The report will be prepared annually for the first five years. After five years, the report frequency may be reduced to once every five years, after consultation with and written concurrence by all agencies accepting compensatory mitigation on Area 3 (the SF RWQCB, Corps and CDFW for the 219.9 acres of Stream and Watershed Protection Buffers). The annual Area 3 Conservation Interest Compliance Monitoring Report (see Appendix G for templates) will be included as an appendix.

Task K2. Permitting agency check-in (as-needed). Each year following submittal of the annual report, the Permitting Agencies will be given the opportunity to request a check-in to discuss any changes or other issues regarding site management. The request for a check-in would be made by the Permitting Agencies within one month of receiving the annual report. Depending on the issue(s) to be discussed, the check-in would be scheduled as a phone conference call or sit-down meeting with the Land Manager. Each of the Permitting Agencies would have the option of participating.

A summary of the long term management tasks to be implemented and the timing of these activities are presented below (Table 4).

Table 4. Long Term Management Tasks and Timing

Task No.	Task	Frequency	Timing
A. Streams			
A1	Stream condition monitoring	Annually	May/June
A2	Stream adaptive management actions	As needed	Dry season
B. Livestock Grazing Management			
B1	Livestock grazing implementation monitoring	Quarterly	Quarterly
B2	RDM reference plot monitoring	Annually	Mid-Sept. - early Oct., before rains start
B3	Area 3 RDM status monitoring protocol	Annually	Mid-Sept. - early Oct., before rains start

Task No.	Task	Frequency	Timing
C. Invasive Plant Species Management			
C1.1	Invasive plant monitoring	Comprehensive - every 5 year. Incidental - annually.	Late June or early July*
C1.2	Incidental invasive plant monitoring	Ongoing	Conducted with other annual monitoring and quarterly patrols
C2	Annual invasive weed control activities	Annually	Dry season. Variable timing dependent on species and techniques
D. CTS			
D1	Incidental CTS observations	Ongoing	Conducted with other annual monitoring and quarterly patrols
E. CRLF			
E1	Incidental CRLF observations	Ongoing	Conducted with other annual monitoring and quarterly patrols
F. Other Sensitive Species			
F1	Document observations of other sensitive wildlife and plant species within Area 3	Ongoing	Conducted with all other annual monitoring and quarterly patrols
G. Fences, Gates, and Troughs			
G1	Annual monitoring	Annually	Dry season
G2	New infrastructure - adaptive management	As needed	As needed
H. Roads			
H1	Road monitoring	Once annually (general); after large storms (stream crossings)	General - May; Stream Crossings - after large storms
H2	Routine road maintenance	Mowing-2x/year; Regrading-approximately once/5 years	Dry season
H3	Minor woody vegetation removal	As needed	Variable
J. Trash and Trespass			
J1	Quarterly patrol monitoring	Ongoing	Conducted with all other annual monitoring and quarterly patrols
J2	Annually remove or rectify problems	Annually	June
K. Reporting			
K1	Prepare annual report	Annually for first 5 years; then potentially change to once/5 years	Due Dec. 31
K2	Permitting agency check-in	As needed	As needed

*Target monitoring timing is late June or early July **or** based on the phenology of each invasive species

10.0 TRANSFER, REPLACEMENTS, AMENDMENTS, AND NOTICES

10.1 Transfer

Any subsequent transfer of responsibilities under this LTMP to a different land manager shall be requested by the Land Manager in writing to the agencies overseeing the required mitigation in the subject area (Permitting Agencies), shall require written approval by the Permitting Agencies, and shall be incorporated into this LTMP by amendment. Any subsequent Property Owner will assume Land Manager responsibilities described in this LTMP and as required in the CE, unless otherwise amended in writing by the Permitting Agencies.

10.2 Replacement

If the Land Manager fails to implement the tasks described in this LTMP and is notified of such failure in writing by any of the Permitting Agencies or the CE Holder, Land Manager shall have 90 days to cure such failure. If failure is not cured within 90 days, Land Manager may request a meeting with the Permitting Agencies and the CE Holder to resolve the failure. Such meeting shall occur within 30 days or a longer period if approved by the Permitting Agencies. Based on the outcome of the meeting, or if no meeting is requested, the Permitting Agencies may designate a replacement Land Manager in writing by amendment of this LTMP. If Land Manager fails to designate a replacement Land Manager, then such public or private land or resource management organization acceptable to and as directed by the Permitting Agencies may enter onto the CE Preserve in order to fulfill the purposes of this LTMP.

10.3 Amendments

The Land Manager, Property Owner (if management responsibilities are transferred to an entity other than the SCVWD, as discussed in Section 10.2), CE holder, and 2002 SMP Permitting Agencies (Corps, CDFW, and SF RWQCB) may meet and confer from time to time, upon the request of any one of them, to revise the LTMP to better meet management objectives and preserve the habitat and conservation values of Area 3. There shall be no amendments to Sections 2, 3, or 4 and related components of the Appendices and Figures of this LTMP, as these serve as a baseline from which to compare future conditions of the Preserve. However, future amendments to this LTMP may include supplements to those materials. Any proposed substantive changes to the LTMP shall be discussed with the owner, manager, easement holder and Permitting Agencies and will be designed with input from all parties. Any amendments to the LTMP shall be approved by the Permitting Agencies, the CE Holder, and SCVWD in writing. Such amendments will be considered required management components and shall be implemented by the Land Manager. Amendments to the LTMP are not expected to trigger the need to amend the CE. Any amendments that result in a change in management costs will trigger an amendment to the costs table (Table 5) as well.

10.4 Notices

Any notices regarding this LTMP shall be directed as follows:

Land Manager and Property Owner:

Santa Clara Valley Water District (SCVWD)
Ms. Lisa Porcella
5750 Almaden Expressway
San Jose CA 95118
Phone: (408) 630-2741
lporcella@valleywater.org

SMP-1 Permitting Agencies:

California Department of Fish and Wildlife
Ms. Tami Schane
7329 Silverado Trail
Napa, CA 94558
Phone: (415) 831-4640
tami.schane@wildlife.ca.gov

California Department of Fish and Wildlife
Ms. Brenda Blinn
7329 Silverado Trail
Napa, CA 94558
Phone: (707) 944-5541
Brenda.blinn@wildlife.ca.gov

U.S. Army Corps of Engineers
Ms. Katerina Galacatos
Regulatory Project Manager
Regulatory Division
U.S. Army Corps of Engineers
1455 Market Street, 16th Floor
San Francisco, California 94103-1398
Phone: (415) 503-6763
Katerina.Galacatos@usace.army.mil

San Francisco Bay Regional Water Quality Control Board
Ms. Susan Glendening
Environmental Specialist
San Francisco Estuary Partnership/
San Francisco Regional Water Quality Control Board
1515 Clay St., Suite 1400
Oakland, CA 94612
Phone: (510) 622-2462
susan.glendening@waterboards.ca.gov

CE Holder:

The Nature Conservancy
Stewardship Department
201 Mission Street, 4th Floor
San Francisco, CA 94105
Phone: (415) 777-0487
einlander@tnc.org

11.0 FUNDING, TASK PRIORITIZATION, AND COSTS

The Corps has considered and approved, and the other relevant Permitting Agencies have reviewed, the SCVWD's proposed financial assurances mechanism for funding long-term management of Area 3, as described below. It should be noted that the compensatory mitigation provided on Area 3 was required to fully offset the SCVWD's SMP 1 impacts, which were authorized and primarily incurred prior to issuance of the 2008 Mitigation Rule (33 CFR Parts 325 and 332).

The SCVWD will ensure adequate funding for the long-term management of Area 3 by providing the following three measures of financial assurance: 1) the approval of a Board Resolution, 2) the execution of a Memorandum of Understanding (MOU) between the SCVWD and the Corps, and 3) the establishment of a 'standby fund' in the amount equal to five (5) years of annual management costs as estimated in the LTMP (\$147,910) in the form of an auto-renewing Letter of Credit (LOC). These three measures are described in more detail below:

1. Approval of a SCVWD Board Resolution which includes the following elements:
 - (a) A summary of the SCVWD's current and projected financial state (establishing SCVWD's ongoing ability to fund the LTMP);
 - (b) A finding regarding financial analysis conducted on the annual management costs of the LTMP (Annual Management Costs); and,
 - (c) An annual pledge of revenue to cover 100% of the Annual Management Costs estimated at \$29,582/year for the Area 3 LTMP. The required Annual Management Costs would be revised at least every five years to reflect the San Francisco-Oakland-San Jose Consumer Price Index for the preceding five years to account for inflation.

2. Execution of an MOU between the SCVWD and the Corps to include the following:
 - (a) Provisions defining the purpose of the MOU as ensuring the long-term protection of Area 3 through financial assurance for the LTMP;
 - (b) A requirement that the SCVWD provide the financial analysis to calculate the Annual Management Costs;
 - (c) A requirement that the SCVWD revise the Annual Management Costs at least every five years to reflect the San Francisco-Oakland-San Jose Consumer Price Index for the preceding five years to account for inflation;
 - (d) A requirement that the SCVWD provide written notice to the Permitting Agencies of any cost revisions;
 - (e) An express requirement that the SCVWD provide sufficient revenue annually to cover the entire Annual Management Costs; and
 - (f) A requirement that the SCVWD establish a standby fund in accordance with paragraph 3.

3. Establishment of a 'standby fund' in the amount equal to five (5) years of annual management cost as estimated in the LTMP (\$147,910) in the form of a Letter of Credit (LOC). A LOC is a

document issued on behalf of SCVWD by a financial institution that provides for payment of SCVWD's mitigation obligations to the Corps as a beneficiary in the event that SCVWD is unwilling or unable to complete or remediate them. The standby fund would be utilized in any year when the annual appropriations are insufficient to cover the annual management costs. The LOC would auto-renew after 5 years. Once the LOC has been drawn upon, SCVWD then owes that amount to the financial institution according to the terms of the loan agreement.

The estimated costs of the long-term management tasks are presented in Table 5 below.

Table 5. Long-Term Management Cost Estimates

Monitoring Task and Subtasks		Annual Hours	Annual Labor	Materials & Supplies	Preliminary Cost Estimate	Frequency
A. Stream Monitoring						
A1	Stream Condition Monitoring					
	A1.2. Annual site visit to streams	15	975	NA	975	1x/year
A2	Adaptive Management					
	A2.1. Movement of salt licks	2	130	NA	130	1x/year
	A2.2. Install, check and remove electric fences	20	1300	NA	1300	As needed
B. Livestock Grazing Management						
B1	Grazing Implementation Monitoring					
	B1.1 Dry road conditions monitoring	25	1625	NA	1625	3x/year
	B1.2 Wet road condition monitoring	10	650	NA	650	1x/year
B2	RDM Reference Plot Monitoring	5	325	NA	325	1x/year
B3	RDM Status Monitoring	2	130	NA	130	1x/year
B4	Grazing Lease Oversight and Administration	20	1300	NA	1300	1x/year
C. Invasive Plant Species and Oak Woodland and Savanna Management						
C1	Invasive Plant Monitoring					
	C1.1. Comprehensive surveys	60	3900	NA	3900	1x/year every 5 years
	C1.2. Annual observations	4	260	NA	260	4x/year
C2	Conduct Annual Control Measures	24	1560	1000	2560	1x/year

D. California Tiger Salamander						
D1	Incidental CTS Observations	4	260	NA	260	4x/year
E. California Red-legged Frog						
E1	Incidental CRLF Observations	4	260	NA	260	4x/year
F. Other Sensitive Species						
F1	Document Sensitive Wildlife and Plant Observations in Conjunction with Quarterly Patrols	4	260	NA	260	4x/year
G. Grazing Infrastructure: Fences, Gates, Troughs						
G1	Annual Monitoring	4	260	NA	260	1x/year
G2	New Infrastructure-Adaptive Management					
	G2.1. Fence & gate repair	8	520	350	870	As needed
H. Roads						
H1	Road Inspection (including storm check)	2.5	162.5	NA	162.5	5x/year
H2	Routine Maintenance					
	H2.1 Road Mowing	30	1950	900	2850	2 mowings. year
	H2.2 Road Regrading	1	65	NA	65	Estimated 1x/ 5 years
H3	Defensible Space and Veg Clearing	10	650	NA	650	As needed
I. Public Access - N/A						

J. Trash and Trespass						
J1	Quarterly Patrol (included in others, except for admin)	1	65	NA	65	4x/year
J2	Annually Remove Trash or Rectify	2	130	NA	130	As needed
K. Reporting						
K1	Prepare Annual Report	45	2925	NA	2925	1x/year
Totals		302.5	19,662.5	2250	21,912.5	

Contingency (10%) \$ 2191

Admin Overhead (25%) \$5478

PRELIMINARY ANNUAL COST ESTIMATE TOTAL \$29,582

TNC's Annual CE Monitoring and Reporting Costs \$4772

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Personal Communications

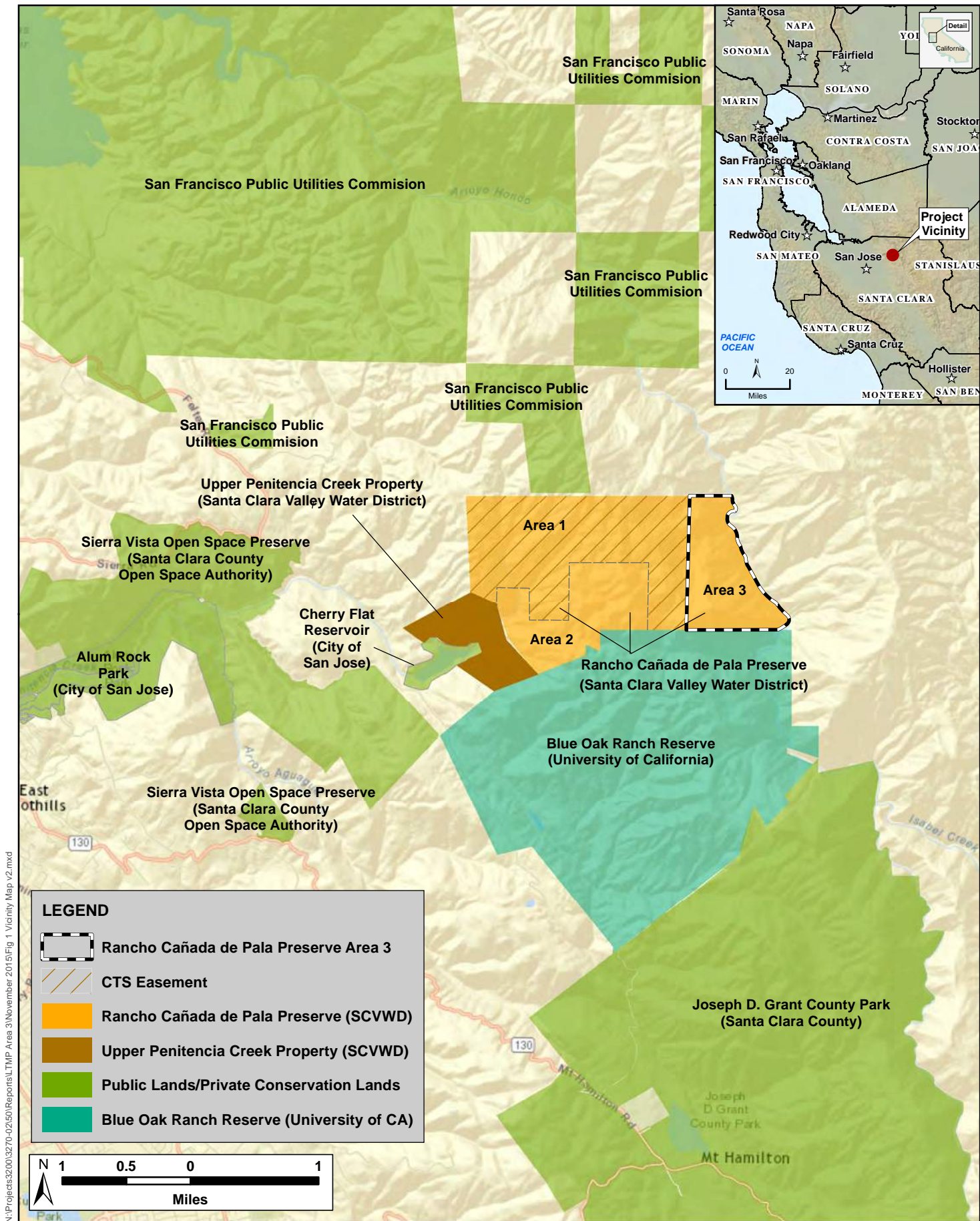
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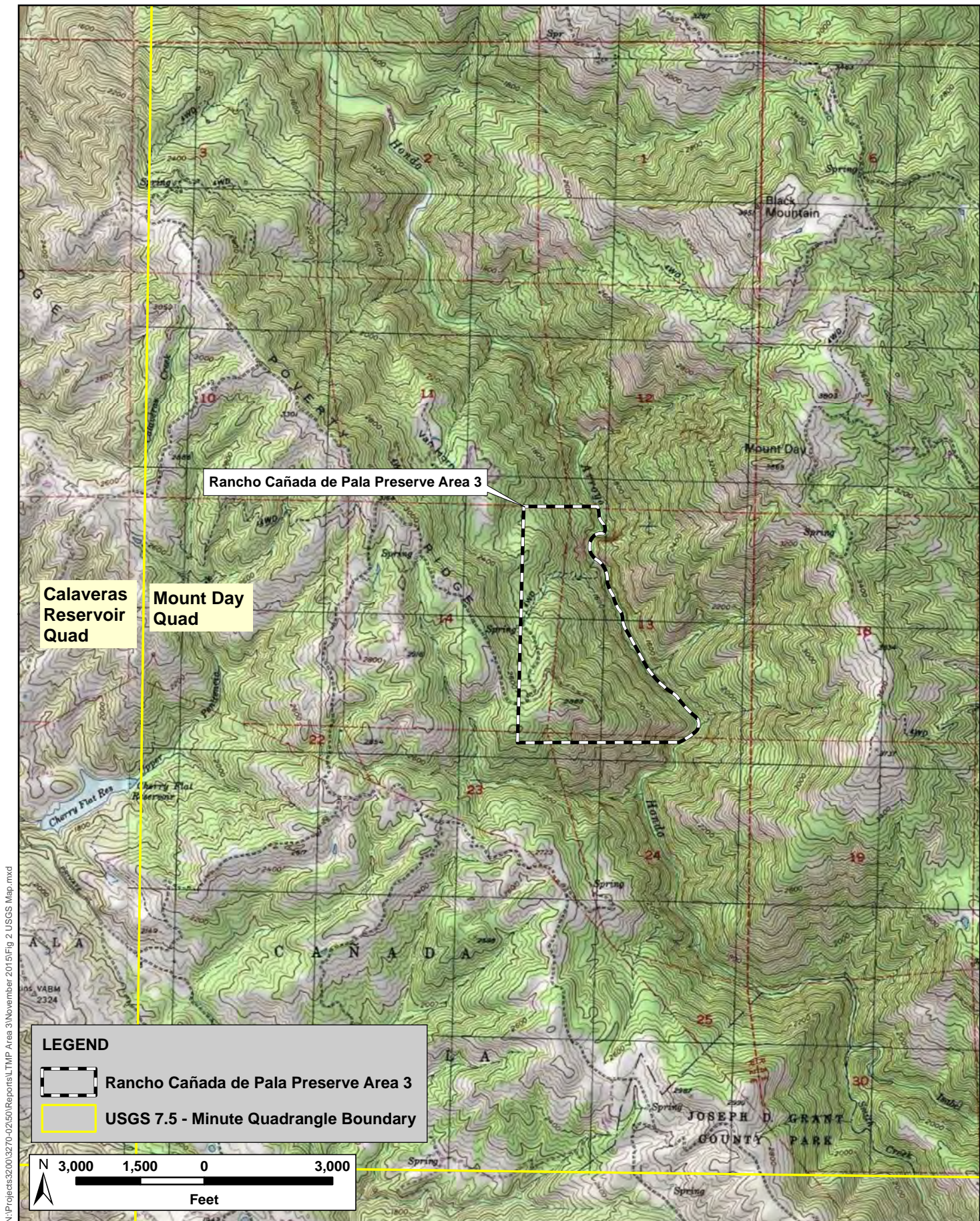
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APPENDIX A



N:\Projects\320013270-02\50\Reports\LTMP\Area 3\November 2015\Fig 1_Vicinity Map.v2.mxd

Figure 1: Vicinity Map
 Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan
 November 2015



N:\Projects\3200\3270-02\50\Reports\LTMP Area 3\November 2015\Fig. 2_USGS Map.mxd

Figure 2: USGS 7.5 - Minute Quadrangle
Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan
November 2015

Imagery Source: National Agricultural Imagery Program (2014)
Streams Source: Originally based on BAARI streams
from the SFEI and updated by SCVWD.

N:\Projects\3200\3270-02\50\Reports\LTMP Area 3\November 2015\Fig. 3. Streams and Tributary IDs.mxd

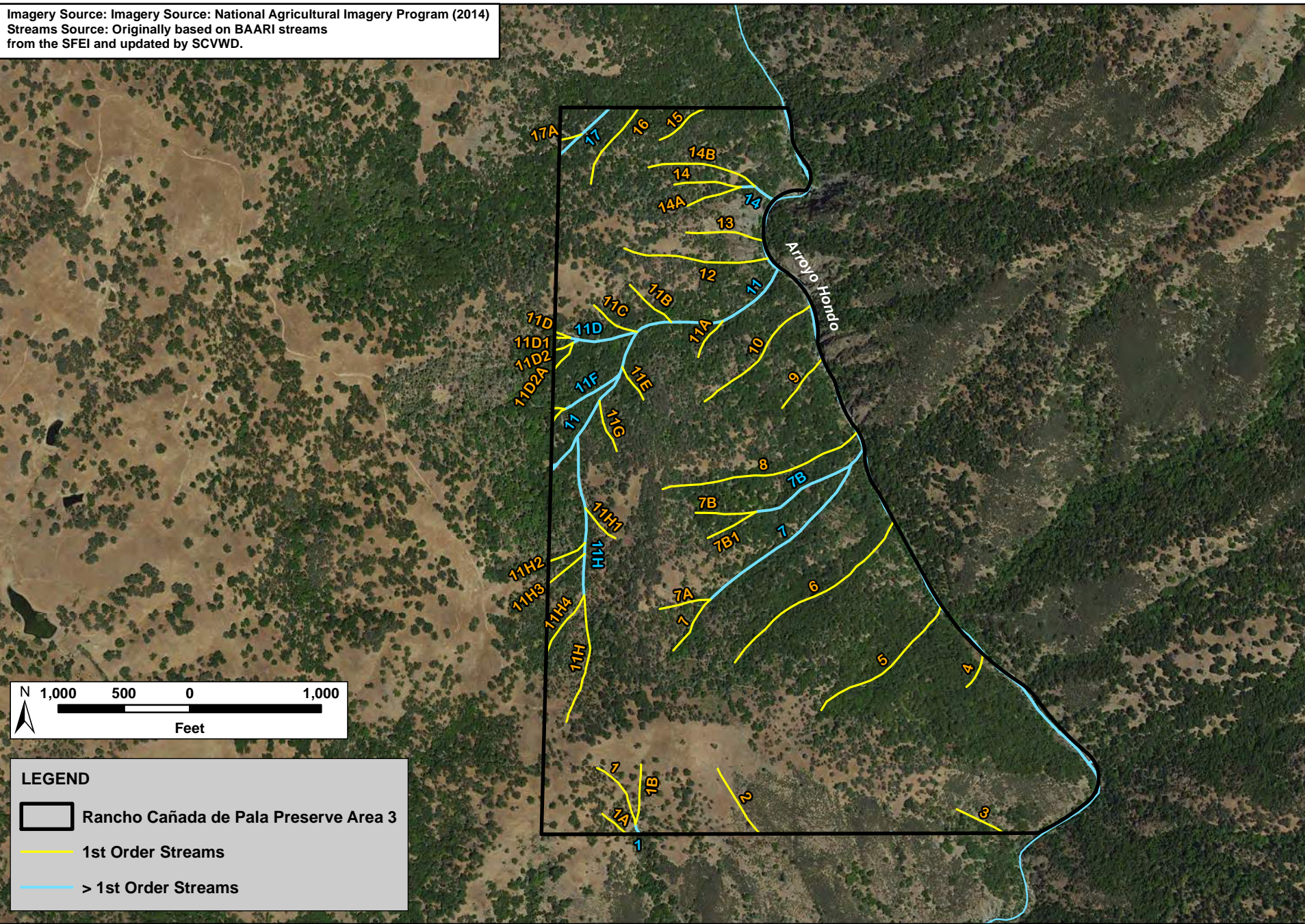
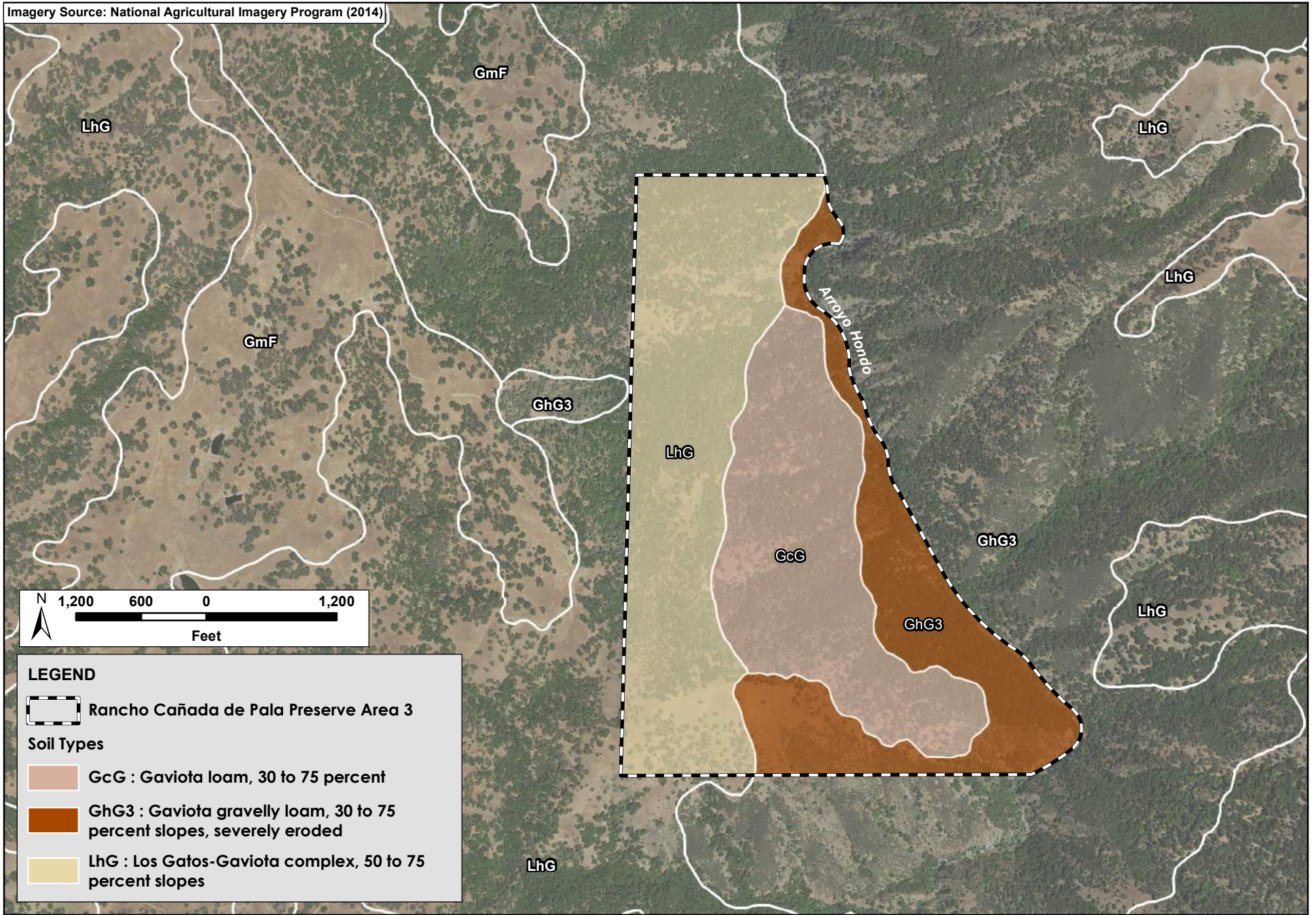


Figure 3: Stream and Tributary Identification Numbers
Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan
November 2015

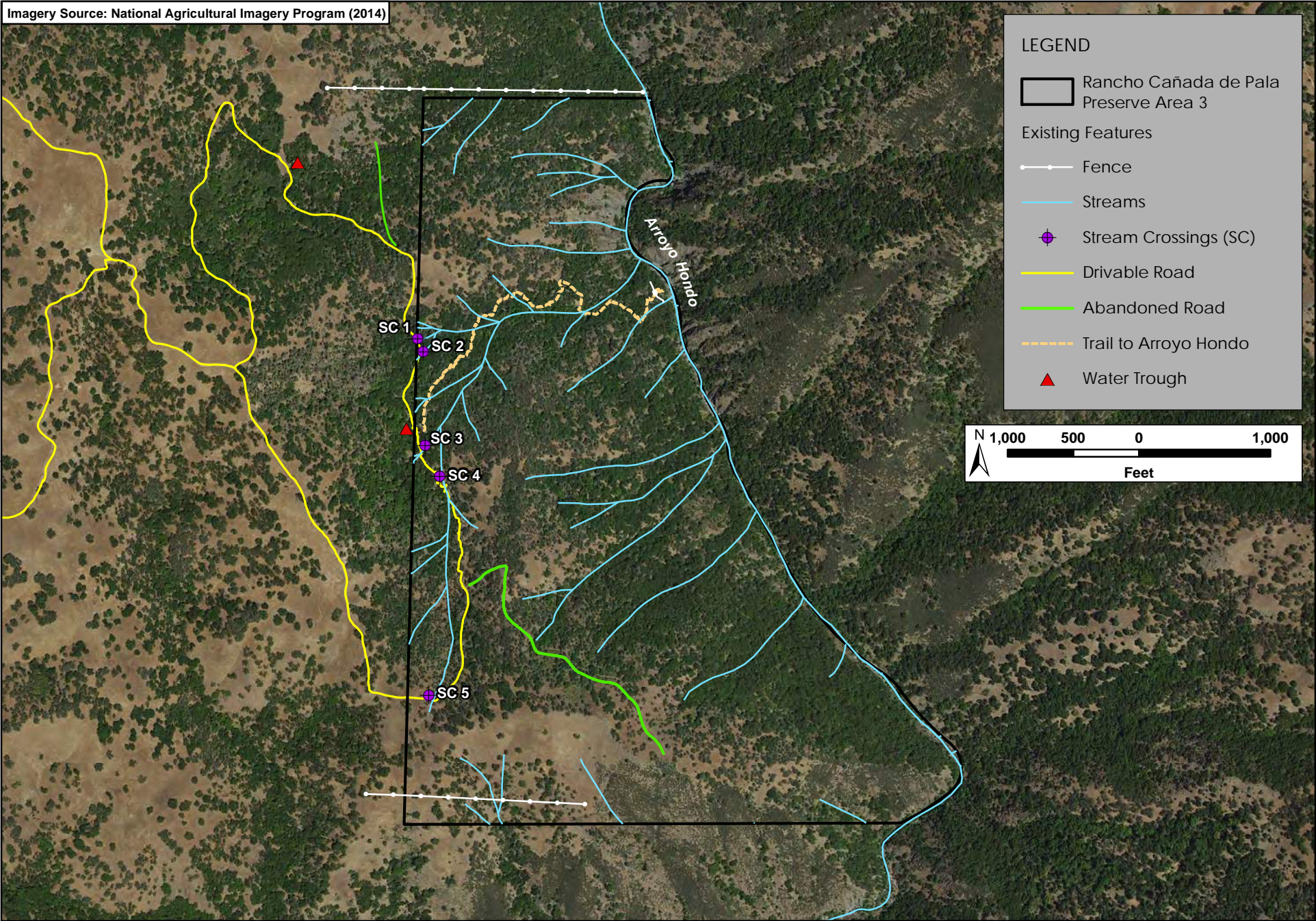
Imagery Source: National Agricultural Imagery Program (2014)



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Figure 4: Soil Types
Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan
November 2015

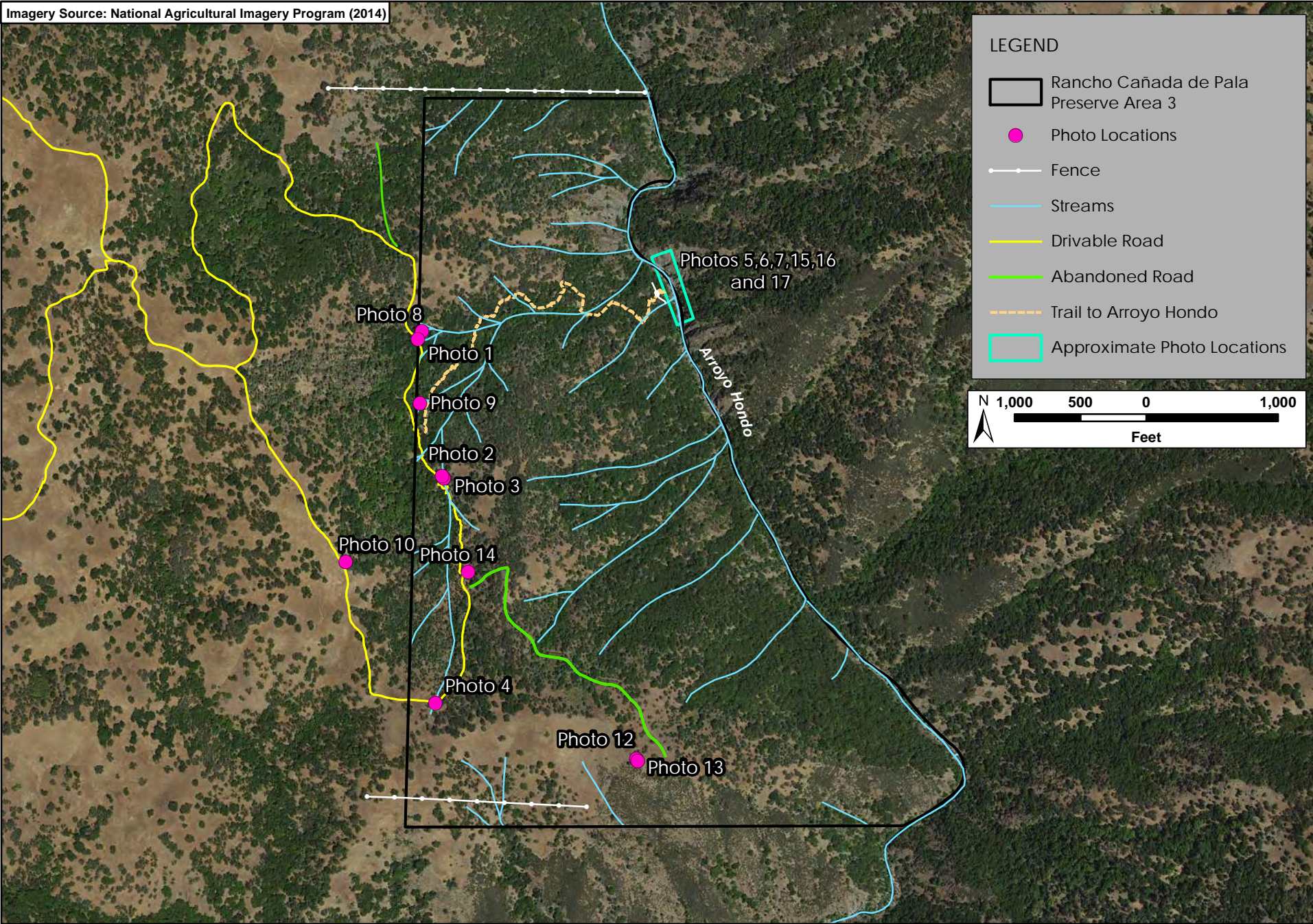
Imagery Source: National Agricultural Imagery Program (2014)



N:\Projects\3200\3270-02\50\Reports\LTMP Area 3\November 2015\Fig 5 Existing Infrastructure.mxd

Figure 5: Existing Infrastructure
Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan
November 2015

Imagery Source: National Agricultural Imagery Program (2014)

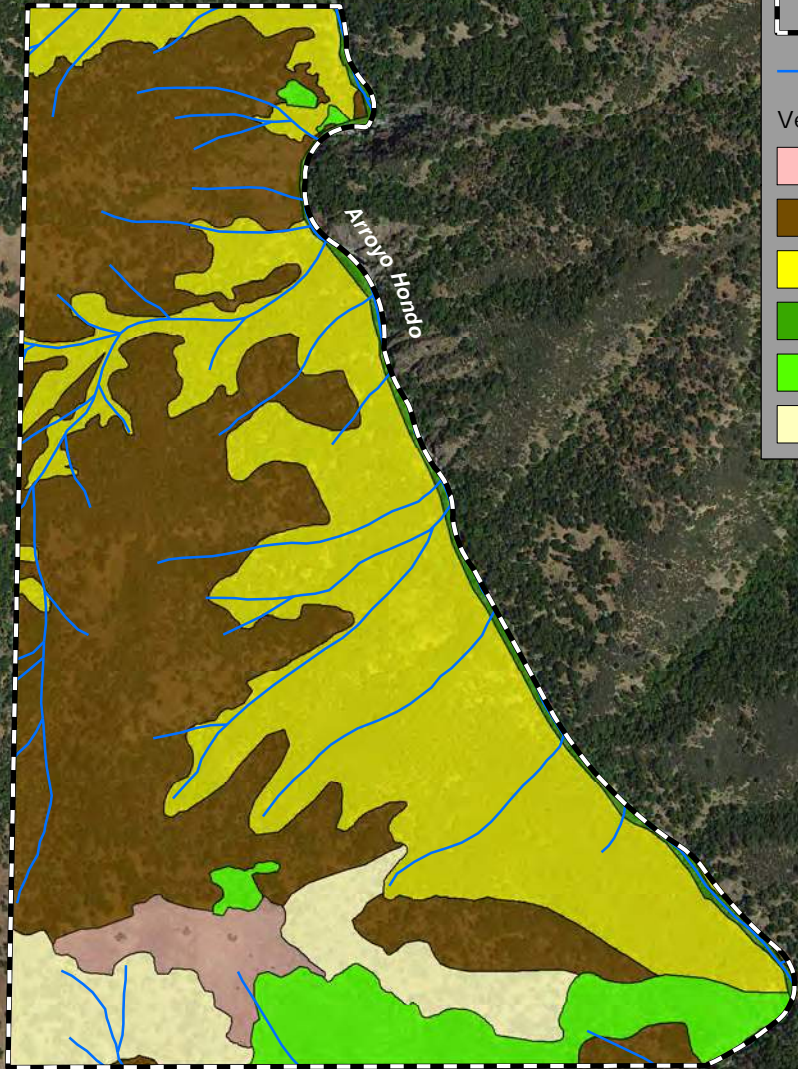


N:\Projects\3200\3270-02\50\Reports\LTMP Area 3\November 2015\Fig 6 Photo Locations.mxd


Figure 6: Photo Locations

Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan
November 2015

Imagery Source: National Agricultural Imagery Program (2014)




LEGEND

 Rancho Cañada de Pala Preserve Area 3

 Streams

Vegetation Types

 California Annual Grassland

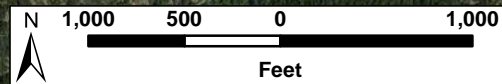
 Foothill Pine/Oak Woodland

 Mixed Oak Forest

 Mixed Riparian Forest

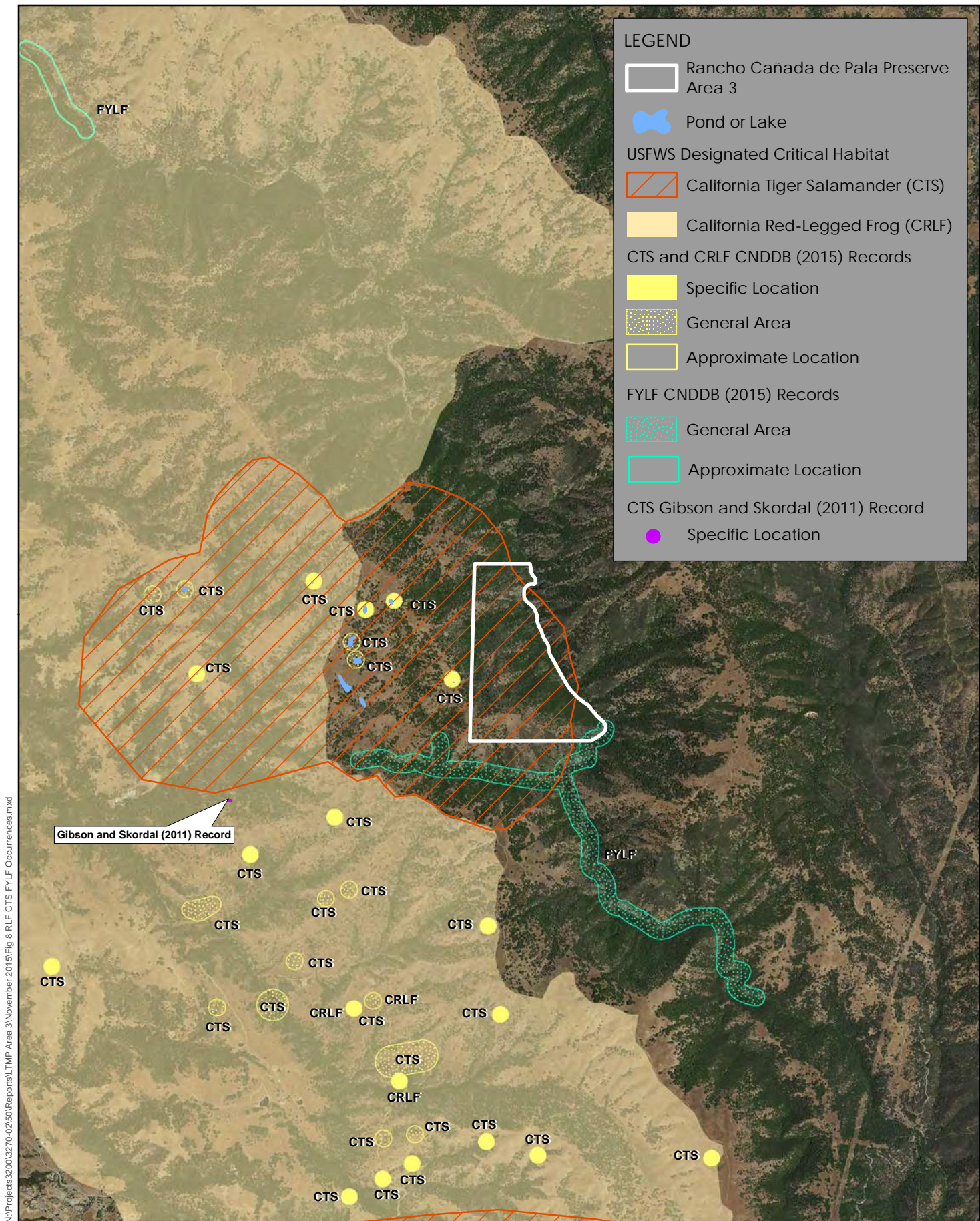
 Northern Mixed/Chamise Chaparral

 Valley Oak Savanna



N:\Projects\3200\3270-02\50\Reports\LTMP Area 3\November 2015\Fig 7_Vegetation Map\1.mxd

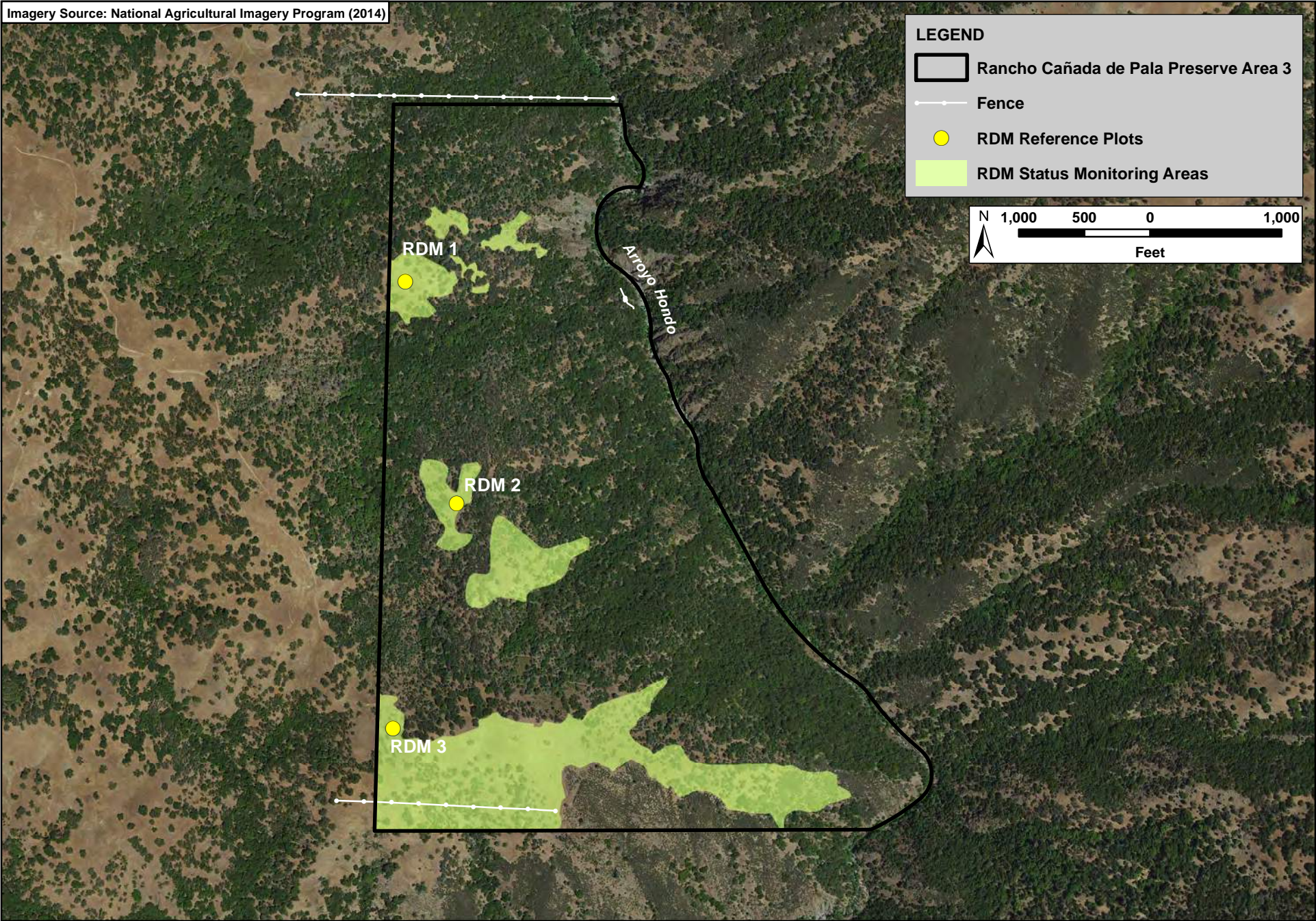
Figure 7: Vegetation Map
Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan
November 2015



N:\Projects\320013270-02\50\Reports\LTMP Area 3\November 2015\Fig 8 RLF CTS FYLF Occurrences.mxd

Figure 8: CTS, CRLF and FYLF Occurrences and/or Critical Habitat in the Vicinity
 Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan
 November 2015

Imagery Source: National Agricultural Imagery Program (2014)



N:\Projects\3200\3270-02\50\Reports\LTMP Area 3\November 2015\Fig 9 RDM Sampling Sites.mxd

Figure 9: RDM Sampling Sites
Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan
November 2015

APPENDIX B



Photo 1. Ephemeral streams cross the drivable road on Area 3 at several locations. This is a representative photo, taken facing downstream from the road at SC1.



Photo 2. Damaged wooden retaining wall and headcut at SC4, just downstream of the drivable road. This stream is ephemeral and only conveys flows during and immediately following storm events.



Photo 3. The roadway to the south and upslope of SC4 has not been recently traveled because of the erosional damage at the stream crossing.



Photo 4. Small headcut beginning to form at SC5, just downstream of the drivable road.



Photo 5. Mixed riparian forest in and along the Arroyo Hondo stream channel.



Photo 6. White alder and naked sedge are dominant species in mixed riparian forest on Area 3.



Photo 7. Few herbaceous species, with the exception of naked sedge, are able to grow in mixed riparian forest because of quickly flowing water, deep pools, and large boulders in the Arroyo Hondo stream channel.



Photo 8. Mixed oak forest understory on Area 3.



Photo 9. Mixed oak forest understory on Area 3.

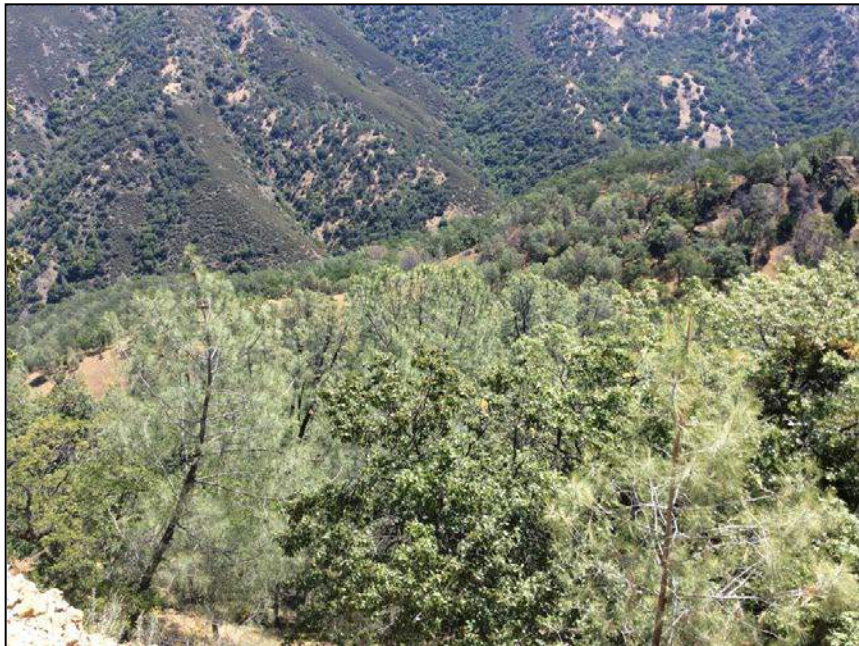


Photo 10. View of foothill pine/oak woodland (foreground) on east-facing slopes on Area 3.



Photo 11. Native grasses occur in some areas in the understory and in open areas of valley oak savanna on Area 3.



Photo 12. Chaparral habitat on Area 3 is dominated by chamise and deerweed.



Photo 13. Rock outcropping on Area 3.



Photo 14. California annual grassland on Area 3.



Photo 15. Representative photo of Arroyo Hondo.



Photo 16. Representative photo of Arroyo Hondo.



Photo 17. Representative photo of Arroyo Hondo.



Photo 18. Spanish brome growing on the Preserve.



Photo 19. Italian thistle growing on the Preserve.

APPENDIX C

Table 6. S&WP Streams (Waters of the U.S./State), Buffers and Credits

Stream	Order	Linear Feet
1	1	545
1A	1	249
1B	1	459
1	>1	84
2	1	592
3	1	400
4	1	287
5	1	1234
6	1	1655
7	1	485
7	>1	1658
7A	1	393
7B	1	462
7B	>1	828
7B1	1	419
8	1	1579
9	1	482
10	1	1107
11	1	1
11	>1	2527
11A	1	337
11B	1	426
11C	1	396
11D	1	126
11D	>1	522
11D1	1	119
11D2	1	155
11D2	>1	50
11D2A	1	261
11E	1	300
11F	1	144
11F	>1	496
11F1	1	95
11G	1	411
11H	1	998
11H	>1	1220
11H1	1	326
11H2	1	317
11H3	1	359
11H4	1	539
12	1	1110
13	1	597
14	1	512
14	>1	288
14A	1	433
14B	1	855
15	1	442
16	1	701
17	>1	530
17A	1	171
Arroyo Hondo	>1	6246
Total		34928

Summary Lengths		
Stream Types	Linear Ft	Miles
1st Order	20479	3.9
>1st Order	14449	2.7
Total	34928	6.6

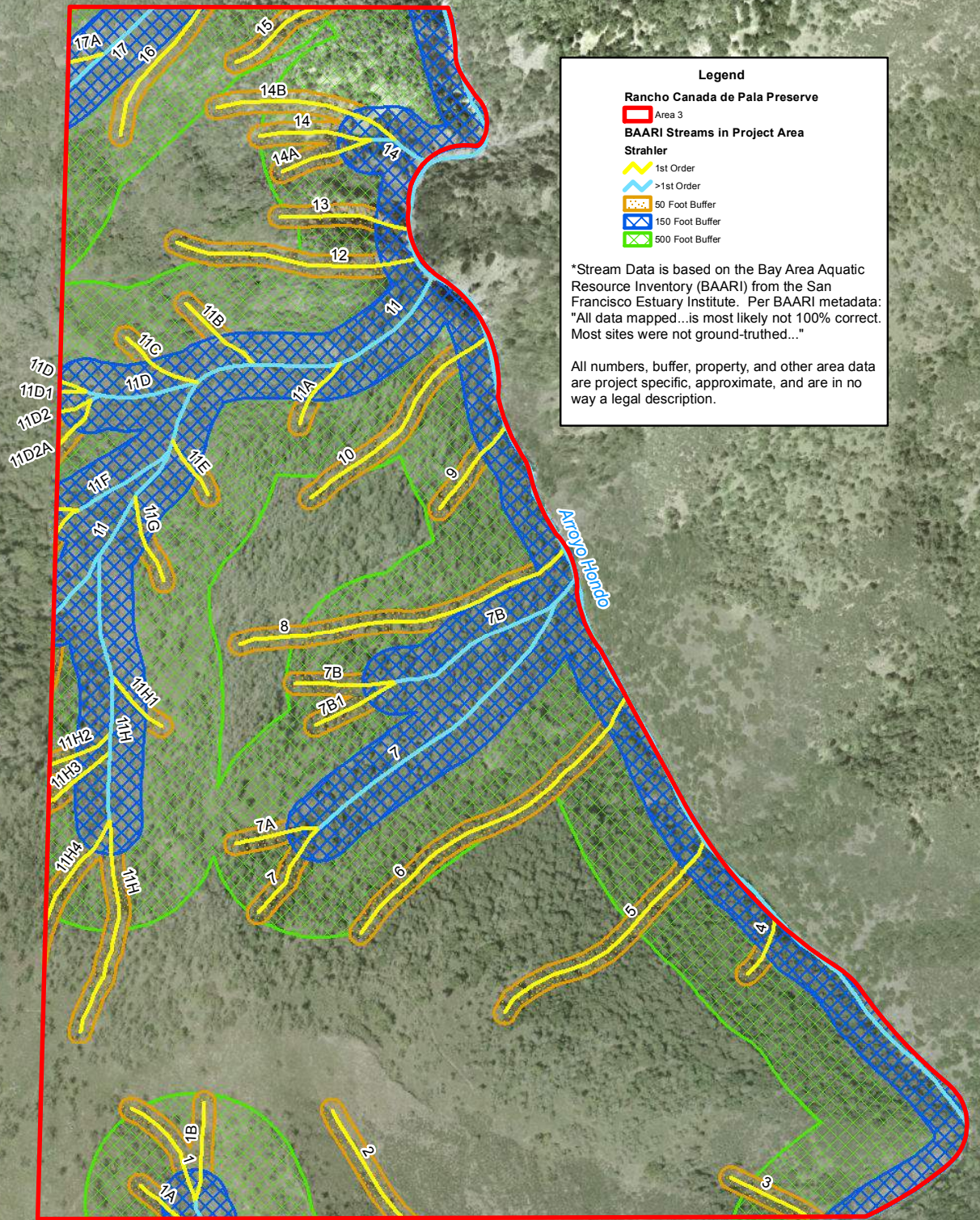
Acres and Credits Summary			
Buffers	Acres	Credit Ratio	Credits
50 ft	36.0	10:1	3.60
150 ft	74.4	10:1	7.44
500 ft	110.2	15:1	7.35
Total	220.6		18.4

Roads (10 ft width) Intersection with S&WP Buffers			
Buffers	Linear Ft	Acres	Credits
50 ft	253	0.06	0.01
150 ft	1505	0.35	0.04
500 ft	1292	0.30	0.02
Total	3050	0.71	0.07

Adjusted S&WP Credit (minus roads)			
Buffers	Total S&WP Credit	Roads Credit	Adjusted S&WP Credit
50 ft	3.60	0.01	3.59
150 ft	7.44	0.04	7.40
500 ft	7.34	0.02	7.32
Total	18.4	0.07	18.3

Figure 10 - Stream and Watershed Protection Program Waters of the U.S. & Buffers Map

Rancho Canada de Pala Preserve - Area 3



Legend

Rancho Canada de Pala Preserve
 Area 3

BAARI Streams in Project Area

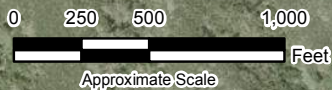
Strahler
 1st Order
 >1st Order

50 Foot Buffer
 150 Foot Buffer
 500 Foot Buffer

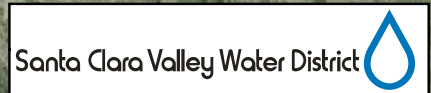
*Stream Data is based on the Bay Area Aquatic Resource Inventory (BAARI) from the San Francisco Estuary Institute. Per BAARI metadata: "All data mapped...is most likely not 100% correct. Most sites were not ground-truthed..."

All numbers, buffer, property, and other area data are project specific, approximate, and are in no way a legal description.

GIS themes are for illustration and general analysis purposes only and are not accurate to surveying or engineering standards. Information is not guaranteed to be accurate, current or complete and use of this information is your responsibility.



Aerial Photography Date: April 2006



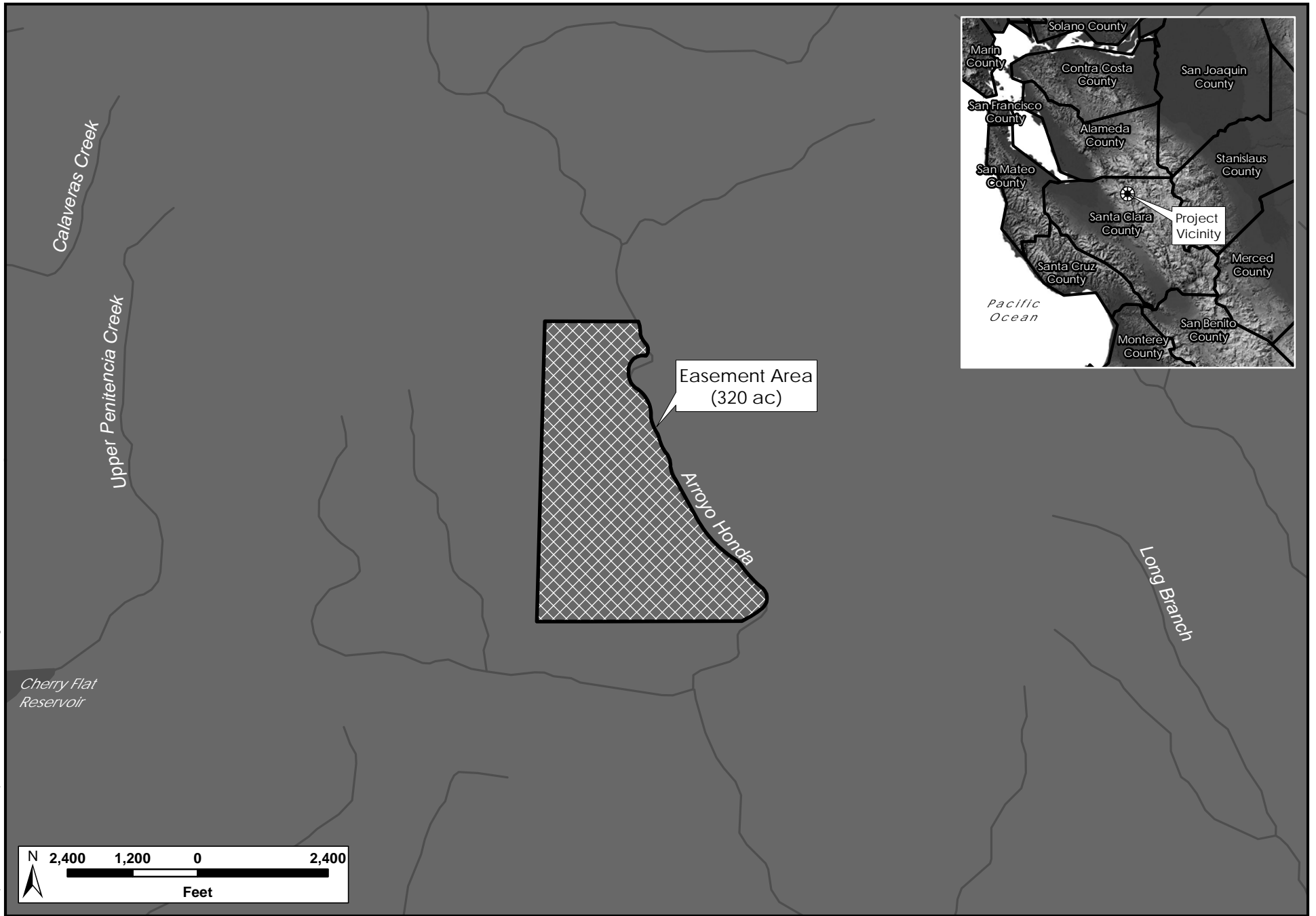


Figure 11: 2015 Conservation Easement Area
Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan
November 2015

APPENDIX D

General Site Monitoring Checklist – Rancho Cañada de Pala Preserve Area 3

Monitor Name _____

Monitoring Date _____

Locations visited _____

Resource Status and Management				
Grazing implementation monitoring being performed?				
California tiger salamander/red-legged frog observed?				
Other sensitive plant or animal species observed?				
Potential Adverse Conditions				
Question	Answer ¹	Type, Location, Description of Condition, Potential Cause	Comparison to Prior Monitoring Condition	Recommendations?
Invasive plant concentrations observed?				
Evidence of trash observed?				
Evidence of trespass observed?				
Problems with gates, fences, or troughs?				
Problems with roads?				
Management Activities Undertaken				
Any repair, remediation, management activities undertaken?				
Notes:				

¹ Y = Yes, N = No, NS = Not Sure, NA = Not Applicable

Aquatic Habitat Monitoring Checklist – Rancho Cañada de Pala Preserve Area 3

Monitor Name _____ Monitoring Date _____ Monitoring Station _____ Aquatic Feature Type _____

Resource Status				
Water present (and depth)?				
Woody vegetation present (and species)?				
Seedlings or saplings of woody plants observed?				
Potential Adverse Conditions				
Question	Answer ¹	Location, Description of Condition, Potential Cause	Comparison to Prior Monitoring Condition	Recommendations?
Cattle observed in streams or riparian areas?				
Bare soil in or along banks of feature?				
Unstable or eroding stream banks (e.g., rills, gullies)?				
Erosion at road (e.g., rills, gullies)?				
Headcuts present?				
Vegetation trampling evident?				
Excessive sedimentation evident?				
Visual water quality problems evident (debris, odor, color?)				
Damage from pigs or deer?				
Unusual disturbance (e.g., fire, ORV, trespassing)?				
Notes:				

¹ Y = Yes, N = No, NS = Not Sure, NA = Not Applicable

APPENDIX E

Wildland Solutions

RDM Monitoring Procedure

Keith Guenther

November 2007 version

Annually create an RDM zone map and a pasture success map with supporting information collected at monitoring reference sites that shows how well each pasture/management unit meets established RDM objectives for a property. A three part process is involved.

1. Prior to monitoring there is a need to establish the RDM classes to be utilized. The RDM classes of course need to reflect RDM objectives for the site.
2. Collection of supporting information at RDM reference monitoring sites.
3. Development of an annual pasture success map.

Part 1: Establish RDM classes to be utilized in monitoring

Prior to field mapping a decision needs to be made as to what and how many RDM classes are to be utilized. There is no specific best number, some examples are:

A minimum of 2 classes is required.

- Meets the objective
- Does not meet the objective.

UCCE publication 8092 (2006) recommends the use of 3 RDM classes:

- RDM level is high (exceeds the objective)
- RDM level is moderate (meets the objective)
- RDM level is low (below the objective)

Hormay and Faucett, USFS technical note 21 (1942) used 7 classes:

- None use
- Very light use
- Light use
- Moderately light use
- Moderate use (recommended level of use)
- Close use
- Very close use

The RDM classes utilized for monitoring RDM on a typical California annual grassland site producing 1,800-2,000 lbs/acre could be as follows:

- RDM is more than 1,600 lbs/acre
- RDM is between 1,200-1,600 lbs/acre
- RDM is between 800-1,200 lbs/acre (established objective)
- RDM is between 400-800 lbs/acre
- RDM is below 400 lbs/acre
- RDM has been removed by fire and is below 100 lbs/acre

The RDM classes utilized for monitoring RDM on a highly productive coastal prairie site producing 4,000 lbs/acre could be as follows:

- *RDM exceeds 3,600 lbs/acre*
- *RDM is between 2,400-3,600 lbs/acre*
- *RDM is between 1,800-2,400 lbs/acre*
- *RDM is between 1,200-1,800 lbs/acre (established objective)*
- *RDM is between 600-1,200 lbs/acre*
- *RDM is below 600 lbs/acre*
- *RDM has been removed by fire and is below 100 lbs/acre*

Part 2: Collect supplemental supporting information at reference monitoring sites.

Supplemental information can be collected at selected reference monitoring sites to validate and document what the person conducting the RDM zone mapping is seeing. Information collected at the reference monitoring sites is not intended to be extrapolated as representing the entire management unit or pasture. The information is intended to represent that portion of the pasture being surveyed and serve as a reference for documenting the status of a specific RDM zone.

First step - Locate reference monitoring sites

Reference monitoring sites are located in a manner that samples and records the general condition of a portion of a management unit or pasture. Reference monitoring sites are used to provide supporting documentation for the RDM zone maps. The number of reference sites in a pasture depends on the size and complexity of the pasture. A minimum of one reference site is usually established in each pasture with additional monitoring sites added when pastures are over 600 acres.

Reference monitoring sites are typically:

1. Located within a uniform vegetation type, and capable of responding to management actions. *The site should have relatively uniform vegetation and preferably be 1 acre in size.*
2. Located away from water. *1/4 mile is a distance that should avoid the heavy use of sites often associated with water developments.*
3. Located for good access. *Sites should be accessible to facilitate monitoring, avoid sites that are within 20 feet of a road or 50 feet of a fence.*
4. Located on a site that is capable of producing herbage typical of the area. *For the typical California annual grassland site that would mean an area capable of producing 2,000 lbs/acre of RDM.*

Reference monitoring sites at times may be established in low use areas and high use areas to better document the actual range of impacts that may be occurring on large diverse management units. When interpreting an RDM zone map, a reference monitoring site in a potentially high use area near water that has an RDM level that meets the established RDM goal would imply that the pasture as a whole meets the RDM objective. A reference monitoring site in a potentially low use area with an RDM level that

does not meet an established RDM objective would reinforce the point that more than likely most of or all of the pasture did not meet the RDM objective.

Second step - record photo points at reference monitoring sites

1. A Robel pole is placed at a point that shows representative use of the vegetation within the vicinity of the reference monitoring site.
2. Two golf balls are placed about 6" apart on each side of the Robel pole. If vegetation is matted the golf balls are placed on the ground not on the vegetation, in a manner that helps to show herbage quantity.
3. Photos are taken looking in a northerly direction. Photos taken looking north reduce any potential glare on the camera lens and provide optimum light on vegetation.
4. A tripod is utilized to provide more stable pictures with better clarity.
5. The first picture is taken from about a 10 foot distance with tripod set at 5 feet height. With a digital camera it is zoomed in to a point that still includes all 4 golf balls.
6. A second more distant picture is taken from 20 feet with tripod set at 5 feet height. The camera is zoomed to a setting where the Robel pole height appears to be about 1/2- to 2/3 of the picture frame height.
7. The film numbers or digital photo numbers of each picture is recorded on a worksheet for each photo as the photos may all look alike at a later date. A consistent numbering system is utilized. An example is pcr023dy where pcr is the property code, the number is the reference monitoring site number the d is distance of photo N or G, Near or General and the last 2 digits are the year of photo. Consistent numbering helps transfer field data smoothly into the annual report. With digital cameras the date stamp is utilized when available. A 1.2 megapixel image size is considered adequate as photos for most reports do not need to exceed 3"x5".

Third step - estimate RDM class at monitoring reference sites

An estimate of RDM herbage is made utilizing the RDM classes established in part one of the monitoring plan. The classes are used with the desired goal usually being the middle class and 2-3 classes above and 2-3 classes below the desired level plus the burned by fire class.

Clipping and weighing of RDM is conducted as needed to confirm that estimates are being made accurately. The procedure for clipping and weighing RDM is described in the *Wildland Solutions Residual Dry Matter (RDM) Monitoring photo-guide* and the *UCCE publication 8092*. *The scales for weighing RDM are set to 0 with the bag attached or the weight of the bag that holds the RDM is subtracted after weighing.*

Fourth step - document any additional information

Additional information such as visual estimates of plant composition, weedy species, noxious weeds, perennial grasses, unusual wildlife seen, GPS coordinates, general location and anything of note that might be of use to future managers is added as comment notes on a standard form for the project. The amount and types of supplemental data collected will vary depending on the needs of each project. A sample form is shown on page 9.

Fifth step - transfer field information to digital format.

This step provides the ability to archive the field data collected and make multiple copies for future reference and analysis. A format that uses a MS WORD based form allows efficient entry of data.

Sixth step - create a supporting report

The GIS database developed for the monitoring reference sites can be utilized to create a summary report for inclusion in the appendix of the annual RDM monitoring report.

Seventh step – add reference monitoring site locations to the RDM zone map

Placing the location of the monitoring reference sites on the RDM zones map created for the project provides the ability for anyone to easily review the data collected for specific reference sites. The ability for managers to be able to readily identify reference sites that have unusually high or unusually low levels of RDM is a very useful feature when assessing grazing patterns and making management adjustments.

Part 3: Develop RDM zone and pasture success maps

RDM zone or use-pattern maps are developed to show RDM levels that occur within a pasture at the time a survey is made. Pastures typically have a variety of soils, aspects, vegetation and non-uniform livestock use that requires interpretation when developing an RDM zone map.

First step – collect field data

A 1:24,000 scale USGS topographic map, which includes management unit or pasture boundaries and important features such as livestock water, fences and roads, is utilized as a base field map for recording data.

Mapping of RDM zones is conducted by visually examining an adequate amount of the pasture to determine and map which of the 3-7 RDM classes occur within the pasture. A combination of reference photographs, descriptive narrative and clipping and weighing RDM within representative areas is utilized to determine the RDM class for a particular portion of a pasture (Guenther 1998). Mapping units are generally no smaller than 20 acres. The RDM zones are delineated and recorded before leaving a given pasture.

When mapping RDM patterns for a property attention is focused on those areas capable of producing herbage and RDM that is typical for the area during a normal growing season. Notes

are made on the map regarding specific information obtained, especially from monitoring reference sites, and sites that have been clipped and weighed.

Livestock tend to graze in a patchy manner, heavily using small areas and lightly using an adjacent area. Boundaries between RDM zones are recorded on the map. When determining the boundary between two classes it is often necessary to decide that an area is “mostly” within a given class and an adjacent area is “mostly” in a higher or lower class. The boundary is placed on the map where one “mostly” shifts to the other “mostly”. Features such as topographic breaks in slope, changes in aspect and the resulting vegetation changes influence livestock use patterns and often can be used to help determine the boundary between two use classes. Interestingly, even though 6 classes of RDM are typically utilized, most pastures tend to only have 2-3 RDM zone classes as cattle tend to spread out and locate areas of good remaining forage before severely impacting a significant portion of any pasture. The result is that pastures tend to be mostly light-moderate use or moderate-heavy use.

Second step - input data collected into GIS database

Data from the field maps is transferred into a GIS database to allow creation and display of information as an RDM zone map (Fig 1 page 7). The ability to archive and analyze data allows the development of the annual pasture success maps (Fig 2 page 8).

Third step - calculate acreage of each mapped zone

A query of the database calculates the acreage for each RDM zone mapped within a pasture. A simple calculation then determines the percentage of a pasture that meets or does not meet a specific RDM class for the pasture.

Fourth step - determine how well each pasture meets the objective (success)

The criteria used to measure success are quantitative and color coded for visual display. An example with 2 classes above the established objective and 2 classes below the objective could be:

- *90% of pasture exceeds 3,000 lbs/acre RDM*
- *90% of pasture exceeds 2,000 lbs/acre RDM*
- *90% of pasture exceeds 1,200 lbs/acre RDM (established objective)*
- *10-35% of pasture is below 1,200 lbs/acre RDM*
- *more than 35% of pasture is below 1,200 lbs/acre RDM*

The criteria could as well have been:

Three simple classes for success described as:

- *80% of pasture exceeds objective*
- *80% of pasture meets objective*
- *More than 20% of pasture below objective*

Or five classes used to describe levels of success:

- High (RDM more than 200% of minimum)
- Exceeds the objective (RDM is 150-200% of minimum)
- **Meets the objective** (RDM is from 100-150% of minimum)
- Below the objective (10-35% of area below minimum)
- Low (more than 35% of area below minimum)

Fifth step - prepare the pasture success map with legend.

Each pasture is assigned one of 3-6 success classes depending on how well it meets the established objective. Pastures are considered to be within an identified success class if a specific percentage of the pasture is at or above the RDM level for the class (typically 80 or 90%). A GIS based map is prepared with color coded levels for pasture success to facilitate visual review and evaluation of success on a management unit or pasture basis.

Sixth step - prepare a pasture summary table

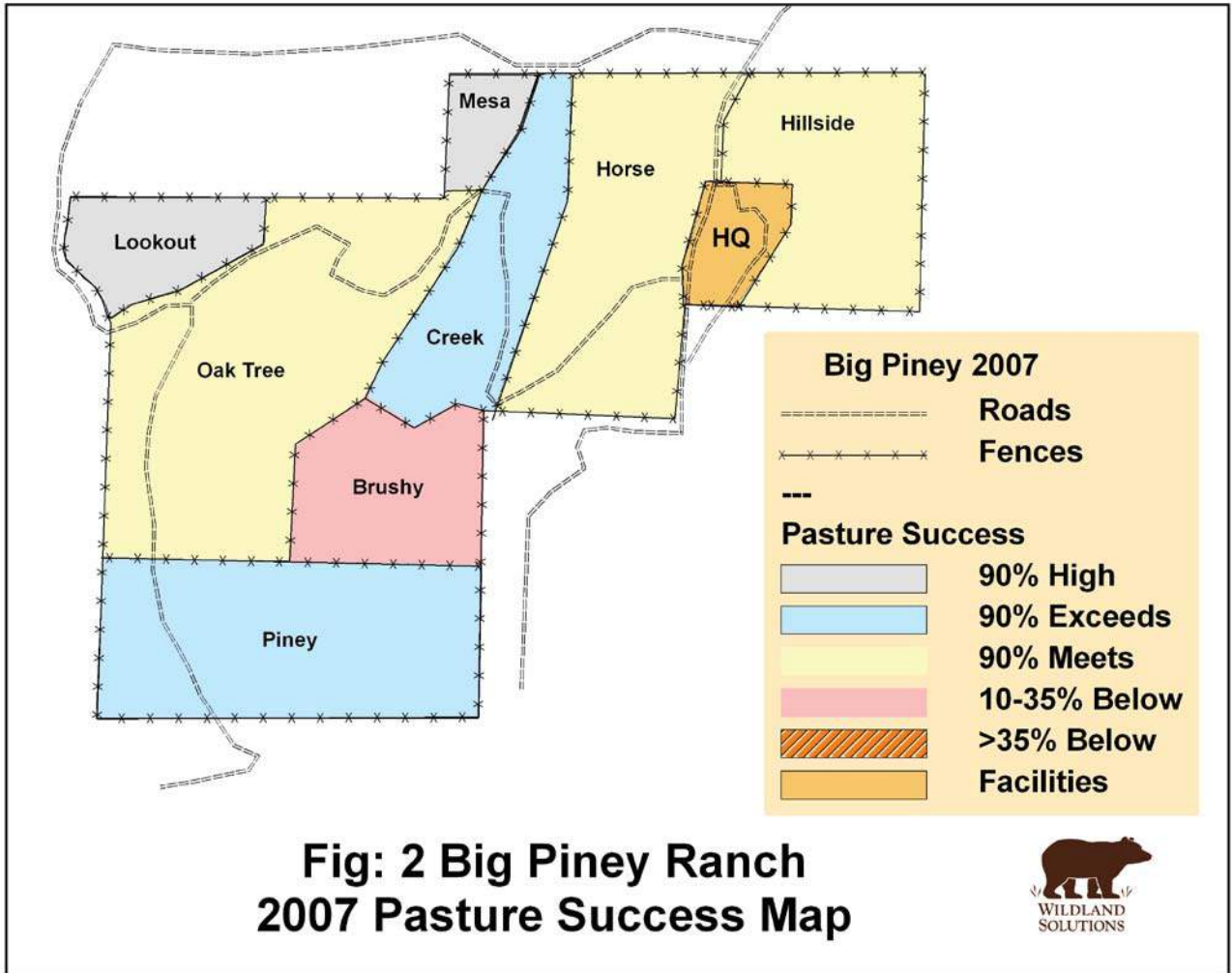
The database associated with the GIS program can be utilized to create a summary report for each pasture that is exported in a text format for inclusion in the appendix of the annual RDM monitoring report. The current year's data can then be compared to data collected for each pasture from previous years.

References:

Bartolome, James W. William E. Frost, Neil K. McDougald, Michael Connor. 2006. California Guidelines for Residual Dry Matter (RDM) Management on Coastal and Foothill Annual Rangelands. UCCE pub 8092 <http://anrcatalog.ucdavis.edu/pdf/8092.pdf>

Guenther, Keith. 1998. Residual Dry Matter (RDM) monitoring photo-guide. Wildland Solutions. <http://www.wildlandsolutions.com/rdm.html>

Hormay, A.L. and A. Fausett. 1942. Standards for judging the degree of forage utilization on California annual type ranges. CA Forest and Range Experiment Station Technical Note 21. en pastures are over 600 acres.



- Project: TNC- Mount Hamilton
- Ranch: Simon Newman
- Pasture name: **Bear Gulch**

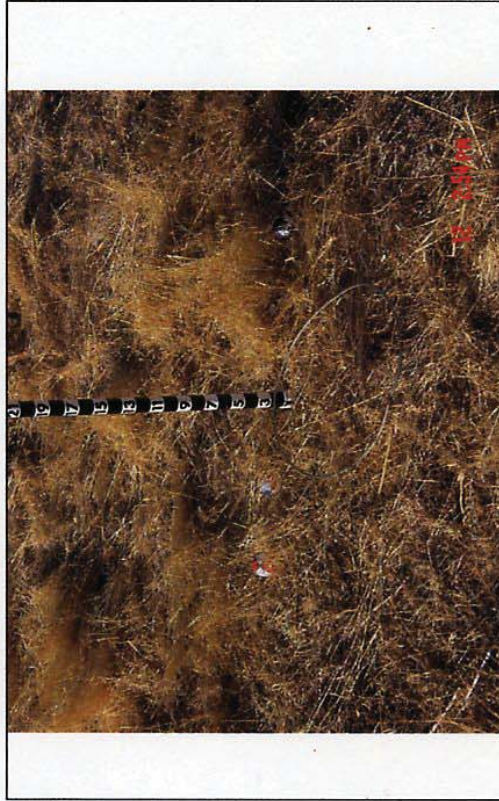
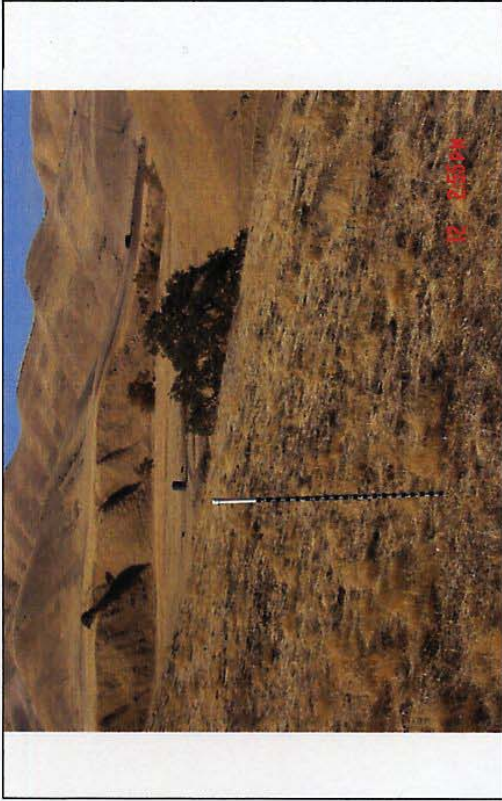
- UTM Coordinates: UTM base 27
East: 0664231 North: 4121284
- General location:

• Herbage composition:

- Perennial Grass:..... %
- Annual Grass:..... **95 %**
- Forbs:..... **4 %**
- Tree leaves:..... %
- Weeds: **1 %**

Comments:

Weeds: Scattered Mullein Weed, Tarweed and Vinegar Weed.



Monitoring Site #**smn61** Date 10/12/2004

Slope: 7 % Aspect: Northeast

Residual Dry Matter Class: **1000**

Surveyor: Keith Guenther, Wildland Solutions

- Project:
- Ranch:
- Pasture name:

- UTM Coordinates: UTM base
East: North:
- General location:

- Herbage composition:
 - Perennial Grass:..... %
 - Annual Grass:..... %
 - Forbs:..... %
 - Tree leaves: %
 - Weeds: %

Comments:

Distance photo with General View

Close photo with detail view

Monitoring Site # Date
Slope: % Aspect:
Residual Dry Matter Class:

Surveyor:

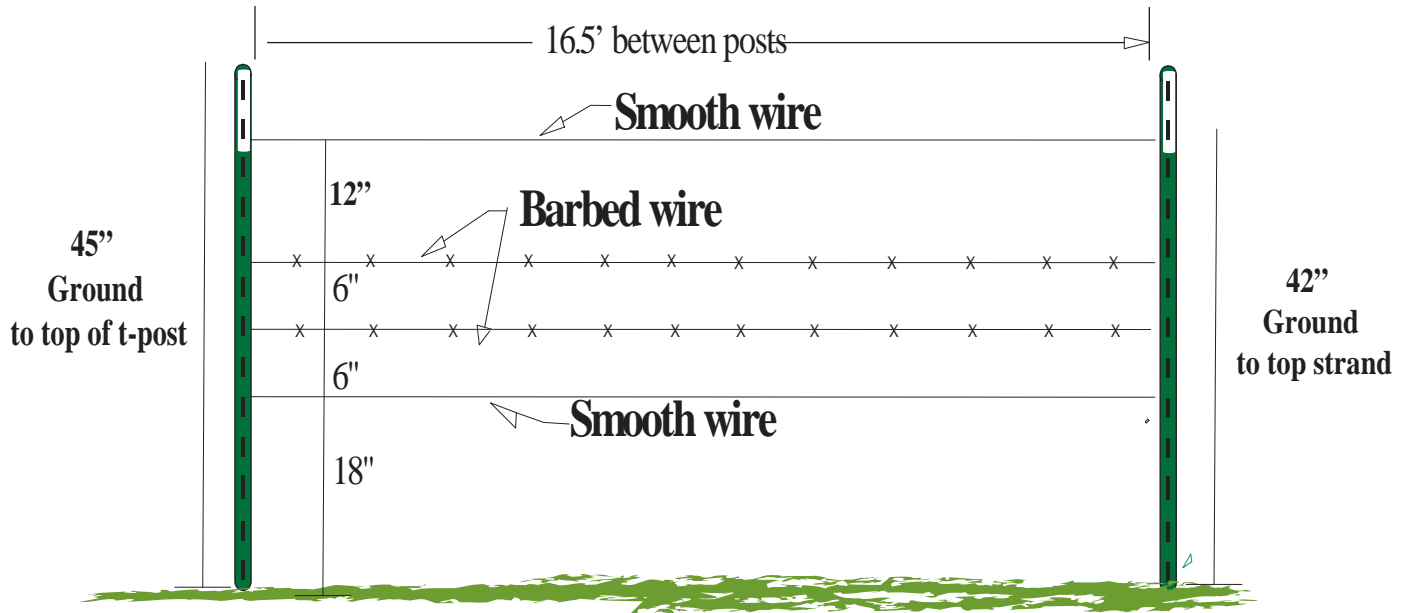
APPENDIX F

Santa Clara County Open Space Authority

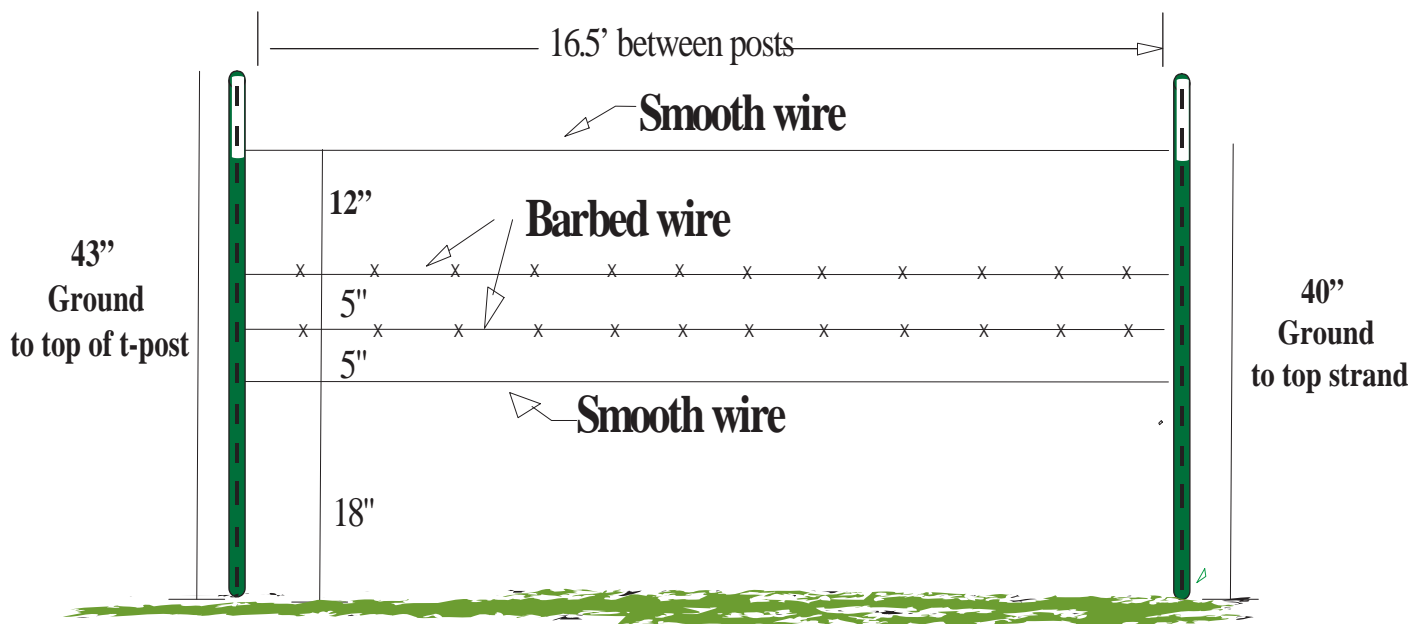
Fencing Standards

Standard Cattle Grazing

Road Side - Use 66" (5.5') t-posts



Interior Fencing - Use 60" (5.0') t-posts

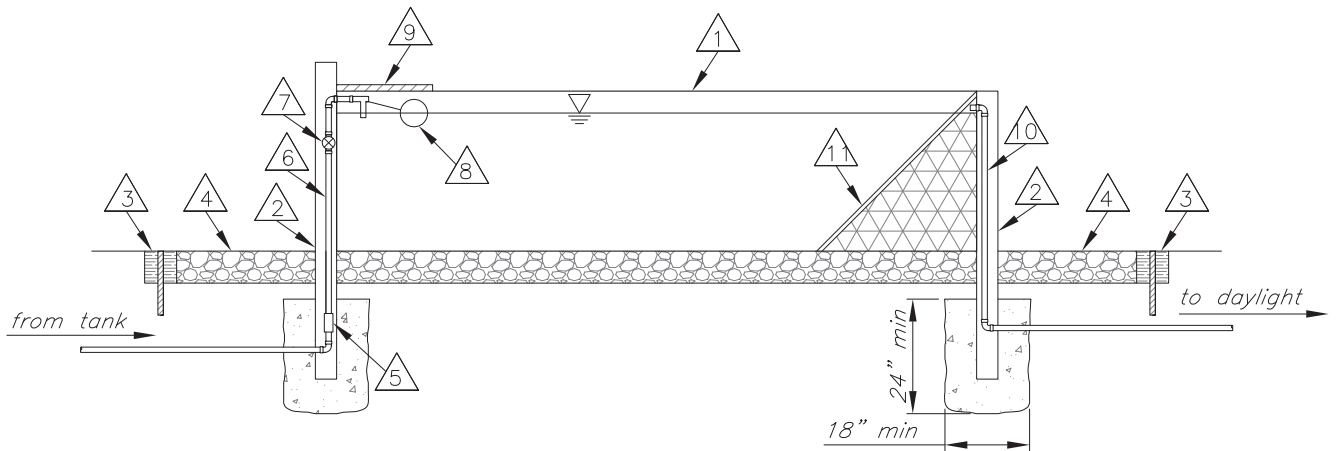
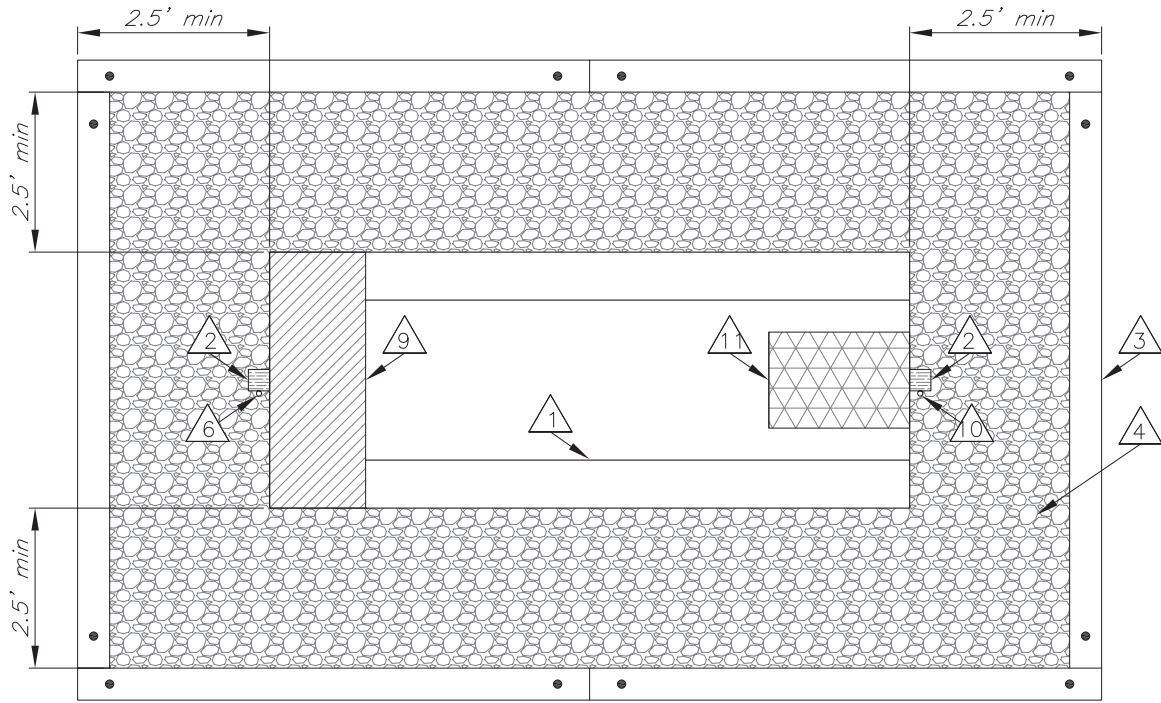


Ordering t-posts:

All t-posts are green

Roadside t-post length is 66" (5.5')

Interior t-post length is 60" (5.0')



CONSTRUCTION NOTES

- | | |
|--|--|
| <ul style="list-style-type: none"> ① Provide fabricated steel trough. ② Provide steel pole anchor posts set in sack mix concrete as shown. ③ Provide pressure treated 6"x6" or railroad tie held to ground with 18" long #6 rebar or 1" steel pipe. ④ Provide 6" thick pad of 3" minus river run cobble over 6oz non-woven geotextile fabric. ⑤ Provide Coupling from 2" schedule 40 PVC to 1" galvanized steel pipe. ⑥ Provide galvanized steel pipe feed line. | <ul style="list-style-type: none"> ⑦ Provide 100 psi rated gate valve. ⑧ Provide Watts ST1000 1" standard float valve or approved equal. ⑨ Provide steel float guard. ⑩ Provide 1" galvanized steel pipe overflow line. Pipe to daylight no less than 20 feet from trough onto 1'x3' stabilized pad. ⑪ Provide wildlife escape ramp. Ramp shall be expanded steel welded to a rigid frame and extend to the bottom of the trough. |
|--|--|



Natural Resources Conservation Service
United States Department of Agriculture

CONSTRUCTION DETAIL – TROUGH STOCKWATER SYSTEM

Grower

Santa Clara County, California

File No.
Stockwater-Details.dwg

Drawing No.
2012-1

Sheet 1 of 1

APPENDIX G

Rancho Cañada de Pala Area 3 Long-term Management Plan Reporting Template

The District will submit annual reports to the USACE, CDFW, and RWQCB by December 31 each year. After 5 years, with the concurrence of USACE, CDFW, and RWQCB, reporting may be reduced to every 5 years. Each report will cover monitoring activities of the current year (or previous 5 years for 5 year reports) and will pertain specifically to the SMP 1 mitigation areas but may contain incidental information pertaining to the entire Preserve not subject to agency review for mitigation purposes. Annual reports will include the following information:

Project Information

Project name; applicant information; permit file numbers for all agencies; District contacts information.

Mitigation Site Information

Site location (including a regional map); purposes of the mitigation sites; Fee and Conservation Easement (CE) ownerships; date of initiation of CE and Management Plan; mitigation monitoring year.

Figures

Site map showing the mitigation allocation areas, CE area, and areas of purview of each SMP1 permitting agency (i.e. area corresponding to each agency's mitigation requirement). Additional tables and figures will present monitoring results graphically, where applicable, to facilitate data interpretation and analyses.

Management Plan Elements, Objectives and Tasks (pertaining to the mitigation area)

Table of management plan elements, objectives, tasks.

Summary of Data Collected and Results

Summary of current year's management plan monitoring tasks and results including: RDM monitoring, invasive plant monitoring and control activities; stream and spring monitoring; RLF, CTS and other sensitive species observations; patrols and infrastructure monitoring. Summary of annual CE monitoring results. Tables and figures will be included where applicable, to facilitate data interpretation and analysis.

Discussion: Problems Noted and Proposed Remedial Measures

Discussion of problems noted during the monitoring year, including an analysis of any non-compliance with terms of the LTMP or CE, and a discussion of proposed remedial measures or recommendations to address these problems.

Suggested Management Plan Revisions

Adaptive management recommendations and suggested revisions to the management plan will be discussed.

Appendices

The annual Conservation Interest Compliance Monitoring Report prepared by the CE holder.

Note: Fields throughout this form expand as content is entered.
 Entries are not limited to the space displayed in a blank form.



California Field Office
 201 Mission St., 4th Floor
 San Francisco, CA 94105

Tel [415] 777-0487
 Fax [415] 777-2044
 [415] 777-0772
nature.org

CONSERVATION INTEREST COMPLIANCE MONITORING REPORT

NAME

SUMMARY

Monitoring Date

Name of Monitor

Status

Monitor Electronic Signature:

authenticated

PART I

PROPERTY, CONTACTS and VISIT Information

TYPE of Interest

Last Monitoring date from previous
 year's report

MABR IFMS ID for linking to TNC's CLS
 system

TNC interest (easement or deed
 restriction) Acres

County(ies) property located in

IRS-Reportable?

I have reviewed the information above and it is correct to the best of my knowledge:

Yes No

CONTACTS**Owners**

Full Name	<input type="text"/>
E-mail Address	<input type="text"/>
Mobile Phone	<input type="text"/>
Business Phone	<input type="text"/>
Home Phone	<input type="text"/>
Role	<input type="text"/>

On-Site Contacts

Full Name (Select)	<input type="text"/>
E-mail Address	<input type="text"/>
Mobile Phone	<input type="text"/>
Business Phone	<input type="text"/>
Home Phone	<input type="text"/>
Role	<input type="text"/>

I have reviewed the Contact information above and updated it if necessary. It is correct to the best of my knowledge:

Yes No

If property was transferred since last report mark here:

COSTS and TIME REPORTING

IRS-Reportable conservation easements Budget center(s) used for the work reflected in this report

-8888

additional centers:

COST: If this monitoring was not IRS Reportable (previous page) enter the estimated cost of your time and expenses for this year's monitoring \$

THE VISIT

ENTER the Last day of monitoring reflected in THIS REPORT

If this report reflects additional days or earlier visits this year, enter those dates here

Was easement or deed restriction text read and baseline reviewed immediately before site visit?

Yes No

Was Owner / representative contacted before visit? Yes No

Indicate who was
contacted:

Did the Owner / representative accompany monitor? Yes No

(Indicate who accompanied
monitor):

List here anyone else present at visit (other than monitors and owner or representative)

EASEMENT or Deed Restriction AREA INSPECTED

(entire ranch vs. specific areas - describe and, as needed, indicate on MAP)

Natural Communities observed

Rare species: (if present and specifically noted)

PART II

INTEREST (Easement or Deed Restriction) SITE Information

Land Owner / Representative Report

Note land owner or representative comments.

Monitor's Observations

Describe your own direct observations of land use practices on interest lands.

Have there been any changes in these practices from the last monitoring? Yes No

If YES, describe

Adjacent Lands

Note any activities on adjacent properties, if relevant

Weather Notes

Enter any notes about weather in the area during this monitoring year

Catastrophic events

Have there been any catastrophic events since last visit (fire, flood, etc)?

Yes No

If YES, describe impact on property

If YES, are there any activities planned to address the damage and/or restore the habitat?

Yes No

Are they consistent with the interest terms? Yes No

Comments:

Any Infrastructure Changes?

Mark the box and describe.

Alternative energy installations, e.g. windmill, solar panels etc. (describe)

Barns (describe)

Buildings (describe)

Corrals (describe)

Dumps (describe)

Excavation (describe)

Fences (describe)

Hayfields (describe)

Irrigation (describe)

' Landfill (describe)

Airplane landing strip (describe)

Mining (describe)

Orchards / tree farms (describe)

Ponds / lakes (describe)

Roads (describe)

Row crops (describe)

Timber harvesting (describe)

Trails (describe)

Utilities (describe)

Vineyards (describe)

Water development /wells (describe)

Other (describe)

Any Management Problems?

Mark the box and describe.

Exotic/invasive plants (describe)

Feral animals (describe)

Disease (describe)

Trespassing (describe)

Litter (describe)

OHVs (describe)

Vandalism (describe)

Erosion (describe)

Pollution (describe)

Overuse (describe)

Deferred maintenance, e.g. fences, etc. (describe)

Other (describe)

Management Related Activities

Have there been any of the following activities since the last monitoring? If YES, mark the box and describe.

Wildlife / Habitat Management / Restoration, e.g. plantings, reintroductions, etc. (describe).

Exotics control, e.g. spraying, pulling, hunting, etc. (describe)

Scientific, e.g. research, surveys, etc. (describe)

Educational, e.g. nature study, tours, etc. (describe)

Other (describe)

PART III

PHOTO DOCUMENTATION and REFERENCES

PHOTOS:

Post photography appropriate for the scale of the site, interest terms and conditions observed.

Photographer's name (use a separate line for each photographer or source)	Number of photos	Date taken

If photo location map, purchase receipt or related reference is included note it below

Description of reference	Filename as uploaded

ADDITIONAL RELATED DOCUMENTATION and REFERENCES

Upload and list here any additional documentation.

Filename or Description	Format

PART IV

NARRATIVE and STATUS

SUMMARY and RECOMMENDATIONS

STATUS

Based on your observations, in your best judgment are the terms of the easement or deed restrictions being met? Mark one and add comments below.

Comments: (explain in detail "Pending" or "No, some activities believed to be in violation" status):

Part V

MONITOR INFO

Full Name	<input type="text"/>
Company	<input type="text"/>
Job Title	<input type="text"/>
E-mail Address	<input type="text"/>
Mobile Phone	<input type="text"/>
Business Phone	<input type="text"/>
Role	<input type="text"/>

APPENDIX H

Easement Documentation Report Certification

Acknowledgement of Condition

Rancho Cañada de Pala Preserve Area 3

This acknowledgement constitutes a part of an Easement Documentation Report (“EDR”) prepared in conjunction with a Grant Deed of Conservation Easement (“Conservation Easement”) recorded in the Official Records of Santa Clara County, California on _____ as Document No. _____ by The Nature Conservancy, a non-profit corporation organized and existing under the laws of the District of Columbia (“TNC”), over property owned by the Santa Clara Valley Water District (“Owner”). The Conservation Easement covers a tract of land known as Rancho Cañada de Pala Preserve Area 3 located in Santa Clara County, California as more particularly described in the Conservation Easement (the “Property”).

The EDR consists of sections 2, 3 and 4 and related components of the Appendices of the attached Rancho Cañada de Pala Preserve Area 3 Long-term Management Plan, which is dated November 2015, was prepared by the Santa Clara Valley Water District and H. T. Harvey and Associates and includes maps and photographs of the Property, consisting of 320 acres more or less. Owner and the Conservancy acknowledge and agree that the EDR is an accurate representation of the Property at the time of the reservation of the Conservation Easement.

This Acknowledgment may be executed in any number of counterparts, each of which when executed shall be deemed to be an original and all of which when taken together shall constitute one and the same agreement.

CONSERVANCY

OWNER

THE NATURE CONSERVANCY, a District of Columbia non-profit corporation

SANTA CLARA VALLEY WATER DISTRICT, a California Special District

By: _____
Ethan Inlander, Stewardship Manager

By: _____
Liang Lee , Deputy Operating Officer,
Watershed Stewardship and Planning Division

Dated: _____

Dated: _____